GW - 32

GENERAL CORRESPONDENCE

YEAR(S):
1993 - 1990

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

CC→ Roger Anderson-OCD

AUG 18 1993

REPLY TO: 6W-ET

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (P 104 195 421)

Mr. Kim H. Bullerdick
Corporate Counsel
Giant Industries, Inc.
P.O. Box 12999
Scottsdale, Arizona 85267

Re: Docket No. VI-93-1683
Facility No. NMU000066

Dear Mr. Bullerdick:

Enclosed is a Complaint which the U.S. Environmental Protection Agency ("EPA") is issuing to you as a result of our determination that you have unlawfully discharged a pollutant into a water of the United States) in violation of Section 301 of the Clean Water Act, 33 U.S.C. § 1311. The complaint requests that a penalty of $10,000 be assessed against you for these violations.

You have the right to a hearing to contest the factual allegations in the Complaint. If you admit the allegations, or they are found to be true after you have had an opportunity for a hearing on them, you have the right to contest the penalty proposed in the Complaint. I have enclosed a copy of the procedures the Agency follows in cases of this kind. Please note the requirements for a Response in §§28.2(u) and 28.20. If you wish to contest the allegations in the Complaint or the penalty proposed in the Complaint, you must file a Response within thirty (30) days of your receipt of the enclosed Complaint to the EPA Regional Hearing Clerk at the following address:

Regional Hearing Clerk (6C)
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

If you do not file a Response by the applicable deadline [see §28.20(a) and (b)], you will be defaulted. Each allegation in the Complaint will be deemed to be admitted as true by you. You will have waived your right to appear in this action for any purpose and will also have waived your right to be notified of any Agency proceedings that occur before a civil penalty may be imposed. Provided that the Complaint is legally sufficient, the Presiding Officer will then find the company liable for a civil penalty, and the Regional Administrator may then assess against you a civil penalty of $10,000 per violation for your alleged violations.

Printed on Recycled Paper

If you wish to settle this matter without further legal action, you may waive your right to a hearing and within thirty (30) days sign the enclosed Consent Orders and return them to EPA for approval by the appropriate EPA officials. Be advised that by signing the Consent Orders you will be agreeing to pay the penalty provided and will waive your right to appeal the Order. You have the right to be represented by an attorney at any stage of the proceedings, including in any informal discussions with EPA. If you believe you need to receive an extension of the thirty (30) day deadline to file a Response in order to discuss settlement of this case, please sign the enclosed "Stipulation Extending Response Deadline" and return to EPA [ATTENTION (6W-EA)] before the thirty (30) day deadline. If you have any questions, I recommend that you, or your attorney, contact Ms. Cecilia Kernodle (214) 655-6452.

Sincerely yours,

Roger C. Hartung
Chief
Enforcement Branch (6W-E)

Enclosure

cc: w/complaint - Regional Hearing Clerk (6C)

Mr. Jim Piatt, Chief
Surface Water Bureau
New Mexico Environment Department

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

AUG 18 1993

REPLY TO: 6W-ET

CERTIFIED MAIL: RETURN RECEIPT REQUESTED (P 104 195 422)

Mr. Jim Piatt, Chief
Surface Water Bureau
New Mexico Environment Department
P.O. Box 968
Santa Fe, New Mexico 87504-0968

Re: Notice of Proposed Administrative Penalty Assessment
Docket No. VI-93-1683

Dear Mr. Piatt:

Enclosed is a copy of the administrative complaint which the Administrator of the United States Environmental Protection Agency (EPA) proposes to issue to Giant Industries, Inc., pursuant to Section 309(g) of the Clean Water Act, 33 U.S.C. § 1319(g). The Administrator proposes to issue the complaint to begin the process to administratively assess a Class I civil penalty of $10,000 against Giant Industries, Inc., for violations of the Clean Water Act. Because the violations have occurred in the State of New Mexico, EPA is offering you an opportunity to confer with us regarding the proposed penalty assessment.

You may request a conference with Ms. Cecilia Kernodle within two (2) weeks of receipt of this letter. The conference may be in person or by telephone and may cover any matters relevant to the proposed penalty assessment. If you wish to request a conference or if you have any comments or questions regarding the matter, please call Ms. Cecilia Kernodle at telephone (214) 655-6452.

Sincerely yours,

Roger C. Hartung
Chief
Enforcement Branch (6W-E)

Enclosures

Printed on Recycled Paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6

	§	ADMINISTRATIVE COMPLAINT
IN THE MATTER OF	§	
	§	Proceeding to Assess Class 1
GIANT INDUSTRIES, INC.	§	Civil Penalty Under Section
Route 3, Box 7	§	309(g) of the Clean Water Act
Gallup, New Mexico 87301	§	
	§	Docket No. VI-93-1683
FACILITY No. NMU000066	§	
	§	

STATUTORY AUTHORITY

1. This Administrative Complaint is issued under the authority vested in the Administrator of the U.S. Environmental Protection Agency ("EPA") by Section 309(g)(2)(A) of the Clean Water Act ("Act"), 33 U.S.C. § 1319(g)(2)(A). The Administrator has delegated this authority to the Regional Administrator of EPA, Region 6, who has delegated it to the Water Management Division Director of EPA, Region 6, who in turn delegated the authority to the Chief of the Enforcement Branch of the Water Management Division, EPA, Region 6 ("Complainant").

2. Pursuant to Section 309(g)(2)(A) of the Act, and in accordance with the proposed "Consolidated Rules of Practice Governing Class I Civil Penalties Under the Clean Water Act", 56 Fed. Reg. 29,996 (July 1, 1991) ("Part 28"), Complainant hereby requests that the Regional Administrator assess a civil penalty against Giant Industries, Inc., ("Respondent") for the unlawful discharge of a pollutant into navigable waters in violation of Section 301(a) of the Act, 33 U .S.C. § 1311(a) without authorization by a National Pollutant Discharge Elimination System ("NPDES") permit issued by EPA pursuant to Section 402 of the Act, 33 U.S.C. § 1342.

ALLEGATIONS

3. Respondent is a corporation organized under the laws of New Mexico with a place of business located in Gallup, New Mexico.

4. Respondent owns and operates a refinery located in Gallup, New Mexico ("the facility"), which is, and was at relevant times, a "point source" within the meaning of Section 502(14) of the Act, 33 U.S.C. § 1362(14).

5. Section 301(a) of the Act, 33 U.S.C. § 1311(a), prohibits the discharge of pollutants into the navigable waters of the United States, except in compliance with certain sections of the Act.

6. On February 22, 1993, Respondent discharged from the facility approximately 750,000 gallons of wastewater from its Chinza Refinery's evaporation ponds to a tributary to the South Fork of the Puerco River a "navigable water" within the meaning of Section 502(7) of the Act, 33 U.S.C. § 1362(7). Refinery wastewater is a "pollutant" within the meaning of Section 502(6) of the Act, 33 U.S.C. § 1362(6).

7. The Respondent's discharges as described above violated Section 301(a) of the Act. Consequently, under Section 309(g) (2)(A) of the Act, 33 U.S.C. § 1319(g)(2)(A), the Respondent is liable for the administrative assessment of civil penalties in an amount not to exceed $10,000 per violation, up to a maximum of $25,000.

PROPOSED PENALTY

Based on the foregoing Allegations, and pursuant to the authority of Section 309(g)(2)(A) of the Act, the Complainant proposes that the Regional Administrator assess administrative penalties against Respondent in the amount of $10,000.

OPPORTUNITY TO REQUEST HEARING

The Respondent may, pursuant to Section 309(g) of the Act, request a hearing on the proposed penalty assessment. The procedures for hearing, if one is requested, are set out in Part 28, a copy of which is attached with this Complaint.

In order to be entitled to a hearing under the Act, the Respondent must file a Response within thirty (30) days after receipt of this Administrative Complaint to:

Regional Hearing Clerk (6C)
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

The Response must be signed by the Respondent and contain all the information required by Section 28.2(u) of Part 28, including the name, address, and telephone number of Respondent and, if represented by counsel, the same information concerning counsel. The Respondent must also either (1) admit liability; or, (2) deny liability in whole or in part and specify each allegation of fact or conclusion of law as to liability which is in dispute and the specific factual or legal grounds for your defense; and, (3) oppose or agree to pay the proposed penalty in this Administrative Complaint.

If not already designated, the Regional Administrator shall designate a Presiding Officer for this action no later than twenty (20) days after this Administrative Complaint has been served. The Presiding Officer shall rule on all motions submitted by parties, and will set the time and place for further proceedings in the action, including any hearing on penalty and/or liability.

The Respondent will be deemed to have admitted each allegation in the Administrative Complaint and will have waived its opportunity to appear in this action for any purpose, including contesting any default finding, if it does not, within thirty (30) days, either (1) file a Response as described in Part 28; (2) file a settlement of the case reached with the Complainant; (3) receive an extension from the Complainant to file the response; or, (4) certify to the Hearing Clerk that it has made a penalty settlement offer to the Complainant.

The Complainant is authorized to extend the deadline for the Respondent to file a Response for up to ninety (90) additional days in order to assist settlement. If the Respondent makes a penalty settlement offer before thirty (30) days following receipt of the Administrative Complaint have elapsed, its time for filing its Response is extended for an additional thirty (30) days. There are no other ways to receive an extension of the filing deadline for the Response.

INFORMAL CONFERENCE

The Respondent may request an informal conference with the Complainant concerning the alleged violations and the amount of the proposed penalty. The Respondent's request for an informal conference does not extend the

thirty (30) day period in which it must submit a written Response in order to preserve its right to a liability hearing. To request an informal conference relating to this Administrative Complaint, you should contact Ms. Cecilia Kernodle at (214) 655-6452.

Date: AUG 18 1993

Roger C. Hartung
Chief
Enforcement Branch (6W-E)
Water Management Division
1445 Ross Avenue
Dallas, Texas 75202-2733

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6

IN THE MATTER OF GIANT INDUSTRIES, INC. Route 3, Box 7 Gallup, New Mexico 87301 FACILITY No. NMU000066	§	CONSENT ORDER DOCKET NO. VI-93-1683

STATUTORY AUTHORITY

This Consent Order is issued under the authority vested in the Administrator of the United States Environmental Protection Agency ("EPA") by Section 309(g)(2)(A) of the Clean Water Act ("Act"), 33 U.S.C. § 1319(g)(2)(A). The Administrator has delegated this authority to the Regional Administrator of EPA, Region 6, who has delegated it to the Water Management Division Director of EPA, Region 6, who in turn delegated the authority to the Chief of the Enforcement Branch of the Water Management Division, EPA, Region 6 ("Complainant"). In accordance with the "Consolidated Rules of Practice Governing Class 1 Civil Penalties under the Clean Water Act, 56 Fed. Reg. 29,996 (July 1, 1991)" ("Part 28"), the Branch Chief hereby issues this Consent Order.

STIPULATIONS AND FINDINGS

Giant Industries, Inc., ("Respondent"), by its attorney or other authorized representative stipulates, and EPA finds as follows:

1. On EPA issued an Administrative Complaint, Docket No. VI-93-1683, pursuant to Section 309(g)(2)(A) of the Act, alleging that Respondent was in violation of Section 301 of the Act, 33 U.S.C. § 1311, and proposing a penalty of $10,000. In the Administrative Complaint EPA alleged that:

The Respondent discharged approximately 750,000 gallons of wastewater from its Chinza Refinery's evaporation pond.

2. On or about _____, EPA notified the public of Administrative Complaint, Docket No. VI-93-1683.

3. On _____, the State of New Mexico was given an opportunity to consult with EPA regarding the assessment of an administrative penalty against the Respondent.

4. Respondent admits the facts and findings of violation as alleged in the Administrative Complaint as set forth above, and waives its right to a hearing under Section 309(g)(2)(A) of the Act, 33 U.S.C. § 1319(g)(2)(A) and to appeal this Order under Section 309(g)(8)(A) of the Act, 33 U.S.C. § 1319(g)(8)(A).

CONSENT ORDER

Based on the foregoing Stipulations and Findings, and have taken into account material information presented by commenters in this case, and under the authority of Section 309(g)(2)(A) of the Act, 33 U.S.C. § 1319(g)(2)(A), EPA HEREBY ORDERS AND RESPONDENT HEREBY CONSENTS, that:

General Provisions

1. The provisions of this Consent Order shall be binding upon Respondent, its officers, directors, agents, servants, employees, and successors or assigns.

2. This Consent Order does not constitute a waiver, suspension or modification of the requirements of the Act, 33 U.S.C. §§1251 et seq., or any regulations promulgated thereunder.

3. The Respondent shall mail two (2) copies of the Consent Order, each with original signatures, to the attention of Ms. Carlene Ellison (6W-EA) at the following address:

U.S. EPA Region 6
Water Enforcement Branch
1445 Ross Avenue
Dallas, Texas 75202-2733

Payment Terms

4. No later than thirty (30) days after the effective date of this Consent Order, the Respondent shall submit a cashier's or certified check in the amount of $5,000 payable to "Treasurer, United States of America" to:

EPA Region 6
P.O. Box 360582M
Pittsburgh, PA 15251

5. The Respondent shall note on the penalty payment check the title and docket number of this case. The Respondent shall send simultaneous notices of such payments, including copies of the money order, cashier's check or certified check to the following:

Regional Hearing Clerk (6C)
U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

Ms. Ruth Gibson (6W-EA)
Water Management Division
Enforcement Branch
U.S. EPA, Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

Mr. Ralph Corley (6C-A/W)
Associate Regional Counsel
U.S. EPA, Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

6. Docket No. VI-93-1683 should be clearly typed on the check to ensure credit.

7. Your adherence to these procedures will ensure proper credit when payments are received.

8. If EPA does not receive payment within thirty (30) days of the effective date, interest will accrue on the amount due from the due date at the current annual rate prescribed and published by the Secretary of the Treasury in the Federal Register and the Treasury Fiscal Requirements Manual Bulletin per annum through the date of payment.

9. If the payment is overdue, EPA will also impose a late-payment handling charge of $15, with an additional delinquent notice charge of $15 for each subsequent 30-day period. Finally, EPA will apply a six (6) percent per annum penalty on any principal amount not paid within ninety (90) days of the due date.

10. Failure by Respondent to pay in full the penalty assessed by this Consent Order by its due date may subject Respondent to a civil action to collect the assessed penalty plus interest, attorneys' fees, costs, and an additional quarterly nonpayment penalty pursuant to Section 309(g)(9) of the Act, 33 U.S.C. § 1319(g)(9). In any such collection action, the validity, amount, and appropriateness of the penalty and of this Consent Order shall not be subject to review.

11. The due date is thirty (30) days after the effective date specified in the Consent Order.

12. Other penalties for failure to make a timely payment may also apply.

Effective Date

13. This Consent Order shall become effective thirty (30) days from the date of issuance noted below unless a petition to the Regional Administrator to set aside the Order is filed by a commenter pursuant to Part 28 and Section 309(g)(4)(C) of the Act, 33 U.S.C. § 1319(g)(4)(C). If the Regional Administrator denies the petition, this Consent Order shall become effective thirty (30) days after such denial.

Date: _____

_____
Mr. Carl Shook
Giant Industries, Inc.
Route 3, Box 7
Gallup, New Mexico 87301

U.S. ENVIRONMENTAL PROTECTION AGENCY

Issued this _____ day of _____, 1993.

_____

Roger C. Hartung
Chief
Enforcement Branch (6W-E)
Water Management Division
1445 Ross Avenue
Dallas, Texas 75202-2733

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6

IN THE MATTER OF GIANT INDUSTRIES, INC. Respondent. FACILITY No. NMU000066	§	STIPULATION EXTENDING RESPONSE DEADLINE FOR 90 DAYS Docket No. VI-93-1683

Pursuant to § 28.20(b)(1) of the Consolidated Rules of Practice Governing the Administrative Assessment of Class I Civil Penalties ("Part 28"), the parties hereby stipulate that the date for the Respondent to file a Response in this Matter is extended from thirty (30) days of the date of issuance to 120 days from the date of issuance.

Date: _____

_____
Roger C. Hartung, Chief
Enforcement Branch (6W-E)
Water Management Division
Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

Giant Industries, Inc.

Date: _____

_____
Mr. Kim H Bullerdick
Corporate Counsel
Giant Industries, Inc.
P.O. Box 12999
Scottsdale, Arizona 85267

OIL CONSERVATION DIVISION
RECEIVED
'93 SEP 10 AM 11 32

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

September 7, 1993

Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, New Mexico 87504-2088

Re: Aromatic Constituents in Well #OW-1

Dear Mr. Anderson:

As indicated in the letter to the NMOCD of June 11, 1993, trace amounts of benzene, toluene, and xylene were reported in the analytical data from the 1993 Annual OCD Groundwater Sampling Event for observation Well #OW-1, at Giant Refining Company - Ciniza Refinery.

Additional sampling of Well #OW-1 was completed on June 4, 1993 and July 14, 1993. Trace amounts were again reported in the analytical data (see attached table). Please note that none of the reported constituents approach the drinking water standards (WQCC 82-1, Part 3-103).

Giant submits the following overview and proposal to sample OW-1. If the OCD has any comments or recommendations, please contact me at (505) 722-0217.

Sincerely,

Lynn Shelton

Lynn Shelton
Senior Environmental Coordinator
Giant Refining Company - Ciniza

TLS:sp

cc: Kim Bullerdick, Corporate Counsel
Giant Industries Arizona, Inc.

John Stokes, Refinery Manager
Giant Refining Company - Ciniza

Ed Horst, Program Manager, Hazardous and Radioactive Materials Bureau
New Mexico Environment Department

Barbara Driscoll
USEPA, Region VI

Historical Overview:

Well #OW-1 was drilled on November 7, 1980 as a down gradient observation well for the refining facility. Completed at 99.5' total depth, it is screened from 89.3' to 99.3' across the Sonsela Aquifer. Drilled near the western boundary of Giant's property line, the flow of groundwater is from southeast to northwest along a dip of approximately 2° (see drawing). The well has artesian head and stands full of water most of the time and flows slightly (<1 GPM) part of the time.

The PVC casing of OW-1 is protected by a 10" steel protective casing, with locking lid. In 1990, the weep hole in the steel protective casing became clogged and water built up inside the annulus of the steel casing and the PVC casing. Extremely low temperatures froze the water, which in turn collapsed the PVC casing. In early 1991, the steel protective casing was removed and the damaged PVC casing was replaced with new 4" PVC casing fastened to the existing PVC casing with a 4" stainless steel band clamp with rubber sleeve. The steel protective casing was reinstalled with multiple weep holes.

Contamination:

Sampled annually for several years as an observation well for the New Mexico Oil Conservation Division, no organic constituents had been recovered with a sample from OW-1 prior to April, 1993.

Considering that the results of Giant's RCRA Facility Investigation (RFI) of the evaporation lagoons indicated no hydrocarbon migration from the lagoons and that no organic constituents have been recovered from Wells #OW-2 and #OW-3, Giant does not suspect a plume of hydrocarbon contamination in the Sonsela Aquifer from an up gradient source.

Giant suspects that the contamination seen in OW-1 is a result of cross-contamination while sampling or associated with the repair of the collapsed PVC casing mentioned earlier. This is partially substantiated by the fact that contamination appears to diminish with each sampling event (April, June and July). (See attached table.)

Proposed Action:

Giant proposes to sample OW-1 for BTEX on a quarterly basis starting in October. This will allow a body of analytical data to

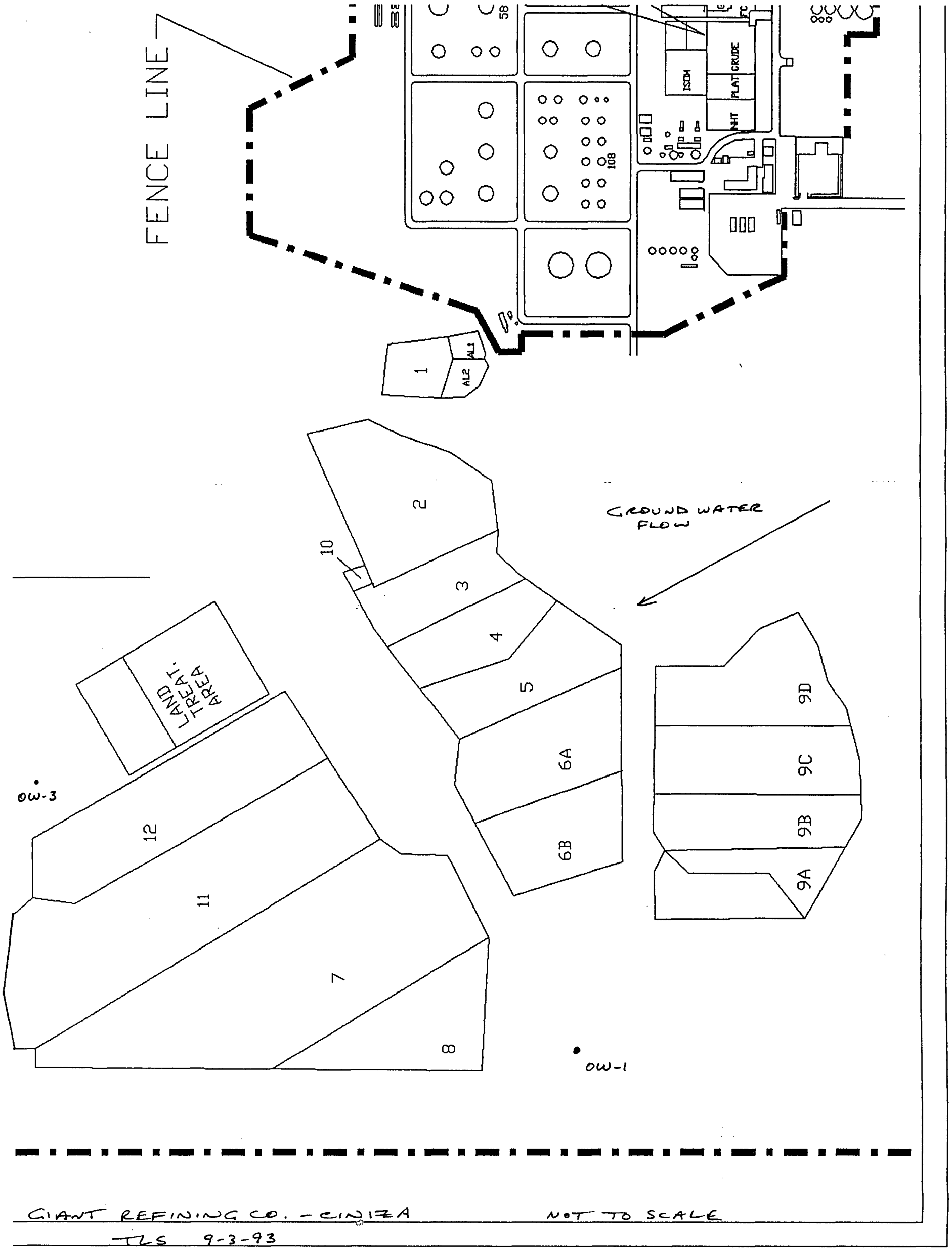
be accumulated to determine if there is a trend (upward or downward) in constituent concentration and will enable Giant to make an informed decision on remedial action, if needed.

Quarterly sampling will occur for one year, at which time the program can be assessed for need for additional sampling, remediation, or no further action.

OW-1
BTEX DATA

Constituent	4-28-93	6-4-93	7-14-93	Drinking Water Action Limits
Benzene	-	0.9	-	10
Toluene	2.3	1.9	1.4	750
Ethylbenzene	-	-	-	750
Total Xylenes	-	1.6	0.6	620
MTBE	-	-	-	-

(All data in parts per billion [ug/l])



GIANT REFINING CO. - CINIZA NOT TO SCALE

TLS 9-3-93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX, MTBE (EPA 8020)
CLIENT : GIANT REFINING ATI I.D.: 304451
PROJECT # : (NONE)
PROJECT NAME: ANNUAL GROUNDWATER

SAMPLE I.D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
06	OW-1	AQUEOUS	04/28/93	NA	05/03/93	1
07	OW-2	AQUEOUS	04/28/93	NA	05/03/93	1
08	OW-3	AQUEOUS	04/28/93	NA	05/03/93	1

PARAMETER	UNITS	06	07	08
BENZENE	UG/L	<0.5	<0.5	<0.5
TOLUENE	UG/L	2.3	<0.5	<0.5
ETHYLBENZENE	UG/L	<0.5	<0.5	<0.5
TOTAL XYLENES	UG/L	<0.5	<0.5	<0.5
METHYL-t-BUTYL ETHER	UG/L	<2.5	<2.5	<2.5
BROMOFLUOROBENZENE (%)		95	91	92

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX, MTBE (EPA 8020)
CLIENT : GIANT REFINING ATI I.D.: 306326
PROJECT # : (NONE)
PROJECT NAME: ANNUAL GROUNDWATER

SAMPLE I.D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	OW-1-D	AQUEOUS	06/04/93	NA	06/09/93	1

PARAMETER	UNITS	01
BENZENE	UG/L	0.9
TOLUENE	UG/L	1.9
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	1.6
METHYL-t-BUTYL ETHER	UG/L	<2.5
BROMOFLUOROBENZENE (%)		93

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX, MTBE (EPA 8020)
CLIENT : GIANT REFINING ATI I.D.: 307336
PROJECT # : (NONE)
PROJECT NAME: (NONE)

SAMPLE I.D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	OW-1	AQUEOUS	07/14/93	NA	07/15/93	1

PARAMETER	UNITS	01
BENZENE	UG/L	<0.5
TOLUENE	UG/L	1.4
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	0.6
METHYL-t-BUTYL ETHER	UG/L	<2.5
BROMOFLUOROBENZENE (%)		90

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

July 1, 1993

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-354

Mr. Lynn Shelton
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

RE: CRUDE OIL RELEASE
GIANT CINIZA REFINERY
MCKINLEY COUNTY, NEW MEXICO

Dear Mr. Shelton:

The New Mexico Oil Conservation Division (OCD) has reviewed Giant's May 27, 1993 final corrective action report which describes corrective actions taken to mitigate an accidental release of 10 barrels of crude oil at the Giant Ciniza Refinery.

Pursuant to New Mexico Water Quality Control Commission Regulation 1-203.A.7. the above referenced corrective action report **is hereby approved.**

Please be advised that OCD approval does not relieve Giant of liability should remaining soil contaminant pose a threat to public health or result in actual contamination of ground waters or surface waters. In addition, OCD approval does not relieve Giant of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions, please contact Bill Olson of my staff at (505) 827-5885.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

xc: OCD Aztec Office

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal | Time 9:00 AM. | Date 6/11/93

Originating Party	Other Parties
Zeke Sherman	KM. Brown - OCD
Giant Ciniza Refinery	

Subject (1) Monitor Well OW1 Sampling - Contaminant Found
(2) Modification of Waste Water System
Sulfur Recovery sewer hook-up.

Discussion (1) Toluene in MW below WQCC; Benzene Toluene & Xylene below WQCC standard on second sampling.
W of evaporation ponds, down gradient (NW SE NE SE) MW OW1
Monitoring deeper aquifer (Sinsela, ≈90'). No other deep monitor wells showing contamination

(2) Diesel Sulfur recovery unit, will need to modify permit by tying in new sewer to sump box. Sump box had crack & possible release. not a process unit but an area drain used for storm water. Sulfur recovery unit tying in is not oil/water waste stream. over →

Conclusions or Agreements Recommended resample in 1-2 months & if still shows contaminants then need to submit a plan to determine the source and remedial actions.

Distribution
xc: file, William Olson

Signed KM Brown

→ Will determine if there has been a release. If so will report to EPA & OCD. If there's been a release will notify EPA & it's now a SMU.
If built box with clay liner then will choose to ~~If replace hope can do without replac~~ tie in prior to replacing since not oil waste water only sulfur recovery waste water.

Recommended they send a request to do ~~the~~ the tie in prior to replacement of sump and why.

OIL CONSERVATION DIVISION
RECEIVED
'93 JUN 18 AM 8 44

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

June 11, 1993

Roger Anderson
Environmental Bureau Chief
State of New Mexico Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, NM 87504-2088

RE: Notification of Contaminants in Groundwater Analysis from Monitoring Well, OW-1

Dear Mr. Anderson:

This is to notify the Oil Conservation Division of a potential groundwater problem at Giant's Ciniza Refinery. Giant has enclosed copies of the initial semiannual sampling data for OW-1 and the confirmation sampling data. The initial and confirmation data indicate concentrations of BTEX in groundwater from OW-1, located on the western edge of the refinery property. The concentrations do not exceed WQCC standards.

Giant will resample OW-1 on July 11, 1993. If the contaminants are still present, Giant will within 30 days of making that determination, submit a plan to determine the source of such.

Should you have any questions, please contact me at 1-722-3833.

Respectfully yours,

Zeke Sherman
Environmental Manager
Giant Industries Arizona, Inc.

ZRS:smb

cc/w: J. Stokes, Giant Refining Company
K. Bullerdick, Giant Industries Arizona Inc.
L. Shelton, Giant Refining Company
E. Horst, NMED
B. Driscol, Region VI, EPA

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX, MTBE (EPA 8020)
CLIENT : GIANT REFINING ATI I.D.: 304451
PROJECT # : (NONE)
PROJECT NAME: ANNUAL GROUNDWATER

SAMPLE I.D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
06	OW-1	AQUEOUS	04/28/93	NA	05/03/93	1
07	OW-2	AQUEOUS	04/28/93	NA	05/03/93	1
08	OW-3	AQUEOUS	04/28/93	NA	05/03/93	1

PARAMETER	UNITS	06	07	08
BENZENE	UG/L	<0.5	<0.5	<0.5
TOLUENE	UG/L	2.3	<0.5	<0.5
ETHYLBENZENE	UG/L	<0.5	<0.5	<0.5
TOTAL XYLENES	UG/L	<0.5	<0.5	<0.5
METHYL-t-BUTYL ETHER	UG/L	<2.5	<2.5	<2.5
BROMOFLUOROBENZENE (%)		95	91	92

Preliminary Results for Aqueous Fuels Analysis

To : Lynn Shelton Company: Giant FAX #: 722213

From: Elizabeth Proffitt, Laboratory Manager

[Co]mments: Annual Ground H_2O

Please contact your Project Manager regarding any questions or comments about this fax.

[Pa]ge 1 of 2 ATI Accession #: 366326 Reviewed by: [illegible]

Client Sample ID	Benzene (ug/l)	Toluene (ug/l)	Ethyl-Benzene (ug/l)	Total Xylenes (ug/l)	MTBE (ug/l)	TPHC (418.1) (mg/l)
OW-1-D	0.9	1.9	<0.5	1.6	<2.5	—

[A]nalytical Technologies, Inc. - 2709-D Pan American Freeway NE - Albuquerque, NM 87107 - (505)344-3777 - (505)344-4413 FAX

OIL CONSERVATION DIVISION
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GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

June 7, 1993

Ms. Barbara Hoditschek
Permit Program Manager
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
525 Camino De Los Marquez
P.O. Box 26110
Santa Fe, NM 87502

RE: Soil Sampling Program

Dear Ms. Hoditschek:

Giant Refining Company is submitting the enclosed Sampling Plan as part of the previously submitted application for a permit modification. The Sampling Plan outlines the protocol for obtaining the samples to make the determination in section III of Attachment H.

Giant understands that the Bureau has decided to schedule the public notification, comment period, and meeting when the Bureau deems the application for a permit modification complete.

Should you have any questions, please contact me at (505) 722-3833.

Respectfully yours,

Zeke Sherman
Environmental Manager
Ciniza Refinery

cc: Kim Bullerdick
John Stokes
L. Shelton
B. Driscoll, EPA, Region VI
Roger Anderson, NMOCD
Marc Sides, NMED
Jane Cramer, NMED

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Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

May 28, 1993

Roger Anderson
Environmental Bureau Manager
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504-2088

Re: 1992 Annual Groundwater and Quarterly Wastewater Sampling

Dear Mr. Anderson:

Pursuant to the water discharge permit, GW-32, Giant Refining Company - Ciniza (GRC) submits the 1992 Annual OCD Groundwater Report.

Please find enclosed two bound booklets: GRC's Annual OCD Groundwater Report and GRC's Annual Groundwater Report (to NMED), numbered respectively #1 and #2.

The material presented in Book #1 is arranged in the following sections:

I. Quarterly Aerated Lagoon and API Effluent
II. Tabulated Analytical Data - OW-1, 2, 3
III. Original Analytical Data - OW-1, 2, 3

The material presented in Book #2 is arranged in the following sections:

I. Well Identification Report

II. Statistical Analysis
  MW Series - Student T
  MW Series - Graphs
  SMW Series - Tolerance Interval
  (includes 1990, 1991, 1992)

III. Groundwater Measurements

IV. Groundwater Velocity

V. Groundwater Elevation Contour Map

VI. Tabulated Analytical Data

VII. Original Analytical Data

If you have any questions, please contact me at (505) 722-0227.

Sincerely,

Lynn Shelton

Lynn Shelton
Environmental Assistant
Giant Refining Company - Ciniza

TLS:sp

cc: Zeke Sherman, Environmental Manager
Giant Refining Company

Kim Bullerdick, Corporate Counsel
Giant Industries Arizona, Inc.

OIL CONSERVATION DIVISION
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GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

May 24, 1993

Mr. Roger C. Anderson
Environmental Bureau Chief
Oil Conservation Division
P.O. Box 2088
State Land Office Bldg.
Santa Fe, NM 87504

RE: Schedule for Discharge Plan Modifications (GW-32)

Dear Mr. Anderson:

Giant Refining Company is submitting the following Schedule for the implementation of the March 8 proposed permit modifications.

I. Concerning the permit modification to change the frequency of pond inspections to daily from weekly. The refinery commenced daily inspections of all of the evaporation pond berms shortly after the recent pond water release during the weekend of 22 February. A formal reporting and documentation procedure was placed into operation on 7 May. Each pond has been reequipped with a new identifying marker and a new scale showing the remaining freeboard. A procedure for inspecting the ponds and for reporting problems has been documented together with a detailed inspection form. The reporting program will be revised annually for adequacy and updated as necessary. The daily reports will be kept on site for at least two years.

II. Concerning the permit modifications to adopt a revised contingency plan. Giant Refining Company has implemented a new contingency plan to respond to hydrocarbon and chemical spills as per the Oil Pollution Prevention Act. The new Ciniza Facility Response Plan should be included by reference in Ciniza's Ground Water Discharge Permit. A copy of the Facility Response Plan is included with this submittal. In addition to the Facility Response Plan required by the Oil Pollution Prevention Act, Ciniza is developing a special contingency plan to address potential water releases from Ciniza's evaporation ponds. The special contingency plan will provide guidance on how to prevent a release of water, how to respond to a release of water, and will delegate authority to specific persons so that 24 hours a day, year-round, someone will be in a position to initiate the contingency plan and expend the resources needed to respond to an incident. The special contingency plan is under development and will be ready to implement and submit by the end of June, '93.

III. Concerning the permit modification to adopt a waste water reduction program. Such a program happens to be one of the refinery's strategic long term objectives. The refinery has long recognized the need to reduce water usage and minimize waste water. The company has initiated the process of determining the costs and methods for achieving a significant waste water reduction. Since the company is expecting to make a commitment to the Division on waste water reduction, and since the capital and operating costs must be carefully considered, the company does not expect to propose such a program until the beginning of this next fiscal year or January, '94.

IV. Concerning the proposal to conduct a structural integrity inspection of the evaporation pond berms. Giant will conduct an inspection using an independent certified professional engineer and good engineering standards during June with a final report to be submitted at the end of July. The report will describe the construction of the berms and the existing condition of each. The report will also include any recommendations for constructing and/or repairing the pond berms.

V. Concerning the development of a plan to lower existing pond levels to the required freeboard levels. Giant has diligently worked at maximizing the evaporation rate by utilizing air pond spray pumps. Giant has also successfully reduced the effluent rate into the ponds by minimizing refinery water use. The effect of both these actions has been the lowering of the pond levels to the required freeboard elevations.

This should address your schedule information requirements. If you have any questions or need other information, please contact me at 1-722-3833.

Respectfully yours,

Zeke Sherman
Environmental Manager
Ciniza Refinery

ZRS:smb

cc: K. Bullerdick
J. Stokes
L. Shelton

SAMPLING PLAN

LAND TREATMENT UNIT
GIANT REFINING COMPANY
CINIZA

MAY 19, 1993

PREPARED BY:

LYNN SHELTON

TABLE OF CONTENTS

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FIGURES:

APPENDICES:

1.0 INTRODUCTION

It is essential to assure that data generated during the land treatment unit sampling event are valid. For data to be valid, it must be supported by documented procedures so that it can be used with the appropriate level of confidence to support decisions regarding the need for, and design of, subsequent characterization and remediation activities.

Through the development and implementation of a comprehensive sample plan, all parties involved can consistently strive to achieve data of known and acceptable quality. This sampling plan includes specific Quality Assurance (QA) and Quality Control (QC) procedures to:

- Define the sampling team responsibilities
- Define sampling and analytical techniques
- Specify sample identity
- Establish precision and accuracy of reported data
- Establish detection limits for constituents of concern
- Identify any potential bias arising from sampling or analytical activities

The QA/QC program outlined in this plan must be adhered to during all data collection activities. It is important to remember that QA/QC is a dynamic process and that this plan is subject to periodic updates. This plan outlines QA/QC procedures designed to meet or exceed U.S. EPA and New Mexico Environment Department guidelines.

2.0 RESPONSIBILITIES

The importance of defining responsibilities for the implementation of the procedures must be stressed. Each individual involved with the sampling program must clearly understand their responsibilities so the procedures detailed in this plan will be conducted successfully and efficiently.

2.1 Project Manager

- Maintain information for the collection of data
- Set up sampling program that complies with regulatory requirements
- Schedule analysis and shipment of samples
- Review analytical and statistical data for completeness and validity
- Supervise contractors involved in sampling event
- Develop a QA\QC report to management
- Specify analytical methods

2.2 Sampling Personnel

2.2.1 General

- Follow all procedures in this plan to prevent contamination of samples and procedural errors,
- Collect samples as prescribed in this plan
- Inventory and prepare sample bottles and preservatives
- Maintain all sampling equipment
- Calibrate field instruments (if applicable).

2.2.2 Soil Sampling

- Collect site specific soil samples
- Verify and document all sampling points (to include depth and parameters)
- Follow prescribed decontamination procedures

2.2.3 Sample Transfer

- Verify all entries into chain of custody
- Assure proper storage and preservation (preservation - 4°C)
- Verify proper transfer of samples to laboratory
- Input sample results into data base

2.3 Contract Laboratory

- Provide high quality analytical services
- Assure that all data generated is supported by adequate documentation that meet NMED and USEPA QA/QC requirements
- Provide sample bottles, coolers, labels and chains of custody on request
- Maintain standard operating procedures (S.O.P.'s) for all analytical methods performed
- Use only USEPA approved methods for all analyses
- Assure that technical personnel performing analyses are qualified and adequately trained
- Provide feedback to Giant regarding analytical method limitations and quality control data pertinent to the sampling program

3.0 SAMPLING PROCEDURES

Sampling can be divided into the following stages.

3.1 Preparation

Preparation for a sampling event should be initiated at least two weeks prior to anticipated sampling date, if possible, to assure that the sampling can proceed in an organized and efficient manner. Proper preparation may define the scope of the sampling event.

The contract laboratory should be notified of the proposed sampling schedule so that they may schedule both personnel and equipment to meet the demands of the sample analyses. The lab should provide adequate materials (i.e. coolers, bottles) for the sampling event at that time.

Sampling personnel will inventory the bottles upon receipt and notify the laboratory of any discrepancies.

The day before sampling, sampling personnel should review the field checklist (Table 1, soil sampling) to assure that all equipment is available and operational.

3.2 Pre-Sampling Operations

These steps should be taken immediately prior to sampling activities.

3.2.1 Calibration of Field Instruments

The photo ionization detector (PID) should be checked for fully charged battery and calibrated with .54 hexane standard. This step may be eliminated if use of PID is not warranted.

3.2.2 Ice

One gallon bags of ice will be obtained and placed into the coolers before sampling begins.

3.2.3 Sample Record

A sample record will be kept in the LTU operations log book. The following information should be recorded in the field notes:

- Location of Sample (include drawing of site)

TABLE 1

Field Equipment Checklist
Soil Sampling

	ITEM		REMARKS
_____	PID Meter (Optional)	_____	Calibrated
_____	Site Map with Sample Locations		
_____	Sample Bottles		
_____	Ice Chests		
_____	Trip Blanks		
_____	Methanol		
_____	Deionized Water		
_____	Squeeze Bottles		
_____	Personal Protective Equipment		
_____	Chain of Custody and Sample Record Forms		
_____	Plastic Bags (to provide clean surfaces)		
_____	Disposable Gloves		
_____	Paper Towels		
_____	Tape (for labels and dispenser		
_____	Sharpie, Pens, Pencils		
_____	Blue Ice or Ice		
_____	Zip-Lock Bags, 1 Gallon		
_____	Tape Measure		

- Sample Identification Number System
- Date and Time of Sampling
- Sample Collection Method
- Field Measurements
- Comments and Observations
- Sampling Personnel

It is important that specific observations must be recorded concerning sit conditions, to include:

- Weather Conditions
- Physical Surrounding (Water, Plant Growth)
- Evidence of Contamination
- Odors or Color Abnormalities

3.3 Soil Sampling Locations and Techniques

The purpose of the soil sampling plan is to determine if migration of certain constituents below the treatment zone has occured and if so, to characterize the extent of the migration.

Soil sampling locations will be selected in order to adequately determine if migration has occurred. The number and depth of samples in this plan has been selected to be what Giant believes to adequately characterize potential migration of certain constituents.

3.3.1 Surface Preparation

Fill soil will be scraped away with a backhoe to reveal the original surface of the land treatment unit at each sample location. This will establish a measurement base with which to determine critical sample depths with accuracy. It also removes the ZOI material which is contaminated.

3.3.2 Boreholes / Core Samples

Boreholes for samples will be advanced by a drilling rig employing hollow-stem augers. There will be no compositing of soil samples. Core samplers are used in conjunction with hollow-stem augers to collect soil samples. A five foot CME tube, 2 1/2" diameter, split core barrel will be placed in the lead auger. The tube is pushed into the soil at the same drilling rate as the augers. After the tube is pulled from the soil, it is detached from the drill rod and opened to remove the soil core. CME tubes will be used for obtaining samples of consolidated soil and used to penetrate some types of rock. Measurements will be taken to the .1 inch with an

engineers tape measure.

3.3.3 Soil Sampling Screening

Should visual inspection, or detection of odors, warrant its use, a photo-ionization detector will be used to screen for volatiles. Since prior sampling has not shown significant contamination, the use of a PID is not expected. If the PID is used, all readings will be recorded in the log book.

3.3.4 Lithologic Logging

Detailed logs will be maintained for each boring. Listed below is a general description of soils to be used to describe their physical characteristics:

1) Lithology
2) Color (i.e. light, dark, mottled, mixed)
3) Size (fine, medium, coarse)
4) Moisture (dry, moist, wet)
5) Odor (or no odor)
6) Other Descriptive Terms:
   a. Lens <1 inch
   b. Layer >1 inch
   c. Interbedded
   d. Slickensided - Soils having inclined planes of weakness, glossy in appearance

3.3.5 Disposition of Soils

All drill cuttings generated by borehole advancement for soil samples will be spread within the land treatment unit.

4.0 SAMPLE LABELING

As soon as the sample containers have been properly filled with sample material, the bottle labels should be completed with the following information:

- Sample Identification Number
- Location
- Date/Time of Collection
- Preservation Technique
- Analytical Parameters

The label will be filled out with waterproof, indelible ink. All information except sample number and date/time of collection shall be completed prior to going into the field. The sample number and date/time will be completed when the sample is taken.

5.0 DECONTAMINATION PROCEDURES

The following procedures are applicable to decontamination of:

- Drilling Equipment and Vehicles
- Sampling Equipment

5.1 Drilling Equipment and Vehicles

Decontamination of large drilling equipment and vehicles is required to prevent cross contamination of boreholes from which samples will be retrieved for chemical analysis. This procedure also provides for the protection of personnel subsequent to demobilization from the land treatment unit.

- Wash and mechanically clean augers and CME tube with bio-degradable soap and brush. Rinse with potable water.
- Steam augers and CME tube
- Protect equipment if necessary, when transporting drilling equipment between boreholes, by covering or shielding.

During decontamination of drilling equipment and accessories, it is especially critical to clean the inside of hollow-stem auger flights, drill rods and bits. Decontamination can be limited to those parts that may come into direct contact with soil sample surfaces.

5.2 Sampling Equipment

Sampling equipment includes all sampling devices and containers which are used to collect or contain a sample prior to final sample analysis. Before its use, all sampling equipment which may contribute to the contamination of a sample must be thoroughly cleaned.

Sampling equipment can generally be cleaned by hand. The following procedure will be used for sampling equipment:

- Scrub with bio-degradable soap and potable water
- Rinse with deionized water followed by propanol
- Allow to air dry
- Protect if necessary to prevent contamination while transporting from borehole to borehole by covering

or shielding

6.0 Sample Custody

Assuring the integrity of a sample from the time of collection to data reporting is essential. Chain of custody procedures are intended to document sample possession from the time of collection to final disposition.

A sample is considered to be under a person's custody if it is in a person's physical possession, in view of the person after taking possession, secured by that person so that no one may tamper with it, or secured by that person in an area that is restricted to authorized personnel.

6.1 Chain of Custody Record

The chain of custody record shall include the following information:

1) Facility Name
2) Type and Number of Samples
3) Sample Location and ID
4) Collection Dates/Times
5) Analysis Required
6) Number of Containers for Each Sample
7) Additional Remarks or Comments as Needed
8) Samplers Signature
9) Signatures of All Individuals Involved in the Chain of Possession
10) Inclusive Dates and Time of Possession

A sample form is shown in Figure 1. The original chain of custody from must accompany the samples. One copy of the chain of custody should be kept in the project files.

6.2 Transfer of Custody

This section describes the disposition of the samples after collection.

6.2.1 On-Site Custody

The sample collector will prepare the samples by placing in a cooler with ice to maintain 4°C. The information regarding date and time of sample preparation of the chain of custody at this time.

6.2.2 Contract Laboratory Custody

The delivery person will relinquish the samples to the laboratory. The laboratory will notify Giant of samples receipt and condition.

The laboratory will be responsible for documenting custody within their laboratory. If a subcontractor is used for any or all analysis, Giant shall be informed and custody documented.

7.0 ANALYTICAL PROCEDURES

7.1 Methods

In order to adequately evaluate analytical data, certain methodologies were selected. These USEPA approved methods listed in Giant's Part B Permit shall be used for analyses of soil samples.

The list of constituents and methods are listed in Table 2.

7.2 Detection Limits

It is imperative that the analytical procedures chosen have detection limits appropriate to the intended use of the data and which are consistent with previous sampling events in the land treatment unit. Detection limits for this plan are included in Table 2.

7.3 Sample Container, Preservation and Holding Times

Sample container selection, preservation techniques and holding times must be addressed for every sampling activity. This is to assure that the sample does not deteriorate or become contaminated. Sample deterioration can occur through biological degradation or chemical precipitation. Sample contamination can occur through adsorption, absorption, or leaching effects due to the interaction of the sample and the container material. Sample container selection, preservation techniques and holding times are listed in Table 2.

7.4 Sample Preparation

Proper sample preparation is an integral part of any analytical program. Any additional preparation above and beyond normal S.O.P.'s should be confirmed with Giant's project manager.

TABLE 2

METALS
METHOD 6010

PARAMETER	EPA METHOD SW-846	DESCRIPTION	CONTAINER	PRESERVATIVE	HOLDING TIME,DAYS	DETECTION LIMIT	UNITS
CHROMIUM	6010	ICP	G	4 DEGREES C	180	1.0	mg/kg
LEAD	6010	ICP	G	4 DEGREES C	180	5.0	mg/kg

APPENDIX IX
8240 VOLATILE ORGANICS

PARAMETER	EPA METHOD SW-846	DESCRIPTION	CONTAINER	PRESERVATIVE	HOLDING TIME,DAYS	DETECTION LIMIT	UNITS
ACETONE	8240	GC/MS	G	4 DEGREES C	14	10	ug/kg
ACETONITRILE	8240	GC/MS	G	4 DEGREES C	14	200	ug/kg
ACROLEIN	8240	GC/MS	G	4 DEGREES C	14	100	ug/kg
ACRYLONITRILE	8240	GC/MS	G	4 DEGREES C	14	100	ug/kg
ALLYL CHLORIDE	8240	GC/MS	G	4 DEGREES C	14	10	ug/kg
BENZENE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
BROMODICHLOROMETHANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
BROMOFORM	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
BROMOMETHANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
2-BUTANONE (MEK)	8240	GC/MS	G	4 DEGREES C	14	10	ug/kg
CARBON DISULFIDE	8240	GC/MS	G	4 DEGREES C	14	10	ug/kg
CARBON TETRACHLORIDE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
CHLOROBENZENE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
CHLORODETHANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
CHLOROFORM	8240	GC/MS	G	4 DEGREES C	14	10	ug/kg
CHLOROMETHANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
CHLOROPRENE	8240	GC/MS	G	4 DEGREES C	14	10	ug/kg
DIBROMOCHLOROMETHANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
1,2-DIBROMO-3-CHLORO-^PROPANE (DBCP)	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
1,2-DIBROMOETHANE (EDB)	8240	GC/MS	G	4 DEGREES C	14	10	ug/kg
DIBROMOETHANE	8240	GC/MS	G	4 DEGREES C	14	10	ug/kg
TRANS-1,4-DICHLORO-^2-BUTENE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
DICHLORODIFLUOROMETHANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
1,2-DICHLOROETHANE	8240	GC/MS	G	4 DEGREES C	14	20	ug/kg
1,2-DICHLOROETHANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
1,2-DICHLOROETHENE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
1,2-DICHLOROETHENE ^ (TOTAL)	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
1,2-DICHLOROPROPANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
CIS-1,3-DICHLOROPROPENE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
TRANS-1,3-DICHLOROPROPENE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
1,4-DIOXANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
ETHYLBENZENE	8240	GC/MS	G	4 DEGREES C	14	500	ug/kg
ETHYL METHACRYLATE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
2-HEXANONE	8240	GC/MS	G	4 DEGREES C	14	20	ug/kg
IDOMETHANE	8240	GC/MS	G	4 DEGREES C	14	10	ug/kg
ISOBUTANOL	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
METHACRYLONITRILE	8240	GC/MS	G	4 DEGREES C	14	200	ug/kg
METHYLENE CHLORIDE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
METHYL METHACRYLATE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
4-METHYL-2-PENTANONE ^(MIBK)	8240	GC/MS	G	4 DEGREES C	14	20	ug/kg
PROPIONITRILE	8240	GC/MS	G	4 DEGREES C	14	10	ug/kg
STYRENE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
1,1,1,2-TETRACHLOROETHANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
1,1,2,2-TETRACHLOROETHANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
TETRACHLOROETHENE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
TOLUENE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
1,1,1-TRICHLOROETHANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
1,1,2,2-TETRACHLOROETHANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
TRICHLOROETHENE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
TRICHLOROFLUOROMETHANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
1,2,3-TRICHLOROPROPANE	8240	GC/MS	G	4 DEGREES C	14	5.0	ug/kg
VINYL ACETATE	8240	GC/MS	G	4 DEGREES C	14	10	ug/kg
		GC/MS	G	4 DEGREES C	14	10	ug/kg

TABLE 2, CONT.

8270 SEMIVOLATILE ORGANICS

PARAMETER	EPA METHOD SW-846	DESCRIPTION	CONTAINER	PRESERVATIVE	HOLDING TIME,DAYS	DETECTION LIMIT	UNITS
ACENAPHTHENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
ACENAPHTHYLENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
ACETOPHENONE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
2-ACETYLAMINOFLUORENE	8270	GC/MS	G	4 DEGREES C	14	100	ug/kg
4-AMINOBIPHENYL	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
ANILINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
ANTHRACENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
ARAMITE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
BENZO (A) ANTHRACENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
BENZO (B) FLUORANTHENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
BENZO (K) FLUROANTHENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
BENZO (G,H,I) PERYLENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
BENZO (A) PYRENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
BENZYL ALCOHOL	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
4-BROMOPHENYL ^PHENYL ETHER	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
BUTYL BENZYL PHTHALATE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
2-SEC-BUTYL-4,6-DINITRO-^PHENOL	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
4-CHLOROANILINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
BIS (2-CHLOROETHOXY)-^METHANE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
BIS (2-CHLOROETHYL) ETHER	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
BIS (2-CHLOROISOPROPYL)-^ETHER	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
4-CHLORO-3-METHYL PHENOL	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
2-CHLORONAPHTHALENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
2-CHLOROPHENOL	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
4-CHLOROPHENYL ^PHENYL ETHER	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
CHRYSENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
DIBENZ (A,H) ANTHRACENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
DI-N-BUTYL- PHTHALATE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
1,2-DICHLOROBENZENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
1,3-DICHLOROBENZENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
1,4-DICHLOROBENZENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
3,3-DICHLOROBENZIDINE	8270	GC/MS	G	4 DEGREES C	14	20	ug/kg
2,4-DICHLOROPHENOL	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
2,6-DICHLOROPHENOL	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
DIETHYL PHTHALATE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
DIMETHOATE	8270	GC/MS	G	4 DEGREES C	14	--	ug/kg
P-DIMETHYLAMINOAZOBENXENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
7,12-DIMETHYLBENZ (A)-^ANTHRACENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
3,3'-DIMETHYLBENZIDINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
A,A-DIMETHYLPHENETHYL-^AMINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
2,4DIMETHYLPHENOL	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
DIMETHYL PHTHALATE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
1,3-DINITROBENZENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
4,6DINITRO-^2-METHYLPHENOL	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
2,4-DINITROPHENOL	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
2,4-DINITROTOLUENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
2,6-DINITROTOLUENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
DI-N-OCTYL PHTHALATE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
DIPHENYLAMINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
DISULFOTON	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
BIS (2-ETHYLHEXYL) ^PHTHALATE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
ETHYL METHANESUFONATE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
FAMPHUR	8270	GC/MS	G	4 DEGREES C	14	--	ug/kg
FLUORANTHENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
FLUORENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
HEXACHLOROBENZENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
HEXACHLOROBUTADIENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
HEXACHLOROCYCLOPENTADIENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
HEXACHLOROETHANE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
HEXACHLOROPHENE	8270	GC/MS	G	4 DEGREES C	14	--	ug/kg
HEXACHLOROPROPENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
INDENO (1,2,3-CD) PYRENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
ISOPHORONE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
ISOSAFROLE	8270	GC/MS	G	4 DEGREES C	14	20	ug/kg
METHAPYRILENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg

TABLE 2, CONT.

8270 SEMIVOLATILE ORGANICS

PARAMETER	EPA METHOD SW-846	DESCRIPTION	CONTAINER	PRESERVATIVE	HOLDING TIME,DAYS	DETECTION LIMIT	UNITS
3-METHYLCHOLANTHRENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
METHYL METHANESULFONATE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
2-METHYLNAPHTHALENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
METHYL PARATHION	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
2-METHYLPHENOL	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
3/4-METHYLPHENOL	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
NAPHTHALENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
1,4-NAPHTHOQUINONE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
1-NAPHTHYLAMINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
2-NAPHTHYLAMINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
2-NITROANILINE	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
3-NITROANILINE	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
4-NITROANILINE	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
NITROBENZENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
2-NITROPHENOL	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
4-NITROPHENOL	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
4-NITROQUINOLINE-1-OXIDE	8270	GC/MS	G	4 DEGREES C	14	--	ug/kg
N-NITROSO-DI-N-BUTYLAMINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
N-NITROSODIETHYLAMINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
N-NITROSODIMETHYLAMINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
N-NITROSODIPHENYLAMINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
N-NITROSO-DI-^N-PROPYLAMINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
N-NITROSOMETHYLETHYLAMINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
N-NITROSOMORPHOLINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
N-NITROSOPIPERIDINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
N-NITROSOPURROLIDINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
5-NITRO-O-TOLUIDINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
PARATHION	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
PENTACHLOROBENZENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
PENTACHLOROETHANE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
PENTACHLORONITROBENZENE	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
PENTACHLOROPHENOL	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
PHENACETIN	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
PHENANTHRENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
PHENOL	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
4-PHENYLENEDIAMINE	8270	GC/MS	G	4 DEGREES C	14	--	ug/kg
PHORATE	8270	GC/MS	G	4 DEGREES C	14	100	ug/kg
2-PICOLINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
PRONAMIDE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
PYRENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
PYRIDINE	8270	GC/MS	G	4 DEGREES C	14	20	ug/kg
SAFROLE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
SULFOTEPP	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
1,2,4,5-TETRACHLOR-^BENZENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
2,3,4,6-TETRACHLOROPHENOL	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
THIONAZIN	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
2-TOLUIDINE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
1,2,4-TRICHLOROBENZENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
2,4,5-TRICHLOROPHENOL	8270	GC/MS	G	4 DEGREES C	14	50	ug/kg
2,4,6-TRICHLOROPHENOL	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
0,0,0-TRIETHYLPHOSPHORE-^THIOTE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg
1,3,5-TRINITROBENZENE	8270	GC/MS	G	4 DEGREES C	14	10	ug/kg

7.5 Laboratory QA/QC

A copy of the laboratory's QA/QC program as submitted to Giant is attached as Appendix I. The recommended QA/QC program submitted to Giant by the New Mexico Environment Department is attached as Appendix II. If necessary, Giant requests that the laboratory's QA/QC be modified to conform to the NMED QA/QC program.

8.0 CALIBRATION PROCEDURES AND FREQUENCY

8.1 Laboratory Instrumentation

It is recognized that instrument calibration procedures vary from instrument to instrument. Manufacturer's guidelines should be followed. The frequency of calibration for a number of instruments is addressed below. This information is obtained from SW-846, Third Edition, Test Methods For Evaluating Solid Waste. This section is not intended to be comprehensive in nature. The laboratory is responsible for detailing its own QA/QC protocol in addition to the items listed here.

8.1.1 ICP

- Calibrate the instrument according to manufacturer's recommended procedures.
- Two types of blanks are required: calibration blank and reagent blank.
- Check calibration using a blank and two standards.
- Check calibration every ten samples and at the end of each run by analyzing blank and check standard. Standard should be within 10% of expected result. If not, terminate analysis, correct problem and re-calibrate. The calibration blank should be within three standard deviations of the mean blank. If not, terminate analysis, correct problem, re-calibrate, and reanalyze previous ten samples.
- Analyze interference check sample at the beginning and end of an analytical run or twice during every 8-hour work shift.
- Replicate samples and spiked samples should be urn at a frequency of 20%. The relative percent difference (RPD) shall be $\pm$ 20% for sample values greater than ten times the detection limit. Spike recovery is to be $\pm$ 20% of the actual value.
- Serial dilution checks where applicable.

8.1.2 GC / MS

- Initial demonstration of capability.
- Meet tuning criteria per SW-846, Third Edition.
- Internal and surrogate standards added to blank, standards, samples.
- Blank and standard calibration verification each run.

9.0 INTERNAL QUALITY CONTROL CHECKS

9.1 Equipment Blanks

Equipment blanks will be analyzed to check for contamination due to improper/insufficient decontamination procedures. These blanks will be used for non-dedicated boring and sampling equipment.

To assure equipment has been sufficiently decontaminated, deionized water will be poured over and through the sampling equipment, caught in a clean stainless steel bowl, and poured into the sample bottles. Two equipment blanks will be taken randomly during this sampling event.

9.2 Trip Blanks

A trip blank will be analyzed to check for container contamination. The trip blank will be prepared and labeled by the laboratory. One 40 ml septum vial will be filled with reagent grade water, transported to the site with the empty sample bottles, carried with the sample bottles during all sampling activities, and returned to the lab for analysis. The trip blank shall not be opened at any time prior to analysis.

9.3 Field Duplicates

To measure the precision of the sampling activities, duplicate samples will be collected and analyzed. Duplicates will be collected at a frequency of 5% of the total number of samples taken (i.e. 100 samples total, 5 duplicates). One duplicate will be analyzed for Appendix IX volatile and semi-volatile constituents, the remainder for ICP chromium and lead.

In order to evaluate the precision of the analysis, it is necessary to calculate the relative percent deviation (RPD) between the two results of the duplicate analysis. Calculate RPD:

$$RPD = \frac{(S1 - S2)}{(S1 + S2)/2 \times 100\%}$$

Where S1 = Sample Result 1

Where S2 = Sample Result 2

RPD should be less than or equal to 10% for values five times greater than the MDL and plus or minus the detection limit for values less than five times the MDL.

10.0 EXPLANATION OF SAMPLE POINTS

10.1 Sample Location Criteria

Proposed sample points were selected to best characterize the potential of migration of contamination beneath the treatment zone. The areas of interest were selected, Figure 1, on the basis of concentration of application (yellow area on drawing) and because of pooling of water due to accumulation of precipitation during the winter months that eventually require management activities (pink area on drawing). Giant feels that these two areas pose the greatest possibility of migration. Two additional sample points were selected to augment the other selections within cells one and two of the land treatment unit. This brings the total number of samples in the LTU to 20.

Two sample points were selected within the background plot adjacent to the land treatment unit, Figure 2. These samples will be collected in the same manner and to the same interval and depth as the samples in the land treatment area and will be used as a benchmark for comparing analytical data.

10.2 Sample Identification Numbering System

The sample identification numbering system (SINS) is a continuation of the system used in the initial characterization program during July, 1992. Those samples were numbered BTZ-C 1 through BTZ-C 8. Each sample number included a code number or letter attached to the end to identify the type of sample. Since all samples in 1992 were the same depth interval, no distinction was made for depth.

Sample numbers for the June, 1993 sampling event will include an additional number denoting depth. An example of a sample identification number would be:

BTZ-C - 11 - 5.0 - D
(1) (2) (3) (4)

1) Below Treatment Zone Characterization
2) Sample Number
3) Depth in Feet
4) D - Duplicate
   E - Equipment Wash
   If no letter appears here, it is the original sample

10.3 Sample Depth Intervals

At each sample point, samples will be collected at specific depths below the original soil surface of the land treatment

area. The interval and constituents of each sample point are as follows:

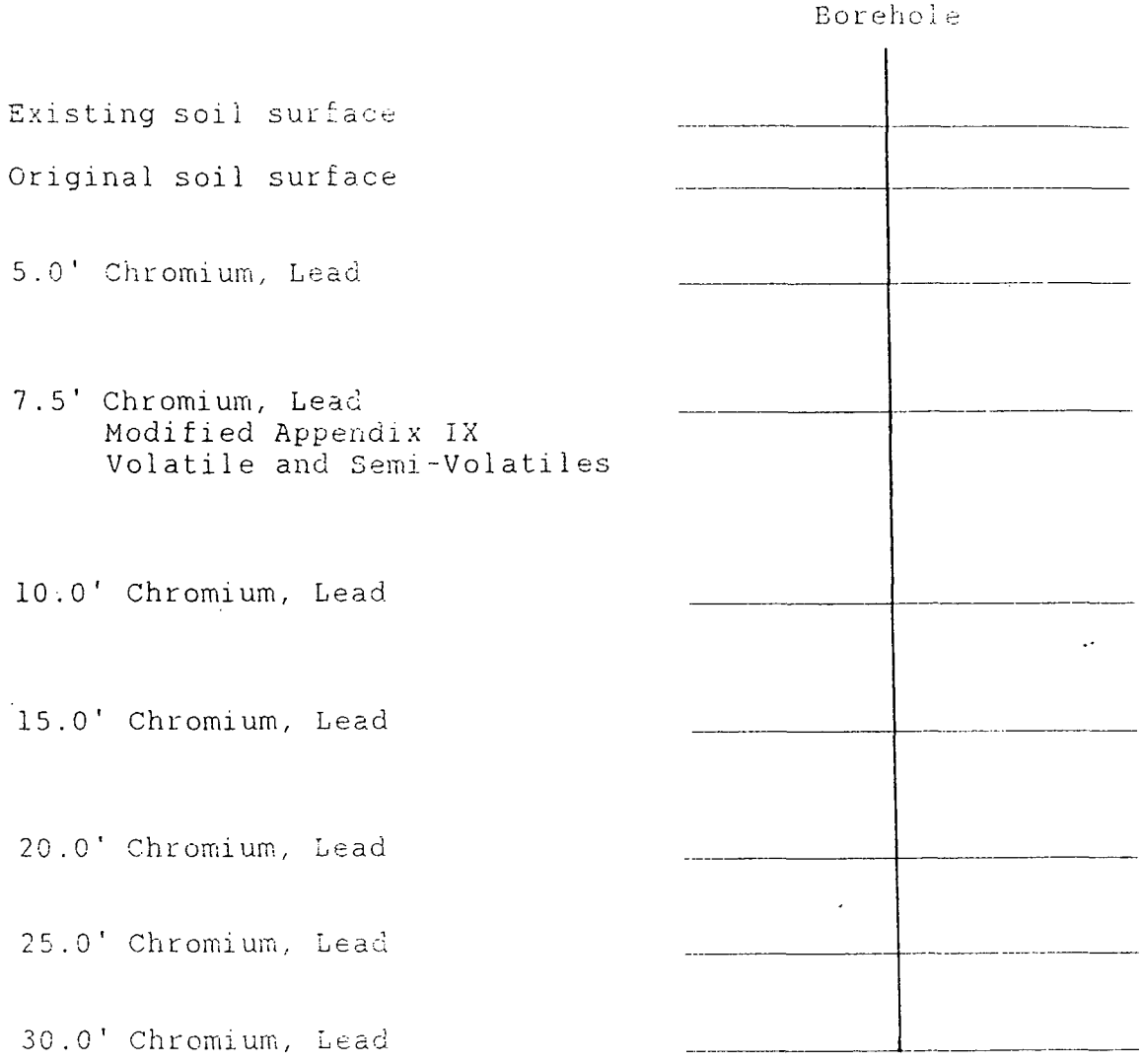
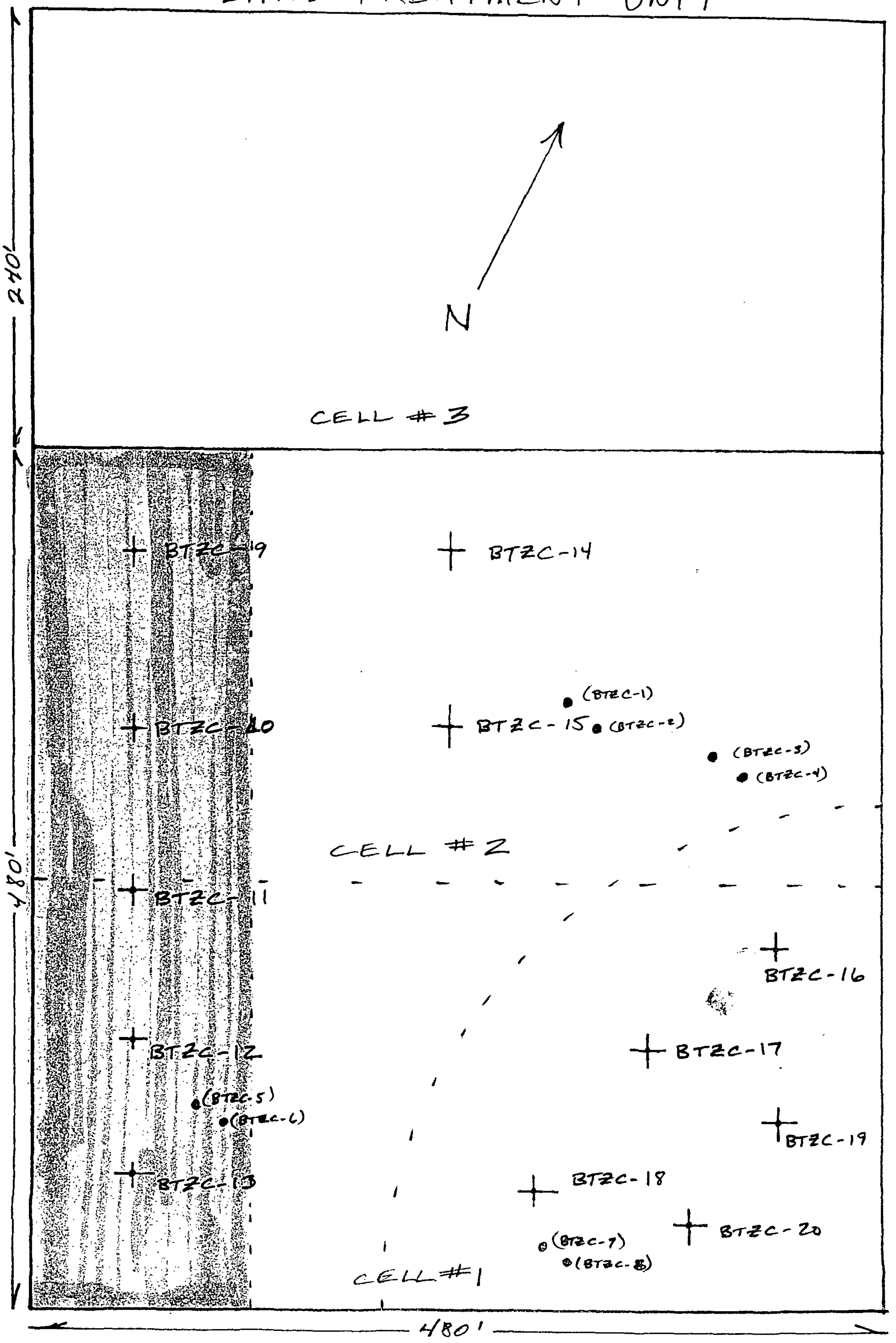


FIGURE 1

LAND TREATMENT UNIT

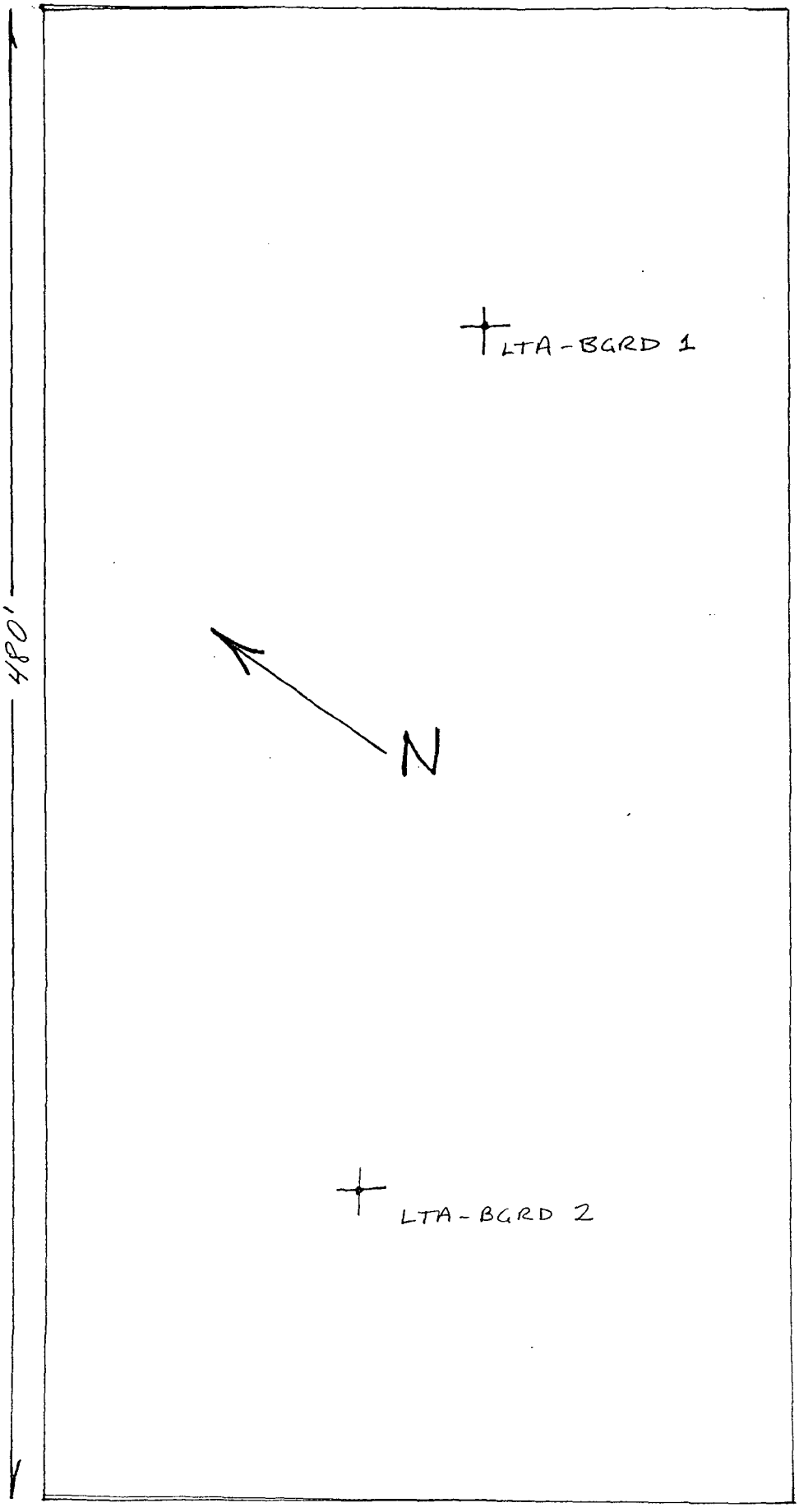


TLS 5-5-95

AMPAD 22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS

FIGURE 2

LTU BACKGROUND PLOT



22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

T25-5-95

APPENDIX I

The QA/QC document as supplied by Core Laboratories is on file at the Refinery.

APPENDIX II

Components of an Adequate Laboratory Quality Assurance/Quality Control Plan

New Mexico Hazardous and Radioactive Materials Bureau
Technical Support Group
(505) 827-4300

1. All constituents identified above the Method Detection Limit (MDL) must be reported.

   The MDL is defined as the estimated concentration at which the signal generated by a known constituent is three standard deviations above the signal generated by a blank, and represents the 99% confidence level that the constituent does exist in the sample.

2. The "tune" of the GC/MS for volatile organic constituents must be checked and adjusted (if necessary) each twelve (12) hour shift by purging 50 ng of a 4-bromofluorobenzene (BFB) standard. The resultant mass spectra must meet the criteria given in Table 1 before sample analysis proceeds.

3. The "tune" of the GC/MS for semi-volatile organic constituents must be checked and adjusted (if necessary) each twelve (12) hour shift by injecting 50 ng of a Decafluorotriphenylphosphine (DFTPP) standard. The resultant mass spectra must meet the criteria given in Table 2 before analysis proceeds.

4. For every 20 samples perform and report:

   A. Duplicate spike for organics.
   B. Duplicate sample analysis for inorganics.
   C. Reagent blank, results provided for organic work.
   D. Surrogate and spike recoveries. See item 10.
   E. One check sample at or near the Practical Quantitation Limit for a subset of the parameters.

5. Analytical results must not be "blank corrected".

6. Any deviation from EPA-approved methodology must have a Written Standard Operating Procedure and NMED approval.

7. Detection limits must be generally in line with those listed in Appendix IX of §264.

8. The laboratory must document:

   A. That all samples were extracted, distilled, digested, or prepared (if appropriate) and analyzed within specified holding times.

B. That if a sample for volatile analysis is received with headspace, this is reported.

C. The date of sample receipt, extraction and analysis for each sample.

D. Any problems or anomalies with the analysis should be documented.

E. That all solids were analyzed dry or that the reported results are corrected to reflect dry weight equivalence.

9. The name and signature of the lab manager must appear on each report.

10. The reported surrogate and spike recoveries must fall within: (1) the historical (statistically based) acceptance limits, generated at the laboratory or, (2) the limits tabulated by the appropriate method from the current edition of SW-846, whichever limit is narrower. The actual historical recoveries must be submitted to HRMB with the analysis.

TABLE 1

BFB KEY IONS AND ABUNDANCE CRITERIA

Mass	Ion Abundance Criteria
50	15.0 - 40.0 percent of the base peak
75	30.0 - 60.0 percent of the base peak
95	base peak, 100 percent relative abundance
96	5.0 - 9.0 percent of the base peak
173	less than 2.0 percent of mass 174
174	greater than 50.0 percent of the base peak
175	5.0 -9.0 percent of mass 174
176	greater than 95.0 percent but less than 101.0 percent of mass 174
177	5.0 - 9.0 percent of mass 176

TABLE 2

BFB KEY IONS AND ABUNDANCE CRITERIA

Mass	Ion Abundance Criteria
51	30.0 - 60.0 percent of mass 198
68	less than 2.0 percent of mass 69
70	less than 2.0 percent of mass 69
127	40.0 - 60.0 percent of mass 198
197	less than 1.0 percent of mass 198
198	base peak, 100 percent relative abundance
199	5.0 - 9.0 percent of mass 198
275	10.0 - 30.0 percent of mass 198
365	greater than 1.00 percent of mass 198
441	present but less than mass 443
442	greater than 40.0 percent of mass 198
443	17.0 - 23.0 percent of mass 442

GIANT REFINING CO.
Route 3, Box 7
Gallup, New Mexico
87301
505
722-3833

OIL CONSERVATION DIVISION
RECEIVED
'93 JUN 1 AM 9 48

May 27, 1993

Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504-2088

Re: Pipeline Crude Oil Spill

Dear Mr. Anderson:

On March 17, 1993, Giant Refining Company - Ciniza (GRC) notified your office of a spill of approximately 10 barrels of crude oil. Due to the confined nature of the spill, it was decided to treat the material in place.

The spill area soil was turned using a tractor and rotary disc. 46-0-0 Urea fertilizer was applied and the soil was turned again. The soil was wetted with raw water. After 30 days, staining was 90% depleted and a sample was collected for TCLP analysis.

The analytical data is included with this report. Lead showed a concentration of 2.55 ppm. This is below the action standard for TCLP lead.

After reviewing the analytical data and watching the physical attributes of the spill diminish, GRC submits that this clean-up operation is complete and proposes no further action.

If you require additional information, please contact me at (505) 722-0227.

Sincerely,

Lynn Shelton

Lynn Shelton
Environmental Assistant
Giant Refining Company

TLS:sp

cc: Zeke Sherman - Environmental Manager - Giant Refining Company
Ed Horst - NMED
Kim Bullerdick - Corporate Counsel - Giant Industries Arizona, Inc.

Analytical Technologies, Inc.

CLIENT : GIANT REFINING CO.
PROJECT # : (NONE)
PROJECT NAME : (NONE)

DATE RECEIVED : 04/26/93
REPORT DATE : 05/17/93

ATI I.D. : 304429

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	PIPELINE SOIL	SOIL	04/23/93

----- TOTALS -----

MATRIX	# SAMPLES
SOIL	1

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

Analytical Technologies, Inc.

METALS RESULTS

ATI I.D. : 304429

CLIENT : GIANT REFINING CO.
PROJECT # : (NONE)
PROJECT NAME : (NONE)

DATE RECEIVED : 04/26/93
REPORT DATE : 05/17/93

PARAMETER	UNITS	01
SILVER (TCLP 1311/6010)	MG/L	<0.010
ARSENIC (TCLP 1311/6010)	MG/L	<0.1
BARIUM (TCLP 1311/6010)	MG/L	1.01
CADMIUM (TCLP 1311/6010)	MG/L	<0.005
CHROMIUM (TCLP 1311/6010)	MG/L	<0.010
MERCURY (TCLP 1311/7470)	MG/L	<0.0002
LEAD (TCLP 1311/6010)	MG/L	2.55
SELENIUM (TCLP 1311/6010)	MG/L	<0.1

Analytical Technologies, Inc.

METALS - QUALITY CONTROL

CLIENT : GIANT REFINING CO.
PROJECT # : (NONE)
PROJECT NAME : (NONE) ATI I.D. : 304429

PARAMETER	UNITS	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC	% REC
SILVER (IN TCLP)	MG/L	30440604	<0.010	<0.010	NA	0.973	1.00	97
ARSENIC (IN TCLP)	MG/L	30440604	<0.1	<0.1	NA	1.1	1.0	110
BARIUM (IN TCLP)	MG/L	30440604	0.115	0.108	6	1.08	1.00	96
CADMIUM (IN TCLP)	MG/L	30440604	0.250	0.281	12	1.31	1.00	106
CHROMIUM (IN TCLP)	MG/L	30440604	<0.010	<0.010	NA	1.02	1.00	102
MERCURY (IN TCLP)	MG/L	30401014	<0.0002	<0.0002	NA	0.0050	0.0050	100
LEAD (IN TCLP)	MG/L	30440604	78.7	93.9	18	87.1	10.0	84
SELENIUM (IN TCLP)	MG/L	30440604	<0.1	<0.1	NA	1.1	1.0	110

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30442901

TEST : TCLP ORGANOCHLORINE PESTICIDES (EPA 1311/8080)

CLIENT	: GIANT REFINING CO.	DATE SAMPLED	: 04/23/93
PROJECT #	: (NONE)	DATE RECEIVED	: 04/26/93
PROJECT NAME	: (NONE)	DATE EXTRACTED	: 04/28/93
CLIENT I.D.	: PIPELINE SOIL	DATE ANALYZED	: 05/06/93
SAMPLE MATRIX	: SOIL	UNITS	: UG/L
		DILUTION FACTOR	: 20

COMPOUNDS	RESULTS
CHLORDANE	<10.0
ENDRIN	<2.0
HEPTACHLOR	<1.0
HEPTACHLOR EPOXIDE	<1.0
GAMMA - BHC (LINDANE)	<1.0
METHOXYCHLOR	<10.0
TOXAPHENE	<20.0

SURROGATE PERCENT RECOVERIES

DI-BUTYL-CHLORENDATE (%)	**
DBOFBP (%)	**

** Due to the necessary dilution of the sample, result was not attainable

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : TCLP ORGANOCHLORINE PESTICIDES (EPA 1311/8080)

		ATI I.D.	: 304429
CLIENT	: GIANT REFINING CO.	DATE EXTRACTED	: 04/28/93
PROJECT #	: (NONE)	DATE ANALYZED	: 05/06/93
PROJECT NAME	: (NONE)	UNITS	: UG/L
CLIENT I.D.	: REAGENT BLANK	DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
CHLORDANE	<0.5
ENDRIN	<0.1
HEPTACHLOR	<0.05
HEPTACHLOR EPOXIDE	<0.05
GAMMA - BHC (LINDANE)	<0.05
METHOXYCHLOR	<0.5
TOXAPHENE	<1.0

SURROGATE PERCENT RECOVERIES

DI-BUTYL-CHLORENDATE (%)	101
DBOFBP (%)	80

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 304429

TEST : TCLP ORGANOCHLORINE PESTICIDES (EPA 1311/8080)

CLIENT : GIANT REFINING CO.
PROJECT # : (NONE)
PROJECT NAME : (NONE)
REF I.D. : 30549919

DATE ANALYZED : 05/06/93
SAMPLE MATRIX : NON-AQUEOUS
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
LINDANE	<0.05	2.0	1.9	95	1.8	90	5
HEPTACHLOR	<0.05	2.0	1.6	80	1.5	75	6
HEPTACHLOR EPOXIDE	<0.05	2.0	1.9	95	1.8	90	5
METHOXYCHLOR	<0.5	2.0	1.7	85	1.7	85	0
ENDRIN	<0.1	2.0	1.8	90	1.8	90	0

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 30442901

TEST : TCLP CHLORINATED HERBICIDES (EPA 1311/8150)

CLIENT	: GIANT REFINING CO.	DATE SAMPLED	: 04/23/93
PROJECT #	: (NONE)	DATE RECEIVED	: 04/26/93
PROJECT NAME	: (NONE)	DATE EXTRACTED	: 04/28/93
CLIENT I.D.	: PIPELINE SOIL	DATE ANALYZED	: 05/06/93
SAMPLE MATRIX	: SOIL	UNITS	: UG/L
		DILUTION FACTOR	: 10

COMPOUNDS	RESULTS
2,4-D	<4.0
2,4,5-TP (SILVEX)	<2.0
SURROGATE PERCENT RECOVERIES	
DCAA (%)	76

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : TCLP CHLORINATED HERBICIDES (EPA 1311/8150)

		ATI I.D.	: 304429
CLIENT	: GIANT REFINING CO.	DATE EXTRACTED	: 04/28/93
PROJECT #	: (NONE)	DATE ANALYZED	: 05/06/93
PROJECT NAME	: (NONE)	UNITS	: UG/L
CLIENT I.D.	: REAGENT BLANK	DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
2,4-D	<0.4
2,4,5-TP (SILVEX)	<0.2

SURROGATE PERCENT RECOVERIES

DCAA (%)	82

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 304429

TEST : TCLP CHLORINATED HERBICIDES (EPA 1311/8150)

CLIENT : GIANT REFINING CO.
PROJECT # : (NONE)
PROJECT NAME : (NONE)
REF I.D. : 30442901

DATE ANALYZED : 05/06/93
SAMPLE MATRIX : SOIL
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
2,4-D	<4	17	12	71	13	76	8
2,4,5-TP	<2	3	3	100	3	100	0

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 30442901

TEST : EPA METHOD 8240 (TCLP 1311)

CLIENT	: GIANT REFINING CO.	DATE SAMPLED	: 04/23/93
PROJECT #	: (NONE)	DATE RECEIVED	: 04/26/93
PROJECT NAME	: (NONE)	DATE EXTRACTED	: 04/28/93
CLIENT I.D.	: PIPELINE SOIL	DATE ANALYZED	: 04/30/93
SAMPLE MATRIX	: SOIL	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
BENZENE	<10
CARBON TETRACHLORIDE	<10
CHLOROBENZENE	<10
CHLOROFORM	<10
1,2-DICHLOROETHANE	<10
1,1-DICHLOROETHENE	<10
METHYL ETHYL KETONE	<100
TETRACHLOROETHENE	<10
TRICHLOROETHENE	<10
VINYL CHLORIDE	<10
SURROGATE PERCENT RECOVERIES	
1,2-DICHLOROETHANE-D4 (%)	100
BROMOFLUOROBENZENE (%)	95
TOLUENE-D8 (%)	97

Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

TEST : EPA METHOD 8240 (TCLP 1311)

CLIENT	: GIANT REFINING CO.	ATI I.D.	: 304429
PROJECT #	: (NONE)	DATE EXTRACTED	: 04/28/93
PROJECT NAME	: (NONE)	DATE ANALYZED	: 04/30/93
CLIENT I.D.	: REAGENT BLANK	UNITS	: UG/L
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
BENZENE	<10
CARBON TETRACHLORIDE	<10
CHLOROBENZENE	<10
CHLOROFORM	<10
1,2-DICHLOROETHANE	<10
1,1-DICHLOROETHENE	<10
METHYL ETHYL KETONE	<100
TETRACHLOROETHENE	<10
TRICHLOROETHENE	<10
VINYL CHLORIDE	<10

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	100
BROMOFLUOROBENZENE (%)	90
TOLUENE-D8 (%)	87

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 304429

TEST : EPA METHOD 8240 (TCLP 1311)

CLIENT : GIANT REFINING CO.
PROJECT # : (NONE)
PROJECT NAME : (NONE)
REF I.D. : 30549916

DATE ANALYZED : 04/30/93
SAMPLE MATRIX : NON-AQUEOUS
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,1-DICHLOROETHENE	<1	50	52	104	52	104	0
TRICHLOROETHENE	<1	50	46	92	49	98	6
CHLOROBENZENE	<1	50	48	96	49	98	2
BENZENE	<1	50	49	98	51	102	4

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 30442901

TEST : EPA METHOD 8270 (TCLP 1311)

CLIENT	: GIANT REFINING CO.	DATE SAMPLED	: 04/23/93
PROJECT #	: (NONE)	DATE RECEIVED	: 04/26/93
PROJECT NAME	: (NONE)	DATE EXTRACTED	: 04/28/93
CLIENT I.D.	: PIPELINE SOIL	DATE ANALYZED	: 05/03/93
SAMPLE MATRIX	: SOIL	UNITS	: UG/L
		DILUTION FACTOR	: 1

COMPOUNDS	RESULTS
O-CRESOL	<10
M & P-CRESOL	<10
1,4-DICHLOROBENZENE	<10
2,4-DINITROTOLUENE	<10
HEXACHLOROBENZENE	<10
HEXACHLOROBUTADIENE	<10
HEXACHLOROETHANE	<10
NITROBENZENE	<10
PENTACHLOROPHENOL	<50
2,4,5-TRICHLOROPHENOL	<50
2,4,6-TRICHLOROPHENOL	<10
PYRIDINE	ND

SURROGATE PERCENT RECOVERIES

NITROBENZENE (%)	85
2-FLUOROBIPHENYL (%)	86
TERPHENYL (%)	78
PHENOL-D6 (%)	84
2-FLUOROPHENOL (%)	80
2,4,6-TRIBROMOPHENOL (%)	87

Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 30442901

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT	: GIANT REFINING CO.	DATE SAMPLED	: 04/23/93
PROJECT #	: (NONE)	DATE RECEIVED	: 04/26/93
PROJECT NAME	: (NONE)	DATE EXTRACTED	: 04/30/93
CLIENT I.D.	: PIPELINE SOIL	DATE ANALYZED	: 05/07/93
SAMPLE MATRIX	: SOIL	UNITS	: MG/KG
		DILUTION FACTOR	: 20

ADDITIONAL COMPOUNDS	RESULTS
PYRIDINE	<3.4

Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

TEST : EPA METHOD 8270 (TCLP 1311)

CLIENT	: GIANT REFINING CO.	ATI I.D.	: 304429
PROJECT #	: (NONE)	DATE EXTRACTED	: 04/28/93
PROJECT NAME	: (NONE)	DATE ANALYZED	: 05/03/93
CLIENT I.D.	: REAGENT BLANK	UNITS	: UG/L
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
O-CRESOL	<10
M & P-CRESOL	<10
1,4-DICHLOROBENZENE	<10
2,4-DINITROTOLUENE	<10
HEXACHLOROBENZENE	<10
HEXACHLOROBUTADIENE	<10
HEXACHLOROETHANE	<10
NITROBENZENE	<10
PENTACHLOROPHENOL	<50
2,4,5-TRICHLOROPHENOL	<50
2,4,6-TRICHLOROPHENOL	<10
PYRIDINE	ND

SURROGATE PERCENT RECOVERIES

NITROBENZENE (%)	94
2-FLUOROBIPHENYL (%)	96
TERPHENYL (%)	97
PHENOL-D6 (%)	86
2-FLUOROPHENOL (%)	83
2,4,6-TRIBROMOPHENOL (%)	86

Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

		ATI I.D.	: 304429
CLIENT	: GIANT REFINING CO.	DATE EXTRACTED	: 04/30/93
PROJECT #	: (NONE)	DATE ANALYZED	: 05/12/93
PROJECT NAME	: (NONE)	UNITS	: MG/KG
CLIENT I.D.	: REAGENT BLANK	DILUTION FACTOR	: 20

ADDITIONAL COMPOUNDS	RESULTS
PYRIDINE	<0.17

Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 304429

TEST : SEMI-VOLATILE ORGANICS (EPA 8270)

CLIENT : GIANT REFINING CO.
PROJECT # : (NONE)
PROJECT NAME : (NONE)
REF I.D. : 30498206

DATE ANALYZED : 05/10/93
SAMPLE MATRIX : SOIL
UNITS : MG/KG

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	SPIKED SAMPLE	% REC.	DUP. SPIKED SAMPLE	DUP. % REC.	RPD
1,2,4-TRICHLOROBENZENE	<0.17	1.7	1.5	88	1.6	94	6
ACENAPHTHENE	<0.17	1.7	1.2	71	1.2	71	0
2,4-DINITROTOLUENE	<0.17	1.7	1.2	71	1.3	76	8
PYRENE	<0.17	1.7	1.5	88	1.5	88	0
N-NITROSO-DI-N-PROPYLAMINE	<0.17	1.7	2.0	118	2.0	118	0
1,4-DICHLOROBENZENE	<0.17	1.7	1.2	71	1.3	76	8
PENTACHLOROPHENOL	<0.85	3.3	3.5	106	3.4	103	3
PHENOL	<0.17	3.3	2.8	85	2.9	88	4
2-CHLOROPHENOL	<0.17	3.3	2.8	85	2.8	85	0
4-CHLORO-3-METHYLPHENOL	<0.17	3.3	2.7	82	2.9	88	7
4-NITROPHENOL	<0.85	3.3	2.6	79	2.7	82	4

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

Analytical**Technologies,**Inc., Albuquerque, NM
San Diego ▪ Phoenix ▪ Seattle ▪ Pensacola ▪ Ft. Collins ▪ Portland ▪ Albuquerque

CHAIN OF CUSTODY

DATE: 4-23-93 PAGE 1 OF 1

ATI LAB I.D.: 304429

PROJECT MANAGER:

COMPANY: GIANT
ADDRESS: I40 EXIT 39
JAMESTOWN, NM 87347
PHONE: (505) 722 0227
FAX: (505) 722 0210

BILL TO: SAME
COMPANY: Rt 3 BOX 7
ADDRESS: GALLUP, NM 87301

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel	Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)	BTXE/MTBE (8020)	TCLP *	Chlorinated Hydrocarbons (601/8010)	Aromatic Hydrocarbons (602/8020)	SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.		Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)			SDWA Primary Standards - Arizona	SDWA Secondary Standards - Arizona	SDWA Primary Standards - Federal	SDWA Secondary Standards - Federal			The 13 Priority Pollutant Metals	RCRA Metals by Total Digestion	RCRA Metals by TCLP (1311)		NUMBER OF CONTAINERS
PIPELINE SOIL	4-23	10:40	SOIL	01					X																						2

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME:
P.O. NO.: 997-9009-14
SHIPPED VIA: FED EX

SAMPLE RECEIPT

NO. CONTAINERS	2
CUSTODY SEALS	Y / N / (NA)
RECEIVED INTACT	Y
RECEIVED COLD	Y

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒ 2 WEEK

Comments:
* SEE ATTACHED LIST

SAMPLED & RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature: Lynn Shelton Time: 10:40	Signature: Time:	Signature: Time:
Printed Name: LYNN SHELTON Date: 4-23-93	Printed Name: Date:	Printed Name: Date:
Company: GIANT Phone: 722-0227	Company:	Company:

RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature: Time:	Signature: Time:	Signature: Time: 1030
Printed Name: Date:	Printed Name: Date:	Printed Name: Terri Dottie Date: 4/26/93
Company:	Company:	Analytical Technologies, Inc.

Analytical**Technologies,**Inc. Albuquerque, NM

Chain of Custody

DATE 4/26/93 PAGE 1 OF 1

NETWORK PROJECT MANAGER: BETH PROFFITT

COMPANY: **Analytical Technologies, Inc.**
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87106

CLIENT PROJECT MANAGER:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	TOX	TOC	ORGANIC LEAD	SULFIDE	SURFACTANTS (MBAS)	Full TCLP analyses	632/632 MOD	619/619 MOD	610/8310		8240 (TCLP 1311) ZHE		Diesel/Gasoline/BTXE/MTBE/ (MOD 8015/8020)	Volatile Organics GC/MS (624/8240)		NACE	ASBESTOS		BOD	TOTAL COLIFORM	FECAL COLIFORM		GROSS ALPHA/BETA	RADIUM 226/228		AIR - 02, CO2, METHANE	AIR/Diesel/Gasoline/BTXE/ (MOD 8015/8020)	NUMBER OF CONTAINERS
304429-01	4/21/93	1040	soil	1						X																						2

PROJECT INFORMATION

PROJECT NUMBER: 304429
PROJECT NAME: GRC
QC LEVEL: ~~STD~~ IV
~~QC REQUIRED:~~ MS MSD BLANK
TAT: ~~STANDARD~~ RUSH!

DUE DATE: 5/10/93
RUSH SURCHARGE: 0
CLIENT DISCOUNT: 10 %

WO#LK388
See attached list

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	2
CHAIN OF CUSTODY SEALS	N
INTACT?	Y
RECEIVED GOOD COND./COLD	Y
LAB NUMBER	304429

SAMPLES SENT TO:

SAN DIEGO	
FT. COLLINS	
RENTON	
PENSACOLA	
PHOENIX	X
BARRINGER	
FIBERQUANT	

RELINQUISHED BY: 1.
Signature: Time: 1745
Printed Name: Terri Dettre Date: 4/26/93
Analytical Technologies, Inc. Albuquerque

RECEIVED BY: (LAB) 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date
Company:

RECEIVED BY: (LAB) 2.
Signature: Time: 1119
Printed Name: R. Tubeszewski Date: 4/27/93
Company: ATI - Phx

GIANT
REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

OIL CONSERVATION DIVISION
RECEIVED
'93 APR [illegible] AM 9 18

Ms. Barbara Hoditschek
Permit Program Manager
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
525 Camino De Los Marquez
P.O. Box 26110
Santa Fe, NM 87502

RE: Application for a Permit Modification

Giant Refining Company (Giant) is submitting the following application for a permit modification in response to the Bureau's January 25, 1993 letter.

On November 11, 1992, Giant submitted a report entitled "Report on Special Sampling Activities at Giant Refining Company, Ciniza Refinery." The report is a summary of a special sampling event that was undertaken to address potential beneath the treatment zone (BTZ) contamination at Giant's Hazardous Waste Land Treatment Unit (HWLTU).

The report's conclusion is that there is a statistically significant difference between samples taken from BTZ and the 5 foot depth in the background plot for chromium and lead.

The Bureau has asked Giant to modify the operating procedures specified in the permit to insure degradation, immobilization, and fixation within the treatment zone. The Bureau has also requested that Giant propose a sampling program to further characterize the elevated levels of chromium and lead beneath the treatment zone. The sampling program would also address the issue of the trace levels of two semivolatile constituents seen in samples from beneath the treatment zone. Finally, the bureau has asked that the vadose zone monitoring program in the permit be modified if necessary.

Modifications to Module III of the Operating Permit

The modifications to Giant's operating practices are in response to the detection of trace organics and elevated concentrations of chrome and lead. They will increase the effectiveness of the treatment unit in successfully degrading, transforming, and immobilizing the specific constituents in the wastes that have been identified beneath the treatment zone. The changes are to Module III, Specific Conditions for the Operating Period, Section F, Land Treatment Unit Operational Requirements, 2. Conditions. The changes are shown in Appendix A. The facility has determined that this is a Class 3 modification.

The changes to the operating permit to increase the frequency of the soil-core monitoring program will allow for earlier detection of conditions that may result in hazardous constituents migrating beneath the treatment zone. The specific changes are to Module III, Specific Conditions for the Operating Period, Section G, Soil Monitoring, paragraphs 2, 3, and 5. The changes are shown in Appendix B. The facility has determined that this is a Class 1 modification.

Modifications to Attachment H, ADDITIONAL DATA SUBMITTAL SCHEDULE

The additions to Attachment H are to provide for further characterization beneath the treatment zone. The additions to Attachment H are in response to the sampling results and statistical analysis, summarized in the November, 1992 report entitled, "Report on Special Sampling Activities at Giant Refining Company Ciniza Refinery." The additions to Attachment H are shown in Appendix C. The facility has determined that this is a Class 2 modification.

Giant is proceeding with all of the other requirements of 40 CFR 270 for permit modifications. Giant anticipates that the Bureau will provide Giant a notice of the effective date of the modifications and a statement of the fees associated with the modification.

Please contact me at (505) 722-3833 if you should have any questions.

Sincerely,

Zeke Sherman
Environmental Manager
Giant Industries Arizona, Inc.

ZRS:smb

cc: Mr. Kim Bullerdick, Corporate Counsel
Mr. John Stokes, Refinery Manager
Mr. Lynn Shelton, Env. Assistant
Ms. Barbara Driscoll, EPA, Region IV
Mr. Rodger Anderson, NMOCD
Mr. Marc Sides, NMED
Ms. Jane Crammer, NMED

APPENDIX A

conditions specified in this permit, will meet the following performance standards:

a. All hazardous constituents placed in or on the treatment zone must be degraded, transformed, or immobilized within the treatment zone, and

b. The treatment program shall include a soil-core and soil-pore liquid monitoring plan that ensures that sampling results provide a reliable indication of the chemical makeup and the soil-pore liquid quality of the soil within and below the treatment zone.

2. Conditions. The Permittee shall operate and maintain the landfarm in accordance with the following conditions:

a. The unit shall receive an annual waste application maximum amount of 1,275 tons of hazardous waste, distributed over the treatment areas so as to not exceed 10% by weight of oils and greases anywhere in the ZOI at any time. If nonregulated wastes are applied to the regulated unit, the total oil and grease load shall not exceed these limits.

b. The waste application frequency to any one cell's surface shall not exceed the maximum loading as shown in Table III-2.

c. Oily refinery waste liquids shall be collected from the various generation points by a vacuum truck or other suitable vehicle. Wastes will be evenly spread without significant pooling on to the surface of the LTA. The wastes will be incorporated into the soil at a maximum depth of 12 inches. The LTA will be twice tilled after each application with the waste mixed into the ZOI.

d. Oily refinery waste solids may be collected and transported to the disposal area by open truck. IF the material is dry enough to be dispersed during transit it shall be covered or wetted sufficiently to control dusting. Solid wastes shall be spread evenly on the LTA in three inch or less thickness layers. After spreading, the solid waste will be twice tilled into the ZOI.

e. The active landfarm cell shall be tilled at least once per ~~month~~ week during the degradation season, April 1 through October 31. Each time the cell is tilled, the material shall be turned and leveled. This frequency may be increased, as necessary, to enhance microbial or chemical reactions.

f. ~~Upon approval of this permit, and semi-annually thereafter,~~ The soil pH shall be determined, once every two weeks during the degradation season, April 1 through October 31. If the pH is less than 6.0, calcium oxide, or a suitable equivalent, shall

be incorporated into the soil to achieve a pH range between 6.0 and 9.0. If the pH is greater than 9.0., hydrochloric acid, or a suitable equivalent, shall be added to the soil to achieve a pH range between 6.0 and 9.0. EPA Manual SW-846 procedure 9045 shall be used to determine soil pH.

g. Land treatment plots shall be inspected, at least twice ~~weekly,~~ during the degradation season, April 1 through October 31, and weekly during the remainder of the year, to determine if moisture control measures are necessary. The plots shall be tilled, as necessary, to eliminate excessive moisture or wetted with water to minimize wind dispersal of particulate matter. Soil moisture shall be maintained between 40 and 100 centibars, as determined by ~~or~~ a tensiometer installed at a depth of five and one-half feet, during the degradation season, April 1 through October 31, to maintain biological degradation within the ZOI. The Permittee may demonstrate and adopt upon approval of the Bureau, an alternate method of insuring that adequate moisture is available on the treatment zone for biological degradation.

h. The microbial activity in the ZOI shall be evaluated on a monthly basis during the degradation season, April 1 through October 31.

~~i.~~ h. The carbon:nitrogen:phosphorus (C:N:P:) ratio in the ZOI shall be maintained, as necessary, to be sufficient to maintain degradation and to enhance microbial and chemical reactions within the treatment zone. The C:N:P: ratio in the ZOI shall be analyzed ~~semi-annually.~~ monthly during the degradation season, April 1 through October 31.

~~j.~~ i. The landfarm surface elevation shall be surveyed biennially and the run-on/run-off dike elevation maintained as specified in permit paragraph III.C. above. The dike shall be reconstructed as necessary to maintain a minimum of 3 feet elevation above natural grade outside the LTA and at least 2 feet above the LTA surface.

G. SOIL-CORE MONITORING

The Permittee shall follow a soil-core monitoring plan in accordance with permit paragraph III.F.1.b. above which requires that the permittee completes, at a minimum, the following actions:

1. Applicability. The treatment unit described in permit paragraph III.A. above shall be sampled as specified below.

2. Sample Selection. Four soil core samples from the LTA ZOI and from the unsaturated zone immediately below the treatment zone (BTZ). shall be taken ~~bimonthly~~ monthly during the degradation season,

APPENDIX B

be incorporated into the soil to achieve a pH range between 6.0 and 9.0. If the pH is greater than 9.0., hydrochloric acid, or a suitable equivalent, shall be added to the soil to achieve a pH range between 6.0 and 9.0. EPA Manual SW-846 procedure 9045 shall be used to determine soil pH.

g. Land treatment plots shall be inspected, at least twice ~~weekly,~~ during the degradation season, April 1 through October 31, and weekly during the remainder of the year, to determine if moisture control measures are necessary. The plots shall be tilled, as necessary, to eliminate excessive moisture or wetted with water to minimize wind dispersal of particulate matter. Soil moisture shall be maintained between 40 and 100 centibars, as determined by ~~on~~ a tensiometer installed at a depth of five and one-half feet, during the degradation season, April 1 through October 31, to maintain biological degradation within the ZOI. The Permittee may demonstrate and adopt upon approval of the Bureau, an alternate method of insuring that adequate moisture is available on the treatment zone for biological degradation.

h. The microbial activity in the ZOI shall be evaluated on a monthly basis during the degradation season, April 1 through October 31.

~~h.~~ i. The carbon:nitrogen:phosphorus (C:N:P:) ratio in the ZOI shall be maintained, as necessary, to be sufficient to maintain degradation and to enhance microbial and chemical reactions within the treatment zone. The C:N:P: ratio in the ZOI shall be analyzed ~~semi-annually.~~ monthly during the degradation season, April 1 through October 31.

~~i.~~ j. The landfarm surface elevation shall be surveyed biennially and the run-on/run-off dike elevation maintained as specified in permit paragraph III.C. above. The dike shall be reconstructed as necessary to maintain a minimum of 3 feet elevation above natural grade outside the LTA and at least 2 feet above the LTA surface.

G. SOIL-CORE MONITORING

The Permittee shall follow a soil-core monitoring plan in accordance with permit paragraph III.F.1.b. above which requires that the permittee completes, at a minimum, the following actions:

1. Applicability. The treatment unit described in permit paragraph III.A. above shall be sampled as specified below.

2. Sample Selection. Four soil core samples from the LTA ZOI and from the unsaturated zone immediately below the treatment zone (BTZ). shall be taken ~~bimonthly~~ monthly during the degradation season,

April 1 through October 31. ~~Four soil core samples from the LTA shall be taken semi-annually from the unsaturated zone immediately beneath the treatment zone (BTZ).~~ The sample locations shall be randomly selected using EPA-approved procedures. The Permittee may demonstrate and adopt upon the approval of the Bureau, an alternate method of selecting the sample locations. Soil cores shall not be selected within one foot of previously cored locations nor within three feet of lysimeter locations. Samples shall not be composited before analysis.

3. Analyses Parameters. ZOI samples shall be analyzed for, total oil and grease to track loading rates, for the C:N:P ratio, and for the microbial activity. BTZ samples shall be analyzed for moisture content, pH, total organic carbon and the following constituents: ethyl benzene, m-xylene, o & p-xylene, o-cresol, m & p-cresol, pyrene, phenanthrene, 1-methylnaphthalene, benzo(a)pyrene, and chrysene. If the latter organic analyses show a statistically significant increase over background or previous samples, further analyses for the parameters in Table III.2 shall be performed.

4. Analytical Methods. EPA-approved analytical procedures shall be used for all analyses.

5. Commencement. The revised operational monitoring program for the LTA shall commence upon the effective date of this permit revision.

6. Corehole Backfill. All soil coreholes shall be back-filled to the surface with bentonite.

H. SOIL PORE-MOISTURE MONITORING

The Permittee shall follow a written soil-pore liquid monitoring plan in accordance with permit paragraph III.F.1.b. above which requires that the Permittee completes, at a minimum, the following actions:

1. Tensiometers. The land treatment unit shall be equipped with a minimum of one manometer tensiometer, or equivalent. The tensiometer shall be read as often as necessary, but no less than weekly, to determine the moisture content of the soil and to determine if a soil-pore liquid sample can be obtained. All tensiometer readings shall be entered in the facility records.

2. Lysimeters.

   a. A minimum of two lysimeters locations shall be randomly selected in each active cell of the LTA. Two or more lysimeters may be installed at each location for reliability. The lysimeter installed for the land treatment demonstration may be used for this requirement if the sampling leads are reinstalled in accordance with the guidance below.

APPENDIX C

GIANT REFINING COMPANY
ATTACHMENT H
COMPLIANCE SCHEDULE

I. Installation of facility background well.

A. Within sixty days of the effective date of this permit the Permittee shall identify to the EID a proposed location for a background well designed to monitor the Sonsela formation aquifer unaffected by the Permittee's facility. Facility includes all sites of generation, disposal, solid waste management units and waste handling.

B. Within thirty days of receipt of EID's comments on the proposed location, the Permittee shall commence installation of the well if a suitable well is not already in place. At a minimum, commencement shall mean the execution of a contract to install the well.

C. Within sixty days of commencement, the well shall be completed and developed. The well shall be installed in accordance with the requirements of this permit.

D. Upon well installation completion, the Permittee shall sample, taking four replicate samples, and analyze in accordance with Permit Attachment G for the parameters in Tables G-3 and G-4. Four quarterly sample events, each taken in a similar manner, shall be used to establish a representative background value for each parameter.

II. Interim status data organization. (HWMR-5, Part IX, Section 270.14(c))

Within 120 days from the effective date of this permit, the Permittee shall submit a summary, in tabular form, of the groundwater monitoring data up to the date of submittal, for MW-1, MW-2, MW-4, MW-5, SMW-L, SMW-2, SMW-3, SMW-4, SMW-5, and SMW-6.

1. Data for each well shall be grouped separately.

2. Sampling date and analysis value shall be indicated.

3. Original laboratory analytical reports will be used as source documents, when available.

4. Each table will include the parameters in HWMR-5, Part VI, Section 265.92(b).

5. The accuracy of each table shall be certified by a responsible individual.

III. Soil sampling program to determine the extent of hazardous constituents beneath the treatment zone.

Within 90 days from the effective date of this permit modification, the Permittee shall submit a report summarizing the analytical and statistical results of a soil sampling program. The program is to include the following;

1. Soil samples to be taken from just beneath the treatment zone to just above the Ciniza Sands. The total number of soil boring locations (no less than 12), the placement of the locations, and the total number and frequency of samples taken in each soil boring, will be agreed to with the Bureau.

2. The Permittee will analyze all of the soil cores for total chromium and total lead by the methods specified in the permit .

   The Permittee will analyze a sufficient number of soil cores in each and every soil boring location within the LTA for a list of organics to include 4-Nitrophenol and Methapyrilene. The total number and frequency of organic samples, and the list of organic analytes for each sample, will be agreed to with the Bureau.

3. The Permittee will make two additional borings in the background plot. Samples will be taken from the same intervals as those obtained from the borings in the LTA. The Permittee will sample these borings as per conditions 1. and 2.

4. The Permittee will compare the analytes of concern in the background plot and the LTA using an appropriate statistical analysis. The results of the analysis shall be reported in the summary report.

5. An appropriate quality assurance and quality control program will be documented and submitted with the summary report.

OIL CONSERVATION DIVISION
RECEIVED
'93 APR 22 AM 9 27

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

April 19, 1993

Roger Anderson
Environmental Bureau Manager
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504-2088

Re: Annual Groundwater Sampling

Dear Mr. Anderson:

Giant Refining Company - Ciniza (GRC) is planning to conduct its annual groundwater sampling event beginning April 26 through 28.

The tentative purging and sampling schedule is:

April 26	-	Pump Wells	- OW-11, MW-1, MW-2, MW-4, MW-5, OW-1, OW-2, OW-3
April 27	-	Sample	- OW-11, MW-1, MW-2, MW-4, MW-5, OW-1, OW-2, OW-3
		Bail Wells	- SMW-3 through SMW-6
April 28	-	Sample Wells	- SMW-3 through SMW-6

All samples will be shipped to Analytical Technologies, Inc. for analysis.

Please note that Wells OW-1, OW-2, and OW-3 will be purged and sampled as required by GRC's OCD permit.

GRC offers this notice to provide your group with the opportunity to observe or participate in this sampling event.

If you desire additional information, please contact me at (505) 722-0227.

Sincerely,

Lynn Shelton

Lynn Shelton
Environmental Assistant
Giant Refining Company - Ciniza

cc: Zeke Sherman, Environmental Manager, Giant Refining Company

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal	Time 1030	Date 4/15/93

Originating Party	Other Parties
Bill Olson - Envir. Bureau	Zeke Sherman - Giant Refining

Subject

Giant's 3/23/93 Correspondence on Truck Rack Investigation

Discussion

OCD did not receive attachment showing results of soil boring work

Conclusions or Agreements

He will provide in the future when he submits update of remedial work

Distribution

Cinita file

Signed Bill Olson

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

April 7, 1993

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-334

Mr. Zeke Sherman
Ciniza Refinery Environmental Manager
Giant Industries, Inc.
Route 3, Box 7
Gallup, New Mexico 87301

RE: EVAPORATION POND WATER RELEASE
GIANT CINIZA REFINERY
MCKINLEY COUNTY, NEW MEXICO

Dear Mr. Sherman:

The New Mexico Oil Conservation Division (OCD) has reviewed your March 8, 1993 correspondence documenting the actions taken by Giant in response to the accidental release of refinery waste water from pond #8 during the weekend of February 20, 1993. This document also proposes to modify the current discharge plan (GW-32) for the refinery to eliminate the possibility of future discharges of this nature.

While the above referenced document recommended 5 discharge plan modifications, no schedule was provided for their implementation. Please submit a schedule to OCD containing specific implementation dates for each of the recommended discharge plan modifications.

If you have any questions, please contact me at (505) 827-5812.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/WCO

xc: OCD Aztec Office

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

April 6, 1993

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-333

Mr. Lynn Shelton
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

RE: CRUDE OIL RELEASE
GIANT CINIZA REFINERY
MCKINLEY COUNTY, NEW MEXICO

Dear Mr. Shelton:

The New Mexico Oil Conservation Division (OCD) is in receipt of your March 17, 1993 correspondence providing written notification of an accidental release of 10 barrels of crude oil at the Giant Ciniza Refinery and the corrective actions taken to mitigate damages.

Pursuant to New Mexico Water Quality Control Commission Regulation 1-203, the OCD requests that Giant submit a final corrective action report upon completion of soil remedial activities to OCD for approval. The report should contain documentation showing the final soil contaminant concentrations are within OCD's recommended remediation levels.

If you have any questions, please contact Bill Olson of my staff at (505) 827-5885.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

xc: OCD Aztec Office

PS Form 3800, June 1990

Postmark or Date	
TOTAL Postage & Fees	$
Return Receipt Showing to Whom, Date, & Address of Delivery	
Return Receipt Showing to Whom & Date Delivered	
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P 667 242 333

OIL CONSERVATION DIVISION
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GIANT
INDUSTRIES, INC.

Route 3, Box 7
Gallup, New Mexico
87301

March 23, 1993

Roger Anderson
Environmental Bureau Chief
State of New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088

RE: Ciniza Refinery - Truck Rack Investigation
Groundwater Discharge Permit, GW-32

Dear Mr. Anderson:

This is to update you on Giant Refining Company's Truck Rack Investigation. As we have previously reported, Giant, while installing an ethanol tie-in between our middle and south racks, observed a small amount of oily water seep into the trench. We immediately obtained a sample of the oily water and ran an ASTM distillation in-house. The distillation indicated the sample was approximately 80 percent water with the remaining fraction exhibiting a boiling range similar to that of diesel fuel.

After vacuuming off the oily water, we observed the open trench overnight. By the next day, the accumulation had ceased, indicating that only a very small volume was available for movement into the trench. Shortly after this, a 5 foot by 5 foot pit was opened to a depth of 4.5 feet to expose a large surface at the same depth or deeper as the bottom of the adjacent ethanol tie-in trench.

Several vapor samples were made with a PID as the pit was excavated. Readings were relatively high just beneath the asphalt after it was removed. Readings were somewhat lower as the pit was excavated and after sitting open overnight, the readings in the soil at the bottom dropped to below the detection level of the instrument.

Subsequently, a list of action items were developed to further investigate this problem and are as follows:

1. Clean out, inspect, and repair the sumps at the truck rack. Determine if oily water could be released from the sump through cracks, etc.

2. Hydrostatic test the underground product line servicing the rack to verify their integrity.

3. Perform a subsurface investigation at the rack to determine the presence of, or extent of, hydrocarbon contamination.

The refinery has completed various portions of the above action items. The following is a summary of our activities:

1. We have inspected one of the sumps at the rack. It did not have any visible cracks, etc. that would allow oily water to seep or leak out of it. The rest of the sumps have been scheduled for inspection in the near future.

2. We have made plans to hydrostatic test our oldest underground lines in hydrocarbon service. Testing the lines will require a great number of man hours and a fairly lengthy period of having the rack out of service. We plan to do the testing within the next month and report the results of such to your office. Repairs will be affected immediately if any leaks are detected.

3. We have conducted a soil boring program and found trace amounts of hydrocarbon in the subsurface (see attached figure). We have plans for additional borings to be done this week to further delineate the results from our initial work. A sample of the hydrocarbon was obtained and is being analyzed. All the borings were grouted back to the surface. Although we had intended to install monitor wells, we either had a poor location for such, or no indication of hydrocarbons.

At this point, we are unsure if the truck loading rack is the source of the contamination seen in the boring or if the source is related to activities associated with spills in the truck parking lot. We expect to determine which through our investigations.

As we complete various phases of the investigation,, we will provide reports in a timely fashion to your office. As always, Giant intends to address this problem as quickly as possible and cooperate fully with the Division. Should you have any questions or comments, please contact me at (505)722-3833.

Respectfully yours,

Zeke Sherman
Environmental Manager
Ciniza Refinery
Giant Industries Arizona, Inc.

ZRS:smb

cc: Mr. Carl Shook
Mr. John Stokes
Mr. Kim Bullerdick
Mr. Lynn Shelton

OIL CONSERVATION DIVISION
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'93 MAR 29 AM 9 37

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

March 23, 1993

Roger Anderson
Bureau Chief
New Mexico Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, New Mexico 87504-2088

Re: Remediation Projects

Dear Mr. Anderson:

Pursuant to the letter of August 9, 1991, Giant Refining Company - Ciniza submits this annual report of remediation activities required by the April 30 - May 2, 1991 inspection by OCD personnel.

1. **Asphalt Tank Farm**

Various leaks from piping and pump seals were repaired. Stained soil was removed and replaced with clean soil. Minor leaks, when they occur, are immediately repaired and clean-up is performed.

2. **Railroad Lagoon**

The corrective action plan for the railroad loading rack lagoon was approved by Region VI, USEPA and a request for change, as required by OSHA, was submitted and approved. The work is on the maintenance department schedule. During the interim, hydrocarbon, if present, is vacuumed out of the lagoon and returned to the process waste water system.

New concrete pads and containment curbing were placed around the hydrocarbon filter pots and diesel salt drier to include pumps. Any leakage from these units is diverted to the process waste water system.

3. **Product Tank Area**

Spills were cleaned up in the O.C. product tanks and around diesel tank #1. A concrete containment pad is to be built around the diesel filter pot and two diesel transfer pumps, the primary source of leakage. Completion is expected early in summer, 1993.

4. **Loading Rack Area**

Concrete containment walls were constructed around the perimeter of the additive tank area.

Individual containment was constructed by non-Giant owners of two additive tanks.

5. **Pond Area**

Containment pans were built for the two fuel tanks at pond #2 dike. Clean-up of area was completed.

Minor spills, should they occur during maintenance or refueling, will be cleaned up promptly.

6. **Pipeline Area**

The area around the incoming pipeline was cleaned up by pipeline personnel in 1992.

A recent leak is being remediated in place by tilling and fertilizing.

If you require additional information about this report or remediation activities, please contact me at (505) 722-0227.

Sincerely,

Lynn Shelton

Lynn Shelton
Environmental Assistant
Giant Refining Company - Ciniza

TLS:sp

cc: Kim Bullerdick
Corporate Counsel
Giant Industries Arizona, Inc.

INTEROFFICE
MEMORANDUM

GIANT

OIL CONSERVATION DIVISION
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March 5, 1993

Mr. Rodger Anderson
Environmental Bureau Chief
State of New Mexico Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, NM 87504-2088

RE: Evaporation Pond Water Release, Discharge
Permit No. 32

Dear Mr. Anderson:

This is to advise you that the report concerning the evaporation pond water release and the request for a permit modification is underway and will be submitted the week of 8 March after completion of an internal review.

There are some specific commitments that the refinery has made, and they are as follows:

I. Permit Modifications

A. Permit Modification to change the frequency of pond inspection to daily from weekly.
B. Permit Modification to adopt a revised contingency plan.
C. Permit Modification to adopt a waste water reduction program.

II. Release Response Action

A. To conduct a structural integrity inspection of all the impoundment berms.
B. To develop a plan to lower any pond level above its maximum freeboard.

Meantime, should you have any questions, please contact me at (505) 722-3833.

Respectfully yours,

Zeke Sherman
Environmental Manager
Ciniza Refinery
Giant Industries Arizona, Inc.

ZRS:smb

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

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

February 5, 1993

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-153

Mr. Zeke Sherman
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

Re: Temporary Waste Storage Ponds

Dear Mr. Sherman:

The Oil Conservation Division (OCD) has received your request, dated January 29, 1993, for authorization to operate the previously approved temporary evaporation ponds at the Ciniza Refinery. The ponds will be operated in the same manner as previously approved.

Based on the information and commitments contained in your request, you are authorized to operate the temporary evaporation ponds.

If you have any questions, please call me at (505) 827-5812.

Sincerely;

Roger C. Anderson
Environmental Bureau Chief

xc: Denny Foust - OCD Aztec

OIL CONSERVATION DIVISION
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GIANT
INDUSTRIES, INC.

Route 3, Box 7
Gallup, New Mexico
87301

January 29, 1993

Mr. Roger Anderson
Bureau Chief
Environmental Bureau
Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, NM 87504-2088

RE: Emergency Evaporation Ponds, GW-Discharge

Dear Mr. Anderson:

This is a request for permission to divert water from Giant Refining Company's main evaporation ponds, to the emergency evaporation ponds.

It has been an exceptionally wet winter here at the refinery, and although we have made significant progress in minimizing water usage and maximizing recycling, we expect to reach or exceed minimum freeboard levels on all of the existing ponds by the first week in February, 1993.

We have also been considering our long range plans in connection with water usage, recycling, and the evaporation ponds. We intend to submit a proposal later this spring that will outline our ideas on these subjects.

Respectfully yours,

Zeke Sherman
Environmental Manager
Ciniza Refinery
Giant Industries Arizona, Inc.

cc: Mr. John Stokes
Mr. Kim Bullerdick
Mr. Lynn Shelton

OIL CONSERVATION DIVISION
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GIANT REFINING CO.
Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

November 25, 1992

Roger Anderson
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

Re: Temporary Lagoons

Dear Mr. Anderson:

As stated in the February 28, 1992 letter to you from Giant Refining Company - Ciniza, this letter is to notify you that the last transfer to the temporary evaporation lagoons was made August 19, 1992. On September 15, 1992, the ponds were empty and as of today, the only water in the lagoons is from various precipitation events that have occurred since September 15. The dikes were not removed.

Giant proposes to leave the temporary dikes in place and use the temporary lagoons as storage on an as-need emergency basis.

During the evaporation period of 1992, Giant was able to maximize evaporation by spraying the lagoon water and by using maximum surface area. Despite increased water conservation efforts, effluent to the lagoons has increased due to increased activity at the Giant Travel Center, and the need for more routine water washing of vessels in the refinery process units due to the processing of Alaska North Slope Crude, which began in January, 1992.

Although water minimization efforts continue, Giant expects to have difficulty in maintaining freeboard requirements during January and February, hence the request for extended use of the temporary evaporation lagoons.

If you require additional information, please contact me at (505) 722-0227.

Sincerely,

Lynn Shelton

Lynn Shelton
Environmental Assistant
Giant Refining Company - Ciniza

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

August 21, 1992

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO:P-667-242-143

Mr. Lynn Shelton
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

RE: Discharge Plan GW-32
Ciniza Refinery
McKinley County, New Mexico

Dear Mr. Shelton:

The modification of groundwater discharge plan GW-32 for the Giant Refining Company Ciniza Refinery located in the S/4, Section 28, and the N 3/4, Section 33, Township 15 North, Range 15 West, NMPM, McKinley County, New Mexico **is hereby approved.** The discharge plan modification consists of the discharge plan as renewed on August 14, 1991 and the modification application dated July 24, 1992.

The discharge plan modification was submitted pursuant to Section 3-107.C of the Water Quality Control Commission Regulations. It is approved pursuant to section 3-109.A. Please note Section 3-109.F., which provides for possible future amendment of the plan. Please be advised that approval of this plan does not relieve you of liability should your operation result in actual pollution of surface or ground waters or the environment which may be actionable under other laws and/or regulations.

Please be advised that all exposed pits, including lined pits and open top tanks (tanks exceeding 16 feet in diameter) shall be screened, netted or otherwise rendered nonhazardous to wildlife including migratory birds.

Please note that section 3-104 of the regulations requires that "When a plan has been approved, discharges must be consistent with the terms and conditions of the plan". Pursuant to Section 3-107.c. you are required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

Pursuant to Section 3-109.g.4., the renewed plan approval was for a period of five years. The approval will expire August 14, 1996 and modification of a plan during its term does not alter the expiration date.

The discharge plan modification is a minor modification and public notice is not required. Since the modification does not appreciably alter the discharge quality or quantity, the Director has waived the modification fee.

On behalf of the staff of the Oil Conservation Division, I wish to thank you and your staff for your cooperation during this discharge plan modification review.

Sincerely,

William J. LeMay
Director

WJL/rca

xc: Denny Foust - OCD Aztec Office

OIL CONSERVATION DIV
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GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

July 24, 1992

Roger Anderson
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

Re: Notice of Construction

Dear Mr. Anderson:

Pursuant to Section 3-107.C, of the New Mexico Water Quality Control Commission Regulations, and Section 7.2 of NMOCD Permit GW-32, Giant Refining Company (GRC) submits this notification of facility expansion at its Ciniza Refinery.

Specifically, GRC plans to construct a Diesel Hydrodesulfurizer/Sulfur Recovery Unit (DHT/SRU) to comply with the 1990 Clean Air Act Amendments. The proposed DHT Unit will have a process capability of 3,000 barrels per day of sulfur bearing light cycle oil and distillate. The SRU Unit will produce 2 long tons per day of sulfur.

The unit will be constructed in the area now occupied by the inactive PDA Unit. Process wastewater, estimated at 10-18 GPM, will be recycled to the desalter and fresh water to the desalter will be reduced by the sample amount. Area drains will be installed and connected to the existing process wastewater system and are designed to be suitable for hydrostatic testing. The net result is that there will be no increase in water use or effluent rate and therefore no impact on the wastewater system or the discharge permit.

Demolition of the PDA Unit and construction of the DHT/SRU Unit is scheduled to commence August, 1992, with completion scheduled for July, 1993. Start up should be in August, 1993.

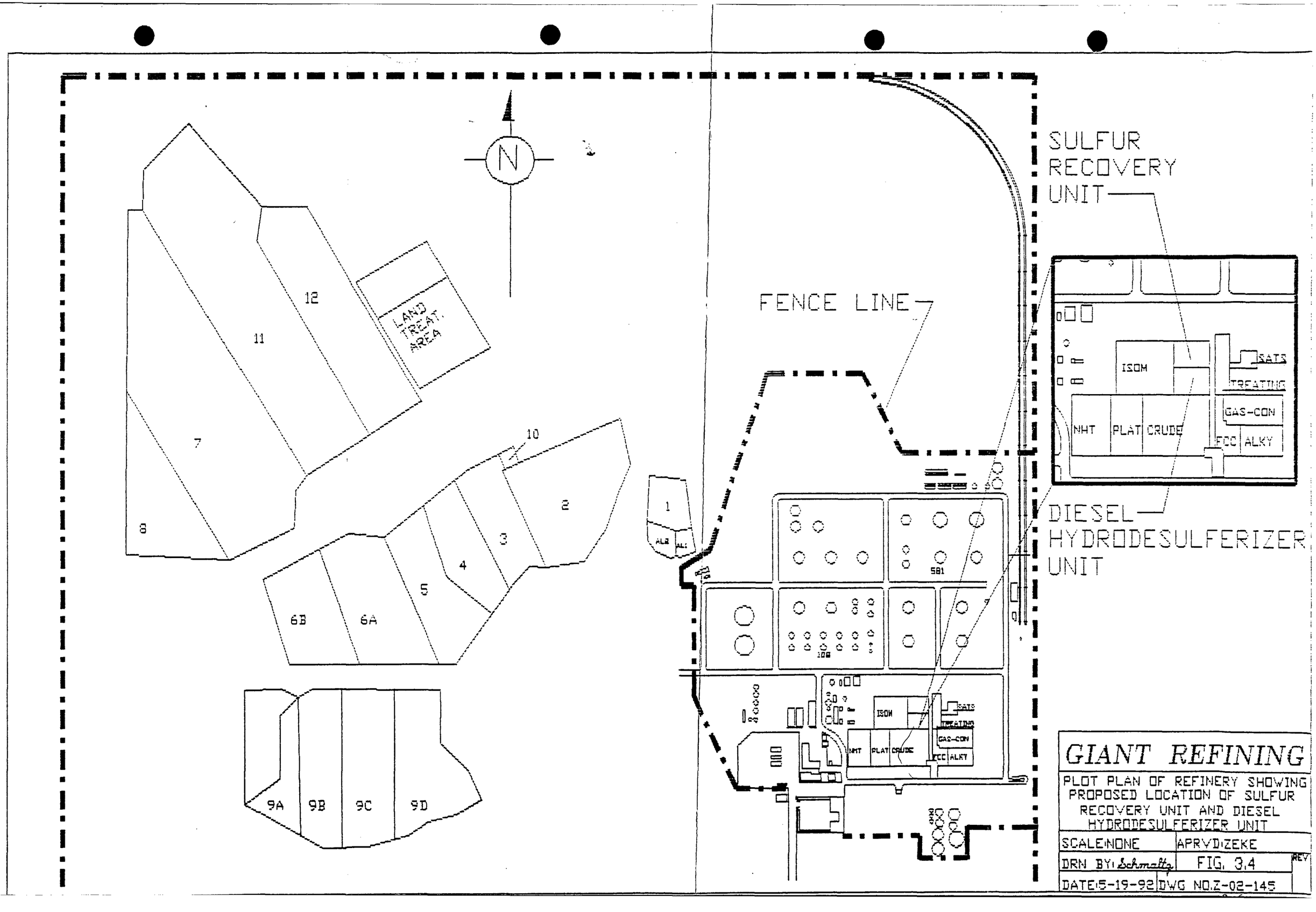
Please contact Zeke Sherman or me if you require additional information.

Sincerely,

Lynn Shelton

Lynn Shelton
Environmental Assistant
Ciniza Refinery

cc w/attachment: Kim Bullerdick, Corporate Counsel
Giant Industries Arizona, Inc.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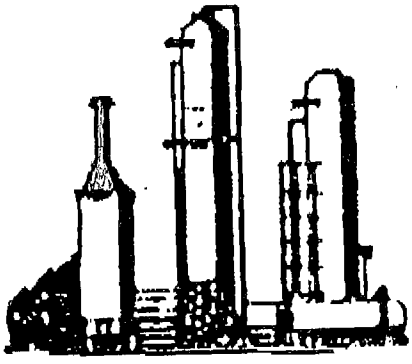
581
GIANT REFINING
PLOT PLAN OF REFINERY SHOWING PROPOSED LOCATION OF SULFUR RECOVERY UNIT AND DIESEL HYDRODESULFERIZER UNIT
SCALE:NONE
APRVD:ZEKE
DRN BY: Schmaltz
FIG. 3.4
REV
DATE:5-19-92
DWG NO.Z-02-145

GIANT
REFINING COMPANY

ROUTE 3, BOX 7 • GALLUP, NEW MEXICO 87301
(505) 722-3833 • TWX 910-981-0504



TELECOPIER COVER SHEET

FROM: LYNN SHELTON
GIANT REFINING CO.
RT 3 BX 7
Gallup, NM 87301

We are transmitting 1 pages
following this cover sheet.

If you do not receive all the pages, please inform us as soon as possible at (505) 722-3833.

TO: KATHY BROWN

NUMBER: 827-5741

FIRM: NMOCD

CITY: SANTA FE

Our Machine is: RAPICOM 3100 (505) 722-3833 STANDARD ____ DETAIL ____

DATE: _____ TIME: _____

TELECOPIER OPERATOR: _____

FILE NO: _____

COMMENTS: Lynn called to see if this is the sheet that they are still following for sampling & reporting. (Yes) Changed RCRA Sampling to April & October due to weather

☑ RETURN ☐ DO NOT RETURN

KMB

CINIZA REFINERY

Monitoring and Reporting Schedule

The schedule below summarizes the routine monitoring and reporting agreed to be performed by Giant as part of the discharge plan for the Ciniza Refinery (GW-32). While this summary is meant to be inclusive, if any differences occur between the schedule presented here and presented in the discharge plan, the discharge plan (including subsequent correspondence) is the controlling document.

Monitoring	Sampling Parameters	Reporting Frequency	Discharge Plan Reference
API separator effluent quarterly at the two Weir locations for four consecutive quarters, thence bi-annually coincidentally with high-flow periods. Neutralization stream measured on same schedule.	Flow rate of discharge	Quarterly reports during first year on same schedule as RCRA results to NMEID; annual thereafter with submittal to OCD within 30 days of receipt and verification.	Giant's response to OCD comments, p. 11, dated 2/3/86; p. 2, Giant's letter dated 4/30/86; p. 4, Giant's letter dated 6/26/86
[illegible] input for four [illegible] annually.	BOD	Same as above	p. 2, Giant's letter dated 4/30/86; and p. 4, Giant's letter dated 6/26/86
[illegible] ponds inspected monthly for freeboard, fluid levels, and seepage. Inspection also after 10-year precipitation event (1.8"/24 hrs) as measured at refinery.	None	None. Refinery records kept on monthly inspections, and on precipitation events exceeding 1.8" per 24 hrs.	p. 3, Giant's letter dated 4/30/86; and p. 4, Giant's letter dated 6/26/86
MW-Series monitor wells sampled January and July, as per RCRA. MW-Series sampled for four consecutive quarters, thence January and July, as per RCRA.	All approved RCRA (including contuctivity, TOC, TOX, and pH)	Copies of RCRA MW and SMW results sent to OCD on same as to NMEID.	Giant's response to OCD comments, p. 11, dated 2/3/86; p. 3, Giant's letter dated 4/3/86
MW-Series monitor wells July, 1986 and January 1987, thence annually at time of RCRA sampling.	[illegible]odium, potassium, [illegible]lcium, magnesium, [illegible]loride, sulfate, [illegible]rbonate-bicarbo[illegible], TDS, pH, and co[illegible]ice	Submit 1986 results with January 1987 results by March 1, 1987. Thereafter annual results submitted within 30 days of analysis receipt verification.	Giant's resp[illegible] OCD comments, p. [illegible]ted 2/3/86; p. 3, Giant's letter dated 4/3/86; p. 4, Giant's letter dated 6/26/86
SMW-Ser[illegible]nitor wells April an[illegible]uly, 1986, January, 1987, thence annually at time of RCRA sampling	sodium, potassium, calcium, magnesium, chloride, sulfate, carbonate-bicarbonate, TDS, pH, conductance, and volatile aromatic hydrocarbons (BTX)	Same as immediately above	Same as immediately above
Monitor Wells GW[illegible] GW2 and [illegible], sampled annually	Same as immediately above	Submitted within 30 days of analysis receipt and verification	p. 3, Giant's letter dated 4/3/86; p. 4 Giant's letter dated 6/26/86

RCRA Sampling
April & October

OIL CONSERVATION DIVISION
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GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

April 13, 1992

Ed Horst
Program Manager
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502

Re: Annual Groundwater Sampling

Dear Mr. Horst:

Giant Refining Company - Ciniza sent you a letter April 8, 1992 notifying you of the annual groundwater sampling event at the Ciniza Refinery.

Due to a problem with the purge pump, Giant has postponed the annual groundwater sampling event until April 20, 1992. Instead, Giant will do the semi-annual land treatment area soil sampling on April 14, 1992.

Steve Alexander, of your staff, was notified verbally on April 13 of this change in schedule.

If you have any questions, please contact me at (505) 722-0227.

Sincerely,

Lynn Shelton

Lynn Shelton
Environmental Assistant
Giant Refining Company - Ciniza

TIS:sp

cc: Roger Anderson, Oil Conservation Division
Barbara Driscoll, US EPA

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GIANT REFINING CO.
Route 3, Box 7
Gallup, New Mexico
87301
505
722-3833

April 8, 1992

Edward Horst
Program Manager
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502

Re: Annual Groundwater Sampling Event

Dear Mr. Horst:

Pursuant to Attachment G, Part 2.B.ii., of the Part B Permit, Giant Refining Company intends to conduct its Annual Groundwater Sampling event on April 13 to April 15, 1992 at its Ciniza Refinery. The schedule for purging and sampling is:

April 13, 1992	8:00 - 12:00	API Effluent,* Aerated Lagoon Effluent*
	12:30 - 4:30	Purge OW-1*, OW-2*, OW-3*' OW-11, MW-1, MW-2, MW-4, MW-5
April 14, 1992	8:00 - 12:00	Sample OW-1, OW-2, OW-3, OW-11, MW-1, MW-2, MW-4, MW-5
April 14, 1992	12:30 - 4:30	Purge SMW-1, SMW-2, SMW-3, SMW-4, SMW-5, SMW-6
April 15, 1992	8:00 - 12:00	Sample SMW-1, SMW-2, SMW-3 SMW-4, SMW-5, SMW-6

*For OCD

Parameters for each sampling point are included in the attached lists.

If you require any additional information, please contact me at (505) 722-0227.

Sincerely,

Lynn Shelton

Lynn Shelton
Environmental Assistant
Giant Refining Company - Ciniza

TLS:sp

cc: Roger Anderson, New Mexico Oil Conservation Division
Barbara Driscoll, USEPA, Division VI

ANNUAL GROUNDWATER SAMPLING EVENT (MARCH OR APRIL)
PARAMETERS

WELL	pH	COND	TOC(2)	TOX(2)	TDS	ALKAL BICARB	ALKAL CARB	CHLORIDE	SULFATE	PHENOL	VOL-ORG 8240	BTEX 8020	TOTAL METALS Cr	Pb	Hg	As	Ba	Cd	DISSOLVED METALS Ca	Mg	Mn	K	Se	Ag	Na
MW-1	X	X	X	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X	X	X	X	X	X
MW-2	X	X	X	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X	X	X	X	X	X
MW-4	X	X	X	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X	X	X	X	X	X
MW-5	X	X	X	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X	X	X	X	X	X
OW-11	X	X	X	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X	X	X	X	X	X	X	X
SMW-1	X	X	X	X	X	X	X	X	X	-	X	-	X	X	-	-	-	-	X	X	-	X	-	-	X
SMW-2	X	X	X	X	X	X	X	X	X	-	X	-	X	X	-	-	-	-	X	X	-	X	-	-	X
SMW-3	X	X	X	X	X	X	X	X	X	-	X	-	X	X	-	-	-	-	X	X	-	X	-	-	X
SMW-4	X	X	X	X	X	X	X	X	X	-	X	-	X	X	-	-	-	-	X	X	-	X	-	-	X
SMW-5	X	X	X	X	X	X	X	X	X	-	X	-	X	X	-	-	-	-	X	X	-	X	-	-	X
SW	X	X	X	X	X	X	X	X	X	-	X	-	X	X	-	-	-	-	X	X	-	X	-	-	X
OW-1	X	X	-	-	X	X	X	X	X	-	-	X	-	-	-	-	-	-	X	X	-	X	-	-	X
OW-2	X	X	-	-	X	X	X	X	X	-	-	X	-	-	-	-	-	-	X	X	-	X	-	-	X
OW-3	X	X	-	-	X	X	X	X	X	-	-	X	-	-	-	-	-	-	X	X	-	X	-	-	X

2 - REPLICATES

ANNUAL WASTEWATER SAMPLING EVENT

API Effluent -

BOD
COD
TOC
TDS

Aerated Lagoon Effluent -

pH
BOD
COD
TOC
TDS
Total Sulfide
Metals (As, Cd, Cr, Pb, Hg, Ni, Se)
Oil & Grease
8240 See List
8270 See List

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

March 6, 1992

BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-327-278-296

Mr. Lynn Shelton
Giant Refining COMPANY
Route 3, Box 7
Gallup, New Mexico 87301

Re: Temporary Waste Storage Ponds

Dear Mr. Shelton:

The Oil Conservation Division (OCD) has received your request, dated February 28, 1992, for authorization to construct and operate temporary evaporation ponds at the Ciniza Refinery. The ponds will be constructed is the same location and operated in the same manner as previously approved.

Based on the information and commitments contained in your request, you are authorized to construct and operate temporary evaporation ponds. The authorization to transfer fluids to the temporary ponds will expire on August 15, 1992.

If you have any questions, please call me at (505) 827-5812.

Sincerely;

Roger C. Anderson
Environmental Engineer

xc: Denny Foust - OCD Aztec

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

OIL CONSER[illegible]ON DIVISION
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'92 MAR [illegible] AM 9 33

February 28, 1992

Roger Anderson
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

Re: Freeboard Notification
Contingency Plan Implementation Request

Dear Mr. Anderson:

Pursuant to Section 8.0, Contingency Plan, of the Discharge Plan Application for Giant Refining Company's Ciniza Refinery, this report is submitted to notify the Oil Conservation Division of exceedance of minimum freeboard requirements.

Minimum freeboard requirements are exceeded on ponds 6a, 6b, 7, 8, 11 and 9a, b, c, d. Projects to minimize waste water flows were submitted and partially implemented in 1991. Giant will pursue further water minimization projects in 1992 to alleviate the freeboard problem.

Giant therefore requests permission to implement Section 8, Step 1 (p.56): "Construct additional ponds to contain and evaporate the additional waste water."

This is a temporary solution to the freeboard requirements and Giant will follow the steps outlined below:

1) Construct dikes in the same location as last year (see map) to create three (3) temporary lagoons

2) Transfer water to these lagoons from now until August 15, 1992. Water remaining in the temporary lagoons on September 15, 1992 will be transferred back into the permanent lagoons

3) Dikes will be inspected weekly to verify integrity and water levels

4) Giant will submit reports to NMOCD as follows:

   a) Date of initial transfer
   b) Date of last transfer

Giant will, additionally, continue to investigate, propose and implement water minimization projects.

Thank you for your prompt attention to this situation. If you require additional information please contact me at (505) 722-0227.

Sincerely,

Lynn Shelton

Lynn Shelton
Environmental Assistant
Ciniza Refinery

TLS:sp

cc: Zeke Sherman
Environmental Manager
Ciniza Refinery

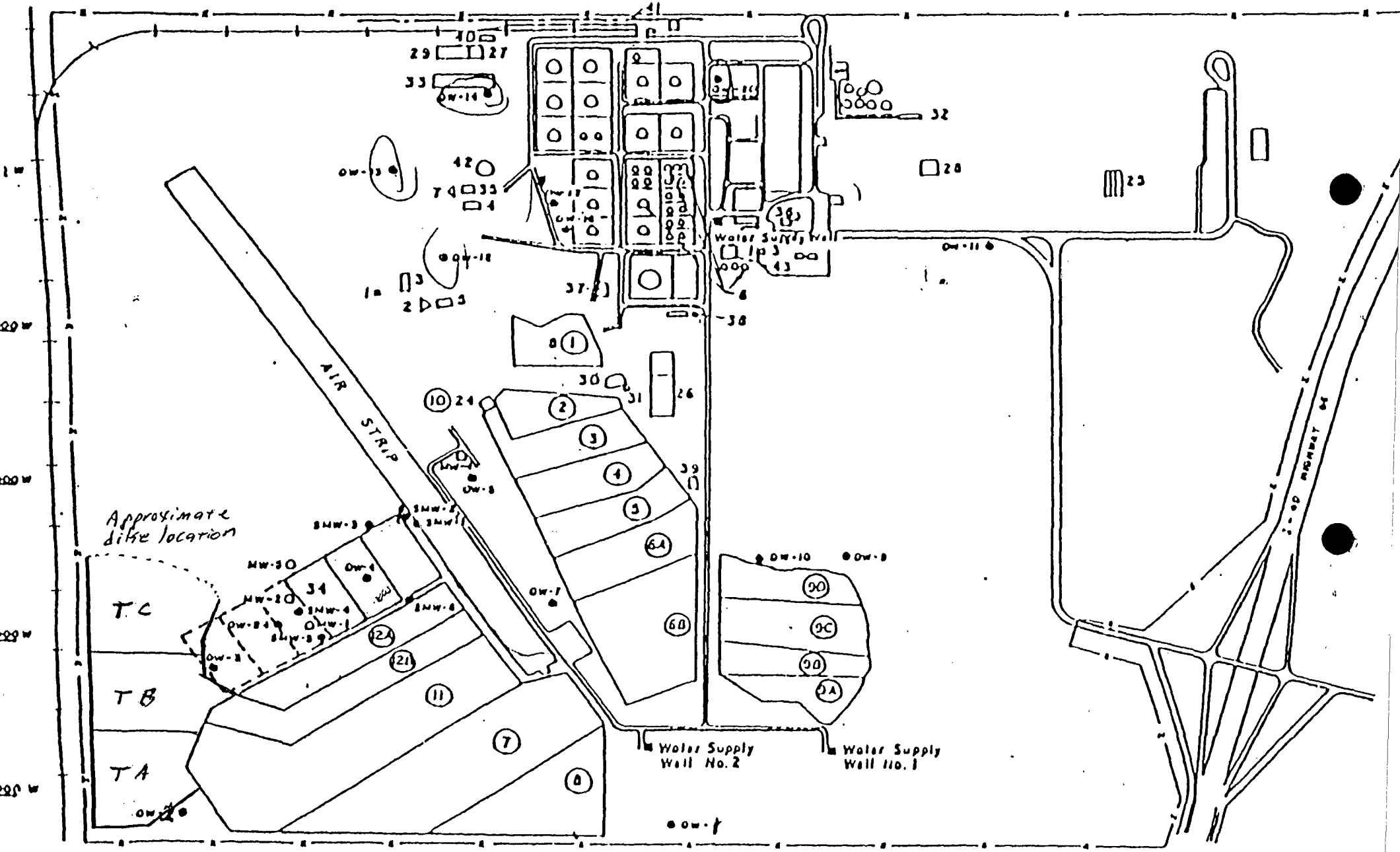
8.0 CONTINGENCY PLANS

Giant has developed a comprehensive Contingency Plan (included in the Part B Application filed with USEPA and NMEID) for dealing with any unplanned release of any substances which might pose a threat to human health or the environment. This contingency plan does not, however, address the evaporation ponds with respect to inspection, structural integrity, fluid levels or flooding potential.

Giant will inspect all active evaporation ponds on a monthly basis, or following any major storm. Erosion or other damage will be repaired in a timely manner, so that the structural integrity of the dikes is maintained. During monthly inspection, freeboard levels will be observed. If the 2-foot freeboard requirement is not met for 2 consecutive quarters, Giant will report this finding to NMOCD, and take one or more of the following steps:

- Construct additional ponds to contain and evaporate the additional wastewater
- Take steps to reduce the quantity of wastewater discharged
- Install devices (e.g., sprinklers) to enhance evaporation
- Evaluate other methods to restore the water balance

The hydrology of the site (confined ground water overlain by highly impermeable shales and clays) indicates that there is little or no chance that ground water would be affected by any spills of products, feedstocks or wastes. Spills will be handled under the Part B contingency plan, and all spills and the response to them are reported to NMEID within 15 days.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Approximate dike location
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TB
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Water Supply Well No. 2
Water Supply Well No. 1
Water Supply Well
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OW-6
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GIANT REFINING CO.
Route 3, Box 7
Gallup, New Mexico
87301
505
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OIL CON DIV.

December 26, 1991

Roger Anderson
Oil Conservation Division
P.O. Box 2088
Land Office Building
Santa Fe, New Mexico 87504-2088

Dear Mr. Anderson:

As a result of the Giant Refining Company's Ciniza Refinery inspection of April 30 - May 2, 1991 by OCD personnel, several areas were identified that require specific remediation.

A remediation schedule/timetable was submitted to OCD and was subsequently accepted. This is a progress report of the remediation requirements through December 31, 1991.

1. **Pond 9**

   Several oil stains were visible near the inlet from the Travel Center waste water line. it was determined that the source was the grease trap from the kitchen at the Travel Center.

   All oil was removed, as well as the cat tails growing in the area. The grease traps were cleaned and are now routinely checked for proper operation.

   No additional oil has entered the area.

2. **API Separator**

   The API separator was determined to not be functioning properly.

   In mid May, Epoxy Design Systems, Inc. did major repair work to the API separator to include new packing in seams and plugging of leaks and cracks by injection of epoxy compound.

   An automatic float switch was installed on the API sump pump to assure continuous skimming action.

A steel partition was installed in the west bay to absolutely preclude any hydrocarbon carryover to the benzene strippers and evaporation lagoons.

The rock lined banks of the aeration lagoons were hydroblasted to remove any oil layer and the aeration lagoon surface was vacuumed to remove all oil and solids.

Environmental operating procedure GR-002 was reviewed with relevant lab personnel.

3. **Auxiliary Compressor Spillage**

The stained soil and gravel was removed and replaced with clean dirt and gravel. The compressor was fitted with axles and tires and is no longer kept in this area.

4. **Hydrochloric Acid Tank Berm**

The existing berm was reconstructed to contain 1 1/3 capacity of the tank.

If you require any additional information concerning this remediation, please contact Lynn Shelton at (505) 722-0227.

Sincerely,

John Stokes
Refinery Manager

JJS:sp

cc: Kim Bullerdick - Corporate Counsel
Giant Industries Arizona, Inc.

Lynn Shelton - Environmental Assistant
Giant Refining Company, Ciniza Refinery

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

August 14, 1991

CERTIFIED MAIL
RETURN RECEIPT NO. P-756-666-151

Mr. Claud Rosendale
Environmental Manager
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

RE: Discharge Plan GW-32
Ciniza Refinery
McKinley County, New Mexico

Dear Mr. Rosendale:

The groundwater discharge plan renewal (GW-32) for the Giant Refining Company Ciniza Refinery located in the S/4 of Section 28, the N 3/4 of Section 33, Township 15 North, Range 15 West, NMPM, McKinley County, New Mexico is hereby approved. The discharge plan consists of the original plan as approved August 1, 1986, the renewal application dated July 24, 1990 and materials dated August 9, 1991 submitted as a supplement to the application.

The discharge plan was submitted pursuant to Section 3-106 of the New Mexico Water Quality Control Commission Regulations. It is renewed pursuant to Section 3-109.A. Please note Section 3-109.F., which provides for the possible future amendments of the plan. Please be advised that the approval of this plan does not relieve you of liability should your operation result in actual pollution of surface or ground waters or the environment which may be actionable under other laws and/or regulations.

Please be advised that all exposed pits, including lined pits and open top tanks (tanks exceeding 16 feet in diameter), shall be screened, netted, or otherwise rendered nonhazardous to wildlife including migratory birds.

Please note that Section 3-104 of the regulations requires that "When a plan has been approved, discharges must be consistent with the terms and conditions of the plan." Pursuant to Section 3-107.C. you are required to notify the Director of any facility expansion, production increase, or process modification that would result in any change in the discharge of water quality or volume.

Pursuant to Section 3-109.G.4., this plan approval is for a period of five (5) years. This approval will expire August 1, 1996 and you should submit an application for renewal in ample time before that date. It should be noted that all gas processing plants and oil refineries in excess of twenty-five years of age will be required to submit plans for, or the results of an underground drainage testing program as a requirement for discharge plan renewal.

On behalf of the staff of the Oil Conservation Division, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely,

William J. LeMay
Director

WJL/RCA/sl

cc: OCD Aztec Office

OIL CONSERVATION DIVISION
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GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

August 9, 1991

Roger C. Anderson
Environmental Manager
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

RE: Discharge Plan GW-32

Dear Mr. Anderson:

The Ciniza Refinery proposes the following plans and completion timetables for corrective actions to the deficiencies listed in the July 29, 1991 memo.

1. **It the OCD's policy that all drums and above ground "Saddle" type tanks be stored or mounted on pad and curb type containment. Numerous drums and fuel and chemical saddle tanks were observed without containment. Submit a completion timetable for the construction of leak and spill containment for these drums and tanks.**

   Response: Giant will consolidate all drum storage to the least number of areas that are economically feasible for the refinery operation within 30 days. Containment of either concrete or metal pans will be installed for remaining drum storage areas and saddle tanks in a phased in process with completion by December 1993.

2. **A number of existing sumps were noted during the inspection. All newly constructed or repaired below grade sumps or tanks must be constructed with leak detection incorporated in the design. For existing sumps and below grade tanks a commitment must be made to visually inspect their integrity on an annual basis.**

   Response: All new below grade sumps or tanks will be constructed with leak detection systems. Giant will annually clean and visually inspect all existing sumps and maintain written records of the inspections.

3. Asphalt Tank Farm: **Submit a plan with a completion timetable for correction of the following deficiencies found at the asphalt tank farm:**

a. The loading area on the west side of the berm requires clean-up and a spill collection system.

Response: The contaminated soil will be removed and containment will be constructed at either this area or the overhead loading rack on the north side of the asphalt tank farm, depending on which area Giant decides to maintain for loading. This work will be completed by December, 1994.

b. The pump in the northwest corner of the tank area needs clean-up and spill containment.

Response: The area has been cleaned up. Either containment will be placed around the pump or the pump will be moved to the FCC process area which has concrete foundation throughout the area. The project will be completed by December, 1994.

c. Piping in the area has dripped and/or leaked. The soil under the piping needs clean-up.

Response: Areas with the newer lighter hydrocarbon spills will be cleaned up by August, 1992.

d. The water draws for tank 707 and 708 were drained to the ground. The practice of draining fluids to the ground will not be allowed. The fluid drained from these tanks must be contained.

e. The sumps that collect fluids from tanks 702, 705 and 714 have overflowed onto the ground surface. If a sump drain system is to be used for collection of fluids, a method must be developed to prevent overflowing the sumps.

Response: Giant will install more efficient sumps for these tanks and/or pipe all water draws to a common sump which would be included on the daily gauging requirements to prevent overflow. This will be concluded by December, 1993.

f. There were a number of valves, pipes and pumps that were or have been leaking. These areas need clean-up, and pad and curb type containment constructed to contain future leaks.

Response: Maintenance will be performed on all leaking connections and the areas will be cleaned by August, 1992. If leaks persist, containment will be installed by December 1995.

4. Process Area: Submit a plan with a completion timetable for correction of the following deficiencies found in the process area.

   a. The southeast fin-fan motor was leaking lube oil. A pad and curb type containment is required to contain these leaks.

   b. Oil was running off the pad by the platform compressors. The oil must be contained on the pad.

   c. Drips and leaks from the "Isom Reactor" must be contained.

   d. The gas compressor in the "Sats" unit is currently mounted on a pad. This pad needs a curb or lip for containment.

   e. The refrig compressor "SC2" had oil dripping off its pad. This pad need a curb or lip for containment.

Response: Maintenance will be performed on all the listed units in an effort to prevent all leaks and the areas cleaned up by August, 1992. If leaks persist, modifications to the units, possibly curbing or containment, will be completed by December, 1995.

5. Rail Loading Area: The rail loading area has had significant and widespread leaks and has significant surface contamination in and around the pipe runs and transfer pump areas. Submit a plan and completion timetable for the clean-up of this area and construction of containment for all future leaks and/or spills.

   Response: Curbing and containment will be constructed around all pump and filtering systems by December, 1992. Containment will include a collection area for filters. Contaminated soils will be cleaned up by August, 1993.

6. Railroad Lagoon: The railroad lagoon accepts run off from portions of the process areas and the railroad loading area. There is oil floating on the water surface of this lagoon. This lagoon drains to the open field on the northeast corner of the refinery property. The OCD is requiring the rerouting of all fluids currently going to this lagoon to the refinery waste water system and the closure of this lagoon as soon as practical. Submit a plan and completion timetable to accomplish this.

   Response: Giant proposes to divert the process drainage system to this lagoon to a sump and pump with level control near the loading pumps.

This sump pump will transfer this stream to the refinery waste water system. Liquids in the lagoon will be transferred to the API separator. Visually contaminated soils from the lagoon will be removed, analyzed and, landfarmed if applicable. The lagoon will continue to be used for overflow from the small sewage lagoon. This project should be completed by July, 1992.

7. Tank Farm: **Numerous storage tanks in the tank farm had product level gauges draining to the ground, water drains draining to the ground, drain sumps without leak detection, sumps that have overflowed, sample valves that were leaking, leaking transfer pumps and leaking piping and valves.**

No fluids will be allowed to be drained directly to the ground. Submit a plan and a completion timetable for the construction of containment for these valves and drains and for routing of all drained fluids to the refinery wastewater system. Include in the plan the cleanup of past spills and leaks.

Response: Leaks that were noted and have been repaired since the audit, have included; leak from pipe in the rack south of tank 581, drain line at tank 339, leak at sour naphtha pump, leak at platformer booster pump, valve stem packing on tank 451, drain valve on tank 453, drain valve and temperature gauge fitting on tank 228, drain valve on tank 231 and, sample valve on tank 106. All pipe fittings, valves, pump connections, level and sample gauges, drain pipes, etc., will be repaired and containment and drip pans installed as necessary to prevent spillage. Water drains on tanks will be modified to eliminate the bleed valve which drains to the ground. This may be accomplished by any one of the following methods depending on the existing tank.

i) adding a drain line from the existing valve which will connect directly to the sewer,

ii) modifying the sewer drain,

iii) modifying and/or relocating the drain valve or

iv) changing the procedures for draining the water draws which would result in blinding the existing valve.

Contaminated soils will also be cleaned up as corrective actions are performed.

As this is a major project, Giant proposes to correct or modify the above mentioned units over a phased in process of 25 percent of the units per year from 1992 through 1995, starting with the units with the most leaks or contamination.

8. Product Tank Area: **Submit a plan and completion timetable for correction of the deficiencies found at the product tank area.**

   a. **Diesel tank No. 1 had evidence of spills around the tank and pumps. Clean-up and containment is required in this area.**

   b. **The O.C. diesel tank has a drip pan that has overflowed. If drip pans are to be used, they must be maintained to prevent overflowing. The alternative is permanent piping of fluids to the wastewater system.**

   Response: Maintenance will be performed in an attempt to prevent future leaks and the contaminated soil will be cleaned up by August, 1992. If leaks persist, containment will be installed by December, 1995. Procedures will be implemented to prevent overflowing of containment basins.

9. West Process Area: **Submit a plan and completion timetable for the following deficiencies:**

   a. **The brine storage tank is required to be bermed to contain one and one third (1 1/3) times the capacity of the tank.**

   Response: Containment to comply with requirements will be installed by December, 1995.

   b. **The auxiliary compressor has spillage caused by routine maintenance. This area needs clean-up and containment for fluids spilled during maintenance.**

   Response: The area will be cleaned up by December, 1991. The use of this unit will be restricted to contained areas in the future.

   c. **The hydrochloric acid tank berm has deteriorated. The berm must be reconstructed to contain one and one third (1 1/3) times the capacity of the tank.**

   Response: The berm has been reconstructed but requires approximately six (6) additional inches to contain the necessary capacities. END of '91 as per phone con w/ Carol 8/13/91

10. Loading Rack Area: **Submit a plan and completion timetable for correcting the following deficiencies:**

   a. **Pads and curbing type containment is required for all additive tanks. This includes tanks owned and/or used by outside purchasers.**

Response: Vendors of additive tanks will be notified of containment requirements and given until August, 1992 to address the issue.

b. The pump at the south detergent additive tank was leaking oil. Containment is required for this pump.

Response: Maintenance will be performed in an attempt to prevent future leaks by August, 1992. If leaks persist, containment will be installed by December, 1993.

c. The loading/unloading valves were dripping on the ground. Containment is required for the valve areas.

Response: Vendors of additive tanks will be notified of containment requirements and given until August, 1992 to address the issue.

d. The product loading rack has a small cement area with a soil bottom that has had leaks for an extended period of time. This area needs to be cleaned and containment installed.

Response: This area will be cleaned out and concrete will be poured in the base for containment of future leaks by August, 1992.

11. Pond Area: **Submit plans and a completion timetable for correction of the following deficiencies:**

a. Containment is required for the fuel tanks.

Response: Both fuel tank areas will be cleaned with containment installed by April, 1992.

b. The southeast portion of Pond 9 has oil on the ground water near the inlet from the Travel Center Waste water line. Giant is to determine the source of the oil, eliminate the source and clean-up the area.

Response: The source has been determined as the Travel Center Waste water. The Travel Center has installed grease traps and solids separators in an attempt to eliminate this problem. However, a small containment basin similar to the weir at aeration lagoon #1 will be installed with a maintenance program established for periodic removal of this grease. The contaminated areas will be cleaned and the above work completed by December 1991.

c. The API separator is not functioning properly. Hydrocarbons are passing through the separator, the airstripper and into the aeration pond. The API separator also has cracks in the sidewalls. Repairs

must be made to the separator and a visual inspection must be conducted of the sides and bottom within 30 days of receipt of this letter.

Operating procedures will be developed and instituted by Giant to prevent ANY oil carryover to the airstripper or the ponds. Any oil presently in the ponds will be removed immediately.

Response: Both bays of the API Pit were emptied and cleaned, one at a time, during the weeks of May 20 and May 27. A thorough inspection of each bay was conducted and a contractor from Houston, Texas was on-site and repaired cracks in the cement. The following immediate modifications will be made to the API Pit as soon as supplies and equipment arrive. A) a pump will be installed in the forebay for immediate removal of a portion of the hydrocarbons and, B) an additional baffle will be installed immediately upstream of the effluent water to contain any last minute phase separation of hydrocarbons. Meetings are also scheduled to establish detailed operating procedures which includes continuous skimming of the separator. These procedures should be completed by September 15, 1993 with the effects evaluated before other actions are taken.

The aerations lagoons will be segregated one at a time with the oily dikes cleaned by hydroblasting and residuals removed by skimming by November, 1991.

d. The sump pump and API waste oil pump area needs clean-up and containment.

Response: The area will be cleaned and maintenance will be performed in an attempt to prevent future leaks by December, 1991. If containment is required it will be installed by December, 1992.

Giant will submit an annual report to your office by January 31 of each year. This will outline any corrective action associated with your July 29, 1991 memo which was conducted throughout the previous year.

Claud Rosendale
Environmental Manager
Ciniza Refinery

OIL CONSERVATION DIVISION
RECEIVED
'91 AUG 1 AM 8 58

GIANT REFINING CO.
Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

August 1, 1991

Roger Anderson
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

RE: Temporary Lagoon Notification

Dear Mr. Anderson:

As required by the April 2, 1991 Temporary Lagoon request, Giant Refining Company is notifying your office that the last transfer of water from the evaporation lagoons to the temporary lagoons was made on July 19, 1991.

If you have any questions, contact Lynn Shelton at (505) 722-0227.

Sincerely,

Claud Rosendale
Environmental Manager
Ciniza Refinery

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

July 29, 1991

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-757-737-756

Mr. Claud Rosendale
Environmental Manager
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

RE: Discharge Plan GW-32
Ciniza Refinery
McKinley County, New Mexico

Dear Mr. Rosendale:

The Oil Conservation Division (OCD) has received your application for renewal of the above referenced discharge plan which will expire August 1, 1991. The following comments and requests for commitments are based on review of the discharge plan and observations made during the OCD site inspection of April 30 to May 2, 1991.

1. It is the OCD's policy that all drums and above ground "Saddle" type tanks be stored or mounted on pad and curb type containment. Numerous drums and fuel and chemical saddle tanks were observed without containment. Submit a completion timetable for the construction of leak and spill containment for these drums and tanks.

2. A number of existing sumps were noted during the inspection. All newly constructed or repaired below grade sumps or tanks must be constructed with leak detection incorporated in the design. For existing sumps and below grade tanks a commitment must be made to visually inspect their integrity on an annual basis.

3. Asphalt Tank Farm: Submit a plan with a completion timetable for correction of the following deficiencies found at the asphalt tank farm:

   a. The loading area on the west side of the berm requires clean-up and a spill collection system.

b. The pump in the northwest corner of the tank area needs clean-up and spill containment.

c. Piping in the area has dripped and/or leaked. The soil under the piping needs clean-up.

d. The water draws for tanks 707 and 708 were drained to the ground. The practice of draining fluids to the ground will not be allowed. The fluid drained from these tanks must be contained.

e. The sumps that collect fluids from tanks 702, 705 and 714 have overflowed onto the ground surface. If a sump drain system is to be used for collection of fluids, a method must be developed to prevent overflowing the sumps.

f. There were a number of valves, pipes and pumps that were or have been leaking. These areas need clean-up, and pad and curb type containment constructed to contain future leaks.

4. Process Area: Submit a plan with a completion timetable for correction of the following deficiencies found in the process area.

a. The southeast fin-fan motor was leaking lube oil. A pad and curb type containment is required to contain these leaks.

b. Oil was running off the pad by the platform compressors. The oil must be contained on the pad.

c. Drips and leaks from the "Isom Reactor" must be contained.

d. The gas compressor in the "Sats" unit is currently mounted on a pad. This pad needs a curb or lip for containment.

e. The refrig compressor "SC2" had oil dripping off its pad. This pad needs a curb or lip for containment.

5. Rail Loading Area: The rail loading area has had significant and widespread leaks and has significant surface contamination in and around the pipe runs and transfer pump areas. Submit a plan and completion timetable for the cleanup of this area and construction of containment for all future leaks and/or spills.

6. Railroad Lagoon: The railroad lagoon accepts run off from portions of the process areas and the railroad loading area. There is oil floating on the water surface of this lagoon. This lagoon drains to the open field on the northeast corner of the refinery property. The OCD is requiring the rerouting of all fluids currently going to this lagoon to the refinery waste water system and the closure of this lagoon as soon as practical. Submit a plan and completion timetable to accomplish this.

7. Tank Farm: Numerous storage tanks in the tank farm had product level gauges draining to the ground, water drains draining to the ground, drain sumps without leak detection, sumps that have overflowed, sample valves that were leaking, leaking transfer pumps and leaking piping and valves.

   No fluids will be allowed to be drained directly to the ground. Submit a plan and a completion timetable for the construction of containment for these valves and drains and for routing of all drained fluids to the refinery wastewater system. Include in the plan the clean up of past spills and leaks.

8. Product Tank Area: Submit a plan and completion timetable for correction of the deficiencies found at the product tank area.

   a. Diesel tank No. 1 had evidence of spills around the tank and pumps. Clean-up and containment is required in this area.

   b. The O.C. diesel tank has a drip pan that has overflowed. If drip pans are to be used, they must be maintained to prevent overflowing. The alternative is permanent piping of fluids to the wastewater system.

9. West Process Area: Submit a plan and completion timetable for the following deficiencies:

   a. The brine storage tank is required to be bermed to contain one and one third (1 1/3) times the capacity of the tank.

   b. The auxiliary compressor has spillage caused by routine maintenance. This area needs clean-up and containment for fluids spilled during maintenance.

   c. The hydrochloric acid tank berm has deteriorated. The berm must be reconstructed to contain one and one third (1 1/3) times the capacity of the tank.

10. Loading Rack Area: Submit a plan and completion timetable for correcting the following deficiencies:

a. Pads and curbing type containment is required for all additive tanks. This includes tanks owned and/or used by outside purchasers.

b. The pump at the south detergent additive tank was leaking oil. Containment is required for this pump.

c. The loading/unloading valves were dripping on the ground. Containment is required for the valve areas.

d. The product loading rack has a small cement area with a soil bottom that has had leaks for an extended period of time. This area needs to be cleaned and containment installed.

11. Pond Area: Submit plans and a completion timetable for correction of the following deficiencies:

a. Containment is required for the fuel tanks.

b. The southeast portion of Pond 9 has oil on the ground near the inlet from the Travel Center Waste water line. Giant is to determine the source of the oil, eliminate the source and clean-up the area.

c. The API separator is not functioning properly. Hydrocarbons are passing through the separator, the airstripper and into the aeration pond. The API separator also has cracks in the sidewalls. Repairs must be made to the separator and a visual inspection must be conducted of the sides and bottom within 30 days of receipt of this letter.

Operating procedures will be developed and instituted by Giant to prevent ANY oil carryover to the airstripper or the ponds. Any oil presently in the ponds will be removed immediately.

d. The sump pump and API waste oil pump area needs clean-up and containment.

Submission of the above requested information will allow review of the renewal application to continue. Ground water contamination issues will be addressed under separate correspondence.

If you have any questions, please do not hesitate to call me at (505) 827-5884.

Sincerely,

Roger C. Anderson
Environmental Engineer

cc: OCD Aztec Office

OIL CONSERVATION DIVISION
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91 JUL 26 AM 9 54

July 23, 1991

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

Roger Anderson
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

RE: Discharge Plan GW-32 Renewal

Dear Mr. Anderson:

Giant Refining Company submitted the application for renewal of the above referenced permit to your office on July 24, 1990. It appears that this renewal process has been very time consuming and will not be completed by the expiration date of the existing permit.

In confirmation of our July 12, 1991 telephone conversation, it is Giant's understanding that the Ciniza Refinery can continue to operate under the existing permit conditions until the renewal process has been completed.

Thank you very much for working with us on this permit renewal application.

Thank you,

Claud Rosendale
Environmental Manager
Ciniza Refinery

7/30
OK

GIANT REFINING CO.
Route 3, Box 7
Gallup, New Mexico
87301
505
722-3833

June 7, 1991

David Boyer
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

RE: Data Request for Discharge Plan (GW-32)

Dear Mr. Boyer:

Per your telephone request of June 4, 1991, Giant submits the following information:

a) Lagoon #2 Wastewater analytical; February 26, 1991,

b) Lagoon #2 Wastewater analytical; May 17, 1990 and,

c) Updated drawing; Evaporation Lagoon and Wastewater Flow.

Hopefully this information will satisfy your request.

If you have any questions, contact my office at (505) 722-0217.

Sincerely,

Claud Rosendale

Claud Rosendale
Environmental Manager
Ciniza Refinery

enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Ecological Services
Suite D, 3530 Pan American Highway, NE
Albuquerque, New Mexico 87107

OIL CONSERVATION DIVISION
RECEIVED
'91 MAR 20 AM 8 52

March 19, 1991

Mr. William J. Lemay, Director
New Mexico Energy, Minerals and
Natural Resources Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Dear Mr. Lemay:

This responds to the Public Notice dated January 7, 1991, regarding the affects of granting State of New Mexico groundwater discharge permits on fish, shellfish, and wildlife resources in New Mexico.

The U.S. Fish and Wildlife Service (Service) has determined that there are no wetlands or other environmentally sensitive habitats that will be adversely affected by the following discharges.

GW-2 - Phillips 66 Natural Gas Company, Lee Plant Disposal Well, Lea County, NM.

GW-60 - Williams Field Services, Milagro Plant, San Juan County, NM.

The Service is providing the following comments with regard to GW-32 and GW-55.

(GW-32) - The Giant Refining Company has requested renewal of the existing ground water discharge permit for its Ciniza Refinery located 17 miles east of Gallup, New Mexico. The applicant proposes to renew the existing discharge plan to apply 161,000 gallons per day of process and nonprocess wastewater to 11 unlined evaporation ponds with a total capacity of 117 acres. The refinery and associated waste management facilities are located in Sections 28 and 33 of Township 15 North, Range 15 West, McKinley County, New Mexico. The receiving ponds are constructed in and of the shales of the upper Chinle Formation.

The Service is concerned about adverse impacts to Interior Trust Resources from exposure of migratory birds to selenium at the Ciniza Refinery evaporation ponds and adjacent wetlands. Data from the 1986 water quality analysis provided by the Oil Conservation Division indicated that selenium concentrations in the evaporation ponds range from 0.01 mg/l in Pond 2 to 0.52 mg/l in Pond 9A with intermediate levels in the other ponds. Water analysis indicated selenium residues in Pond 8 were less than 0.01 mg/l and a ditch adjacent to the ponds had less than 0.005 mg/l. Wetland vegetation

But not in the ponds

occurs around the evaporation ponds and in the artesian charged areas adjacent to the ponds. A significant number of migratory birds use the evaporation ponds and adjacent wetlands as a stopover during spring and fall migrations. There are also resident birds that nest and raise young in the area.

Bioconcentration of selenium in higher level organisms has been documented due to concentrations in water as low as 3.3 ug/l (ppb), (Eisler 1985). Concentrations of selenium in water at 40 ug/l have resulted in bioconcentration of selenium in aquatic invertebrates at levels greater than 50 mg/kg (ppm) (Schuler 1987). The recommended criterion for the protection of aquatic life for selenium in water is 5 ug/l (Schroeder et al. 1988). Selenium levels above this can cause an adverse impact to the exposed fauna. Lemly and Smith (1987) reported that selenium residues above 5 ug/l in water would cause reproductive failure in fish and waterfowl that either are present in the water or depend upon the water as a food source. Ohlendorf (1989) has observed that the most pronounced effect of selenium in wildlife species was found in birds that fed regularly at sites having selenium residues in water above the recommended levels. Ohlendorf also found that high incidences of bird embryonic mortality and deformities as well as adult mortality occurred at these sites. Residues of selenium reported in the 1986 water quality analysis are above levels documented to cause reproductive failure in birds.

None present in ponds

Ponds not a food source Not true don't feed in ponds

Direct adverse impacts to migratory birds will also occur from petroleum hydrocarbon contamination if oil is present on the ponds as noted by visible oil sheens. Migratory birds that become covered by or ingest oil typically suffer mortality due to hypothermia or poisoning. If oil is present in the discharge, the refinery needs to take remedial steps to remove visible oil.

The Service recommends that the risks to wildlife be ascertained at the Ciniza Refinery evaporation ponds. Residue levels of selenium in aquatic organisms need to be evaluated and selenium residues in the ponds should be reduced to less than 5 ug/l to avoid "take" under the Migratory Bird Treaty Act (Olive and Johnson 1986). If the refinery does not develop reasonable plans to reduce risk to migratory birds, the Service objects to the issuance of this permit.

None

GW-55 - Thriftway Marketing Corporation (TMC) has submitted a discharge plan application for its Bloomfield Refinery located in Sections 32 and 33, Township 29 N, Range 11 W and in Section 9, Township 28 N, Range 11 W in San Juan County, New Mexico. The discharge plan application is for the disposal of approximately 1225 gallons per day of wastewater into a synthetically double lined evaporation pond equipped with leak detection. It is the understanding of the Service that this is an after the fact permit application for this facility.

The Service is concerned with potential adverse effects of the proposed discharge plan upon the downstream habitat of the endangered Colorado squawfish (Ptychocheilus lucius) and the candidate species razorback sucker (Xyrauchen texanus) and roundtail chub (Gila robusta). The applicant should provide evidence to the Service that it can adequately address and manage spills, leaks, and other accidental oil discharges to the San Juan River.

The discharge plan also addresses remediation of contaminated groundwater at the facility. The Service requests the opportunity to review the complete plan to evaluate the impact of groundwater decontamination upon the San Juan River.

The TMC Bloomfield Refinery lies within the 100-year floodplain of Kutz Canyon. In the event that a spill, leak, or accidental discharge from this facility occurs, the Service should be notified immediately. The facility should develop a contaminant plan to ensure that discharges do not occur to the San Juan River. The evaporation pond may also act as an attractant for some of the 500,000 ducks and geese that utilize this portion of the San Juan Basin. The refinery should develop remedial cleanup plans for the evaporation pond in the event that an oil discharge occurs to the surface.

The Service is currently conducting a contaminants survey of the San Juan River Basin. Analysis of fish and bird tissue samples indicate that elevated levels of polycyclic aromatic hydrocarbons (PAH) occur in samples downstream of the Highway 44 bridge by Bloomfield, New Mexico (see attached data). PAH data from the San Juan River are at levels that are comparable to Galveston Bay, Texas, which is considered to be severely impacted by PAH contamination (Cain 1991).

The Service recommends that the TMC Bloomfield Refinery develop a discharge plan to identify and delineate the response actions that would be undertaken in the event of a spill at this site. The discharge plan should include a notification procedure to the Fish and Wildlife Service to avoid unreasonable risk to endangered or threatened species and migratory birds of the San Juan River Basin. The discharge plan should include oil cleanup procedures to the evaporation basin as well as any off site contamination.

These comments represent the views of the Service. If you have any questions concerning our comments, please contact Scott P. Hamilton-McLean, Richard Roy, or Thomas O'Brien at FTS 474-7877 or (505) 883-7877.

Sincerely,

Jennifer Fowler-Propst
Field Supervisor

Attachments

cc: (w/atch)
District Supervisor, Oil Conservation Division, Aztec, New Mexico
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Regional Administrator, Environmental Protection Agency, Dallas, Texas
Regional Director, U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, Albuquerque, New Mexico
Regional Director, U.S. Fish and Wildlife Service, Division of Law Enforcement, Albuquerque, New Mexico
Special Agents, New Mexico District, U.S. Fish and Wildlife Service, Albuquerque, New Mexico

Selected References

Cain, B., U.S. Fish and Wildlife Service, Ecological Services, Houston, Texas. Personal communication, 1991.

Eisler, R. 1985. Selenium hazards to fish, wildlife, and invertebrates: a synoptic review. U.S. Fish and Wildlife Service Biological Report 85(1.5). 57pp.

Lemly, A. D., and G.J. Smith. 1987. Aquatic cycling of selenium: implications for fish and wildlife. U.S. Fish Wildlife Service Leaflet 12. 10pp.

Ohlendorf, H. M. 1989. Bioaccumulation and effects of selenium in wildlife. Published in Selenium in Agriculture and the Environment, Soil Science Society of America Special Publication No. 23, 1989. pp. 133-177.

Olive, S.W., and R.L. Johnson. 1986. Environmental contaminants: selected legal topics. Fish and Wildlife Service Biological Report 87(1), November 1986.

Schroeder, R. A., D.V. Palawski, and J.P. Skoropa. 1988. Reconnaissance investigation of water quality, bottom sediment, and biota associated with irrigation drainage in the Tulare Lake bed area, southern San Joaquin Valley, California, 1986-87. U.S. Geological Survey, Water Resource Investigation Report 88-4001. 86pp.

Schuler, C. A. "Impacts of agricultural drainwater and contaminants on wetlands of Kesterson Reservoir, California." Master's Thesis, Wildlife and Fisheries, Oregon State University, 1987. 148pp.

PAH CONCENTRATIONS IN FISH BILE COLLECTED FROM

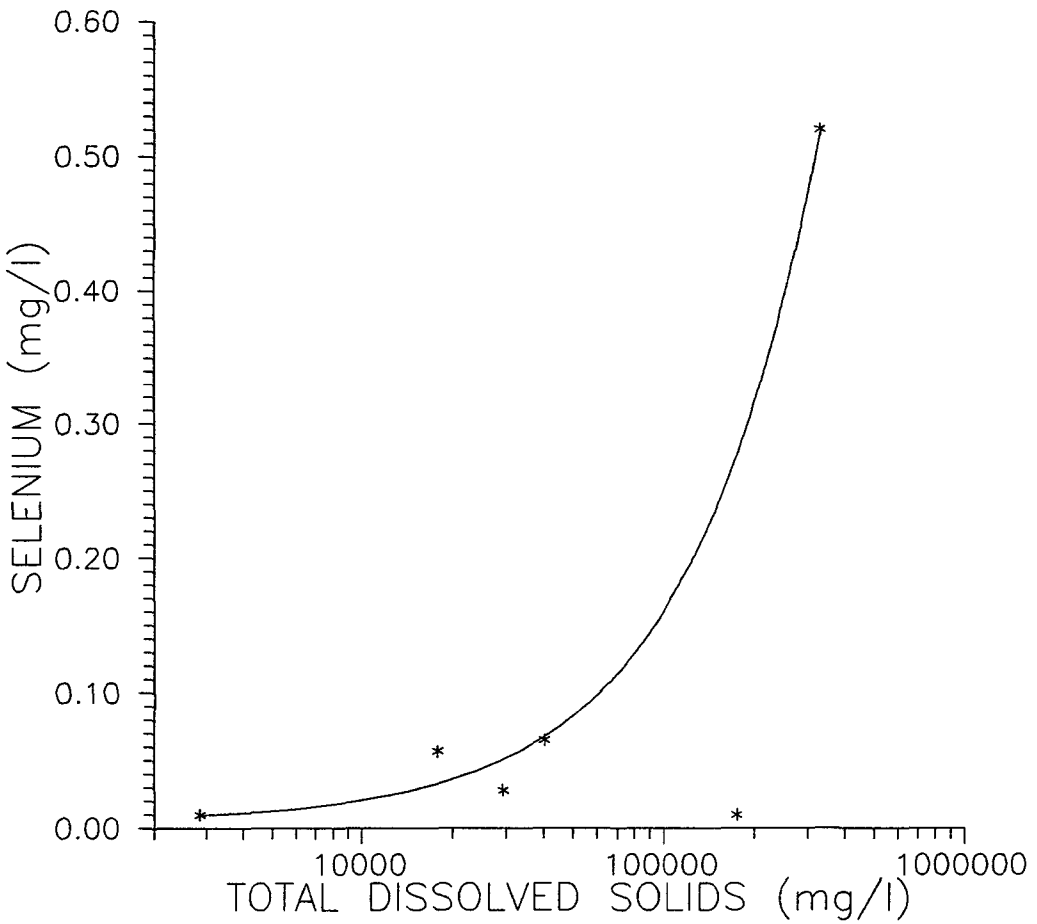
THE SAN JUAN RIVER BASIN, NORTHWEST, NEW MEXICO

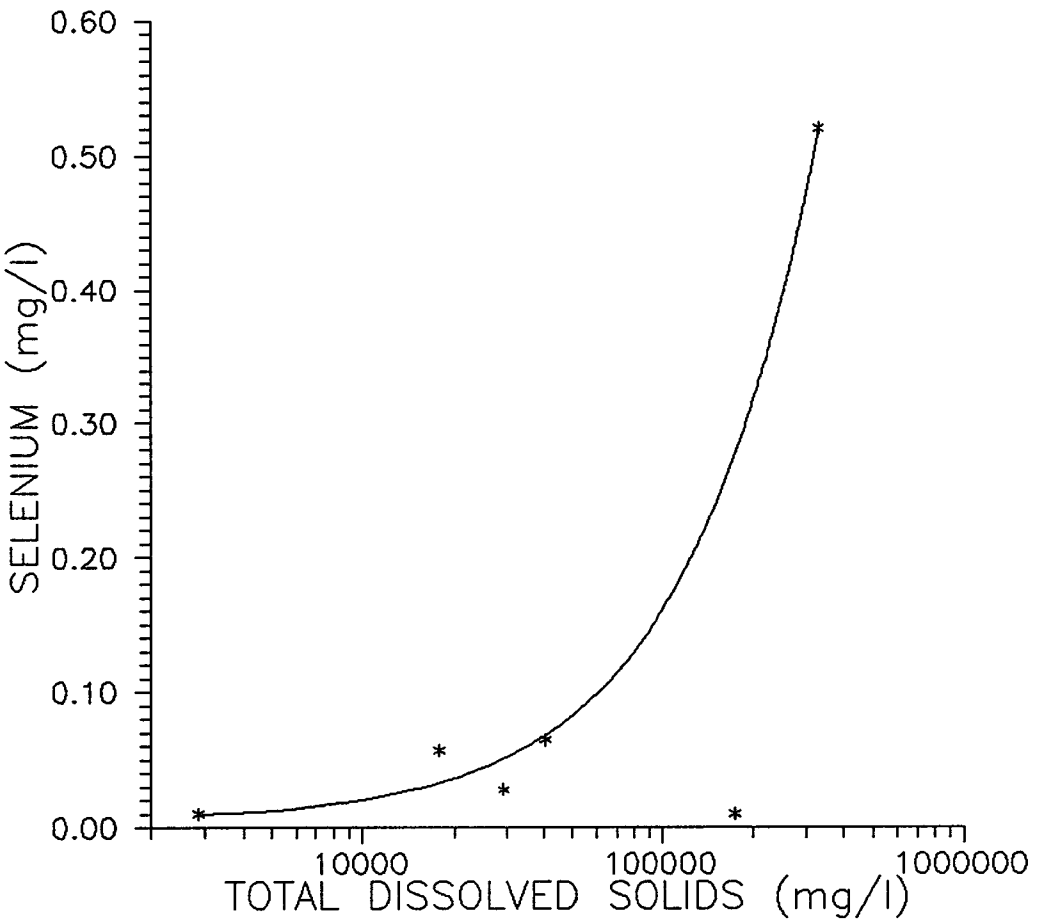
(NG/G WET WEIGHT)

SPP	LOCATION	NAPTH.	PHEN.	B(a)P
CARP	NAVAJO RESERVOIR	52,000	8,200	130
CARP	BLOOM TO LEE AC.	180,000-260,000	42,000-49,000	600-700
CARP	LEE AC- FARM.	210,000	48,000	580
CARP	BELOW LA PLATA	190,000	43,000	650
CARP	CUDEI/MANCOS R.	71,000	18,000	290
N. PIKE*	NAVAJO RESERVOIR	8,500	2,300	<100
E. SOLE*	ALASKA	<10,000	<3,000	<100
MULLET**	GALVESTON BAY	100,000-400,000	20,000-100,000	330-1,000

* REPRESENTS BASELINE CONCENTRATIONS OF NAPTHALENE, PHENANTHRENE, AND BENZO (A) PYRENE IN FISH. ENGLISH SOLE DATA PROVIDED BY NATIONAL MARINE FISHERIES SERVICE.

** STRIPED MULLET FROM GALVESTON BAY, TEXAS. GALVESTON BAY IS CONSIDERED TO BE SEVERELY IMPACTED BY PAH CONTAMINATION.


0.60
0.50
0.40
0.30
0.20
0.10
0.00
SELENIUM (mg/l)
10000
100000
1000000
TOTAL DISSOLVED SOLIDS (mg/l)


0.60
0.50
0.40
0.30
0.20
0.10
0.00
SELENIUM (mg/l)
10000
100000
1000000
TOTAL DISSOLVED SOLIDS (mg/l)

		Sc	TDS
3/6/86	Weir North of Pond 2	0.010	2840
3/6/86	Pond 3	0.028	29,293
3/6/86	Pond 4	0.065	40,353
	Pond 8	<0.01	174,450
	Pond 9A	0.52	330,100
	Pond 11	0.057	17,828

$$y = 1.55653 \times 10^{-6}(x) + 0.0573286$$

Assaigai Labs REPORT Work Order # 91-02-019
Results by Sample

SAMPLE ID POND #2 WASTEWATER SAMPLE # 01 FRACTIONS: A,B,C
Date & Time Collected 02/26/91 08:30:00 Category

AG <0.01 MG/L	BA <0.5 MG/L	BE 0.27 MG/L	CA_D 386 MG/L	CD <0.003 MG/L	CL 3096 MG/L
CO <0.05 MG/L	CR <0.02 MG/L	FE_D 1.30 MG/L	FL 24.6 MG/L	K_D 56.02 MG/L	MG_D 77.4 MG/L
MN 0.25 MG/L	NA_D 1341 MG/L	NI <0.05 MG/L	PB <0.10 MG/L	PH_1 6.66 pH UNITS	SB <0.005 MG/L
SCON 7540 UMHOS/CM	SE <0.005 MG/L	SI 11.0 MG/L	SO4 1500 MG/L	TDS 6896 MG/L	T_ALK 138 MG/L
T_HARD 1311 MG/L AS(CAC03)	ZN 0.08 MG/L				

SAMPLE ID **POND #2 WASTEWATER** FRACTION **01A** TEST CODE **601** NAME **PURGEABLE HALOCARBONS**
Date & Time Collected **02/26/91 08:30:00** Category

PARAMETER	RESULT	DET LIMIT
BROMODICHLOROMETHANE	<1.0	1.0
BROMOFORM	<1.0	1.0
BROMOMETHANE	<1.0	1.0
CARBON TETRACHLORIDE	<1.0	1.0
CHLOROBENZENE	<1.0	1.0
CHLOROETHANE	<1.0	1.0
CHLOROFORM	<1.0	1.0
2-CHLOROETHYL VINYL ETHER	<1.0	1.0
CHLOROMETHANE	<1.0	1.0
DIBROMOCHLOROMETHANE	<1.0	1.0
1,2-DICHLOROBENZENE	<1.0	1.0
1,3-DICHLOROBENZENE	<1.0	1.0
1,4-DICHLOROBENZENE	<1.0	1.0
DICHLORODIFLUOROMETHANE	<1.0	1.0
1,1-DICHLOROETHANE	<1.0	1.0
1,2-DICHLOROETHANE	<1.0	1.0
1,1-DICHLOROETHENE	<1.0	1.0
trans-1,2-DICHLOROETHENE	<1.0	1.0
1,2-DICHLOROPROPANE	<1.0	1.0
cis-1,3-DICHLOROPROPENE	<1.0	1.0
1,1,2,2-TETRACHLOROETHANE	<1.0	1.0
trans-1,3-DICHLOROPROPENE	<1.0	1.0
METHYLENE CHLORIDE	<1.0	1.0
1,1,1-TRICHLOROETHANE	<1.0	1.0
1,1,2-TRICHLOROETHANE	<1.0	1.0
TETRACHLOROETHENE	<1.0	1.0
TRICHLOROFLUOROMETHANE	<1.0	1.0
TRICHLOROETHENE	<1.0	1.0
VINYL CHLORIDE	<1.0	1.0

SAMPLE ID **POND #2 WASTEWATER** FRACTION **01A** TEST CODE **601** NAME **PURGEABLE HALOCARBONS**
Date & Time Collected **02/26/91 08:30:00** Category

Notes and Definitions for this Report:

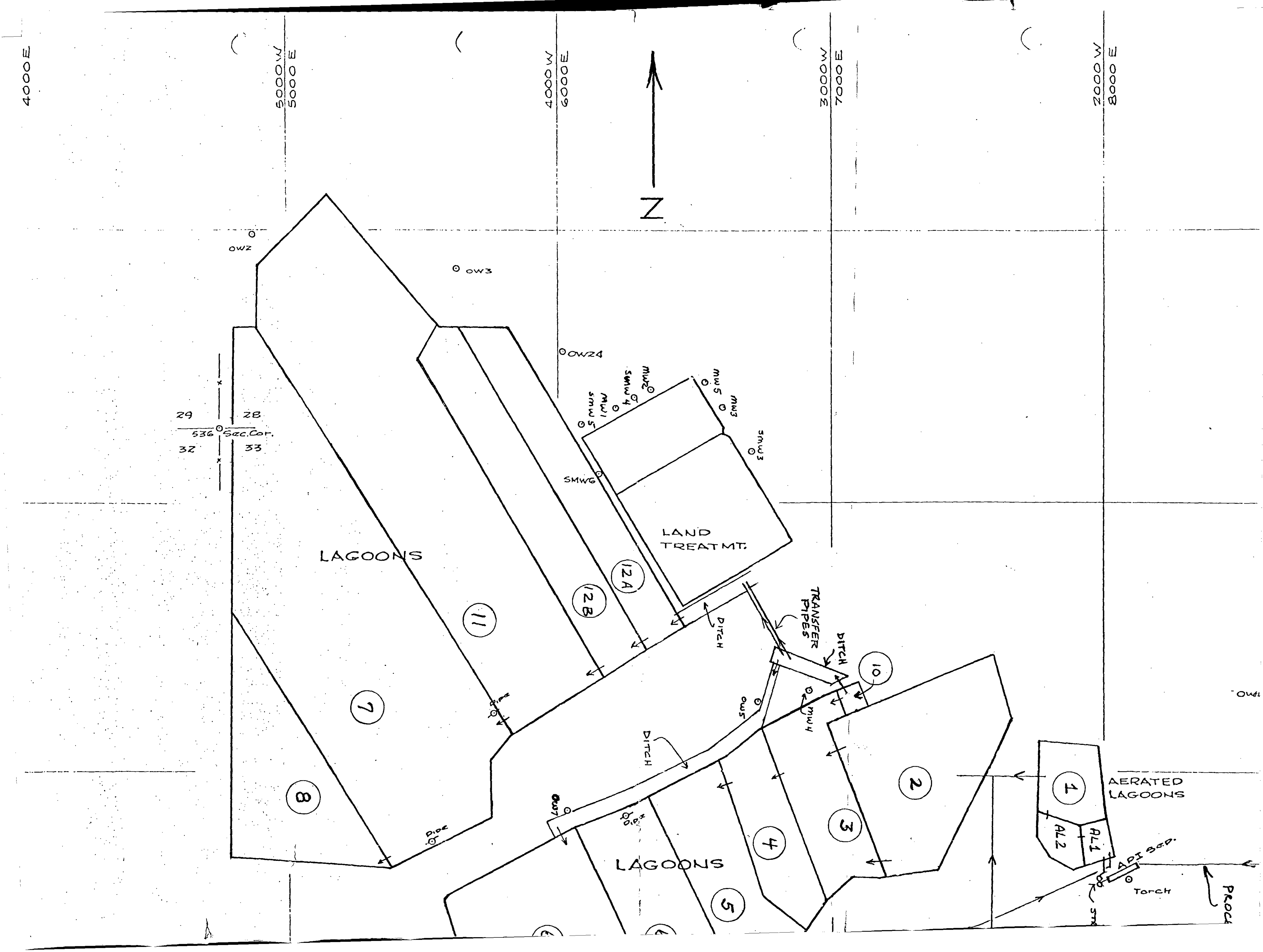
EXTRACTED 03/12/91
DATE RUN 03/13/91
ANALYST SR
UNITS UG/L

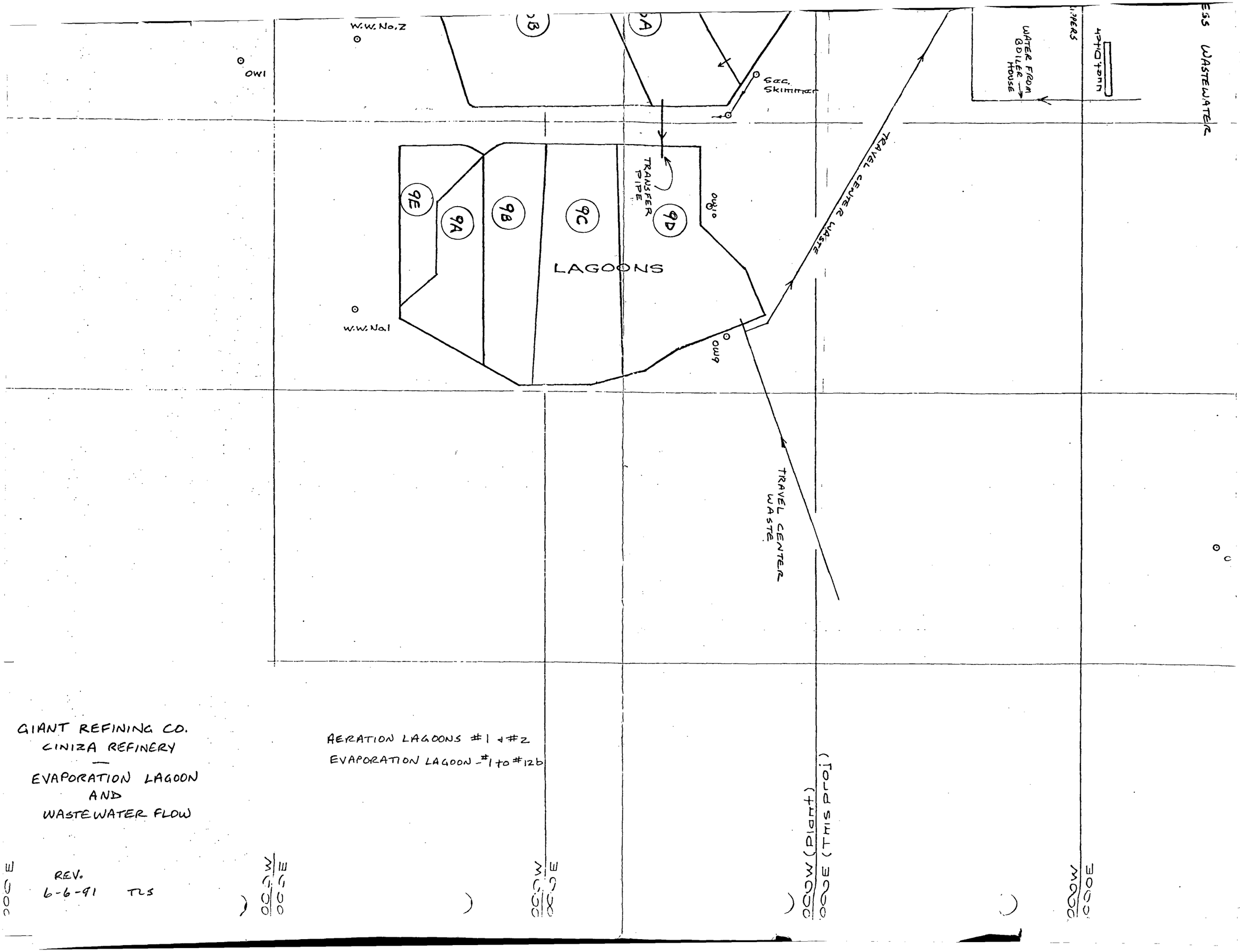
SAMPLE ID **POND #2 WASTEWATER** FRACTION **01A** TEST CODE **BTEX** NAME **BENZENE,TOLUENE,EBENZ,XYLE**
Date & Time Collected **02/26/91 08:30:00** Category

PARAMETER	RESULT	DET LIMIT	UNITS
BENZENE	1.1	1.0	UG/L
TOLUENE	2.4	1.0	UG/L
ETHYL BENZENE	1.3	1.0	UG/L
XYLENES	6.7	1.0	UG/L

Notes and Definitions for this Report:

DATE RUN 03/13/91
ANALYST SR


4000E
5000W 5000E
4000W 6000E
3000W 7000E
2000W 8000E
N
OW2
OW3
OW24
MW2
SMW4
MW1
SMW5
MW5
MW3
SMW3
SMW6
29
28
536
Sec.Cor.
32
33
LAND
TREATMT.
LAGOONS
11
12B
12A
7
8
DITCH
TRANSFER PIPES
DITCH
10
OW5
MW4
DITCH
Pipe
Pipe
2
1
AERATED
LAGOONS
AL2
AL1
API SEP.
Torch
3
4
5
LAGOONS



GIANT REFINING CO.
CINIZA REFINERY

EVAPORATION LAGOON
AND
WASTEWATER FLOW

REV.
6-6-91 TLS

AERATION LAGOONS #1 & #2
EVAPORATION LAGOON #1 to #12b

Wash bin funds to this sump

7) Oil change area
Paving away with oil tank (saddle) & installing new system.

8) Drum storage outside garage needs curb.

9) UST for fuels
Need to keep clean the surface ~~for~~ area

⇒ get oil in sumps recycled not taken to Class II well

⇒ @ this time can take waters to disposal well (II) until ~~9~~ Class I well.

⇒ Muds - need tested for TCLP (Tested in Duncan?)

TCLP $915 for state (½ 50% discount

MON. APRIL 30th

GIANT REFINERY - CIVIZA

GALLUP, NM

Lynn Shelton
Claude Rosendale

(HSWA)
Haz Waste (EPA Reg 6) is regulating the drain lines (visual inspection) evaporation ponds, sludge pits, ect.
Hazardous ~~Waste Solid Ass~~ (Subtitle D)
Solid Waste Amendments OCD jurisdiction if on field

Proposal to install RO unit or options to cut waste water volume in half (150 → 83 bbl/min)

+ Possible water system recycling water & sludges by company in Salt Lake City, Utah.

- Remediation; pumping @ present in 2 wells. Info included in reports to OCD.

- Sample wells Thurs. P.m.
17, 13, 14, 20.
- Sample water / discharge streams
- Boiler/Blowdown water will go to fiberglass tank & then reused as acid water

WED. PM 2:00 Travel Center
All wash water & septic go to ~~tanks~~ ponds.

(Built 1957, Giant since 1982)

Refinery Inspection 11:00 Am.

1) Laboratory
- Wastes thru drain & then mixed w/ process waters. Wastes not monitored prior to comingling. Suggest isolate & sample waste

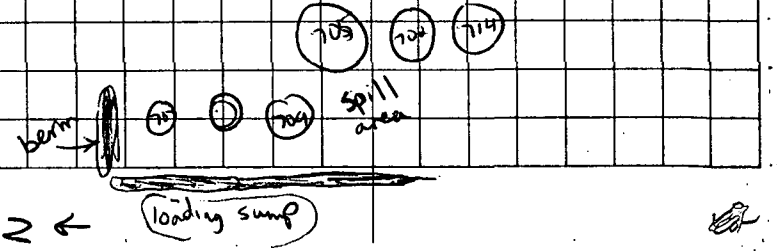
2) Drums outside of lab area are on metal frames w/ drip pans under valves. Have gravel pad - need cement pad & curb.

3 Vertical drums next to lab (toulene, xylene) building on concrete pad, no curb.

3) Sump outside of lab needs annual inspection.

4) ~~Cathodic protection well~~
~~Artesian flow, lots iron~~
~~Seep near well running to fence line~~

5) Tank Battery Area - Asphalt Tank Farm
- Outside of berm on west side, north end
- Collection Sump needs inspected,
- Area needs cleaned up.
- Loading area needs pad & collection
- Pump in tank area on NW corner also needs cleaned-up & contained on pad if possible
- Also piping in area have drips & production ground. Need to clean-up & remediate soils if necessary.
- Tank 707 draining into ground (707 & 708)
- Tank 709 - sump w/out leak detection
  705 ~~drain~~; 702 (sump overflowed/leaking)
  702 also needs cleaned-up around bottom edge & needs checked for leaks
  714 - sump overflowed



2 ←

- Standing water w/ oil @ south side of battery area

- Area between tanks by cat walk has oil from various tanks – Roger says "YUK"

- Drum in tank area needs moved (Potassium Hydroxide) to proper area

- Tank 704 – drain, leaky
- Tank 705 – valve leaking
- Leaking pipes & valves under catwalk by Tank 706 (explosion?) Needs cleaned-up
- Transfer pump leak needs cleaned-up beside tank 706 (north side)
- Pump next to tank 703 needs cleaned-up & containment

- Tank 703 outside berm not used

6) Overhead Fuel Loading Rack
- Clean, contain & stop leaks drum on wood needs pad & curb

7) Transfer pump outside berm (circulation) Needs cleaned up & contained Draining onto ground (sunset)

8) Air compressor control room (SW corner) Relief valve leaking onto ground

9) PROCESSING AREA

9) Keep all barrels/drums on pavement

10) FE-4 – need containment around Oil on electrical switches Open pipe/sump next to?

11) Southeast Fin Fan motor (lubeoil) is leaking. Need cleanup & containment

12) Sump N end of processing area needs annual inspection. Currently only every 4 years Last tested 4-90.

#3

(horizontal raised)

13) OV drum @ N end processing area needs to be on pad w/ curb

14) Drum w/ filters - not on pad, stained soils below

15) OV running off of pad by platform compressors

16) IV8 to IV9
Clean + contain drips around
IsomReactor

17) Sump for desalter fluids - have Work Order in to seal top

18) Pump - Hydrocarbon Blu - Down leaking onto gravel; drain is the problem - overflowing

19) Gas compressor in Sats Unit
- needs lip for containment
- Currently on cement pad

20) Refrig Compressor SC2
Also needs containment
OV dripping off pad.

21) Skid mounted units w/out floors

22) Horz Glycol Tank (Saddle)
@ N end processing area.
Needs salt cleaned off + pad + curb

23) Drainage ditch / pit w/ salt crust draining off property to ? (RR Lagoon)

24) Saddle tank + work pit next to it - doesn't seem to be in use anymore.
Old liner in pit

25) 2 tanks for chemical storage drains to cooling tower.
On pad w/ gutter

26) Rail loading Area

- ✓ - pipe from process area ditch comes out here
- ✓ - only used for occassional deliveries/exports + Pb supply
- main lines for loading
- ✓ rack fed from main sump like area? (valve box)
- ✓ - rail loading area ~~pipes~~ piping needs to be kept clean
- ✓ - Filters in piping area are dripping significant oil + are causing additional spillage when changed.
- ✓ Require curb + padding around them (req: Claude).
- Filters in box dripping onto dirt + into piping area
- Gasoline leak needs stopped immediately Gasoline filters
- ✓ - Saddle tank in cleaner piping area no ID# (Customer Additive Tank)
- North end of pad w/ ~~pump~~ pumps
- ✓ for loading rack (rail) - oil leaking off pad onto ground Need curbing
- Upright (fuel?) tank leaking off small pad. Needs cleaned-up + pad extended or lip to contain.
- Ditch along side of rail line goes north out ~~of~~ towards railroad, probably to small canyon + onto a river. Need to close ~~and~~ ditch + put valve in for testing
- ✓ - Process line from rail area goes north (towards railroad) to a sump + then to lagoons (2).
- ✓ Also 2nd drainage area by rail rack area drains into a separate lagoon.

Have to pump fluids off + soil sample.

Solid Waste Management Unit 1 regulating these pits. Have to close pits + sample + remediate if necessary. Will re route these fluids to these pits to the process area + API separator

Work to be done this summer

Fluids draining from lagoons running north to railroad.

- Inactive land farm north of tank battery. Under Haz Wastes levels; Giant has no plans to do further work due to investigations. No reply yet from EPA

- Drainage ditch from tank battery draining out towards other drainage area. Evidence of hydrocarbons

MAY 1, 1991 - WED

(leak fixed @ rail loading area)

TANK BATTERY - NORTH END

582 - level gauge drains to ground. Water drain valve drained to ground - Sewer box needs to be replaced, no integrity, corner out - Area needs cleaned up, overflow collecting in corner of berm messy

576 - Sump overflowing. Need method to stop overflows. Manual Pumps - need automatic

574 Manual sump pump OK. Drain pipe thru berm to drain system. ~~needs cleaned~~.

579 Old sewer drain, oil + asphalt in area needs cleaned-up. Find out if sewer is below
- Water draw pipe leaking, stained soil on east side tank
- Water drain on N side tank, by sampling area, overflowed
- Mixer motor leaking, needs cleaned up + containment

577 Water drain + sample point both overflowed. Valve for water piping leaking
- Mixing motor drained to ground

575 - Water valve, still draining water onto ground, no oil here.

Drain - small overflow

E

581 - Break in berm on south side where drained fluid from piping area into ~~bermed~~ area of tank. (Drain from pipeway above)
- Water drain valve draining onto grd.

S of 582
569 Drain has potential for overflow
Valve is leaking.

S
570 Leaking water valve, oil on ground.
Leaking sample valve.

Pipe Rack (s)
pinhole leaks (2) - water
Clean, valving looks good, not leaking

W
572 Leaking/Spilled Oil @ bottom draw. Drain looks good

N
571 leaking sample valve
Leak in drain pipe. Bottom draw drained to ground.

Unloading Valve @ SE corner 226
- need containment & clean-up

226 - Clean-up soil where removed tank bottoms
Bottom draw + drain clear
~~Drain pipe (?) filled w/ dirt~~
Vacuum sump - OK

225 Monitor Well @ OW-25
has no hydrocarbon on it
(OW-17 had heavy hydrocarbons on it. It is recovering product + water 345)
Transfer pump w/ drains draining to ground. Pipe goes to drum not other tank
Pipe has leak

339 Minor spills/splash around drain
Drain off bottom of level gauge draining to ground.
Bottom draw leaking + evidence of past drainage

07

344
✓ Transported from Bloomfield
looks good

345 OW-17 retrieving product + water

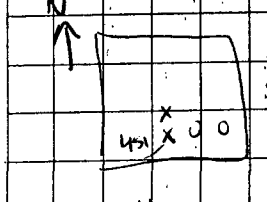
337 looks clean
✓ Drain out of bermed area
thru berm to W draining to
lagoon - Keep valve closed

West Side Tank Farm
- Inlet crew box. Have drums
✓ w/ pig sludges. No pad or curb.
Need pad for drums + containment
for pig receivers (2) Area is messy.
✓ Need to clean-up area + contain
fluids. Sump needs inspected.

✓ Heat pumps leaking water
✓ Spill tube dripping product
Needs plugged.
-

111 + 112 were cleaned out last year
Soil was contaminated 6' deep

✓ In/Loading area S of aside tank
farm needs containment



451 + 452 2 smaller tanks
✓ transfer pump needs containment
+ spill on ground cleaned-up

✓ 451 Gate Valve leaking

N 453 - Sm leak on drain pipe +
✓ Larger leak @ elbow of pipe w/
salt build-up

N 112 Significant drainage from
✓ bottom draw. Drain pipe
overflowed. Area needs cleaned-up

N 111 Same problem as 112
Both in same berm
✓ Significant spillage / deliberate
drainage

W
115 Drain pipe overflowed. Bottom draw deliberate release

S
116 Same as 115. Floating product

S
227 Same as 116

S
228 Mixer motor leaking
Small leak @ product inlet line
Drip off of bottom draw pipe

W
343 Sample valve dripping

N
342 No current drains/drips/spills

N
567 Drain pipe concrete catchment cracked (larger than usual mac)

SW
107 Oil stained soil from drain pipe intentionally drained
Drain pipe overflowed
V. dark heavily stained soils.

S
108 Out of Service

W
232 Inlet/outlet valves leaking a very heavy, self-sealing material.
Bottom drain valve

N
231 Bottom draw valve leak

W
235 Tank bottom removal hatch leaking thru either bolts or seal

S
106 Bottom draw valve ~~burn~~ outlet burned - Stained soils & gravel around valve

338 - Sampling pipe dripping on ground.

101 Crude Tank (old one, N side)
Past leaks cleaned-up
Drains in NW corner of dike.
Pipe & valve come outside berm (W) towards lagoons. Need to know if drain to main sewage system.
Need positive shut off.

New crude tank good

PRODUCT TANK AREA

1) Tank berms look low

2) Drainage ditch valved for release & drains to lagoon area.
Need to berm out by lagoon to collect & test before releasing

3) Diesel Tank No. 1 & Pumps
Numerous spills around need to be cleaned & contained

4) O.C. Diesel
Leak or drip into drip pan.
Has overflowed.
Needs containment

5) Additive Tanks don't look bad
Some small leaks & spills.

6) Additive Saddle tanks
small drip - OK

7) South-end pipe rack area
Lots of water from ~~sprinkler~~ steam hose. Some indications of small spills.
Pumps in this area leaking, but totally contained

8) Diesel & gasoline saddle tanks need to be on pad w/ curb.

9) Brine Tank doesn't have berm
Needs containment

10) ~~Used~~ Motor Oil Saddle tank (next to brine tank) dripping on ground. No pad or curb. Needs cleaned up.

11) Kerosene Saddle tank
leaking out valve.
Needs cleaned, pad & curb. Saddle tank next to here is unknown?
No pad & curb.

12) Fuel Tank(?) Saddle tank needs pad + curb. (To east of Kerosene saddle tank). Daytime Diesel Tank

13) Tank w/in cement berm has drain pipe + drain w/ spillage around it. Recent cleanout cause of spill. Needs cleaned out

14) Auxillary Compressor Routine Maintenance causing spillage; needs clean-up + containment

15) Hydrochloric Acid Tank. Break in berm. Do have floor drain Dress-up berm

MAY 2, 1991 THURS.

LOADING RACK AREA

1) Need pads + curbs for drums and saddle tanks (Phillips, Exxon, Bower Service, Amoco)

Texaco needs curb, has pad. Loading valve off of pad + leaking, needs containment.

2) Suggest additional berming of 5 side detergent + additive tanks Pump Motor @ these tanks leaking oil onto ground. Needs containment.

3) Unloading/loading valves dripping on ground, need containment.

4) Loading area has cement walled, dirt-floored area that's been leaked into for 34 years. Needs cleaned-up + cement bottom.

5) Drain for this loading area drains off into same area as Travel Center drainage. Might need area to collect & test.

PONDS & DRAIN AREAS

1) Need pad & curb for fuel tank & diesel tank @ water sprinkler system. Also, need containment for pump (pond water spray pumps). Using fire water pump to ~~pa~~ take up excess pump power needed for sprinklers. Fire water pump totally contained

2) Valve for travel center fluids to let water thru culvert under road. Lagoon side of road have lots of old oil on ground where did it come from? Needs cleaned-up

3) Water is leaving property on W side of lagoons.

4) API Separator not working efficiently - oil on agitating ponds. Hydrocarbons are in overflow area & into air stripper & 1st ~~or~~ aeration pond ~~water~~ Needs cleaned-out & fixed or modified. Below grade separator needs annual inspection. Crack in cement wall was fixed Still cracking.

5) Sump pump ~~or~~ and API waste oil pump area needs cleaned-up & if no containment needs some Slop oil tank 105 needs berm

6) Sample of Travel Center Water
- 9105021105 Giant ~~Center~~ Travel Center Weir Discharge
- 9105021120 Aeration Lagoon #2

@ 17

Travel Center Weir Discharge
9105021105
2000 µmho 21°C pH 7

Aeration Lagoon #2
9105021120
6300 µmho 15½°C pH 10

7) Aeration Lagoons -
Need to propose a method to clean up oil stained areas along perimeter

[iSAMPLES] 40-60 mi winds; blowing sand & dust may contaminate samples

OW12 GIANT CINIZA
9105021330

sp. cond = 1425 µmhos at 14.5°C
pH = 11.5

Depth to Water 106.09'

GIANT CINIZA OW-13
9105021430

DTW 23.39'
14°C, 950 µmho
pH 7.25

GIANT CINIZA OW-14
sample id = 9105021500
DTW 26.39'

sp cond = 1225 µmhos at 13°C
pH = 7

GIANT CINIZA RAILROAD LAGOON
Sample ID 9105021505

sp cond. = 975 µmho @ 17°C
pH = 6.9

GIANT CINIZA OW-20
sample ID 9105021530
sp. cond. = 5400 µmho @ 56°F (13.5)
DTW = 61.11' pH 12.

GIANT
REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

April 26, 1991

David Boyer
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

RE: Temporary Lagoon Notification

Dear Mr. Boyer:

Dikes were constructed for two temporary lagoons on April 17, 1991. Liquid was first transferred from lagoon 7 and 11a to the temporary lagoons on April 19, 1991. This notification is required by the original request that was submitted to your office on April 2, 1991.

If you have any questions, contact my office at (505) 722-0217.

Sincerely,

Claud Rosendale
Environmental Manager
Ciniza Refinery

CCR/sp

GIANT REFINING CO
CINIZA REFINERY

Hydrocarbon Storage Tanks
March 16, 1990

TANK NUMBER	LIQUID STORED	VAPOR MOL WT	TANK TYPE (1)	SEAL TYPE (2)	TRUE VAPOR PRESS	STORAGE CAPACITY (BARRELS)	THROUGH PUT (B/D)	INSIDE DIAMETER (FEET)	HEIGHT (FEET)	TEMP (deg F)	VENT HEIGHT (FEET)	DATE INSTALLED (YEAR)
1	DIESEL	130	IFRF	2a	0.0031	3,000	4,761	30	24	50	27	1965
2	PREMIUM	62	IFRF	2a	5.7	4,000	1,578	30	32	50	35	1965
3	UNL REG	62	IFRF	2a	5.7	4,000	12,687	30	32	50	35	1965
4	84 OCT	62	IFRF	2a	5.7	4,000	1,000	30	32	50	35	1970
5	ETHANOL	62	CR	NA	5.7	1,800	327	21.5	28	50	31	1963
6	MTBE	62	CR	NA	5.7	1,800	5	21.5	28	50	31	1963
101	CRUDE	50	IFRF	3a	2.3	80,000	50	110	48	50	51	1957
(3)102	CRUDE	50	EFRF	1a	2.3	80,000	50	110	48	50	51	1990
105	SLOP	62	CR	NA	5.7	250	25	11	15	50	18	1957
106	JP-4	80	CR	NA	0.02241	5,000	300	33.5	32	50	35	1957
107	SLOP	62	CR	NA	5.7	5,000	50	33.5	32	50	35	1957
(3)108	TREATED JET A	130	CR	NA	0.0060	5,000	400	33.5	32	50	35	1957
111	LCO	130	CR	NA	0.0031	5,000	800	33.5	32	50	35	1957
112	LCO	130	CR	NA	0.0031	5,000	800	33.5	32	50	35	1957
115	DISTILLATE	130	CR	NA	0.0031	5,000	1,000	33.5	32	50	35	1957
116	DISTILLATE	130	CR	NA	0.0031	5,000	1,000	33.5	32	50	35	1957
225	SOUR JET A	130	CR	NA	0.00013	25,050	900	67	40	50	43	1957
226	SOUR JET A	130	CR	NA	0.00013	25,050	900	67	40	50	43	1957
227	TREATED JET A	130	CR	NA	0.00013	5,000	400	33.5	32	50	35	1957
228	TREATED JET A	130	CR	NA	0.00013	5,000	400	33.5	32	50	35	1957
231	JP-4	80	CR	NA	0.02241	5,000	200	33.5	32	50	35	1957
232	PLAT	50	CR	NA	0.05487	5,000	580	33.5	32	50	35	1957
235	JP-4	80	CR	NA	0.02241	5,000	200	33.5	32	50	35	1957
(3)337	SWEET NAPH	80	IFRF	3a	0.02241	20,000	300	60	40	50	43	1979
338	SWEET NAPH	80	CR	NA	0.02241	25,050	300	67	40	50	43	1964
339	SOUR NAPH	80	CR	NA	0.02241	25,050	500	67	40	50	43	1957
342	PLAT	50	CR	NA	2.3	5,000	580	33.5	32	50	35	1957
343	PLAT	50	CR	NA	2.3	5,000	580	33.5	32	50	35	1957
(3)344	PLAT	50	IFRF	3a	2.3	20,000	2,350	60	40	50	43	1979
(3)345	PLAT	50	IFRF	3a	2.3	20,000	2,350	60	40	50	43	1979
451	LEAD CONC	62	CR	NA	5.7	1,000	50	21.25	16	50	19	1957
452	LEAD CONC	62	CR	NA	5.7	1,000	50	21.25	16	50	19	1957

TANK NUMBER	LIQUID STORED	VAPOR MOL WT	TANK TYPE (1)	SEAL TYPE (2)	VAPOR PRESS	STORAGE CAPACITY (BARRELS)	THROUGH PUT (B/D)	INSIDE DIAMETER (FEET)	HEIGHT (FEET)	TEMP (deg F)	VENT HEIGHT (FEET)	DATE INSTALLED (YEAR)
453	ALKY	62	CR	NA	5.7	5,000	1,578	33.5	32	50	35	1957
567	84 OCT	62	EFRF	1a	5.7	20,000	500	60	40	50	43	1969
568	MTBE	62	CR	NA	5.7	2,050	5	25	24	50	27	1957
569	84 OCT	62	EFRF	2a	5.7	24,800	500	67	40	50	43	1957
570	UNL REG	62	EFRF	1a	5.7	24,800	4,229	67	40	50	43	1957
571	UNL REG	62	EFRF	1a	5.7	24,800	4,229	67	40	50	43	1957
572	UNL REG	62	EFRF	1a	5.7	24,800	4,229	67	40	50	43	1957
573	LD KERO	62	CR	NA	5.7	250	3	10	18	50	21	1957
574	SR GASOLINE	62	EFRF	1a	5.7	39,950	1,350	85	40	50	43	1968
575	TREATED JET A	130	CR	NA	0.006	10,100	1,200	42.5	40	50	43	1957
576	LT CAT	62	EFRF	1a	5.7	39,900	4,350	85	40	50	43	1968
577	DIESEL	130	CR	NA	0.0031	10,100	1,587	42	40	50	43	1957
579	DIESEL	130	CR	NA	0.0031	20,100	3,174	60	40	50	43	1957
581	SOUR JET A	130	CR	NA	0.006	25,050	900	67	40	50	43	1957
582	PREMIUM	62	IFRF	3a	5.7	25,050	1,578	67	40	50	43	1957
701	FCC FEED	190	CR	NA	0.00003	37,000	35	88.5	34	50	37	1963
702	FCC FEED	190	CR	NA	0.00003	25,350	35	67	40	50	43	1963
703	FCC FEED	190	CR	NA	0.00003	24,350	35	67	40	50	43	1963
704	SLOP	190	CR	NA	0.00003	10,050	50	47.33	32	50	35	1963
705	FUEL OIL	190	CR	NA	0.00003	10,000	60	47.33	32	50	35	1963
706	FUEL OIL	190	CR	NA	0.00003	10,100	60	47.42	32	50	35	1963
707	SLOP	190	CR	NA	0.00003	1,000	50	26.5	18	50	21	1963
708	SLOP	190	CR	NA	0.00003	1,050	50	22.5	15	50	18	1963
709	SLOP	190	CR	NA	0.00003	1,050	50	22.5	15	50	18	1963
714	FCC FEED	190	CR	NA	0.00003	29,900	35	73.33	40	50	43	1969

(1) CR- Cone Roof No Vapor Control
IFRF-Cone Roof with Internal Floating Roof Vapor Control
EFRF-External Floating Roof Vapor Control

(2) See Footnotes Permit Application Section 4

(3) New or Revised Service

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

OIL CONSERVATION DIVISION
RECEIVED
'91 APR 4 AM 9 08

April 2, 1991

Roger Anderson
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

RE: Contingency Plan Implementation Request

Dear Mr. Anderson:

On March 11, 1991, Giant submitted a report to your office informing you of exceedence of the minimum freeboard requirements. The continuance of excess rain and snow is compounding this problem. As a result, Giant requests immediate approval to implement the first step listed in Section 8.0 of the Permit Application titled Contingency Plan (see attached) "Construct additional ponds to contain and evaporate the additional waste water". Giant suggests this be a temporary resolution controlled by the following conditions:

1. Dikes be constructed to allow the addition of shallow evaporation lagoons TA, TB and TC (see attached figure). A survey is underway to determine the location of dikes as there is a six to eight foot slope from east to west. Dikes will be placed to assure water storage of eighteen inches or less.

2. The T series lagoons be operated on a temporary basis only. Water will be transferred to these temporary lagoons from present through July 31, 1991. Any water remaining in the lagoons after August 31, 1991 will be transferred back to the original lagoons by September 15, 1991.

3. Once the surface dries, the dikes will be removed and leveled to original contours.

4. Weekly inspection will be conducted to verify dike condition, freeboards and water levels.

5. Giant will submit the following written reports to NMOCD:
   a) When the first water is transferred,
   b) When the last water is transferred and,
   c) When the dikes have been removed.

As indicated, this is a request for temporary resolutions only as Giant continues to research alternatives for water recycle and discharge volume reductions. Due to existing water volumes time is critical, therefore we appreciate your immediate consideration.

If you have any questions, contact my office at (505) 722-0217.

Sincerely,

Claud Rosendale

Claud Rosendale
Environmental Manager
Ciniza Refinery

enclosures

CCR/sp

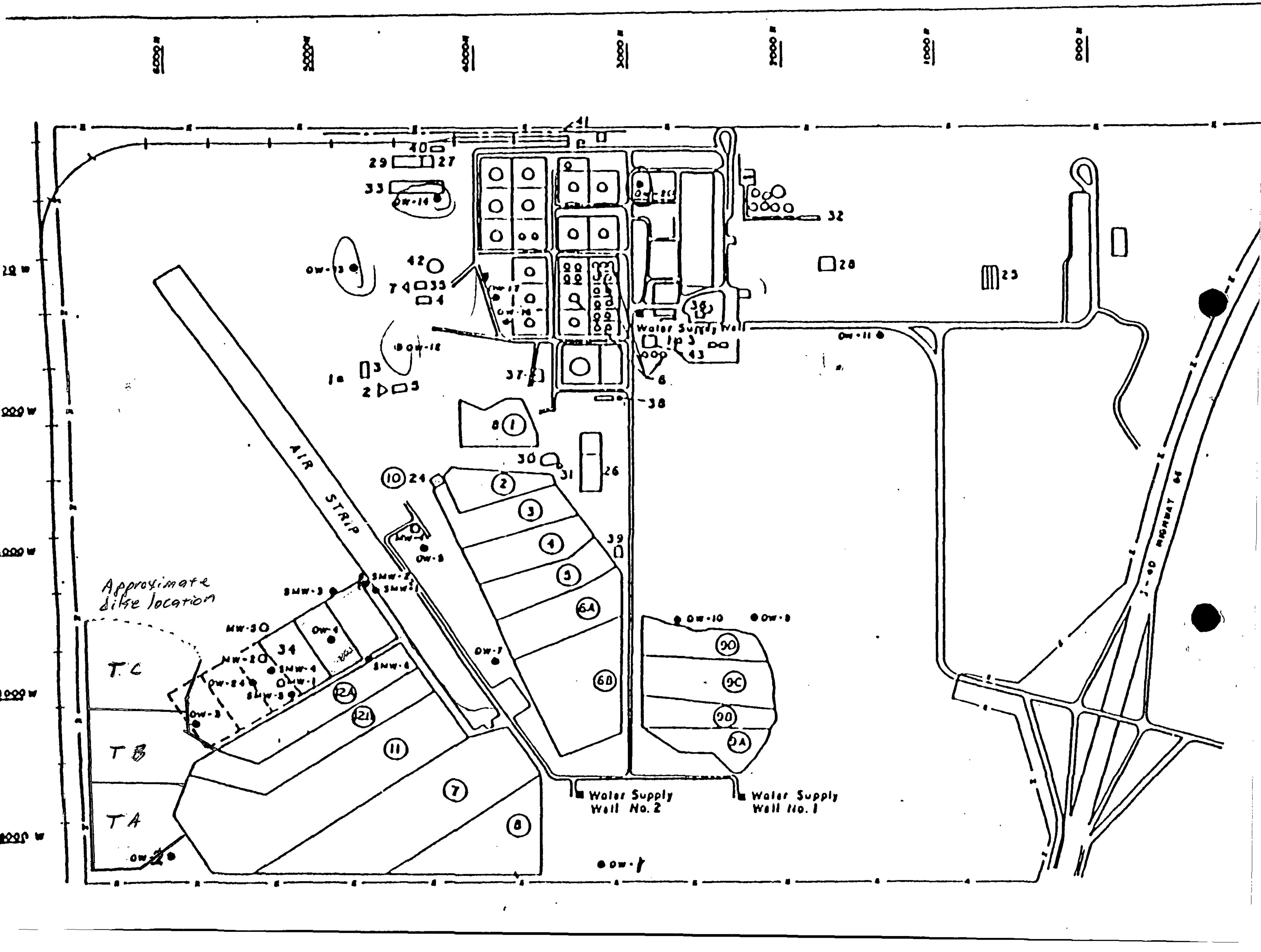
8.0 CONTINGENCY PLANS

Giant has developed a comprehensive Contingency Plan (included in the Part B Application filed with USEPA and NMEID) for dealing with any unplanned release of any substances which might pose a threat to human health or the environment. This contingency plan does not, however, address the evaporation ponds with respect to inspection, structural integrity, fluid levels or flooding potential.

Giant will inspect all active evaporation ponds on a monthly basis, or following any major storm. Erosion or other damage will be repaired in a timely manner, so that the structural integrity of the dikes is maintained. During monthly inspection, freeboard levels will be observed. If the 2-foot freeboard requirement is not met for 2 consecutive quarters, Giant will report this finding to NMOCD, and take one or more of the following steps:

- Construct additional ponds to contain and evaporate the additional wastewater
- Take steps to reduce the quantity of wastewater discharged
- Install devices (e.g., sprinklers) to enhance evaporation
- Evaluate other methods to restore the water balance

The hydrology of the site (confined ground water overlain by highly impermeable shales and clays) indicates that there is little or no chance that ground water would be affected by any spills of products, feedstocks or wastes. Spills will be handled under the Part B contingency plan, and all spills and the response to them are reported to NMEID within 15 days.


AIR STRIP
Approximate dike location
Water Supply Well No. 1
Water Supply Well No. 2
Water Supply Well No. 3
I-40 HIGHWAY 64
T C
T B
T A
OW-1
OW-2
OW-3
OW-4
OW-7
OW-8
OW-9
OW-10
OW-11
OW-13
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OW-17
OW-18
OW-24
SMW-1
SMW-2
SMW-3
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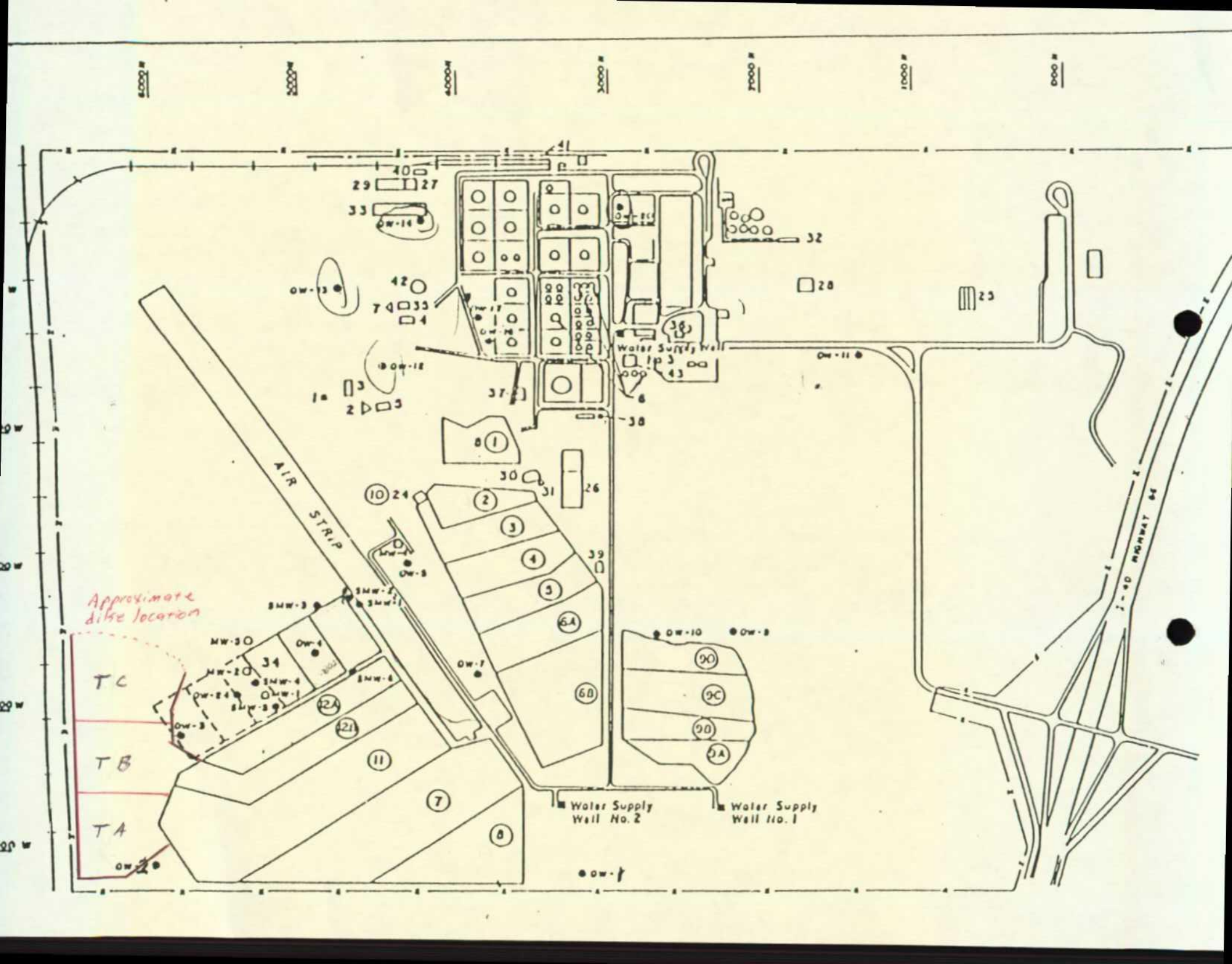

AIR STRIP
Approximate dike location
TC
TB
TA
Water Supply Well No. 2
Water Supply Well No. 1
I-40 HIGHWAY 64

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
Ecological Services
Suite D, 3530 Pan American Highway, NE
Albuquerque, New Mexico 87107

OIL CONSERVATION DIVISION
RECEIVED
'91 MAR 20 AM 8 52

March 19, 1991

Mr. William J. Lemay, Director
New Mexico Energy, Minerals and
Natural Resources Department
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Dear Mr. Lemay:

This responds to the Public Notice dated January 7, 1991, regarding the affects of granting State of New Mexico groundwater discharge permits on fish, shellfish, and wildlife resources in New Mexico.

The U.S. Fish and Wildlife Service (Service) has determined that there are no wetlands or other environmentally sensitive habitats that will be adversely affected by the following discharges.

GW-2 - Phillips 66 Natural Gas Company, Lee Plant Disposal Well, Lea County, NM.

GW-60 - Williams Field Services, Milagro Plant, San Juan County, NM.

The Service is providing the following comments with regard to GW-32 and GW-55.

(GW-32) - The Giant Refining Company has requested renewal of the existing ground water discharge permit for its Ciniza Refinery located 17 miles east of Gallup, New Mexico. The applicant proposes to renew the existing discharge plan to apply 161,000 gallons per day of process and nonprocess wastewater to 11 unlined evaporation ponds with a total capacity of 117 acres. The refinery and associated waste management facilities are located in Sections 28 and 33 of Township 15 North, Range 15 West, McKinley County, New Mexico. The receiving ponds are constructed in and of the shales of the upper Chinle Formation.

The Service is concerned about adverse impacts to Interior Trust Resources from exposure of migratory birds to selenium at the Ciniza Refinery evaporation ponds and adjacent wetlands. Data from the 1986 water quality analysis provided by the Oil Conservation Division indicated that selenium concentrations in the evaporation ponds range from 0.01 mg/l in Pond 2 to 0.52 mg/l in Pond 9A with intermediate levels in the other ponds. Water analysis indicated selenium residues in Pond 8 were less than 0.01 mg/l and a ditch adjacent to the ponds had less than 0.005 mg/l. Wetland vegetation

occurs around the evaporation ponds and in the artesian charged areas adjacent to the ponds. A significant number of migratory birds use the evaporation ponds and adjacent wetlands as a stopover during spring and fall migrations. There are also resident birds that nest and raise young in the area.

Bioconcentration of selenium in higher level organisms has been documented due to concentrations in water as low as 3.3 ug/l (ppb), (Eisler 1985). Concentrations of selenium in water at 40 ug/l have resulted in bioconcentration of selenium in aquatic invertebrates at levels greater than 50 mg/kg (ppm) (Schuler 1987). The recommended criterion for the protection of aquatic life for selenium in water is 5 ug/l (Schroeder et al. 1988). Selenium levels above this can cause an adverse impact to the exposed fauna. Lemly and Smith (1987) reported that selenium residues above 5 ug/l in water would cause reproductive failure in fish and waterfowl that either are present in the water or depend upon the water as a food source. Ohlendorf (1989) has observed that the most pronounced effect of selenium in wildlife species was found in birds that fed regularly at sites having selenium residues in water above the recommended levels. Ohlendorf also found that high incidences of bird embryonic mortality and deformities as well as adult mortality occurred at these sites. Residues of selenium reported in the 1986 water quality analysis are above levels documented to cause reproductive failure in birds.

Direct adverse impacts to migratory birds will also occur from petroleum hydrocarbon contamination if oil is present on the ponds as noted by visible oil sheens. Migratory birds that become covered by or ingest oil typically suffer mortality due to hypothermia or poisoning. If oil is present in the discharge, the refinery needs to take remedial steps to remove visible oil.

The Service recommends that the risks to wildlife be ascertained at the Ciniza Refinery evaporation ponds. Residue levels of selenium in aquatic organisms need to be evaluated and selenium residues in the ponds should be reduced to less than 5 ug/l to avoid "take" under the Migratory Bird Treaty Act (Olive and Johnson 1986). If the refinery does not develop reasonable plans to reduce risk to migratory birds, the Service objects to the issuance of this permit.

> GW-55 - Thriftway Marketing Corporation (TMC) has submitted a discharge plan application for its Bloomfield Refinery located in Sections 32 and 33, Township 29 N, Range 11 W and in Section 9, Township 28 N, Range 11 W in San Juan County, New Mexico. The discharge plan application is for the disposal of approximately 1225 gallons per day of wastewater into a synthetically double lined evaporation pond equipped with leak detection. It is the understanding of the Service that this is an after the fact permit application for this facility.

The Service is concerned with potential adverse effects of the proposed discharge plan upon the downstream habitat of the endangered Colorado squawfish (Ptychocheilus lucius) and the candidate species razorback sucker (Xyrauchen texanus) and roundtail chub (Gila robusta). The applicant should provide evidence to the Service that it can adequately address and manage spills, leaks, and other accidental oil discharges to the San Juan River.

The discharge plan also addresses remediation of contaminated groundwater at the facility. The Service requests the opportunity to review the complete plan to evaluate the impact of groundwater decontamination upon the San Juan River.

The TMC Bloomfield Refinery lies within the 100-year floodplain of Kutz Canyon. In the event that a spill, leak, or accidental discharge from this facility occurs, the Service should be notified immediately. The facility should develop a contaminant plan to ensure that discharges do not occur to the San Juan River. The evaporation pond may also act as an attractant for some of the 500,000 ducks and geese that utilize this portion of the San Juan Basin. The refinery should develop remedial cleanup plans for the evaporation pond in the event that an oil discharge occurs to the surface.

The Service is currently conducting a contaminants survey of the San Juan River Basin. Analysis of fish and bird tissue samples indicate that elevated levels of polycyclic aromatic hydrocarbons (PAH) occur in samples downstream of the Highway 44 bridge by Bloomfield, New Mexico (see attached data). PAH data from the San Juan River are at levels that are comparable to Galveston Bay, Texas, which is considered to be severely impacted by PAH contamination (Cain 1991).

The Service recommends that the TMC Bloomfield Refinery develop a discharge plan to identify and delineate the response actions that would be undertaken in the event of a spill at this site. The discharge plan should include a notification procedure to the Fish and Wildlife Service to avoid unreasonable risk to endangered or threatened species and migratory birds of the San Juan River Basin. The discharge plan should include oil cleanup procedures to the evaporation basin as well as any off site contamination.

These comments represent the views of the Service. If you have any questions concerning our comments, please contact Scott P. Hamilton-McLean, Richard Roy, or Thomas O'Brien at FTS 474-7877 or (505) 883-7877.

Sincerely,

Jennifer Fowler-Propst
Field Supervisor

Attachments

cc: (w/atch)
District Supervisor, Oil Conservation Division, Aztec, New Mexico
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Regional Administrator, Environmental Protection Agency, Dallas, Texas
Regional Director, U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, Albuquerque, New Mexico
Regional Director, U.S. Fish and Wildlife Service, Division of Law Enforcement, Albuquerque, New Mexico
Special Agents, New Mexico District, U.S. Fish and Wildlife Service, Albuquerque, New Mexico

Selected References

Cain, B., U.S. Fish and Wildlife Service, Ecological Services, Houston, Texas. Personal communication, 1991.

Eisler, R. 1985. Selenium hazards to fish, wildlife, and invertebrates: a synoptic review. U.S. Fish and Wildlife Service Biological Report 85(1.5). 57pp.

Lemly, A. D., and G.J. Smith. 1987. Aquatic cycling of selenium: implications for fish and wildlife. U.S. Fish Wildlife Service Leaflet 12. 10pp.

Ohlendorf, H. M. 1989. Bioaccumulation and effects of selenium in wildlife. Published in Selenium in Agriculture and the Environment, Soil Science Society of America Special Publication No. 23, 1989. pp. 133-177.

Olive, S.W., and R.L. Johnson. 1986. Environmental contaminants: selected legal topics. Fish and Wildlife Service Biological Report 87(1), November 1986.

Schroeder, R. A., D.V. Palawski, and J.P. Skoropa. 1988. Reconnaissance investigation of water quality, bottom sediment, and biota associated with irrigation drainage in the Tulare Lake bed area, southern San Joaquin Valley, California, 1986-87. U.S. Geological Survey, Water Resource Investigation Report 88-4001. 86pp.

Schuler, C. A. "Impacts of agricultural drainwater and contaminants on wetlands of Kesterson Reservoir, California." Master's Thesis, Wildlife and Fisheries, Oregon State University, 1987. 148pp.

PAH CONCENTRATIONS IN FISH BILE COLLECTED FROM

THE SAN JUAN RIVER BASIN, NORTHWEST, NEW MEXICO

(NG/G WET WEIGHT)

SPP	LOCATION	NAPTH.	PHEN.	B(a)P
CARP	NAVAJO RESERVOIR	52,000	8,200	130
CARP	BLOOM TO LEE AC.	180,000-260,000	42,000-49,000	600-700
CARP	LEE AC- FARM.	210,000	48,000	580
CARP	BELOW LA PLATA	190,000	43,000	650
CARP	CUDEI/MANCOS R.	71,000	18,000	290
N. PIKE*	NAVAJO RESERVOIR	8,500	2,300	<100
E. SOLE*	ALASKA	<10,000	<3,000	<100
MULLET**	GALVESTON BAY	100,000-400,000	20,000-100,000	330-1,000

* REPRESENTS BASELINE CONCENTRATIONS OF NAPTHALENE, PHENANTHRENE, AND BENZO (A) PYRENE IN FISH. ENGLISH SOLE DATA PROVIDED BY NATIONAL MARINE FISHERIES SERVICE.

** STRIPED MULLET FROM GALVESTON BAY, TEXAS. GALVESTON BAY IS CONSIDERED TO BE SEVERELY IMPACTED BY PAH CONTAMINATION.

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

March 11, 1991 '91 MAR 13 AM 9 25

David Boyer
Environmental Bureau Chief
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

RE: DISCHARGE PLAN GW-32

Dear Mr. Boyer:

This report is being submitted as required by Section 8.0, Contingency Plans, of the Discharge Plan Application for Giant Refining Company, Ciniza Refinery. The two foot freeboard requirement has not been met for the past two consecutive quarters. The December and March inspections indicate that lagoons 11, 12A and 12B have not maintained the required freeboard. The March inspection indicates that several of the lagoons have exceeded the required freeboards.

The primary reason for the additional liquids in the lagoon system is a result of 13.36 inches of rainfall which has been recorded at the refinery from July 2, 1990 to March 2, 1991. This nine month rainfall is almost twice the average annual precipitation of approximately seven inches per year. This rainfall and the associated run-off from the process areas has created capacity problems for the lagoon system.

Giant has taken the following measures to address this problem.

1) Evaluate and minimize excess water usage. One water stream of 15 gpm which was running directly to the sewer system, has been routed as make up water to the cooling tower.

2) The sprinkler system, which was proposed to operate from April through October has been placed in operation. The hours of operation may also be extended depending on the weather conditions. Consideration is also being given to additional sprinklers and improved evaporation enhancement systems.

3) Portions of the Travel Center Waste Water is being diverted to one of the facilities sewage lagoons. The volume diverted depends on the capacity of the sewage lagoon.

4) Giant is continuing to investigate the possibility of waste water treatment and recycle. We are evaluating the possibility of recycling waters (boiler and cooling tower blow downs) before it enters the waste water system and also the possibility of treating and recycling water directly from the lagoons. This is not an immediate resolution but would result in a substantial reduction of discharge volumes in the future.

Giant will continue to investigate and implement measures to enhance evaporation and reduce discharge volumes.

If you have any questions, contact my office at (505) 722-0217.

Sincerely,

Claud Rosendale

Claud Rosendale
Environmental Manager
Ciniza Refinery

cc: John Stokes: Refinery Manager-Giant Refining Company
Kim Bullerdick: General Counsel
Giant Industries Arizona, Inc.

CCR/sp

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal	Time 1430	Date 2/22/91

Originating Party	Other Parties
Claude Rosendale Giant Refining, Co.	Bill Olson - OCD

Subject

Discharge plan inspection sampling - Giant Ciniza

Discussion

Giant pumping OW-17 since mid-summer 1990
Giant drilled and sampled 2 new monitor wells (one NW, one SE of OW-17)
OW-17, 26 (new well) sampled on 10/25/90 } for 8270, 8010/8020
OW-16, 25 (new well) " " 9/6/90 } cations/anions

Told him OCD wants samples from OW-12, 13, 14, 18, 20

Conclusions or Agreements

He will send report on installation of new wells, and sample results.

Distribution

Signed Bill Olson

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

February 13, 1991

John A. Biava
Assaigai Analytical Laboratories
7300 Jefferson, Northeast
Albuquerque, New Mexico 87109

RE: Response to Analytical Proposal

Dear Mr. Biava:

Giant Refining Company appreciated your analytical proposal for Phase II of the RCRA Facility Investigation for the Ciniza Refinery. Your proposal was the most cost effective proposal received. However, this work is being required by the EPA and they are requesting the use of a laboratory with the Superfund Contract Laboratory approval. Since AAL does not have this approval, Giant in not able to accept your proposal for this project.

We have also discussed the possible use of AAL for the Part B permit required analysis. You have indicated that you are working with the Oil Conservation Division and the Environmental Improvement Division to resolve some discrepancies. Please keep me informed of your progress in these discussions.

If you have any questions, contact my office at (505) 722-0217.

Sincerely,

Claud Rosendale

Claud Rosendale
Environmental Manager
Ciniza Refinery

CCR/sp

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal	Time 1130	Date 2/13/91

Originating Party	Other Parties
Bill Olson - OCD Santa Fe	Claud Rosendale - Giant Refining Co.

Subject

Giant Cinizta Refinery O.P. Inspection & Sampling

Discussion

Told him OCD in receipt of 2/12/91 letter to EPA on coordinating Phase II RFI (for EPA) with OCD sampling for O.P. renewal. OCD cannot inspect facility on week of May 6-10, 1991. Requested that it be rescheduled for week of April 29 - May 3 1991.

He requested info on what OCD will wishes to sample

Conclusions or Agreements

He believed change in schedule OK but will check with EPA to see if this corresponds with EPA sampling schedule

I will contact him next week about wells to sample

Distribution

file

Signed

Bill Olson

DIVISION
ED
91 FEB 14 AM 8 37

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

February 12, 1991

Mr. Rich Mayer
U.S. Environmental Protection Agency
Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RE: RFI Quarterly Progress Report and Phase II Sampling Schedule
Giant Refining Company
Permit No. NMD000333211

Dear Mr. Mayer:

The draft report for the Phase I RFI sampling at the Ciniza Refinery was submitted to your office on November 27,1990. Since that time there has not been any implementation of additional phases of the RFI. However, Giant has received proposals and approved a contractor for the analytical work required on Phase II of the project. Giant has awarded the analytical contract to Analytical Technologies, Inc. (ATI) of Tempe, Arizona. ATI has laboratories in San Diego, Ca., Renton,Wa., Pensacola, Fl., Fort Collins, Co. and Tempe, Az.. They also have an extensive list of laboratory certification including EPA's CLP program (see attached).

Giant Refining Company is submitting the following sampling schedule for Phase II of the RFI for your review and approval:

SWMU #2 - Groundwater

May 6, 1991: pump MW-4, OW-1, OW-5 and OW-7.
May 7, 1991: sample MW-4, OW-1, OW-5 and OW-7, pump OW-9 and OW-10 (split samples with the New Mexico Oil Conservation Division [OCD]).
May 8, 1991: sample OW-9 and OW-10 and other wells as required by OCD.
May 9-10,1991: Reserved for OCD audit for groundwater discharge plan renewal.

OW-2

The groundwater samples will be sent to ATI and analyzed for pH, skinner list constituents and background metals.

SWMU #13 - Soil

May 13, 1991: Samples will be collected at two (2) intervals from four (4) vertical borings. The samples will be sent to ATI and analyzed for skinner list constituents and background metals.

SWMU #2 - Soil

May 14-17,1991: Samples will be collected at three (3) intervals from twelve (12) vertical borings and six (6) angle borings. The samples will be sent to ATI and analyzed for pH, skinner list constituents, and background metals.

SWMU #1 - Soil

May 20-22,1991: Samples will be collected at four (4) intervals from four (4) vertical borings and two (2) angle borings. The samples will be sent to ATI and analyzed for EPA 8240 and 8270 priority pollutants and background metals.

Sampling days and specified locations may vary depending on weather, required sampling times, etc.. However, attempts will be made to stay as close to the proposed schedule as possible. Samples must be collected by 2:30 p.m. each day to allow for Federal Express shipment.

Approval of this schedule will allow compliance with the draft report in October and the final report in December.

The attached RFI Workplan approval letter from your office indicates seven (7) groundwater samples will be collected. SWMU #2 of the workplan only list six (6) wells; MW-4, OW-1, OW-5, OW-7, OW-9 and OW-10. Please verify the sampling requirements for six (6) or seven (7) wells. If seven (7) are required, please indicate the seventh well number.

If you have any questions, contact my office at (505) 722-0217.

Sincerely,

Claud Rosendale

Claud Rosendale
Environmental Manager
Ciniza Refinery

cc w/o attachments: Elizabeth Gordon - New Mexico Environmental Improvement Division
David Boyer - New Mexico Oil Conservation Division

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Claud Rosendale/Claud Rosendale Date: 2-12-91

STATE OF NEW MEXICO
County of Bernalillo ss

Thomas J. Smithson being duly sworn declares and says that he is National Advertising manager of the **Albuquerque Journal** , and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chaper 167, Session Laws of 1937, and that payment therefore has been made or assessed as court costs; that the notice, a copy of which is hereto attached, was published in said paper in the regular daily edition,

for 1 times, the first publication being on the 21 day of Jan, 1991, and the subsequent consecutive publications on ....., 1991.

Thomas J. Smithson

Sworn and subscribed to before me, a Notary Public in and for the County of Bernalillo and State of New Mexico, this 21 day of Jan, 1991.

Notary Public

12-18-93

PRICE $ 52.25

Statement to come at end of month.

CLA-22-A (R-12/91) ACCOUNT NUMBER C 81184

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

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge plan applications and renewal applications 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-32) - Giant Refining Company, Claud Rosendale, Environmental Manger, Route 3, Box 7, Gallup, New Mexico 87301, has submitted a renewal application for its previously approved discharge plan for its Ciniza Refinery located 17 miles east of Gallup, New Mexico on Interstate Highway 40. The refinery and associated waste-management facilities are located in the S/4 of Section 28, and the N ¾ of Section 33 of Township 15 North, Range 15 West, NMPM, McKinley County, New Mexico. The refinery discharges approximately 161,000 gallons per day of process and non-process wastewater. The wastewater, with an approximate concentratioin of 2000 to 3000 mg/l total dissolved solids, is discharged to 11 unlined evaporation pounds with a total of 117 acres of capacity. These ponds are constructed in and of the shales of the upper Chinle Formation, which have a permeability of less than six inches per year. The uppermost ground water likely to be affected by refinery discharges is in thin localized sand lenses at depths of 30 to 65 feet, with a total dissolved solids concentration of approximately 1100 mg/l. The uppermost ground water at the site known to be areally extensive is the Sonsela Sandstone at depths from 20 to 140 feet, with a total dissolved solids concentration of approximately 800 mg/l. Ground water in localized sands and the Sonsela is confined under artesian conditions. The discharge plan application in addresses how spills, leaks and other accidental discharges to the surface will be managed.

(GW-55) - Thriftway Marketing Corporation, F.L. Stark, Vice President, 710 East 20thStreet, Farmington, New Mexico 87401, has submitted a discharge plan application for its Bloomfield Refinery located in the SE/4, Section 32, and SW/2 SW/4, Section 23, Township 29 North, Range 11 West, and the NE/4 NE/4, Section 9, Township 28 North, Range 11 West, NMPM, San Juan County, New Mexico. Approximately 1225 gallons per day of wastewater is disposed of in a synthetically double-lined evaporation pond equipped with leak detection. The wastewater has a totla dissolved solids concentration of 1670 mg/l. Groundwater most likely to be affected by an discharge to the surface is at a depth of from 5 to 30 feet with a totla dissolved solids concentration of approximately 4300 mg/l. The discharge plan addresses how spills, leaks and other accidental discharges to the surface will be managed and also covers remediation of contaminated grounwater.

(GW-2) - Phillips 66 Natural Gas Company, David Jelmini, Environmental Specialist, 4001 Penbrook, Odessa, Texas 79762, has submitted an application for renewal of its previously approved discharge plan for its Lee Plant located in SW/4 SE/4, Section 30, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico. Approximately 47,000 gallons per day of process wastewater with a total dissolved solids concentration of approximately 5300 mg/l is disposed of in an OCD approval offsite commercial Class II disposal well. Groundwater most likely to be affected by a spill, leak and other solids concentration of approximately 600 mg/l. The discharge plan application addresses how spill,s leaks and other accidental discharges to the surface will be managed and also covers remediation of contaminated groundwater.

(GW-60) - Williams Field Services, H. Spencer George, Manager, Processing Engineering, P.O. Box 10368, Salt Lake City, Utah, 84158-0900, has submitted a discharge plan application for its Milagro Plant located in the SW/4 SE/4, Section 12, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. Approximately 1500 gallons per day of process wastewater will be disposed of in synthetically double-lined evaporation basins equipped with leak detection. The total dissolved solids concentration of the wastewater will not be known until the plant begins operation. Groundwater most likely to be affected by a spill, leak and other accidental discharge to the surface is at a depth in excess of 60 feet with a total dissolved solids concentration of approximately 5800 mg/l. The discharge plan application addresses how spills, leaks and otheraccidental 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. 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 disapporve 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 7th day of January, 1991.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
s/William J. LeMay
Director

Journal: January 21, 1991

Enseco
A CORNING Company

DUPLICATE CONTROL SAMPLE REPORT
Metals Analysis and Preparation (cont.)

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Category: ICP-AT Matrix: AQUEOUS QC Lot: 23 MAY 90-D Concentration Units: mg/L								
Manganese	0.5	0.464	0.474	0.469	94	75-125	2.3	20
Nickel	0.5	0.426	0.432	0.429	86	75-125	1.5	20
Potassium	50	46.8	47.9	47.4	95	75-125	2.3	20
Silver	0.05	0.0496	0.0496	0.0496	99	75-125	0.0	20
Sodium	100	93.9	96.1	95.0	95	75-125	2.3	20
Vanadium	0.5	0.448	0.453	0.450	90	75-125	1.2	20
Zinc	0.5	0.457	0.467	0.462	92	75-125	2.1	20
Category: PB-FAA-AT Matrix: AQUEOUS QC Lot: 21 MAY 90-F Concentration Units: mg/L								
Lead	0.02	0.0240	0.0223	0.0232	116	75-125	7.3	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
A CORNING Company

METHOD BLANK REPORT
Metals Analysis and Preparation

Analyte	Result	Units	Reporting Limit
Test: ICP-AT			
Matrix: AQUEOUS			
QC Lot: 23 MAY 90-D QC Run: 23 MAY 90-D			
Aluminum	ND	mg/L	0.10
Antimony	ND	mg/L	0.050
Barium	ND	mg/L	0.010
Beryllium	ND	mg/L	0.0020
Cadmium	ND	mg/L	0.0050
Chromium	ND	mg/L	0.010
Cobalt	ND	mg/L	0.010
Copper	ND	mg/L	0.010
Manganese	ND	mg/L	0.010
Molybdenum	ND	mg/L	0.020
Nickel	ND	mg/L	0.040
Silver	ND	mg/L	0.010
Vanadium	ND	mg/L	0.010
Zinc	ND	mg/L	0.010
Test: PB-FAA-AT			
Matrix: AQUEOUS			
QC Lot: 21 MAY 90-F QC Run: 21 MAY 90-F			
Lead	ND	mg/L	0.0050

Enseco
A CORNING Company

QC LOT ASSIGNMENT REPORT
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
009591-0001-SA	AQUEOUS	NH3-A	29 MAY 90-A	-
009591-0001-SA	AQUEOUS	ALK-A	18 MAY 90-A	-
009591-0001-SA	AQUEOUS	CL-IC-A	03 JUN 90-M	-
009591-0001-SA	AQUEOUS	SO4-IC-A	03 JUN 90-M	-
009591-0001-SA	AQUEOUS	NO3-A	22 MAY 90-A	-
009591-0001-SA	AQUEOUS	F-A	31 MAY 90-A	-
009591-0001-SA	AQUEOUS	TDS-A	21 MAY 90-A	21 MAY 90-A
009591-0001-SA	AQUEOUS	COND-A	24 MAY 90-S	-
009591-0001-SA	AQUEOUS	PH-A	18 MAY 90-A	-
009591-0001-SA	AQUEOUS	TKN-A	28 MAY 90-A	28 MAY 90-A

Enseco
A CORNING Company

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Limits	Precision (RPD) DCS	Precision Limit
Category: NH3-A Matrix: AQUEOUS QC Lot: 29 MAY 90-A Concentration Units: mg/L								
Ammonia as N	9.1	8.39	8.65	8.52	94	93-107	3.1	10
Category: ALK-A Matrix: AQUEOUS QC Lot: 18 MAY 90-A Concentration Units: mg/L								
Alkalinity, Total as CaCO3 at pH 4.5	210	218	210	214	102	90-110	3.7	10
Category: CL-IC-A Matrix: AQUEOUS QC Lot: 03 JUN 90-M Concentration Units: mg/L								
Chloride	100	98.4	98.0	98.2	98	92-108	0.4	20
Category: SO4-IC-A Matrix: AQUEOUS QC Lot: 03 JUN 90-M Concentration Units: mg/L								
Sulfate	200	194	194	194	97	93-107	0.0	20
Category: NO3-A Matrix: AQUEOUS QC Lot: 22 MAY 90-A Concentration Units: mg/L								
Nitrate as N	3.8	3.66	3.68	3.67	97	91-109	0.5	10

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
Wet Chemistry Analysis and Preparation (cont.)

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Category: F-A Matrix: AQUEOUS QC Lot: 31 MAY 90-A Concentration Units: mg/L								
Fluoride	5.27	5.02	5.27	5.14	98	88-112	4.9	15
Category: TDS-A Matrix: AQUEOUS QC Lot: 21 MAY 90-A Concentration Units: mg/L								
Total Dissolved Solids	935	883	873	878	94	90-110	1.1	10
Category: COND-A Matrix: AQUEOUS QC Lot: 24 MAY 90-S Concentration Units: umhos/cm								
Specific Conductance at 25 deg.C	1160	1130	1120	1120	97	95-105	0.9	20
Category: PH-A Matrix: AQUEOUS QC Lot: 18 MAY 90-A Concentration Units: units								
pH	9.1	9.05	9.06	9.06	100	98-102	0.1	5
Category: TKN-A Matrix: AQUEOUS QC Lot: 28 MAY 90-A Concentration Units: mg/L								
Total Kjeldahl Nitrogen as N	5.2	5.24	5.39	5.32	102	78-122	2.8	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

Enseco
A CORNING Company

METHOD BLANK REPORT
Wet Chemistry Analysis and Preparation

Analyte	Result	Units	Reporting Limit
Test: TDS-BAL-A Matrix: AQUEOUS QC Lot: 21 MAY 90-A QC Run: 21 MAY 90-A			
Total Dissolved Solids	ND	mg/L	10.0
Test: TKN-TEC-A Matrix: AQUEOUS QC Lot: 28 MAY 90-A QC Run: 28 MAY 90-A			
Total Kjeldahl Nitrogen as N	ND	mg/L	0.50

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

CHAIN OF CUSTODY

No.

Attn: Julie Essey

Enseco Client Giant Refining Co.

Project Pond 2

Sampling Co. Ciniza Refinery

Sampling Site Ciniza Refinery

Team Leader Claud Rosendale RMAL 9591

RMA# 9591

SAMPLE SAFE™ CONDITIONS

1. Packed by: _____ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: (Yes) No
3. Condition of Contents: Good
4. Sealed for Shipping by: C Rosendale
5. Initial Contents Temp.: — °C Seal # —
6. Sampling Status: (Done) Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
1 5-17-90	12:15pm	Pond #2 -1	Water	2 - #1	See Attached	
				1 - #2		
				1 - #4		Filtered
				1 - #4		
				6 - #11		
				1 - #11		Trip Blank

CUSTODY TRANSFERS PRIOR TO SHIPPING

	Relinquished by: (signed)	Received by: (signed)	Date	Time
1	Claud Rosendale		5-17-90	2:30pm
2				
3				

SHIPPING DETAILS

Delivered to Shipper by: Claud Rosendale

Method of Shipment: Federal Express Airbill # _____

Received for Lab: RMAL Signed: _____ Date/Time 5/18/90 0800

Enseco Project No. _____

White and Pink Copies to Lab Yellow to Sampler

SS-001

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

May 31, 1990

RECEIVED
JUN 15 1990
OIL CONSERVATION DIV.
SANTA FE

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

John Stokes, Manager
Giant Refinery
Route 3, Box 7
Gallup, New Mexico 87301

RE: RFI Workplan - Giant Refinery - NMD000333211

Dear Mr. Stokes:

We have completed a review of your response (revised Giant RFI Workplan) dated May 17, 1990, regarding deficiencies in your RFI Workplan. We have determined the Workplan to be approvable with the enclosed revisions. Therefore, the approved RFI Workplan consists of the above referenced document and the enclosed revisions.

The submittal as reviewed is considered to be an initial Phase I of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Workplan. The Phase I RFI report as detailed in the Workplan shall be due November 30, 1990.

You shall immediately initiate the implementation of this RFI Workplan, as approved, according to the schedule contained in the Workplan. Submission of grossly deficient RFI Reports will be considered a permit violation and may subject the Permittee to enforcement action under Section 3008 of RCRA. The submission of five copies, as specified under Task V.C., is not necessary. Submission of three (3) paper copies and one computer disk copy will suffice.

If you have any questions, your staff may contact Rich Mayer at (214) 655-6775.

Sincerely yours,

Allyn M. Davis

Allyn M. Davis
Director
Hazardous Waste Management Division

Enclosure

cc: Elizabeth Gordon
New Mexico Environmental
Improvement Division

FACT SHEET
RFI WORKPLAN APPROVAL WITH CONDITIONS
GIANT REFINERY - GALLUP, NEW MEXICO

Giant Refinery has been in operation since the 1950's, with ownership changing several times.

The RFI addressees 36 SWMU's consisting of Landfills, surface impoundments, landfarms, tankfarms, and fire training areas.

The following work is proposed for all SWMU's:

1. Soil borings (angled and vertical, over 100 total)

2. Seven groundwater samples around SWMU's (with evaporation ponds)

The conditions being added to the work plan are:

1. Additional soil borings around SWMU's (which includes more angle soil borings);

2. Required signed certifications for all reports submitted; and

3. Clarification of due dates for RFI Reports

REVISIONS TO THE GIANT RFI WORKPLAN

Below are the revisions which EPA made to the Giant NOD Workplan submitted, May 17, 1990. The following revisions were made to the Introduction (Section 1.0), the site-specific part of the RFI Workplan (Section 4.0), and to the Site Specific Investigation Schedule (Section 5.0).

Page 1; Introduction (Section 1.0): The following shall be required for all RFI Reports, Workplans, Quarterly progress reports and all other reports required by the (permit condition C.4., page 11):

"Giant shall certify all information submitted as required by 40 CFR 270.11 (d)".

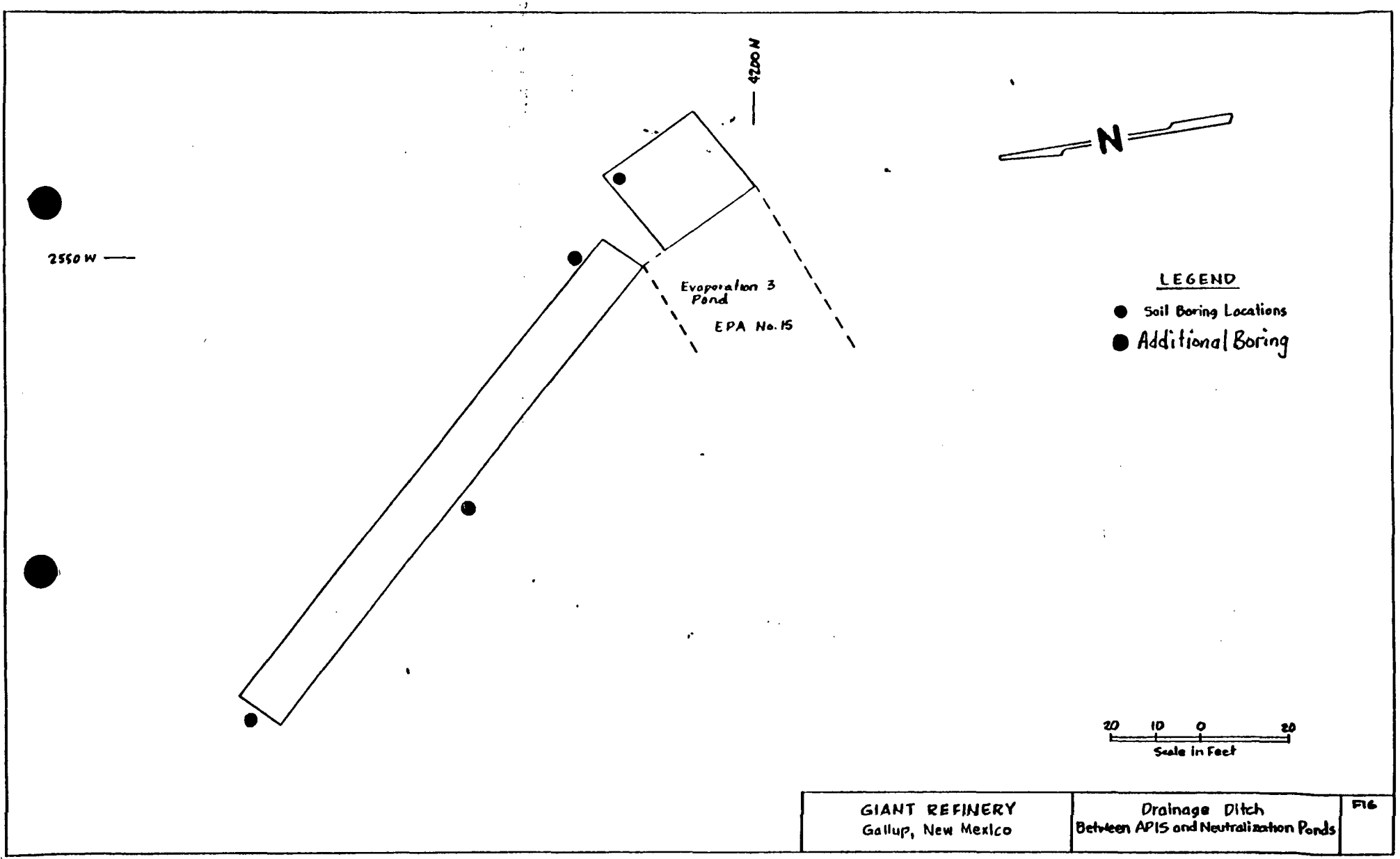
Page 13c; SWMU No. 13, C. Contamination Characterization: An additional soil boring was added for the Drainage Ditch:

Giant shall take 4 vertical soil borings (instead of 3). The locations of these borings are shown on Figure 1.

Page 12; Site Specific Investigation Schedule: The following was added to clarify the RFI Schedules:

The Phase I Draft RFI Report shall be due November 30, 1990. The Phase II RFI Draft Report shall be due October 31, 1991. The Phase III Draft RFI Report shall be due October 31, 1992.

FIGURE 1


4200 N
2550 W
Evaporation 3 Pond
EPA No. 15
N
LEGEND
Soil Boring Locations
Additional Boring
20 10 0 20
Scale in Feet
GIANT REFINERY
Gallup, New Mexico
Drainage Ditch
Between APIS and Neutralization Ponds
FIG

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

May 17, 1990

CERTIFIED MAIL
RETURN RECEIPT NO. P-918-402-248

Mr. John J. Stokes, Refinery Manager
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

RE: Discharge Plan GW-32
Ciniza Refinery
McKinley, County, New Mexico

Dear Mr. Stokes:

On August 1, 1986, the ground water discharge plan, GW-32 for the Giant Refining Company Ciniza Refinery located in Section 28 and 33, Township 15 North, Range 15 West, NMPM, McKinley County, New Mexico, was approved by the Director of the Oil Conservation Division (OCD). This discharge plan was required and submitted pursuant to Water Quality Control Commission (WQCC) regulations and was approved for a period of five years. The approval will expire on August 1, 1991.

If your facility continues to have effluent or leachate discharges and you wish to continue discharging, please submit your application for renewal of plan approval as quickly as possible. The OCD is reviewing discharge plan submittals and renewals carefully and the review time can often extend for several months. Please indicate whether you have made, or intend to make, any changes in your discharge system, and if so, include an application for plan amendment with your application for renewal. To assist you in preparation of your renewal application, I have enclosed a copy of the OCD's guidelines for preparation of ground water discharge plans at natural gas processing plants. These guidelines are presently being revised to include berming of tanks, curbing and paving of process areas susceptible to leaks or spills and the disposition of any solid wastes. Please include these items in your renewal application.

If you no longer have such discharges and discharge plan renewal is not needed, please notify this office.

Please note that all gas plants, refineries and compressor stations in excess of 25 years of age will be required to submit plans for, or the results of, an underground drainline testing program as a requirement for discharge plan renewal.

If you have any questions, please do not hesitate to contact Roger Anderson at (505) 827-5884.

Sincerely,

David G. Boyer, Hydrogeologist
Environmental Bureau Chief

DGB/sl

Enclosure

cc: OCD Aztec Office

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

May 2, 1990

Mr. Claud Rosendale
Environmental Manager
CINIZA REFINERY
Route 3, Box 7
Gallup, New Mexico 87301

Dear Mr. Rosendale:

As requested in your April 25th letter, enclosed are Giant's letters of February 3, 1986, and June 26, 1986. The February 3rd letter included eight attachments. I have enclosed the cover pages for these submittals; we have just one copy of each and many are plates and figures. If not available at the refinery, I suggest you contact Geoscience for copies. The June 26th letter also had a figure attached; I an enclosing a copy of the title to aid in your identification.

If you need further information on this, please let me know.

Sincerely,

David G. Boyer, Hydrogeologist
Environmental Bureau Chief

DGB/sl

Enclosures

...IVISION
...EIVED
'90 APR 27 AM 9 06

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

April 25, 1990

David Boyer
Director
New Mexico Oil Conservation Division
P.O. Box 2088
State Land Office Building
Santa Fe, NM 87504

RE: Discharge Permit GW-32

Dear Mr. Boyer:

After reviewing facility records, it has been found that two of the memos referenced in the original Permit approval are missing from Giant's files. Would you please copy and submit to my office copies of the memos dated February 3, 1986 and June 26, 1986. These memos are referenced in the original approval dated August 1, 1986.

Thank you for your cooperation.

Sincerely,

Claud Rosendale

Claud Rosendale
Environmental Manager
Ciniza Refinery

CCR:smb

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time 3 PM	Date 4/25/90

Originating Party	Other Parties
Claud Rosendale Giant Cinizo 722-3833 x217	David Boyer

Subject: Cinizo Refinery D.P.

Discussion: Called to discuss (1) Renewal schedule including testing of lines (I said testing of product & process chemical lines buried was definite, but dependent on age of refinery as to start - have H/C in gw so leak somewhere (or old spill). Since have unlined ponds can discuss testing of sewering. (2) Aeration system permitting and use, and (3) Solid wastes - domestic (no problem - just tell us) and H/C non-hazardous wastes (Prefer land farming for volatilization prior to burial)

Conclusions or Agreements: Wants meeting in S.F. 10th or 11th to discuss above issues - Please call to schedule

Distribution: Giant file

Signed: D J Boyer

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

April 24, 1990

CERTIFIED MAIL
RETURN RECEIPT NO. P-108-402-136

Mr. Claud Rosendale
Environmental Manager
CINIZA REFINERY
Route 3, Box 7
Gallup, New Mexico 87301

RE: Discovery of Hydrocarbons in Observation Well-17

Dear Mr. Rosendale:

The New Mexico Oil Conservation Division (OCD) has received your letter of April 4, 1990, reporting the finding of floating petroleum hydrocarbons in OW-17 located near the tank farm. The presence of hydrocarbons was discovered by refinery personnel on September 26, 1989, but NMOCD has no record of it being previously reported.

Water Quality Control Commission (WQCC) Regulation 1-203.A. requires you to give us oral notification as soon as possible after learning of a discharge and in no event more than twenty-four hours later. The regulation also specifies the information which must be provided, and a copy is attached. In addition, you are required to follow up the oral notification with written confirmation. OCD Rule 116 also requires reporting of spills.

On p.13 of Giant's discharge plan supplement submitted of February 3, 1986, Giant agrees to report all spills to the NMOCD. However, the reporting time schedule is not specified, nor is the WQCC requirement to take corrective action shown. This will be corrected during renewal of the discharge plan next year. In the meantime, you are directed to continue to comply with the mitigation requirement shown in Section 1-203.A.5. of the regulations (attached), and, in the event of future spills, also notify NMOCD providing the information required in 1-203.A.1.

NMOCD's sampling of GW-17 in the spring of 1986 detected dissolved aromatic hydrocarbons, but no floating product. The presence of product at this time indicates movement in an northerly direction from the product storage areas. We note your commitment to keep us informed on the status of the assessment of the situation and corrective action taken.

Also, in accordance with your request, we are providing, under separate cover, complete copies of all sampling NMOCD has conducted at the refinery.

Sincerely,

David G. Boyer, Hydrogeologist
Environmental Bureau Chief

DGB/sl

Enclosures

cc: NMOCD Aztec District Office

DIVISION

90 APR 11 AM 8 34

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

April 4, 1990

David Boyer
Director
New Mexico Oil Conservation Division
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87504

RE: DISCOVERY OF HYDROCARBONS IN OBSERVATION WELL-17

Dear Mr. Boyer:

On September 26, 1989, ground water measurements were collected by Giant Refinery personnel at the Ciniza Refinery near Gallup, New Mexico. Well OW-17 was found to have a hydrocarbon layer. As indicated by Attachment 1, this well is located near the tank farm. Interim product recovery is in progress and is being conducted by the use of hand bailing the free product into a 55 gallon drum located next to the well. The free product/water mixture is transferred to the API separator for hydrocarbon recovery. The recharge rate for this well is very slow. This interim recovery method will continue until a pump has been installed. Receipt and installation of the pump is expected to be complete by April 13, 1990.

On September 27, 1989, ground water samples were collected from wells across the site. Well OW-16 which is located approximately 150 feet southwest of Well OW-17 was sampled and analyzed using EPA Methods 601, 602, 625 (Appendix IX Semivolatiles) dissolved metals, and general inorganics. Attachment 2 list the specific parameters being analyzed. A copy of laboratory data is included in this report as Attachment 3. The only organic parameter detected was 1, 2-Dichloroethane at 7.7 ug/1 (ppb). It is expected that Well OW-16 will be sampled quarterly, starting April 1990, and analyzed for the parameters listed above.

Wells OW-16 and OW-17 are approximately fifty (50) feet deep with a static water level of approximately thirty five (35) feet below the ground surface. Drilling logs for these wells are included as Attachment 4 of this report.

Refinery personnel are currently analyzing the hydrocarbons in an attempt to locate the source of contamination. After a detailed assessment of the situation has been completed, Giant will initiate a more specific procedure in order to delineate the hydrocarbons in the subsurface. Giant will keep your office informed of the assessment and any corrective action taken.

If you have any questions, please contact me at (505)722-3833 ext. 217.

Sincerely,

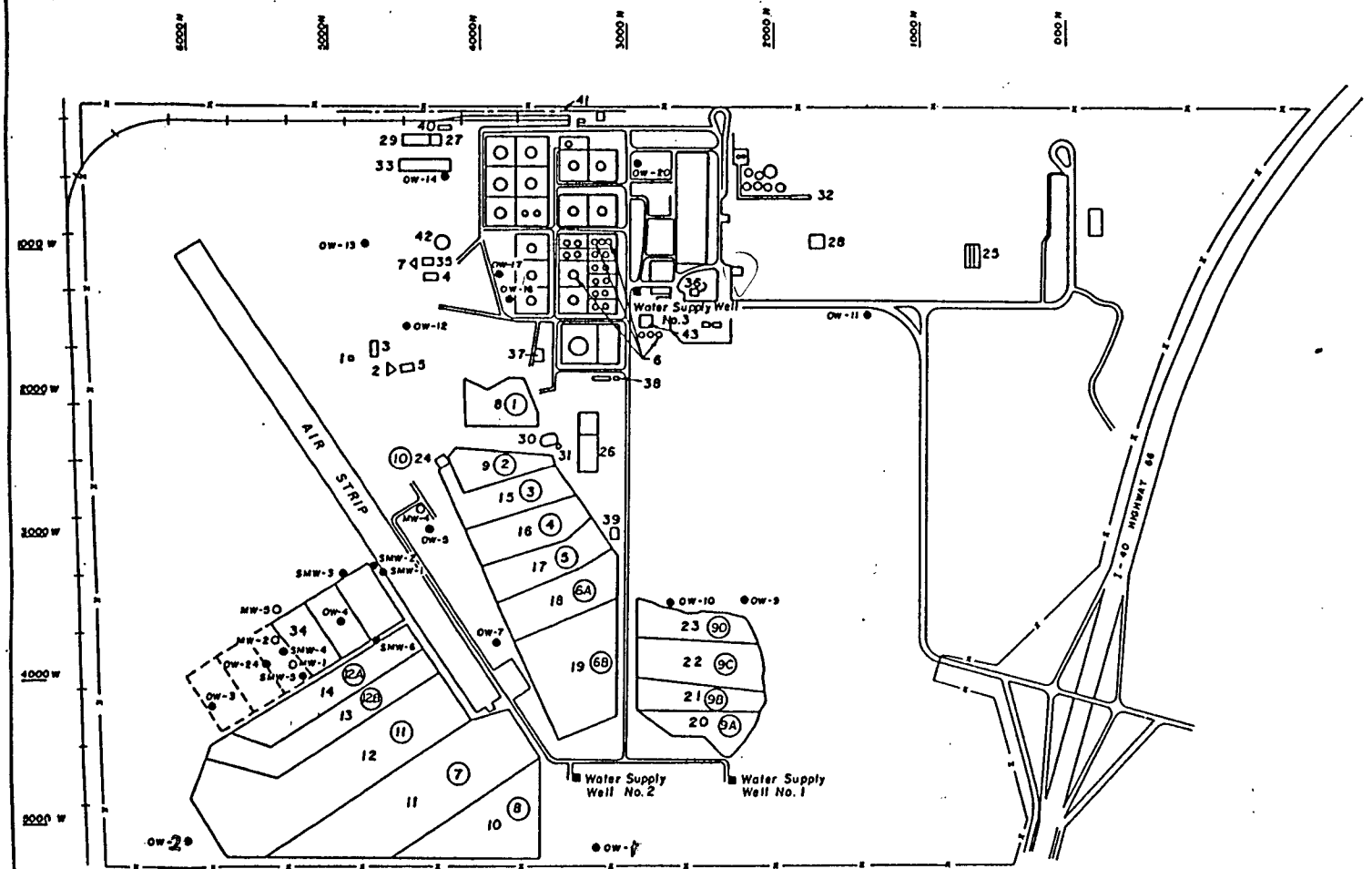
Claud Rosendale

Claud Rosendale
Environmental Manager
Ciniza Refinery

CR/ctf

cc - with enclosures
Richard Mitzelfelt, Director/NM Environmental Improvement Div.
John Stokes, Refinery Manager/Giant Industries
Kim Bullerdick, Corporate Counsel/Giant Industries

ATTACHMENT 1



LEGEND

- (1) - (12) Evaporation Ponds as identified in Giant Ciniza Refinery Documents.
- ● OW-5 Observation Wells installed by Dames & Moore
- ■ Water Supply Well #1 Water Supply Wells
- ○ MW-2 Monitoring Wells completed in the uppermost Aquifer, installed by Dames & Moore
- ● SMW-5 Monitoring Wells completed in the Shallow Zone by Geoscience Consultants, LTD.

1. Landfill
2. Landfill
3. Landfill
4. Landfill
5. Landfill
6. Tank Farm
7. Burn Pit
8. Aeration Basin
9. Evaporation Pond
10. Evaporation Pond
11. Evaporation Pond
12. Evaporation Pond
13. Evaporation Pond
14. Evaporation Pond
15. Evaporation Pond
16. Evaporation Pond
17. Evaporation Pond
18. Evaporation Pond
19. Evaporation Pond
20. Evaporation Pond
21. Evaporation Pond
22. Evaporation Pond
23. Evaporation Pond
24. Drainage Ditch
25. Sewage Lagoon
26. Sewage Lagoon
27. Sewage Lagoon
28. Sewage Lagoon
29. Railroad Rack Lagoon
30. Sludge Pit
31. Sludge Pit
32. Asphalt Pit
33. Inactive Land Treatment
34. Active Land Treatment
35. Inactive Container Storage
36. Active Container Storage
37. API Separator
38. Neutralization Tank
39. Secondary Oil Skimmer
40. Underground Storage Tanks
41. Drainage From Process Area
42. Fire Training Area
43. Empty Container Storage

N

0 500 1000

Scale in Feet

Applied Earth Sciences	NAME: GIANT REFINERY, Gallup, New Mexico	WELL LOCATION MAP	FIGURE 1
FILE No. 5202	MADE BY: R.G. DATE: 9-22-89		
	CHECKED BY: DATE:		

ATTACHMENT 2

ATTACHMENT 2

	METHOD #	COST
A. General Inorganics		
1. Alkalinity-Carbonate	310.1	15
2. Alkalinity-Bicarbonate	310.1	-
3. Chloride	300.0	15
4. pH	150.1	10
5. Phenolics	420.1	40
6. Sulfate	300.0	20
7. Specific Conductance	120.1	10
8. Total Dissolved Solids	160.1	25
B. Dissolved Metals		
1. Arsenic	206.2	25
2. Barium	200.7	12
3. Cadmium	200.7	12
4. Calcium	200.7	12
5. Chromium	200.7	12
6. Lead	239.2	25
7. Manganese	200.7	12
8. Selenium	270.2	25
9. Silver	200.7	12
10. Sodium	200.7	12
C. Halogenated Volatile Organics (See Attachment)	601	120
D. Aromatic Volatile Organics	602	110
E. Appendix IX Semivolatile Organics (See Attachment)	625	625
		$1,149

ATTACHMENT 3

Halogenated Volatile Organics

Method 601

Client Name: Giant Refining
Client ID: OW-16
Lab ID: 006769-0008-SA
Enseco ID: 1054296
Matrix: AQUEOUS
Sampled: 27 SEP 89
Received: 28 SEP 89
Authorized: 28 SEP 89
Prepared: NA
Analyzed: 04 OCT 89

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/L	5.0
Bromomethane	ND	ug/L	5.0
Vinyl chloride	ND	ug/L	1.0
Chloroethane	ND	ug/L	5.0
Methylene chloride	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethene (cis/trans)	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
1,1,2-Trichloro-2,2, 1-trifluoroethane	ND	ug/L	1.0
1,2-Dichloroethane	7.7	ug/L	1.0
1,1,1-Trichloroethane	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
Trichloroethene	ND	ug/L	0.50
Chlorodibromomethane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	2.0
1,1,2-Trichloroethane	ND	ug/L	1.0
EDB (1,2-Dibromoethane)	ND	ug/L	2.0
Bromoform	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	2.0

ND = Not detected
NA = Not applicable

Reported By: William Sullivan
Approved By: Stephanie Boehnke

Aromatic Volatile Organics

Method 602

Client Name: Giant Refining
Client ID: OW-16
Lab ID: 006769-0008-SA
Enseco ID: 1054296
Matrix: AQUEOUS
Sampled: 27 SEP 89
Received: 28 SEP 89
Authorized: 28 SEP 89
Prepared: NA
Analyzed: 04 OCT 89

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Ethyl benzene	ND	ug/L	0.50
Total xylenes	ND	ug/L	1.0
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50

ND = Not detected
NA = Not applicable

Reported By: William Sullivan
Approved By: Stephanie Boehnke

Appendix IX Semivolatile Organics

Method 625

Client Name: Giant Refining
Client ID: OW-16
Lab ID: 006769-0008-SA Enseco ID: 1054296
Matrix: AQUEOUS Sampled: 27 SEP 89 Received: 28 SEP 89
Authorized: 28 SEP 89 Prepared: 02 OCT 89 Analyzed: 09 OCT 89

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/L	10
Acenaphthylene	ND	ug/L	10
Acetophenone	ND	ug/L	10
2-Acetylaminofluorene	ND	ug/L	10
4-Aminobiphenyl	ND	ug/L	10
Aniline	ND	ug/L	10
Anthracene	ND	ug/L	10
Aramite	ND	ug/L	10
Benzo(a)anthracene	ND	ug/L	10
Benzo(b)fluoranthene	ND	ug/L	10
Benzo(k)fluoranthene	ND	ug/L	10
Benzo(g,h,i)perylene	ND	ug/L	10
Benzo(a)pyrene	ND	ug/L	10
bis(2-Chloroethoxy) methane	ND	ug/L	10
Benzyl alcohol	ND	ug/L	20
bis(2-Chloroethyl)ether	ND	ug/L	10
bis(2-Chloroisopropyl) ether	ND	ug/L	10
bis(2-Ethylhexyl) phthalate	ND	ug/L	10
4-Bromophenyl phenyl ether	ND	ug/L	10
Butyl benzyl phthalate	ND	ug/L	10
2sec-Butyl-4,6-dinitro-phenol (Dinoseb)	ND	ug/L	10
4-Chloroaniline	ND	ug/L	20
4-Chloro-3-methylphenol	ND	ug/L	20
2-Chloronaphthalene	ND	ug/L	10
2-Chlorophenol	ND	ug/L	10
4-Chlorophenyl phenyl ether	ND	ug/L	10
o-Cresol	ND	ug/L	10
m & p-Cresol(s)	ND	ug/L	10
Chrysene	ND	ug/L	10
Dibenz(a,h)anthracene	ND	ug/L	10
Dibenzofuran	ND	ug/L	10
Di-n-butyl phthalate	ND	ug/L	10
1,2-Dichlorobenzene	ND	ug/L	10
1,3-Dichlorobenzene	ND	ug/L	10
1,4-Dichlorobenzene	ND	ug/L	10

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Michael Gallik Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 625

Client Name: Giant Refining
Client ID: OW-16
Lab ID: 006769-0008-SA Enseco ID: 1054296
Matrix: AQUEOUS Sampled: 27 SEP 89 Received: 28 SEP 89
Authorized: 28 SEP 89 Prepared: 02 OCT 89 Analyzed: 09 OCT 89

Parameter	Result	Units	Reporting Limit
3,3'-Dichlorobenzidine	ND	ug/L	20
2,4-Dichlorophenol	ND	ug/L	10
2,6-Dichlorophenol	ND	ug/L	10
Diethyl phthalate	ND	ug/L	10
p-Dimethylaminoazobenzene	ND	ug/L	10
7,12-Dimethylbenz-anthracene	ND	ug/L	10
3,3'-Dimethylbenzidine	ND	ug/L	10
a,a-Dimethylphen-ethylamine	ND	ug/L	10
2,4-Dimethylphenol	ND	ug/L	10
Dimethyl phthalate	ND	ug/L	10
1,3-Dinitrobenzene	ND	ug/L	10
4,6-Dinitro-o-cresol	ND	ug/L	50
2,4-Dinitrophenol	ND	ug/L	50
2,4-Dinitrotoluene	ND	ug/L	10
2,6-Dinitrotoluene	ND	ug/L	10
Di-n-octyl phthalate	ND	ug/L	10
Diphenylamine	ND	ug/L	10
Ethyl methacrylate	ND	ug/L	10
Ethyl methanesulfonate	ND	ug/L	10
Fluoranthene	ND	ug/L	10
Fluorene	ND	ug/L	10
Hexachlorobenzene	ND	ug/L	10
Hexachlorobutadiene	ND	ug/L	10
Hexachlorocyclopentadiene	ND	ug/L	10
Hexachloroethane	ND	ug/L	10
Hexachlorophene	ND	ug/L	--
Hexachloropropene	ND	ug/L	20
Indeno(1,2,3-c,d)pyrene	ND	ug/L	10
Isophorone	ND	ug/L	10
Isosafrole	ND	ug/L	20
Methapyrilene	ND	ug/L	10
3-Methylcholanthrene	ND	ug/L	20
Methyl methacrylate	ND	ug/L	10
Methyl methanesulfonate	ND	ug/L	10
2-Methylnaphthalene	ND	ug/L	10
Naphthalene	ND	ug/L	10
1,4-Naphthoquinone	ND	ug/L	10
1-Naphthylamine	ND	ug/L	10
2-Naphthylamine	ND	ug/L	10

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Michael Gallik Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 625

Client Name: Giant Refining
Client ID: OW-16
Lab ID: 006769-0008-SA Enseco ID: 1054296
Matrix: AQUEOUS Sampled: 27 SEP 89 Received: 28 SEP 89
Authorized: 28 SEP 89 Prepared: 02 OCT 89 Analyzed: 09 OCT 89

Parameter	Result	Units	Reporting Limit
2-Nitroaniline	ND	ug/L	50
3-Nitroaniline	ND	ug/L	50
4-Nitroaniline	ND	ug/L	50
Nitrobenzene	ND	ug/L	10
2-Nitrophenol	ND	ug/L	10
4-Nitrophenol	ND	ug/L	50
4-Nitroquinoline-1-oxide	ND	ug/L	--
N-Nitrosodi-n-butylamine	ND	ug/L	10
N-Nitrosodiethylamine	ND	ug/L	10
N-Nitrosodimethylamine	ND	ug/L	10
N-Nitrosodiphenylamine	ND	ug/L	10
N-Nitroso-di-n-propylamine	ND	ug/L	10
N-Nitrosomethylethylamine	ND	ug/L	10
N-Nitrosomorpholine	ND	ug/L	10
N-Nitrosopiperidine	ND	ug/L	10
N-Nitrosopyrrolidine	ND	ug/L	10
5-Nitro-o-toluidine	ND	ug/L	10
Pentachlorobenzene	ND	ug/L	10
Pentachloroethane	ND	ug/L	10
Pentachloronitrobenzene	ND	ug/L	50
Pentachlorophenol	ND	ug/L	50
Phenacetin	ND	ug/L	10
Phenanthrene	ND	ug/L	10
Phenol	ND	ug/L	10
p-Phenylenediamine	ND	ug/L	--
2-Picoline	ND	ug/L	10
Pronamide	ND	ug/L	20
Pyrene	ND	ug/L	10
Pyridine	ND	ug/L	10
Safrole	ND	ug/L	10
1,2,4,5-Tetrachloro-benzene	ND	ug/L	10
2,3,4,6-Tetrachlorophenol	ND	ug/L	20
o-Toluidine	ND	ug/L	10
1,2,4-Trichlorobenzene	ND	ug/L	10
2,4,5-Trichlorophenol	ND	ug/L	50
o,o,o-Triethylphosphoro-thioate	ND	ug/L	50
2,4,6-Trichlorophenol	ND	ug/L	10
Ethyl parathion	ND	ug/L	50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Michael Gallik Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 625

Client Name: Giant Refining
Client ID: OW-16
Lab ID: 006769-0008-SA Enseco ID: 1054296
Matrix: AQUEOUS Sampled: 27 SEP 89 Received: 28 SEP 89
Authorized: 28 SEP 89 Prepared: 02 OCT 89 Analyzed: 09 OCT 89

Parameter	Result	Units	Reporting Limit
Phorate (Thimet)	ND	ug/L	100
Sulfotepp	ND	ug/L	50
Thionazin	ND	ug/L	50
sym-Trinitrobenzene	ND	ug/L	10
Dimethoate	ND	ug/L	--
Disulfoton	ND	ug/L	50
Famphur	ND	ug/L	100
Methyl parathion	ND	ug/L	50
Nitrobenzene-d5	57.1	%	--
2-Fluorobiphenyl	46.6	%	--
Terphenyl-d14	41.3	%	--
Phenol-d5	58.0	%	--
2-Fluorophenol	52.5	%	--
2,4,6-Tribromophenol	57.5	%	--

ND = Not detected
NA = Not applicable

Reported By: Michael Gallik Approved By: Jeff Lowry

Metals

Dissolved Metals

Client Name: Giant Refining
Client ID: OW-16
Lab ID: 006769-0008-SA Enseco ID: 1054296
Matrix: AQUEOUS Sampled: 27 SEP 89 Received: 28 SEP 89
Authorized: 28 SEP 89 Prepared: See Below Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Arsenic	ND	mg/L	0.005	206.2	NA	24 OCT 89
Barium	0.06	mg/L	0.01	200.7	NA	01 NOV 89
Cadmium	ND	mg/L	0.005	200.7	NA	01 NOV 89
Calcium	7.5	mg/L	0.2	200.7	NA	01 NOV 89
Chromium	ND	mg/L	0.01	200.7	NA	01 NOV 89
Lead	ND	mg/L	0.01	239.2	NA	24 OCT 89
Manganese	0.02	mg/L	0.01	200.7	NA	01 NOV 89
Selenium	0.024	mg/L	0.005	270.2	NA	24 OCT 89
Silver	ND	mg/L	0.01	200.7	NA	01 NOV 89
Sodium	260	mg/L	5	200.7	NA	01 NOV 89

ND = Not detected
NA = Not applicable

Reported By: Bryan Anderson Approved By: Tammy Bailey

General Inorganics

Client Name: Giant Refining
Client ID: OW-16
Lab ID: 006769-0008-SA
Enseco ID: 1054296
Matrix: AQUEOUS
Sampled: 27 SEP 89
Received: 28 SEP 89
Authorized: 28 SEP 89
Prepared: See Below
Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyze Date
Alkalinity, Total as CaCO3 at pH 4.5	285	mg/L	5	310.1	NA	29 SEP
Alkalinity, Bicarb. as CaCO3 at pH 4.5	272	mg/L	5	310.1	NA	29 SEP
Alkalinity, Carb. as CaCO3 at pH 8.3	13	mg/L	5	310.1	NA	29 SEP
Alkalinity, Hydrox. as CaCO3	ND	mg/L	5	310.1	NA	29 SEP
Chloride	168	mg/L	3	300.0	NA	29 SEP
pH	8.5	units	--	150.1	NA	29 SEP
pH	8.5	units	--	150.1	NA	29 SEP
pH	8.5	units	--	150.1	NA	29 SEP
pH	8.5	units	--	150.1	NA	29 SEP
Phenolics	ND	mg/L	0.01	420.1	NA	19 OCT
Sulfate	34	mg/L	5	300.0	NA	29 SEP
Specific Conductance at 25 deg.C	1070	umhos/c	1	120.1	NA	29 SEP
Specific Conductance at 25 deg.C	1070	umhos/c	1	120.1	NA	29 SEP
Specific Conductance at 25 deg.C	1070	umhos/c	1	120.1	NA	29 SEP
Specific Conductance at 25 deg.C	1070	umhos/c	1	120.1	NA	29 SEP
Total Dissolved Solids	760	mg/L	10	160.1	NA	03 OCT

ND = Not detected
NA = Not applicable

Reported By: Blake Besser

Approved By: Kimberly Conroy

ATTACHMENT 4

BORING OW-16

SURFACE ELEVATION: 6942 FEET

DEPTH IN FEET	TESTS REPORTED ELSEWHERE	ATTERBERG LIMITS: LIQUID LIMIT (%)	ATTERBERG LIMITS: PLASTICITY INDEX (%)	STRENGTH TEST DATA: TYPE OF TEST	STRENGTH TEST DATA: NORMAL OR CONFINING PRESSURE (PSF)	STRENGTH TEST DATA: SHEAR STRENGTH (PSF)	STRENGTH TEST DATA: DEVIATOR STRESS (PSF)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)
0									
10									
20									
30									
40									
50									
60									
70									
80									
90									
100									
110									
120									
130									
140									
150									
160									

LABORATORY TEST DATA

PENETRATION RATE MINUTES/FOOT

	SYMBOLS	DESCRIPTION
2.5	SM	TRIASSIC PERIOD
2.5		CHINLE FORMATION
5.0		REDDISH BROWN SILTY FINE SAND WITH SOME GRAVEL, SOFT, HIGHLY WEATHERED
6.7	SS	12 FEET: SANDSTONE, RED, FINE-GRAINED, HARD, FRESH
5.0	SHALE	15 FEET: SHALE, RED, SANDY, HARD, FRESH
5.0		
5.0		
5.0		
5.0		
5.0		
10.0	SS	47 FEET: SANDSTONE, GRAY, FINE-TO MEDIUM-GRAINED; CALCAREOUS, HARD, FRESH
4.3	SHALE	50 FEET: SHALE, GRAY, SILTY, WITH SOME FINE SAND, HARD, FRESH

BORING COMPLETED AT 54.6 FEET ON 12/2/80.
4-INCH PVC PIEZOMETER INSTALLED WITH PERFORATIONS FROM 44.6 TO 54.6 FEET.
GRAVEL PLACED FROM 36.0 TO 54.6 FEET AND BORING SEALED WITH BENTONITE AND CEMENT TO SURFACE.
GROUND WATER LEVEL MEASURED AT 26.8 FEET BELOW GROUND ON 1/5/81.

LOG OF BORINGS

DAMES & MOORE

BORING OW-17

SURFACE ELEVATION: 6941 FEET

DEPTH IN FEET	TESTS REPORTED ELSEWHERE	ATTERBERG LIMITS: LIQUID LIMIT (%)	ATTERBERG LIMITS: PLASTICITY INDEX (%)	STRENGTH TEST DATA: TYPE OF TEST	STRENGTH TEST DATA: NORMAL OR CONFINING PRESSURE (PSF)	STRENGTH TEST DATA: SHEAR STRENGTH (PSF)	STRENGTH TEST DATA: DEVIATION STRESS (PSF)	MOISTURE CONTENT (%)	DRY DENSITY (PCF)
0									
10									
20									
30									
40									
50									
60									
70									
80									
90									
100									
110									
120									
130									
140									
150									
160									

LABORATORY TEST DATA

PENETRATION RATE MINUTES/FOOT

SYMBOLS	PENETRATION RATE	DESCRIPTION
SM	3.0, 3.2	TRIASSIC PERIOD CHINLE FORMATION REDDISH BROWN SILTY FINE SAND WITH SOME GRAVEL-SIZED FRAGMENTS OF LIMESTONE AND SANDSTONE, SOFT, HIGHLY WEATHERED
SS	6.0	11 FEET: SANDSTONE, REDDISH BROWN, FINE-GRAINED, NONCALCAREOUS, HARD, FRESH
SHALE	2.9, 5.6, 2.8, 3.8, 3.2, 3.3	13 FEET: SHALE, REDDISH BROWN, SANDY, SOFT, FRESH GRADES HARD FROM 27.5 TO 30.0 FEET GRADES GRAY FROM 31 FEET GRADES WITH THIN LIMESTONE AND SANDSTONE INTERBEDS FROM 39 FEET
SS	4.3	40 FEET: SANDSTONE, GRAY, FINE-GRAINED, SILTY, CALCAREOUS, HARD, FRESH
SHALE	5.0, 4.3, 4.0	42 FEET: SHALE, GRAY, SILTY, SANDY, WITH SOME GRAVEL-SIZED FRAGMENTS OF CHERT AND LIMESTONE AND OCCASIONAL THIN INTERBEDS OF LIMESTONE, HARD, FRESH

BORING COMPLETED AT 50.0 FEET ON 1/3/81.
4-INCH PVC PIEZOMETER INSTALLED WITH PERFORATIONS FROM 38.0 TO 50.0 FEET.
GRAVEL PLACED FROM 24.0 TO 50.0 FEET AND BORING SEALED WITH BENTONITE AND CEMENT TO SURFACE.
GROUND WATER LEVEL MEASURED AT 31.8 FEET BELOW GROUND ON 1/5/81.

LOG OF BORINGS

DAMES & MOORE

DIVISION
RECEIVED
'90 MAR 14 AM 8 24

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

March 12, 1990

Mr. David Boyer
Environmental Bureau Chief
New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504

RE: Annual Sampling Event for Groundwater Discharge Plan (GW-32)

Dear Mr. Boyer:

Giant Industries, Inc./Ciniza Refinery is notifying OCD, as required by the February 28, 1990 memo, of plans to conduct annual groundwater sampling requirements. The sampling event will include both the OCD and EID annual sampling requirements and will begin at 8:00 a.m. on ~~February~~ March 27, 1990.

If you have any questions, contact me at (505) 722-3833, ext. 217.

Sincerely,

Claud Rosendale

Claud Rosendale
Environmental Manager

CCR:smb

Typo according to Claud Rosendale in conversation with Bill Olson on 3/20/90

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

February 28, 1990

Mr. Claud Rosendale
Environmental Manager
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

RE: Request For Modification To Groundwater Discharge Plan (GW-32)

Dear Mr. Rosendale:

The New Mexico Oil Conservation Division (OCD) has reviewed Giant Industries Inc. February 20, 1990 request to modify the August 1, 1986 Groundwater Discharge Plan (GW-32), Ciniza Refinery - Monitoring and Reporting Schedule. OCD approves of Giant Industries Inc. request to conduct monitor well sampling events in the spring and fall at the time of RCRA samplings.

No modified schedule was included for submitting reports containing the monitor well sampling analytical results. Therefore, OCD expects to receive analytical reports within 30 days of analysis receipt verification as required in the August 1, 1989 Groundwater Discharge Plan (GW-32), Ciniza Refinery - Monitoring and Reporting Schedule. In addition, OCD requests that Giant Industries give OCD at least 2 weeks notice prior to monitor well sampling events so that OCD may be given the opportunity to split samples.

If you have any questions, please contact Bill Olson, of my staff, at 827-5885.

Sincerely,

David G. Boyer, Hydrogeologist
Environmental Bureau Chief

DGB/WCO/sl

cc: F. Chavez, Aztec District Office

OIL CONSERVATION DIVISION
RECEIVED
'90 FEB 26 AM 10 01

GIANT REFINING CO.

Route 3, Box 7
Gallup, New Mexico
87301

505
722-3833

February 20, 1990

Mr. David Boyer
Environmental Bureau Chief
New Mexico Oil Conversation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

RE: REQUEST FOR MODIFICATION TO GROUNDWATER DISCHARGE PLAN (GW-32)

Dear Mr. Boyer:

The attachment to the August 1, 1986 Groundwater Discharge Plan (GW-32), Ciniza Refinery-Monitoring and Reporting Schedule, specifies both the MW-series and SMW-series monitor wells are sampled January and July, as per RCRA, for the indicator parameters. The remaining sampling events are required annually at time of RCRA sampling.
The RCRA Part B Hazardous Waste Facility Permit does not designate specific months for sampling events. Attachment G.2.B.i states "The sampling event shall occur in the same months each year whenever possible (e.g. March and September)." Ciniza Refinery prefers to sample all required monitor wells in the spring and fall rather than winter and summer for the following reasons:

1. adverse weather conditions are more likely to affect the sampling events in the winter and summer months,
2. spring and fall sampling would allow a reduction in total sampling events resulting in a reduction of duplicate sampling and analytical requirements which is an economic concern for Giant Refinery and,
3. improved uniformity in the reporting requirements for New Mexico Oil Conversation Division and New Mexico Environmental Improvement Division.

Giant Industries Inc.-Ciniza Refinery requests approval to conduct all monitor well sampling events either annually or semi-annually at time of RCRA sampling.

Thank you for your consideration of this request.

Sincerely,

Claud Rosendale

Claud Rosendale
Environmental Manager

CR/ctf

cc - with enclosures
John J. Stokes, Refinery Manager
Kim H. Bullerdick, Corporate Counsel

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

August 1, 1986

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Carl Shook, Vice President
Refining Operations
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

RE: GROUNDWATER DISCHARGE PLAN FOR CINIZA REFINERY (GW-32)

Dear Mr. Shook:

The groundwater discharge plan (GW-32) for Giant Ciniza Refinery located in Sections 28 and 33 of Township 15 North, Range 15 West, (NMPM) McKinley County, New Mexico, is hereby approved. The approved discharge plan consists of the plan dated November 25, 1985, and the materials dated February 3, 1986; April 30, 1986; June 26, 1986; and July 30, 1986, submitted as supplements to the discharge plan.

The discharge plan was submitted pursuant to Section 3-106 of the N.M. Water Quality Control Commission Regulations. It is approved pursuant to Section 3-109. Please note subsections 3-109.E. and 3-109.F., which provide for possible future amendment of the plan. Please be advised that the approval of this Plan does not relieve you of liability should your operation result in actual pollution of surface or groundwaters which may be actionable under other laws and/or regulations.

The monitoring and reporting shall be specified in the discharge plan and supplements thereto. These requirements are summarized on the attached sheet. Any inadvertent omissions from this summary of a discharge plan monitoring or reporting requirement shall not relieve you of responsibility for compliance with that requirement.

Please note that Section 3-104 of the regulations requires that "When a plan has been approved, discharges must be consistent with the terms and conditions of the plan." Pursuant to Section 3-107.C. you are required to notify the director of any facility expansion, production increase, or process modification that would result in any significant modification in the discharge of water contaminants.

Please be aware that in this discharge plan you have made commitments which are legally enforceable under the New Mexico Water Quality Act. These include constructing all aspects of your installation as designed, and

completely fulfilling all monitoring commitments on schedule. You are susceptible to fines should you not fulfill these obligations.

Pursuant to subsection 3-109.G.4., this plan approval is for a period of five (5) years. This approval will expire August 1, 1991, and you should submit an application for new approval in ample time before that date.

On behalf of the staff of the Oil Conservation Division, I wish to thank you, your staff, and consultants for cooperation during this discharge plan review.

Sincerely,

R. L. STAMETS
Director

RLS:DGB:dp

Attachment

cc: Carlos Guerra, Giant Industries
Alberto Gutierrez, Geoscience Consultants
W. Perry Pearce, Montgomery and Andrews
Peter Pache, NMEID

CINIZA REFINERY

Monitoring and Reporting Schedule

The schedule below summarizes the routine monitoring and reporting agreed to be performed by Giant as part of the discharge plan for the Ciniza Refinery (GW-32). While this summary is meant to be inclusive, if any differences occur between the schedule presented here and presented in the discharge plan, the discharge plan (including subsequent correspondence) is the controlling document.

Monitoring	Sampling Parameters	Reporting Frequency	Discharge Plan Reference
API separator effluent quarterly at the two Weir locations for four consecutive quarters, thence bi-annually coincidentally with high-flow periods. Neutralization stream measured on same schedule.	Flow rate of discharge	Quarterly reports during first year on same schedule as RCRA results to NMEID; annual thereafter with submittal to OCD within 30 days of receipt and verification.	Giant's response to OCD comments, p. 11, dated 2/3/8 p. 2, Giant's letter date 4/30/86; p. 4, Giant's le dated 6/26/86
Aerated lagoon input for four quarters, thence annually.	BOD	Same as above	p. 2, Giant's letter date 4/30/86; and p. 4, Giant' letter dated 6/26/86
Evaporation ponds inspected monthly for freeboard, fluid levels, and seepage. Inspection also after 10-year precipitation event (1.8"/24 hrs.) as measured at refinery.	None	None. Refinery records kept on monthly inspections, and on precipitation events exceeding 1.8" per 24 hrs.	p. 3, Giant's letter date 4/30/86; and p. 4, Giant's letter dated 6/26/86
MW-Series monitor wells sampled January and July, as per RCRA. SMW-Series sampled for four consecutive quarters, thence January and July, as per RCRA.	All approved RCRA (including contuctivity , TOC, TOX, and pH)	Copies of RCRA MW and SMW results sent to OCD on same as to NMEID.	Giant's response to OCD comments, p. 11, dated 2/3/86; p. 3, Giant's letter dated 4/3/86
MW-Series monitor wells July, 1986 and January 1987, thence annually at time of RCRA sampling.	sodium, potassium, calcium, magnesium, chloride, sulfate, carbonate-bicarbonate, TDS, pH, and conductance	Submit 1986 results with January 1987 results by March 1, 1987. Thereafter annual results submitted within 30 days of analysis receipt verification.	Giant's response to OCD comments, p. 11, dated 2/3/86; p. 3, Giant's letter dated 4/3/86; p. 4, Giant's letter dated 6/26/86
SMW-Series monitor wells April and July, 1986, January, 1987, thence annually at time of RCRA sampling	sodium, potassium, calcium, magnesium, chloride, sulfate, carbonate-bicarbonate, TDS, pH, conductance, and volatile aromatic hydrocarbons (BTX)	Same as immediately above	Same as immediately above
Monitor Wells OW1, OW2 and OW3, sampled annually	Same as immediately above	Submitted within 30 days of analysis receipt and verification	p. 3, Giant's letter dated 4/3/86; p. 4 Giant's letter dated 6/26/86

J. The Permittee shall replace any monitoring well which is removed from service with an adjacent monitoring well installed in accordance with the requirements of this permit. The Permittee shall notify the director at least 10 days prior to removing the well from service.

2. Detection Monitoring System Design, Construction, and Certification Requirements.

A. The Permittee shall construct and maintain a detection monitoring system in accordance with HWMR-8, Part V, Section 264.98 which yields ground water samples which represent the quality of upgradient ground water that has not been affected by hazardous waste management unit operations and also samples which represent the quality of downgradient groundwater passing the point of compliance.

i. The point of compliance for the detection monitoring system is defined by a vertical surface which intersects the point of compliance monitoring wells and extends down through the Sonsela aquifer.

ii. A predetection monitoring system shall be established in the sand lenses underlying the permitted unit. Shallow monitoring wells (SMW) 3, 4, 5 and 6 shall be sampled and analyzed twice yearly for the parameters in table G-2. If the predetection analytical results indicate a significant increase in inorganic or organic constituents (organic carbon or organic halogens), the predetection wells will be resampled and analyzed by gas chromatigraphic method for the isolation and identification of any organic specie from Table G-4. Detection of any constituent from Table G-4 shall cause sampling of the detection monitoring wells and analysis by gas chromatigraphic method for identification of any volatile or semivolatile organic constituent(s). The results shall be verbally reported to the Director for information purposes within 7 calendar days of the receipt of each analysis report.

iii The detection monitoring system for the LTA shall consist of wells numbered MW-1, MW-2, MW-4, MW-5, and the background well established in accordance with Permit Attachment H.

B.i. The Permittee shall semi-annually monitor the detection

monitoring system for the designated parameters in Table G-2. The sampling event shall occur in the same months each year whenever possible (e.g. March and September).

ii. The Permittee shall annually monitor the detection monitoring system for the designated parameters in Table G-3.

C. The Permittee shall annually determine the background ground water quality values in the Sonsela aquifer for each of the detection monitoring parameters listed above within 45 calendar days after receipt of analytical results. The Permittee must express background values in a form necessary for the determination of statistically significant increases. The background values established become part of this permit upon modification in accordance with HWMR-5, Part IX, Section 270.42.

D. When evaluating the monitoring results, the Permittee shall use the following procedures.

i. When a detection monitoring parameter's background value has a sample coefficient of variation less than 1.00, Permittee shall follow the statistical procedures described in HWMR-5, Part V, Section 264.97(h).

ii. The Permittee must submit an application for a permit modification within 90 days of determining that a detection monitoring parameter's background value has a sample coefficient of variation greater than or equal to 1.00.

E. Using ground water elevations from all the facility detection wells screened only in the Sonsela aquifer, the Permittee shall annually determine the ground water flow rate and direction in the aquifer. The documentation shall include a calculation of ground water flow rate and a contour map of piezometric water levels in the aquifer, based, at a minimum, upon concurrent water level measurements in upgradient and point of compliance wells. If the monitored flow zone has a vertical component of flow, a cross section which depicts a flow net, the vertical flow lines, the location of each well, the stratigraphy of the subsurface, and the groundwater elevations shall be prepared annually.

F. The Permittee shall determine ground water quality in the aquifer throughout the active life of the facility,