NM1 - 1

GENERAL CORRESPONDENCE

YEAR(S):

1995 - 1967

Submit 3 Copies
to Appropriate
District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-103
Revised 1-1-89

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, New Mexico 87503

WELL API NO.

5. Indicate Type of Lease STATE [X] FEE [ ]

6. State Oil & Gas Lease No.
BL-1162

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name
BL1162

1. Type of Well:
OIL WELL [ ] GAS WELL [ ] OTHER salt wtr disposal

2. Name of Operator
Burro Pipeline Corporation

8. Well No.
Satellite 5

3. Address of Operator
800 N. Marienfeld, Suite 100, Midland, Tx 79701

9. Pool name or Wildcat

4. Well Location
Unit Letter _____ : _____ Feet From The _____ Line and _____ Feet From The _____ Line

Section 3 Township 11S Range 33E NMPM Lea County

10. Elevation *(Show whether DF, RKB, RT, GR, etc.)*

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	XX	PLUG AND ABANDON	[ ]	REMEDIAL WORK	[ ]	ALTERING CASING	[ ]
TEMPORARILY ABANDON	[ ]	CHANGE PLANS	[ ]	COMMENCE DRILLING OPNS.	[ ]	PLUG AND ABANDONMENT	[ ]
PULL OR ALTER CASING	[ ]			CASING TEST AND CEMENT JOB	[ ]		
OTHER:	[ ]			OTHER:			[ ]

12. Describe Proposed or Completed Operations *(Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work)* SEE RULE 1103.

The net was in the water on the pit at satellite 5, We are removing the water out of the pit. This, of course, will solve the problem immediately. With the pit dry, we are going to string plastic drums under the netting to keep the nets above the water level at all times.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Michelle Butler TITLE Production Clerk DATE 11/3/95

TYPE OR PRINT NAME Michelle Butler TELEPHONE NO (915)683-5203

(This space for State Use)

APPROVED BY Jerry Sexton TITLE DISTRICT 1 SUPERVISOR DATE NOV 13 1995

CONDITIONS OF APPROVAL, IF ANY:

Submit 5 copies to Appropriate District Office

DISTRICT I
P.O.Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-117 A
Revised 4-1-91

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

OIL CONSERVATION DIVISION
RECEIVED
'95 NOV 7 AM 8 52

PERMIT NO. H-18317

TANK CLEANING, SEDIMENT OIL REMOVAL, TRANSPORTATION OF MISCELLANEOUS HYDROCARBONS AND DISPOSAL PERMIT

Operator or Owner Burro Pipe Line Address 800 N. MARIENFELD, STE 100 MIDLAND, TEXAS 79701

Lease or Facility Name Lane Lake SWD Location Sec 7 & 18, T-10-S, R-33-E
U.L. - Sec. - Twp. - Rge.

OPERATION TO BE PERFORMED:

☐ Tank Cleaning ☐ Sediment Oil Removal ☒ Transportation of Miscellaneous Hydrocarbons

Operator or Owner Representative authorizing work Mike Griffin

Date Work to be Performed 10-26-95

TANK CLEANING DATA Tank Number _____ Volume _____

Tank Type _____ Volume Below Load Line _____

SEDIMENT OIL OR MISCELLANEOUS HYDROCARBON DATA

Sediment Oil from: ☒ Pit ☐ Cellar ☒ Other

MISCELLANEOUS OIL

Tank Bottoms From: ☐ Pipeline Station ☐ Crude Terminal ☐ Refinery ☐ Other*

Catchings From: ☐ Gasoline Plant ☐ Gathering Lines ☐ Salt Water Disposal System ☐ Other*

Pipeline Break Oil or Spill ☐

*Other (Explain) _____

VOLUME AND DESTINATION: Estimated Volume 360 Bbls. Field test volume of good oil 100% BS&W Bbls. (Not required prior to Division approval)

Destination (Name and Location of treating plant or other facility) CONTROLLED RECOVERY, INC.
SEC 27, T-20-S, R-32-E

DESTRUCTION OF SEDIMENT OIL BY: ☐ Burning ☐ Pit Disposal ☐ Use on Roads or firewalls ☐ Other

(Explain) _____

Location of Destruction _____

Justification of Destruction _____

CERTIFICATION: (APPLICATION MAY BE MADE BY EITHER OF THE FOLLOWING)

I hereby certify that the infomation above is true and complete to the best of my knowledge and belief.

Owner Burro Pipe Line
By _____
Title _____
Date _____

Transporter Gandy Corporation
Address Box 827, Tatum, NM 88267
Signature Sue Mark
Title Bkkp Date 10-26-95

OIL CONSERVATION DIVISION

Approved By Bonnie Prichard Title O C D Tech Date OCT 30 1995

A COPY OF THIS FORM MUST BE ON LOCATION DURING TANK CLEANING, REMOVAL OF SEDIMENT OIL OR MISCELLANEOUS HYDROCARBONS, AND MUST BE PRESENTED WITH TANK BOTTOMS, SEDIMENT OIL OR MISCELLANEOUS HYDROCARBONS AT THE TREATING PLANT TO WHICH IT IS DELIVERED.

DISTRIBUTION BY OCD	
4	Santa Fe
	File
	Operator
	Transporter (2)

STATE OF NEW MEXICO
NMOCD District I

INTER-OFFICE MEMO

To file: Tipperary Corporation

Date: October 24, 1995
Time: 2:00 pm
Telephone call:____ Meeting:___ Other:_X___On Site Visit

Person called or attending:
Elliot _____ Whole Earth Envr. Inc.
Wayne Price-NMOCD
Larry Gandy-sub-contractor

REFERENCE: Lane Salt Lake Water Disposal Pits

Subject: Field Report by Wayne Price-NMOCD
See attached sketch.

Comments:

Reviewed progress of project. Pit # 4 and #1 have been excavated and back filled. Presently they are working on pit #2 on the south side. There is quite a bit of BS&W in this pit and it has an estimated volume of 1000 bbls of oily water in the bottom of the pit. As of to-date they indicated they have hauled out 35 loads of water.

Whole Earth has ran out of a good supply of clean dirt for mixing.
Also the proposed composting per the work plan does not appear to be in progress.

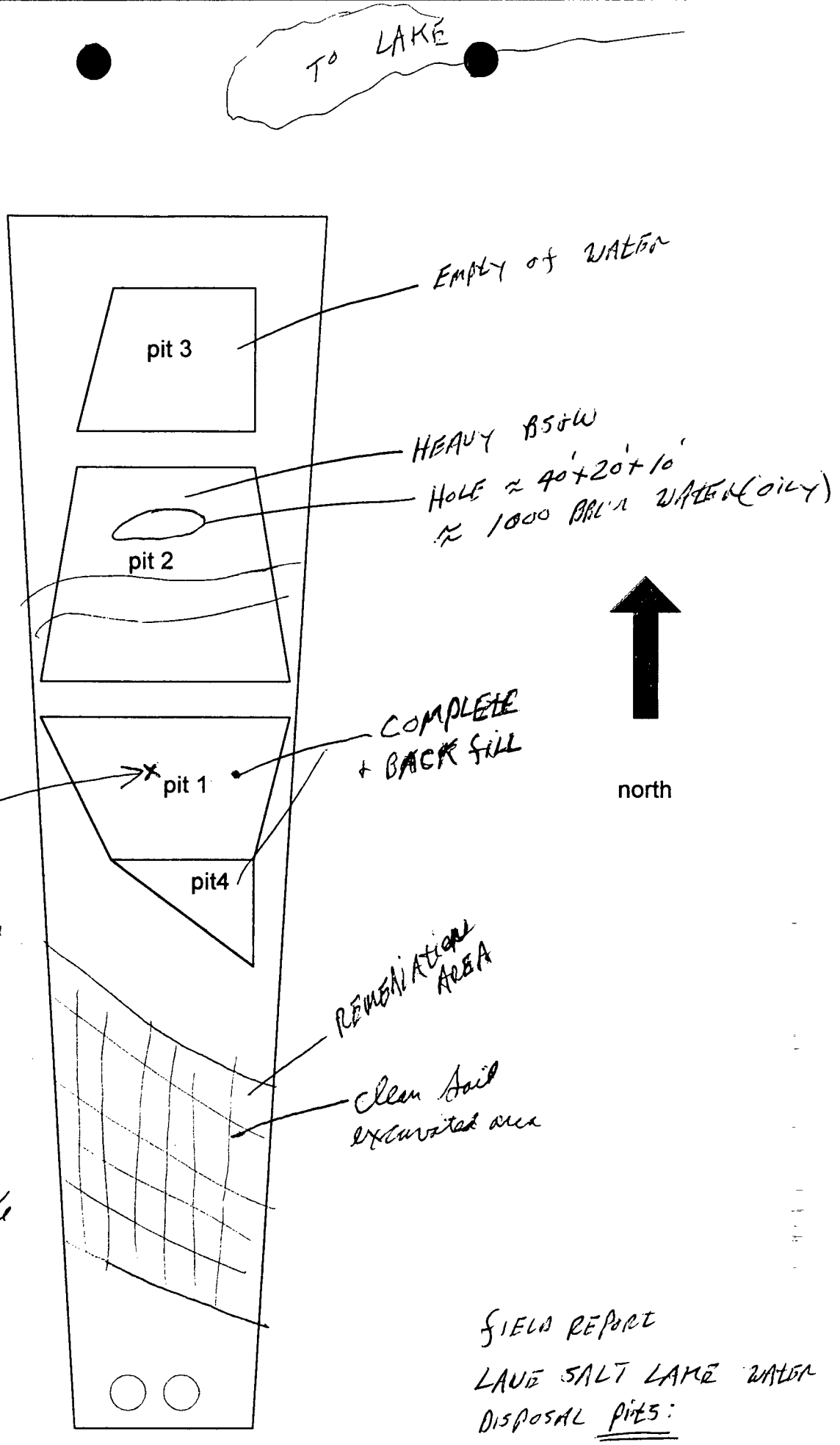
Took sample in middle of pit #1 (3' deep). Ran field BTEX volatiles using PID, results = 281 ppm. Ran TPH on sample; on site results are 1350 mg/l and off site = 1580 mg/l. Sample consist of primarily wet clay, iron sulfide, and has a olfactory hydrocarbon odor.

Made the following recommendations to Whole Earth field rep.

1. Haul off excess water to NMOCD approved facility.
2. Obtain another supply of fresh soil for mixing.
3. They need to check for BTEX on the remediated soil before back filling.

Wayne Price _____
NMOCD Environmental Engineer-District I

cc: Jerry Sexton-District I Supervisor
Gary Wink-NMOCD Field Rep: II
Bill Olson-NMOCD Santa Fe



FIELD REPORT

LAKE SALT LAKE WATER

DISPOSAL PITS:

WHOLE EARTH

Whole Earth Environmental, Inc.

16337 Park Row, Houston, Texas 77084-5191
713/492-7077 Fax: 713/578-1190

September 19, 1995

New Mexico Oil Conservation Division
2040 Pachcco St.
Sante Fe, NM 87505

Attn: William Olson

Dear Bill:

This message is intended to formally notify you that Whole Earth is planning to begin remediation activities on the Lane Salt Lake Water Disposal Facility on the afternoon of October 2, 1995. The first few days will be spent conducting further site investigations, site clearance and minor remediation on the southern end of the facility. I believe that we will be actually into pit excavation on or about October 5th. If this schedule conflicts with your requirements, please advise and we will move it back (or forward) as necessary.

I really look forward to working with you and Wayne on this project and hope that you can somehow find the time to visit us on location.

Warmest regards,

Mike Griffin
President
Whole Earth Environmental, Inc.

CC: Bob Fehlmann / Tipperary Corp.
Wayne Price / NMOCD Hobbs

Bill Olson

From: Wayne Price
To: Bill Olson
Cc: Wayne Price; Jerry Sexton
Subject: Lane Lake- BS&W disposal
Date: Friday, August 11, 1995 1:41PM
Priority: High

Dear Bill,

Mike Griffin with Whole Earth Environmental called and indicated that Tipperary is in the process of removing the old tanks on site. Mike indicated that there is 10-30 yards of heavy BS&W with oil in it. Tipperary wanted to know if they could just dump it in the old pits.

I ask Mike if that was in the plan approved by your office and he indicated it was not.

I advised him he should obtain a C-117 from our office and this material should go to an approved NMOCD treating plant or disposal facility. I also gave him the option of contacting you to modify their original remediation plan. He indicated he probably would not do that, they would probably haul this material to CRI.

OIL CONSERVATION DIVISION
2040 S. Pacheco St.
Santa Fe, New Mexico 87505

July 20, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-378

Mr. Robert H. Fehlmann
Environmental Coordinator
Tipperary Corporation
633 Seventeenth St., Suite 1550
Denver, Colorado 80202

RE: CLOSURE PLAN
LANE SALT LAKE DISPOSAL FACILITY
BURRO PIPELINE CORPORATION

Dear Mr. Fehlmann:

The New Mexico Oil Conservation Division (OCD) has completed a review of Tipperary Corporation's (TC) May 1, 1995 "LANE SALT LAKE WATER DISPOSAL PITS SITE ASSESSMENT PROJECT" which was recieved by the OCD on June 6, 1995. This document contains the results of TC's assessment of the extent of contamination related to the use of unlined skimmer pits at Burro Pipeline Corporation's Lane Salt Lae Disposal Facility. The document also contains TC's plan for remediation of contaminants at the site and closure of the facility.

The above referenced remediation and closure plan **is approved with the following conditions:**

1. All soil samples taken for verification of completion of remedial actions will be sampled and analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), total petroleum hydrocarbons (TPH) using EPA approved methods.

   NOTE: A photoionization detector (PID) field headspace measurement of 100 parts per million (mg/l) of total organic vapor, if determined in accordance with OCD guidelines, may be substituted for a laboratory analysis of the concentrations of BTEX in soils. However, PID field measurements cannot be substituted for the concentrations of TPH in soils.

2. During the closure actions, TC will maintain the site such that runoff from rainfall events remains on the facility.

3. Upon completion of pit remedial actions, each pit area will be mounded to prevent future ponding of rainfall over the former pit locations.

4. All wastes removed from the site will be disposed of at an OCD approved facility.

5. TC will submit a final closure report to the OCD by January 5, 1996. The report will include a description of all closure/remedial actions performed, the results of all sampling activities and the dispositon of all wastes generated during closure.

6. TC will notify the OCD at least one week in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples.

7. All original documents submitted for approval will be submitted to the OCD Santa Fe Office with copies provided to the OCD Hobbs District Office.

Please be advised that OCD approval does not relieve TC of liability should the closure actions fail to adequately remediate contamination related to their activities. In addition, OCD approval does not relieve TC of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Jerry Sexton, OCD Hobbs District Supervisor
Wayne Price , OCD Hobbs Office

Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

May 2, 1995

Mr. William C. Olson
Hydrogeologist, Environmental Bureau
New Mexico Oil Conservation Division
2040 Pacheco St.
Santa Fe, New Mexico 87505

RE: Pit closure assessment and closure protocol recommendations
Lane Salt Lake Water Disposal Facility
North Bagley Field
Lea County, New Mexico

Dear Mr. Olson:

As we discussed on the phone this morning, Whole Earth Environmental has informed me that lab test results on samples gathered for site assessment will not be available until late this week. Tipperary needs time to analyze the data and then finalize our recommended closure plan. Therefore, we will be unable to submit them to you by the original target date of May 5, 1995.

We presently expect to have everything submitted to your office by May 26, 1995. Please let me know if there is any problem with this or if you have any questions.

Sincerely,

Robert H. Fehlmann

Robert H. Fehlmann
Environmental Coordinator

Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

FAXED to (505) 827-5766

April 5, 1995 CERTIFIED-RETURN RECEIPT REQUESTED

Attention: Debbie Padilla - R/W Supervisor
State of New Mexico
Office of the Commissioner of Public Lands
P. O. Box 1148
Santa Fe, NM 87504-1148

RE: State of New Mexico Water Easement
No. W-441(Our W-441, W-441-A & W-441-B)
Sections 6 & 7, T 10 S, R 33 E
Section 12, T 10 S, R 32 E
Lea County, New Mexico

Dear Ms. Padilla:

Please refer to my letter to you dated March 30, 1995, wherein we requested a delay in determining whether or not we would extend the referenced Water Easement. Our water samples have been further tested and pursuant to the results of those tests, we have received verbal approval to plug the three (3) monitor wells.

Enclosed herewith is a copy of our letter to Mr. William C. Olson, wherein we obtained the verbal authorization to the plug the monitor wells. The New Mexico Oil Conservation Division requires seven (7) days notice in order to have an inspector present during the plugging procedures.

In light of these additional positive facts, and given the upcoming holiday, we should be able to abandon the site of the above easement no later than April 21st. Therefore, we request that you permit us to proceed with our plugging procedures without extending the above easement.

Your earliest reply to this matter will be greatly appreciated.

Sincerely,

Michelle Sullivan
Land Administrator

cc: New Mexico Oil Conservation Division-William C. Olson
Jeff Obourn; Bob Fehlmann

Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

April 5, 1995 CERTIFIED-RETURN RECEIPT REQUESTED

Attention: Bea Mirabal
State of New Mexico
Office of the Commissioner of Public Lands
P. O. Box 1148
Santa Fe, NM 87504-1148

RE: State Land Office
Business Lease No. BL-597
T10S-R32E Portions of Sec 12
T10S-R33E Portions of Secs 6 & 7
Lea County, New Mexico

Ladies and Gentlemen:

This letter is to advise you that pursuant to the verbal approval on the enclosed letter we wrote to the Oil Conservation Division, Burro Pipeline Corporation will plug and abandoned the three monitor wells for Lane Salt Lake not later than April 21st. Therefore, we feel that you should be able to reclaim the referenced Business Lease by that time.

Accordingly, we respectfully requests that you furnish to us, in writing, your approval that the leased premises are in proper order and that you will allow the referenced business lease to expire by its own terms.

Your earliest response to this request will be greatly appreciated.

Sincerely,

Michelle Sullivan
Land Administrator

cc: Oil Conservation Division-William C. Olson

Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

VIA FAX (505) 827-8177

April 4, 1995

Mr. William C. Olson
Hydrogeologist, Environmental Bureau
New Mexico Oil Conservation Division
310 Old Santa Fe Trail
Santa Fe, NM 87504

RE: Request to Plug Monitor Wells
Lane Salt Lake Water Disposal Facility
North Bagley Field
Lea County, New Mexico

Dear Mr. Olson:

Tipperary Oil & Gas Corporation (Burro Pipeline Corporation) would like to plug and abandon the three monitor wells offsetting the subject disposal facility. After reviewing our plugging request of March 2, 1995, you requested that complete water analyses be conducted in the monitor wells. We have enclosed the requested water analyses for your review. In addition, please find our proposed plugging procedures (on Form C-103).

We request your approval to proceed with plugging of the monitor wells. If you have any questions or require additional information, please give me a call at (303) 293-9379.

Very truly yours,

Robert H. Fehlmann

Robert H. Fehlmann
Environmental Coordinator

Enclosures

1540 hrs
4/4/95
Verbally Approved
Will Olson

Huntingdon

Engineering and Science for a Safer Environment

1703 West Industrial Avenue * P.O. Box 2150, Midland, Texas 79702 * 915/683-3349 FAX 915/686-0492

Client: Discovery Operating
600 N. Marienfeld Suite 100
Midland, Texas 79701
915/689-5203 915/687-1930
Attn: Kevin Sparks

Client No. 25186100
Report No. MS-03-076
Report Date 04/03/95 10:02

Project Tipperary - Burro Pipe Line

Date Sampled 03/18/95 Sampled By Client

Sample Type Liquid Transported by Kevin Sparks

P.O. # Date Received 03/18/95

Lab No.	Sample Identification
MS-03-076-01	MW-1
MS-03-076-02	MW-2
MS-03-076-03	MW-3
MS-03-076-04	Windmill

Reviewed By

HUNTINGDON

ALLAN B. JOHNSTON

HUNTINGDON

Order # M5-03-076
04/03/95 10:02
Client: Discovery Operating

TEST RESULTS BY SAMPLE

Sample: 01A MW-1 Collected: 03/16/95

Test Name	Method	Result	Units	Detection Limit	Date Started	Analyst
MERCURY	EPA 245.1	< 0.002	mg/L	0.002	03/28/95	MLC
SELENIUM	EPA 270.3	< 0.01	mg/L	0.01	03/28/95	MLC

Sample: 02A MW-2 Collected: 03/16/95

Test Name	Method	Result	Units	Detection Limit	Date Started	Analyst
MERCURY	EPA 245.1	< 0.002	mg/L	0.002	03/28/95	MLC
SELENIUM	EPA 270.3	< 0.01	mg/L	0.01	03/28/95	MLC

Sample: 03A MW-3 Collected: 03/16/95

Test Name	Method	Result	Units	Detection Limit	Date Started	Analyst
MERCURY	EPA 245.1	< 0.002	mg/L	0.002	03/28/95	MLC
SELENIUM	EPA 270.3	< 0.01	mg/L	0.01	03/28/95	MLC

Sample: 04A Windmill Collected: 03/16/95

Test Name	Method	Result	Units	Detection Limit	Date Started	Analyst
MERCURY	EPA 245.1	< 0.002	mg/L	0.002	03/28/95	MLC
SELENIUM	EPA 270.3	< 0.01	mg/L	0.01	03/28/95	MLC

HUNTINGDON

Order # M5-03-076
04/03/95 10:02
Client: Discovery Operating

Page 3 of 14

TEST RESULTS BY SAMPLE

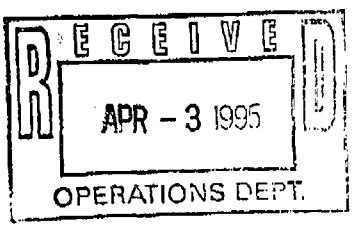
Sample Description: MW-1
Test Description: ICP SCAN
Collected: 03/16/95

Lab No: 01A
Method: SW-846, 6010 Test Code: I_SCAN

Date Analyzed 03/29/95 Analyst CL
Units mg/L Method SW-846, 6010

Element	Result
Aluminum	ND
Barium	0.02
Beryllium	ND
Cadmium	0.01
Calcium	14.2
Chromium	ND
Cobalt	0.02
Copper	0.09
Iron	5.17
Manganese	0.08
Magnesium	23.3
Nickel	0.02
Potassium	22.1
Sodium	202
Zinc	0.22

ND=Not Detected



HUNTINGDON

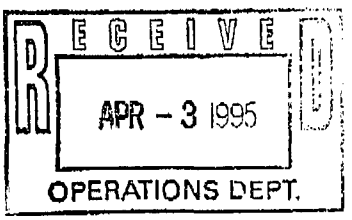
Order # MS-03-076
04/03/95 10:02
Client: Discovery Operating

Page 4 of 14

TEST RESULTS BY SAMPLE

Sample Description: MW-1 Lab No: 01A
Test Description: MAJOR MIN. + TDS + Mg + K Method: Test Code: MM_MAK
Collected: 03/16/95

Parameter	Results	Units	Date Started	Analyst
CALCIUM	15	mg/L	03/22/95	WJJ
MAGNESIUM	24	mg/L	03/22/95	WJJ
SODIUM	802	mg/L	03/30/95	MLC
POTASSIUM	31	mg/L	03/30/95	MLC
CARBONATE	7	mg/L	03/17/95	WJJ
BICARBONATE	412	mg/L	03/17/95	WJJ
SULFATE	96	mg/L	03/22/95	WJJ
CHLORIDE	156	mg/L	03/22/95	WJJ
TOTAL DISSOLVED SOLIDS	756	mg/L	03/22/95	WJJ
TOTAL HARDNESS	130	mg/L	03/22/95	WJJ
pH	8.54	pH UNITS	03/17/95	WJJ



HUNTINGDON

Order # MS-03-076
04/03/95 10:02
Client: Discovery Operating

TEST RESULTS BY SAMPLE

Sample Description: MW-1
Test Description: POLYNUCLEAR AROMATICS
Collected: 03/16/95

Lab No: 01A
Method: SW-846, 8100 Test Code: PNA_W

Date Analyzed 03/29/95 Analyst RKW
Units UG/L

Parameter	Result	Detection Limit
NAPHTHALENE	< 5.0	5.0
ACENAPHTHYLENE	< 5.0	5.0
ACENAPHTHENE	< 5.0	5.0
FLUORENE	< 5.0	5.0
PHENANTHRENE	< 5.0	5.0
ANTHRACENE	< 5.0	5.0
FLUORANTHENE	< 5.0	5.0
PYRENE	< 5.0	5.0
CHRYSENE	< 5.0	5.0
BENZO(a)ANTHRACENE	< 5.0	5.0
BENZO(k)FLUROANTHENE	< 5.0	5.0
BENZO(b)FLUROANTHENE	< 5.0	5.0
BENZO(a)PYRENE	< 5.0	5.0
INDENO(1,2,3-cd)PYRENE	< 5.0	5.0
DIBENZ(a,h)ANTHRACENE	< 5.0	5.0
BENZO(g,h,i)PERYLENE	< 5.0	5.0

HUNTINGDON

Order # WS-03-076
04/03/95 10:02
Client: Discovery Operating

TEST RESULTS BY SAMPLE

Sample Description: MW-2
Test Description: ICP SCAN
Collected: 03/16/95

Lab No: 02A
Method: SW-846, 6010 Test Code: I_SCAN

Date Analyzed 03/29/95 Analyst CL
Units mg/L Method SW-846, 6010

Element	Results
Aluminum	ND
Barium	0.02
Beryllium	ND
Cadmium	0.02
Calcium	31.7
Chromium	ND
Cobalt	0.02
Copper	0.03
Iron	14.8
Manganese	0.10
Magnesium	30.8
Nickel	0.02
Potassium	14.0
Sodium	202
Zinc	0.03

ND=Not Detected

HUNTINGDON

Order # M5-03-076
04/03/95 10:02
Client: Discovery Operating

TEST RESULTS BY SAMPLE

Sample Description: MW-2 Lab No: 02A
Test Description: MAJOR MIN. + TDS + Na + K Method: Test Code: MM_NAK
Collected: 03/16/95

Parameter	Results	Units	Date Started	Analyst
CALCIUM	46	mg/L	03/22/95	WJJ
MAGNESIUM	38	mg/L	03/22/95	WJJ
SODIUM	202	mg/L	03/30/95	MLC
POTASSIUM	19	mg/L	03/30/95	MLC
CARBONATE	0	mg/L	03/17/95	WJJ
BICARBONATE	259	mg/L	03/17/95	WJJ
SULFATE	265	mg/L	03/22/95	WJJ
CHLORIDE	199	mg/L	03/22/95	WJJ
TOTAL DISSOLVED SOLIDS	898	mg/L	03/22/95	WJJ
TOTAL HARDNESS	260	mg/L	03/22/95	WJJ
pH	8.13	pH UNITS	03/17/95	WJJ

HUNTINGDON

Page 8 of 14

Order # M5-03-076
04/03/95 10:02
Client: Discovery Operating

TEST RESULTS BY SAMPLE

Sample Description: MW-2
Test Description: POLYNUCLEAR AROMATICS
Collected: 03/16/95

Lab No: 02A
Method: SW-846, 8100 Test Code: PNA_W

Date Analyzed 03/29/95 Analyst RKW
Units UG/L

Parameter	Result	Detection Limit
NAPHTHALENE	< 5.0	5.0
ACENAPHTHYLENE	< 5.0	5.0
ACENAPHYNENE	< 5.0	5.0
FLUORENE	< 5.0	5.0
PHENANTHRENE	< 5.0	5.0
ANTHRACENE	< 5.0	5.0
FLUORANTHENE	< 5.0	5.0
PYRENE	< 5.0	5.0
CHRYSENE	< 5.0	5.0
BENZO(a)ANTHRACENE	< 5.0	5.0
BENZO(k)FLUROANTHENE	< 5.0	5.0
BENZO(b)FLUROANTHENE	< 5.0	5.0
BENZO(a)PYRENE	< 5.0	5.0
INDENO(1,2,3-cd)PYRENE	< 5.0	5.0
DIBENZ(a,h)ANTHRACENE	< 5.0	5.0
BENZO(g,h,i)PERYLENE	< 5.0	5.0

HUNTINGDON Page 9 of 14

Order # MS-03-076
04/03/95 10:02
Client: Discovery Operating

TEST RESULTS BY SAMPLE

Sample Description: MW-3
Test Description: ICP SCAN
Collected: 03/16/95

Lab No: 03A
Method: SW-846, 6010 Test Code: I_SCAN

Date Analyzed 03/29/95 Analyst CL
Units mg/L Method SW-846, 6010

Element	Result
Aluminum	0.27
Barium	0.01
Beryllium	ND
Cadmium	0.04
Calcium	26.9
Chromium	ND
Cobalt	0.02
Copper	0.04
Iron	9.26
Manganese	ND
Magnesium	38.2
Nickel	0.02
Potassium	33.8
Sodium	358
Zinc	0.83

ND=Not Detected

HUNTINGDON

Order # M5-03-076 Page 10 of 14
04/03/95 10:02 TEST RESULTS BY SAMPLE
Client: Discovery Operating

Sample Description: MW-3 Lab No: 03A
Test Description: MAJOR MIN. + TDS + Na + K Method: Test Code: MM_MAK
Collected: 03/16/95

Parameter	Results	Units	Date Started	Analyst
CALCIUM	29	mg/L	03/22/95	WJJ
MAGNESIUM	38	mg/L	03/22/95	WJJ
SODIUM	358	mg/L	03/30/95	MLC
POTASSIUM	46	mg/L	03/30/95	MLC
CARBONATE	11	mg/L	03/17/95	WJJ
BICARBONATE	156	mg/L	03/17/95	WJJ
SULFATE	499	mg/L	03/22/95	WJJ
CHLORIDE	340	mg/L	03/22/95	WJJ
TOTAL DISSOLVED SOLIDS	1399	mg/L	03/22/95	WJJ
TOTAL HARDNESS	230	mg/L	03/22/95	WJJ
pH	8.76	pH UNITS	03/17/95	WJJ

HUNTINGDON

Page 11 of 14

Order # HS-03-076
04/03/95 10:02
Client: Discovery Operating

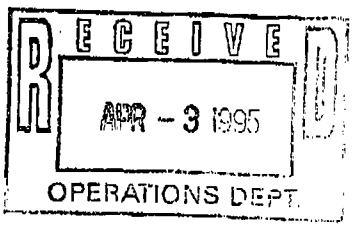
TEST RESULTS BY SAMPLE

Sample Description: MW-3
Test Description: POLYNUCLEAR AROMATICS
Collected: 03/16/95

Lab No: GSA
Method: SW-846, 8100 Test Code: PNA_W

Date Analyzed 03/29/95 Analyst RKW
Units ug/L

Parameter	Result	Detection Limit
NAPHTHALENE	< 5.0	5.0
ACENAPHTHYLENE	< 5.0	5.0
ACENAPHTHENE	< 5.0	5.0
FLUORENE	< 5.0	5.0
PHENANTHRENE	< 5.0	5.0
ANTHRACENE	< 5.0	5.0
FLUORANTHENE	< 5.0	5.0
PYRENE	< 5.0	5.0
CHRYSENE	< 5.0	5.0
BENZO(a)ANTHRACENE	< 5.0	5.0
BENZO(k)FLUORANTHENE	< 5.0	5.0
BENZO(b)FLUORANTHENE	< 5.0	5.0
BENZO(a)PYRENE	< 5.0	5.0
INDENO(1,2,3-cd)PYRENE	< 5.0	5.0
DIBENZ(a,h)ANTHRACENE	< 5.0	5.0
BENZO(g,h,i)PERYLENE	< 5.0	5.0



HUNTINGDON

Order # MS-03-076 Page 12 of 14
04/03/95 10:02
Client: Discovery Operating

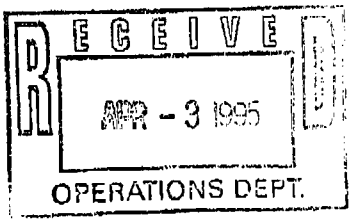
TEST RESULTS BY SAMPLE

Sample Description: Windmill Lab No: 04A
Test Description: ICP 6CAN Method: SW-846, 6010 Test Code: 1_6CAN
Collected: 03/16/95

Date Analyzed 03/29/95 Analyst GL
Units MG/L Method SW-846, 6010

Element	Result
Aluminum	ND
Barium	0.02
Beryllium	ND
Cadmium	0.02
Calcium	92.6
Chromium	ND
Cobalt	0.02
Copper	0.06
Iron	ND
Manganese	ND
Magnesium	19.3
Nickel	0.03
Potassium	4.39
Sodium	86.8
Zinc	0.10

ND=Not Detected



HUNTINGDON

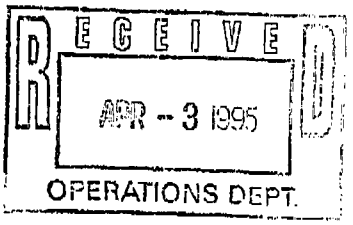
Order # HS-03-076
04/03/95 10:02
Client: Discovery Operating

TEST RESULTS BY SAMPLE

Sample Description: Windmill
Test Description: MAJOR MIN. + TDS + Na + K
Collected: 03/16/95

Lab No: 04A
Method:
Test Code: MN_MAK

Parameter	Results	Units	Date Started	Analyst
CALCIUM	86	mg/L	03/22/95	WJJ
MAGNESIUM	21	mg/L	03/22/95	WJJ
SODIUM	87	mg/L	03/30/95	MLC
POTASSIUM	6.6	mg/L	03/30/95	MLC
CARBONATE	0	mg/L	03/17/95	WJJ
BICARBONATE	205	mg/L	03/17/95	WJJ
SULFATE	189	mg/L	03/22/95	WJJ
CHLORIDE	99	mg/L	03/22/95	WJJ
TOTAL DISSOLVED SOLIDS	591	mg/L	03/22/95	WJJ
TOTAL HARDNESS	302	mg/L	03/22/95	WJJ
pH	7.79	pH UNITS	03/17/95	WJJ



HUNTINGDON

Order # H5-03-076
04/03/95 10:02
Client: Discovery Operating

TEST RESULTS BY SAMPLE

Sample Description: Windmill
Test Description: POLYNUCLEAR AROMATICS
Collected: 03/16/95

Lab No: 04A
Method: SW-846, 8100 Test Code: PNA_W

Date Analyzed 03/29/95 Analyst RKV
Units UG/L

Parameter	Result	Detection Limit
NAPHTHALENE	< 5.0	5.0
ACENAPHTHYLENE	< 5.0	5.0
ACENAPHTHENE	< 5.0	5.0
FLUORENE	< 5.0	5.0
PHENANTHRENE	< 5.0	5.0
ANTHRACENE	< 5.0	5.0
FLUORANTHENE	< 5.0	5.0
PYRENE	< 5.0	5.0
CHRYSENE	< 5.0	5.0
BENZO(a)ANTHRACENE	< 5.0	5.0
BENZO(k)FLUORANTHENE	< 5.0	5.0
BENZO(b)FLUORANTHENE	< 5.0	5.0
BENZO(a)PYRENE	< 5.0	5.0
INDENO(1,2,3-cd)PYRENE	< 5.0	5.0
DIBENZ(a,h)ANTHRACENE	< 5.0	5.0
BENZO(g,h,i)PERYLENE	< 5.0	5.0

Submit 3 Copies to Appropriate District Office

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

310 Old Santa Fe Trail, Room 206
Santa Fe, New Mexico 87503

Form C-103
Revised 1-1-89

WELL API NO.

5. Indicate Type of Lease STATE [X] FEE [ ]

6. State Oil & Gas Lease No. W-441

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name

1. Type of Well: OIL WELL [ ] GAS WELL [ ] OTHER Ground water monitor well

2. Name of Operator: BURRO PIPELINE CORPORATION

8. Well No. #1

3. Address of Operator: 633-17th Street, Suite 1550 Denver, CO 80202

9. Pool name or Wildcat

4. Well Location
Unit Letter _____ : 1100 Feet From The West Line and 300 Feet From The South Line

Section 7 Township 10S Range 33E NMPM Lea County

10. Elevation (Show whether DF, RKB, RT, GR, etc.) 4164.9' GR

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	[ ]	PLUG AND ABANDON	[X]	REMEDIAL WORK	[ ]	ALTERING CASING	[ ]
TEMPORARILY ABANDON	[ ]	CHANGE PLANS	[ ]	COMMENCE DRILLING OPNS.	[ ]	PLUG AND ABANDONMENT	[ ]
PULL OR ALTER CASING	[ ]			CASING TEST AND CEMENT JOB	[ ]		
OTHER:	[ ]			OTHER:			[ ]

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Request approval to abandon well as it no longer has a beneficial use. Estimated plugging date is March 20, 1995.

1) Fill 3½" casing with 2.25 cu.ft. of cement from TD to surface.
2) Cut off casing at ground level.
3) Clean up location.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Larry Sugano TITLE VP-Engineering DATE 3/2/95

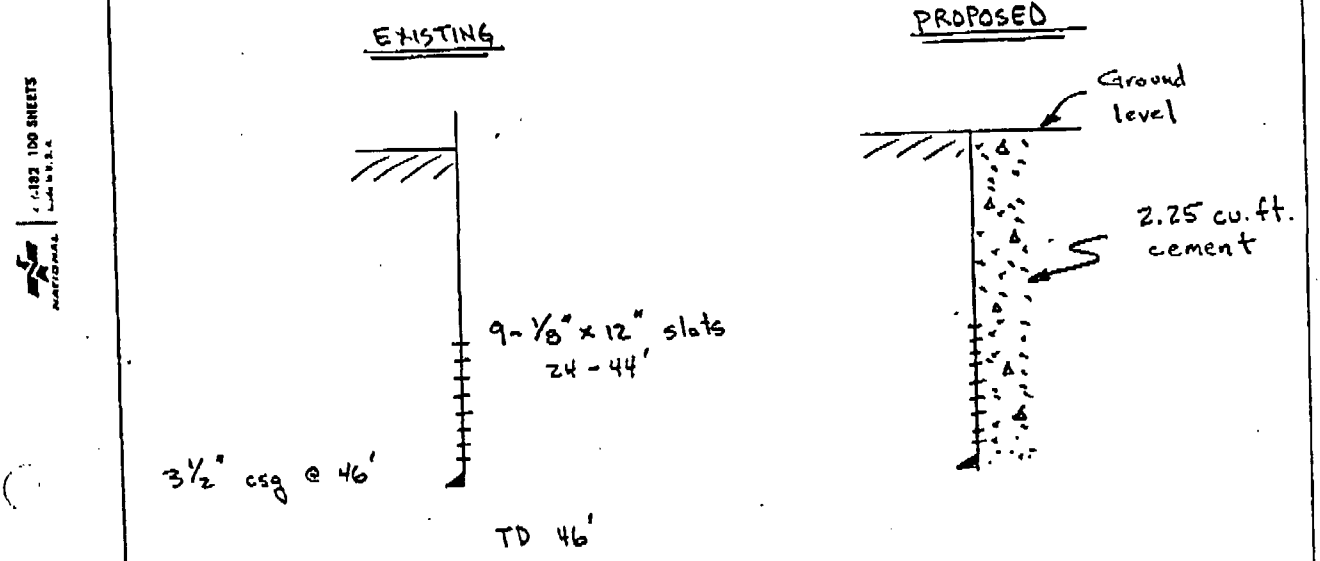
TYPE OR PRINT NAME Larry Sugano TELEPHONE NO. 303-293-9379

(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

Monitor Well #1
1100' FWL & 300' FSL
Lea County, NM



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State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

310 Old Santa Fe Trail, Room 206
Santa Fe, New Mexico 87503

Form C-103
Revised 1-1-89

WELL API NO.

5. Indicate Type of Lease STATE [X] FEE [ ]

6. State Oil & Gas Lease No. W-441

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name

1. Type of Well: OIL WELL [ ] GAS WELL [ ] OTHER Ground water monitor well

2. Name of Operator: BURRO PIPELINE CORPORATION

8. Well No. #2

3. Address of Operator: 633-17th Street, Suite 1550 Denver, CO 80202

9. Pool name or Wildcat

4. Well Location
Unit Letter _____ : 1410 Feet From The East Line and 600 Feet From The South Line

Section 7 Township 10S Range 33E NMPM Lea County

10. Elevation (Show whether DF, RKB, RT, GR, etc.) 4173.3' GR

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	[ ]	PLUG AND ABANDON	[X]	REMEDIAL WORK	[ ]	ALTERING CASING	[ ]
TEMPORARILY ABANDON	[ ]	CHANGE PLANS	[ ]	COMMENCE DRILLING OPNS.	[ ]	PLUG AND ABANDONMENT	[ ]
PULL OR ALTER CASING	[ ]			CASING TEST AND CEMENT JOB	[ ]		
OTHER:	[ ]			OTHER:			[ ]

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Request approval to abandon well as it no longer has a beneficial use. Estimated plugging date March 20, 1995.

1) Fill 3½" casing with 2.17 cu.ft. of cement from TD to surface.
2) Cut off casing at ground level.
3) Clean up location.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Larry Sugano TITLE VP-Engineering DATE 3/2/95

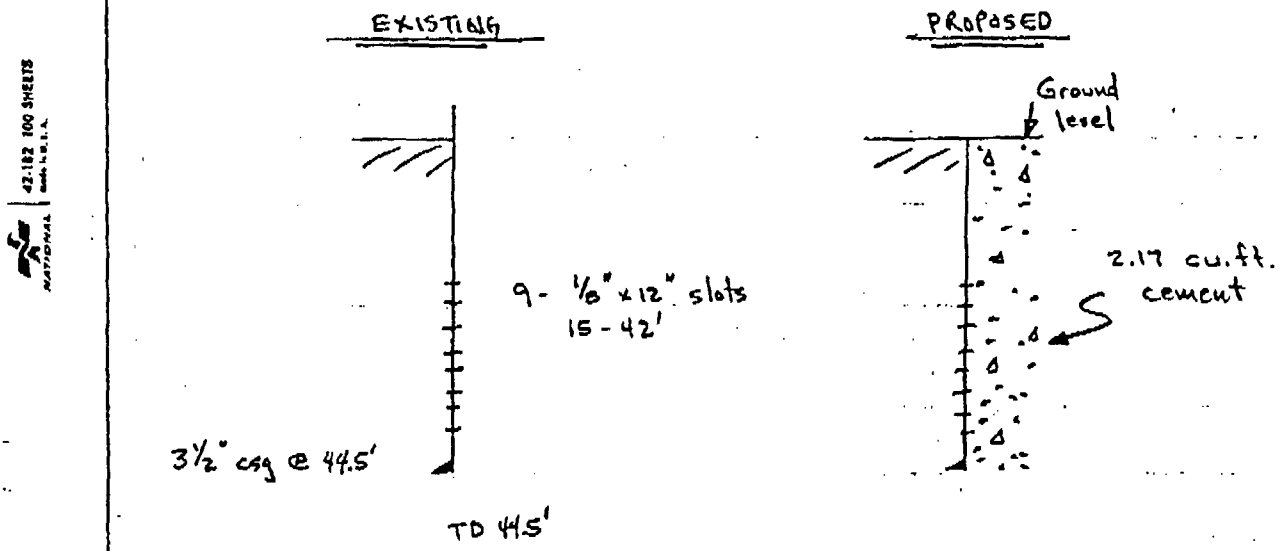
TYPE OR PRINT NAME Larry Sugano TELEPHONE NO. 303-293-9379

(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

Monitor Well #2
1410' FEL & 600' FSL
Lea County, NM



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1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

310 Old Santa Fe Trail, Room 206
Santa Fe, New Mexico 87503

Form C-103
Revised 1-1-89

WELL API NO.

5. Indicate Type of Lease STATE [X] FEE [ ]

6. State Oil & Gas Lease No. W-441

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name

1. Type of Well: OIL WELL [ ] GAS WELL [ ] OTHER Ground water monitor well

2. Name of Operator: BURRO PIPELINE CORPORATION

8. Well No. #3

3. Address of Operator: 633-17th Street, Suite 1550, Denver, CO 80202

9. Pool name or Wildcat

4. Well Location
Unit Letter ____ : 2400 Feet From The South Line and 1100 Feet From The East Line

Section 7 Township 10S Range 33E NMPM Lea County

10. Elevation (Show whether DF, RKB, RT, GR, etc.) 4161.4' GR

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	[ ]	PLUG AND ABANDON	[X]	REMEDIAL WORK	[ ]	ALTERING CASING	[ ]
TEMPORARILY ABANDON	[ ]	CHANGE PLANS	[ ]	COMMENCE DRILLING OPNS.	[ ]	PLUG AND ABANDONMENT	[ ]
PULL OR ALTER CASING	[ ]			CASING TEST AND CEMENT JOB	[ ]		
OTHER:	[ ]			OTHER:			[ ]

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Request approval to abandon well as it no longer has a beneficial use. Estimated plugging date March 20, 1995.

1) Fill 3½" casing with 1.71 cu.ft. of cement from TD to surface.
2) Cut off casing at ground level.
3) Clean up location.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Larry Sugano TITLE VP-Engineering DATE 3/2/95

TYPE OR PRINT NAME Larry Sugano TELEPHONE NO. 303-293-9379

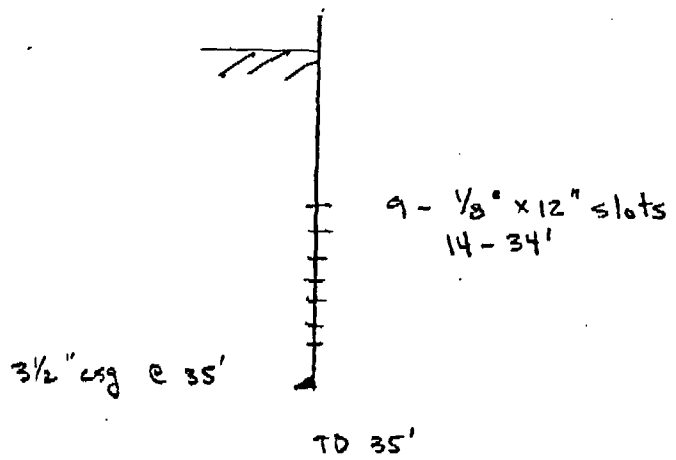
(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

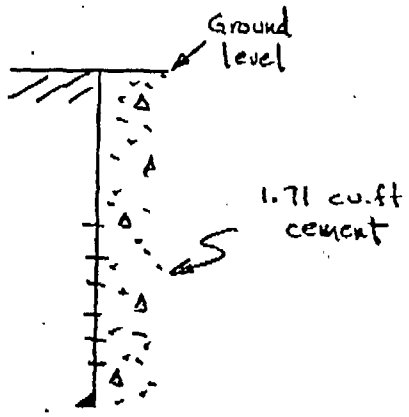
CONDITIONS OF APPROVAL, IF ANY:

Monitor Well #3
2400' FSL & 1100' FEL
Lea County, NM

EXISTING



PROPOSED



Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

March 23, 1995

Mr. William C. Olson
Hydrogeologist, Environmental Bureau
State Of New Mexico
Energy, Minerals and Natural Resources Dept.
Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, NM 87505

RE: SITE ASSESSMENT PLAN
LANE SALT LAKE DISPOSAL FACILITY
BURRO PIPELINE CORPORATION

Dear Mr. Olson:

This letter confirms my phone call this morning letting you know that Tipperary has given WHOLE EARTH ENVIRONMENTAL, INC. the contract to conduct site assessment of the Lane Salt Lake salt water disposal pits. In case you need it, Whole Earth's mailing address is: 16337 Park Row, Houston, TX 77084, and their phone number is 1-800-713-492-7077.

Whole Earth will conduct the assessment in accordance with the plan Mike Griffin discussed with you on the phone over the last couple of days. Work in the field should start on Thursday, March 30, 1995, and is planned to take about 10 hours I have requested that they notify Wayne Price in the Hobbs office of the exact time and date so he can have a state field representative present.

Thanks for fielding all the contractor questions and my questions the past few days. Let me know if you have questions or need any information.

Sincerely,

Robert H. Fehlmann

Robert H. Fehlmann
Environmental Coordinator

cc: Wayne Price, OCD Hobbs Office

WPWIN60 \ TIP \ LETTERS \ NMPClose.L05

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

OIL CONSERVATION DIVISION
'95 MAR 16 PM 8 52

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

March 14, 1995

Mr. Erik Nelson
Land Use Specialist
New Mexico State Land Office
3830 N. Grimes, STE. C
Hobbs, New Mexico 88240

Reference: Lane Salt Lake Water Disposal Facility

Dear Erik,

Please find enclosed the most recent correspondence relating to "Lane Lake" closure activities. Tipperary has plans to sample the monitor wells in the near future.

If you need any more information for your files please don't hesitate to call or write.

Sincerely yours,

Wayne Price-Environmental Engineer

cc: Jerry Sexton-District I Supervisor
Bill Olson-Hydrogeologist Santa Fe

attachments

OIL CONSERVATION DIVISION
RECEIVED

'95 MAR 16 PM 8 52

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time	Date 3-14-95

Originating Party	Other Parties
WAYNE PRICE	LARRY SUGANO - TIPPERARY
	BOB FEHLMANN - " - ENVIR MGR

Subject: LANE LAKE MONITOR WELLS

Discussion

Conclusions or Agreements

TIPPERARY WILL NOTIFY DISTRICT I WHEN THEY SAMPLE WELLS

Distribution cc: BILL OLSON
JERRY SEXTON
ERIC NELSON - NM STATE LAND OFF

Signed

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 1100 hrs	Date 3/7/95

Originating Party	Other Parties
Bill Olson - Envir. Bureau	Larry Sugano - Tipperary (303) 293-9379

Subject

Burro Pipeline - Lane Salt Lake

Discussion

OCD received 3/2/95 request to plug monitor wells.

OCD needs water quality data required in OCD's 1/18/95 approval of closure plan (ie BTEX, PAH's, metals, cations/anions)

Conclusions or Agreements

He will get analyses to OCD ASAP

Distribution

Wayne Price - OCD Hobbs.
file

Signed Bill Olson

Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

March 2, 1995

Mr. William C. Olson
Hydrogeologist, Environmental Bureau
New Mexico Oil Conservation Division
310 Old Santa Fe Trail
Santa Fe, NM 87504

RE: Request to Plug Monitor Wells
Lane Salt Lake Water Disposal Facility
North Bagley Field
Lea County, New Mexico

Dear Mr. Olson:

As has been discussed with you, Tipperary Oil & Gas Corporation (Burro Pipeline Corporation) would like to plug and abandon the three monitor wells offsetting the subject disposal facility. These wells were drilled in compliance with Order #R-3238A. Since we are no longer using the disposal facility, we would like to plug the wells. Please find enclosed the following information to assist in your review of our request:

1) Sundry notices of plugging (Form C-103).
2) Map showing the location of the monitor wells.
3) Analysis of water samples taken 2/7/95 from the monitor wells.

We would like to proceed with the plugging in March, 1995 so that we will not have to renew our state business leases which are up for renewal on April 6, 1995. As you are aware, the State Land Office has requested us to get NMOCD approval of our plugging procedures. Once we receive your approval, we will then notify the State Land Office of our intent not to renew the leases. If you have any questions or require additional information, please give me a call at (303) 293-9379.

Very truly yours,

Larry G. Sugano

Larry G. Sugano
V.P. - Engineering

Enclosures

Submit 3 Copies to Appropriate District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-103
Revised 1-1-89

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

310 Old Santa Fe Trail, Room 206
Santa Fe, New Mexico 87503

WELL API NO.

5. Indicate Type of Lease STATE [X] FEE [ ]

6. State Oil & Gas Lease No. W-441

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name

1. Type of Well: OIL WELL [ ] GAS WELL [ ] OTHER Ground water monitor well

2. Name of Operator: BURRO PIPELINE CORPORATION

8. Well No. #1

3. Address of Operator: 633-17th Street, Suite 1550, Denver, CO 80202

9. Pool name or Wildcat

4. Well Location
Unit Letter _____ : 1100 Feet From The West Line and 300 Feet From The South Line

Section 7 Township 10S Range 33E NMPM Lea County

10. Elevation (Show whether DF, RKB, RT, GR, etc.) 4164.9' GR

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	[ ]	PLUG AND ABANDON	[X]	REMEDIAL WORK	[ ]	ALTERING CASING	[ ]
TEMPORARILY ABANDON	[ ]	CHANGE PLANS	[ ]	COMMENCE DRILLING OPNS.	[ ]	PLUG AND ABANDONMENT	[ ]
PULL OR ALTER CASING	[ ]			CASING TEST AND CEMENT JOB	[ ]		
OTHER:	[ ]			OTHER:			[ ]

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Request approval to abandon well as it no longer has a beneficial use. Estimated plugging date is March 20, 1995.

1) Fill 3½" casing with 2.25 cu.ft. of cement from TD to surface.
2) Cut off casing at ground level.
3) Clean up location.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Larry Sugano TITLE VP-Engineering DATE 3/2/95

TYPE OR PRINT NAME Larry Sugano TELEPHONE NO. 303-293-9379

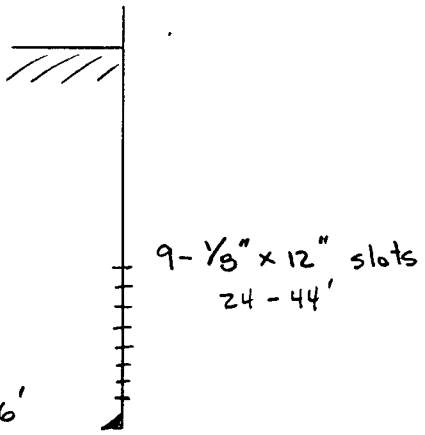
(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

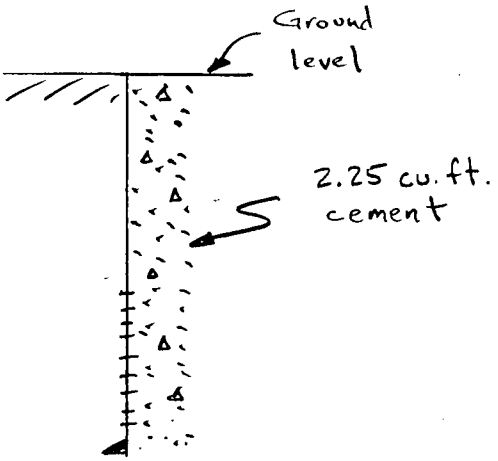
Monitor Well #1
1100' FWL & 300' FSL
Lea County, NM

EXISTING



TD 46'

PROPOSED



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State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

310 Old Santa Fe Trail, Room 206
Santa Fe, New Mexico 87503

Form C-103
Revised 1-1-89

WELL API NO.

5. Indicate Type of Lease STATE [X] FEE [ ]

6. State Oil & Gas Lease No. W-441

SUNDRY NOTICES AND REPORTS ON WELLS

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7. Lease Name or Unit Agreement Name

1. Type of Well: OIL WELL [ ] GAS WELL [ ] OTHER Ground water monitor well

2. Name of Operator: BURRO PIPELINE CORPORATION

8. Well No. #2

3. Address of Operator: 633-17th Street, Suite 1550, Denver, CO 80202

9. Pool name or Wildcat

4. Well Location
Unit Letter _____ : 1410 Feet From The East Line and 600 Feet From The South Line

Section 7 Township 10S Range 33E NMPM Lea County

10. Elevation (*Show whether DF, RKB, RT, GR, etc.*) 4173.3' GR

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	[ ]	PLUG AND ABANDON	[X]	REMEDIAL WORK	[ ]	ALTERING CASING	[ ]
TEMPORARILY ABANDON	[ ]	CHANGE PLANS	[ ]	COMMENCE DRILLING OPNS.	[ ]	PLUG AND ABANDONMENT	[ ]
PULL OR ALTER CASING	[ ]			CASING TEST AND CEMENT JOB	[ ]		
OTHER:	[ ]			OTHER:			[ ]

12. Describe Proposed or Completed Operations (*Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work*) SEE RULE 1103.

Request approval to abandon well as it no longer has a beneficial use. Estimated plugging date March 20, 1995.

1) Fill 3½" casing with 2.17 cu.ft. of cement from TD to surface.
2) Cut off casing at ground level.
3) Clean up location.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Larry Sugano TITLE VP-Engineering DATE 3/2/95

TYPE OR PRINT NAME Larry Sugano TELEPHONE NO. 303-293-9379

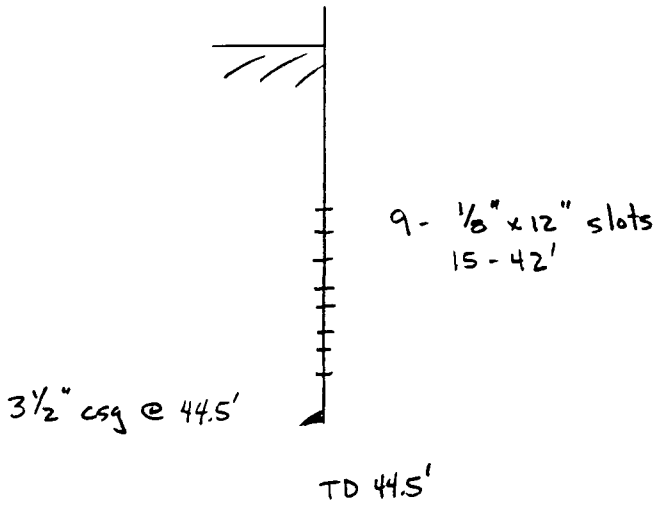
(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

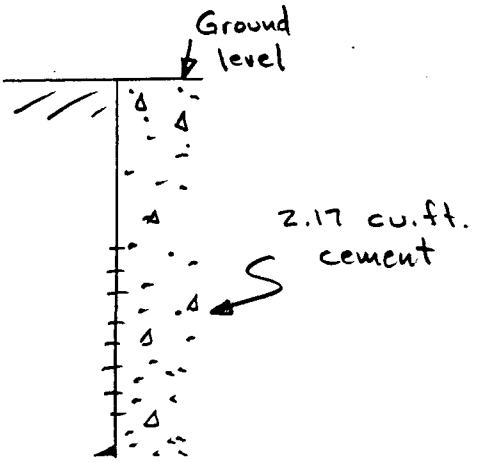
CONDITIONS OF APPROVAL, IF ANY:

Monitor Well #2
1410' FEL & 600' FSL
Lea County, NM

EXISTING



PROPOSED



Submit 3 Copies to Appropriate District Office

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-103
Revised 1-1-89

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

310 Old Santa Fe Trail, Room 206
Santa Fe, New Mexico 87503

WELL API NO.

5. Indicate Type of Lease STATE [X] FEE [ ]

6. State Oil & Gas Lease No. W-441

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name

1. Type of Well: OIL WELL [ ] GAS WELL [ ] OTHER Ground water monitor well

2. Name of Operator: BURRO PIPELINE CORPORATION

8. Well No. #3

3. Address of Operator: 633-17th Street, Suite 1550 Denver, CO 80202

9. Pool name or Wildcat

4. Well Location

Unit Letter _____ : 2400 Feet From The South Line and 1100 Feet From The East Line

Section 7 Township 10S Range 33E NMPM Lea County

10. Elevation (Show whether DF, RKB, RT, GR, etc.) 4161.4' GR

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	[ ]	PLUG AND ABANDON	[X]	REMEDIAL WORK	[ ]	ALTERING CASING	[ ]
TEMPORARILY ABANDON	[ ]	CHANGE PLANS	[ ]	COMMENCE DRILLING OPNS.	[ ]	PLUG AND ABANDONMENT	[ ]
PULL OR ALTER CASING	[ ]			CASING TEST AND CEMENT JOB	[ ]		
OTHER:	[ ]			OTHER:			[ ]

12. Describe Proposed or Completed Operations *(Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work)* SEE RULE 1103.

Request approval to abandon well as it no longer has a beneficial use. Estimated plugging date March 20, 1995.

1) Fill 3½" casing with 1.71 cu.ft. of cement from TD to surface.
2) Cut off casing at ground level.
3) Clean up location.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Larry Sugano TITLE VP-Engineering DATE 3/2/95

TYPE OR PRINT NAME Larry Sugano TELEPHONE NO. 303-293-9379

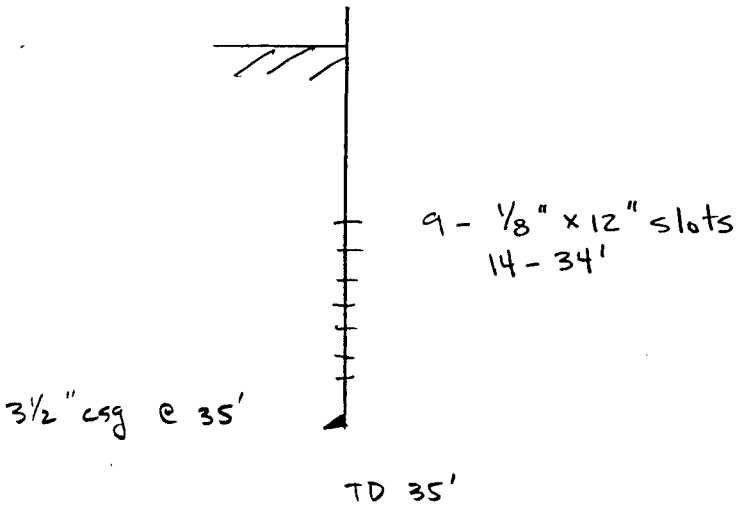
(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

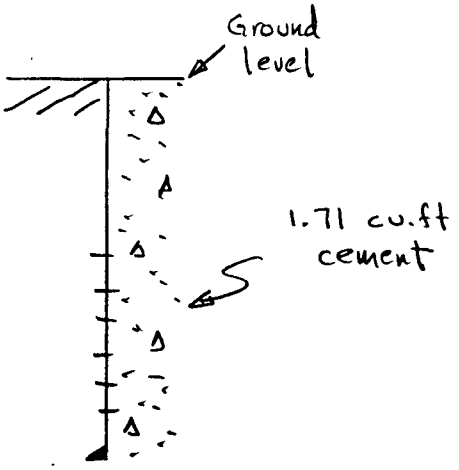
CONDITIONS OF APPROVAL, IF ANY:

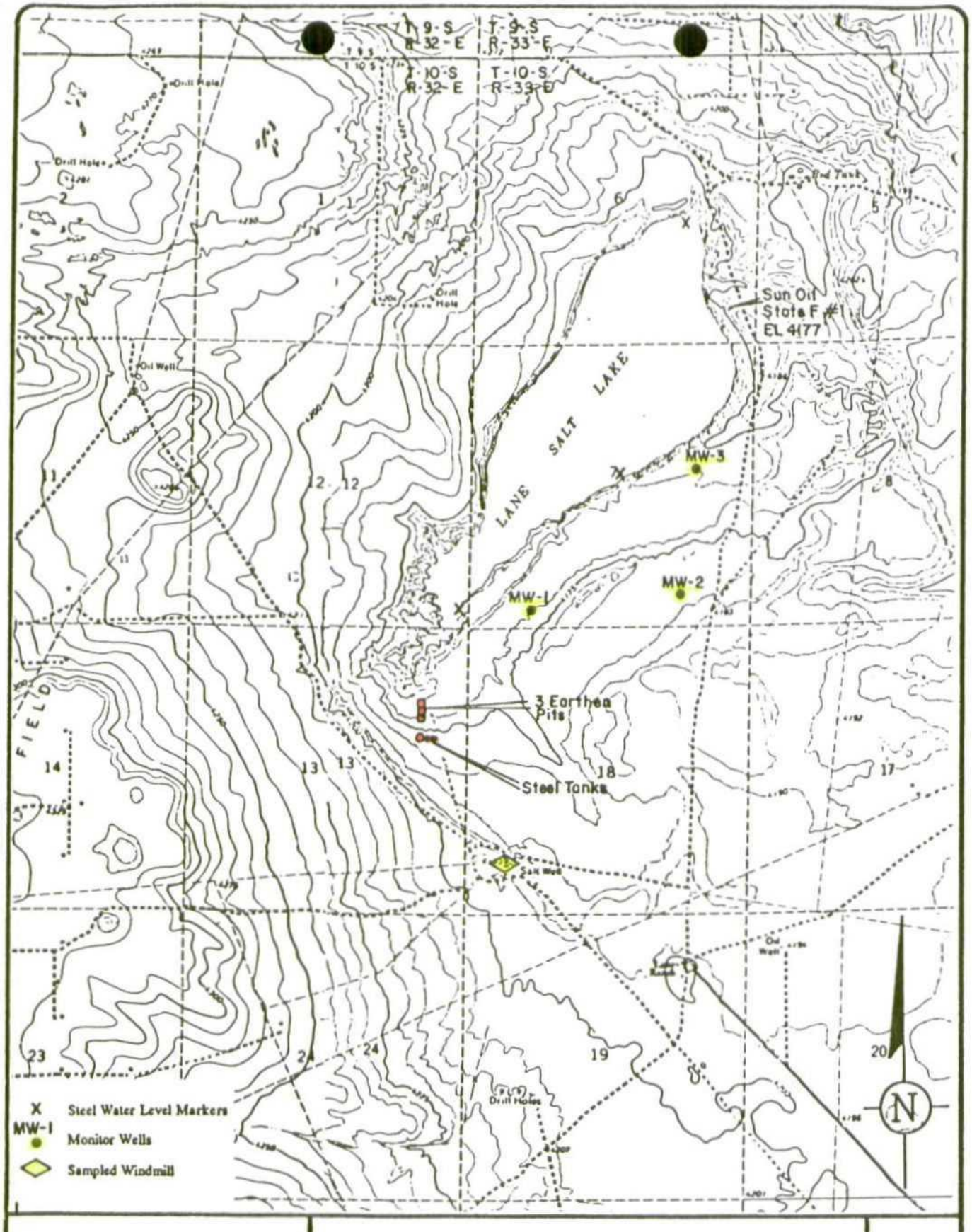
Monitor Well #3
2400' FSL & 1100' FEL
Lea County, NM

EXISTING



PROPOSED



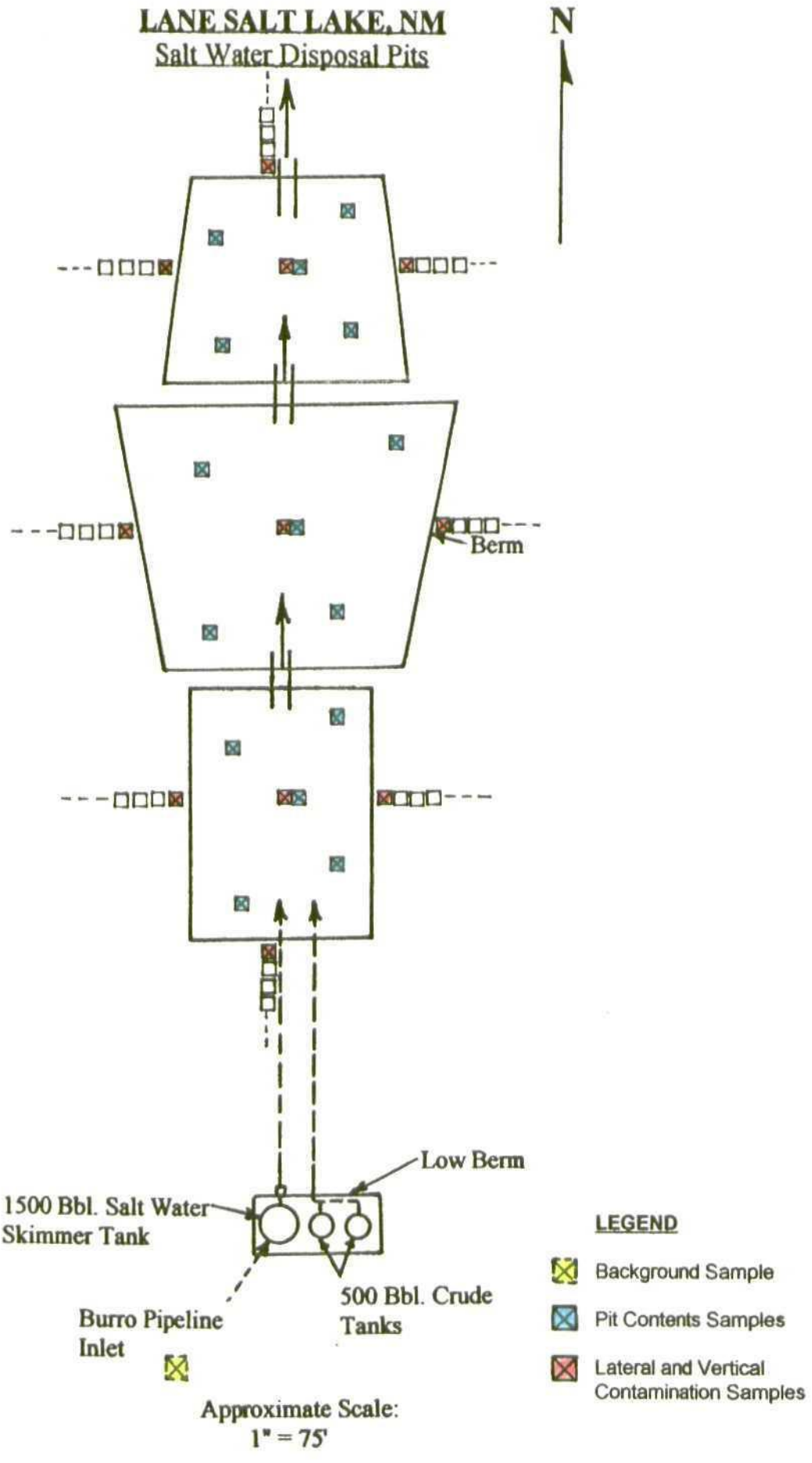


BURRO SALT WATER DISPOSAL SYSTEM

LEA COUNTY, NEW MEXICO

LANE SALT LAKE, NM

Salt Water Disposal Pits



Order # M5-02-054
02/24/95 12:42
Client: Discovery Operating

TEST RESULTS BY SAMPLE

Sample: 01A MW #1 Collected: 02/07/95 11:55

Test Name	Method	Result	Units	Detection Limit	Date Started	Analyst
CHLORIDE	SM 4500-CL,B	177	mg/L	14	02/16/95	WJJ
TOT. PET. HYDROCARBONS H2O	EPA 418.1	1.5	mg/L	0.5	02/22/95	SLS
TOTAL DISSOLVED SOLIDS	EPA 160.1	644	mg/L	10	02/16/95	WJJ

Sample: 02A MW #2 Collected: 02/07/95 11:50

Test Name	Method	Result	Units	Detection Limit	Date Started	Analyst
CHLORIDE	SM 4500-CL,B	213	mg/L	14	02/16/95	WJJ
TOT. PET. HYDROCARBONS H2O	EPA 418.1	3.2	mg/L	0.5	02/22/95	SLS
TOTAL DISSOLVED SOLIDS	EPA 160.1	792	mg/L	10	02/16/95	WJJ

Sample: 03A MW #3 Collected: 02/07/95 11:50

Test Name	Method	Result	Units	Detection Limit	Date Started	Analyst
CHLORIDE	SM 4500-CL,B	369	mg/L	14	02/16/95	WJJ
TOT. PET. HYDROCARBONS H2O	EPA 418.1	4.4	mg/L	0.5	02/22/95	SLS
TOTAL DISSOLVED SOLIDS	EPA 160.1	1350	mg/L	10	02/16/95	WJJ

Sample: 04A Windland Collected: 02/07/95 12:15

Test Name	Method	Result	Units	Detection Limit	Date Started	Analyst
CHLORIDE	SM 4500-CL,B	121	mg/L	14	02/16/95	WJJ
TOT. PET. HYDROCARBONS H2O	EPA 418.1	< 0.5	mg/L	0.5	02/22/95	SLS
TOTAL DISSOLVED SOLIDS	EPA 160.1	622	mg/L	10	02/16/95	WJJ

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

OIL CONSERVATION DIVISION
2040 S. Pacheco St.
Santa Fe, New Mexico 87505

January 18, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-205

Mr. Robert H. Fehlmann
Environmental Coordinator
Tipperary Corporation
633 Seventeenth St., Suite 1550
Denver, Colorado 80202

RE: SITE ASSESSMENT PLAN
LANE SALT LAKE DISPOSAL FACILITY
BURRO PIPELINE CORPORATION

Dear Mr. Fehlmann:

The New Mexico Oil Conservation Division (OCD) has completed a review of the October 10, 1994 "PRE CLOSURE SITE ASSESSMENT PROPOSAL, SALT WATER SKIMMER PITS, LANE SALT LAKE WATER DISPOSAL FACILITY OWNED BY BURRO PIPELINE CORPORATION, LEA COUNTY, NEW MEXICO" which was submitted on behalf of Burro Pipeline Corporation by the Tipperary Corporation. This document contains Tipperary's plan for assessment of the extent of contamination related to the use of unlined skimmer pits at Burro Pipeline Corporation's Lane Salt Lake Disposal Facility.

The above referenced site assessment plan **is approved with the following conditions:**

1. All soil samples taken will be sampled and analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), total petroleum hydrocarbons (TPH) and heavy metals using EPA approved methods.

   NOTE: A photoionization detector (PID) field headspace measurement of 100 parts per million (mg/l) of total organic vapor, if determined in accordance with OCD guidelines, may be substituted for a laboratory analysis of the concentrations of BTEX in soils. However, PID field measurements cannot be substituted for the concentrations of TPH in soils.

2. Since wastes generated at this facility are exempt from federal RCRA hazardous waste regulations, the OCD does not require that Tipperary analyze soils for RCRA Subtitle C Hazardous Characteristics.

3. Tipperary will sample ground water from any boreholes or trenches which encounter ground water.

4. Ground water samples from the monitor wells and boreholes or trenches will be sampled and analyzed for BTEX, polynuclear aromatic hydrocarbons (PAH), heavy metals and major cations and anions using EPA approved methods.

5. Tipperary will submit a report on the investigations to the OCD by May 5, 1995. The report will include a description of the actions performed, the results of all sampling activities, a ground water gradient map using the existing monitor wells and recommendations for closure.

6. Tipperary will notify the OCD at least one week in advance of all scheduled activities such that the OCD has the opportunity to witness the events and or split samples.

7. All original documents submitted for approval will be submitted to the OCD Santa Fe Office with copies provided to the OCD Hobbs District Office.

Please be advised that OCD approval does not relieve Tipperary of liability should the investigation activities determine that contamination exists which is beyond the scope of the work plan or if the closure activities fail to adequately determine the extent of contamination related to their activities. In addition, OCD approval does not relieve Tipperary of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Jerry Sexton, OCD Hobbs District Supervisor
Wayne Price , OCD Hobbs Office

Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

January 17, 1995

Mr. Rodger C. Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504

Subject: Site assessment proposal for salt water skimmer pits at Lane Salt Lake salt water disposal facility Lea County, New Mexico - owned by Burrow Pipeline Corporation.

Dear Mr. Anderson:

Last month when I called you regarding our Lane Salt Lake site assessment proposal, you were in the midst of "office-move turmoil". I hope you are all settled in now and have more room than you did in your old office.

When we talked, you indicated that our site assessment proposal had gotten misplaced during the move; so I have enclosed another copy of it in case it got "eaten" again during the turmoil. You can see that the assessment plan Tipperary has submitted is, as we discussed on the phone, a relatively simple, short, two pages plus a couple of maps.

Let me know whether or not this proposal is adequate or if we have made it too short and omitted some necessary procedures. Tipperary would like to get started on the assessment so that we can develop a mutually satisfactory closure process in time to take advantage of the warm summer months if a process like land farming is used.

Sincerely,

Robert H. Fehlmann

Robert H. Fehlmann
Environmental Coordinator

WPWIN \ TIP \ LETTERS \ NMPClose.L04

Already approved on 1/18/95

PRE CLOSURE SITE ASSESSMENT PROPOSAL

SALT WATER SKIMMER PITS

Lane Salt Lake Water Disposal Facility owned by Burro Pipeline Corporation
Lea County, New Mexico

ASSESSMENT OBJECTIVES:

1. Determine what is in the pits with respect to BTEX, TPH, heavy metals, and characteristically hazardous contaminants.

2. Determine where any contaminants, if any, have gone so far.

3. Determine where contaminants, if any, can go in the future.

4. Obtain enough information to devise an appropriate clean up and ultimate closure plan.

RECOMMENDED PROCEDURES FOR SITE ASSESSMENT:

BACKGROUND SAMPLE:

1. Take one soil background sample to a depth of one foot, in undisturbed soils, at an updip location away from any possible pit contamination, (Probably a few feet to the south of the tank battery). Analyze this sample for BTEX, TPH, heavy metals, (See attached diagram).

PIT CONTENTS SAMPLES:

1. Take one, composite, zero to one foot deep sample from each pit. Composite each pit sample from five subsamples taken as follows: One near the geometric center of the pit, and four others at randomly selected points in each of the four quadrants of the pit. Analyze each of the three composite pit samples for BTEX, TPH, and total metals. Additionally, analyze these samples for hazardous characteristics (reactivity, corrosivity, and ignitability) in order to verify that they are not characteristically hazardous, (See attached diagram).

2. Make one overall composite pit sample by combining a portion of each of the individual pit composite samples. Analyze this overall composite pit sample for Appendix IX constituents, with the exception of pesticides, herbicides, and dioxins. Additionally analyze this sample for TCLP metals which might be present.

SAMPLES FOR DETERMINATION OF LATERAL AND VERTICAL EXTENT OF ANY PIT CONTAMINANTS:

1. Auger samples in the center of each pit to the depth required to reach either background or the water table. Use PID measurements on HNu samples in the field to do BTEX and TPH determinations. Only analyze for metals found to be present above permitted limits in the composite pit samples.

2. Auger samples or dig trenches for samples, outside the berm, at the center of each exterior pit margin, to the lateral and vertical points required to reach either background or the water table, (See attached diagram). Analyze for BETX and TPH in the field with a PID, and only for metals found to be present above permitted limits, in the composite pit samples.

GROUNDWATER SAMPLES:

1. Sample and analyze the three ground water monitoring wells and windmill (SW SW 18-T10S-R33E) as has been done in the past. No contamination has ever been found in these wells, (See attached map).

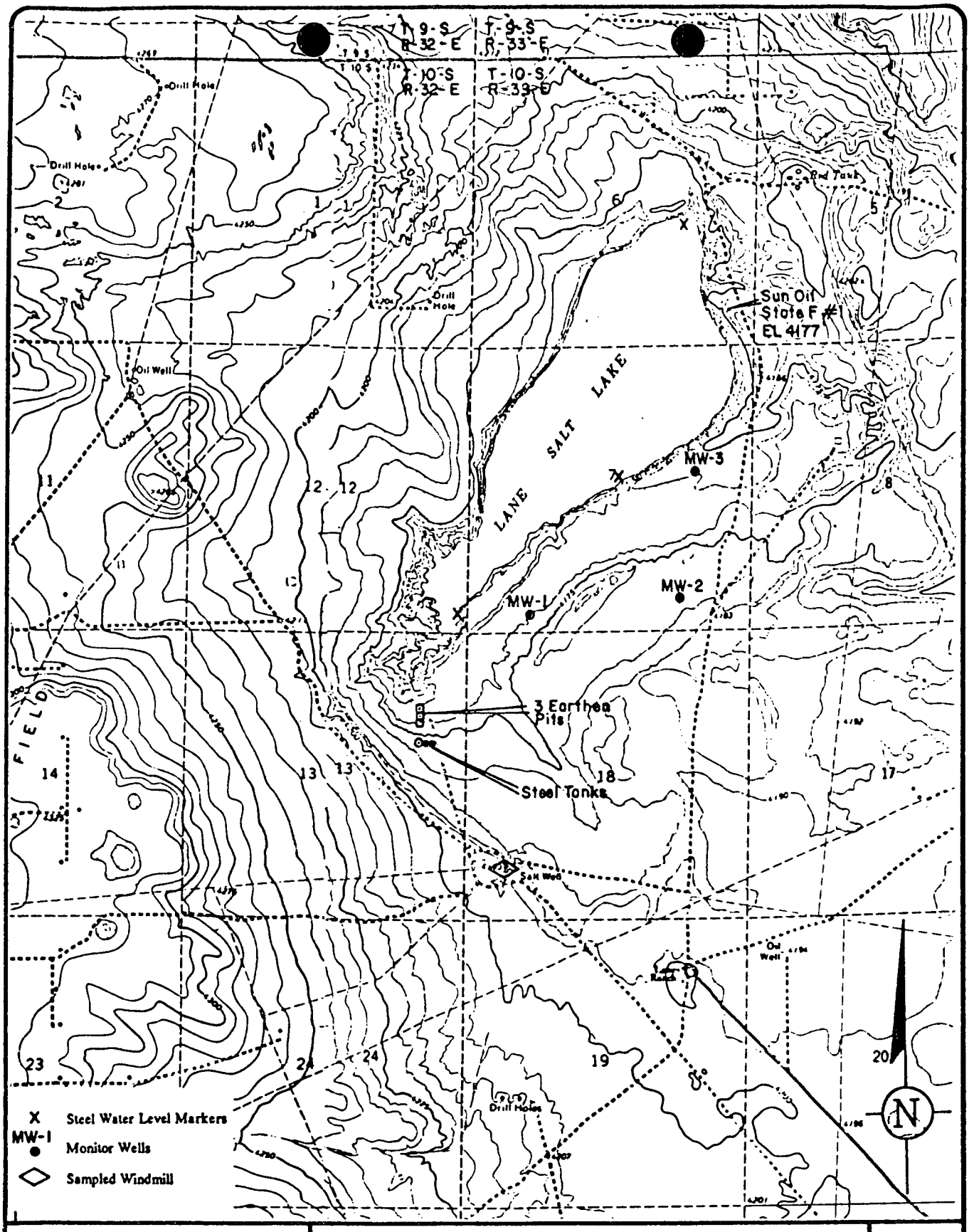
GENERAL COMMENTS:

1. The ground water table slopes toward Lane Salt Lake. In the monitoring wells, it is apparently found at depths between 14 and 24 feet. The aquifer is called the Ogallala, and in the pit area, it literally drains only to Lane Salt Lake.

2. The groundwater monitoring wells indicate that impermeable Triassic redbeds vary in depth from 33 to 44 feet from the surface, so no other aquifer can be contaminated.

3. All wells and other surface and subsurface water sources are greater than 1000 feet from the facility except for Lane Salt Lake.

4. Lane Salt Lake has no outlet; it is a natural, closed basin, so no other surface waters can have been contaminated by the facility. Natural deposits of salt were mined from Lane Salt Lake in the early 1900's, before Burro Pipeline Corporation added any salt water to it.

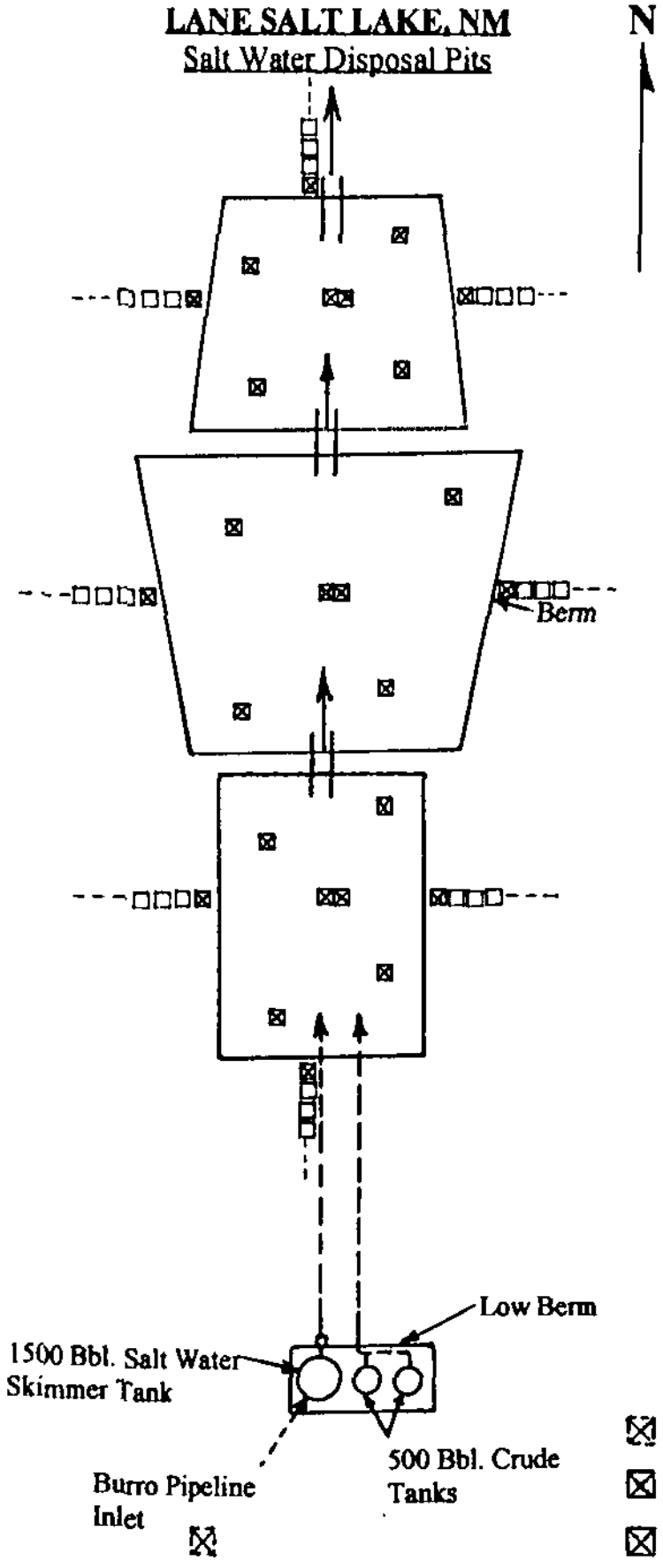


BURRO SALT WATER DISPOSAL SYSTEM

LEA COUNTY, NEW MEXICO

LANE SALT LAKE, NM

Salt Water Disposal Pits



Approximate Scale:
1" = 75'

Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

October 10, 1994

Mr. Roger C. Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504

Subject: **PRE CLOSURE SITE ASSESSMENT PROPOSAL**
SALT WATER SKIMMER PITS
Lane Salt Lake Water Disposal Facility owned by Burro Pipeline Corporation
Lea County, New Mexico

Dear Mr. Anderson:

Attached for your approval is Tipperary's PROPOSED SITE ASSESSMENT PLAN for Burro Pipeline Corporation's Lane Salt Lake salt water disposal pits. All sampling will be done by a competent environmental consulting company using appropriate procedures and proper equipment. Sample analysis will be conducted by an approved laboratory.

Once we have determined the type and extent of any contamination, an appropriate closure plan can be determined. Closure plans will be discussed with you and submitted to your office for approval before any work is actually commenced.

Please contact me if you have any questions about the attached site assessment plan, or if you have any helpful suggestions.

Sincerely Yours,

Robert H. Fehlmann

Robert H. Fehlmann
Environmental Coordinator

WPWIN60 \ TIP \ LETTERS \ NMPClose.Lo3

Tipperary Oil & Gas Corporation Burro Pipeline Corporation
Phone (303) 293-9379 Fax (303) 292-3428

PRE CLOSURE SITE ASSESSMENT PROPOSAL

SALT WATER SKIMMER PITS

Lane Salt Lake Water Disposal Facility owned by Burro Pipeline Corporation
Lea County, New Mexico

ASSESSMENT OBJECTIVES:

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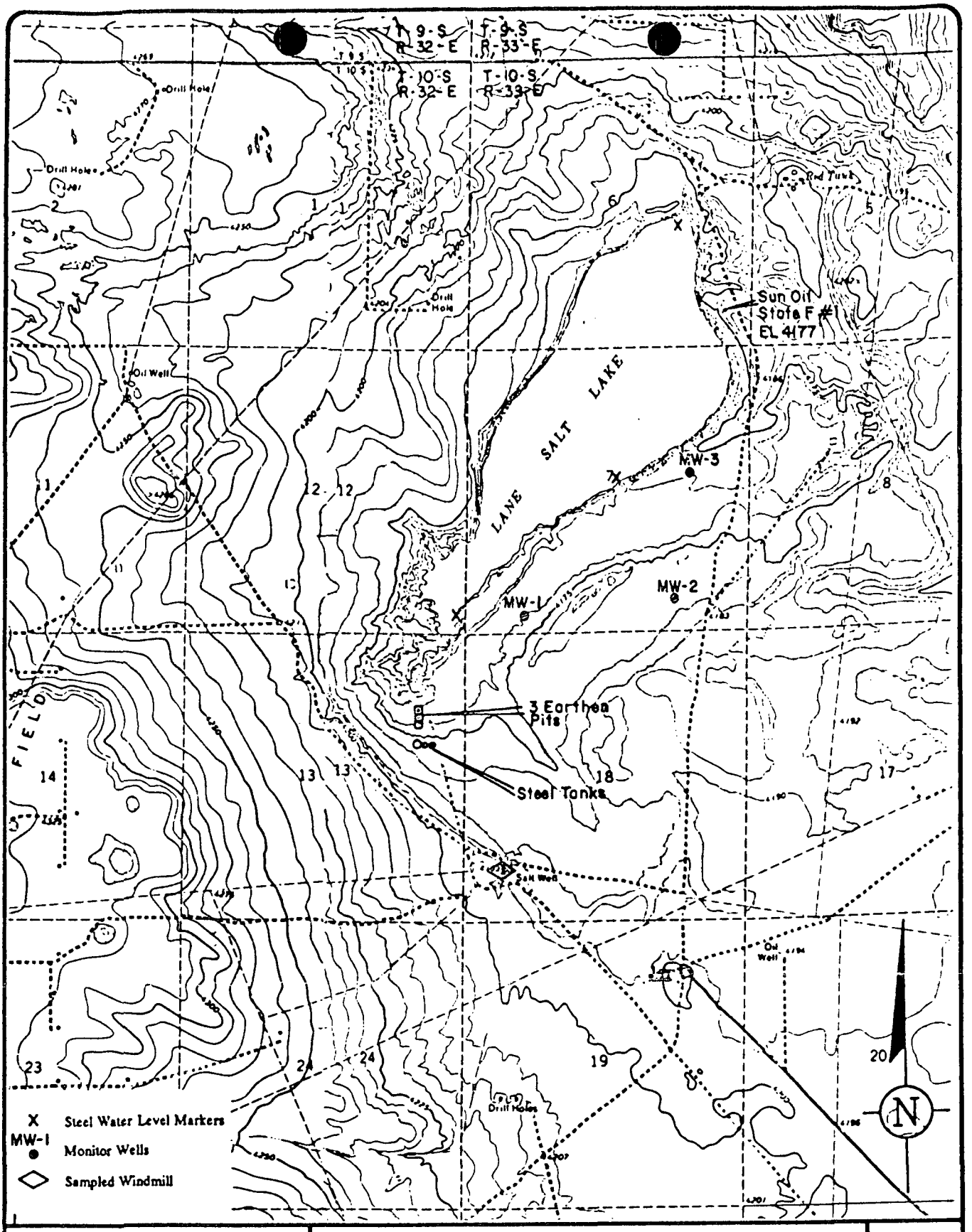
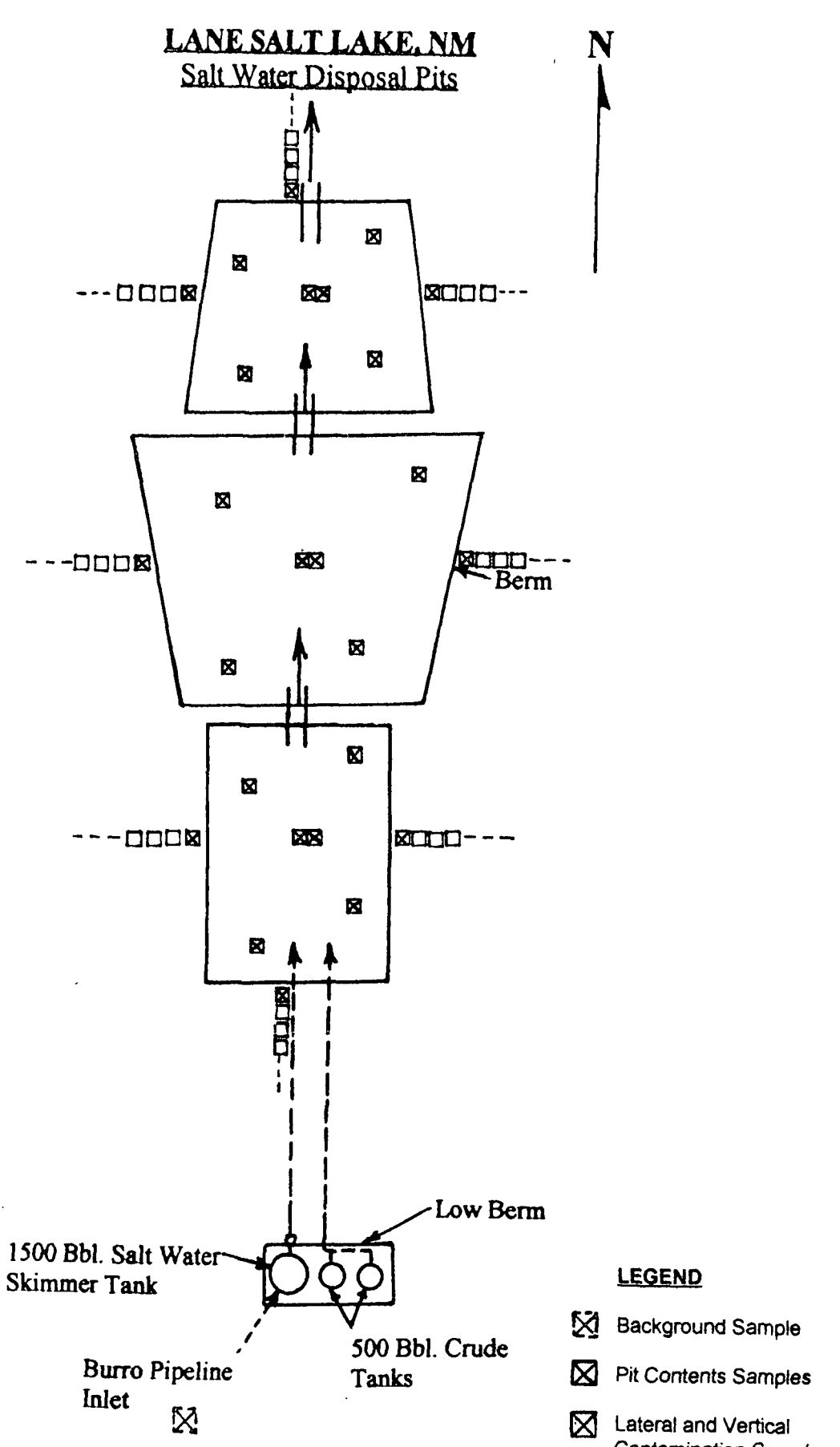


BURRO SALT WATER DISPOSAL SYSTEM

LEA COUNTY, NEW MEXICO

LANE SALT LAKE, NM

Salt Water Disposal Pits



Approximate Scale:
1" = 75'

Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

September 16, 1994 CERTIFIED-RETURN RECEIPT REQUESTED

Attention: Bea Mirabal
State of New Mexico
Office of the Commissioner of Public Lands
P. O. Box 1148
Santa Fe, NM 87504-1148

RE: State Land Office
Business Lease No. BL-597
T10S-R32E Portions of Sec 12
T10S-R33E Portions of Secs 6 & 7
Lea County, New Mexico

Ladies and Gentlemen:

Burro Pipeline Corporation has ceased disposing of salt water into Lane Salt Lake and therefore has discontinued surface operations on the lands surrounding the lake, covered by the referenced Business Lease. In light of these facts, we have elected not to tender the $4,000.00 remaining balance of the annual rental payment, covering the period from October 4, 1994, thru April 4, 1995, for said Business Lease.

Per your letter dated March 29, 1994, we are in the process of obtaining approval of the OCD closeout requirements. Burro respectfully requests that you furnish to us, in writing, your approval that the leased premises are in proper order and that the $4,000 balance is no longer due.

Your earliest response to this request will be greatly appreciated.

Sincerely,

Michelle Sullivan
Land Administrator

statenm.ltr

cc: Oil Conservation Division/Santa Fe and Hobbs

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

December 15, 1993

CERTIFIED MAIL
RETURN RECEIPT NO. P-111-334-073

Mr. Robert T. Larson Jr.
Burro Pipeline Corporation
633 17th Street
Suite 1550
Denver, Colorado 80202

RE: **EXTENSION FOR WATER DISPOSAL INTO LANE SALT LAKE**
BURRO PIPELINE CORPORATION DISPOSAL FACILITY
LEA COUNTY, NEW MEXICO

Dear Mr. Larson:

The New Mexico Oil Conservation Division (OCD) has received your October 25, 1993 request for an extension until February 1, 1994 to dispose of produced water into Lane Salt Lake. In addition, Burro Pipeline Corporation (Burro) requests a "grace period" of one- hundred and eighty (180) days following commencement of disposal into the LBO, State OG #2 salt water disposal (SWD) well to ensure that it is capable of taking the total volume of water.

Burro is also in the process of obtaining the necessary legal agreements and regulatory permits to prepare a second SWD for emergency backup purposes. Subsurface injection will allow Burro to cease disposal into Lane Salt Lake and to then close the associated disposal operations (ie. unlined settling ponds).

The OCD hereby approves the extension to dispose of produced water into Lane Salt Lake until February 1, 1994, and a one-hundred and eighty day grace period from the date of commencement of disposal into the SWD well.

Please be that this approval does not relieve you of liability should your operation result in actual pollution of surface or ground waters or the environment actionable under other laws and/or regulations. In addition, the OCD approval does not relieve you of liability for compliance with any other laws and/or regulations.

If you have any questions, please do not hesitate to contact Kathy M. Brown at (505) 827-5884.

Sincerely,

William J. Lemay
Director

WJL/kmb

xc: Jerry Sexton, OCD Hobbs Office

Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

October 25, 1993

Ms. Kathy M. Brown, Geologist III
State of New Mexico Energy Minerals and Natural Resources Department
Oil Conservation Division
P.O. Box 2088
State and Land Office Building
Santa Fe, New Mexico 87504

Re: Request for an extension to February 1, 1994 for the deadline to cease water disposal into Lane Salt Lake by Burro Pipeline Corporation.
Lane Salt Lake Disposal Facility, Lea County, New Mexico

Dear Ms. Brown:

On July 20, 1993 Burro Pipeline Corporation (Burro) requested and was granted, an extension until November 2, 1993 to cease water disposal into Lane Salt Lake. Since that time Burro has acquired, tested, and is presently equipping for disposal the LBO, State OG#2 borehole (T11S, R33E Sec.9 NWSW 660' FWL, 1980' FSL). This well appears to be capable of taking the majority of the produced water that must be disposed of. A considerable amount of time was required to satisfy the land and legal requirements concerning the ownership of the proposed water disposal well. We have now obtained the water disposal permit and are in position to begin construction of the pipeline, associated tank batteries and the pumping station that will be necessary to divert water flows within the existing gathering system to the new disposal well.

We have secured the necessary rights-of-way, contracted to purchase and lay the new pipeline, and are building the tankage required for the transfer station and the water disposal surface location. As a result of the depressed oil and gas industry, tanks and pipe are not kept in inventory, which necessitates that these items be built as requested, which has added another element of delay to our program. Despite these logistical problems, Burro is making significant headway toward completion of this important project. We now anticipate that ground will be broken within thirty (30) days to lay the pipeline and that the actual laying of the line will take no more than two weeks. All tanks, pumps, and accessory equipment will be delivered to their respective locations within forty five (45) days. We anticipate that the necessary construction and testing of the completed system will take no more than an additional fifteen (15) days. We should be ready to begin diverting water away from the Lane Salt Lake and into the salt water disposal well shortly after year end.

In consideration of all of the above, Burro herein requests an additional extension to February 1, 1994 to cease water disposal into Lane Salt Lake while we complete our preparation of the disposal system. In addition, we request a "grace period" of one hundred and eighty (180) days following commencement of disposal into the new well, during which a limited amount of water may be disposed of into Lane Salt Lake while a second disposal well is prepared for injection and as an emergency backup should the system encounter any start-up problems. As soon as we are certain that the new system is on line and working we will begin to decommission the facilities that presently discharge water into Lane Salt Lake.

Please let me know if this request for an extension, with it's associated timing, meets with your approval or if there is any additional material that you desire. Thank you for your continued cooperation and consideration in this matter.

Very truly yours,

Robert T. Larson Jr.

Robert T. Larson Jr.
Manager, Oil and Gas Operations

RTL

WPWIN \ TIP \ LETTERS \ LaneLake L3

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time	Date
	2:30 PM.	August 3, 1993

Originating Party	Other Parties
Bob Larson	Kathy Brown OCD

Subject: Burro - Lane Salt Lake Disposal Well Candidate OG State #2

Discussion: OG State #2 - Not testing well for taking water. Pressured 3000 lbs + 4.1 bbl/minute. Need to put away 5400 bbl/water/day. ~~Any~~ Will try to acidize lower zone & open back up zone. If won't go after acidizing. Also looking @ upper zones - having a log analyst look @ these upper sands/marls. Will keep us posted.

Conclusions or Agreements:

Distribution:

Signed: Kathy Brown

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

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

July 30, 1993

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-242-006

Mr. Robert T. Larson Jr.
Burro Pipeline Corporation
633 17th Street
Suite 1550
Denver, Colorado 80202

RE: **EXTENSION FOR WATER DISPOSAL INTO LANE SALT LAKE**
BURRO PIPELINE CORPORATION DISPOSAL FACILITY
LEA COUNTY, NEW MEXICO

Dear Mr. Larson:

The New Mexico Oil Conservation Division (OCD) has received your July 21, 1993 request for an extension until November 1, 1993 to dispose of produced water into Lane Salt Lake. Burro Pipeline Corporation (Burro) is in the process of obtaining the necessary legal agreements and regulatory permits to dispose of produced water by subsurface injection into a salt water disposal well. Subsurface injection will allow Burro to cease disposal into Lane Salt Lake and to then close the associated disposal operations (ie. unlined settling ponds).

The OCD hereby approves the extension to dispose of produced water into Lane Salt Lake until November 1, 1993.

Please be that this approval does not relieve you of liability should your operation result in actual pollution of surface or ground waters or the environment actionable under other laws and/or regulations. In addition, the OCD approval does not relieve you of liability for compliance with any other laws and/or regulations.

If you have any questions, please do not hesitate to contact Kathy M. Brown at (505) 827-5884.

Sincerely,

William J. Lemay
Director

WJL/kmb

xc: Jerry Sexton, OCD Hobbs Office
Jim Piatt, NMED Surface Water Quality Bureau

Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

July 21, 1993

Ms. Kathy M. Brown, Geologist III
State of New Mexico Energy Minerals and Natural Resources Department
Oil Conservation Division
P.O. Box 2088
State and Land Office Building
Santa Fe, New Mexico 87504

Re: Request for extension of August 2, 1993 deadline to discontinue water disposal into Lane Salt Lake by Burro Pipeline Corporation.
Lane Salt Lake Disposal Facility
North Bagley Field Area
Lea County, New Mexico

Dear Ms. Brown:

Thank you for taking the time to talk with Mr. Jeff Obourn, Vice President - Land, and me by phone last Friday, July 16. As we discussed, the preparations to commence disposing of produced water into a water disposal well have been diligently pursued by Burro Pipeline Corporation ("Burro"). My previous letter of March 16,1993, outlined Burro's plans to utilize the State #1-D [T10S, R33E Sec.31 unit H (SENE)], for subsurface disposal of produced water in the North Bagley Field. Burro, has been unsuccessful in obtaining an acceptable agreement with the surface owner at this particular location. Therefore, we have had to investigate and identify suitable alternatives to the State #1-D well. We are pleased to advise you that Burro has identified and secured the rights to test what appears to be an excellent candidate disposal well.

Burro Pipeline, through its agreement with LBO New Mexico, Inc., has submitted a permit application seeking approval to dispose of produced water into the LBO, State OG#2 [T11S, R33E Sec.9 NWSW (660' FWL, 1980' FSL)].

We have discussed in detail the planned conversion of the State OG#2 to an injection well with an associate of yours, Mr. David Catanach. Mr. Catanach has indicated that as soon as the permitting paperwork is in his hands and has been reviewed, he will be in a position to grant administrative approval for Burro to begin testing the well. Upon receipt of administrative approval, Burro will proceed immediately with the testing of this wellbore. Should injectivity tests confirm that the State OG#2 will take water in acceptable quantities, then the necessary surface facility alterations shall be commenced, including the laying of approximately 10,600 feet of 8" poly pipe into the injection well site.

Testing should be completed in the State OG #2 within three weeks. Building the necessary new surface facilities, design and construction of the new pipeline to the injection well, right of way negotiations, and wellbore preparation should take an additional six to nine weeks. We anticipate being able to complete the entire project in approximately 90 days.

Therefore, Burro respectfully requests that it be granted an extension until November 1, 1993 to discontinue water disposal into the Lane Salt Lake in favor of the subsurface injection of produced water into the State OG#2 wellbore. After a brief period of testing time required to insure that the State OG#2 will indeed take the quantities of water necessary, Burro Pipeline will begin operations to close the Lane Salt Lake disposal facilities.

Please advise us at your very earliest opportunity if this extension request meets with your approval. Please do not hesitate to contact the undersigned if there is any additional material that you desire. We certainly appreciate your continued cooperation and consideration in this matter and look forward to a successful project.

Very truly yours,

Robert T. Larson Jr.
Manager, Oil and Gas Operations

RTL

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

July 15, 1993

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

Burro Pipeline Corporation
633 17th Street, Suite 1550
Denver, Co. 80202

Attention: David L. Bradshaw

Re: $25,000 Commercial Surface Waste Disposal
Facility, Burro Pipeline Corporation,
Principal; Continental Casualty Co., Surety
Sections 6 and 7, T-10-S, R-33-E
Lea County
Bond No. 123972081

Dear Mr. Bradshaw:

The Oil Conservation Division hereby approves the above-referenced bond effective this date.

Sincerely,

WILLIAM J. LEMAY,
Director

dr/

cc: Oil Conservation Division
Santa Fe and Hobbs

Continental Casualty Company
999 18th Street, Suite 2800
Denver, Co. 80202

OF THE ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

$25,000.00 BOND FOR COMMERCIAL SURFACE WASTE DISPOSAL FACILITY

OIL CONSERVATION DIVISION
RECEIVED
'93 JUN 28 AM 10 02

OIL CONSERVATION DIVISION
RECEIVED
'93 JUN 28 AM 8 52

BOND NO. 123972081
(For Use of Surety Company)

File with Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87504

KNOW ALL MEN BY THESE PRESENTS:

That BURRO PIPELINE CORPORATION, (a corporation organized in the State of Colorado, with its principal office in the City of Denver, State of Colorado, and authorized to do business in the State of New Mexico), as PRINCIPAL, and CONTINENTAL CASUALTY COMPANY, a corporation organized and existing under the laws of the State of Illinois, and authorized to do business in the State of New Mexico with duly appointed resident agent licensed in the State of New Mexico to execute this bond on behalf of the surety company, as SURETY, are held firmly bound unto the State of New Mexico, for the use and benefit of the Oil Conservation Division of the Energy, Minerals and Natural Resources Department pursuant to Chapter 72, Laws of New Mexico, 1935, as amended, and to the State of New Mexico in the sum of Twenty Five Thousand ($25,000.00) Dollars lawful money of the United States for the payment of which, well and truly to be made, said PRINCIPAL and SURETY hereby bind themselves, their successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such that:

WHEREAS, The above principal has heretofore or may hereafter enter into the collection, disposal or storage of produced water and/or other oil field related waste in Section 6 & 7, Township 10 (North) (South), Range 33 (East) (West), N.M.P.M., Lea County, New Mexico.

NOW, THEREFORE, This $25,000 performance bond is conditioned upon substantial compliance with all applicable statutes of the State of New Mexico and all rules, regulations, and orders of the Oil Conservation Division of the Energy and Minerals Department, and upon clean-up of the facility site to standards of the Oil Conservation Division; otherwise the principal amount of the bond to be forfeited to the State of New Mexico.

PROVIDED, HOWEVER, That sixty (60) days after receipt by the Oil Conservation Division of written notice of cancellation from the Surety, the obligation of the Surety shall terminate as to activities or operations conducted by PRINCIPAL after said sixty (60) day period but shall continue in effect, notwithstanding said notice, as to such activities or operations conducted or commenced before the expiration of the sixty day period.

Signed and sealed this 18th day of June, 19 93.

PRINCIPAL	SURETY
BURRO PIPELINE CORPORATION	CONTINENTAL CASUALTY COMPANY
633 17th Street, Suite 1550 Denver, CO 80202	999 18th Street, Suite 2800 Denver, Colorado 80202
Mailing Address	Mailing Address
By David L. Bradshaw Vice Presidat	By [signature]
Signature Title	Attorney-in-Fact
David L. Bradshaw, Vice President	Douglas J. Rothey
(Note: Principal, If corporation Affix corporate seal here.)	(Note: Corporate surety affix corporate seal here.)

Note: If corporate surety executes this bond by an attorney-in-fact not in New Mexico, the resident New Mexico agent shall countersign here below.)

Countersigned by:

ACKNOWLEDGEMENT FORM FOR CORPORATION

STATE OF Colorado)
COUNTY OF Denver)ss.

On this 23rd day of June, 1993 before me personally appeared Donald K Bradshaw, to me personally known who, being by me duly sworn, did say that he is Vice President of Burlington Resources Co. and that the foregoing instrument was signed and sealed on behalf of said corporation by authority of its board of directors, and acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the day and year in this certificate first above written.

My Commission Expires February 10, 1996
633 17th Street, #1550
Denver, Colorado 80202

Elaine R Freese
Notary Public

My Commission Expires

ACKNOWLEDGEMENT FORM FOR CORPORATE SURETY

STATE OF Colorado)
COUNTY OF Denver)ss.

On this 18th day of June, 1993, before me appeared Douglas J Rothey, to me personally known, who, being by me duly sworn, did say that he is Atty-in-Fact of Continental Casualty Company and that the foregoing instrument was signed and sealed on behalf of said corporation by authority of its board of directors, and acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on the day and year in this certificate first above written.

Mary Catherine Kaburgaye
Notary Public

9-13-95
My Commission Expires

(Note: Corporate surety attach power of attorney.)

APPROVED BY:

OIL CONSERVATION DIVISION OF NEW MEXICO

By: _____

Date: _____

Continental Casualty Company

CNA

For All the Commitments You Make

AN ILLINOIS CORPORATION

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men by these Presents, That CONTINENTAL CASUALTY COMPANY, a corporation duly organized and existing under the laws of the State of Illinois, and having its principal office in the City of Chicago, and State of Illinois, does hereby make, constitute and appoint Robert L. Cohen, Conrad W. Pobuda, Theresa M. Fadul, Gerald J. Hayes, Douglas J. Rothey, Individually

of Denver, Colorado

its true and lawful Attorney-in-fact with full power and authority hereby conferred to sign, seal and execute in its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind CONTINENTAL CASUALTY COMPANY thereby as fully and to the same extent as if such instruments were signed by the duly authorized officers of CONTINENTAL CASUALTY COMPANY and all the acts of said Attorney, pursuant to the authority hereby given are hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the Board of Directors of the Company.

"Article IX—Execution of Documents

Section 3. Appointment of Attorney-in-fact. The President or a Vice President may, from time to time, appoint by writtencertificates attorneys-in-fact to act in behalf of the Company in the excecution of policies of insurance, bonds, undertakings and other obligatory instruments of like nature. Such attorneys-in-fact, subject to the limitations set forth in their respective certificates of authority, shall have full power to bind the Company by their signature and execution of any such instruments and to attach the seal of the Company thereto. The President or any Vice President or the Board of Directors may at any time revoke all power and authority previously given to any attorney-in-fact."

This Power of Attorney is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of the Company at a meeting duly called and held on the 3rd day of April, 1957.

"Resolved, that the signature of the President or Vice President and the seal of the Company may be affixed by facsimile on any power of attorney granted pursuant to Section 3 of Article IX of the By-Laws, and the signature of the Secretary or an Assistant Secretary and the seal of the Company may be affixed by facsimile to any certificate of any such power, and any power or certificate bearing such facsimile signatures and seal shall be valid and binding on the Company. Any such power so executed and sealed and certified by certificate so executed and sealed shall, with respect to any bond or undertaking to which it is attached, continue to be valid and binding on the Company."

In Witness Whereof, CONTINENTAL CASUALTY COMPANY has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 18th day of February, 19 93.

CONTINENTAL CASUALTY COMPANY

State of Illinois }
County of Cook } ss

CONTINENTAL CASUALTY COMPANY CORPORATE SEAL 1897

J. E. Purtell — Vice President.

On this 18th day of February, 1993, before me personally came J. E. Purtell, to me known, who, being by me duly sworn, did depose and say: that he resides in the Village of Glenview, State of Illinois; that he is a Vice-President of CONTINENTAL CASUALTY COMPANY, the corporation described in and which executed the above instrument; that he knows the seal of said Corporation; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said corporation and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said corporation.

LINDA C. DEMPSEY NOTARY PUBLIC Cook Co., IL.

Linda C. Dempsey — Notary Public.

My Commission Expires October 19, 1994

CERTIFICATE

I, George R. Hobaugh, Assistant Secretary of CONTINENTAL CASUALTY COMPANY, do hereby certify that the Power of Attorney herein above set forth is still in force, and further certify that Section 3 of Article IX of the By-Laws of the Company and the Resolution of the Board of Directors, set forth in said Power of Attorney are still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said Company this 18th day of June, 19 93.

CONTINENTAL CASUALTY COMPANY CORPORATE SEAL 1897

George R. Hobaugh — Assistant Secretary

Form 1-23142-B

INV. NO. G-59200-B

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

May 11, 1993

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-241-985

Mr. Robert T. Larson Jr.
Burro Pipeline Corporation
633 17th Street
Suite 1550
Denver, Colorado 80202

RE: Approval for Modification of OCD Rule 711 Permit
Burro Pipeline, Lane Salt Lake Disposal Facility

Dear Mr. Larson:

The Oil Conservation Division (OCD) has received and reviewed your correspondence dated March 30, 1993, containing the information requested January 29, 1993, by the OCD for compliance with Rule 711. Burro Pipeline was out of compliance with four of the conditions stated in the March 6, 1992, OCD Rule 711 permit approval. The OCD requested that Burro Pipeline address the quality of discharge into Lane Salt Lake, closure of the existing unlined settling ponds, and construction of the new double lined settling ponds.

Burro Pipeline Corporation has proposed to permit a SWD well for disposal of produce water and then to cease discharge into Lane Salt Lake and close the unlined settling ponds. Burro Pipeline has obtained OCD approval to utilize Southland Royalty, State #1 -D as a SWD well and is in the process of negotiating a lease with the surface owner. Upon obtaining the necessary legal formalities and performing the required workover operations, Burro Pipeline has proposed to test the SWD well to insure that it will take the quantities of water necessary prior to closing the Lane Salt Lake disposal facility.

The OCD hereby approves the proposed facility modification under the following conditions:

1. All discharges of produced water into Lane Salt Lake will cease by August 2, 1993.

2. The three unlined settling ponds will be closed according to the closure plan in your March 30, 1993 correspondence. Prior to closure of the ponds or commencement of a pilot test, Burro Pipeline will submit a plan detailing the exact procedures to be utilized and including a specific time schedule and sampling plan.

3. All other conditions and requirements of the Rule 711 permit remain in effect.

Please be advised approval of this facility modification does not relieve you of liability should your operation result in actual pollution of surface or ground waters or the environment actionable under other laws and/or regulations. In addition, the OCD approval does not relieve you of liability for compliance with any other laws and/or regulations.

If you have any questions, please do not hesitate to contact Kathy M. Brown at (505) 827-5884.

Sincerely,

William J. LeMay

William J. Lemay
Director

xc: Jerry Sexton, OCD Hobbs Office
Jim Piatt, NMED Surface Water Quality Bureau

Tipperary
CORPORATION

633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

March 30, 1993

Mr. Roger C. Anderson, Environmental Bureau Chief
State of New Mexico Energy Minerals and Natural Resources Department
Oil Conservation Division
P.O. Box 2088
State and Land Office Building
Sante Fe, New Mexico 87504

Re: Compliance for OCD Rule 711 Permit
Burro Pipeline
Lane Salt Lake Disposal Facility

Dear Mr. Anderson:

It is the intention of Burro Pipeline Corporation to cease disposal of produced water into the Lane Salt Lake Disposal Facility as soon as possible. To that end we have identified a potential water disposal well and are proceeding with the necessary engineering, legal and lease work that will allow Burro Pipeline to start disposing of produced water into the SWD well rather than Lane Salt Lake.

We have been granted a permit from OCD to attempt to utilize the Southland Royalty, State #1-D [T10S, R33E Sec.31 unit H (SENE)], as a water disposal well. In addition, we have received permission from Yates Petroleum, the present owner of the minerals on the lease, for right of ingress and egress and to utilize the borehole for SWD purposes. We are now in the final stages of negotiating a water disposal lease with the surface owner, Mr Carl Lane Johnson. In addition, two (2) possible alternatives exist for the disposal of Burro water, therefore, we feel confident that this matter will be resolved in the near future.

We believe that we will be concluding our negotiations with the surface owner within the next 60 days. Upon execution of the water disposal lease with the surface owner, we will immediately begin operations to clean out the borehole of the State #1-D and restore that well to full salt water disposal capability. A copy of our plan of operations is enclosed for your files. We do not anticipate that this activity will take in excess of 60 days. Once that well is mechanically operational, we will begin moving water to the disposal well rather than Lane Salt Lake. After a brief period of time to insure that the State #1-D will indeed take the quantities of water necessary, Burro Pipeline will begin operations to close the facilities for disposal into Lane Salt Lake.

Since Burro Pipeline has no intention of continuing water disposal into Lane Salt Lake, your conditions of approvals indicated in your letter of January 29, 1993: (1) Identification of Landowners; (2) Discharge Quality; and (4) Construction of New Settling Ponds, have become non-applicable. Insofar as requirement (3) Closure of Settling Ponds is concerned, I have enclosed a copy of the CLOSURE PLAN, BURRO PIPELINE LANE SALT LAKE FACILITY that was prepared for Burro Pipeline Company by Geraghty & Miller, Inc. an environmental service, and modified to fit our present plans to convert from disposal into Lane Salt Lake to a salt water disposal well.

Please let me know if this plan of action and it's associated timing meets with your approval or if there is any additional material that you desire.

Very truly yours,

Robert T. Larson Jr.
Manager, Oil and Gas Operations

RTL
Enclosures

WPWIN \ TIP \ LETTERS \ LaneLake L1

CLOSURE PLAN

BURRO PIPELINE LANE SALT LAKE FACILITY

Prepared for Burro Pipeline Company
Denver, Colorado
January, 1992
by
Geraghty & Miller, Inc.
Environmental services
1099 18th Street, Suite 2100
Denver, Colorado 80202
(303) 294-1200

Revised and Updated by Burro Pipeline Company
March, 1993

INTRODUCTION

The Burro Pipeline Company has prepared this closure plan pursuant to a letter from the Oil Conservation Division (OCD) of the Energy, Mineral and Natural Resources Department, State of New Mexico. This plan is required by OCD Rule 711.

FACILITY DESCRIPTION

The Burro Pipeline Lane Salt Lake Facility, also known as the Burro Salt Water Disposal (SWD) Facility, is a central salt water gathering and disposal system located 13 miles west of Tatum, New Mexico. The gathering system is comprised of approximately 50 miles of pipe with approximately 110 connections. As of March 1, 1993, the system is handling 5,530 barrels of salt water per day.

The Burro SWD Facility consists of a 1,500-barrel oil/water separator tank, two 500-barrel oil collection tanks, and three sediment settling ponds.

CLOSURE SCHEDULE

The three existing settling ponds will be closed once the State "D" Salt water disposal well has been reworked and is capable of taking water. At that time the lake itself will no longer be receiving any produced water.

The Burro Pipeline Company will notify the OCD upon final cessation of operations at the SWD Facility. It is expected that the total time required to close this facility will be longer than 6 months. Rationale for a closure period greater than 6 months is described below in the "Unit Closure" section. However, a more detailed closure schedule will be provided to OCD with the notification of cessation of operations.

CLOSURE PROCEDURES

UNIT DESCRIPTIONS AND MAXIMUM WASTE VOLUME

SETTLING PONDS

The three settling ponds each cover approximately 10,000 to 15,000 square feet. Maximum depth of each pond is approximately 10 feet. The ponds are constructed of compacted soil and are surrounded by individual berms. Each of the three settling ponds is about half full with sediment and sludge, containing between 2,000 and 4,000 cubic yards of sediment and sludge.

OIL/WATER SEPARATOR AND OIL COLLECTION TANKS

The 1,500-barrel oil/water separator tank and two 500-barrel oil collection tanks will remain in operation until facility closure. The separator tank will contain sediment and sludge. The oil tanks may contain up to 500 barrels of oil each. The oil is currently sold to an oil recycling firm; it is expected that this practice will continue. A small amount of sludge and very heavy oil may remain in the collection tanks after the oil is removed.

UNIT CLOSURE

SETTLING PONDS

Al of the ponds will be closed following the same procedure.

- Free oil floating on the surface of the pond will be vacuum pumped and recycled or properly disposed at an OCD approved facility.
- The pond will be allowed to naturally drain to Lane Salt Lake to the extent possible.
- Free water will be pumped from the base of the pond. The water will be disposed of in an OCD-approved site.
- The sediment and sludge will be managed to reduce hydrocarbon residue concentrations to a level that will prevent adverse impact to the surrounding area after the ponds are closed. This management will be accomplished in one of two ways:
  - Removal of the sludge to a waste oil recycling facility, asphalt incorporation plant, or disposed in an OCD-approved site.
  - Vapor venting and bioremediation. This option is discussed in more detail below.
- The ponds will be brought up to surface grade with clean, compacted soil and covered with native vegetation or erosion control material.

Vapor venting and bioremediation of the ponds would effectively reduce the quantity of oils in the ponds to an acceptable level. This procedure could be accomplished either with the sediment and sludge in place (in situ) or after the sediment and sludge has been excavated from the ponds and placed on the ground nearby (landfarming). After remediation, excavated material would be placed back into the ponds.

The in situ option would require a longer period of time than landfarming to reduce hydrocarbon concentrations to an acceptable level. The longer length of time is due to the difficulty in transferring oxygen and nutrients to the indigenous bacteria.

In situ remediation could be accomplished either by installing a forced ventilation system and fertilization system or by physically exposing the sediment and sludge to the air. The choice between these two methods will be based on the logistics of working on the sludge surface.

Vapor venting allows low molecular weight hydrocarbons to evaporate and be vented to the atmosphere. Concurrently, the additional oxygen available in the subsurface allows anaerobic bacteria to operate aerobically. Aerobic metabolism is several orders of magnitude faster than anaerobic metabolism. Consequently, aerobic bacteria oxidize hydrocarbons and reproduce at a sufficiently rapid rate to decrease hydrocarbon concentration within 6 to 24 months.

In addition to increased oxygen exposure, the bacteria may require supplemental nutrients to maximize the colony size. These nutrients are nitrogen, phosphorus, and potassium and are available as a standard fertilizer.

Landfarming is based on the same principles as in situ bioremediation. Landfarming remediation time would be shorter because the sediment and sludge could be spread in a shallow layer, permitting high oxygen exposure and rapid mixing of nutrients into the sediment and sludge.

Prior to selection of either in situ bioremediation or landfarming, a pilot rest would be performed. This test would verify the efficacy of bioremediation and enable an estimate of the remediation timeframe.

OIL/WATER SEPARATOR AND OIL COLLECTION TANKS

All liquid would be removed from the tanks prior to closure.. Oil will be recycled, as is the current practice. Bottom residue and sludge will be sent to an oil recycler, if possible, or disposed of at an OCD-approved site. Depending of the economics of disposal at the time of closure, the tanks could be, 1) sold or reused, 2) disposed of in an OCD-approved site, or 3) steam cleaned and disposed of at an industrial landfill. The rinsate would be disposed of at an OCD-approved site.

TANK CONTAINMENT AREA

Soil within the tank containment area will be landfarmed if there is any indication of oil contamination.

CLOSURE VERIFICATION

A statistically valid sampling plan will be developed for collection of composite samples from each of the settling ponds prior to capping. Hydrocarbon level in the remediated sediment and sludge will be at a level that will not adversely impact surrounding soil after the ponds are capped.

WORKOVER PROCEDURE AND PREPARATION FOR SALT WATER DISPOSAL

TIPPERARY OIL & GAS, STATE "D" SWD

T10S, R33E Sec. 31, Unit "H", Lea County, New Mexico

Before Moving in Rig:

Dig out from around casing stubs. Dig workover pit.
Tap into casing to make sure that there is no trapped gas.
Cut off caps and weld on 9 5/8" stub and wellhead and 13 3/8" stub and wellhead.
Blade off location and road.
Set deadman anchors.

Move in and rig up service unit

Nipple up stripper head onto the BOP nippled up on the wellhead.
Drill out plug @ surface to 50' w/ 8 1/2" bit.
Drill out plug @ 1,670' - 1,770' w/ 8 1/2" bit.
Drill out plug @ 3,505' - 3,555' (top of liner) w/ 8 1/2" bit.
Trip out of the hole with the bit.
Pick up a 4 5/8" bit and drill plug @ 3,555' - 3,605' w/ 4 5/8" bit.
Drill out plug @ 5,900' - 6,000' w/ 4 5/8" bit.
Drill out plug @ 8,900' - 9,000' w/ 4 5/8" bit.
Drill out 35' cement cap w/ 4 5/8" bit.
TOOH w/ 4 5/8" bit.
Pick up mill shoe and mill on CIBP and permanent packer.
Mill on permanent packer until slips let loose.
Push to bottom.
TOOH and lay down mill.
Run into the hole with packer and tubing and test disposal rate of the well.

1. If the disposal rate is acceptable, pull out of the hole with tubing and prepare to run permanent disposal equipment.
2. If the disposal rate is not acceptable, acid treat the disposal zone and retest. After getting an acceptable test, pull out of the hole with tubing and packer.

Have tubing and packer coated or lined for permanent installation.
Run into the hole with coated tubing and packer.
Set packer and prepare well for disposal.

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

DRUG FREE

MEMORANDUM

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

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

TO: ALL COMMERCIAL SURFACE DISPOSAL FACILITIES

FROM: WILLIAM J. LEMAY, Director
Oil Conservation Division

SUBJECT: DOCUMENTATION REQUIRED FOR ACCEPTANCE OF WASTE

DATE: APRIL 2, 1993

The Oil Conservation Division (OCD) has issued a number of Rule 711 permits for commercial surface disposal facilities which allow the facilities to accept certain types of wastes. The OCD has not previously listed the documentation that should accompany all waste accepted at these facilities. Attached is a list of the documentation to accompany any waste accepted by an OCD-permitted commercial disposal facility. Listed are the certifications and tests required for the various classifications of waste. Also attached is a list of the oil and gas wastes exempted from EPA "hazardous waste" classification.

This documentation provides protection from hazardous waste regulations for the waste generator, transporter and disposal facility and facilitates OCD oversight. Please note that certain types of non-oilfield wastes can also be accepted by a disposal facility under its OCD Rule 711 permit. The OCD is currently in the process of developing an information form to accompany each load of waste received at a disposal facility. Until that form is finalized, each facility may develop and use its own forms and shall retain these records at the facility.

If you have any questions regarding the technical aspects of the documentation needed, please call **Roger Anderson** at **505/827-5812**.

DOCUMENTATION REQUIRED TO ACCEPT WASTES
COMMERCIAL SURFACE DISPOSAL FACILITIES
(April 1, 1993)

1. Exempt Oilfield Waste: A "Certification of Waste Status" signed by a corporate official of the waste generator certifying that the wastes are generated from oil and gas exploration and production operations and are exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C regulations.

2. Exempt, Non-Oilfield Waste: A "Certification of Waste Status" signed by the New Mexico Environment Department (NMED) or the appropriate regulatory agency for non-oilfield wastes which are exempt from RCRA Subtitle C regulations. Acceptance is on a case-by-case basis only after OCD approval from both Santa Fe and the appropriate district office.

3. Non-exempt, Non-hazardous Waste from OCD Permitted Facilities: The analytical results of *Hazardous Waste Characterization. The test for hazardous characteristics for a particular waste may be effective for one year from the date of analysis, if, the subsequent wastes from the same waste stream are accompanied by a statement from a corporate official that there has been no change in the processes employed or the chemicals stored/used at the facility generating the waste. Acceptance is on a case-by-case basis only after OCD approval from both Santa Fe and the appropriate district office.

4. Non-Exempt, Non-hazardous, Non-Oilfield Waste: The analytical results of *Hazardous Waste Characterization **and** a "Certification of Waste Status" certifying the non-hazardous classification of the wastes signed by the NMED or appropriate regulatory agency. Acceptance of waste is on a case-by-case basis only after OCD approval from both Santa Fe and the appropriate district.

5. Hazardous Waste: At no time will wastes which are hazardous by either listing or testing be accepted at an OCD permitted disposal facility.

* Includes corrosivity, reactivity, ignitability, and toxic constituents and a certification that no listed hazardous wastes are contained within the wastes. The samples for these analyses and results will be obtained from the wastes prior to removal from the generator's facility and without dilution in accordance with EPA SW-846 sampling procedures.

EPA WASTE CLASSIFICATION
O & G EXPLORATION AND PRODUCTION WASTES*

Oil and Natural Gas Exploration and Production Materials and Wastes Exempted by EPA from Consideration as "Hazardous Wastes" (provided non-exempt waste which is or may be "hazardous" has not been added):

- Produced water;
- Drilling fluids;
- Drill cuttings;
- Rigwash;
- Drilling fluids and cuttings from offshore operations disposed of onshore;
- Geothermal production fluids;
- Hydrogen sulfide abatement wastes from geothermal energy production;
- Well completion, treatment, and stimulation fluids;
- Basic sediment and water and other tank bottoms from storage facilities that hold product and exempt waste;
- Accumulated materials such as hydrocarbons, solids, sand, and emulsion from production separators, fluid treating vessels, and production impoundments;
- Pit sludges and contaminated bottoms from storage or disposal of exempt wastes;
- Workover wastes;
- Gas plant dehydration wastes, including glycol-based compounds, glycol filters, filter media, backwash, and molecular sieves;
- Gas plant sweetening wastes for sulfur removal, including amines, amine filters, amine filter media, backwash, precipitated amine sludge, iron sponge, and hydrogen sulfide scrubber liquid and sludge;
- Cooling tower blowdown;
- Spent filters, filter media, and backwash (assuming the filter itself is not hazardous and the residue in it is from an exempt waste steam);
- Packing fluids;
- Produced sand;
- Pipe scale, hydrocarbon solids, hydrates, and other deposits removed from piping and equipment prior to transportation;
- Hydrocarbon-bearing soil;
- Pigging wastes from gathering lines;
- Wastes from subsurface gas storage and retrieval, except for nonexempt wastes listed below;
- Constituents removed from produced water before it is injected or otherwise disposed of;
- Liquid hydrocarbons removed from the production stream but not from oil refining;
- Gases from the production stream, such as hydrogen sulfide and carbon dioxide, and volatilized hydrocarbons;
- Materials ejected from a producing well during the process known as blowdown;
- Waste crude oil from primary field operations and production;
- Light organics volatilized from exempt wastes in reserve pits or impoundments or production equipment;
- *Liquid and solid wastes generated by crude oil and crude tank bottom reclaimers****.

Materials and Wastes Not Exempted (may be a "hazardous waste" if tests or EPA listing define as "hazardous") **:

- Unused fracturing fluids or acids;
- Gas plant cooling tower cleaning wastes;
- Painting wastes;
- Oil and gas service company wastes, such as empty drums, drum rinsate, vacuum truck rinsate, sandblast media, painting wastes, spent solvents, spilled chemicals, and waste acids;
- Vacuum truck and drum rinsate from trucks and drums transporting or containing non-exempt waste;
- Refinery wastes;
- *Liquid and solid wastes generated by refined oil and product tank bottom reclaimers****;
- Used equipment lubrication oils;
- Waste compressor oil, filters, and blowdown;
- Used hydraulic fluids;
- Waste solvents;
- Waste in transportation pipeline-related pits;
- Caustic or acid cleaners;
- Boiler cleaning wastes;
- Boiler refractory bricks;
- Boiler scrubber fluids, sludges, and ash;
- Incinerator ash;
- Laboratory wastes;
- Sanitary wastes;
- Pesticide wastes;
- Radioactive tracer wastes;
- Drums, insulation, and miscellaneous solids.

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* Source: Federal Register, Wednesday, July 6, 1988, p.25,446 - 25,459.

** See important note on 1990 disposal restrictions for non-exempt waste on reverse.

*** See reverse side for explanation of oil and tank bottom reclaimer listings.

(rev. NMOCD 9/91)

NOTES:

1. As of September 25, 1990, any facility disposing of 1.1 tons or more of non-exempt waste per month with benzene as a constituent (e.g. oily liquid or solids, or aromatic wastes) is disposing of hazardous waste if, after testing, benzene levels of liquids, and of liquid leachate from solids are above 0.5 milligrams per liter (equivalent to 500 parts per billion). Benzene is a naturally occurring constituent of crude oil and refined product (especially gasoline), and is also used as a cleaning solvent. (Other types of solvents and chemicals have been subject to hazardous waste rules for several years.)

   As of March 29, 1991, facilities disposing of between 0.11 and 1.1 tons of non-exempt waste per month became subject to the same rules. Regulation of such facilities is the responsibility of either the US Environmental Protection Agency or the New Mexico Environment Department (dependent on jurisdiction transfer from USEPA).

   The following OCD regulated facilities, especially, may be subject to hazardous waste rules for disposal of wastes and contaminated soils containing benzene:

   - Oil and gas service companies having wastes such as vacuum truck, tank, and drum rinsate from trucks, tanks and drums transporting or containing non-exempt waste.
   - Crude oil treating plants and crude tank bottom reclaimers using benzene solvent, or liquids containing benzene as cleaning solutions.
   - Transportation pipelines and mainline compressor stations generating waste, including waste deposited in transportation pipeline-related pits.

   Source: Federal Register, Thursday, March 29, 1990, p.11,798 - 11,877.

2. In April, 1991, EPA clarified the status of oil and tank bottom reclamation facilities:

   A. Those wastes that are derived from the processing by reclaimers of only exempt wastes from primary oil and gas field operations are also exempt from the hazardous waste requirements. For example, wastes generated from the process of recovering crude oil from tank bottoms are exempt because the crude storage tanks are exempt.

   B. Those reclaimer wastes derived from non-exempt wastes (eg. reclamation of used motor oil, refined product tank bottoms), or that otherwise contain material which are not uniquely associated with or intrinsic to primary exploration and production field operations would not be exempt. An example of such non-exempt wastes would be waste solvent generated from the solvent cleaning of tank trucks that are used to transport oil field tank bottoms. The use of solvent is neither unique nor intrinsic to the production of crude oil.

   Source: EPA Office of Solid Waste and Emergency Response letter opinion dated April 2, 1991, signed by Don R. Clay, Assistant Administrator.

STATE OF NEW MEXICO

OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal	Time	Date
	1:30 P.M.	3/24/93

Originating Party	Other Parties
Mark Amherst	Kathy Brown
Burro Pipeline	OCD

Subject Burro Pipeline Lane Salt Lake
- Cessation of use of Lake

Discussion Have Class II well approved by OCD. Still in negotiations with land owner. Southland SWD well. about 3 miles South. Well had been clogged with residuest plastic. Plugged well about 10 years ago. Well needs reopened + cleaned out. Well would accept volumes of water needed. Maximum 5 to 6 months. (Devonian Formation) Will close facility pursuant to closure plan in the permit approval. If any changes will request in letter. Also, want to keep the lake open for a short period to make sure that the disposal well takes the water ~~needed~~ volume which is about 5000 bbl/day from 140 wells.

Conclusions or Agreements Burro will send a letter communicating these thoughts

Distribution

Signed Kathy Brown

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

January 29, 1993

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-241-938

Mr. Mark Amershek
Burro Pipeline Company
633 17th Street
Suite 1550
Denver, Colorado 80202

RE: Compliance for OCD Rule 711 Permit
Burro Pipeline, Lane Salt Lake Disposal Facility

Dear Mr. Amershek:

The Director of the New Mexico Oil Conservation Division (OCD) approved a Rule 711 permit for your centralized surface disposal facility on March 6, 1992. The permit was approved pursuant to six (6) conditions listed in the enclosed approval letter. Also enclosed are the analytical results from a sample obtained by the OCD staff on February 11, 1992 during an inspection in which a representative of Burro Pipeline Corporation was present. The sample results are for the effluent discharged from Burro Pipeline's OCD permitted 711 facility into Lane Salt Lake.

Burro Pipeline Corporation is out of compliance with the following conditions of approval:

1. Identification of Landowners: Condition number 1 of the OCD approval states that "Burro Pipeline will supply the names and addresses of landowners of record within one-half mile of the high water mark over the entire perimeter of the lake". As of this date the OCD has not received this information. Please submit the required information.

2. Discharge Quality: Condition number 3 of the OCD approval states that "No effluent will be discharged into Lane Salt Lake which exceeds the Water Quality Control Commission (WQCC) Standards as indicated on the enclosed listing". The enclosed

analytical results indicate that your discharge into Lane Salt Lake exceeds WQCC water quality standards for benzene, toluene, and total xylenes. The OCD requests that Burro Pipeline submit a proposed plan to either 1) modify the discharge so that the effluent meets WQCC water quality standards, or 2) modify the facility so that the effluent is not discharged into Lane Salt Lake.

3. Closure of Settling Ponds: Condition number 4 of the OCD approval states that "The three settling ponds currently in use will be closed out according to the closure plan in your January 13, 1991 correspondence. Prior to closure of the ponds or commencement of a pilot test, Burro Pipeline will submit a plan detailing exact procedures and including a time schedule and sampling plan". The OCD requests that Burro Pipeline submit a time schedule for the closure of the ponds. Extended use of these unlined ponds requires Burro Pipeline to submit information indicating why such use is necessary and how the operation of the ponds will not adversely impact fresh water, human health and the environment.

4. Construction of New Settling Ponds: Condition number 5 of the OCD approval states that "The new settling ponds will be constructed according to the specifications and plans submitted in your correspondence dated February 17, 1992. Any modifications must be approved by the OCD prior to construction." The OCD requests that Burro Pipeline submit a time schedule for construction of the new settling ponds. If there is any proposed change in the construction of the ponds which is related to item number 2. above (discharge quality) please describe all proposed changes for OCD approval.

The OCD requests that Burro Pipeline submit the materials requested above by April 1, 1993. If you have any questions, please do not hesitate to contact Kathy Brown at (505) 827-5884.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/kmb

Enclosures

xc: Jerry Sexton, OCD Hobbs Office
Jim Piatt, NMED Surface Quality Bureau

DISCOVERY OPERATING, INC.
EXPLORATION - DEVELOPMENT - OPERATING
MIDLAND, TEXAS

February 17, 1992

RECEIVED
FEB 18 1992
OIL CONSERVATION DIV.
SANTA FE

VIA AIRBORNE EXPRESS

State of New Mexico
Energy, Minerals & Natural Resources Dept.
P.O. Box 2088
Santa Fe, New Mexico 87504

Attn: Kathy M. Brown
Environmental Geologist

Re: Burro Pipeline

Dear Ms. Brown:

It was nice meeting you and Mr. Eustice last Thursday. I hope everything was to your satisfaction. As we discussed briefly on Thursday, Burro Pipeline has plans to build a new settling pond. I informed Tipperary of your request to send the plans on the new pit construction in its draft form to you, and that the NMOCD would make suggestions on its construction prior to the final plans being prepared. Tipperary was very open to this request and asked me to send you a copy as soon as possible. I am sorry that I do not have an extra bound copy to send, but I hope that this copy will meet with your needs.

Burro Pipeline is committed to having an environmentally safe operation. As we discussed on Thursday, Burro Pipeline has always had a good and safe operation. As Burro strives to upgrade its facilities to include the newest technology that is available today and to keep this operation environmentally safe, all suggestions and assistance the NMOCD can give to improve on the design of Burro is greatly appreciated.

Burro Pipeline intends to start the construction of the new pond as soon as the plans are approved. I will inform you or Mr. Eustice before any construction starts and keep you informed on every major step as they unfold.

Again, it was nice meeting you and I hope to hear from you soon. Please feel free to call me at (915) 683-5203 if you have any questions.

Sincerely,

W. Jeffrey Sparks

W. Jeffrey Sparks
VP of Operations

WJS/kt

Enclosure

SETTLING POND SYSTEM
LANE SALT LAKE FACILITY

Prepared for

Burro Pipeline Corporation
Denver, Colorado

December 1991

Prepared by

Geraghty & Miller, Inc.
Environmental Services
1099 18th Street, Suite 2100
Denver, Colorado 80202
(303) 294-1200

CONTENTS

DIVISION 1 — GENERAL REQUIREMENTS

SECTION 01010
SUMMARY OF WORK

1.01 PROJECT DESCRIPTION

A. Work under this Contract Document includes the following list of items which is meant as a guide to the Work required and is intended to provide a general description of the scope of the job. The Contractor shall provide the necessary labor, materials, equipment, tools, and appurtenances as per the Construction Drawings for the project which is acceptable to the Owner and the Engineer. Performance of work shall comply with the respective codes and all special instructions. The Work required is illustrated in the Construction Drawings and is detailed in these Technical Specifications. In summary, the Work involves the following five (5) general tasks:

1. Site Preparation — Includes the mobilization of required equipment and materials, and establishment of the necessary survey controls.

2. Excavation - Includes removal of soil and rock and establishment of the initial surface and grades within the ponds. Also includes excavation of trenches for anchoring the HDPE pond liner.

3. Backfilling - Includes preparation of the subgrade for installation of the synthetic membrane liner, construction of the perimeter berm around the settling ponds, and backfilling of the synthetic membrane anchor trench.

4. Synthetic Membrane — Includes installation and placement of the HDPE pond liner.

5. Geotextile - Includes installation and placement of polypropylene filter fabric.

6. Transfer Piping - Includes the installation of piping and valves from the existing pipe to the new settling ponds.

B. List of Construction Drawings:

Sheet Number	Sheet Title
Sheet 1 of 1	Settling Pond System - Lane Salt Lake Disposal Facility.

END OF SECTION

SECTION 01300
SUBMITTALS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Shop Drawing Submittals

1.02 SHOP DRAWING SUBMITTALS

A. Transmit each submittal with Engineer accepted form.

B. Sequentially number the transmittal forms. Resubmittals to have original number with an alphabetic suffix.

C. Identify project, Contractor, Subcontractor, or Supplier; pertinent drawing sheet and detail number(s); and specification section number, as appropriate.

D. Apply Contractor's stamp, signed or initialed, certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the contract documents.

E. Submit number that Contractor requires, plus three copies to be retained by Engineer and Owner.

F. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

END OF SECTION

SECTION 01330
SURVEY DATA

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Reference and control points

B. Basic layout

C. Verification of existing facilities

1.02 REFERENCE AND CONTROL POINTS

The Contractor shall work with the Owner and Engineer in determining the reference and control points necessary for the Contractor to complete the basic layout. If the Contractor destroys or alters a reference or control point established by the Owner that is still necessary for completion of the basic layout, the Contractor shall notify the Owner and the Owner will reestablish such point.

1.03 BASIC LAYOUT

It shall be the Contractor's responsibility to complete the basic layout as shown on the Drawings and as specified. Where a necessary location or elevation is not written on the Drawings or not specified, the Contractor shall contact the Owner and the Owner shall provide the necessary information. The Contractor shall not assume that dimensions and elevations can be scaled from the Drawings.

1.04 VERIFICATION OF EXISTING GRADES

Prior to commencement of the work, the Contractor shall report to the Owner or Engineer any inconsistencies in the proposed lines, levels, grades, dimensions, or locations.

END OF SECTION

SECTION 01400
QUALITY CONTROL AND TESTING

1.01 SAMPLES AND TEST SPECIMENS

A. Where required in the Specifications and as determined necessary by the Engineer, test specimens or samples of materials, appliances, and fittings to be used or offered for use in connection with the work shall be submitted to the Engineer at the Contractor's expense with information as to their sources, all cartage charges prepaid, and in such quantities and sizes as may be required for proper examination and testing to establish the quality or quantity thereof, as applicable.

B. All samples and test specimens shall be submitted in ample time to enable the Engineer to make any tests or examinations necessary without delay to the work. The Contractor will be held responsible for any loss of time due to his neglect or failure to deliver the required samples to the Engineer, as specified.

C. Samples also shall be taken during the course of the work, as required by the Engineer.

D. Material used in the work shall conform with the submitted samples and test certificates as accepted by the Engineer.

1.02 TESTING

A. All tests required by the Specifications to be performed by an independent laboratory shall be performed, and the samples therefor furnished shall be at the sole expense of the Contractor. The Contractor shall contract with and pay all charges to the laboratory.

B. Laboratory tests and examinations that the Owner or Engineer elects to make in its own laboratory will be made at no cost to the Contractor, except that if a sample of any material or equipment proposed for use by the Contractor fails to meet the Specifications, the cost of testing subsequent samples shall be borne by the Contractor.

C. Reports of all tests made by testing laboratories shall by distributed by the testing laboratory as follows:

1 copy - Contractor
1 copy - Applicable supplier or subcontractor
1 copy - Owner's representative
1 copy - Engineer

END OF SECTION

SECTION 01503
PRESERVATION, RESTORATION, AND CLEANUP

PART 1 - GENERAL

1.01 SITE RESTORATION AND CLEANUP

A. At all times during the work, keep the premises clean and orderly, and upon completion of the work, repair all damage caused by equipment, leaving the project free of rubbish or excess materials of any kind.

B. Stockpile excavated materials in a manner that will cause the least damage to adjacent lawns, grassed areas, gardens, shrubbery, or fences regardless of whether on private property or on public rights-of-way. Remove all excavated materials from grassed and planted areas, leaving these surfaces in a condition equivalent to their original condition.

C. Reopen all existing drainage ditches and culverts and restore grade and natural drainage. Restore broken or damaged culverts to their original condition and location.

1.02 FINISHING OF SITE, BORROW, AND STORAGE AREAS

A. Upon completion of the project, properly clear all areas used by the Contractor of all temporary structures, rubbish, and waste materials and properly grade to drain and blend in with the abutting property. Areas used for the deposit of waste materials shall be finished to properly drain and blend in with the surrounding terrain.

1.04 REMOVAL OF ROCK FROM FINISHED SURFACES

A. Remove and dispose of all loose rock and boulders larger than 2 inches in diameter occurring on the finished surfaces as a result of the construction operations.

1.05 STREET CLEANUP DURING CONSTRUCTION

A. Thoroughly clean all spilled dirt, gravel, or other foreign material caused by the construction operations from all streets and roads at the conclusion of each day's operation.

1.06 DUST PREVENTION

A. Give all unpaved streets, roads, detours, or haul roads used in the construction area an approved dust-preventive treatment or periodically water them to prevent dust. Applicable environmental regulations for dust prevention shall be strictly followed.

PART 2 - ENVIRONMENTAL PROTECTION

2.01 GENERAL

A. The Contractor shall provide and maintain environmental protection during the life of the Contract. Environmental protection shall be provided to control pollution that develops during normal construction practices. The Contractor's operations shall comply with all government regulations pertaining to water, air, solid waste, and noise pollution.

2.02 PROTECTION OF NATURAL RESOURCES

A. It is intended that the natural resources within the project boundaries and outside the limits of permanent work performed under this Contract be preserved in their existing condition or be restored to an equivalent or improved condition upon completion of the work. The Contractor shall confine his construction activities to areas defined by the Contract Documents.

B. Except in areas indicated to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy trees or shrubs without special permission from the Engineer. No ropes, cables, or guys shall be fastened to or attached to any existing trees for anchorages unless specifically authorized. Where such special emergency use is permitted, the Contractor shall be responsible for any damage resulting from such use.

C. All trees or other landscape features scarred or damaged by the Contractor's equipment or operations shall be repaired and/or restored to their original condition at the Contractor's expense.

D. At all times special measures shall be taken to prevent oily or hazardous substances from entering the ground, drainage areas or local bodies of water.

E. The Contractor shall at all times perform all work and take such steps required to prevent any interference or disturbance to fish and wildlife. The contractor will not be permitted to alter water flows or otherwise significantly disturb native habitat adjacent to the project area which is critical to fish and wildlife except as may be indicated or specified.

F. Upon completion of site work install Toprite 1-inch UV stabilized polypropylene mesh bird netting as manufactured by Windscreens West, Inc., or similar, over the surface of the new settling ponds.

Upon completion of site work, install bird netting over the surface of the new settling pond. The bird netting will be mounted on poles at least 6 feet above the surface of the pond and will be securely anchored to the ground along the perimeter of the pond. Brightly colored flagging or equivalent will be attached to the bird netting to clearly mark its presence.

2.03 EROSION AND SEDIMENT CONTROL MEASURES

A. Earthwork brought to final grade shall immediately be finished as indicated and specified. Side slopes and back slopes shall be protected immediately upon completion of rough grading. All earthwork shall be planned and conducted in such a manner as to minimize the duration of exposure of unprotected soils.

B. Such methods as may be necessary shall be utilized to effectively prevent erosion and control sedimentation, including, but not limited to, the following:

1. The rate of runoff from the construction site shall be mechanically retarded and controlled. This includes construction of diversion ditches, benches, and berms to retard and divert runoff to protected drainage courses.

2. Borrow will not be permitted in areas where suitable environmental controls are not possible.

3. Temporary protection will be provided on all side and back slopes as soon as rough grading is completed or sufficient soil is exposed to prevent erosion. Such protection shall be accelerated growth of permanent or temporary vegetation, mulching, or netting. Slopes too steep for stabilization by other means shall be stabilized by hydro-seeding, mulching anchored in place, covering by anchored netting, sodding, or such

combination of these and other methods as may be necessary for effective erosion control.

2.04 CONTROL AND DISPOSAL OF NON-CONTAMINATED SANITARY WASTES

A. Wastes which are not contaminated shall be picked up and placed in containers which are emptied on a regular schedule. All handling and disposal shall be conducted so as to prevent contamination of the site and any other areas. Upon completion, the areas shall be left clean and natural looking. All signs of temporary construction and activities incidental to construction of the required permanent work in place shall be obliterated.

B. The Contractor shall transport and dispose of non-contaminated waste in a manner that complies with government requirements. The Contractor shall provide the Engineer a copy of the permit or license which reflects the government agency's approval and compliance with its solid waste disposal regulations. The permit or license and the location of the disposal area shall be provided prior to transporting any waste material.

C. Fueling and lubricating of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spills and evaporation. Lubricants to be discarded and waste oil shall be disposed of in accordance with approved procedures meeting government regulations.

END OF SECTION

DIVISION 2 — SITE WORK

SECTION 02222
EXCAVATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Excavation of soil and rock for the new salt water settling system pond.

B. Construction of berms around perimeter of pond.

C. Excavation of perimeter anchor trench.

D. Excavation of trench for transfer piping.

1.02 RELATED SECTIONS

A. Division 1 - General Requirements

B. Section 02223 - Backfilling

C. Section 02430 - Synthetic Membrane

D. Section 02490 - Geotextile

1.03 PROTECTION

A. Protect benchmarks, fences, and the roads adjacent to the site from damage caused by execution of the Work.

B. Notify the Engineer of unexpected subsurface conditions interfering with normal construction methods and discontinue Work in the area until given written notice to resume Work.

C. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, consult Engineer immediately for directions as to procedure. Cooperate with the Owner and utility companies in keeping their respective services and facilities in operation.

D. Grade excavation top perimeter to prevent surface water runoff into excavation.

E. Protect bottom of excavations from frost.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 PREPARATION FOR EXCAVATION

A. Identify benchmarks for elevation and horizontal controls. Closure on vertical and horizontal control to be ±0.1 feet. Horizonal and vertical closure on piping shall be ±0.1 feet.

B. Verify grades and dimensions shown as existing. Should discrepancies exist between actual conditions and those shown, notify Engineer and clarify the discrepancies.

C. Identify and mark on the existing surface, the location of the proposed excavation Work.

D. Identify and mark the location and depth of all known underground utilities.

E. Notify Owner's representative and all affected utility companies prior to removal and relocation of any utilities.

3.02 EXCAVATION

A. The new settling pond and transfer piping trench shall be excavated to the line, grade, and width shown on the construction drawings.

B. The anchor trench shall be excavated to the line, grade, and width shown on the construction drawings, prior to the placement of the HDPE pond liner.

C. Perform no excavation in excess of that required by these Technical Specifications and Construction Drawings, unless authorized to do so in writing. Unnecessary and excessive excavation Work shall be returned to original condition.

D. Excavated materials may be used for construction of the earthen berms surrounding the ponds.

E. Slope banks for side walls of pond to 3H:1V slope as indicated on the construction drawings.

END OF SECTION

SECTION 02223
BACKFILLING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Preparation of the new settling pond surfaces for installation of the HDPE pond liner.

B. Construct berm around perimeter of ponds.

C. Backfilling the transfer piping trench.

1.02 RELATED SECTIONS

A. Division 1 - General Requirements

B. Section 02222 - Excavation

C. Section 02430 - Synthetic Membrane

D. Section 02490 - Geotextile

1.03 REFERENCES

A. ANSI/ASTM D698 - Moisture-Density Relations of Soils and Soil-Aggregate Mixture using 5.5 lb (2.49 kg) Hammer and 12-inch (305 mm) Drop (Standard Proctor Test)

B. ASTM D2922 - Test Methods for Density of Soil and Soil Aggregate In Place by Nuclear Methods

PART 2 - MATERIALS

2.01 BERM MATERIALS

A. Common Fill: Native material free of roots, sharp stones, boulders, and other

debris larger than 2 inches.

2.02 RIP RAP

A. Rip Rap: Crushed rock or river cobbles. Size as shown on drawings.

PART 3 - EXECUTION

3.01 BACKFILLING - GENERAL

A. Backfill areas to proposed contours and elevations.

B. Verify areas to be backfilled are free of debris or water and ground surfaces are not frozen.

C. Ensure that backfill is free from frost, ice, and other foreign debris.

D. Ensure that backfill is not be placed over porous, wet, or spongy subgrade surfaces.

E. Place and compact backfill material in continuous lifts not exceeding 12 inches compacted depth.

F. Maintain optimum moisture content of select fill materials to attain required density.

G. Make changes in grade gradually. Blend slopes into level areas to prevent puddling or ponding of precipitation and surface-water runoff.

H. Remove surplus fill materials from construction area upon completion of backfill activities and place in approved disposal area.

I. Leave temporary stockpile areas completely free of excess materials.

3.02 SUBGRADE PREPARATION

A. Subgrade Preparation - Surface of the settling pond and containment trench subgrade shall be shaped to the grades indicated on Construction Drawings and compacted to attain minimum 95 percent of ASTM D698 density to a depth of 6 to 8 inches.

B. Any areas determined by the Engineer to be soft or yielding shall be excavated, backfilled, and compacted to achieve the necessary minimum field density.

3.03 BACKFILL ANCHOR TRENCH

A. Backfilling of Anchor Trench - The anchor trench shall be adequately drained to prevent ponding or otherwise softening of the adjacent soils while the trench is open. Trench backfill material shall be placed in 8 inch thick loose lifts and compacted by wheel rolling with light, rubber-tired vehicles or other light compaction equipment.

B. Backfilling the anchor trench can affect material bridging at toe of slope; consideration should be given to backfilling the liner at its most contracted state, preferably during the cool of the morning or during extended period of overcast skies. Care shall be taken when backfilling the anchor trenches to prevent any damage to the synthetic membrane.

3.04 CONSTRUCT PERIMETER BERM

A. The perimeter berm will be constructed as shown on the construction drawings.

B. The perimeter berm will consist of clean material excavated for the pond and shall be free of roots, sharp stones, boulders, and other foreign or organic material.

C. The soil shall be placed in 6 to 8-inch thick lifts and shall be compacted to a minimum of 95 percent of the maximum dry density as determined by a Standard Proctor Test (ASTM D698).

D. Rip Rap shall be placed on the northern slope of the perimeter berm at the pond outfalls to a minimum depth of 6 inches.

3.05 FIELD QUALITY CONTROL

A. A minimum of one in-place nuclear density test per lift shall be performed.

B. When tests indicate Work does not meet the specified requirements, remove Work, replace, and retest.

END OF SECTION

SECTION 02430
SYNTHETIC MEMBRANE

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. All labor, materials, transportation, supervision, and tools necessary to install the 40-mil HDPE synthetic membrane as specified on Construction Drawings.

B. Fusion/extrusion combination or double fusion welding of all seams.

C. Vacuum testing of 100 percent of all extrusion welds. Air pressure testing of 100 percent of all double fusion welds, and destructive testing of selected seam samples.

1.02 RELATED SECTIONS

A. Division 1 - General Requirements

B. Section 02223 - Backfilling

C. Section 02490 - Geotextile

1.03 REFERENCES

A. American Society of Testing Materials (ASTM): Specific ASTM test methods for determining the chemical and physical properties of the polyethylene resin and HDPE sheeting (rolls).

B. Federal Test Method Standards (FTMS)

C. Standards for Flexible Membrane Liners: National Sanitation Foundation (NSF)

1.04 SUBMITTALS

A. Prior to delivery of the synthetic membrane, the following shall be submitted to the Engineer for acceptance. Delivery shall not be made until acceptance is provided.

1. A physical sample of the synthetic membrane.

2. Mill certificate from the manufacturer stating that the submitted sample is representative of the material to be supplied and installed and test data illustrating compliance with material specification provided in this section.

3. Layout drawings for panel placement and deployment, indicating the location of seams to be field installed.

4. Installation procedures recommended by the manufacturer.

5. Manufacturer's warranty which provides coverage for the synthetic membrane product and formal acceptance of the conditions of installation beneath and above the synthetic membrane.

6. Test results received from manufacturer.

B. Refer to Section 01300 - Submittals regarding additional submittal requirements.

C. Materials delivered to the site shall be equal in all respects as to the samples submitted and accepted by the Engineer.

PART 2 - PRODUCTS

2.01 SYNTHETIC RESIN

A. The synthetic membrane shall be manufactured from new, first-quality polyethylene resin and shall be designed and manufactured specifically for use in synthetic membranes.

B. The polyethylene resin shall meet the following specifications:

Property	Test Method	Value
Specific Gravity	ASTM D792 Method A, or ASTM D1505	≥0.93
Melt Index (Maximum)	ASTM D1238 Condition E (190°c/2.16kg)	1..0 g/10 min.
Carbon Black Content	(ASTM D1603)	2 - 3%

C. Reclaimed polymer shall not be added to the resin (however, the use of polymer recycled during the manufacturing process shall be permitted if done with appropriate cleanliness and if recycled polymer does not exceed 2 percent by weight).

2.02 SYNTHETIC MEMBRANE

A. The synthetic membrane shall be designed and manufactured specifically for the purposes of this job of a type which has been satisfactorily demonstrated through prior use to be suitable and durable for such purposes.

B. The 40-mil HDPE synthetic membrane shall have good uniform appearance and be free of gels, air bubbles, undisbursed raw material, or any other manufacturing defects that may affect its serviceability. The material shall be free of pinholes, tears, nodules, delaminations, blisters, or contaminants, and the edges shall be straight and free of nicks.

C. The membrane shall be manufactured in 20-foot (minimum) calendared widths of HDPE sheeting.

D. Minimum physical properties of the HDPE membrane material must conform to the following minimum requirements:

Property	Test Method	Value
Thickness (mils)	ASTM D1593 Para 8.1.3	40$^{\pm 4}$
Specific Gravity (minimum)	ASTM D792 Method A	0.930
Minimum Tensile Properties (each direction)	ASTM D638, Type IV Dumbbell at 2 ipm	
1. Tensile Strength at Yield (pounds/inch width)		95
2. Tensile Strength at Break (pounds/inch width)		160
3. Elongation at Yield (percent)		13
4. Elongation at Break (percent)		700
Tear Resistance (pounds, minimum)	ASTM D1004 Die C	30
Low Temperature/ Brittleness (°F) (Maximum)	ASTM D746 Procedure B	-60
Dimensional Stability (each direction, percent change maximum)	ASTM D1204 212°F, 1 hour	±1

Property	Test Method	Value
Resistance to Soil Burial(maximum percent change in original value)	ASTM D3083 using ASTM D638 TYPE IV Dumb-bell at 2 ipm	
1. Tensile Strength at Yield (% change)		±10
2. Tensile Strength at Break (% change)		±10
3. Elongation at Yield (% change)		±10
4. Elongation at Break (% change)		±10
5. Modulus of Elasticity (% change)		±10
Environmental Stress Crack (minimum hours)	ASTM D1693 (as modified in NSF Standard 54)	1,500

E. The synthetic membrane shall contain a maximum of 1 percent by weight of additives, fillers, or extenders (not including carbon black).

F. The synthetic membrane shall contain between 2 percent and 3 percent carbon black for ultraviolet light resistance.

G. A label for each synthetic membrane roll shall identify:

1. the thickness of the material;

2. the length and width of the roll;

3. the manufacturer;

4. directions to unroll the material;

5. product identification;

6. lot number; and

7. roll number.

2.03 SEAMING EQUIPMENT FOR FUSION WELDING

A. The approved process for field seaming is double-fusion (hot wedge) welding. Proposed alternate processes may be documented and submitted to the Engineer for acceptance.

B. The seaming equipment shall meet the following requirements:

1. The fusion-welding apparatus shall be an automated vehicular-mounted device which produces a double seam with an enclosed space.

2. The fusion welding apparatus shall be equipped with gauges giving the applicable temperatures.

C. Log apparatus temperatures, ambient temperatures, and geomembrane surface temperatures at appropriate intervals.

2.04 SEAMING EQUIPMENT FOR EXTRUSION WELDING

A. When required, extrusion welding equipment shall be equipped with gauges giving temperature in the welding equipment and at the nozzle.

B. The extrudate shall consist of the same resins as the synthetic membrane. Prior to use, the documentation from the Manufacturer shall be provided to the Engineer for acceptance through the Contractor certifying that the extrudate is compatible with the specifications.

2.05 TESTING EQUIPMENT

A. Testing equipment for fusion welds shall be comprised of the following:

1. An air pump (manual or motor driven) equipped with pressure gauge capable of generating and sustaining a pressure between 25 and 30 psi; and mounted on a cushion to protect the synthetic membrane;

2. A rubber hose with fittings and connections;

3. A manometer equipped with a sharp hollow needle, or other approved pressure feed device; and

4. Any miscellaneous items necessary to properly conduct or aid in performing the tests.

B. Testing equipment for extruded welds shall be comprised of the following:

1. A vacuum box assembly consisting of a rigid housing, a transparent viewing window, a soft neoprene gasket attached to the bottom, port hole or valve assembly, and a gauge to indicate chamber vacuum;

2. A steel vacuum tank and pump assembly equipped with a pressure controller and pipe connections;

3. A rubber pressure/vacuum hose with fittings and connections;

4. A bucket and wide brush or spray assembly;

5. A soapy solution; and

6. Any miscellaneous items necessary to properly conduct or aid in performing the tests.

PART 3 - EXECUTION

3.01 SHIPPING AND STORAGE

A. After manufacturing and identification, the synthetic membrane is to be packaged by the Manufacturer to facilitate and minimize handling in the field. The synthetic membrane will be shipped in heavy cardboard or wooden crates to protect them from damage during shipment.

B. Consideration must be given to scheduling the shipping of the membrane material to minimize storage requirements. Should the materials require storage either at the manufacturing facility, or in the field, it must be suitably protected against damage due to hot or cold weather.

C. The manufacturer shall supply the requirements for field storage of the membrane to the Contractor for submittal to the Engineer prior to delivery.

3.02 SUB-BASE PREPARATION

A. Identify required lines, levels, contours,and datum.

B. Prepare surface area by eliminating all surface protrusions, loose material, sharp rocks, roots, boulders, and other foreign and organic material from the top 3-inches of the subgrade. No surface protrusions and loose material which extends one-half (0.5) inch or greater above the surface recompacted subgrade shall be present.

C. The prepared surface for placement of the synthetic membrane shall be accepted by the Engineer and Manufacturer's representative; any problems indicated by the Engineer or the Manufacturer's representative shall be corrected prior to initiating installation.

3.03 GENERAL INSTALLATION REQUIREMENTS

A. The Manufacturer shall provide on-site technical supervision and assistance to the Contractor at all times during the installation of the synthetic membrane and placement of the final cover. The representative of the Manufacturer shall furnish certification that the synthetic membrane was installed in accordance with the recommendations of the Manufacturer.

B. The Contractor shall be certified by the Manufacturer for installation of HDPE. All liner welding and installation operations shall be directed, in the field, by a designated Master Welder. The Master Welder shall have installed a minimum of 2 million square feet of HDPE liner.

C. The synthetic membrane shall be placed and installed in a manner which requires a minimum of handling.

D. The synthetic membrane shall be anchored depending on the conditions during installation. Temporary weights used to hold the membrane in place shall consist of sandbags fabricated of a material acceptable to the Manufacturer and Engineer, and filled with sand material. All weights shall be removed when permanent placement and anchorage in trenches is achieved. Wind barriers shall be used, as opted by the Contractor, to assist in maintaining synthetic membrane placement and installation in accordance with the manufacturer's instructions.

E. The synthetic membrane shall be sealed at all pipe penetrations utilizing prefabricated, synthetic membrane pipe boots. The boot shall be clamped to the pipe with stainless steel pipe clamps welded to similar materials, or both as indicated on the Construction Drawings. The base of the boot shall be seamed all around to the membrane. Visual inspection of the boot seams will be utilized to verify integrity of the connection. Pipe boots shall conform to the same material specification as that of the synthetic membrane.

F. Placement and covering of the synthetic membrane with soil shall occur as soon as possible after its acceptance of installation; under no circumstances shall the synthetic material be exposed to sunlight for more than 21 days or manufacturer's recommendations, whichever is less.

G. Any portion of the synthetic membrane damaged during installation shall be repaired or replaced at the discretion of the Engineer. Patches shall be extrusion welded and tested as per the manufacturer's requirements. Repairs or replacements shall be at no additional cost to the Owner.

H. Trial seams shall be made on fragment pieces of synthetic liner material to verify that seaming conditions are adequate. Such trial seams shall be made at the beginning of each seaming period (anytime equipment has been shut down) for each seaming apparatus used. Trial seams shall be made under the same conditions as actual seams. If the trial seams fail any of the quality control tests, steps shall be taken to correct the cause (dust, ice, adjustment of the apparatus)

and seaming shall not commence until two consecutive successful full trial welds are achieved. If weather conditions are such that acceptable seams are not possible, seaming is to be delayed until weather conditions improve to a state where acceptable seams are possible.

I. Place and install synthetic membrane panels as indicated in layout drawings accepted by the Engineer.

J. All field seams shall be oriented parallel to the line of maximum slope (i.e., oriented along the slope and not across the slope). No seams shall be located in areas of potential stress concentrations. Seams shall be aligned with the fewest number of wrinkles and fishmouths.

K. The seam areas shall be clean and free of moisture, dust, soil, debris, and any foreign material.

L. Welding shall not take place during any precipitation, in the presence of excessive moisture (e.g., fog, dew), in an area of ponded water, or in the presence of excessive winds (unless wind barriers are provided).

M. Verify the following:

1. That any equipment to be used does not pose the risk of damaging the synthetic membrane due to handling or trafficking, excessive heat, leakage of hydrocarbons, or other means;

2. That the prepared surface underlying the synthetic membrane has not deteriorated since previous acceptance and is still acceptable immediately prior to synthetic membrane placement;

3. That any geosynthetic elements immediately underlying the synthetic membrane are clean and free of debris;

4. That all personnel to work on placement of the synthetic membrane have been instructed not to smoke, wear damaging shoes, or engage in other activities which could damage the membrane;

5. That the method to be used for unrolling the panels is unlikely to cause scratches or crimps in the synthetic membrane nor damage the supporting soil;

6. That the method to be used for placement of the panels minimizes wrinkles (especially differential wrinkles between adjacent panels);

7. That direct contact with the synthetic membrane is minimized; i.e., the synthetic membrane is protected by geotextiles, extra-synthetic membrane, or other suitable materials in areas where excessive traffic may be expected;

8. That the Engineer is informed if the above conditions are not fulfilled.

N. Inspect each panel after placement and prior to seaming for damage. Advise the Engineer which panels or portions of panels shall be repaired. Damaged panels or portions of damaged panels which have been rejected shall be marked and their removal from the Work area recorded by the Contractor.

O. Synthetic Membrane Installer or Manufacturer's Representative shall be present during the placement, installation and subsequent covering of the Synthetic Membrane in order to provide required warranty which shall accept conditions beneath and above installed Synthetic Membrane.

3.04 FUSION SEAMING PROCEDURE

A. Unless otherwise specified, the general seaming procedure shall be double-fusion welding, strictly adhering to Manufacturer's written instructions.

B. Trial seams shall be made by each fusion welder at the beginning of each seaming period, and at least once every four hours. Trial seam samples will measure at least 3 feet long and 1 foot wide; seams shall be tested for peel and shear. Equipment not meeting peel and shear criteria shall not be used for welding.

C. The fusion welder shall be operated in accordance with Manufacturer's recommended procedures; periodically record fusion operational parameters and compare to Manufacturer's recommended settings; if outside acceptable ranges notify Engineer of deviation and submit location of seam on layout drawing; submit recorded operational parameters at the end of each day to Engineer.

D. A movable protective layer of plastic may be required to be placed directly below the overlapped synthetic membranes being seamed. This is to prevent any moisture buildup between the sheets to be welded.

E. The synthetic membrane shall be welded in accordance with the manufactures recommendations.

F. One spare, operational fusion welder shall be maintained on-site during all welding operations.

3.05 EXTRUSION SEAMING PROCEDURE

A. Trial seams samples shall be made by each extrusion welder at the beginning of each seaming period, and at least once every four hours. The trial seam samples will measure 3 feet long by 1 foot wide (after welding) with the seam centered lengthwise and tested for peel and shear. Equipment not meeting peel and shear criteria shall not be used for welding.

B. All field seams shall provide a minimum overlap of the material of 4 inches and extend to the edge of the sheet so that no loose edges are present on the top side of the sheet. Loose overlap on the underside of the sheet is permissible.

C. The extruder shall be purged of heat-degraded extrudate from the barrel prior to the beginning of the seaming operation. The heat degraded extrudate will be removed from the barrel whenever the extruder is stopped.

D. Grinding of the materials to be welded by the extrusion method or other pre-welding activities shall be conducted in accordance with the Manufacturer's instructions.

E. Synthetic membrane shall be welded in accordance with Manufacturer's recommendations. Test welds shall be made in accordance with seam testing procedures.

F. One spare operable extrusion welder shall be maintained onsite during all welding operations.

3.06 SEAM TESTING

A. All fusion-welded seams shall be tested by the non-destructive pressure test method in accordance with the following:

1. Seal both ends of the seam to be tested;

2. Insert needle or other approved pressure feed device into the tunnel created by the fusion weld;

3. Energize the air pump to a pressure between 25 and 30 psi, close valve, and sustain pressure for approximately five minutes;

4. If loss of pressure exceeds 2 psi or does not stabilize, locate faulty area and repair in accordance with this specification; and

5. Remove needle or other approved pressure feed device and seal penetration in accordance with manufacturer's instructions.

B. All extrusion-welded seams shall be tested by the non-destructive vacuum test methods in accordance with the following:

1. Energize the vacuum pump and reduce the tank pressure to approximately 5 psi gauge;

2. Wet a strip of synthetic membrane approximately 12 inches by 48 inches with the soapy solution;

3. Place the box over the wetted area;

4. Close the bleed valve and open the vacuum valve;

5. Determine that a leak tight seal is created;

6. For a period of approximately 5 to 10 seconds, examine the membrane through the viewing window for the presence of soap bubbles;

7. If no bubble appears after 10 to 15 seconds, close the vacuum valve and open the bleed valve, move the box over the next adjoining area with a minimum 3 inches overlap, and repeat the process;

8. All areas where soap bubbles appear shall be marked and repaired in accordance with of this specification; and

9. Vacuum tested seams shall be recorded on Daily Progress Reports.

C. Destructive test samples shall be collected at a minimum frequency of one test per 500 feet of seam length at locations selected by the Engineer.

3.07 DEFECTS AND REPAIRS

A. The following provisions shall be satisfied when making repairs:

1. Surfaces of the synthetic membrane which are to be repaired shall be abraded no more than one hour prior to the repair;

2. All surfaces must be clean and dry at the time of the repair;

3. All seaming equipment used in repairing procedures must be acceptable to the Manufacturer's representative and the Engineer;

4. The repair procedures, materials, and techniques shall be accepted in advance of the specific repair by the Contractor and Engineer.

5. Patches or caps shall extend at least 6 inches beyond the edge of the defect, and all corners of patches shall be rounded with a radius of at least 3 inches; and

6. The synthetic membrane below large caps should be appropriately cut to avoid water or gas collection between the two sheets.

B. Any portion of the synthetic membrane exhibiting a flaw, or failing a destructive or nondestructive test, shall be repaired by the Contractor as per the Manufacturer's instructions. Several procedures exist for the repair of these areas. The final decision as to the appropriate repair procedure shall be agreed upon between the Engineer and the Contractor. The procedures available include:

1. Patching, used to repair large holes, tears, undisbursed raw materials, and contamination by foreign matter;

2. Grinding and rewelding, used to repair small sections of extruded seams;

3. Spot welding or seaming, used to repair small tears, pinholes, or other minor, localized flaws;

4. Capping, used to repair large lengths of failed seams;

5. Topping, used to repair areas of inadequate seams, which have an exposed edge; and

6. Removing bad seam and replacing with a strip of new material welded into place (used with large lengths of fusion seams).

C. All seams and non-seam areas of the synthetic membrane shall be examined by the Engineer for identification of defects, holes, blisters, undisbursed raw materials, and any sign of contamination by foreign matter.

D. Each suspect location, both in seam and non-seam areas, shall be non-destructively tested. Each location which fails the non-destructive testing shall be marked and repaired. No Work shall proceed which requires the covering of locations that have been repaired, until laboratory test results for samples of the repair work, if required, have been submitted by the Contractor to the Engineer and accepted.

E. Large Wrinkles

1. When seaming of the synthetic membrane is completed (or when seaming of a large area of the secondary synthetic membrane liner is completed) and prior to placing overlying materials, the Engineer and Manufacturer's representative shall identify all excessive synthetic membrane wrinkles. The Contractor shall cut and reseam all wrinkles so identified. The new seam produced shall be tested like any other seam.

F. "Fishmouths" at the seam overlays shall be cut along the ridge of the wrinkle in order to achieve a flat overlap. The cut "fishmouths" shall be seamed and, any portion where the overlay is inadequate, patched with an oval or round patch of the same synthetic membrane extending a minimum of six inches beyond the cut in all directions.

END OF SECTION

SECTION 02490
GEOTEXTILE

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Installation of 12-ounce, non-woven Geotextile immediately above the Recompacted Subgrade and beneath the Synthetic Membrane.

1.02 RELATED WORK

A. Section 02222 - Excavation.

B. Section 02223 - Backfilling.

C. Section 02430 - Synthetic Membrane.

1.03 SUBMITTALS

A. Prior to delivery of materials described in this section, CONTRACTOR shall submit to the ENGINEER for review and acceptance, material samples a minimum of 3 feet in length, and spanning the entire calendar width, and the names, addresses, phone numbers and names of representatives for each Manufacturer and Supplier for each material. Delivery shall not be made until acceptance is provided.

B. Mill certificates from the Manufacturer, shall accompany material samples and shall present, at a minimum, results of tests to certify the material and physical properties of the Materials in this Specification and other test results as so delivered by the Manufacturer.

C. Installation Plan explaining the approach the CONTRACTOR intends to use while installing products of this specification.

D. Installation procedures recommended by the Manufacturer.

E. Manufacturer's Warranty.

PART 2 - GENERAL

2.01 MATERIALS

A. Geotextile: Non-Woven Filter Fabric, twelve 12-ounce, non-woven, polypropylene with the following minimum properties:

Property	Test Method	Value
Weight	ASTM D3776	12 oz
Thickness	ASTM D1777	120 mils
Tensile Strength	ASTM D4632	300 lbs.
Tensile Elongation	ASTM D4632	85 percent
Burst Strength	ASTM D3786	420 psi
Equivalent Opening Size	ASTM D4751	No. 100 Sieve
Puncture Strength	ASTM D3787	150 lbs.
Coefficient of Water Permeability	ASTM D4491	0.40 cm/sec
Abrasion Resistance	ASTM D3884	90 lbs.

PART 3 - EXECUTION

3.01 PREPARATION

A. Identify required lines, levels contours, and datum.

B. Verify that subgrade is properly prepared.

3.02 INSTALLATION

A. Geotextile shall be handled in such a manner as to ensure it is not damaged in any way.

1. On slopes, geotextiles shall be anchored in the anchor trench; then rolled down the slope in such a manner as to continually keep the material in tension.

2. In the presence of wind, the Materials shall be weighted with sandbags until final covers are installed.

3. Care shall be taken to assure that stones, mud, and dirt are not entrapped in the geotextile during placement and seaming operations.

4. The geotextile shall be placed on the prepared surface in a regular pattern conforming to the shape of the unfilled pond.

3.03 REPAIRS

A. Any holes or tears in geotextile shall be repaired by patching with the same geotextile. The patch shall be a minimum of 12 inches larger in all directions than the area to be repaired and shall be spot bonded thermally.

3.04 PLACEMENT OF COVER MATERIAL

A. Any cover Material such as soil or synthetic membrane liners which is placed over geotextiles or geonets shall be placed in such a manner as to assure that the geotextile and geonet are not damaged.

B. Care shall be taken to minimize any slippage of the geotextile and to assure that no tensile stress is induced in the Materials.

END OF SECTION

SECTION 02700
TRANSFER PIPING

PART 1 — GENERAL

1.01 SECTION INCLUDES

A. Furnish and install 8-inch Polyethylene (PE) transfer piping from the oil/water separator to the new, lined settling pond.

B. Install valves, valve boxes, and other appurtenances as shown on the Construction Drawings.

1.02 RELATED SECTIONS

A. Division 1 - General Requirements

B. Section 02222 - Excavation

C. Section 02223 - Backfilling

D. Section 02430 - Synthetic Membrane

E. Section 02490 - Geotextile

1.03 REFERENCES

A. ANSI/ASTM D2321 - Recommended Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe.

B. ASTM D-1248 - Polyethylene Plastics Molding and Extrusion Material.

C. ASTM D-3350 - Polyethylene (PE) Pipe and Fitting Materials.

D. ASTM D-3035 - Polyethylene (PE) Pipe (SDR-PR) Based on Controlled Outside Diameter.

E. ASTM D-3261 - Butt Heat Fusion Polyethylene and Plastic Fittings for PE Pipe and Tubing.

1.04 QUALITY ASSURANCE

A. Valves: Manufacturers name and pressure rating marked on valve body.

1.05 SUBMITTALS

A. Submit product data to ENGINEER prior to initiating installation of piping; include data on pipe materials, pipe fittings, valves, and accessories. Work shall not commence until acceptance is provided.

B. Submit description of equipment and procedures to be used to butt weld pipe joints and to attach pipe fittings to pipe.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Products delivered to the site shall be stored in accordance with the Manufacturer's recommendations.

B. At no time shall materials be stored in direct contact with the ground.

C. Deliver and store valves in shipping containers with labelling in place.

1.07 PROJECT RECORD DOCUMENTS

A. Accurately record location of pipe runs, connections, and invert elevations.

B. Identify and describe unexpected variations in subsoil conditions or discovery of uncharted utilities.

PART 2 — PRODUCTS

2.01 TRANSFER PIPING

A. PE Pipe - 8-inch diameter, SDR 32.5

B. PE Pipe Tee - 8-inch diameter, SDR 32.5

2.02 VALVES

A. Gate Valves - 8-inch diameter, Mueller AWWA Gate Valves, or equivalent.

B. Valve Boxes - Buffalo type, cast iron, with adjustable extension stem.

PART 3 — EXECUTION

3.01 PREPARATION

A. Verify that trench cut is ready to recieve piping, and excavations, dimensions, and elevations are as indicated on Construction Drawings.

B. Hand trim excavations to required elevations. Correct over excavation with fill material.

C. Remove large stones or other hard matter which could damage pipe or impede consistent backfilling or completion.

3.02 INSTALLATION

A. Route piping as depicted on the Construction Drawings.

B. Install pipe, fittings, and accessories in accordance with the Manufacturer's instructions. Use fusion butt welds for all flanges and butt joints.

C. Excavate trench in accordance with Section 02222.

D. Install valves as shown on Construction Drawing and set plumb.

E. Place fill material in maximum 12-inch lifts, compacting each lift to a minimum of 95 percent Standard Proctor Test. Do not displace or damage pipe when compacting.

F. All underground valves shall be installed with cast-iron valve boxes set over the valve with no weight bearing on the valve or pipe.

END OF SECTION

ukp032\A2190192

FEDERAL EXPRESS

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER

1215145201

1234 1215145201

1 Date: 1/13/92

RECIPIENT'S COPY

From (Your Name) Please Print: Mark Amershek

Your Phone Number (Very Important): (303-290-9379

Company: TIPPERARY CORPORATION

Department/Floor No.:

Street Address: 633 17TH ST STE 1550

City: LENVER State: CO ZIP Required: 8 0 2 0 2

2 To (Recipient's Name) Please Print: Ms. Kathy M. Brown

Recipient's Phone Number (Very Important): ( )

Company: State of New Mexico

Department/Floor No.: Energy, Minerals & Nat'l Resources

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): Oil Conservation Division

State Land Office Building

City: Santa Fe, State: New Mexico ZIP Required: 87504

YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice.)

H IF HOLD FOR PICK-UP, Print FEDEX Address Here

Street Address:

City: State: ZIP Required:

3 PAYMENT 1 ☑ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card 5 ☐ Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
- 11 ☐ YOUR PACKAGING
- 16 ☐ FEDEX LETTER *
- 12 ☑ FEDEX PAK *
- 13 ☐ FEDEX BOX
- 14 ☐ FEDEX TUBE

Standard Overnight (Delivery by next business afternoon†)
- 51 ☐ YOUR PACKAGING
- 56 ☐ FEDEX LETTER *
- 52 ☐ FEDEX PAK *
- 53 ☐ FEDEX BOX
- 54 ☐ FEDEX TUBE

Economy Two-Day (Delivery by second business day†)
- 30 ☐ ECONOMY

Government Overnight (Restricted to authorized users only)
- 46 ☐ GOVT LETTER
- 41 ☐ GOVT PACKAGE

Freight Service (for Extra Large or any package over 150 lbs.)
- 70 ☐ OVERNIGHT FREIGHT ** (Confirmed reservation required)
- 80 ☐ TWO-DAY FREIGHT **

†Delivery commitment may be later in some areas
*Declared Value Limit $100
**Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)
- 1 ☐ HOLD FOR PICK-UP (Fill in Box H)
- 2 ☑ DELIVER WEEKDAY
- 3 DELIVER SATURDAY (Extra charge) (Not available to all locations) ☐
- 4 ☐ DANGEROUS GOODS (Extra charge)
- 5 ☐
- 6 ☐ DRY ICE ..... Lbs
- 7 ☐ OTHER SPECIAL SERVICE .....
- 8 ☐
- 9 ☐ SATURDAY PICK-UP (Extra charge)
- 10 ☐
- 11 ☐
- 12 ☐ HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES / WEIGHT In Pounds Only

Total: Total:

DIM SHIPMENT (Chargeable Weight)

☐ _____ lbs.

_____ X _____ X _____ = _____

Received At
- 1 ☐ Regular Stop
- 2 ☐ On-Call Stop
- 3 ☐ Drop Box
- 4 ☐ B.S.C
- 5 ☐ Station

Emp. No. Date

☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold

Street Address:

City State Zip

Received By: X

Date/Time Received FedEx Employee Number

7 Release Signature:

FedEx Emp. No. Date/Time

Federal Express Use
- Base Charges
- Declared Value Charge
- Other 1
- Other 2
- Total Charges

REVISION DATE 4/91
PART #137204 FXEM 7/91
FORMAT #082

082

ORGANIC CHEMISTRY ANALYTICAL REQUEST FORM

SCIENTIFIC LABORATORY DIVISION
700 CAMINO DE SALUD N.E., ALBUQUERQUE, NM 87106
Organic Chemistry Section - Telephone: (505) 841-2570

1 SLD No. OR92 0323 C

Date Received: 2/17/92

Request ID No. 022229-C

2 User Code #: 703210

3 Request ID No.:

4 Priority Code #: [If "1" or "2", call EID-SLD Coordinator]

5 Facility Name: Buro Pipeline Lane Saltlake

6 County: Lea

7 City: Eunice

8 State: NM

9 Sample Location: LAKE EAST SHORE

10 Collected By: Kathy Bird (First / Last) On: 92/02/13 (Date: YY/MM/DD) At: 1045 (Time: 24 hr. clock, 3:00 pm = 1500 hrs.) hrs.

11 Codes: Submitter / WSS # / Organization

12 Latitude (DDMMSS) ° ' "
Longitude (DDDMMSS) ° ' "
2 Digit ID (If needed)

13 Report To: David G. Boyer

14 Phone #: (505) 827-5812

Address: New Mexico Oil Conservation Division
P. O. Box 2088

City, State Zip: Santa Fe, New Mexico 87504-2088

15 Sampling Information:
Sample Purpose:
- [ ] Compliance
- [x] Check
- [x] Monitoring
- [ ] Special

- [x] Grab
- [ ] Composite _____ (Composite Time Period)
  - [ ] Flow Proportioned
  - [ ] Equal Aliquot
- [ ] Sample Split w/Permittee
- [x] Chain of Custody

16 Field Data: pH: _____, Conductivity: _____ umhos @ _____ °C, Temperature: _____ °C, Chlorine Residual: _____ mg/l, Flow: _____

17 Sample Source:
- [ ] Stream
- [x] Lake
- [x] Drain
- [ ] Pool
- [ ] WWTP
- [ ] Well; Depth: _____
- [ ] Spring
- [ ] Distribution
- [ ] Point-of-Entry
- [ ] Other: _____

18 Field Notes/ Sample #:

19 Sample Type: [x] Water, [ ] Soil, [ ] Food, [ ] Wastewater, [ ] Other _____
This form accompanies a single sample consisting of:
2 - septum vial(s) (volume = 40 ml each)
_____ - glass jugs (volume = _____)
_____ - _____ (volume = _____)

20 Preservation:
- [ ] NP — No Preservation; Sample stored at room temperature
- [ ] P-Ice — Sample stored in an ice bath (Not Frozen)
- [ ] P-TS — Sample Preserved with Sodium Thiosulfate to remove chlorine residual
- [ ] P-HCl — Sample Preserved with Hydrochloric Acid (2 drops/40 ml)
- [x] Other HgCl2

21 Analyses Requested: Please check the appropriate box(es) below to indicate the type of analytical screen(s) required. Whenever possible, list specific compounds suspected or required.

Volatile Screens:

- [ ] (753) Aliphatic Headspace (1-5 Carbons)
- [x] (754) Aromatic & Halogenated Purgeables (EPA 601 & 602)
- [ ] (765) Mass Spectrometer Purgeables (EPA 624)
- [ ] (766) SDWA Total Trihalomethanes (EPA 501.1)
- [ ] (774) SDWA VOC's I [8 Regulated +] (EPA 502.2)
- [ ] (775) SDWA VOC's II [EDB & DBCP] (EPA 504)

Other Specific Compounds or Classes:

- [ ] - ( ) _____
- [ ] - ( ) _____
- [ ] - ( ) _____

Semivolatile Screens:

- [ ] (763) Acid Extractables
- [ ] (751) Aliphatic Hydrocarbons
- [ ] (755) Base/Neutral Extractables (EPA 625)
- [ ] (756) Base/Neutral/Acid Extractables (EPA 8270)
- [ ] (758) Herbicides, Chlorophenoxy Acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks:

SLD 8912-OR Form New 12/89 This Form Will NOT Be Returned With Your Results. Please RETAIN A COPY!

STATE OF NEW MEXICO
DEPARTMENT OF HEALTH
SCIENTIFIC LABORATORY DIVISION
P.O. Box 4700
Albuquerque, NM 87196-4700
700 Camino de Salud, NE
[505]-841-2500
WATER CHEMISTRY SECTION [505]-841-2555

May 15, 1992

Request
ID No. 022228

ANALYTICAL REPORT
SLD Accession No. WC-92-0290

Distribution
(__) User 70320
(■) Submitter 995
(▒) SLD Files

To: Roger Anderson
NM Oil Conservation Div.
P.O. Box 2088
Santa Fe, NM 87504-2088

From: Water Chemistry Section
Scientific Laboratory Div.
700 Camino de Salud, NE
Albuquerque, NM 87106

Re: A water,Nonpres/No sample submitted to this laboratory on February 17, 1992

DEMOGRAPHIC DATA

COLLECTION
On: 13-Feb-92 *By:* Bro . . .
At: 10:45 hrs. *In/Near:* Tatum

LOCATION
Lake East Shore

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units
calcium	5627.00		mG/L
magnesium	2533.00		mG/L
potassium	1300.00		mG/L
sodium	130383.00		mG/L
bicarbonate	166.00		mG/L
carbonate	0.00		mG/L
chloride	200000.00		mG/L
sulfate	163.00		mG/L
total diss resid	333500.00		mG/L

Reviewed By: JDR 05/12/92
John D. Ritts 05/12/92
Analyst, Water Chemistry Section

STATE OF NEW MEXICO DEPARTMENT OF HEALTH
SCIENTIFIC LABORATORY DIVISION
P.O. Box 4700 700 Camino de Salud, NE
Albuquerque, NM 87196-4700 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

March 5, 1992

Request ID No. 022229

ANALYTICAL REPORT
SLD Accession No. OR-92-0323

Distribution
(__) User 70320
(■) Submitter 260
(※) SLD Files

To: D. Boyer
NM Oil Consv. Div.
State Land Office Bldg.
P.O. Box 2088
Santa Fe, NM 87504-2088

From: Organic Chemistry Section
Scientific Laboratory Div.
700 Camino de Salud, NE
Albuquerque, NM 87106

Re: **A water, purgeable sample submitted to this laboratory on February 17, 1992**

DEMOGRAPHIC DATA

COLLECTION
On: 13-Feb-92 *By:* Bro . . .
At: 10:45 hrs. *In/Near:* Tatum

LOCATION
Lake East Shore

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable [EPA-601/2] Screen {754}

Parameter	Value	Note	MDL	Units
EPA 601/2 Volatiles (60)	0.00	N	10.00	ppb

See Laboratory Remarks for Additional Information

Notations & Comments:

MDL = Minimal Detectable Level.

A = Approximate Value; N = None Detected above Detection Limit; P = Compound Present, but not quantified;
T = Trace (<Detection Limit); U = Compound Identity Not Confirmed.

Evidentiary Seals: Not Sealed [X]; Intact: No [ ], Yes [ ] & Broken By: _____ Date: _____

Laboratory Remarks:

This sample was analyzed first on 2/19/92 and was judged unacceptable by the analyst. It was re-analyzed on 2/20/92 with the results reported.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: NM SCIENTIFIC LABORATORY DIVISION Contract: N/A
Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: N/A
Matrix: (soil/water) Water Lab Sample ID: OR-92-0323
Sample wt/vol: 5.0 (g/mL) mL SLD Batch No: 36
Level: (low/med) Low Date Received: 2/17/92
% Moisture: not dec. N/A dec. N/A Date Extracted: N/A
Extraction: (SepF/Cont/Sonc) N/A Date Analyzed: 2/20/92
GPC Cleanup: (Y/N) No pH: _____ Dilution Factor: 10
CONCENTRATION UNITS:
(ug/L or ug/Kg): ug/L

(Continued on page 2.)

This sample was analyzed for the following compounds using EPA Methods 601 & 602

CAS NO.	COMPOUND	CONC.	QUALIFIER
67-64-1	Acetone	50.0	U
71-43-2	Benzene	10.0	U
108-86-1	Bromobenzene	10.0	U
74-97-5	Bromochloromethane	10.0	U
75-27-4	Bromodichloromethane	10.0	U
75-25-2	Bromoform	10.0	U
78-93-3	2-Butanone (MEK)	50.0	U
104-51-8	n-Butylbenzene	10.0	U
135-98-8	sec-Butylbenzene	10.0	U
98-06-6	tert-Butylbenzene	10.0	U
1634-04-4	tert-Butyl methyl ether (MTBE)	50.0	U
56-23-5	Carbon tetrachloride	10.0	U
108-90-7	Chlorobenzene	10.0	U
67-66-3	Chloroform	10.0	U
95-49-8	2-Chlorotoluene	10.0	U
106-43-4	4-Chlorotoluene	10.0	U
96-12-8	1,2-Dibromo-3-chloropropane	10.0	U
124-48-1	Dibromochloromethane	10.0	U
106-93-4	1,2-Dibromoethane	10.0	U
74-95-3	Dibromomethane	10.0	U
95-50-1	1,2-Dichlorobenzene	10.0	U
541-73-1	1,3-Dichlorobenzene	10.0	U
106-46-7	1,4-Dichlorobenzene	10.0	U
75-71-8	Dichlorodifluoromethane	10.0	U
75-34-3	1,1-Dichloroethane	10.0	U
107-06-2	1,2-Dichloroethane	10.0	U
75-35-4	1,1-Dichloroethene	10.0	U
156-59-4	cis-1,2-Dichloroethene	10.0	U
156-60-5	trans-1,2-Dichloroethene	10.0	U
78-87-5	1,2-Dichloropropane	10.0	U
142-28-9	1,3-Dichloropropane	10.0	U
590-20-7	2,2-Dichloropropane	10.0	U
563-58-6	1,1-Dichloropropene	10.0	U
1006-01-5	cis-1,3-Dichloropropene	10.0	U
1006-02-6	trans-1,3-Dichloropropene	10.0	U
100-41-4	Ethylbenzene	10.0	U
87-68-3	Hexachlorobutadiene	10.0	U
98-82-8	Isopropylbenzene	10.0	U

(Continued on page 3.)

99-87-6	4-Isopropyltoluene	10.0	U
75-09-2	Methylene chloride	10.0	U
90-12-0	1-Methylnaphthalene	10.0	U
91-57-6	2-Methylnaphthalene	10.0	U
91-20-3	Naphthalene	10.0	U
103-65-1	Propylbenzene	10.0	U
100-42-5	Styrene	10.0	U
630-20-6	1,1,1,2-Tetrachloroethane	10.0	U
79-34-5	1,1,2,2-Tetrachloroethane	10.0	U
127-18-4	Tetrachloroethene	10.0	U
109-99-9	Tetrahydrofuran (THF)	50.0	U
108-88-3	Toluene	10.0	U
87-61-5	1,2,3-Trichlorobenzene	10.0	U
120-82-1	1,2,4-Trichlorobenzene	10.0	U
71-55-6	1,1,1-Trichloroethane	10.0	U
79-00-5	1,1,2-Trichloroethane	10.0	U
79-01-6	Trichloroethene	10.0	U
75-69-4	Trichlorofluoromethane	10.0	U
96-18-4	1,2,3-Trichloropropane	10.0	U
95-63-6	1,2,4-Trimethylbenzene	10.0	U
108-67-8	1,3,5-Trimethylbenzene	10.0	U
75-01-4	Vinyl chloride	10.0	U
95-47-6	o-Xylene	10.0	U
N/A	p- & m-Xylene	10.0	U

Qualifier Definitions:

B - Indicates compound was detected in the Lab Blank as well as in the sample.
D - Indicates value taken from a secondary (diluted) sample analysis.
E - Indicates compound concentration exceeded the range of the standard curve.
J - Indicates an estimated value for tentatively identified compounds, or for compounds detected and identified but present at a concentration less than the quantitation limit.
N - Indicates that more than one peak was used for quantitation.
U - Indicates compound was analyzed for, but not detected above the concentration listed (Quantitation Limit).

QUALITY CONTROL SUMMARY FOR VOLATILES SCREEN

METHOD BLANK: A laboratory method blank was analyzed along with

(Continued on page 4.)

this sample to assure the absence of interfering contaminants from lab reagents, instruments, or the general laboratory environment. Unless listed below, no contaminants were detected in this blank above the reported detection limit.

COMPOUND DETECTED	CONCENTRATION (PPB)
No Compounds Detected	

SURROGATE RECOVERIES:

SURROGATE	CONCENTRATION		% RECOVERY
BFB	10.0	ppb	98.9
2-Bromo-1-chloropropane	10.0	ppb	104.8

SPIKE RECOVERY: The % recoveries for compounds in the batch spike were from 80% to 120% with the exception of the compounds listed below:

COMPOUND	CONCENTRATION	% RECOVERY
trichloroethene	30.4 ppb	121.6

Analyst: Gary Eden
Gary C. Eden
Analyst, Organic Chemistry

Reviewed By:
Richard F. Meyerhein 03/04/92
Supervisor, Organic Chemistry Section

ORGANIC CHEMISTRY ANALYTICAL REQUEST FORM

SCIENTIFIC LABORATORY DIVISION
700 CAMINO DE SALUD N.E., ALBUQUERQUE, NM 87106
Organic Chemistry Section - Telephone: (505) 841-2570

1 SLD No. OR92 0324 C

Date Received: 2/17/92

Request ID No. 022231-C

2 User Code #: 7 0 3 2 1 0

3 Request ID No.:

4 Priority Code #: (If "1" or "2", call EID-SLD Coordinator)

5 Facility Name: Burro Pipeline Lane Salt Lake

6 County: Lea

7 City: Kaiam

8 State: NM

9 Sample Location: DISCHARGE TO LAKE

10 Collected By: Kathy (First) Brown (Last) On: 92/02/13 (Date: YY/MM/DD) At: 1 0 2 0 hrs. (Time: 24 hr. clock, 3:00 pm = 1500 hrs.)

11 Codes: Submitter | WSS # | Organization

12 Latitude (DDMMSS) ° ' "
Longitude (DDDMMSS) ° ' "
2 Digit ID (If needed)

13 Report To: Name: David G. Boyer

14 Phone #: (505) 827-5812

Address: New Mexico Oil Conservation Division
P. O. Box 2088
City, State Zip: Santa Fe, New Mexico 87504-2088

15 Sampling Information:
Sample Purpose:
- [ ] Compliance
- [ ] Check
- [X] Monitoring
- [ ] Special

- [X] Grab
- [ ] Composite _____ (Composite Time Period)
  - [ ] Flow Proportioned
  - [ ] Equal Aliquot
- [ ] Sample Split w/Permittee
- [X] Chain of Custody

16 Field Data: pH: _____, Conductivity: _____ umhos @ _____ °C, Temperature: _____ °C, Chlorine Residual: _____ mg/l, Flow: _____

17 Sample Source:
- [ ] Stream
- [ ] Lake
- [ ] Drain
- [ ] Pool
- [ ] WWTP
- [ ] Well; Depth: _____
- [ ] Spring
- [ ] Distribution
- [X] Point-of-Entry
- [ ] Other: _____

18 Field Notes/ Sample #:

19 Sample Type: [X] Water, [ ] Soil, [ ] Food, [ ] Wastewater, [ ] Other _____
This form accompanies a single sample consisting of:
2 - septum vial(s) (volume = 40 ml or V)
_____ - glass jugs (volume = _____)
_____ - _____ (volume = _____)

20 Preservation:
- [ ] NP — No Preservation; Sample stored at room temperature
- [ ] P-Ice — Sample stored in an ice bath (Not Frozen)
- [ ] P-TS — Sample Preserved with Sodium Thiosulfate to remove chlorine residual
- [ ] P-HCl — Sample Preserved with Hydrochloric Acid (2 drops/40 ml)
- [X] Other — $HgCl_2$

21 Analyses Requested: Please check the appropriate box(es) below to indicate the type of analytical screen(s) required. Whenever possible, list specific compounds suspected or required.

Volatile Screens:

- [ ] (753) Aliphatic Headspace (1-5 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables (EPA 601 & 602)
- [ ] (765) Mass Spectrometer Purgeables (EPA 624)
- [ ] (766) SDWA Total Trihalomethanes (EPA 501.1)
- [ ] (774) SDWA VOC's I [8 Regulated +] (EPA 502.2)
- [ ] (775) SDWA VOC's II [EDB & DBCP] (EPA 504)

Other Specific Compounds or Classes:

- [ ] ( ) _____
- [ ] ( ) _____
- [ ] ( ) _____

Semivolatile Screens:

- [ ] (763) Acid Extractables
- [ ] (751) Aliphatic Hydrocarbons
- [ ] (755) Base/Neutral Extractables (EPA 625)
- [ ] (756) Base/Neutral/Acid Extractables (EPA 8270)
- [ ] (758) Herbicides, Chlorophenoxy Acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks:

This Form Will NOT Be Returned With Your Results. Please RETAIN A COPY!

STATE OF NEW MEXICO DEPARTMENT OF HEALTH
SCIENTIFIC LABORATORY DIVISION
P.O. Box 4700 700 Camino de Salud, NE
Albuquerque, NM 87196-4700 [505]-841-2500
WATER CHEMISTRY SECTION [505]-841-2555

May 15, 1992

Request
ID No. 022230

ANALYTICAL REPORT
SLD Accession No. WC-92-0291

Distribution
(__) User 70320
(■) Submitter 995
(▒) SLD Files

To: Roger Anderson
NM Oil Conservation Div.
P.O. Box 2088
Santa Fe, NM 87504-2088

From: Water Chemistry Section
Scientific Laboratory Div.
700 Camino de Salud, NE
Albuquerque, NM 87106

Re: A water,Nonpres/No sample submitted to this laboratory on February 17, 1992

DEMOGRAPHIC DATA

COLLECTION
On: 13-Feb-92 *By:* Bro . . .
At: 10:20 hrs. *In/Near:* Tatum

LOCATION
Discharge To Lake

ANALYTICAL RESULTS

Analysis	Value	D. Lmt.	Units
calcium	4097.00		mG/L
magnesium	808.00		mG/L
potassium	198.00		mG/L
sodium	25794.00		mG/L
bicarbonate	420.00		mG/L
carbonate	0.00		mG/L
chloride	54400.00		mG/L
sulfate	462.00		mG/L
total diss resid	96870.00		mG/L

Reviewed By: JDR 05/12/92
John D. Ritts 05/12/92
Analyst, Water Chemistry Section

STATE OF NEW MEXICO DEPARTMENT OF HEALTH
SCIENTIFIC LABORATORY DIVISION
P.O. Box 4700 700 Camino de Salud, NE
Albuquerque, NM 87196-4700 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

March 5, 1992

Request ID No. 022231

ANALYTICAL REPORT
SLD Accession No. OR-92-0324

Distribution
(__) User 70320
(■) Submitter 260
(※) SLD Files

To: D. Boyer
NM Oil Consv. Div.
State Land Office Bldg.
P.O. Box 2088
Santa Fe, NM 87504-2088

From: Organic Chemistry Section
Scientific Laboratory Div.
700 Camino de Salud, NE
Albuquerque, NM 87106

Re: **A water, purgeable sample submitted to this laboratory on February 17, 1992**

DEMOGRAPHIC DATA

COLLECTION
On: 13-Feb-92 *By:* Bro . . .
At: 10:20 hrs. *In/Near:* Tatum

LOCATION
Discharge to Lake

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable [EPA-601/2] Screen {754}

Parameter	Value	Note	MDL	Units
Benzene	7476.00		100.00	ppb
Toluene	2058.00		100.00	ppb
Ethylbenzene	161.40		100.00	ppb
p- & m-Xylene	611.60		100.00	ppb
o-Xylene	333.30		100.00	ppb
1,3,5-Trimethylbenzene	54.70	T	100.00	ppb
1,2,4-Trimethylbenzene	142.90		100.00	ppb

See Laboratory Remarks for Additional Information

Notations & Comments:

MDL = Minimal Detectable Level.

A = Approximate Value; N = None Detected above Detection Limit; P = Compound Present, but not quantified;
T = Trace (<Detection Limit); U = Compound Identity Not Confirmed.

Evidentiary Seals: Not Sealed [X]; Intact: No [ ], Yes [ ] & Broken By: _____ Date: _____

Laboratory Remarks:

This sample was analyzed first on 2/19/92 and was judged unacceptable by the analyst. It was re-analyzed on 2/27/92 with the results reported.
Naphthalene was found at 52.5 ppb (trace amounts) with a detection limit of 100 ppb.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: NM SCIENTIFIC LABORATORY DIVISION Contract: N/A
Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: N/A
Matrix: (soil/water) Water Lab Sample ID: OR-92-0324

(Continued on page 2.)

Sample wt/vol: 5.0 (g/mL) mL
Level: (low/med) Low
% Moisture: not dec. N/A dec. N/A
Extraction: (SepF/Cont/Sonc) N/A
GPC Cleanup: (Y/N) No pH:

SLD Batch No: 36
Date Received: 2/17/92
Date Extracted: N/A
Date Analyzed: 2/27/92
Dilution Factor: 100
CONCENTRATION UNITS:
(ug/L or ug/Kg): ug/L

This sample was analyzed for the following compounds using EPA Methods 601 & 602

CAS NO.	COMPOUND	CONC.	QUALIFIER
67-64-1	Acetone	500.0	U
71-43-2	Benzene	7476.0	
108-86-1	Bromobenzene	100.0	U
74-97-5	Bromochloromethane	100.0	U
75-27-4	Bromodichloromethane	100.0	U
75-25-2	Bromoform	100.0	U
78-93-3	2-Butanone (MEK)	500.0	U
104-51-8	n-Butylbenzene	100.0	U
135-98-8	sec-Butylbenzene	100.0	U
98-06-6	tert-Butylbenzene	100.0	U
1634-04-4	tert-Butyl methyl ether (MTBE)	500.0	U
56-23-5	Carbon tetrachloride	100.0	U
108-90-7	Chlorobenzene	100.0	U
67-66-3	Chloroform	100.0	U
95-49-8	2-Chlorotoluene	100.0	U
106-43-4	4-Chlorotoluene	100.0	U
96-12-8	1,2-Dibromo-3-chloropropane	100.0	U
124-48-1	Dibromochloromethane	100.0	U
106-93-4	1,2-Dibromoethane	100.0	U
74-95-3	Dibromomethane	100.0	U
95-50-1	1,2-Dichlorobenzene	100.0	U
541-73-1	1,3-Dichlorobenzene	100.0	U
106-46-7	1,4-Dichlorobenzene	100.0	U
75-71-8	Dichlorodifluoromethane	100.0	U
75-34-3	1,1-Dichloroethane	100.0	U
107-06-2	1,2-Dichloroethane	100.0	U
75-35-4	1,1-Dichloroethene	100.0	U
156-59-4	cis-1,2-Dichloroethene	100.0	U
156-60-5	trans-1,2-Dichloroethene	100.0	U
78-87-5	1,2-Dichloropropane	100.0	U
142-28-9	1,3-Dichloropropane	100.0	U

(Continued on page 3.)

590-20-7	2,2-Dichloropropane	100.0	U
563-58-6	1,1-Dichloropropene	100.0	U
1006-01-5	cis-1,3-Dichloropropene	100.0	U
1006-02-6	trans-1,3-Dichloropropene	100.0	U
100-41-4	Ethylbenzene	161.4	
87-68-3	Hexachlorobutadiene	100.0	U
98-82-8	Isopropylbenzene	100.0	U
99-87-6	4-Isopropyltoluene	100.0	U
75-09-2	Methylene chloride	100.0	U
90-12-0	1-Methylnaphthalene	100.0	U
91-57-6	2-Methylnaphthalene	100.0	U
91-20-3	Naphthalene	52.5	J
103-65-1	Propylbenzene	100.0	U
100-42-5	Styrene	100.0	U
630-20-6	1,1,1,2-Tetrachloroethane	100.0	U
79-34-5	1,1,2,2-Tetrachloroethane	100.0	U
127-18-4	Tetrachloroethene	100.0	U
109-99-9	Tetrahydrofuran (THF)	500.0	U
108-88-3	Toluene	2058.0	
87-61-5	1,2,3-Trichlorobenzene	100.0	U
120-82-1	1,2,4-Trichlorobenzene	100.0	U
71-55-6	1,1,1-Trichloroethane	100.0	U
79-00-5	1,1,2-Trichloroethane	100.0	U
79-01-6	Trichloroethene	100.0	U
75-69-4	Trichlorofluoromethane	100.0	U
96-18-4	1,2,3-Trichloropropane	100.0	U
95-63-6	1,2,4-Trimethylbenzene	142.9	
108-67-8	1,3,5-Trimethylbenzene	54.7	J
75-01-4	Vinyl chloride	100.0	U
95-47-6	o-Xylene	333.3	
N/A	p- & m-Xylene	611.6	

Qualifier Definitions:

B - Indicates compound was detected in the Lab Blank as well as in the sample.
D - Indicates value taken from a secondary (diluted) sample analysis.
E - Indicates compound concentration exceeded the range of the standard curve.
J - Indicates an estimated value for tentatively identified compounds, or for compounds detected and identified but present at a concentration less than the quantitation limit.
N - Indicates that more than one peak was used for quantitation.

(Continued on page 4.)

U - Indicates compound was analyzed for, but not detected above the concentration listed (Quantitation Limit).

QUALITY CONTROL SUMMARY FOR VOLATILES SCREEN

METHOD BLANK: A laboratory method blank was analyzed along with this sample to assure the absence of interfering contaminants from lab reagents, instruments, or the general laboratory environment. Unless listed below, no contaminants were detected in this blank above the reported detection limit.

COMPOUND DETECTED	CONCENTRATION (PPB)
No Compounds Detected	

SURROGATE RECOVERIES:

SURROGATE	CONCENTRATION	% RECOVERY
BFB	10.0 ppb	98.2
2-Bromo-1-chloropropane	10.0 ppb	99.8

SPIKE RECOVERY: The % recoveries for compounds in the batch spike were from 80% to 120% with the exception of the compounds listed below:

COMPOUND	CONCENTRATION	% RECOVERY
trichloroethene	30.4 ppb	121.6

Analyst: Gary C. Eden
Analyst, Organic Chemistry

Reviewed By: Richard F. Meyerhein 03/04/92
Supervisor, Organic Chemistry Section

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

New Mexico DRUG FREE It's a State of Mind!

BRUCE KING
GOVERNOR

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

March 6, 1992

CERTIFIED MAIL
RETURN RECEIPT NO. P-670-683-493

Mr. Mark Amershek
Burro Pipeline Company
633 17th Street
Suite 1550
Denver, Colorado 80202

RE: Burro Pipeline, Lane Salt Lake Disposal Facility
OCD Rule 711 Permit Approval

Dear Mr. Amershek:

The Oil Conservation Division (OCD) has received and reviewed your correspondence dated January 13, 1991, containing the information requested for compliance with OCD Rule 711. Based on these materials and the facility inspection conducted on February 13, 1992, by representatives of both the OCD and Burro Pipeline, the above referenced application is hereby approved in accordance with OCD Rule 711 with the following conditions:

1. Burro Pipeline will supply the names and addresses of landowners of record within one-half mile of the high water mark over the entire perimeter of the lake.

2. The three monitoring wells will continue to be sampled on a quarterly basis as described in your January 13, 1991 correspondence. The water level will be recorded from the marker stakes each time the monitor wells are sampled.

3. No effluent will be discharged into Lane Salt Lake which exceeds the Water Quality Control Commission (WQCC) Standards as indicated on the enclosed listing. Burro Pipeline will sample the effluent at the point of discharge into the lake within 30 days of installation of the new settling ponds and semi-annually thereafter. Sampling results will be submitted to the OCD within 14 days of receipt from the laboratory performing the analysis.

4. The three settling ponds currently in use will be closed out according to the closure plan in your January 13, 1991 correspondence. Prior to closure of the ponds or commencement of a pilot test, Burro Pipeline will submit a plan detailing exact procedures and including a time schedule and sampling plan.

5. The new settling ponds will be constructed according to the specifications and plans submitted in your correspondence dated February 17, 1992. Any modifications must be approved by the OCD prior to construction.

6. Any wastes taken off-site for disposal or recycling must be taken to an OCD approved facility.

Please notify Chris Eustice at the OCD Hobbs District Office (505-393-6161), prior to closure of the current settling ponds or construction of the new ponds, so that he may have the opportunity to witness both operations.

Please be advised approval of this facility does not relieve you of liability should your operation result in actual pollution of surface or ground waters or the environment actionable under other laws and/or regulations.

Please be advised that all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted or otherwise rendered nonhazardous to migratory birds.

If you have any questions, please do not hesitate to contact Kathy Brown at (505) 827-5884.

Sincerely,

William J. LeMay
Director

WJL/KMB

Enclosure

cc: Chris Eustice, OCD Hobbs Office

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

January 29, 1992

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

Mr. Mark Amershek
Burro Pipeline Company
633 17th Street, Suite 1550
Denver, Colorado 80202

RE: Burro Pipeline, Lane Salt Lake Disposal Facility
Rule 711 Compliance, Information Review

Dear Mr. Amershek:

The Oil Conservation Division (OCD) has received your correspondence dated January 13, 1991, containing the information the we requested for compliance with OCD Rule 711. The OCD has reviewed the materials submitted; however, it is necessary to conduct a site investigation prior to further evaluation of the materials submitted.

The OCD has scheduled an inspection of Burro Pipeline Corporation's Lane Salt Lake Disposal Facility for Thursday, February 11, 1992, at 9:00 a.m. A representatives from the Tipperary Corporation, owner of the Burro Pipeline Corporation, has been contacted and will be on site to supervise the inspection.

If there are any questions or conflicts with the time of the inspection, please do not hesitate to contact me at (505) 827-5884.

Sincerely,

Kathy Brown

Kathy M. Brown
Environmental Geologist

xc: Chris Eustice, OCD Hobbs Office

Federal Express

CORPORATION

First Interstate Tower North
633 Seventeenth Street
Suite 1550
Denver, Colorado 80202

January 13, 1992

Ms. Kathy M. Brown
State of New Mexico
Oil Conservation Division
State Land Office Building
Santa Fe, New Mexico 87504

RE: Burro Pipeline, Lane Salt Lake Disposal Facility
Information Requested for OCD Rule 711 Compliance

Dear Ms. Brown:

Pursuant to your letter to Burro Pipeline dated September 11, 1991, you will find enclosed two bound copies of the information you requested (one original and one copy). This information is being furnished by Burro Pipeline to the Oil Conservation Division in order to come into full compliance with OCD Rule 711, which regulates commercial surface waste disposal facilities in New Mexico.

Also, please note that one bound copy has been sent to Mr. Jerry Sexton in the Hobbs office of the OCD. If you should need further assistance in this matter, please feel free to contact me at (303) 293-9379.

Sincerely,

Mark Amershek
Burro Pipeline Corporation

MAA:maa
Enclosures

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

September 11, 1991

CERTIFIED MAIL
RETURN RECEIPT NO. P-757-737-743

Mr. Mark Amershek
Burro Pipeline Company
633 17th Street
Suite 1550
Denver, Colorado 80202

RE: **Burro Pipeline, Lane Salt Lake Disposal Facility**
Information Requested for OCD Rule 711 Compliance

Dear Mr. Amershek:

As previously stated in the Oil Conservation Division's (OCD) letter to Burro Pipeline dated August 21, 1991, commercial surface waste disposal facilities in New Mexico are regulated by the OCD Rule 711. This rule, which became effective June 6, 1988, outlines specific information required by the OCD to permit commercial surface disposal facilities. Although your facility was previously permitted by the OCD through a hearing process, certain information now required by Rule 711 must be supplied by Burro Pipeline in order for the Lane Salt Lake Disposal Facility to come into compliance with the OCD 711 Rule.

Your surface disposal facility has 120 days from receipt of this letter to come into compliance with the OCD Rule 711. The following information must be submitted to the OCD in a timely manner to allow sufficient time for review and evaluation of your facility prior to permit approval:

1. The contact person's name and phone number.

2. A plat and topographic map showing the location of the facility in relation to governmental surveys, roads, watercourses, water wells, and dwellings within one mile of the site. Include the location of your three observation (monitor) wells. Although two maps were submitted as exhibits during the original hearing, they are on microfilm and are not of reproducible quality.

3. The names and addresses of landowners of record within one-half mile of the site.

4. A facility description and diagram indicating the location of fences and cattleguards, and detailed engineering diagrams of any pits, liners, dikes, piping, sprayers, and tanks on the facility. Note that disposal of all approved wastes must be in accordance with Division rules, regulations, and guidelines. Enclosed is a copy of the OCD Guidelines for Permit Application, Design, and Construction of Waste Storage/Disposal Facilities which has the pertinent sections highlighted in yellow.

5. A routine inspection and maintenance plan for checking water levels and monitor wells to ensure permit compliance. Order No. R-3238 required quarterly water analyses of the three observation wells. The last water analyses on file at the OCD Santa Fe Office is dated December 11, 1986. A copy of all future water analyses must be submitted to the OCD Santa Fe Office, in addition to the OCD Hobbs Office.

6. A contingency plan for reporting and clean-up of spills or releases.

7. A closure plan.

8. An affidavit of verification by an authorized representative of the company.

Public Notice requirements were fulfilled through the hearing process, so no additional public notice is required. To date the OCD has not received your $25,000 bond required by Rule 711. The bonding provision must be fulfilled by October 22, 1991 the compliance date stated in the OCD's letter dated August 21, 1991.

If you have any questions please do not hesitate to contact me at (505) 827-5824.

Sincerely,

Kathy M. Brown

Kathy M. Brown
Environmental Geologist

Enclosure

xc: OCD Hobbs Office

LANE SALT LAKE
COMMERCIAL SURFACE WATER DISPOSAL

ORDER R-3228

1. Signed on 5-29-67 for Stoltz & Co. (now Burrow Pipeline).
2. State high water level as 4141' using reference well with ground elevation of 4177'.
3. Maximum water level of lake allowed is 4142' and maximum of 30,000 bbl/day water disposal.
4. Require installation of 3 permanent water level markers at said locations.
5. Require drilling of 3 observation wells at said locations south and east of the lake to be drilled to the top of the triassic red beds. Quarterly measurement of water level, sampling, and analysis of these wells by either an independent lab or a government agency and filed quarterly with the Commission.
6. Require monthly filing of form C-120-A and include water level of lake on the last day of the month.

ORDER R-3228-A

1. Signed on 9-11-67.
2. Moved the location of observation wells.
3. Moved location of water level markers.

ORDER R-3228-B

1. Signed 10-11-67.
2. Due to resurveying corrected the ground level of the reference well to 4176'.
3. Corrected the normal water level of the lake to 4143.5'.
4. Corrected the maximum water level to 4145.26'.

GENERAL INFORMATION

1. Freshwater in the Ogallala and Triassic sands below the impermeable triassic red beds flooring the lake.
2. Dip of the beds is to the southeast. Ogallala gradient is to the northwest. Water level of the lake is lower than the level of the Ogallala water table. Therefore, if the lake level is kept lower than the water table level than fresh water flows into the lake versus the disposed water flowing into the Ogallala.

KMB
Sept. 1991

CHECKLIST FOR COMPLIANCE WITH RULE 711

Facility Name and Mailing Address: POLLUTION CONTROL
PO BOX 940 HOBBS 88241
Order No.: R-3725, -3725-A
Location: LAGUNA GATUNA NE/4 NW/4 SEC 18 + SW/4 SW/4 SEC 17 -20S-32E
Contact Person: LARRY SQUIRES

Date of Review:

✓1. Plat and topo maps showing location in relation to governmental surveys and roads, watercourses, water wells and dwellings within one mile.

✓2. Names and addresses of facility site landowners and landowners of record within one-half mile.

3. Description of facility with a diagram indicating location of fences and cattleguards, and detailed engineering construction/installation diagrams of pits, liners, dikes, piping, sprayers, and tanks.

✓4. Plan for disposal of approved waste solids or liquids.

✓5. Contingency plan for reporting and cleanup of spills or releases.

✓6. Routine inspection and maintenance plan.

✓7. Closure plan.

✓8. Geohydrological evidence that fresh water will not be affected.

✓9. a. Proof that owners and occupants within ½ mile were notified.

b. OCD public notice.

✓10. Affidavit of verification.

✓11. Bond (required by 12/30/88 for current facilities).

[illegible]
Closure details on pits

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

August 21, 1991

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

CERTIFIED MAIL
RETURN RECEIPT NO. P-756-666-154

Mr. Mark Amershek
Burro Pipeline Company
633 17th Street
Suite 1550
Denver, Colorado 80202

RE: Burro Pipeline, Lane Salt Lake Disposal Facility
Orders R-3238, 3238-A and 3238-B

Dear Mr. Amershek:

As a result of our telephone conversation of August 20, I have reviewed your file and find that no OCD action has been taken previously with regard to notifying you of the necessity to submit information to comply with OCD Rule 711. Since your company receives compensation for collection and surface disposal of produced water, you are subject to the requirements of this rule, including the $25,000 bonding requirement.

OCD Order No. R-8662, dated May 19, 1988, established procedures for the permitting of commercial surface disposal facilities, including those previously permitted by individual OCC orders. Under Ordering Paragraph (2) of R-8662, existing facilities are required to comply with the provisions of Rule 711 no later than 120-days after receipt of OCD's request for additional information. Reclamation bonds were to be in place by December 30, 1988. No additional public notice need be given for existing facilities.

Accordingly, this letter will be followed within several weeks by a request for additional technical information. The compliance date for all provisions of Rule 711, except the bonding provisions, will be 120-days after your receipt of that letter. You are requested to comply with the bonding provisions of Rule 711 within 60-days of receipt of this letter. Enclosed with this letter is copy of Order No. R-8662, updated Rule 711, bond forms and information on EPA's actions regarding playa lake disposal. Enclosed also is some recent correspondence between this office and the State Land Office.

Subsequent to the approval of Order No. R-8662, Rule 711 was modified to reflect migratory bird concerns, and to update bonding procedures for oil treating plants and disposal facilities sited at the same location. You also must comply with Rule 312 if you reclaim oil at your facility.

Regarding EPA Clean Water Act issues, you are urged to review the attached information and be prepared to modify discharge methods if necessary. However, any modifications would be as a result of the requirements of federal law; the status of OCD-approved permits does not change.

If you have any question, please do not hesitate to contact me at (505) 827-5812 or Kathy Brown, Geologist, at (505) 827-5824.

Sincerely yours,

David G. Boyer, Hydrogeologist
Environmental Bureau Chief

DGB/sl

Enclosures

cc: OCD Hobbs Office
Robert Stovall, OCD General Counsel

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

August 21, 1991

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

Mr. Pleas M. Glenn
Assistant Commissioner
State Land Office
P. O. Box 1148
Santa Fe, New Mexico 87504-1148

RE: State Land Office Business Lease No. BL-597, Burro Pipeline Company

Dear Mr. Glenn:

This letter is in response to your request, dated August 13, 1991, on the status of OCC Order No. R-3238-B. Orders Nos. R-3238-A and R-3238-B are amendments of Order No. R-3238. Order No. R-3238 and its amendments granting Stoltz and Company, and its successor Burro Pipeline Company, authority for salt water disposal in Lane Salt Lake located in Sections 12 and 13, Township 10 South, Range 32 East, and Sections 6 and 7, Township 10 South, Range 33 East, NMPM, Lea County, New Mexico.

As of this date, the order and its amendments are still valid.

If you have any questions, please call David Boyer at 827-5812.

Sincerely,

William J. LeMay
Director

WJL/DGB/sl

State of New Mexico
OFFICE OF THE
Commissioner of Public Lands
Santa Fe

JIM BACA
COMMISSIONER

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

August 13, 1991

Mr. William J. LaMay
Energy, Minerals and Natural Resources Dept.
Oil Conservation Division
State Land Office
P. O. Box 2088
Santa Fe, New Mexico 87504

RECEIVED
AUG 13 1991
OIL CONSERVATION DIVISION

Re: State Land Office Business Lease No. BL-597
Burro Pipeline Company

Dear Mr. LaMay:

On July 8, 1991, we wrote requesting if Order No. R-3238-B, Case No. 3663, was still valid. To date, we have not received a reply. This concerns us due to the legal opinion issued by EPA, Region 6 on March 26, 1991. EPA now considers Laguna Gatuna to be "water of the United States" for the purpose of regulation under the Federal Clean Waters Act.

In order for the Commissioner to be responsive to the lessee and state trust we would appreciate a response by August 23, 1991. If you have any questions, please call me at 827-5768.

Sincerely,

Pleas M. Glenn
Assistant Commissioner

PMG/LRM/dl

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

April 9, 1987

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

MEMORANDUM

TO: David Boyer, Environmental Bureau Chief

FROM: Jami Bailey, Field Representative

SUBJECT: Report of Contamination of Lower Cretaceous Formations in Northern Lea County

INTRODUCTION

A report on degradation of lower Cretaceous water sands under the New Mexico Southern High Plains, which was prepared by J.A. Tony Fallin of the Texas Water Development Board, was forwarded to the Oil Conservation Division by the State Engineer Office. The report includes draft maps on the geology and hydrology of lower Cretaceous strata in southern Roosevelt and northern Lea Counties. It suggests that "updip water wells showing apparent contamination from oil field brines or other sources appear to be degrading water quality in downdip lower Cretaceous sands."

Three contaminated points are located in Fallin's report. J.I. Wright of the State Engineer Office reported the following information on them in his 1986 "Contamination of Fresh Ground-Water Supplies in Southeastern New Mexico":

Well Location	Source	Chloride, mg/l	Date
10.33.07.233	Spring	4290	1967
10.33.26.22321	Well	10224	1968
		22980	1976
10.33.26.42321	Well	210	1963
		3904	1976
		3750	1984

CONTAMINATED SPPING ANALYSIS

On May 17, 1967, the Oil Conservation Commission heard Case 3570, the application of Stoltz and Company for salt water disposal in Lane Salt Lake. This playa lake, located mainly in Sections 6 and 7, Township 10 South, Range 33 East, contains on the east side, the spring listed as being contaminated in Fallin's report.

Ed L. Reed, a consulting hydrologist, appeared as an expert witness for Stoltz and Company and testified on his study of ground water conditions at Lane Salt Lake and

its vicinity. Testimony was presented on the spring in question and on two other seeps also on the east side of the lake in Section 6. Analyses by Southwestern Laboratories in April and May, 1967 indicate the following concentrations:

(Fallin's)	Seep	10.33.7.32	Chloride 12,262 mg/l	
	Seep	10.33.6.44	Chloride 12,788 mg/l	
	Seep	10.33.6.44	Chloride 15,240 mg/l	TDS 48,290 mg/l
Lake Water			Chloride 120,696 mg/l	TDS 260,140 mg/l

The chloride concentration for the Fallin seep differs markedly from the concentration reported on the same day in 1967 in SEO records. However, Reed's analysis is consistent with the other two springs and the lake water. On page 28 of the transcript of the hearing, Mr. Reed responded to a question as to whether these were ever fresh water springs, with the answer "I have no information that these were ever fresh water springs... There is no seepage of fresh water in the Ogallala at this time and I see no evidence that it has been there in the recent past." Reed concluded that there is a water table divide southeast of the lake along the 4160 contour line that creates a reversal in the regional hydraulic gradient and defines the Lane Salt Lake basin.

The eastern side of the lake was described as bluffs composed of wind-blown material, largely gypsum crystals and sand grains blown out of the lake from sandy areas on the west side. No bedrock outcrops were observed.

Reed also testified that although Cretaceous strata were exposed in two places on the west side of the lake, in Section 7 and in Section 13, it was his judgment that the base of Lane Salt Lake underneath the evaporites is upon impermeable Triassic, with the Ogallala and the Cretaceous eroded off.

Oil Conservation Commission Order No. R-3238, later amended by R-3238-A and -B, granted authority to Stoltz and Company to dispose of produced water in Lane Salt Lake, yet required installation of three monitor wells to the south and east in Section 7. These wells were to be drilled to the top of the Triassic redbeds. The wells were sampled and analyzed for chlorides prior to disposal in the lake, and then quarterly thereafter.

The report "Contamination of Fresh Ground-Water Supplies in Southeastern New Mexico" by J.I. Wright of the Roswell SEO lists these monitor wells as producing from the Ogallala, and shows that the chloride concentration in 1975 was less than one-half what it was in 1967. 1975 was the last year of record for these wells in the SEO report.

Specifically:

Well	Location	Chloride mg/l (1967)	Chloride mg/l (1975)
OB-1	10S.33E.07.334421	320	136
OB-2	10S.33E.07.434222	292	106
OB-3	10S.33E.07.42114	520	254

Oil Conservation Division records for these wells include data through March 1987 and are available in our files. The following results were reported by Unichem International Inc. laboratories:

Well	Chloride, mg/l (1987)
OB-1	120
OB-2	170
OB-3	450

Obviously, over the past 20 years, disposal of produced water in Lane Salt Lake has not contaminated the observation wells designed to monitor Ogallala water quality in the vicinity of the lake.

Oil and gas activity in sections immediately to the south and east of the lake has been limited to one well in Section 8 and two wells in Section 17. The wells in unit P of Section 8 and unit J of Section 17 were dry holes; a well in unit A of Section 17 was drilled in 1976 and plugged and abandoned in 1983. The analyses of Fallin's seep predate the drilling of this well, so the chloride concentration can not be attributable to past upgradient oil and gas activity within the lake basin.

Summary on "Contaminated" Seep

I suggest that the value of 4290 mg/l chloride concentration reported for the sample collected from the seep by the SEO on the very same day (May 9, 1967) as Southwestern Laboratories received their sample and reported 12,262 mg/l, is an issue that cannot be resolved; however, the SEO reported a specific conductance of 25,060 umhos, indicating at any rate that it was not fresh water to be protected under Oil Conservation Division regulations. It is apparent that this seep can not be included as being contaminated by oil field brines or other man-caused sources.

CONTAMINATED CRETACEOUS WELLS

Reed's area of review included Section 26 where Fallin's two contaminated wells are located. It is apparent that Reed had no knowledge of the wells: his maps do not include wells in that section and his 4150 water table contour line which crosses through Section 26 is indicated as postulated and without control.

Of the 17 wells and 3 seeps which Reed investigated within the area covered by all of T10S, R33E, one-half of T10S, R32E, and parts of T9S, R32 and 33E, three water wells were identified as being Triassic wells, and all the rest were Ogallala wells. No Cretaceous wells were indicated within this area. Depth to water in the Triassic wells was between 100-125 feet while depth to water in the Ogallala wells was less than 50 feet.

Recently Eddie Seay of the Oil Conservation Division Hobbs district office spent several hours searching for the two SEO Cretaceous wells located in Section 26, T10S, R33E and reported as contaminated. No water wells were readily located in that section.

I contacted the State Engineer Office in Roswell to obtain copies of the well records for these wells in Section 26. They do not have the needed records in that office. The Santa Fe SEO did not have copies of the well records. OCD oil and gas well records for units A and I in Section 26 are very general for surface

stratigraphy, indicating only that sand, shale and caliche are present. Without further information, I can not verify that there are water wells that are indeed Cretaceous.

INVESTIGATION SUMMARY

There are several approaches to investigating Fallin's thesis that updip wells showing apparent contamination from oil field brines or other sources appear to be degrading water quality in downdip lower Cretaceous reservoir sands under the Southern High Plains of New Mexico. The areas I investigated were:

A. Whether the three points of contamination identified on Fallin's map did produce from fresh-water Cretaceous strata or from non-protectable (greater than 10,000 mg/l TDS) aquifers.

B. Whether the contamination was from oil field brines or from naturally occurring processes.

C. Whether there was evidence of degradation of Cretaceous water downgradient from the identified points of high chloride concentration.

Results

1. The seep at Lane Salt Lake is a naturally high chloride spring producing water that is not defined as fresh water (water with less than 10,000 mg/l TDS), and so is not protectable under OCD rules. Monitor wells downdip from the lake show no chloride contamination in Ogallala water over the past 20 years. These wells were drilled to the top of the Triassic redbeds and would have intercepted any Cretaceous strata present. Though these wells are downdip, they are not downgradient as mapped by Reed.

2. Well 10.33.26.22321 was first reported in 1968 having a chloride concentration of 10,224 mg/l, or approximately 20,000 mg/l TDS. No well records are available to confirm the water producing formation, but the original analysis indicates that production was from a non-protectable aquifer (probably Triassic or Permian). This well was listed in the SEO report as drilled for "oil drilling purposes" and was abandoned by 1976. An item to note is that salt water is preferred over fresh water for drilling through shales, so the possibility exists that this well may have been producing from a formation originally and naturally high in chlorides.

3. Well 10.33.26.42321 was also drilled for oil drilling purposes and abandoned by 1976. No information can be found as to depth to water, total depth, water producing formation, or possible cause of contamination. The closest oil well, located at 10.33.26.4214, was drilled in 1962, produced from the Pennsylvanian Bough "C", and plugged and abandoned in 1967. The well record indicates that no important water sands were encountered.

   Chloride analyses of the produced water for this oil well are not available, however, analyses of produced water from Pennsylvanian strata are published in the USGS Open-file report 75-579, "Water Quality Data from Oil and Gas Wells in Part of the Permian Basin, Southeastern New Mexico and Western Texas" by W.C. Hiss. A wide range of values can be found as shown by the following:

Well Location	Producing Formation	Chloride,mg/l	Comment
Section 23,T19S,R31E	Strawn	81	nonrepresentative
Section 1,T20S,R24E	Canyon Group	777	
Section 30,T19S,R25E	Cisco	2,300	commingled
Section 22,T18S,R31E	Undivided Penn.	33,000	

4. Fallin's thesis that updip wells showing apparent contamination from oil field brines or other sources appear to be degrading water quality in downdip lower Cretaceous sands can not be substantiated for the three points listed in his report. The USGS Atlas HA-679, Geohydrology of the High Plains Aquifer in Southeastern New Mexico by Hart and McAda, contains a map showing the altitude and configuration of the water table contours for the High Plains aquifier in 1978. The water table contours indicate a northeast rotating to southeast gradient for the late Tertiary and Quaternary geologic units, including the Ogallala Formation, in Township 10 South, Range 33 East. Reed's exhibit at the hearing (enclosed) on the ground water conditions of Lane Salt Lake and vicinity indicates a ground water divide southeast of the lake defining the basin and more distant, a southeastern dip in the water table and a southeastern trending channel in the top of the Triassic. This channel corresponds to the topographic Simanola Valley. To ensure that logical pathways of ground water movement were included in the investigation, I looked at chloride level changes in Cretaceous wells northeast to southeast of Fallin's 3 points.

   Three miles northeast of the spring at Lane Salt Lake, a Cretaceous water well at 9.33.34.144421 decreased in chlorides from 126 to 120 mg/l between 1979 and 1984. Four and one-half miles east-southeast, a Cretaceous well at 10.33.13.33413 increased from 346 to 475 from 1979 to 1984.

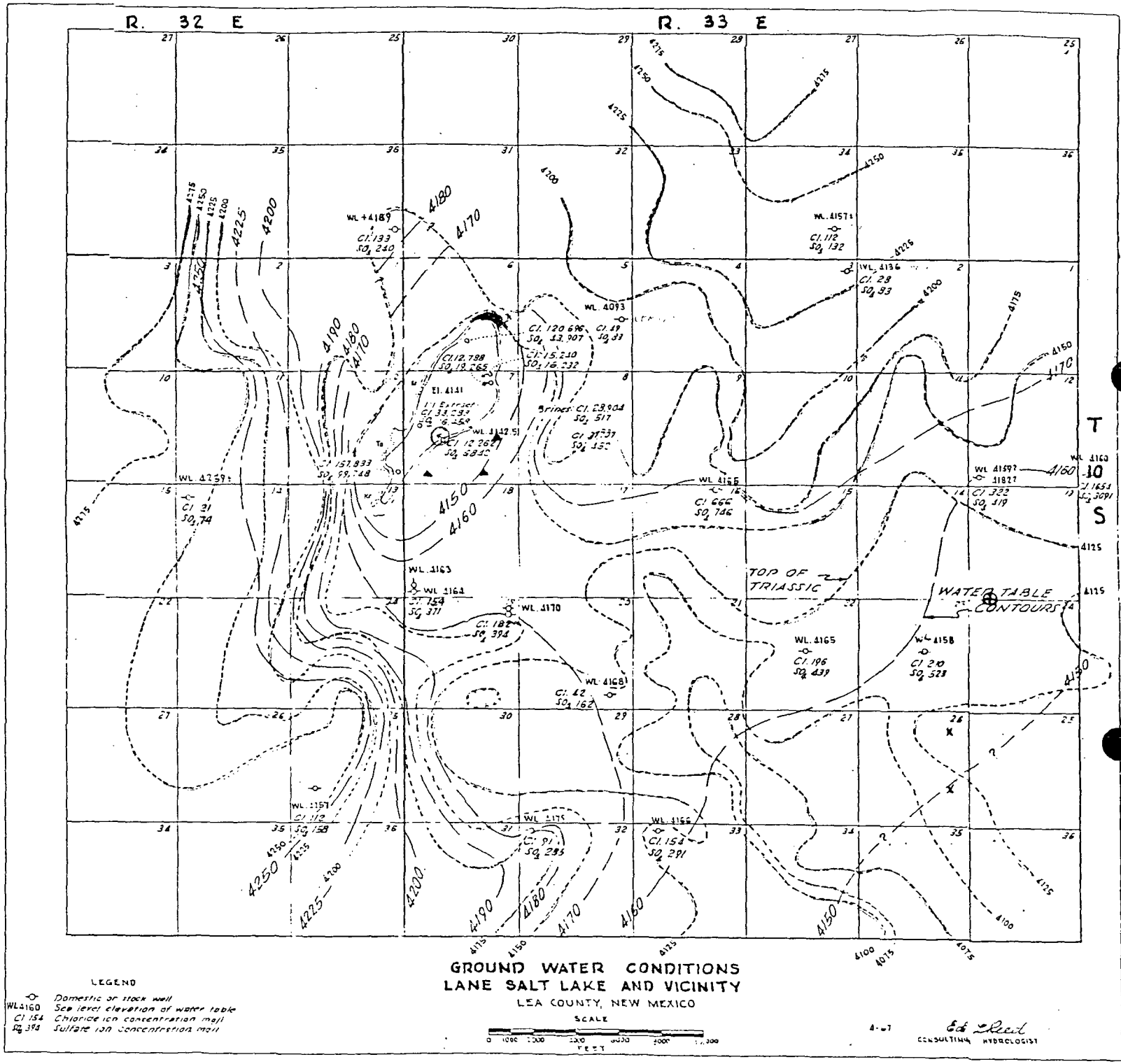
   This well had a probable water level between 4175 and 4150 in 1978 according to the USGS Atlas HA-679. Surface elevation of the windmill is 4202, making this a shallow well located at the very edge of a closed basin. Obviously hydrologic, geologic, well construction factors, or a nearby oil well that produced between 1967 and 1974 may be involved in the increase of chlorides rather than migration of fluids from a point 4 1/2 miles away.

   About three miles northeast of Fallin's two wells in Section 26, a Cretaceous well located at 10.34.20.43311A actually decreased in chlorides from 950 to 794 mg/l between 1979 and 1984. Five miles east of Section 26, a well at 10.34.27.14222 increased from 54 to 86 mg/l; seven miles east, a well at 10.34.36.412134 increased from 54 to 73 mg/l. No Cretaceous wells were located southeast or south of Section 26.

There is no question that in many areas, past practices of the oil and gas industry have contaminated ground water. However, in this case, Fallin's thesis is not substantiated by the significant increase in chlorides in a well 4 1/2 miles away, where other factors are more likely to have caused the change, or by minor changes in other wells up to seven miles away. To paraphrase Wright, the apparent decrease [and increase] of chloride content can be due to sampling procedures. "It is difficult to draw valid conclusions from historical changes in chemical quality of produced water as allowance must be made for many factors that affect the reliability of available analyses. Laboratory standards are subject to

considerable variation and comparison of an analysis of water pumped from a well with an analysis of water bailed from an abandoned, unequipped well may lead to erroneous conclusions..."

JB/cr



GROUND WATER CONDITIONS
LANE SALT LAKE AND VICINITY
LEA COUNTY, NEW MEXICO

SCALE
0 1000 2000 3000 4000 5,000
FEET

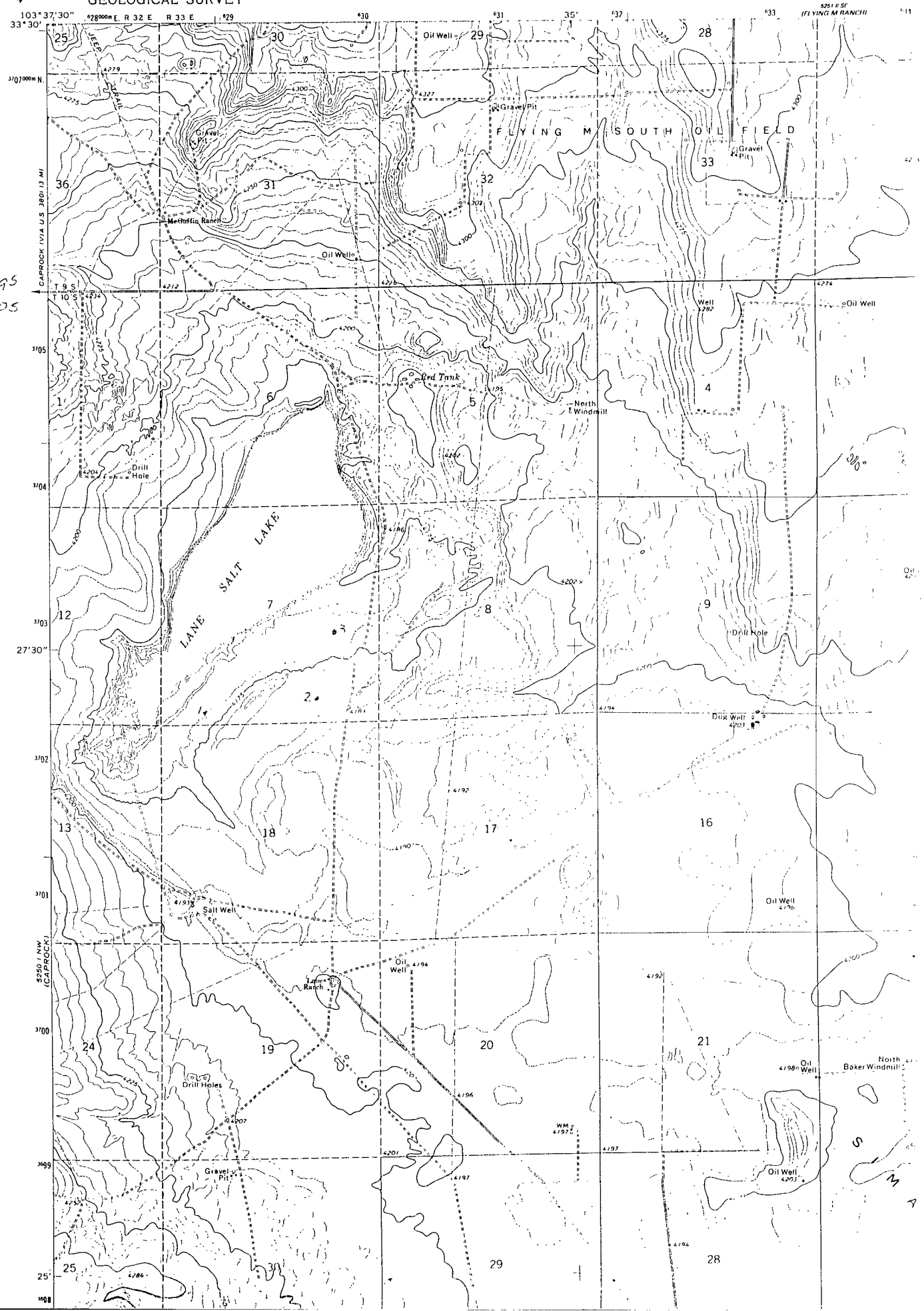
LEGEND
- Domestic or stock well
- WL 4160 Sea level elevation of water table
- Cl 154 Chloride ion concentration mg/l
- SO4 394 Sulfate ion concentration mg/l

4-67

Ed Reed
CONSULTING HYDROLOGIST

32E 33E

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



STOLTZ & COMPANY MONITOR WELLS
LANE SALT LAKE

Name of Well →	OB-1			OB-2			OB-3			
cation (All in Sec 7-T10S-R33E) →	300' FSL & 1100' FWL			600' FSL & 1410' FEL			2400' FSL & 1100' FEL			
evation Top of Casing	4167.08			4174.9			4164.2			
e of Sample Taken by mple or witnessed by (ocx)	Analysis Cl	Analysis SO_4	Static water Level	Analysis Cl	Analysis SO_4	Static Water Level	Analysis Cl	Analysis SO_4	Static water Level	Laboratory or Agency Making Analysis; Also Pertinent Remarks
7/67 Chester Skrabacz	283	572	17.2	184	577	16.2	325	330	12.1	These analyses were run on samples taken immediately upon completion of wells. SWD is from top of casing. Analyses by Southwestern Laboratories, Midland
3/68 ?	320	840	~~16.78~~ ~~4160.90~~	292	540	~~14.9~~ ~~4160.0~~	520	900	~~12.0~~ ~~4152.2~~	Analysis by Western Co.
4/68 L A. Clements	235	835					470	919		" " United Chemical
13/68 Norvell & Clements	235	818	17'0"	200	440	16.6"	415	952	11'7"	" " " "
28/68 Patterson & Clements	235	538	17'3"	200	350	16'5"	400	650	12'0"	" " " "
29/68 Norvell & Clements	240	440	17'6"	210	260	16'7"	240	330	12'0"	" " " "
30/68 Norvell & Runyan	210	440	17'5"	200	280	16'6"	255	476	11'11"	" " " "
4/3/69 Norvell & Clements	230	551	18'1"	200	305	17'6"	340	509	12'0"	" " " "
1/8/69 Norvell & Clements	230	430	17'0"	205	330	17'0"	300	530	13'0"	" " " "

LANE LAKE DISPOSAL SYSTEM MONITOR WELLS

DATE OF SAMPLE TAKEN BY	OB-1 ANALYSIS CL	OB-1 ANALYSIS SO4	OB-1 STATIC WATER LEVEL	OB-2 ANALYSIS CL	OB-2 ANALYSIS SO4	OB-2 STATIC WATER LEVEL	OB-3 ANALYSIS CL	OB-3 ANALYSIS SO4	OB-3 STATIC WATER LEVEL	JOHNSON WINDMILL ANALYSIS CL	JOHNSON WINDMILL ANALYSIS SO4	ANALYSIS BY:
7/17/74 Ernest Norvell	198	385	18'3"	188	370	18'2"	257	463	12'11"	105	321	United Chemical All markers above water
2/?/74 Legg + Norvell	170	280	16'2"	70	140	16'8"	225	406	11'2"	106	280	United Chemical Elevation of water #1-4144.2 #2-4144.13 #3-4144.5
1/8/75 Legg + Norvell	176 ~~144~~	300 ~~342~~	16'2"	122 ~~126~~	271 ~~300~~	16'5"	236	440	11'2"	114	342	United Chemical Elevation of water #1-4144.49 #2 4144.23 #3 O.W.
4/1/75 Legg + Norvell	189	285	16'0"	142	218	16'5"	248	425	11'4"	115	300	United Chemical #1-4144.49 #2-4144.63 #3-4144.70
7/1/75 LEGG + NORVELL	200	340	17'0"	160	305	17'2"	240	430	12'10"	110	370	UNITED CHEMICAL ALL MARKERS ABOVE WATER #
10/3/75 RUNYAN + NORVELL	180	296	16'2"	104	135	15'0"	212	340	10'9"			UNITED CHEMICAL # 10.9 #2 10.10 #3-10.9
10/24 ~~[illegible]~~ GRAHAM	166	250		~~136~~	~~[illegible]~~		~~254~~	~~394~~		110	308	
1-6-76	166	250	16'5	136	30	15'8	254	394	10'6"	106	321	UNITED CHEMICAL #1-11.5, #2-10.?, #3-11.?"
~~THESE WERE~~ 4-?-76	176 ~~OBTAINED~~		17'1 ~~BUT~~	172 ~~ANAL~~	463	16'5" ~~NOT REC.~~	248 ~~FROM~~		11'9" ~~UNITED~~	~~CHEMICAL~~		(WE HAVE CHECKED W/ THEM SEVERAL TIMES)
7-23-76	185	225	18'4"	125	18	18'0"	255	350	12'7"	115 126	256	#1 11.50 #2-10.50 #3-11.10
9-18-76	200	385	17'-6"	190	192	17'8"	260	385	12'-5"	110	256	#1-10.90 #2 10.50 #3 11.[illegible]
1-13-77	176	262	17-[illegible]	172	173	17-4	256	400	12'7"	83	305	UNITED CHEM
5-12-77	186	243	17'4"	196	208	17-4"	270	428	12'10"	96	262	}
7-27-77	236	300	20'3"	244	241	19'8'	304	438	14'-2"	120	300	}

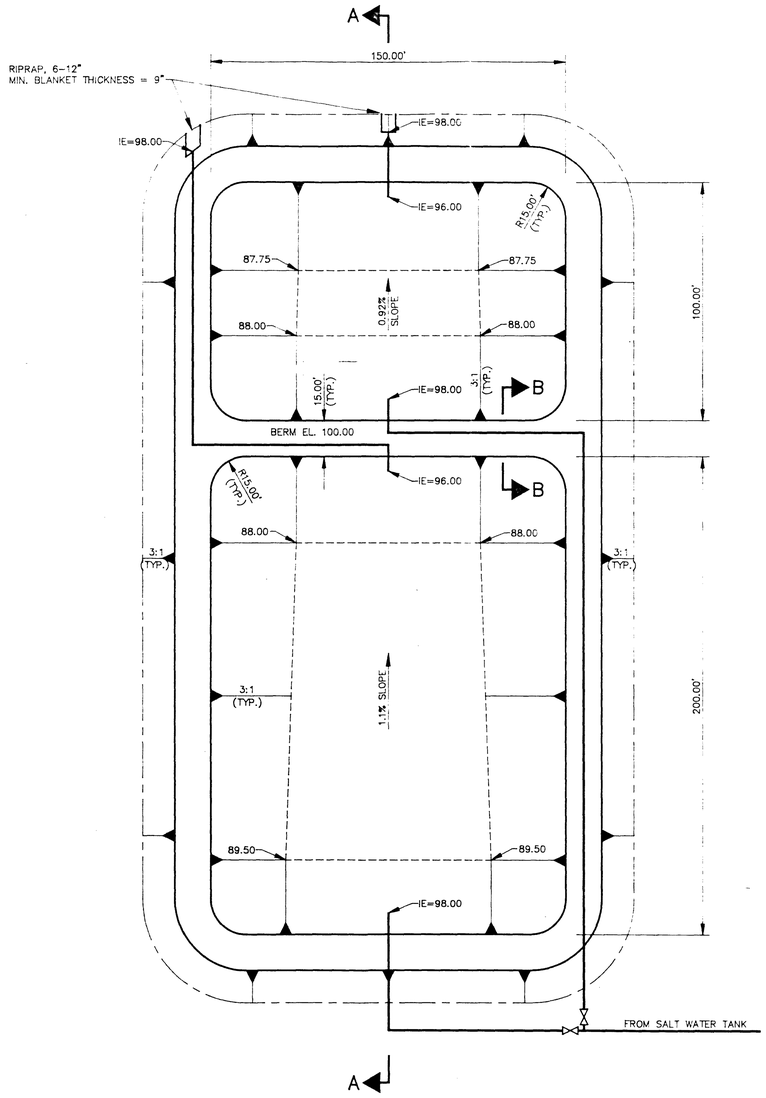
R[illegible] 4145.36' [illegible]

LANE LAKE DISPOSAL SYSTEM MONITOR WELLS

DATE OF SAMPLE TAKEN BY	OB-1 ANALYSIS		OB-1 STATIC WATER LEVEL	OB-2 ANALYSIS		OB-2 STATIC WATER LEVEL	OB-3 ANALYSIS		OB-3 STATIC WATER LEVEL	JOHNSON WINDMILL ANALYSIS		ANALYSIS BY:
	CL	SO4		CL	SO4		CL	SO4		CL	SO4	
Rosslander Norvel 10-1[illegible]-77	140	185	18'5"	185	277	18'0	245	415	13'-10"	120	256	United Chemical
[illegible]-78	180	210	18' "	202	231	13'10"	275	410	13'-2"	75	222	United Chemical
[illegible] & Norvel 10-25-78	74	105	19' 10"	186	293	19 6"	250	430	13'2"	168	513	United Chemical
Clegg 1-26-79	96	109	17'6"	180	513	17'9"	278	500	11' 9"	96	340	United Chemical
4-16-79	144	158	16.5	200	300	18.6	284	400	10 [illegible]	92	228	United Chemical
Clements 7-13-79	148	117	19'1"	205	222	18'11"	278	375	12'11"	90	207	United Chemical
Clegg & Norvel 10-18-79	120	97	20'4"	280	193	19'7"	200	353	12'[illegible]"	90	211	United Chemical
Clements 1-15-80	116	7	19'11"	230	228	19' 7"	380	293	13'2"	110	204	#1 10.10 #2 10.10 #3 11.10 4145.29 4144.43 4144.10
Seay 4-3-80	160	1	17'9"	230	211	17'5"	380	410	12'11"	120	191	mark #1 10.8 #2 10.5 #3 11.2
Seay 7-3-80	167	135	13'8"	189	346	19'1"	259	525	20'2"	111	271	mk #1 11' #2 10.8 #3 11' 4144.39 4143.73 4144.80 United chem

LAKE LAKE DISPOSAL SYSTEM MONITOR WELLS

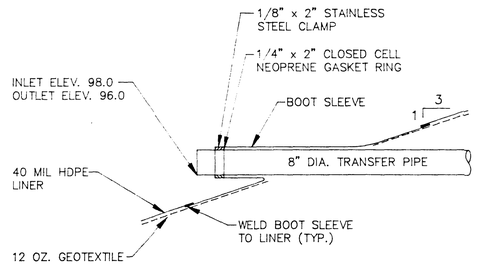
SAMPLE TAKEN BY	OB-1 ANALYSIS CL	OB-1 ANALYSIS SO4	OB-1 STATIC WATER LEVEL	OB-2 ANALYSIS CL	OB-2 ANALYSIS SO4	OB-2 STATIC WATER LEVEL	OB-3 ANALYSIS CL	OB-3 ANALYSIS SO4	OB-3 STATIC WATER LEVEL	JOHNSON WINDMILL ANALYSIS CL	JOHNSON WINDMILL ANALYSIS SO4	ANALYSIS BY: United Chemical
10-9-80												marker #1 10'7" elev. 4144.69
Seay			19'6"			19'5"			15'0"			marker #2 10'2" 4144.33
[redacted]												marker #3 11'0" 4144.20
Seay	144	15	13.10	155	61	19.5	304	380	19.6	72	200	10.6 / 4144.76 / 10.0 / 4144.53 / 10.8 / 4144.40
-3-81 Seay	240	3.0	18.8	260.	232.5	18.10	380.	465.0	13.6	200.0	193.0	11.0 / 4144.39 / 10.0 / 4144.53 / 10.5 / 4144.70
-10-81	mG/L 799.0	52.0	17.10	mG/L 1199.0	102.0	18.1	mG/L 599.0	213.0	11.10	mG/L 1149.0	206.0	11.0 / 4144.30 / 9.0 / 4145.53 / 10.0 / 4145.20
tested -24-81	mG/L 259.0	50.5	[redacted]	mG/L 229.0	32.0		mG/L 379.0	88.0		149.0 mG/L	94 mG/L	
-1-82 Seay	359.0 mG/L	46.5 mG/L	17.8	179.0 mG/L	207 mG/L	18.2	369.0 mG/L	464 mG/L	12.2	119.0 mG/L	291 mG/L	Marker #1 11.0 / 4144.39 / Marker #2 9.3 / 4145.23 / Marker #3 10.0 / 4145.20
-17-82 Seay	190 mG/L	80 mG/L	12.4	190 mG/L	120 mG/L	18.0	350 mG/L	350 mG/L	17.11	80.0 mG/L	220. mG/L	10.1 / 9.4 / 11.0
-6-82 Seay	169 mG/L	105 mG/L	19.1	159 mG/L	200 mG/L	18.11	360 mG/L	450 mG/L	12.9	129 mG/L	270 mG/L	4146.29 / 4144.88 / 4144.20 / 10.10 / 9.5 / 11.0
10-18-82 Seay	219 mG/L	135 mG/L	19.1	239 mG/L	270 mG/L	18.3	379 mG/L	437 mG/L	13.3	93.3 mG/L	270 mG/L	11.0 / 9.6 / 10.5
3-4-83 Seay	189 mG/L	140 mG/L	18.7	199 mG/L	254 mG/L	18.2	389 mG/L	425 mG/L	12.10	149 mG/L	270 mG/L	11.0 / 9.0 / 10.0
-4-83 Ward C	159 mG/L	180 mG/L	19.5	209 mG/L	218 mG/L	18.10	389 mG/L	325 mG/L	13.8			11.0 / 9.8 / 10.6
-13-83 Eddie S	180 mG/L	65 mG/L	19.3	150 mG/L	145 mG/L	18.11	370 mG/L	235 mG/L	13.5	110 corrected 105	80 mG/L	11.0 / 10.0 / 10.5
57-85 R.C.	100 mG/L	150 mG/L	18.0	200 mG/L	217 mG/L	17.9	250 mG/L	184 mG/L	12.5	130 mG/L	200 mG/L	10.0 / 9.0 / 9.6



NEW POND PLAN

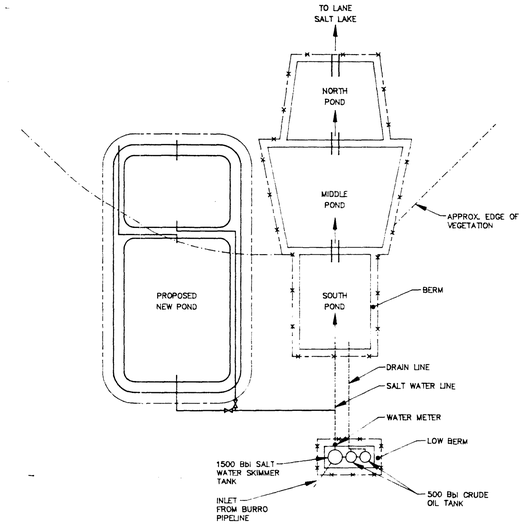
SCALE: 1"=30'

NOTE:
UPON COMPLETION OF SITE WORK INSTALL TOPRITE 1-INCH UV STABILIZED POLYPROPYLENE MESH BIRD NETTING AS MANUFACTURED BY WINDSCREENS WEST, INC., OR SIMILAR, OVER THE SURFACE OF THE NEW SETTLING PONDS. THE BIRD NETTING WILL BE MOUNTED ON POLES AT LEAST 6 FEET ABOVE THE SURFACE OF THE POND AND WILL BE SECURELY ANCHORED TO THE GROUND ALONG THE PERIMETER OF THE POND. BRIGHTLY COLORED FLAGGING OR EQUIVALENT WILL BE ATTACHED TO THE BIRD NETTING TO CLEARLY MARK ITS PRESENCE.



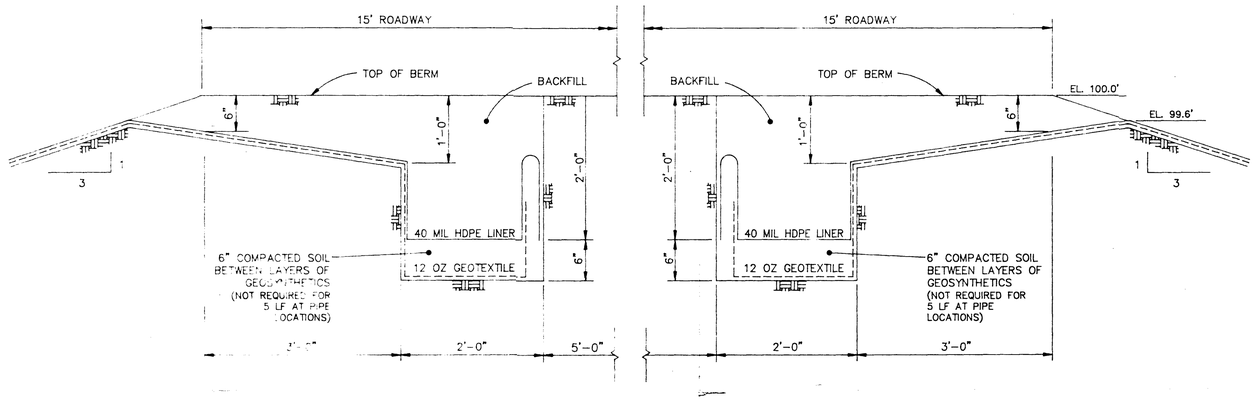
LINER PENETRATION DETAIL

N.T.S.



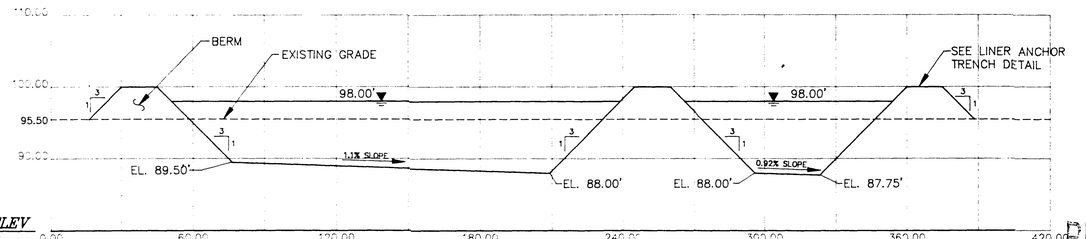
SITE PLAN

APPROX. SCALE: 1"=100'



LINER ANCHOR TRENCH DETAIL B-B

N.T.S.



PRELIMINARY

DATE: JAN 3 1999

GERAGHTY & MILLER, INC.
Environmental Services
0 30 FEET

SCALE VERIFICATION
THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING:
USE TO VERIFY FIGURE REPRODUCTION SCALE

REV. NO.	DATE	DESCRIPTION	BY	APPR.

PROJECT NO.:	00186.02	FILE NO:	–
DRAWING:	PONDVER2	PLOT SIZE:	1=30
DRAFTED BY:	JDM	DATE:	19DEC97
CHECKED BY:	FJJ	DATE:	24DEC97
APPROVED BY:	–	DATE:	–

SETTLING POND SYSTEM
LANE SALT LAKE DISPOSAL FACILITY

BURRO PIPELINE CORPORATION
DENVER, COLORADO

SHEET 1 OF 1

Lane Salt Lake 12/8/92

Discharge Point
Lake Salt Lake
12/8/92

Lane Salt Lake 12/8/92

Jim Piatt
Glen Sanms } NMED
Dan Davis

Lake Salt Lake 12/8/92

Skim pond 4 discharge point

Lake Salt Lake 12/8/92

Storage Tank

Lane Salt Lake 12/8/92

Lane Salt Lake 12/8/92

Lane Salt Lake 12/8/92