

OIL CONSERVATION DIVISION
RECEIVED

'92 MAY 22 AM 10 00

JOE D. RAMEY
P. O. BOX 6016
HOBBS, NM 88241-6016

MAY 10, 1992

RE: LAGUNA GATUNA, INC.
SWD APPLICATION

MR. DAVID CATANACH
OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NM 87501-2088

DEAR MR. CATANACH:

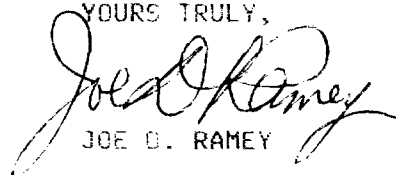
IN REGARDS TO MITCHELL ENERGY'S OBJECTION TO INJECTION INTO THE BONE
SPRING FORMATION IN THE WELL IN THE ABOVE APPLICATION, LAGUNA GATUNA
WILL DO THE FOLLOWING WORK ON THE BONE SPRING DURING THE REENTRY
PROCESS:

AFTER DRILLING THROUGH THE BONE SPRING PERFORATED INTERVAL, A CEMENT
RETAINER WILL BE RUN AND SET ABOVE THE BONE SPRING PERFORATIONS. THE
PERFORATIONS WILL BE SQUEEZE CEMENTED WITH 200 SACKS CEMENT TO A MINIMUM
PRESSURE OF 1000 POUNDS. AFTER WAITING ON CEMENT A MINIMUM OF 24 HOURS
DRILLING AND CLEANING OUT OPERATIONS WILL CONTINUE.

THIS SHOULD SATISFY MITCHELL'S OBJECTIONS AND MAKE THE APPLICATION
SUBJECT TO ADMINISTRATIVE APPROVAL.

A COPY OF THIS LETTER IS BEING SENT, CERTIFIED MAIL, TO MITCHELL ENERGY.

YOURS TRULY,


JOE D. RAMEY

April 21, 1992

VIA FEDERAL EXPRESS

Mr. William J. LeMay
Oil Conservation Division
State Land Office Building
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

RE: Application of Laguana Gatuna, Inc.
for a Salt Water Disposal Permit
Little Eddy Unit Well No.1
Unit N, Sec. 5, T20S, R33E
Lea County, New Mexico

RECEIVED
APR 22 1992
OIL CONSERVATION DIVISION

10482

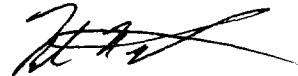
Dear Mr. LeMay:

This is to advise that Mitchell Energy Corporation objects to the above referenced application. The subject well is located within the confines of a federal oil and gas lease jointly held by Mitchell and Santa Fe Energy. Applicant is requesting permission to inject up to 10,000 barrels of salt water per day into the Devonian, Wolfcamp, and Bone Spring formations. Mitchell is concerned that the proposed injection operations may damage the Bone Spring formation which is productive in this area. Accordingly, Mitchell requests that the Oil Conservation Division not grant administrative approval of this application and that the matter be set for hearing.

If you need further information, please call me at (713) 377-5818.

Sincerely yours,

MITCHELL ENERGY CORPORATION



Mark N. Stephenson
Manager
Production Regulatory Affairs

MNS/cw
3LAGUANA.MNS

cc: Laguana Gatuna, Inc. - Via Certified Mail
Tom Kellahin - Kellahin, Kellahin & Aubrey
Richard Manus - BLM Carlsbad
Santa Fe Energy

APPLICATION FOR AUTHORIZATION TO INJECT

Case 10982
APR 8 48

- I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☐ no
- II. Operator: LAGUNA GATUNA INC.
Address: P.O. Box 2158 Hobbs, NM 88241
Contact party: JOE D. RAMEY Phone: 505-392-6525
- III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☐ yes ☒ no
If yes, give the Division order number authorizing the project _____.
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- * VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- * X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
- * XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification

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

Name: JOE D. RAMEY Title: CONSULTANT
Signature: [Signature] Date: 4/9/92

- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

INJECTION WELL DATA SHEET

LAGUNA CATUNA INC. LAGUNA CATUNA
 OPERATOR LEASE
 1 660 S + 1980 W 5 20 S 33 E
 WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE
 LEA COUNTY, NEW MEXICO

Schematic

Tabular Data

Surface Casing

20" @ 1180' Size 20" Cemented with 2300 sx.
 TCC Circulated feet determined by
 Hole size 26"

Top 9 5/8 1903'

Intermediate Casing

Top cement 2585' Size 13 3/8" Cemented with 2500 sx.
 13 3/8" @ 2929' TCC Circulated feet determined by
 Hole size 17 1/2"

3 1/2" Plastic
 Coated Injection
 Tubing

Long string

Baker Model R
 Packer @ 5500'

Size 5 1/2" Cemented with 500 + 2350 sx.
 TCC 12,760 + 6000' feet determined by Calculated
 Hole size 8 3/4"

9 5/8" @ 5536'

Top cement 6000'

Total depth 14,895'

Top 5 1/2" 5538'

2 Joints 27/8"

Injection interval

Bone Spring perf
 9136 - 9188'

9136 9188 perf
 11184 feet to 11248 perf feet
 (perforated or open-hole, indicate which)
 14608 14,895 open hole

Wolfcamp perf
 11,184 - 11,248'

Intermediate casing

Size 9 5/8" Cemented with 1650 sx.

Cementing perf.
 11,595 - 11,600'

TCC 2585 feet determined by temp survey

Top cement 12,760' Hole size 12 1/4"

5 1/2" @ 14,608'

TD 14,895'

Tubing size 3 1/2" lined with plastic coated set in a
 (material)
 Baker Model R packer at 5500' feet
 (brand and model)

(or describe any other casing-tubing seal).

Other Data

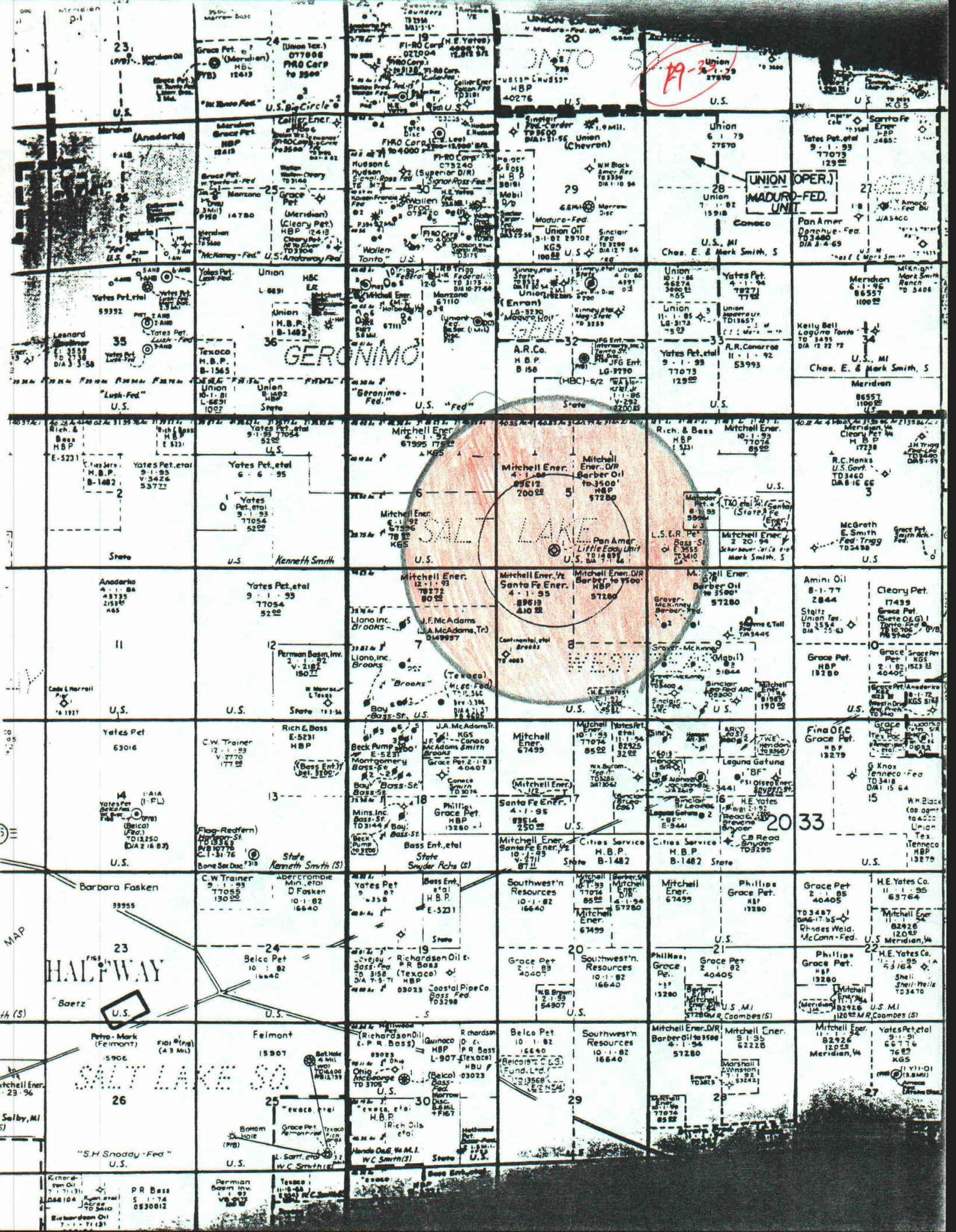
- Name of the injection formation Devonian, Wolfcamp, Bone Spring
- Name of field or Pool (if applicable) NA
- Is this a new well drilled for injection? ☐ Yes ☒ No
 If no, for what purpose was the well originally drilled? Oil & gas test.

- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used)

11,595-600 cementing perf. CIBPC @ 11,492. 11,184-248 Wolfcamp 25 sx
 11,107-10,900. 9136-88 Bone Spring 25 sx 9200-9000

- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

Delaware 7900' Bone Springs 9000'
 Yates - Seven Rivers 2900'



LAGUNA GATUNA INC. PROPOSES TO REENTER THE PLUGGED AND ABANDONED PAN AMERICAN PETROLEUM CORP. LITTLE EDDY UNIT NO.1 WHICH WAS DRILLED IN 1966, AND CONVERT THE WELL TO A SALT WATER DISPOSAL WELL. THE CONVERSION WILL BE DONE AS OUTLINED ON THE ATTACHED WORKOVER SHEET.

THERE ARE NO WELLS WITHIN ONE-HALF MILE OF THE PROPOSED INJECTION WELL. OIL PRODUCTION FROM THE YATES AND YATES-SEVEN RIVERS OCCURS ABOUT ONE MILE TO THE SOUTHEAST AND SOUTHWEST AT A DEPTH OF AROUND 2900 FEET. THE DELAWARE AND YATES-SEVEN RIVERS ARE PRODUCTIVE APPROXIMATELY ONE AND ONE-HALF MILES TO THE NORTH. THE DELAWARE IS AT A DEPTH OF AROUND 7900 FEET. THE BONE SPRING IS PRODUCTIVE APPROXIMATELY TWO MILES NORTHWEST OF PROPOSED INJECTION WELL AND OCCURS AT A DEPTH OF AROUND 9000 FEET.

APPLICANT PROPOSES TO DISPOSE OF A MAXIMUM OF 10,000 BARRELS OF PRODUCED WATER PER DAY. THE AVERAGE RATE SHOULD APPROACH 6000 BARRELS PER DAY. THE DISPOSAL SYSTEM WILL BE CLOSED AND DISPOSAL WILL BE BY GRAVITY. DISPOSAL WATERS ARE FROM THE BONE SPRING, DELAWARE, YATES-SEVEN RIVERS AND THE GRAYBURG-SAN ANDRES. THESE WATERS ARE PRESENTLY BEING DISPOSED OF IN A SINK-HOLE LAKE AND THEY APPEAR TO BE COMPATIBLE SINCE THEY ARE MIXED PRIOR TO DISPOSAL INTO THE LAKE. COMPLETE COMPATIBILITY TESTING WILL BE DONE UPON RE-ENTRY OF THE WELL WHEN A SAMPLE OF THE DEVONIAN WATER CAN BE COLLECTED FOR COMPATIBILITY TESTING. WATER ANALYSIS FROM EXISTING LITERATURE IS INCLUDED FOR ALL FORMATIONS INVOLVED.

DISPOSAL WILL BE PRIMARILY INTO THE DEVONIAN FORMATION THROUGH OPEN HOLE AT A DEPTH OF 14,608 - 14,895 FEET. THE WELL PENETRATED 313 FEET OF A TOTAL THICKNESS OF AROUND 500 TO 550 FEET OF DEVONIAN. THE DEVONIAN IS DOLOMITIC WITH VUGULAR POROSITY. FRACTURING HAS ALSO BEEN NOTED IN THE DEVONIAN WHICH COMBINED WITH THE VUGULAR POROSITY, MAKES THE DEVONIAN AS EXCELLENT DISPOSAL ZONE.

THE BONE SPRINGS AND WOLFCAMP ARE PERFORATED AND THERE WILL PROBABLY BE A SMALL AMOUNT OF SEEPAGE OF INJECTION FLUID INTO THESE ZONES. HOWEVER, THE DEVONIAN WILL, FOR ALL PRACTICAL PURPOSES BE THE DISPOSAL INTERVAL. THE BONE SPRINGS IS A COMBINATION OF SHALE, SANDSTONE AND LIMESTONE AND IS ABOUT 3400 FEET THICK IN THIS AREA. THE WOLFCAMP IS SHALE AND LIMESTONE AND IS APPROXIMATELY 900 FEET THICK.

THERE ARE NO FRESH WATER AQUIFERS IN THE AREA AND NO WATER WELLS IN VICINITY OF THE PROPOSED INJECTION WELL. ANY FRESH WATER IN THIS GENERAL AREA IS VERY LOCALIZED AND VERY LIMITED AND IS USUALLY SITUATED ABOVE 200 TO 300 FEET. AFTER EXAMINING THE AVAILABLE ENGINEERING AND GEOLOGICAL DATA ASSOCIATED WITH THIS APPLICATION, THERE IS NO EVIDENCE OF OPEN FAULTS OR ANY OTHER HYDROLOGIC CONNECTION BETWEEN THE DISPOSAL ZONE AND ANY UNDERGROUND SOURCE OF DRINKING WATER. FURTHER, THE CAPITAN REEF AND THE SALT SECTION ARE PROTECTED BY CASING, CEMENT AND THE INJECTION TUBING AND PACKER.

CERTIFIED COPIES OF THIS APPLICATION HAVE BEEN FURNISHED TO:

BUREAU OF LAND MANAGEMENT
BOX 1778
CARLSBAD, NM 88221-1778

MITCHELL ENERGY
P. O. BOX 4000
THE WOODLANDS, TX 77387-4000

SANTA FE ENERGY
1616 S. VOSS ROAD
HOUSTON, TX 77057

BARBER OIL INC
BOX 1658
CARLSBAD, NM 88221-1658

NOTICE OF PUBLICATION WILL BE FORWARDED AS SOON AS POSSIBLE. ANY REQUIREMENTS FOR OPERATING ON FEDERAL LANDS WILL BE COMPLIED WITH AFTER INJECTION APPROVAL IS OBTAINED.

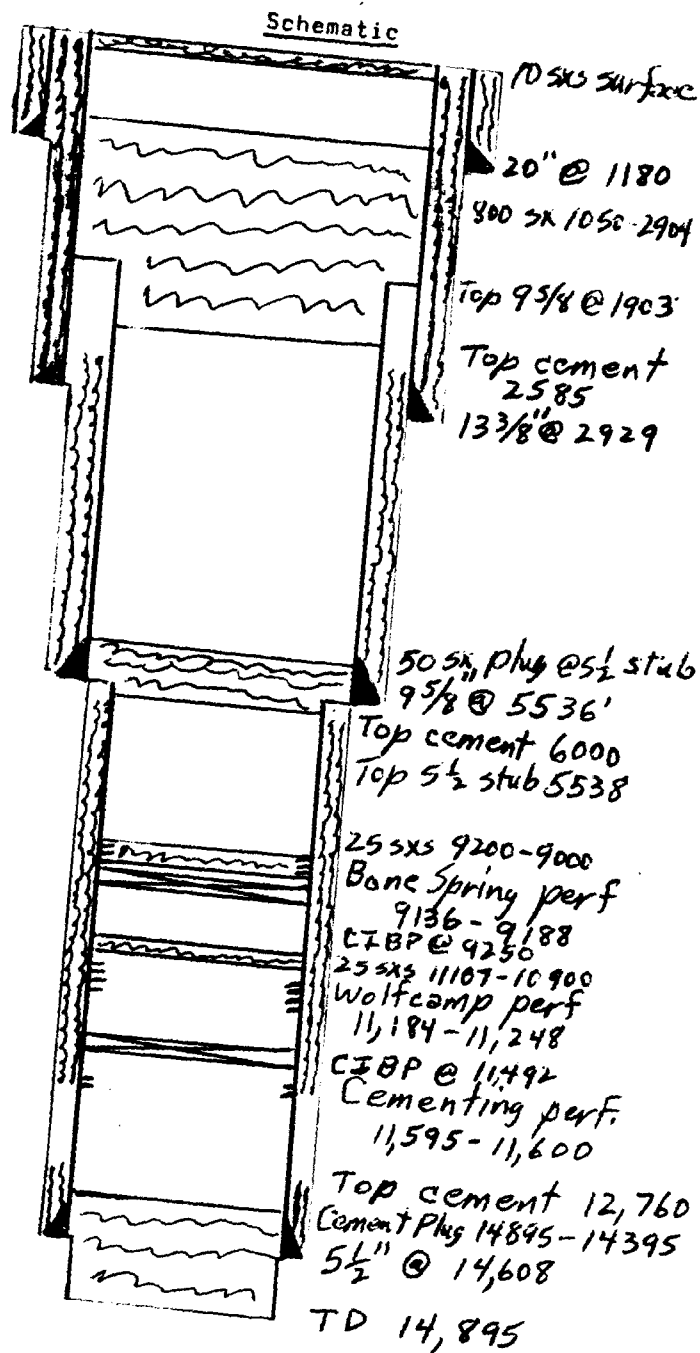
Pan American
Little Eddy Unit #1

N-5-20-33

- 1) MIRU pulling unit. PU workstring with 6 drill collars and 12" mill tooth bit.
- 2) Drill 10' surface plug and cement 1050' to 1903' (9 5/8" stub). POH
- 3) PU 8 5/8" mill tooth bit and drill cement plug from 9 5/8" stub to 2904'. Test casing to 500 psi.
- 4) Drill cement plug on top of 5 1/2" casing stub. POH
- 5) Pick up 4 1/2" bit on 6-3 1/4" - 3 1/2" Drill Collars.
- 6) Drill out cement plugs and CIBPS to 14895' TD. POH & Lay down bit and collars. Take injection test
- 7) Run in hole with 3 1/2" injection tubing, 9 5/8" Model R injection packer and 2 jts. 2 7/8" tailpipe.
- 8) Displace annulus with fresh water and packer fluid with packer at 5500'.
- 9) Set packer and test annulus to 500 psi for 30 minutes.
- 10) Place on injection. Take maximum injection rate test.

Pan Amer. in Petroleum Corp.
Little Eddy Unit No. 1

Schematic indicating the present
condition of proposed disposal well.



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

TABLE 4A--WATER-QUALITY DATA FOR FPDY AND LEA COUNTIES, NEW MEXICO, ARRANGED BY 90TH FORMATION SOURCE AND GEOGRAPHIC LOCATION.

LEA COUNTY

LEA COUNTY

LOCATION	DATE OF COLLECTION	DEPTH FROM TO	SAMP. NO.	SILICA (MG/L)	IRON (MG/L)	CALCIUM (MG/L)	MAGNESIUM (MG/L)	SODIUM + POTASSIUM (MG/L)	BICARBONATE (MG/L)	SULFATE (MG/L)	HYDROGEN CHLORIDE (MG/L)	FLUORIDE (MG/L)	NITRATE (MG/L)	WATER AT 20°C (MG/L)	DISOLVED SOLIDS (MG/L)	CHLORIDE (MG/L)	SPECIFIC CONDUCTIVITY (CMH-CU) AT 25°C	SPECIFIC CONDUCTIVITY (CMH-CU) AT 25°C	RESISTIVITY (OHM-CU) AT 25°C	PH
1	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
2	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
3	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
4	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
5	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
6	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
7	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
8	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
9	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
10	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
11	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
12	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
13	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
14	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
15	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
16	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
17	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
18	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
19	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
20	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
21	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
22	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
23	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
24	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
25	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
26	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
27	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
28	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
29	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
30	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
31	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
32	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
33	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
34	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
35	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
36	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
37	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
38	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
39	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
40	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
41	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
42	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
43	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
44	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
45	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
46	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
47	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
48	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
49	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
50	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
51	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
52	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
53	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
54	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
55	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
56	01-01-52	3,242-3,246	45,3175	1,300	500	3,100	400	1,000	100	400	8,200	500	1,000	14,000	14,000	14,000	17,200	17,200	17,200	7.2
57	01-01-52	3,242-3,246																		

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ILLEGIBLE

TABLE 4A.--WATER-QUALITY DATA FOR EDDY AND LEA COUNTIES, NEW MEXICO, ARRANGED BY BOTH FORMATION SOURCE AND GEOGRAPHIC LOCATION.

LEA COUNTY										LEA COUNTY										LEA COUNTY									
DATE OF COLLECTION	LOCATION	T. R.	DEPTH FROM TOP OF FORMATION	SAMP-ING METHOD	SILICA (SiO2)	IRON (FE)	CALCIUM (CA)	MAGNESIUM (MG)	SODIUM + POTASSIUM (NA+K)	BICARB-ONATE + CARBONATE (MG/L)	SULFATE (SO4) (MG/L)	HYDROGEN SULFIDE (H2S) (MG/L)	CHLORIDE (CL)	FLUORIDE (F)	NIT-RATE (NO3)	DENSITY OF WATER AT 20C (GM/ML)	DISSOLVED SOLIDS (SUM) (MG/L)	CA+MG/L (INA+K)	SPECIFIC CONDUCT-ANCE (UMHOS) AT 25C	SPECIFIC CONDUCT-ANCE CALC (UMHOS) AT 14C	RESIS-TIVITY (OHM-M) AT 18C	RESIS-TIVITY CALC (OHM-M) AT 18C							
01-01-65	24	21	3,300	4,398	453CPH	-	870	400	2,900	317	2,700	310	5,000	-	1.010	13,000	•	•	•	15,000	•	•	•						
01-01-65	24	21	3,300	4,398	453CPH	-	860	300	2,900	317	2,700	320	5,000	-	1.010	13,000	•	•	•	15,000	•	•	•						
01-01-65	24	21	3,300	4,398	453CPH	-	850	400	2,900	306	2,600	300	5,000	-	1.010	12,000	•	•	•	14,700	•	•	•						
01-10-65	24	21	3,300	4,398	453CPH	-	870	300	2,900	312	2,800	320	5,000	-	1.010	13,000	•	•	•	15,000	•	•	•						
01-11-65	24	21	3,300	4,398	453CPH	-	870	300	2,900	312	2,800	320	5,000	-	1.010	13,000	•	•	•	15,000	•	•	•						
01-11-65	24	21	3,300	4,398	453CPH	-	860	400	2,900	244	2,700	330	5,000	-	1.010	12,000	•	•	•	14,100	•	•	•						
03-00-62	24	22	3,609	4,618	453CPH	-	800	-	16,000	-	2,700	330	2,000	-	1.014	12,000	•	•	•	14,800	•	•	•						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-	-	-	11,000	-	-	-	2,000	-	1.014	12,000	•	•	•	-	-	-	-						
03-00-62	24	22	3,784	4,794	453CPH	-																							

TABLE 4A. --WATER-QUALITY DATA FOR FDDY AND LEA COUNTIES, NEW MEXICO, ARRANGED BY ADMINISTRATION SOURCE AND GEOGRAPHIC LOCATION.

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TABLE 4A.--WATER-QUALITY DATA FOR FDDY AND LFA COUNTIES, NEW MEXICO, ARRANGED BY BOTH FORMATION SOURCE AND GEOGRAPHIC LOCATION.

LEA COUNTY																	
LOCATION	DATE OF COLLECTION	DEPTH FROM SURFACE	SAMP. LENGTH	SILICA (SiO2) (MG/L)	IRON (FE) (MG/L)	CALCIUM (CA) (MG/L)	MAGNESIUM (MG)	SODIUM + POTASSIUM (MG/L)	BICARBONATE (MG/L)	SULFATE (SO4) (MG/L)	HYDROGEN CHLORIDE (CL) (MG/L)	FLUORIDE (F) (MG/L)	NITRATE (NO3) (MG/L)	DENSITY OF WATER (GM/ML) @ 20C	DISSOLVED SOLIDS (SUM) (MG/L)	SPECIFIC CONDUCTANCE (UMHMS) @ 25C	SPECIFIC CONDUCTANCE (UMHMS) @ 13C
5 19 38	08-25-64	-	453085A	74	0.0	200	74	3,000	2,460	500	340	3,300	1,008	1.011	9,500	125	11,200
6 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
7 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
8 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
9 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
10 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
11 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
12 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
13 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
14 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
15 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
16 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
17 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
18 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
19 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
20 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
21 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
22 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
23 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
24 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
25 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
26 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
27 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
28 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
29 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
30 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
31 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
32 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
33 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
34 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
35 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
36 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
37 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
38 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300
39 19 38	08-25-64	-	453085A	240	0.0	800	240	3,000	1,820	2,300	8,300	1,011	1.011	20,000	2,300	125	23,300

TABLE 4A. --WATER-QUALITY DATA FOR EDDY AND LEA COUNTIES, NEW MEXICO, ARRANGED BY BOTH FORMATION SOURCE AND GEOGRAPHIC LOCATION

TABLE 4A --WATER-QUALITY DATA FOR FDDY AND LEA COUNTIES, NEW MEXICO, ARRANGED BY BOTH SEDIMENTAL SOURCE AND CORRELATION LOCATION

[illegible]

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TABLE 42.--WATER-QUALITY DATA FOR ENVY AND LEA COUNTIES, NEW MEXICO, ARRANGED BY DATA ACQUISITION SOURCE AND GEOGRAPHIC LOCATION.

[illegible]

TABLE 4A --JATFF-QUALITY DATA FOR EDDY AND LFA COUNTIES, NEW METHOD, ARRANGED BY BORN
RESIDENCE SOURCE AND GEOGRAPHIC LOCATION.[illegible]

25	37	-	190,000.	1.192	-	215,000.	-	137,000.	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0	0.03	20.0
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TABLE 4A.--WATER-QUALITY DATA FOR EDNY AND LEA COUNTIES, NEW MEXICO, ARRANGED BY BOTH FORMATION GROUPS AND GEOGRAPHIC LOCATION.

ACTION	DATE OF COLLECTION	DEPTH FROM TO	FORMATION	SAMP. LITHO	SILICA (SI02) (MG/L)	IRON (PPM)	CALCIUM (PPM)	MAGNESIUM (PPM)	SODIUM + POTASSIUM AS NA (MG/L)	ALICAN + BORATE (MG/L)	SULFATE SULFIDE (MG/L)	HYDROGEN SULFIDE (MG/L)	CHLORINE (PPM)	FLUORIDE (PPM)	NITRATE (MG/L)	DETERMINED WATER (MG/L)	DISSOLVED SILICA (PPM)	SPECIFIC CONDUCTANCE (UMH/CM AT 25C)	SPECIFIC CONDUCTANCE CALC (UMH/CM AT 18C)	RESISTIVITY (OHM-CM AT 25C)	RESISTIVITY CALC (OHM-CM AT 18C)
37	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
36	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
35	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
34	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
33	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
32	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
31	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
30	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
29	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
28	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
27	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
26	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
25	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
24	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
23	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
22	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
21	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
20	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
19	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
18	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
17	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
16	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
15	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
14	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
13	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
12	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
11	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
10	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
9	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
8	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
7	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
6	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
5	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
4	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
3	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
2	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08
1	04-08-61	5,500-5,600	45281BR	FG	0.0	TR	2,900	400	87,000	917	400	0.0	67,000	113,000	1,085	110,000	156	113,000	0.08	113,000	0.08

TABLE 4A.--WATER-QUALITY DATA FOR EDNY AND LEA COUNTIES, NEW MEXICO, ARRANGED BY BOTH FORMATION SOURCE AND GEOGRAPHIC LOCATION.

ILLEGIBLE

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt Fee will provide you the signature of the person delivered to and the date of delivery.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Bureau of Land Management
P.O. Box 1778
Carlsbad, NM 88221-1778

4a. Article Number

365087397

4b. Service Type

- ☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)

Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

PS Form 3811, November 1990 *U.S. GPO: 1991-287-068

DOMESTIC RETURN RECEIPT

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt Fee will provide you the signature of the person delivered to and the date of delivery.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mitchell Energy
P.O. Box 4000
The Woodlands, TX 77380

4a. Article Number

982703803

4b. Service Type

- ☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

5-22-92

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

PS Form 3811, November 1990 *U.S. GPO: 1991-287-068

DOMESTIC RETURN RECEIPT

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt Fee will provide you the signature of the person delivered to and the date of delivery.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Barber Oil Inc
P.O. Box 1658
Carlsbad, NM 88221-1658

4a. Article Number

4b. Service Type

- ☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

PS Form 3811, November 1990 *U.S. GPO: 1991-287-068

10
1992

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt Fee will provide you the signature of the person delivered to and the date of delivery.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

SB
Mitchell Energy
Box 4008
The Woodlands, TX 77387

4a. Article Number

4b. Service Type

- ☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

4/3/92

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

John Duncan

PS Form 3811, November 1990 ★ U.S. GPO: 1991-287-066

DOMESTIC RETURN RECEIPT

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt Fee will provide you the signature of the person delivered to and the date of delivery.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Santa Fe Energy
1616 S. Voss Road
Houston, TX 77057

4a. Article Number

365087458

4b. Service Type

- ☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

John Duncan

PS Form 3811, November 1990 ★ U.S. GPO: 1991-287-066

DOMESTIC RETURN RECEIPT

RELEASE DATE 4.24.92 Joe Ramey

LEGAL NOTICE

April 10, 1992

April 10, 1972
Laguna Gatuna Inc. P.O.
Box 2158, Hobbs, NM 88241
will convert the Pan American
Petroleum Corp. Little Eddy Unit No. 1
located 660 feet from the
South line and 1980 feet
from the West line of Section 5,
Township 20 South, Range 33
East, Lea County, New Mexico, to a
salt water disposal well.
Injection will be into the
Bone Springs from 9136
9188 feet, the Wolfcamp
from 11,184 - 11,248 feet,
and the Devonian from
14,608 - 14,895 feet.

Maximum injection rate is 10,000 barrels per day with no injection pressure anticipated.

anticipated.
Contact party for the
applicant is:

Joe D. Ramey
P.O. Box 6016
Hobbs, NM 88241-6016
(505) 392-6525

Interested parties must
file objections or requests
for hearing within 15 days
to:

**OIL CONSERVATION
DIVISION
P.O. Box 2088
Santa Fe, NM 87501-2088**

Revised

LAGUNA CATUNA INC.

LAGUNA CATUNA

OPERATOR

LEASE

1 660 S + 1980 W

5

20 S

33 E

WELL NO. FOOTAGE LOCATION

SECTION

TOWNSHIP

RANGE

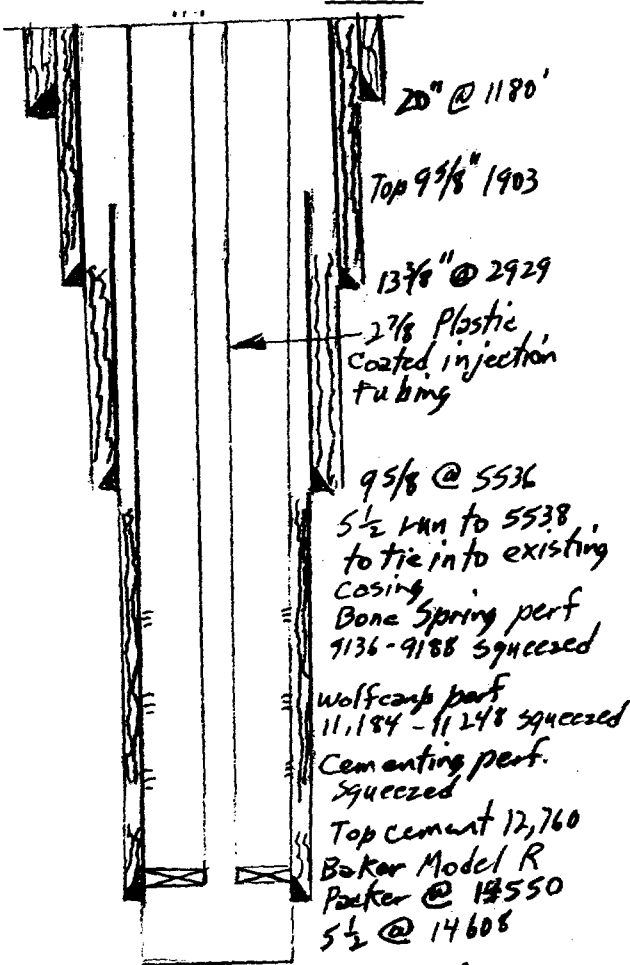
LEA COUNTY, NEW MEXICO

OIL CONSERV. DIV.
RECEIVED

'92 JUN 17 AM 9

Schematic

Tabular Data



Surface Casing

Size 20" Cemented with 2300 ex.

TOC Circulated feet determined by

Hole size 26"

Intermediate Casing

Size 13 3/8" Cemented with 2500 ex.

TOC Circulated feet determined by

Hole size 17 1/2"

Long string

Size 5 1/2" Cemented with 500 + 2350 ex.

TOC 12,760 + 6000 feet determined by Calculated

Hole size 8 3/4"

Total depth 14,895

Injection Interval

4720	1184	perf
11184	11248	perf
feet to feet		
(perforated or open-hole, indicate which)		
14608	14,895	open hole

Intermediate casing

Size 9 5/8" Cemented with 1650 ex.

TOC 2585 feet determined by temp survey

Hole size 12 1/4"

Tubing size 3 1/2" lined with plastic coated (material) set in a

Baker Model R (brand and model) packer at 5500' feet.

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Devonian, Wolfcamp, Bone Spring

2. Name of Field or Pool (if applicable) NA

3. Is this a new well drilled for injection? ☐ Yes ☒ No

If no, for what purpose was the well originally drilled? Oil & gas test

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used)

11,585-600 cementing perf. CIBPC 11,492, 11,184-248 Wolfcamp 25 exs

11,107-10,900, 9136-88 Bone Spring 25 exs 9200-9000

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

Delaware 7900' Bone Springs 9000'

Yates - Seven Rivers 2900'

NMPM

Description: NE 1/4 Sec. 31 (R-8451, 6-3-87) EXT. NW 1/4 SEC 31 (R-9120, 3-1-90)
EXT: SE 1/4 SEC 31, S 1/2 SEC 32 (R-9144, 5-1-90)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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" for such proposals.

☐ GAS WELL ☐ OTHER **DRY HOLE**

NAME OF OPERATOR
AMERICAN PETROLEUM CORPORATION

WELL NO. **68. Holes N M 88240**

LOCATION OF WELL (Report location clearly and in accordance with any State requirements.
Use space 17 below.)
(K)

SECTION **68. Holes N M 88240**

15. ELEVATIONS (Show whether LV, RT, GR, etc.)
3565 R D T S

WELL NO. **1**

11. DEPTH OF WELL (Feet)
5-20-33

12. COUNTY OR PARISH **NM**

13. STATE **NM**

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(*) Report results of multiple completion on Well Completion or Recompletion Report and Form 1.

17. OPERATIONS PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting a proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Physical abandonment of hole was effected 7-29-66. However, final cleanup of location has been slow, continues to be delayed due to the surface owner's refusal to let us cut & dry up the pits.

As operations were performed as follows:

5 1/2" casing shot at intervals 7748, 7009, 6517, 6011, 5539 and pulled. Spilled 50 5x cement plug in + cut 1" 5 1/2" casing stub.
4 1/8" casing shot at 5565, 2022 and shot + pulled from 1903.
800 qt plug set from 2904 - 1050.
10 qt plug at surface and erected P & U marker.

ILLEGIBLE

I hereby certify that the foregoing is true and correct

SIGNED

TITLE

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

APPROVED

AUG 15 1967

A. H. BRUNN
DISTRICT ENGINEER

*See Instructions on Reverse Side

Form approved
Budget Bureau No. 4-7000-0

LC-069944

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—" for such proposals.)

1. ☐ OIL WELL ☐ GAS WELL ☐ OTHER <u>DRY HOLE</u>		3. UNIT AGREEMENT NAME <u>LITTLE EDDY UNIT</u>	
2. NAME OF OPERATOR <u>Pan American Petroleum Corp.</u>		4. NAME OR LEASE NAME <u>Box 68 Hobbs, New Mexico</u>	
3. ADDRESS OF OPERATOR <u>Box 68 Hobbs, New Mexico</u>		5. WELL NO. <u>1</u>	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) <u>At surface</u>		6. FIELD AND POOL, OR WILDCAT <u>WILDCAT</u>	
<u>660' FSL x 1984.3' FWL, Sec. 5 (UNIT 1, SE 1/4 SW 1/4)</u>		7. SEC., T., R., M., OR BLM. AND SURVEY OR AREA <u>5-20-33 NMPN</u>	
14. PERMIT NO. <u>3565 R.D.B.</u>	15. ELEVATION (Show whether SF, RT, OR, etc.) <u>3565 R.D.B.</u>	12. COUNTY OR PARISH <u>LEA</u>	13. STATE <u>NM</u>

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	☐	FULL OR ALTER CASING	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETS	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☒
REPAIR WELL	☐	CHANGE PLANS	☐
(Other)	☐		☐

(NOTE: Report results of multiple completion or Well Completion or Recombination Report and Log Form.)

17. DENMARK: PROMISED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Well was drilled to a depth of 14895' without encountering commercial quantities of oil or gas. From 9-331 dated 6-2-66 reported Devonian attempt and back to PAD 11525. Wolf Camp Test & work: Set CIBP @ 11492'. Perf. 11184-88, 92-96, 11216-24, 41-48, 11370-76, 11456-64 w/ 215 PF. Acidized w/ 5000 gal. Fraced w/ 39,000 gal Oil, 13,250" Sand, 2,250" Glass beads. Never recovered load. Abandoned by spotting 25 cu. cement plug from 11,107-10,900. Set CIBP @ 9250. Bone Springs: Perforated intervals 9136-46, 78-88' w/ 215 PF. Acidized w/ 5000 gallons. Fraced w/ 29,000 gal brine, 25000" Sand, 2000" glass beads. Never recovered load water. Abandoned by spotting 25 cu. cement plug 9200-9000.

It is now proposed to P+A as follows: Cut and pull 5 1/2" from Free Point; Spot 584 plug in and out of 8 1/2" stub; 3500 in and out of 9 7/8" (less from 5586-5486; Shoot and pull 9 7/8" from Free Point; 1800 plug from 2900 to 1100 (approx 1175 ft.); 10 ft at surface and erect P+A markers.

Restore ground to contour and make final cleanup

18. I hereby certify that the foregoing is true and correct

SIGNED E. R. Sullivan TITLE Area Foreman JUL 3 5:00 PM '66
(This space for Federal or State office use) S. C. GEOLOGICAL SURVEY NEW MEXICO DATE 7-7-66

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____ **DATE** _____

APPROVED

JUN 11 1966

J. L. GORDON
ACTING DISTRICT ENGINEER

***See Instructions on Reverse Side**

044-UGG - H
1- 14100
1- 8030
1- 200

1- PERRY R. BAAS
1- STATE LAND
1- US DEPT AX

ILLEGIBLE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LC-06-35-44

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

WELL NO. 68 ☐ OIL WELL ☐ GAS WELL ☒ OTHER Produced
WELL COMPLETION: ☐ WATER ☐ DEEP- ☐ PLUG ☐ RE- ☐ OTHER
WELL ☐ CIL ☐ EN ☐ BACK ☐ LINER

LITTLE EASY UNIT

OPERATOR
AMERICAN PETROLEUM CORPORATION

WELL NO. 68 Stobbs N. M. 88240

WILLOCAT

SEC. 5, T. 14S, R. 9E, S. 4W, Sec. 5 (UNIT N, SE 1/4 SW 1/4)

Actual depth

5-20-33 NMPM

14. PERMIT NO. DATE ISSUED

LEA NM

15. DATE PROD. BEGAN 16. DATE T.D. REACHED 17. DATE COMPL. (Ready to prod.) 18. ELEVATION (FEET) B.O.B., ET. AL. 19. ELEV. CASING HEAD

2-10-66 5-29-66

3565' RDB

20. TOTAL DEPTH, MD & TVD 21. PLUG, BACK T.D., MD & TVD 22. IF MULTIPLE COMPL., HOW MANY? 23. INTERVALS DRILLED BY

14895

Surface

0-TD

24. LISTING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD),

None

66 LEO No 11

25. LISTING ELECTRIC AND OTHER LOGS RUN

SPR, DIL, CAL, ML

27. WAS WELL CURED No

CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT SET
20"	94-133#	1180	26"	2300 SX. Circ	
13 3/8"	48-72#	2929	17 1/2"	2500 SX. Circ	
9 5/8"	36-40#	5536	12 1/4"	1650 SX.	1903
8 1/2"	17-20#	14608	8 3/4"	500 SX.	5536

LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	BACK CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
3"							

26. PERFORATION RECORD (Interval, size and number)

INTERVAL (MD)	ACID, SHOT, FRACTURE, CEMENT, ETC.	AMOUNT AND KIND OF FLUID USED
11154-11464 W/25DF (CIBP@11500-11492)		
(11154-88, 92-96, 216-24, 41-48, 370-76, 486-4)	11184-11464	5000 gal. 22.50" line, 39000 gal. 13.25" line
1156-46, 78-88 W/25DF CIBP	9136-88	5000 gal. 22.50" line, 2500 gal. 13.25" line

PRODUCTION

27. DATE FIRST PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) WELL STATUS (Producing or shut in)

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF	WATER—BBL.	GAS-LIFT RATE
FLOW-TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF	WATER—BBL.	OIL GRAVITY API GRADE	

28. PRODUCTION OF GAS (Sold, used for fuel, vented, etc.)

TEST WITNESSED BY

29. LIST OF ATTACHMENTS

I hereby certify that the foregoing and attached information is complete and correct as furnished from all available sources.

SIGNED [Signature] TITLE Area Manager DATE 11-22-66

*(See Instructions and Spaces for Additional Data on Reverse Side)

071-231

N. M. O. G. U. N. Y.
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

Use this form for proposals to drill or to complete or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT" for each proposal.

1. NAME OF OPERATOR PAN AMERICAN PETROLEUM CORP. ADDRESS OF OPERATOR Box 68, Hobbs, New Mexico 88240 2. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. At surface GGO FSL 1984.9 FWL SEC 5 (UNIT N SE 1/4 SW 1/4) 14. PERMIT NO. 3565' R.D.B.	3. DATE OF NOTICE LITTLE EDDY UNIT 4. NAME OF LEASE NAME 1 5. WELL NO. WILDCAT 6. FIELD AND POOL, OR WILDCAT 5-20-33 N.M.P.M. 7. COUNTY OR PARISH, STATE LEA N.M.
---	---

10. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF ☐	PULL OR ALTER CASING ☐	WATER SHUT-OFF ☒	REPAIRING WELL ☐
FRACTURE TREAT ☐	MULTIPLE COMPLETE ☐	FRACTURE TREATMENT ☐	ALTERING CASING ☐
SHOOT OR ACIDIZE ☐	ABANDON ☐	SHOOTING OR ACIDIZING ☐	ABANDONMENT ☐
REPAIR WELL ☐	CHANGE PLANS ☒	(Other) ☐	

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

On 5-19-66, 5 1/2" OD 17-20" N-80 BT, LT, & C Casing was set at 14,608' w/500 sk. Trinity Inferno neat Cement. Tested casing w/2600 PSI for 30 minutes, Test O.K. Drilled out to a depth of 14,895'; No show of oil or gas. Set 100 sk. Cement plug from 14,895' to 14,395'. Perforated 11,600-595 w/235 PF. BP set at 11,800'. Cemented thru perforations w/2350 sk. Cement.

We propose to perforate the Wolfcamp pay and test as discussed between our Mr. Smith and Mr. Brown.

ILLEGIBLE

RECEIVED
JUN 9 1966
U. S. GEOLOGICAL SURVEY
ARTESIA, NEW MEXICO

18. I hereby certify that the foregoing is true and correct

SIGNED _____	TITLE <u>Area Supt.</u>	DATE <u>5-2-66</u>
--------------	-------------------------	--------------------

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY: _____

*See Instructions on Reverse Side

APPROVED
JUN 9 1966
A. R. BROWN
DISTRICT ENGINEER

Little Eddy Unit

LEA N.M.

*See Instructions on Reverse Side

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Form approved
Budget Bureau 46-42-10000
5. LEASE DESIGNATION AND AREA
LC-069944
6. IF INDIAN, ALLOTTEE OF TRIBE NAME

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—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER <u>Drilling</u>		7. UNIT AGREEMENT NAME <u>LITTLE EDDY UNIT</u>	
2. NAME OF OPERATOR <u>San American Petroleum Corp.</u>		8. FARM OR LEASE NAME	
3. ADDRESS OF OPERATOR <u>Box 68, Hobbs, New Mexico</u>		9. WELL NO. <u>1</u>	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At Surface <u>660' FSL x 1984.9' FWL, Sec. 5 (Unit N. SE 1/4 SW 1/4)</u>		10. FIELD AND ZONE, OR WILDCAT <u>WILDCAT</u>	
14. PERMIT NO.		15. ELEVATIONS (Show whether BV, ST, OR, etc.)	
11. SEC., T., R., N., OR BLE. AND SURVEY OR AREA <u>5-20-33 N MPM</u>		12. COUNTY OR PARISH <u>LEA</u>	
		13. STATE <u>N. M.</u>	

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF ☐	PULL OR ALTER CASING ☐	WATER SHUT-OFF ☒	REPAIRING WELL ☐
FRACURE TREAT ☐	MULTIPLE COMPLETS ☐	FRACURE TREATMENT ☐	ALTERING CASING ☐
SHOOT OR ACIDIZE ☐	ABANDON* ☐	SHOOTING OR ACIDIZING ☐	ABANDONMENT* ☐
REPAIR WELL ☐	CHANGE PLANS ☐	(Other) ☐	(Other) ☐

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROMISED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and some pertinent to this work.)

On 2-22-66, 13 7/8" OD 48-72" J-55 + S-80 Casing was set at 2929' w/ 2500 sq Incon 4% Gel salt saturated w/ 1% Calc. Chloride x 200 sq. Incon salt saturated w/ 1% calc. Chloride. Cement circ. After M. O. C. 18 hours tested casing w/ 1200 psi for 30 minutes. Test O.K. Reduced hole to 12 1/4" at 2929' and resumed drilling operations.

18. I hereby certify that the foregoing is true and correct

SIGNED _____ TITLE Circia Supr. DATE 2-23-66

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

1- Perry R. Bass, Box 171, Midland

7- State Land, Santa Fe

1- US Bureax

*See Instructions on Reverse Side

FEBRUARY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill into, or plug back to, a different reservoir.
Use "APPLICATION FOR PERMIT--" for each proposal.

1. OIL ☐ GAS ☐ WELL ☐ WELL ☐ OTHER ☐ 2. NAME OF OPERATOR <i>Pan American Petroleum Corp.</i> 3. ADDRESS OF OPERATOR <i>Box 68 Hobbs, New Mexico</i> 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface <i>660 FSL x 1984.9 FWL, Sec 5 (Unit N, SE 1/4 SW 1/4)</i>	5. UNIT ACREAGE NAME LITTLE EDDY UNIT 6. FARM OR LEASE NAME 7. WELL NO. 1 8. FIELD AND ZONE WILDCAT 9. SEC. T. R. S. CORNER AND SURVEY OR ALIAS 5-20-33 N M FM 10. COUNTY OF PARKING LEA 11. STATE N.M.
14. PERMIT NO. 15. ELEVATIONS (Show whether DF, RT, LA, etc.)	12. COUNTY OF PARKING 13. STATE

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	☐	WATER SHUT-OFF	☒
FRACURE TREAT	☐	FRACURE TREATMENT	☐
SHOOT OR ACIDIZE	☐	SHOOTING OR ACIDIZING	☐
REPAIR WELL	☐	(Other) <i>Spudding</i>	☒
(Other)	☐	(Note: Report results of multiple completion or recompletion by separate report and log form.)	☐

Cactus Drilling Corp. spudded 15" hole 11:30 PM on 2-10-66. (Reamed to 26") On 2-16-66, 20" OD 94'-133' H-40 & J-55 Casing was set at 1180' w/ 2100 sq Inco 4% Gel + 200 sq. Inco neat. Cement circulated. After WOC 18 hours. Tested casing w/ 600 psi for 30 minutes. Test O.K.
Reduced hole to 17 1/2" at 1180' and resumed drilling operations

18. I hereby certify that the foregoing is true and correct

SIGNED _____ TITLE Area Sup DATE 2-11-68

(The space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

R. Bass
ELAND
6804

PAN AMERICAN PETROLEUM CORPORATION

Post Office Box 68
Hobbs, New Mexico

FEB 9 AM 10 25

February 8, 1966

File: VES-40-401

Subject: Notification of Intention
to Drill
Little Eddy Unit No. 1

Mr. A. L. Porter, Jr.
Secretary-Director
New Mexico Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico

Dear Sir:

You were previously furnished, by the USGS, an information copy of Pan American Petroleum Corporation's "Notice of Intention to Drill" the Little Eddy Unit No. 1, 660 feet from the South line and 1985 feet from the West line of Section 5, T-20-S, R-33-E, Lea County, New Mexico.

Attached for your further information are waivers from U. S. Borax and Chemical Corporation and Harroun and Hayworth, the potash interests within a radius of one mile of the location.

Yours very truly,

V. E. Staley
V. E. Staley
Area Superintendent

JWM:la

Attachments

cc: New Mexico Oil Conservation Commission
Hobbs, New Mexico

MAIN OFFICE 000

FEB 9 AM 10 25

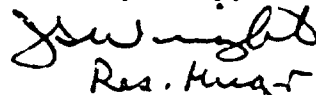
Mr. V. E. Staley
Pan American Petroleum Corporation
P. O. Box 68
Hobbs, New Mexico

Dear Sir:

This will acknowledge receipt of your "Notice of Intention to Drill" the Little Eddy Unit Well No. 1, 660 feet from the South line and 1985 feet from the West line of Section 5, T-20-S, R-33-E, NMPM, Lea County, New Mexico.

As the holder of potash leases within one mile of the proposed well, U. S. Borax and Chemical Corporation has no objection to your drilling this well, provided that all drilling is done in accordance with the New Mexico Oil Conservation Commission Order R-111-A.

Yours very truly,


Res. Huger

U. S. Borax and Chemical Corporation



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P. O. Box 115 FEB 5 PM 3 05
Hobbs, New Mexico 88240

February 3, 1966

Mr. A. L. Porter, Jr.
New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Porter:

Attached is an information copy of an Application for Permit to Drill a well to a depth of 13,700 feet to test the Pennsylvanian in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5, T. 20 S., R. 33 E., Lea County, New Mexico, filed by Pan American Petroleum Corporation, P. O. Box 68, Hobbs, New Mexico.

The well location is in the Oil-Potash area on land included in Federal oil and gas lease Las Cruces 069944.

Sincerely yours,

Arthur R. Brown
District Engineer

Attachment

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL WELL ☐

GAS WELL ☒

OTHER ☐

SINGLE ☒

MULTIPLE ☐

2. NAME OF OPERATOR

San American Petroleum Corp.

3. ADDRESS OF OPERATOR

Box 68, Hobbs, New Mexico

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)

660 FSL x 1984.9 WL, Sec. 5 (UNIT N, SE 4 SW 4)

At surface

At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE

15. DISTANCE FROM PROPOSED

LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)

18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

21. ELEVATIONS (Show whether DP, RT, GR, etc.)

16. NO. OF ACRES IN LEASE

19. PROPOSED DEPTH

13,700'

17. NO. OF ACRES ASSIGNED TO THIS WELL

320

20. ROTARY OR CABLE TOOLS

ROTARY

22. APPROX. DATE WORK WILL START

2-10-66

5. LEASE DESIGNATION AND SERIAL NO.

LE-069944

6. IF LEASE, NAME OF LEASE

7. UNIT AGREEMENT NAME

LITTLE EDDY UNIT

8. NAME OF LEASE

9. WELL NO.

1

10. FIELD AND POOL OR WILDCAT

WILDCAT

11. SEC. T. R. S. M. OR B.L. AND SURVEY OR AREA

5-20-33 NMPM

13. COUNTY OR PARISH

LEA

13. STATE

N.M.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
<i>24"</i>	<i>20"</i>	<i>94"</i>	<i>1200'</i>	<i>SUFFICIENT TO CIRCULATE</i>
<i>17 1/2"</i>	<i>13 3/8"</i>	<i>48-61"</i>	<i>2900'</i>	<i>"</i>
<i>12 1/4"</i>	<i>9 5/8"</i>	<i>36-40"</i>	<i>5500'</i>	<i>"</i>
<i>8 3/4"</i>	<i>6 1/2"</i>	<i>17-20"</i>	<i>13900'</i>	<i>SUFFICIENT TO FILL 600' ABOVE UPPERMOST PAY.</i>

After drilling well, logs will be run and evaluations made, perforating and/or stimulating as necessary in attempting commercial production.

Well to be drilled in accordance with H.M.O.C.C. Order R-111A

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

TITLE

Area Supt

DATE

2-3-66

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

CONDITION OF APPROVAL, IF ANY:

RECEIVED
FEB 10 1966

U. S. GEOLOGICAL SURVEY
ROSWELL, NEW MEXICO

*See Instructions On Reverse Side

*2/10 USGS
1- JWB
1- SUS
1- EBY
1- Percy/Bess
1- State Land
1- US Army*

TKO

NEW MEXICO OIL CONSERVATION COMMISSION
WELL LOCATION AND ACREAGE DEDICATION PLAT

All distances must be in feet or in the hundredths of the foot.

PAN AMERICAN PETROLEUM CORP.

LITTLE EDDY UNIT

N

5

20 SOUTH

33 EAST

LEA

650

East from the

SOUTH

1934.9

WEST

WILDCAT

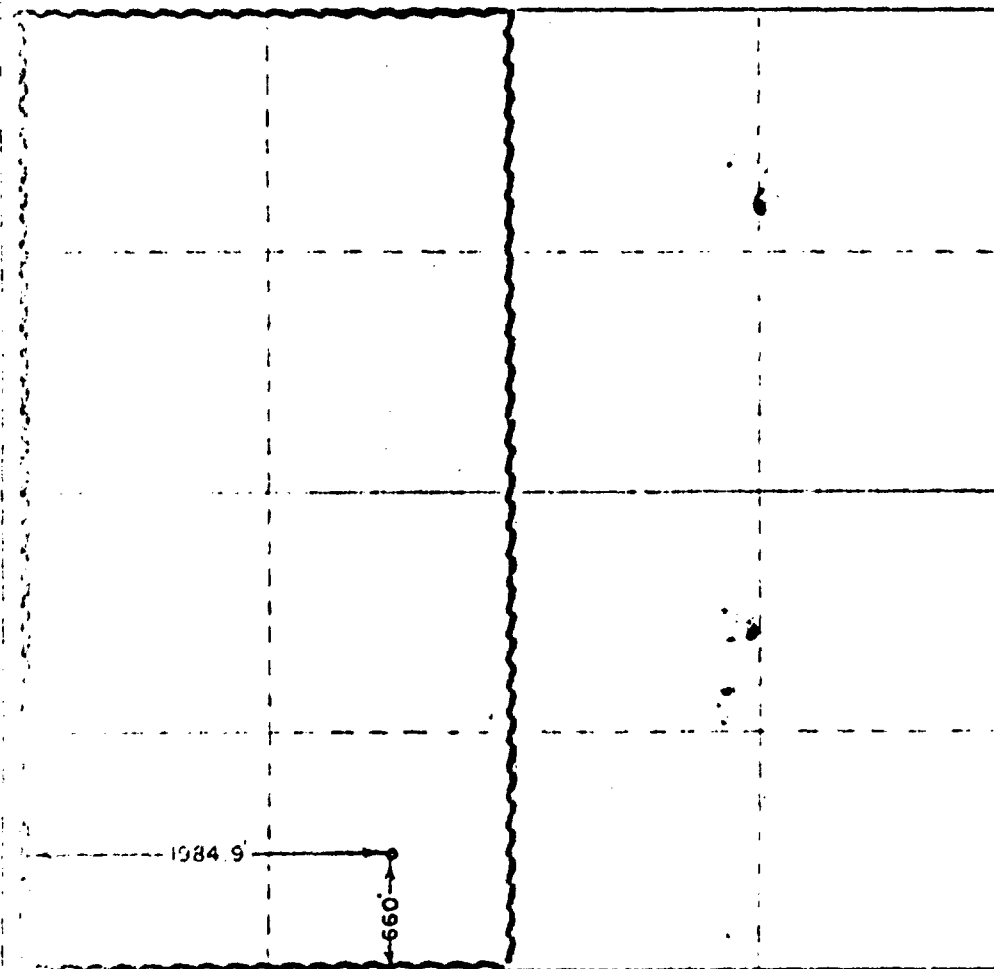
320

1. Outline the acreage dedicated to the subject well by colored pencil or hatch marks on the plat.
2. If more than one lease is dedicated to the well, outline each and identify the ownership, tenured and interest (interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all well owners dated by communitization, unitization, force-pooling, etc?

☒ Yes ☐ No If answer is "yes," type of consolidation **UNITIZATION**

If answer is "no," list the owners and tract descriptions which have actually been consolidated (this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, force-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved.



CERTIFICATE

I hereby certify that the information furnished herein is true and correct to the best of my knowledge and belief.

AREA SUPERINTENDENT
PAN AMERICAN PETROLEUM CORP.

2-3-66

I hereby certify that the well shown on this plat was properly located, and that the interests of all well owners have been consolidated by communitization, unitization, force-pooling, or otherwise, and that the information furnished herein is true and correct to the best of my knowledge and belief.

FILED IN THE OFFICE OF THE

NM PC 1-1

LEA COUNTY

NEW MEXICO

WILDCAT

Well: PAN AMERICAN PET. CORP. #1 Little Eddy Unit

Result: TEMP ABND

Loc'n: 660' FSL 1984' FWL of Sec 5-20S-33E, 17 mi S-SE/Maljamar in SE/part of cnty, 4 mi E/14,367' failure, 4 mi S-SE/ W/Tonto (Morrow gas) Fld, 1½ mi NW/W/Teas (7-Rivers Fld).

Spud: 2-10-66; Comp: 7-1-66; Elev: 3555' Grd; TD: 14,895'

Casing: 20" 1180'/2300 sx; 13-3/8" 2929'/2500 sx; 9-5/8" 5536'/1650 sx; 5½" 14,608'/500 sx

Comp Info: DST 9080-9191', op 1 hr, GTS 8 mins, @ 100,000 CFPD, rec 270' oil, Grav 38 & 90 HO&GCM, FP 72-131#, ISIP 3593#/1 hr, FSIP 3018#/2 hrs, DST 9936-10,080', op 1 hr, rec 1080' gas in DP, 140' GCM & 10' sli MCO, FP 151-151#, ISIP 563#/1 hr, FSIP 390#/1 hr, DST 11,140-265', op 3 hrs, GTS 40 mins, TSTM, rec 280 HGCM & 20' HOCM, FP 90-90#, ISIP 5155#/1 hr, FSIP 4012#/1 hr, DST 13,009-085', op 2 hrs, GTS 11 mins, @ 140,000 CFPD, 2000' WB, rec WB & 180' HGCM, FP 944-1030#, ISIP 6803#/1 hr, FSIP 6241#/1 hr & 30 mins; DST 14,608-728', op 3 hrs, leak in DP, rec 765' WB & mud, 1510' WB 900' mud & 1500' GCM, all pressures failed, DST 14,608-895', op 2 hrs, rec 1000' WB, 1500' sli GCM & 11,500' slty sul wtr, FP 1776-6240#, FSIP 6240#/50 mins, PB 11,492', Perf 11,184-188', 11,192-196', 11,216-224', 11,241-248', 11,370-376', 11,456-464', A/5,000 gals, S/27 BNO & 29 BFW/9 hrs & swbd dry, Frac w/30,000 gals & 45,000# sd; F/86 BLO/12 hrs & died, S/37 BLO/9 hrs, F2 9250', Perf 9136-45', 9178-88', A/5,000 gals, S/50 BO & 77 BLW/24 hrs, Frac w/20,000 gals & 25,000# sd; S/2 BO & 41 BLW/8 hrs.

--- Tops: (EL) B/Spring 8030', Penn 12,132', Miss 13,959', Wdfd 14,519', Sil-Dev 14,647'

The Associated
OIL REPORTS

Date: 8-24-66

Card No.: 11 NM kh



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

OIL CONSERVATION DIVISION
RECEIVED
'92 APR 14 AM 8 55

4-8

BRUCE KING
GOVERNOR

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

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RE: Proposed:

MC _____
DHC _____
NSL _____
NSP _____
SWD X SWD-477
WFX _____
PMX _____

Gentlemen:

I have examined the application for the:

Laguna Gatuna Inc. Laguna Gatuna #1-N 5-20-33
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows: formerly Pan Am - Little Eddy unit #1-

Tie steel in & off everything but Dev

Yours very truly,

Jerry Sexton
Jerry Sexton
Supervisor, District 1

/ed