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REPORTS

DATE:

1973

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

BOBBY LEWIS RANCH

WATER ANALYSIS
AND
CONTAMINATION STUDY

September 3, 1973

PREPARED BY
JOHN W. RUNYAN
GEOLOGIST

WATER ANALYSIS AND CONTAMINATION STUDY

The cause of this report was that three fresh water wells located at the Sawyer Ranch house complex became contaminated with salt water. The ranch house is located approximately five miles east of Crossroads, New Mexico, and Mr. Bobby Lewis is the new owner of the ranch.

In order to determine the cause of the contamination problem, twenty six test wells were drilled to an average depth of 190 feet (refer to maps). Samples from these test wells were analyzed for chloride (salt) content. The location of each test well was determined by the salt content of the previous test well and the locations of the nearest battery pits in relation to the ranch house.

Test procedure was to drill down to the top of the blue clay, "upper water zone", take a water sample, then drill on down to the top of the red bed formation, "lower water zone", and take another water sample. Samples were analyzed on location, by myself, and the analysis was made by using the standard method of titrating the sample with silver nitrate.

The enclosed maps are contoured on 5000 ppm chlorides for both the upper and lower water zones, and the contours on these two maps are of my own interpretation.

The driller who drilled all the test wells is Mr. Sumruld of 606 West Avenue I, Lovington, New Mexico.

John W. Runyan
Geologist
New Mexico Oil Conservation Commission

CHEVRON OIL COMPANY HOLE LOG CVO-37

LINE _____ HOLE 2

DRILL _____ DATE 8-23,24,73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	32	surface & caliche
32	55	sandrock with stringers of sand
55	76	sandy clay
76	114	sand & gravel with layers of sandy clay
114	118	cemented gravel
118	136	yellow clay
136	160	blue shale
160	165	sandy clay
165	172	sand and gravel with layers of sandy clay
172	178	white clay
~~LOADED AT~~ XXXXX	178 180	~~red bed~~

EXPLOSIVES USED

CASING SET

REMARKS :

SIGNED E. H. Sumrold

CVO-37 11-64 PRINTED IN U. S. A.

[redacted] HOLE LOG CVO-37

LINE _____ HOLE 1

DRILL _____ DATE 8-23-73

AREA Sawyer

FROM	TO	FORMATIONS DRILLED
0	26	caliche
26	55	sandrock
55	74	sandy clay
74	112	sand & gravel with layers of clay
112	117	cemented gravel
117	134	yellow clay
134	167	blue clay & limestone
167	178	sand & shale
178	182	white clay
182	200	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS: no water

SIGNED E. H. Summerlin

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[redacted] HOLE LOG CVO-37

LINE _____ HOLE 7

DRILL _____ DATE 8-28-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	22	surface,sandy clay,caliche
22	46	sand&sandstone
46	82	sandy clay & sand layers
82	148	sand & gravel
148	153	cemented gravel
153	154	yellow clay
154	165	blue shale
165	180	sand & gravel
180	183	sandy clay
183	185	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS :

SIGNED E. H. Sumrall

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[redacted] HOLE LOG CVO-37

LINE _____ HOLE 3

DRILL _____ DATE 8-24-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	34	caliche
34	59	sandstone & sand
59	74	sandy clay
74	140	sand & gravel with stringers of sandy clay
140	144	yellow clay & gravel
144	182	blue shale
182	189	sand
189	190	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS :

SIGNED E. H. Sumrall

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[redacted] HOLE LOG CVO-37

LINE _____ HOLE 5

DRILL _____ DATE 8-27-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	24	caliche
24	44	sand, sandstone
44	103	sandy clay & sand layers
103	148	sand & gravel
148	153	cemented gravel
153	154	yellow clay
154	176	blue clay & shale
176	186	sand, sandy clay
186	188	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS : _____

SIGNED E. H. Summerlin

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[redacted] HOLE LOG CVO-37

LINE _____ HOLE 4

DRILL _____ DATE 8-27-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	25	caliche
25	56	sand & sandstone
56	98	sandy clay, sand & gravel
98	108	sandy clay
108	152	sand & gravel
152	154	yellow clay
154	175	blue shale
175	183	sand
183	185	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS :

SIGNED E. H. Summerlin

CVO-37 11-64

PRINTED IN U. S. A.

[redacted] HOLE LOG CVO-37

LINE _____ HOLE 6

DRILL _____ DATE 8-28-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	23	surface soil & caliche
23	56	sandy clay, sandstone
56	90	sand & sandy clay layers
90	110	sand & gravel, sandy clay
110	145	sand & gravel
145	148	yellow clay
148	165	blue shale
165	182	sand
182	184	sandy clay
184	185	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS :

SIGNED E. H. Simmons

CVO-37 11-64

PRINTED IN U. S. A.

[redacted] HOLE LOG CVO-37

LINE _____ HOLE 8

DRILL _____ DATE 8-29-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	18	surface, sandy clay, caliche
18	43	sandstone, sandy clay
43	79	sand & sandy clay layers
79	148	sand & gravel with stringers of sandy clay
148	150	cemented gravel
150	151	yellow limestone
151	161	bluelimestone & clay
161	184	sand & sand-rock
184	185	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS : _____

SIGNED E. H. Summerlin

CVO-37 11-64 PRINTED IN U. S. A.

[redacted] HOLE LOG CVO-37

LINE _____ HOLE 9

DRILL _____ DATE 8-29-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	23	sandy clay, caliche
23	40	sandy clay, sandstone
40	86	sand & sandy clay layers
86	110	sand & gravel with layers of sandy clay
110	127	red clay & gravel
127	138	sand
138	146	gravel, sand, sandy clay
146	148	yellow clay & limestone
148	182	blue shale
182	193	sand, sandrock
193	195	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS :

SIGNED E. H. Sumrall

CVO-37 11-64 PRINTED IN U. S. A.

[redacted] HOLE LOG CVO-37-

LINE _____ HOLE 10

DRILL _____ DATE 8-30-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	29	surface, sandy clay, caliche
29	45	sandstone
45	75	sandy clay
75	145	sand & gravel with clay layers
145	148	cemented gravel
148	153	yellow clay & limestone
153	174	blue lime & shale
174	189	white sand with layers of clay
189	190	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS : _____

SIGNED _____

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[redacted] COMPANY HOLE LOG CVO-37

LINE _____ HOLE 11

DRILL _____ DATE 8-30-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	36	caliche & sandy clay
36	45	sandstone
45	77	sand & sandy clay
77	148	sand & gravel with clay
		stringers
148	154	yellow clay & lime
154	173	blue lime & shale
173	188	sand
188	190	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS : _____

SIGNED _____

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[redacted] COUNTY HOLE LOG CVO-37

LINE _____ HOLE 12

DRILL _____ DATE 8-31-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	24	sand & caliche
24	48	sand & sandstone layers
48	151	sand, sand & gravel with stringers of clay
151	153	yellow clay & lime
153	176	blue lime & shale
176	186	sand & sandstone
186	189	sandy clay
189	190	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS : _____

SIGNED _____

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[redacted] HOLE LOG CVO-37

LINE _____ HOLE 13

DRILL _____ DATE 8-31-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	23	surface, sandy clay, caliche
23	52	sandstone & sandy clay
52	78	sandy clay & sand layers
78	152	sand & gravel with stringers of clay
152	154	yellow limestone
154	175	blue lime & shale
175	192	sand
192	194	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS : _____

SIGNED _____

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CHEVRON OIL COMPANY HOLE LOG CVO-37

LINE [redacted] HOLE 14

DRILL _____ DATE 9-1-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	35	surface, caliche, sand
35	60	sandstone & sand
60	79	sandy clay
79	149	sand & gravel with stringers of sandy clay
149	151	yellow clay & lime
151	168	blue shale
168	190	sand & sandrock
190	191	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS :

SIGNED

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CHEVRON OIL COMPANY HOLE LOG CVO-37

LINE _____ HOLE 15

DRILL _____ DATE 9-1-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	24	sand & caliche
24	36	sandstone & sandy clay
36	77	sand & sandy clay layers
77	153	sand & gravel with layers of clay
153	155	yellow limestone
155	170	blue lime & clay
170	188	sand & sandstone
188	190	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS : _____

SIGNED _____

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[redacted] HOLE LOG CVO-37

LINE _____ HOLE 16

DRILL _____ DATE 9-10-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	30	sandy clay & caliche
30	74	sand, sandstone, sandy clay
74	138	sand & gravel withstringers of sandy clay
138	143	yellow clay & lime
143	153	blue clay & lime
153	178	sand & sandstone with layers of clay
178	180	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS :

SIGNED _____

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CHEVRON OIL COMPANY HOLE LOG 'CVO-37'

LINE _____ HOLE 17

DRILL _____ DATE 9-10-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	35	sandy clay, caliche, sandstone
35	73	sand
73	144	sand & gravel with layers of clay
144	149	yellow clay & lime
149	167	blue shale
167	179	sand & sandstone
179	180	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS :

SIGNED

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CHEVRON OIL COMPANY HOLE LOG CVO-37

LINE _____ HOLE 18

DRILL _____ DATE 9-11-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	26	sandy clay & caliche
26	38	sand & sandstone
38	75	sandy clay, sand
75	147	sand & gravel with layers of clay
147	158	yellow clay
158	174	blue clay & lime
174	191	sand & sandstone with stringers of sandy clay
191	192	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS :

SIGNED

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[redacted] OIL COMPANY HOLE LOG CVO-37

LINE _____ HOLE 19 (19)

DRILL _____ DATE 9-12-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	36	sand, caliche, sandstone
36	70	sand & sandy clay
70	149	sand & gravel with layers of clay
149	155	yellow clay & gravel, lime
155	166	blue shale
166	191	sand with clay stringers
191	192	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS : _____

SIGNED _____

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[redacted] HOLE LOG CVO-37

LINE _____ HOLE 20

DRILL _____ DATE 9-12-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	25	sand, caliche, sandstone
25	46	sandy clay, sandstone
46	110	sand & sandy clay
110	148	sand & gravel
148	157	yellow clay & lime
157	176	blue shale
176	193	sand & sandstone with stringers of clay
193	195	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS :

SIGNED

CVO-37 11-64 PRINTED IN U. S. A.

[redacted] HOLE LOG CVO-37

LINE _____ HOLE 21

DRILL _____ DATE 9-13-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	26	sandy clay, caliche
26	48	sand & sandstone
48	75	sand & sandy clay
75	147	sand & gravel with layers of clay
147	152	yellow clay & lime
152	175	blue shale
175	188	sand, sandstone, sandy clay
188	190	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS : _____

SIGNED _____

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CHEVRON OIL COMPANY HOLE LOG CVO-37

LINE _____ HOLE 22

DRILL _____ DATE 9-13-73

AREA _____

FROM	TO	FORMATIONS DRILLED
0	22	caliche & sandy clay
22	45	sand & sandstone
45	68	sand & sandy clay
68	146	sand & gravel with clay layers
146	156	yellow clay
156	177	blue shale
177	192	sand & sandstone
192	195	red bed

LOADED AT

EXPLOSIVES USED

CASING SET

REMARKS :

SIGNED

CVO-37 11-64 PRINTED IN U. S. A.

WELL LOG

S. P. No. 23 AREA

COUNTY STATE

DYN. LOADED DEPTH BOTTOM CHARGE

CAPS LOADED TRUCK No.

DATE 9-14-73

FROM	TO	FORMATION
0	23	sandy clay, caliche
23	50	sand & sandstone
50	67	sandy clay, sand
67	146	sand & gravel with clay layers
146	160	yellow clay & lime
160	182	layers of blue shale and sandstone
182	192	sand & sandstone
192	199	sandy clay & sand
199	200	red bed

WELL LOG

S. P. No. 24 AREA

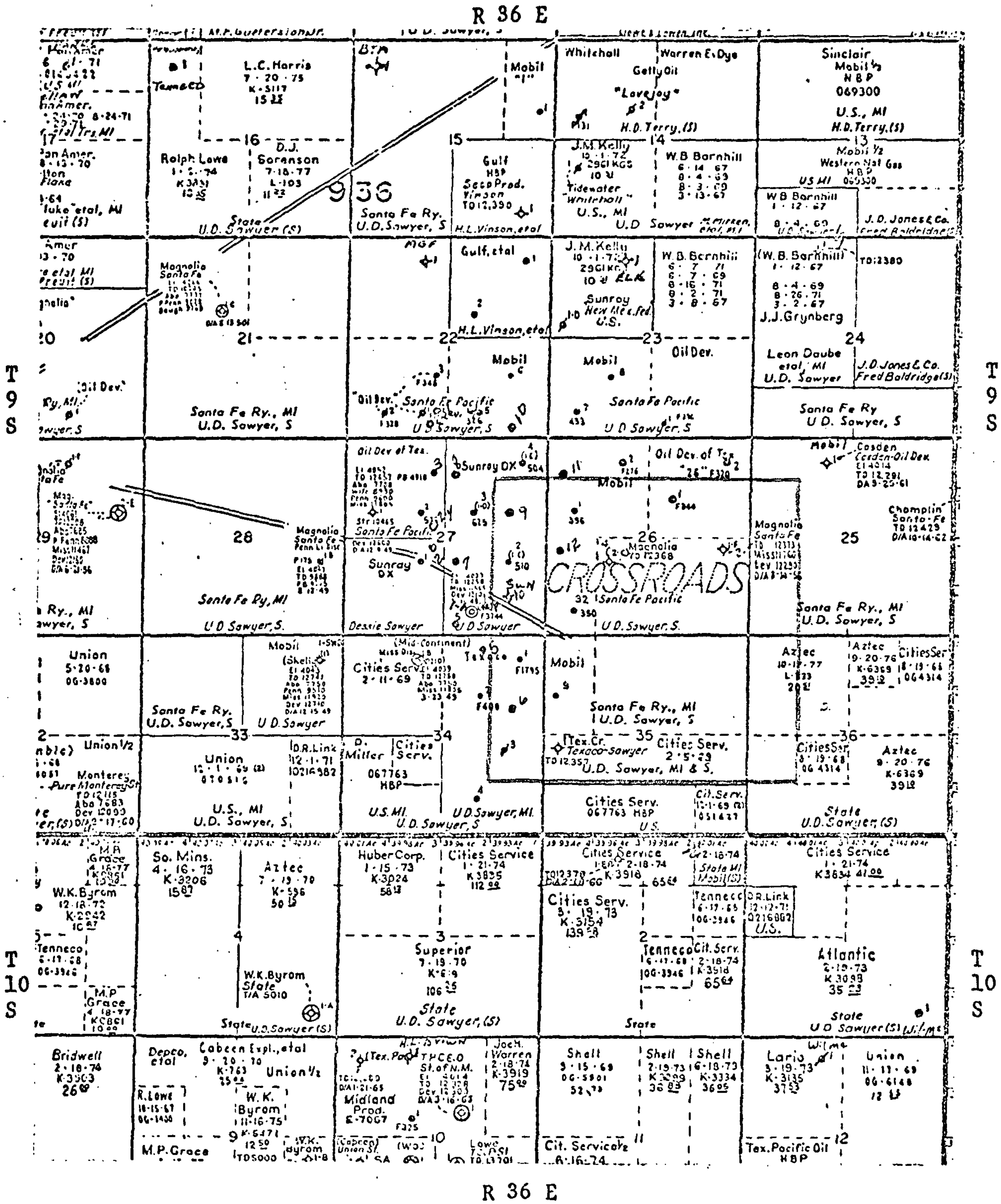
COUNTY STATE

DYN. LOADED DEPTH BOTTOM CHARGE

CAPS LOADED TRUCK No.

DATE 9-14-73

FROM	TO	FORMATION
0	25	sandy clay, caliche
25	52	sand & sandstone
52	70	sandy clay, sand
70	142	sand & gravel with clay layers
142	151	yellow clay & lime
151	172	blue shale & lime
172	189	sand, sandstone, sandy clay stringers
189	190	red bed



AREA OF STUDY FOR
CONTAMINATED WATER

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS **Well No.** TW-16

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit I, Section 27, T 9 S - R 36 E 300' ESE of Sun's Well #2

Type Well: Test Well **Depth:** 180 feet.

Well Use: Water Analysis

Sample Number: #38 **Date Taken:** 9-10-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 5765.0 PPM. Upper & Lower Water Zones Mixed

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-10-73 **By:** John W. Runyan
N.M.O.C.C.

Remarks: Top Blue Clay at 153'. No water above blue.
Top Red Beds at 178'. Very poor water sand.
Bailed sample #38 four hours after completing test hole.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-17

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit I, Section 27, T 9 S - R 36 E 700' directly in line with TW-16 and Mobil's doghouse (SE)

Type Well: Test well Depth: 180 feet.

Well Use: Water Analysis

Sample Number: #36 Date Taken: 9-10-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 13,290.0 PPM. Upper Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-10-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Top Blue Clay at 149'. Poor water sand.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-15

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit H, Section 35, T 9 S - R 36 E 700' (SE) 128° m.n. from TW-14

Type Well: Test Well Depth: 190 feet.

Well Use: Water Analysis

Sample Number: # 35 Date Taken: 9-1-73

Specific Conductance: _____ m/ℓ

Total dissolved Solids: _____ PPM.

Chlorides: 6,700.0 PPM.

Sulfates: _____ PPM.

LOWER WATER ZONE

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-1-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Base of the Blue Clay at 170'.

Top of the Red Beds at 188'

Sample from 170' to 188', fair water zone.

Sample has an extremely bitter taste besides the taste of salt. Sample has a more bitter taste then sample # 33 which has greater chloride (salt) content.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-15

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit H, Section 35, T 9 S - R 36 E 700' (SE) 128° m.n. from TW-14.

Type Well: Test Well Depth: 190 feet.

Well Use: Water Analysis

Sample Number: # 34 Date Taken: 9-1-73

Specific Conductance: _____ m/ohm

Total dissolved Solids: _____ PPM.

Chlorides: 6,900.0 PPM. UPPER WATER ZONE

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-1-73 By: John W. Runyan N.M.O.C.C.

Remarks: Top of the Blue Clay at 155'. Zone very poor: The sample has an extremely bitter taste besides the taste of salt. This sample has a more bitter taste then sample # 33 which has a greater chloride content.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-14

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit B, Sec 35, T 9 S - R 36 E 1000' (SE) 128° m.n. from TW-13

Type Well: Test Well Depth: 191 feet.

Well Use: Water Analysis

Sample Number: # 33 Date Taken: 9-1-73

Specific Conductance: _____ m/n

Total dissolved Solids: _____ PPM.

Chlorides: 11,750.0 PPM. LOWER WATER ZONE

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-1-73 By: John W Runyan
N.M.O.C.C.

Remarks: Base of the Blue Clay at 168'

Top of Red Beds at 190'

Sample from 168' to 190'. Fair water zone. Sample seems to have an additional bitter taste besides the taste of much salt.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-14

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit B, Section 35, T 9 S - R 36 E 1000' (SE) 128° m.n. from TW-13.

Type Well: Test Well Depth: 191 feet.

Well Use: Water analysis

Sample Number: # 32 Date Taken: 9-1-73

Specific Conductance: _____ m/ohm

Total dissolved Solids: _____ PPM.

Chlorides: 10,010.0 PPM.

Sulfates: _____ PPM.

UPPER WATER ZONE

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-1-73 By: Johnnie Runyan
N.M.O.C.C.

Remarks: Top Blue Clay at 151'. Zone above very poor; the sample seems to have an additional bitter taste besides the taste of much salt.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-13

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit B, Section 35, T 9 S - R 36 E 1000' (SE) 128° m.n. from TW-12. Change in line by 10° to east.

Type Well: Test Well Depth: 192 feet.

Well Use: Water Analysis

Sample Number: # 31 Date Taken: 8-31-73

Specific Conductance: _____ m/ℓ

Total dissolved Solids: _____ PPM.

Chlorides: 15,430.0 PPM.

LOWER WATER ZONE

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-31-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Base of Blue Clay at 175'

Top of Red Beds at 192'. Sample from 175' to 192'.

Strong water zone.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-13

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit B, Section 35, T 9 S - R 36 E 1000' (SE) 128° m.n. from TW-12. Change in line by 10° to east.

Type Well: Test Well Depth: 192 feet.

Well Use: Water Analysis

Sample Number: # 30 Date Taken: 8-31-73

Specific Conductance: _____ m/ohm

Total dissolved Solids: _____ PPM.

Chlorides: 11,920.0 PPM.

Sulfates: _____ PPM.

UPPER WATER ZONE

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-31-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Sample from above blue Clay. Top Blue Clay at 154'
Poor water sand.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-12

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit O, Section 26, T 9 S - R 36 E 900' (SE) 138° m.n. from TW-10

Type Well: Test Well Depth: 190 feet.

Well Use: Water Analysis

Sample Number: #29 Date Taken: 8-31-73

Specific Conductance: _____ m/ɔ

Total dissolved Solids: _____ PPM.

LOWER WATER ZONE

Chlorides: 16,500.0 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-31-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Bottom of the Blue Clay at 176'

Top of the Red Beds at 189'

Sample from 176' - 189'. Poor water sand.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-12

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit O, Section 26, T 9 S - R 36 E 900' (SE) 138° m.n. from TW-10

Type Well: Test Well Depth: 190 feet.

Well Use: Water Analysis

Sample Number: # 28 Date Taken: 8-31-73

Specific Conductance: _____ m/ɔ

Total dissolved Solids: _____ PPM.

Chlorides: 13,300.0 PPM.

UPPER WATER ZONE

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-31-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Top Blue Clay at 153'
Very little water in this zone

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-11

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit N, Section 26, T 9 S - R 36 E

500' (SW) - 228° m.n. - from TW-10

Type Well: Test well Depth: 190 feet.

Well Use: Water analysis

Sample Number: # 27 Date Taken: 8-30-73

Specific Conductance: _____ m/ℓ

Total dissolved Solids: _____ PPM.

Chlorides: 4785.0 PPM.

Sulfates: _____ PPM.

LOWER WATER ZONE

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-30-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Bottom of Blue Clay at 173'

Top Red Beds at 188'

strong water sand.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-11

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit N, Section 26, T 9 S - R 36 E

500' (SW) - 228° m.n. - from TW-10

Type Well: Test Well Depth: 190 feet.

Well Use: Water analysis

Sample Number: # 26 Date Taken: 8-30-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 3810.0 PPM.

Sulfates: _____ PPM.

UPPER WATER ZONE

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-30-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Top of Blue Clay at 154'

poor water sand.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-10

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit N, Section 26, T 9 S - R 36 E

800' (SE) - 138° m.n. - from TW-4.

Type Well: Test well Depth: 190 feet.

Well Use: Water analysis

Sample Number: # 25 Date Taken: 8-30-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 10,620.0 PPM.

Sulfates: _____ PPM.

LOWER WATER ZONE

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-30-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Bottom of blue clay @ 174'

Top of Red Beds @ 181'

Fair water sand from 5 - 10 gal./min.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-10

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit N, Section 26, T 9 S - R 36 E

800' (SE) - 138° m.n.) from TW-4.

Type Well: Test Well Depth: 190 feet.

Well Use: Water analysis

Sample Number: # 24 Date Taken: 8-30-73

Specific Conductance: _____ m/ℓ

Total dissolved Solids: _____ PPM.

Chlorides: 9590.0 PPM.

Sulfates: _____ PPM.

UPPER WATER ZONE

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-30-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Sample taken above Blue Clay @ 153'

Very little water in this zone.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-9

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit L, Section 26, T 9 S - R 36 E 500' due west (270° m.n.) of Mobil's (P&A) well #4.

Type Well: Test Well Depth: 195 feet.

Well Use: Water Analysis

Sample Number: # 23 Date Taken: 8-29-73

Specific Conductance: _____ m/ₘ

Total dissolved Solids: _____ PPM.

Chlorides: 78.0 PPM. LOWER WATER ZONE

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-29-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Bottom of Blue Clay 182'

Top Red Beds @ 193'

Good water sand 182' - 193'. Est. 10-12 gal./min.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-9

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit L, Section 26, T 9 S - R 36 E 500' due west (270° m.n.) of Mobil's (P&A) well #4.

Type Well: Test Well Depth: 195 feet.

Well Use: Water Analysis

Sample Number: # 22 Date Taken: 8-29-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 78.1 PPM.

Sulfates: _____ PPM.

UPPER WATER ZONE

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-30-73 By: John W. Runyan
N.M.O.C.C.

Remarks: No water above 135'

Top Blue Clay @ 148' Very little water between 135 - 148'

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-8

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit F, Section 26, T 9 S - R 36 E

520' due north of Mobil's (P&A) well #4.

Type Well: Test Well Depth: 185 feet.

Well Use: Water analysis

Sample Number: # 21 Date Taken: 8-29-73

Specific Conductance: _____ m/ₒ

Total dissolved Solids: _____ PPM.

Chlorides: 85.2 PPM. LOWER WATER ZONE

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-29-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Sample taken from between the Blue Clay and Red Beds, 161 - 184'.
Very good water sand, estimated 15+ gal/min.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-8

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit F, Section 26, T 19 S - R 36 E

520° feet due north of Mobil's (P&A) well #4

Type Well: Test Well Depth: 185 feet.

Well Use: Water analysis

Sample Number: # 20 Date Taken: 8-29-73

Specific Conductance: _____ m/ɔ

Total dissolved Solids: _____ PPM.

Chlorides: 81.6 PPM.

Sulfates: _____ PPM.

UPPER WATER ZONE

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-29-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Sand & Gravel @ 49 - 148'

Top Blue Clay @ 151'

Fair - good amount of water.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-7

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit J, Section 26, T 9 S - R 36 E

320 feet due east (90° m.n.) of TW-5

Type Well: Test Well Depth: 185 feet.

Well Use: Water analysis

Sample Number: # 19 Date Taken: 8-28-73

Specific Conductance: _____ m/ɔ

Total dissolved Solids: _____ PPM.

Chlorides: 156.0 PPM.

Sulfates: _____ PPM.

LOWER WATER ZONE

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-28-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Top of Red Beds at 183'

Fair water sand.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-7

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit J, Section 26, T 9 S - R 36 E

320 feet due east (90° m.n.) of TW-5

Type Well: Test Well Depth: 185 feet.

Well Use: Water analysis

Sample Number: # 18 Date Taken: 8-28-73

Specific Conductance: _____ m/ℓ

Total dissolved Solids: _____ PPM.

Chlorides: 94.3 PPM.

Sulfates: _____ PPM.

UPPER WATER SAND

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-29-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Top Blue Clay at 154'. Very little water in zone.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-6

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit K, Section 26, T 9 S - R 36 E 200' at 97° (M.N.) from abd. Mobil Batt. Also, 220° to Mobil's well #3 & 360° to Mobil's well #4.

Type Well: Test Well Depth: 185 feet.

Well Use: Water analysis

Sample Number: # 17 Date Taken: 8-28-73

Specific Conductance: _____ m/ℓ

Total dissolved Solids: _____ PPM.

Chlorides: 3230.0 PPM.

LOWER WATER SAND

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-28-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Bottom Blue Clay @ 165'

Top of the Red Beds @ 184'

Fair water sand.

TW-6 is also 220° to Mobils well #3 and 360° to Mobils well #4.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-6

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit K, Section 26, T 9 S - R 36 E 200' at 97° (m.n.) from abd. Mobil Batt. Also, 220° to Mobil's well #3 & 360° to Mobil's well #4.

Type Well: Test well Depth: 185 feet.

Well Use: Water Analysis

Sample Number: #16 Date Taken: 8-28-73

Specific Conductance: _____ m/ɔ

Total dissolved Solids: _____ PPM.

Chlorides: 2690.0 PPM.

Sulfates: _____ PPM.

UPPER WATER SAND

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-28-73 By: John W. Runyan N.M.O.C.C.

Remarks: Sample from immediate above the Blue Clay @ 148'

Poor Water sand.

TW-6 is also 220o m.n. to Mobils #3 and 360o to Mobils #4.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-5

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit J?, Section 26, T 9 S - R 36 E 260' east and 60' south of mobils - Santa Fe Pacific #4

Type Well: Test Well Depth: 188 feet.

Well Use: Water analysis

Sample Number: #15 Date Taken: 8-27-73

Specific Conductance: _____ m/ℓ

Total dissolved Solids: _____ PPM.

Chlorides: 5765.0 PPM.

LOWER WATER ZONE

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-27-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Sample from 176' - 186', between the blue & red clay. This zone has a fair water sand, est. 8-10 gal. per minute.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-5

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit J?, Section 26, T 9 S - R 36 E 260' east and 60' South of Mobils - Santa Fe Pacific #4

Type Well: Test Well Depth: 188 feet.

Well Use: Water analysis

Sample Number: #14 Date Taken: 8-27-73

Specific Conductance: _____ m/ℓ

Total dissolved Solids: _____ PPM.

Chlorides: 3996.0 PPM.

Sulfates: _____ PPM.

UPPER WATER ZONE

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-27-73 By: John W. Runyan
N.M.O.C.C.

Remarks:

Sample taken immediate above the Blue Clay. Top of Blue Clay at 176'.

Poor water sand.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-4

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit K, Section 26, T 9 S - R 36 E Test hole loc. 140' due south of disposal pit & 300' ESE of Mobil - Santa Fe Pacific #4

Type Well: Test Well Depth: 190 feet.

Well Use: Water Analysis

Sample Number: #13 Date Taken: 8-27-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

LOWER WATER ZONE

Chlorides: 7412.0 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-27-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Sample between blue clay and red beds. Top red bed 185'. Poor water sand.

Mobil - Santa Fe Pacific #4 is located 1980 S. & 1650 W., sec. 26 - 9 - 36.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-4

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit K, Section 26, T 9 S - R 36 E Test hole loc. 140' due south of disposal pit & ESE of Mobil - Santa Fe Pacific #4 by 300'

Type Well: Test Well Depth: 190 feet.

Well Use: Water Analysis

Sample Number: #12 Date Taken: 8-27-73

Specific Conductance: _____ m/ℳ

Total dissolved Solids: _____ PPM.

UPPER WATER ZONE

Chlorides: 6515.0 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-27-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Mobil's - Santa Fe Pacific #4 is located 1980 S. & 1650 W. Sample from immediately above the blue clay @ 145 - 152'. Weak water sand. Top of Blue Clay at 155'.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-3

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit M, Section 26, T 19 S - R 36 E 500' (ESE) at 104° M.N. from Mobils- Santa Fe Pacific #3 -- 660 W. & 660 S.

Type Well: Test Well Depth: 190 feet.

Well Use: Water Analysis

Sample Number: # 11 Date Taken: 8-24-73

Specific Conductance: _____ m/ₘ

Total dissolved Solids: _____ PPM.

Chlorides: 7925.0 PPM.

Sulfates: _____ PPM.

LOWER WATER ZONE

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-24-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Water zone between blue clay and redbeds, 182 -189'
Weak water sand.

From TW-3 to TW-11 is 53° (M.N.) and 775'.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-3

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit M, Section 26, T 19 S - R 36 E 500' (ESE) at 104°

Magnetic north from Mobils - Santa Fe Pacific #3 -- 660 W. & 660 S.

Type Well: Test Well Depth: 190 feet.

Well Use: Water Analysis

Sample Number: # 10 Date Taken: 8-24-73

Specific Conductance: _____ m/ohm

Total dissolved Solids: _____ PPM.

Chlorides: 7100.0 PPM.

Sulfates: _____ PPM.

UPPER WATER ZONE

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-24-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Water sample from zone immediately above the Blue Clay at 144'. Very little water in zone.

From TW-3 to TW-11 is 53° (M.N.) and 775'.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-2

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit P, Section 34, T 9 S - R 36 E 300 feet due east of Texaco - U.D. Sawyer #1

Type Well: Test well Depth: 178 feet.

Well Use: Water analysis

Sample Number: None Date Taken: 8-24-73

Specific Conductance: _____ m/ɔ

Total dissolved Solids: _____ PPM.

Chlorides: _____ PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: _____ By: John W. Runyan
N.M.O.C.C.

Remarks: No water found. Both test wells are in line between Texaco's pit and the ranch house.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. TW-1

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit P, Section 34, T 9 S - R 36 E 300' FSE of Texaco SWD emergancy pit & 200' SE of Texaco - U.D. Sawyer #1 P-34-9-36

Type Well: Test well Depth: 200 feet.

Well Use: Water analysis

Sample Number: None Date Taken: 8-23-73

Specific Conductance: _____ m/ɾ

Total dissolved Solids: _____ PPM.

Chlorides: _____ PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: _____ By: John W. Runyan
N.M.O.C.C.

Remarks: No water encountered.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. _____

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit E, Section 36, T 9 S - R 36 E "East Mill"

approx. ¼ mile due east of ranch house.

Type Well: Windmill Depth: 170+ feet.

Well Use: Stock

Sample Number: # 9 Date Taken: 8-23-73

Specific Conductance: _____ m/ɾ

Total dissolved Solids: _____ PPM.

Chlorides: 177.5 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-23-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Mill was pumping when sample was taken.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. _____

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit P, Section 14, T 9 S - R 36 E "North Pasture"

Approx. 2½ miles due north of ranch house.

Type Well: Electric Pump Depth: _____ feet.

Well Use: Stock

Sample Number: # 8 Date Taken: 8-23-73

Specific Conductance: _____ m/ℓ

Total dissolved Solids: _____ PPM.

Chlorides: 128.0 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-24-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Took sample from well after pumping for few minutes.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS **Well No.** Re-entry TW-1

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit A, Section 34, T 9 S - R 36 E 300' due east of Texaco, U.D. Sawyer #1 (well in A-34-9-36).

Type Well: Test well **Depth:** 178 feet.

Well Use: Water analysis

Sample Number: #57 **Date Taken:** 9-17-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 85.2 PPM. Upper and Lower Zones mixed

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-17-73 **By:** John W. Runyan
N.M.O.C.C.

Remarks: Re-entered TW-1 and bailed water sample. Refer to original page on Tw-1.

Could not re-enter TW-2 due to caved hole.

Sample #58 -- house well, 9-17-73, was 78.1 PPM chlorides -- no change.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-26

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit D, Section 35, T 9 S - R 36 E 900' (WSW) in line from TW-25 toward Texaco's battery

Type Well: Test well Depth: 186 feet.

Well Use: Water Analysis

Sample Number: #56 Date Taken: 9-17-73

Specific Conductance: _____ m/ɾ

Total dissolved Solids: _____ PPM.

Chlorides: 85.2 PPM. Lower Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-17-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Top of Blue Clay at 140'. Bottom of Blue Clay at 151'.
Top of Red Beds at 184'. Good water sand -- fresh.
Note: No water was obtained from zone above blue clay -- dry.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-25

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit C, Section 35, T 9 S - R 36 E 900' (WSW) in line from TW-24 toward Texaco's battery

Type Well: Test Well Depth: 192 feet.

Well Use: Water Analysis

Sample Number: #55 Date Taken: 9-17-73

Specific Conductance: _____ m/ɾ

Total dissolved Solids: _____ PPM.

Chlorides: 71.0 PPM. Lower Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-17-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Bottom of Blue Clay at 160'. Top of Red Beds at 191'.
Good water sand -- fresh.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-25

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit C, Section 35, T 9 S - R 36 E 900' (WSW) in line from TW-24 toward Texaco's battery

Type Well: Test Well Depth: 192 feet.

Well Use: Water Analysis

Sample Number: #54 Date Taken: 9-17-73

Specific Conductance: _____ m/ohm

Total dissolved Solids: _____ PPM.

Chlorides: 142.0 PPM. Upper Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-17-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Top of blue clay at 148'. Poor water sand -- fresh

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-24

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit C, Section 35, T 9 S - R 36 E 900' (WSW) in line from TW-13 toward Texaco's battery.

Type Well: Test Well Depth: 190 feet.

Well Use: Water Analysis

Sample Number: #53 Date Taken: 9-14-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 3795.0 PPM. Lower water zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-14-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Bottom of blue clay at 172'. Top of Red Beds at 189'.
Fairly strong water sand - contaminated.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-24

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit C, Section 35, T 9 S - R 36 E 900' (WSW) in line from TW-13 toward Texaco's battery.

Type Well: Test well Depth: 190 feet.

Well Use: Water Analysis

Sample Number: #52 Date Taken: 9-14-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 3400.0 PPM. Upper Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-14-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Top of Blue Clay at 151'. Fairly good water sand -- very bitter taste -- contaminated.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS **Well No.** _____

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit ___, Section ___, T ___ S - R ___ E North pasture by steer pasture cattle guard.

Type Well: Cased water well **Depth:** ? feet.

Well Use: Stock -- not in use at present

Sample Number: #51 **Date Taken:** 9-14-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 49.7 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-17-73 **By:** John W. Runyan
N.M.O.C.C.

Remarks: Good water zone -- fresh

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-23

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit G, Section 35, T 9 S - R 36 E 900' due west of TW-15

Type Well: Test Well Depth: 200 feet.

Well Use: Water analysis

Sample Number: #50 Date Taken: 9-14-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 1360.0 PPM. Lower water zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-14-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Bottom of blue clay at 182'. Top of red beds at 199'.
Poor water sand -- contaminated.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS **Well No.** TW-23

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit G, Section 35, T 9 S - R 36 E 900' due west of TW-15.

Type Well: Test well **Depth:** 200 feet.

Well Use: Water analysis

Sample Number: #49 **Date Taken:** 9-14-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 2070.0 PPM. Upper water zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-14-73 **By:** John W. Runyan
N.M.O.C.C.

Remarks: Top of blue clay at 160'. Fair water sand -- contaminated.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS **Well No.** TW-22

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit A, Section 35, T 9 S - R 36 E 600' down (south) ranch road and 600' east of ranch road.

Type Well: Test Well **Depth:** 195 feet.

Well Use: Water Analysis

Sample Number: #48 **Date Taken:** 9-13-73

Specific Conductance: _____ m/ohm

Total dissolved Solids: _____ PPM.

Chlorides: 156.2 PPM. Lower Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-13-73 **By:** John W. Runyan
N.M.O.C.C.

Remarks: Bottom of Blue Clay at 177'. Top of Red Beds at 192'.
Good water zone -- fairly strong and fresh.
Sea shells encountered just below blue clay.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-22

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit A, Section 35, T 9 S - R 36 E 600' down (south) ranch road and 600' east of ranch road.

Type Well: Test Well Depth: 195 feet.

Well Use: Water Analysis

Sample Number: #47 Date Taken: 9-13-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 170.0 PPM. Upper Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-13-73 By: John W. Runyan N.M.O.C.C.

Remarks: Top of Blue Clay at 156'. Poor water zone.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-21

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit O, Section 26, T 9 S - R 36 E 900' ESE (38°) from TW-12

Type Well: Test Well Depth: 190 feet.

Well Use: Water Analysis

Sample Number: #46 Date Taken: 9-13-73

Specific Conductance: _____ m/m

Total dissolved Solids: _____ PPM.

Chlorides: 1771.0 PPM. Lower Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-13-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Bottom of Blue Clay at 175'. Top of Red Beds at 188'.
Good strong water zone -- contaminated.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-21

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit O, Section 26, T 9 S - R 36 E 900' ESE (38°) from TW-12.

Type Well: Test Well Depth: 190 feet.

Well Use: Water Analysis

Sample Number: #45 Date Taken: 9-13-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 3060.0 PPM. Upper Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-13-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Top Blue Clay at 152'. Good water sand -- contaminated.
Sea shell from just below blue clay.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. _____

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit M, Section 16, T 9 S - R 36 E "West Pasture - N. Mill"

Approx. 2 miles NW of the Ranch house.

Type Well: Windmill Depth: ____ feet.

Well Use: Stock

Sample Number: # 7 Date Taken: 8-23-73

Specific Conductance: _____ m/ɾ

Total dissolved Solids: _____ PPM.

Chlorides: 78.1 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-24-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Mill was pumping when sample was taken.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS **Well No.** TW-20

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit P, Section 26, T 9 S - R 36 E 300' due North of Junction of ranch road and highway.

Type Well: Test Well **Depth:** 195 feet.

Well Use: Water Analysis

Sample Number: #44 **Date Taken:** 9-12-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 142.0 PPM. Lower Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-12-73 **By:** John W. Runyan
N.M.O.C.C.

Remarks: Bottom of Blue Clay at 176'. Top of Red Beds at 193'.
Good water zone -- fresh.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-20

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit P, Section 26, T 9 S - R 36 E 300' due north of junction of ranch road and highway.

Type Well: Test Well Depth: 195 feet.

Well Use: Water Analysis

Sample Number: #43 Date Taken: 9-12-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 142.0 PPM. Upper Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-12-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Top Blue Clay at 157'. Fair water sand.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS **Well No.** TW-19

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit J, Section 26, T 9 S - R 36 E 1000' due South of TW-18 in line with ranch house.

Type Well: Test Well **Depth:** 192 feet.

Well Use: Water Analysis

Sample Number: #42 **Date Taken:** 9-12-73

Specific Conductance: _____ m/ɾ

Total dissolved Solids: _____ PPM.

Chlorides: 135.0 PPM. Lower Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-12-73 **By:** John W. Runyan
N.M.O.C.C.

Remarks: Bottom Blue Clay at 166'. Top Red Beds at 191'. Strong Water Zone.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-19

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit J, Section 26, T 9 S - R 36 E 1000' due south of TW-18 in line with ranch house.

Type Well: Test Well Depth: 192 feet.

Well Use: Water Analysis

Sample Number: #41 Date Taken: 9-12-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 142.0 PPM. Upper Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-12-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Top Blue Clay at 155'. Poor water zone.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-18

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit G, Section 26, T 9 S - R 36 E 300' south of Oil Development of Texas battery pit.

Type Well: Test Well Depth: 192 feet.

Well Use: Water Analysis

Sample Number: #40 Date Taken: 9-11-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 582.0 PPM. Lower Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-11-73 By: John W Runyan
N.M.O.C.C.

Remarks: Base Blue Clay at 187'. Top Red Beds at 191'.
Good strong water sand.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-18

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit G, Section 26, T 9 S - R 36 E 300' due south of Oil Development of Texas pit

Type Well: Test Well Depth: 192 feet.

Well Use: Water Analysis

Sample Number: #39 Date Taken: 9-11-73

Specific Conductance: _____ m/ohm

Total dissolved Solids: _____ PPM.

Chlorides: 3690.0 PPM. Upper Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-11-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Top Blue Clay at 158'. Poor water zone.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: BOBBY LEWIS Well No. TW-17

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit I, Section 27, T 9 S - R 36 E 700' of TW-16 in line with ranch house (SE).

Type Well: Test Well Depth: 180 feet.

Well Use: Water Analysis

Sample Number: #37 Date Taken: 9-10-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 14270.0 PPM. Lower Water Zone

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☐ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 9-10-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Top Red Beds at 178'. Poor water zone.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. _____

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit J, Section 29, T 9 S - R 36 E "South Mill - West Pasture" Approx. 2 3/4 miles WNW of the ranch house.

Type Well: Windmill Depth: ____ feet.

Well Use: Stock

Sample Number: # 6 Date Taken: 8-23-73

Specific Conductance: _____ m/ɔ

Total dissolved Solids: _____ PPM.

Chlorides: 82.0 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-24-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Mill was pumping when sample was taken.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. _____

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit D, Section 27, T 9 S - R 36 E "North Pasture"

NW of ranch house across highway. Approx. 2¼ miles from house.

Type Well: Windmill Depth: _____ feet.

Well Use: Stock

Sample Number: # 5 Date Taken: 8-23-73

Specific Conductance: _____ m/ɔ

Total dissolved Solids: _____ PPM.

Chlorides: 64.0 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-24-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Mill pumping when sample was taken.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. _____

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit J, Section 4, T 10 S - R 36 E "Steer Pasture",

Approx. 2¼ miles southwest from ranch house

Type Well: Windmill Depth: ____ feet.

Well Use: Stock

Sample Number: # 4 Date Taken: 8-24-73

Specific Conductance: _____ m/ohm

Total dissolved Solids: _____ PPM.

Chlorides: 74.5 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☐ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-24-73 By: John W. Runyan
N.M.O.C.C.

Remarks: Mill pumping when sample was taken.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. _____

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit H, Section 35, T 9 S - R 36 E "Ranch House"

New well just SW of house

Type Well: Electric Pump Depth: ____ feet.

Well Use: House use.

Sample Number: # 3 Date Taken: 8-23-73

Specific Conductance: _____ m/ɾ

Total dissolved Solids: _____ PPM.

Chlorides: 78.1 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☒ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-23-73 By: John W. Runyan
N.M.O.C.C.

Remarks:

RERUN well 9-1-73, Chlorides still 78.1 PPM., No change. Sample # 36.

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. _____

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit H, Section 35, T 9 S - R 36 E "Ranch House"

Windmill - Red Mill.

Type Well: Windmill Depth: 170 feet.

Well Use: Stock tank at house & yard water

Sample Number: # 2 Date Taken: 8-23-73

Specific Conductance: _____ m/

Total dissolved Solids: _____ PPM.

Chlorides: 1573.0 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☒ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-23-73 By: John W. Runyan
N.M.O.C.C.

Remarks: _____

NEW MEXICO OIL CONSERVATION COMMISSION
Hobbs, New Mexico

WATER ANALYSIS

Well Ownership: Bobby Lewis Well No. _____

Land Status: ☐ State ☐ Federal ☒ Fee

Well Location: Unit H, Section 35, T 9 S - R 36 E "Ranch House"

Type Well: Electric pump" Depth: ____ feet.

Well Use: House Use*

Sample Number: # 1A Date Taken: 8-23-73

Specific Conductance: _____ m/ℓ

Total dissolved Solids: _____ PPM.

Chlorides: 1285.0 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: ☒ V. low ☐ Low ☐ Med. ☐ High

Sulfides: ☒ None ☐ Low ☐ Med. ☐ High

_____ : _____

Date Analized: 8-23-73 By: John W. Runyan
N.M.O.C.C.

Remarks: * Used as house supply until it became contamiated.

API #	District	Type	Last Production / Injection	Well Name and Number	OGRID	Operator	ULSTR	OCD Unit Letter	FNS	FEW	Depth	Surface Owner	Federal Minerals	Operator's Proposed Action/Date and Comments	OCD Action/Date and Comments	Date Resolved	Blanket Bond	Single Well Bond
30-025-00238	HOBBS	O	02-1998	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	A-07-13S-32E	A	660N	660E	3053	P					100000	0
30-025-00234	HOBBS	I	12-1992	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	2-06-13S-32E	B	654N	1982E	3038	S					100000	0
30-025-24595	HOBBS	O	12-1996	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	B-07-13S-32E	B	1310N	1330E	3097	P					100000	0
30-025-00213	HOBBS	O	02-1974	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	3-05-13S-32E	C	660N	1980W	3062	S					100000	0
30-025-00223	HOBBS	O	01-1974	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	3-06-13S-32E	C	660N	1980W	3050	S					100000	0
30-025-00253	HOBBS	O	01-1976	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	C-07-13S-32E	C	660N	1980W	3070	S					100000	0
30-025-00264	HOBBS	I	12-1992	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	D-08-13S-32E	D	660N	660W	3063	P					100000	0
30-025-24596	HOBBS	O	02-1998	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	D-08-13S-32E	D	1310N	10W	3096	P					100000	0
30-025-00214	HOBBS	O	02-1974	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	E-05-13S-32E	E	1980N	660W	3090	S					100000	0
30-025-00257	HOBBS	O	01-1986	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	E-08-13S-32E	E	1980N	660W	3068	P					100000	0
30-025-00208	HOBBS	I	12-1992	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	F-32-12S-32E	F	1980N	1981W	3048	S					100000	0
30-025-00239	HOBBS	I	12-1992	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	F-07-13S-32E	F	1980N	2043W	3053	S					100000	0
30-025-00259	HOBBS	I	12-1992	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	F-08-13S-32E	F	1980N	1980W	3075	P					100000	0
30-025-00222	HOBBS	I	01-1994	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	F-06-13S-32E	F	1980N	1980W	3053	S					100000	0
30-025-00205	HOBBS	O	08-1995	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	G-32-12S-32E	G	1980N	1980E	3051	S					100000	0
30-025-00233	HOBBS	O	07-1989	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	G-06-13S-32E	G	1980N	1980E	3050	S					100000	0
30-025-00236	HOBBS	O	02-1998	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	G-07-13S-32E	G	1980N	1980E	3053	P					100000	0
30-025-00245	HOBBS	I	12-1992	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	H-07-13S-32E	H	1897N	723E	3070	P					100000	0
30-025-00235	HOBBS	O	12-1996	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	I-06-13S-32E	I	1980S	660E	3055	S					100000	0
30-025-00254	HOBBS	O	02-1998	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	I-07-13S-32E	I	1980S	660E	3060	P					100000	0
30-025-00202	HOBBS	I	10-1993	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	J-32-12S-32E	J	1980S	1980E	3047	S					100000	0
30-025-24597	HOBBS	O	02-1998	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	J-07-13S-32E	J	2630S	1330E	3094	P					100000	0
30-025-00230	HOBBS	O	12-1996	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	K-06-13S-32E	K	1980S	1980W	3053	S					100000	0
30-025-00244	HOBBS	O	02-1998	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	K-07-13S-32E	K	1880S	1980W	3068	S					100000	0
30-025-00263	HOBBS	O	12-1992	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	K-08-13S-32E	K	1650S	1980W	3085	P					100000	0
30-025-00209	HOBBS	I	01-1995	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	L-32-12S-32E	L	1980S	660W	3036	S					100000	0
30-025-00216	HOBBS	I	12-1992	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	L-05-13S-32E	L	1980S	660W	3077	S					100000	0
30-025-00229	HOBBS	I	12-1992	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	6-06-13S-32E	L	3300N	4620E	3032	S					100000	0
30-025-00260	HOBBS	I	12-1992	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	L-08-13S-32E	L	1650S	660W	3072	P					100000	0
30-025-00200	HOBBS	I	07-1994	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	M-32-12S-32E	M	660S	660W	3045	S					100000	0
30-025-00261	HOBBS	O	02-1974	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	M-08-13S-32E	M	330S	660W	3071	P					100000	0
30-025-00206	HOBBS	I	12-1992	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	N-32-12S-32E	N	660S	1978W	3043	S					100000	0
30-025-00232	HOBBS	I	12-1992	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	N-06-13S-32E	N	660S	1980W	3059	S					100000	0
30-025-00262	HOBBS	I	12-1992	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	N-08-13S-32E	N	330S	1980W	3070	P					100000	0
30-025-00227	HOBBS	O	12-1996	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	O-06-13S-32E	O	660S	1980E	3048	S					100000	0
30-025-00179	HOBBS	I	12-1992	NORTH CAPROCK QUEEN UNIT #0	148869	SIERRA BLANCA OPER	P-30-12S-32E	P	660S	810E	4385	S					100000	0
30-025-00131	HOBBS	I	12-1992	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	L-16-12S-32E	L	1650S	990W	3025	S					100000	0
30-025-00133	HOBBS	O	02-1995	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	K-16-12S-32E	K	1980S	1980W	3035	S					100000	0
30-025-00135	HOBBS	I	07-1993	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	J-16-12S-32E	J	1980S	1980E	3050	S					100000	0
30-025-00129	HOBBS	O	11-1986	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	I-16-12S-32E	I	1980S	660E	3048	S					100000	0
30-025-00124	HOBBS	I	11-1994	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	L-15-12S-32E	L	1980S	660W	3020	P					100000	0

API #	District	Type	Last Production / Injection	Well Name and Number	OGRID	Operator	ULSTR	OCD Unit Letter	FNS	FEW	Depth	Surface Owner	Federal Minerals	Operator's Proposed Action/Date and Comments	OCD Action/Date and Comments	Date Resolved	Blanket Bond	Single Well Bond
30-025-00138	HOBBS	I	12-1992	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	P-17-12S-32E	P	731S	589E	3100	S					100000	0
30-025-00132	HOBBS	O	02-1998	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	M-16-12S-32E	M	660S	660W	3028	S					100000	0
30-025-00134	HOBBS	I	03-1991	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	N-16-12S-32E	N	660S	1980W	3023	S					100000	0
30-025-00136	HOBBS	O	02-1998	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	O-16-12S-32E	O	660S	1980E	3025	S					100000	0
30-025-00137	HOBBS	I	12-1992	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	P-16-12S-32E	P	660S	660E	3055	S					100000	0
30-025-00125	HOBBS	O	04-1998	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	O-15-12S-32E	O	330S	1650E	3016	P					100000	0
30-025-00126	HOBBS	I	04-1998	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	P-15-12S-32E	P	660S	660E	3017	P					100000	0
30-025-00120	HOBBS	O	03-1991	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	M-14-12S-32E	M	660S	660W	3014	P					100000	0
30-025-00121	HOBBS	I	12-1992	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	N-14-12S-32E	N	330S	1650W	3015	P					100000	0
30-025-00148	HOBBS	I	12-1992	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	B-20-12S-32E	B	660N	1983E	3049	S					100000	0
30-025-00147	HOBBS	O	03-1991	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	A-20-12S-32E	A	660N	660E	3025	S					100000	0
30-025-00151	HOBBS	I	12-1992	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	D-21-12S-32E	D	660N	660W	3028	S					100000	0
30-025-00153	HOBBS	O	11-1986	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	C-21-12S-32E	C	660N	1980W	3027	S					100000	0
30-025-00155	HOBBS	I	12-1992	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	B-21-12S-32E	B	660N	1980E	3047	F	F				100000	0
30-025-00156	HOBBS	O	09-1991	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	A-21-12S-32E	R	330N	990E	3040	F	F				100000	0
30-025-00161	HOBBS	I	11-1994	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	D-22-12S-32E	D	660N	660W	3075	F	F				100000	0
30-025-00162	HOBBS	O	02-1995	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	C-22-12S-32E	C	660N	1980W	3088	F	F				100000	0
30-025-00160	HOBBS	I	12-1992	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	B-22-12S-32E	B	660N	1981E	3038	S					100000	0
30-025-00167	HOBBS	I	12-1992	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	D-23-12S-32E	D	660N	660W	9029	S					100000	0
30-025-00168	HOBBS	I	08-1984	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	C-23-12S-32E	C	330N	1650W	3015	S					100000	0
30-025-00145	HOBBS	O	04-1986	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	G-20-12S-32E	G	1980N	1980E	3032	S					100000	0
30-025-00149	HOBBS	I	12-1992	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	H-20-12S-32E	H	1980N	661E	3041	S					100000	0
30-025-00152	HOBBS	O	04-1986	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	E-21-12S-32E	E	1980N	660W	3028	S					100000	0
30-025-00154	HOBBS	I	04-1998	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	F-21-12S-32E	F	1980N	1980W	3036	S					100000	0
30-025-00163	HOBBS	I	12-1992	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	H-22-12S-32E	H	1650N	560E	3050	S					100000	0
30-025-00165	HOBBS	O	03-1991	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	E-23-12S-32E	E	1980N	660W	8964	S					100000	0
30-025-00169	HOBBS	I	12-1992	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	F-23-12S-32E	F	1980N	1980W	8650	S					100000	0
30-025-00150	HOBBS	I	12-1992	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	L-21-12S-32E	L	2310S	330W	3029	P					100000	0
30-025-28581	HOBBS	O	02-1998	NORTHEAST CAPROCK QUEEN U	148869	SIERRA BLANCA OPER	N-16-12S-32E	N	1265S	2565W	3100	S					100000	0
30-025-08073	HOBBS	O	05-1996	YOUNG UNIT #002	148869	SIERRA BLANCA OPER	D-16-18S-32E	D	660N	660W	3870	S					100000	0
30-025-08078	HOBBS	I	12-1992	YOUNG UNIT #003	148869	SIERRA BLANCA OPER	A-17-18S-32E	A	660N	330E	3850	F	F				100000	0
30-025-08084	HOBBS	I	12-1992	YOUNG UNIT #005	148869	SIERRA BLANCA OPER	G-17-18S-32E	G	2310N	2310E	3845	F	F				100000	0
30-025-08077	HOBBS	O	03-1998	YOUNG UNIT #006	148869	SIERRA BLANCA OPER	H-17-18S-32E	H	1980N	660E	3864	F	F				100000	0
30-025-08072	HOBBS	I	12-1992	YOUNG UNIT #007	148869	SIERRA BLANCA OPER	E-16-18S-32E	E	1980N	660W	4100	S					100000	0
30-025-08083	HOBBS	I	12-1992	YOUNG UNIT #009	148869	SIERRA BLANCA OPER	I-17-18S-32E	I	2350S	1025E	3847	F	F				100000	0
30-025-08081	HOBBS	O	03-1998	YOUNG UNIT #010	148869	SIERRA BLANCA OPER	K-17-18S-32E	K	1650S	1980W	3810	F	F				100000	0
30-025-08079	HOBBS	O	03-1998	YOUNG UNIT #011	148869	SIERRA BLANCA OPER	N-17-18S-32E	N	510S	1685W	3781	F	F				100000	0
30-025-08096	HOBBS	I	03-1996	YOUNG UNIT #012	148869	SIERRA BLANCA OPER	D-20-18S-32E	D	660N	660W	3765	F	F				100000	0
30-025-08092	HOBBS	O	03-1998	YOUNG UNIT #013	148869	SIERRA BLANCA OPER	C-20-18S-32E	C	660S	1980W	3783	F	F				100000	0
30-025-00862	HOBBS	I	05-1986	YOUNG UNIT #014	148869	SIERRA BLANCA OPER	B-20-18S-32E	B	990N	2310E	4071	F	F				100000	0
30-025-08097	HOBBS	O	03-1998	YOUNG UNIT #015	148869	SIERRA BLANCA OPER	C-20-18S-32E	C	1214N	1426W	3785	F	F				100000	0

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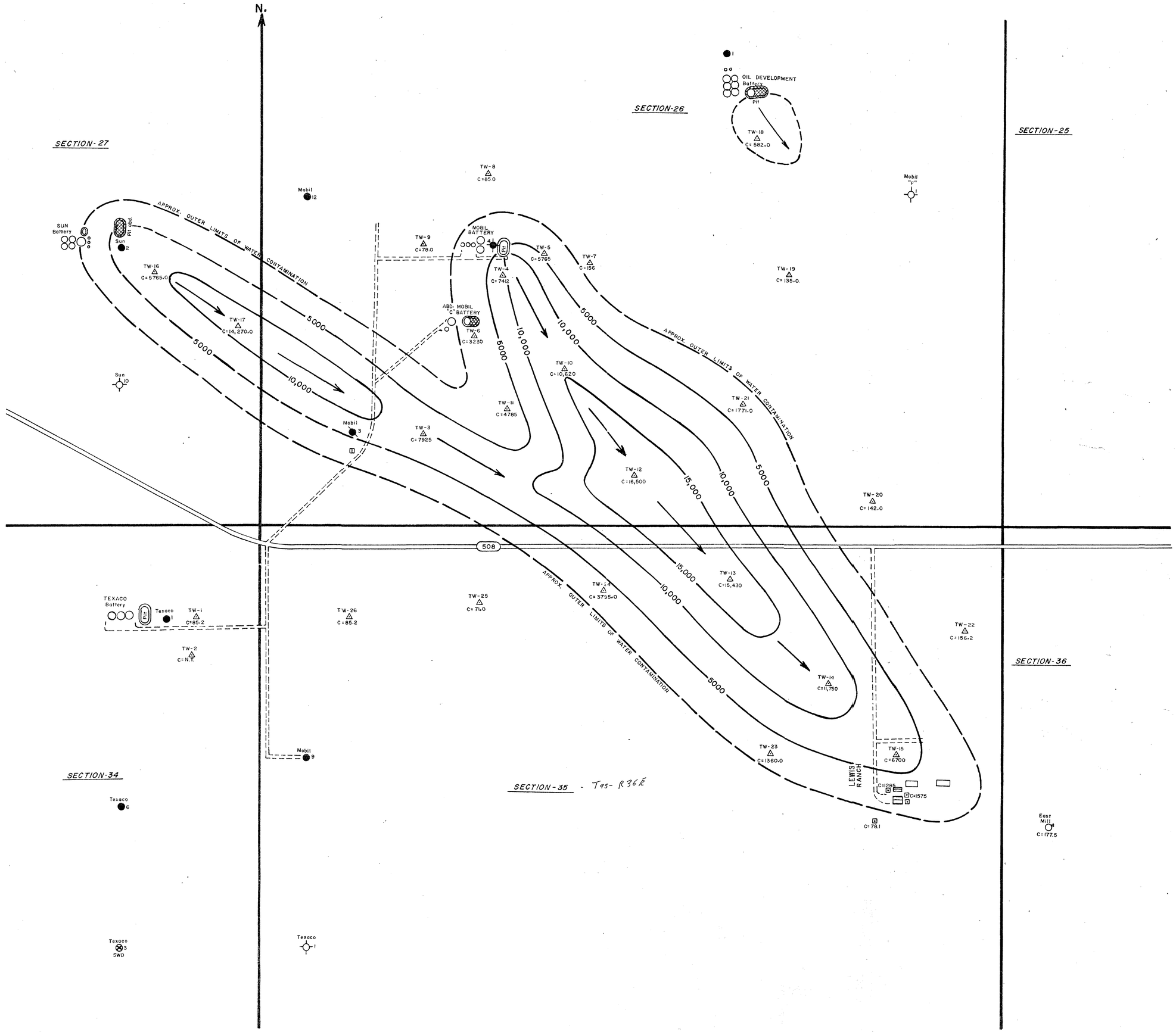
30-025-08093	HOBBS	I	03-1996	YOUNG UNIT #016	148869	SIERRA BLANCA OPER	E-20-18S-32E	E	1980N	660W	4007	F	F				100000	0
30-025-00860	HOBBS	I	12-1992	YOUNG UNIT #018	148869	SIERRA BLANCA OPER	G-20-18S-32E	G	2310N	2310E	4100	F	F				100000	0
30-025-08094	HOBBS	I	12-1992	YOUNG UNIT #019	148869	SIERRA BLANCA OPER	H-20-18S-32E	H	2310N	990E	4135	F	F				100000	0
30-025-08101	HOBBS	O	03-1998	YOUNG UNIT #021	148869	SIERRA BLANCA OPER	J-20-18S-32E	J	1980S	1980E	4068	F	F				100000	0
30-025-08099	HOBBS	O	03-1998	YOUNG UNIT #022	148869	SIERRA BLANCA OPER	K-20-18S-32E	K	1980S	1980W	4013	F	F				100000	0
30-025-08100	HOBBS	O	03-1998	YOUNG UNIT #024	148869	SIERRA BLANCA OPER	N-20-18S-32E	N	990S	2310W	4050	F	F				100000	0
30-025-08091	HOBBS	I	12-1992	YOUNG UNIT #025	148869	SIERRA BLANCA OPER	O-20-18S-32E	O	990S	1650E	4100	F	F				100000	0
30-025-00875	HOBBS	I	12-1992	YOUNG UNIT #030	148869	SIERRA BLANCA OPER	C-29-18S-32E	C	330N	1650W	4050	F	F				100000	0



LEGEND:

TW = Test Well.
C = Chlorides - PPM.
SWD = Salt Water Disposal.
△ = Test Well.
□ = House Well.
△ = (red) Contaminated Water.
△ = (green) Fresh Water - Good.

CONTOUR INTERVAL:
5000 PPM Chlorides.

SCALE: 1 inch = 300 feet.
Contoured on Lower Water Zone

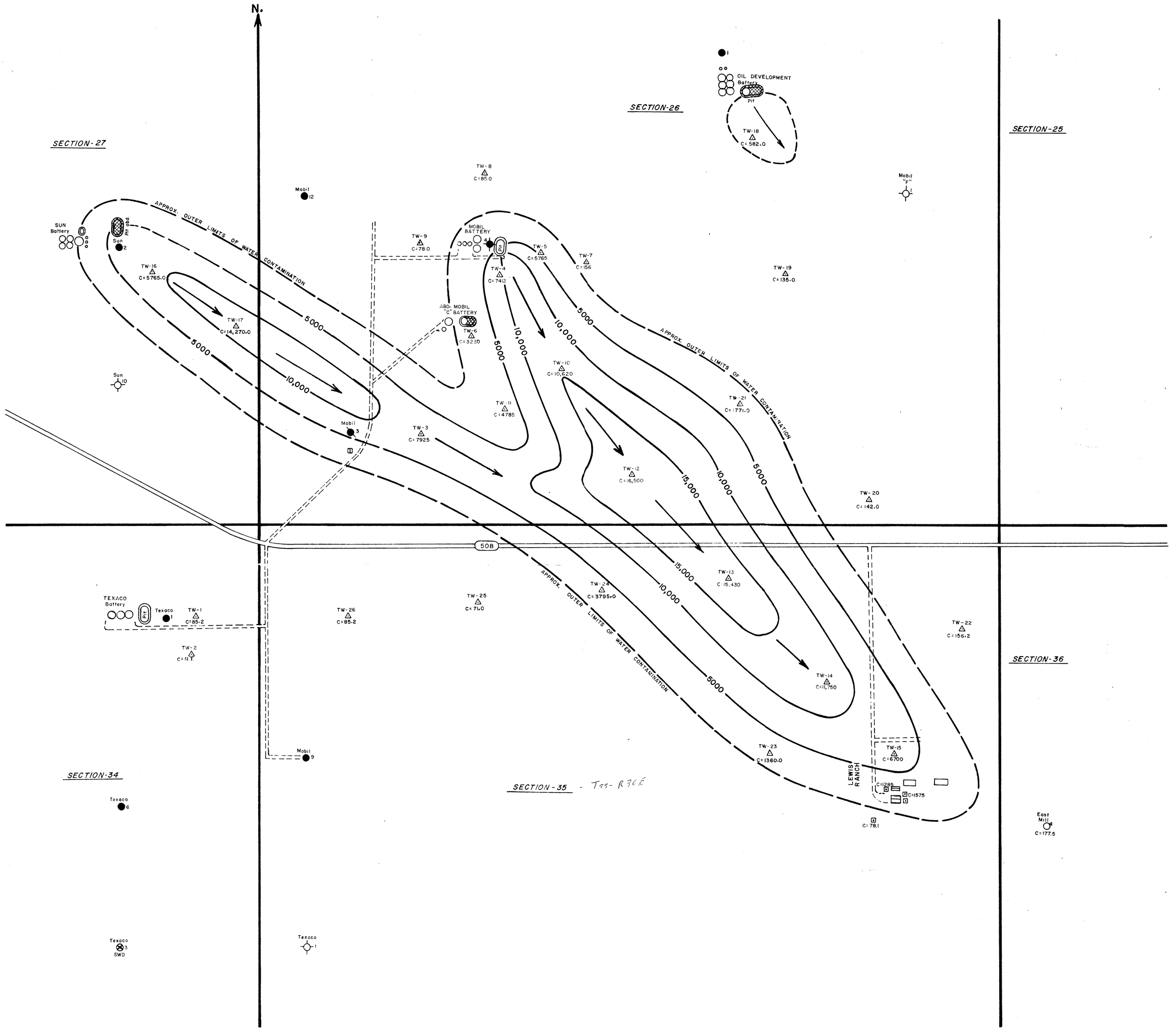
BOBBY LEWIS RANCH

WATER CONTAMINATION STUDY

NEW MEXICO OIL CONSERVATION COMMISSION
HOBBS, NEW MEXICO

JOHN W. RUNYAN - GEOLOGIST

9-25-73



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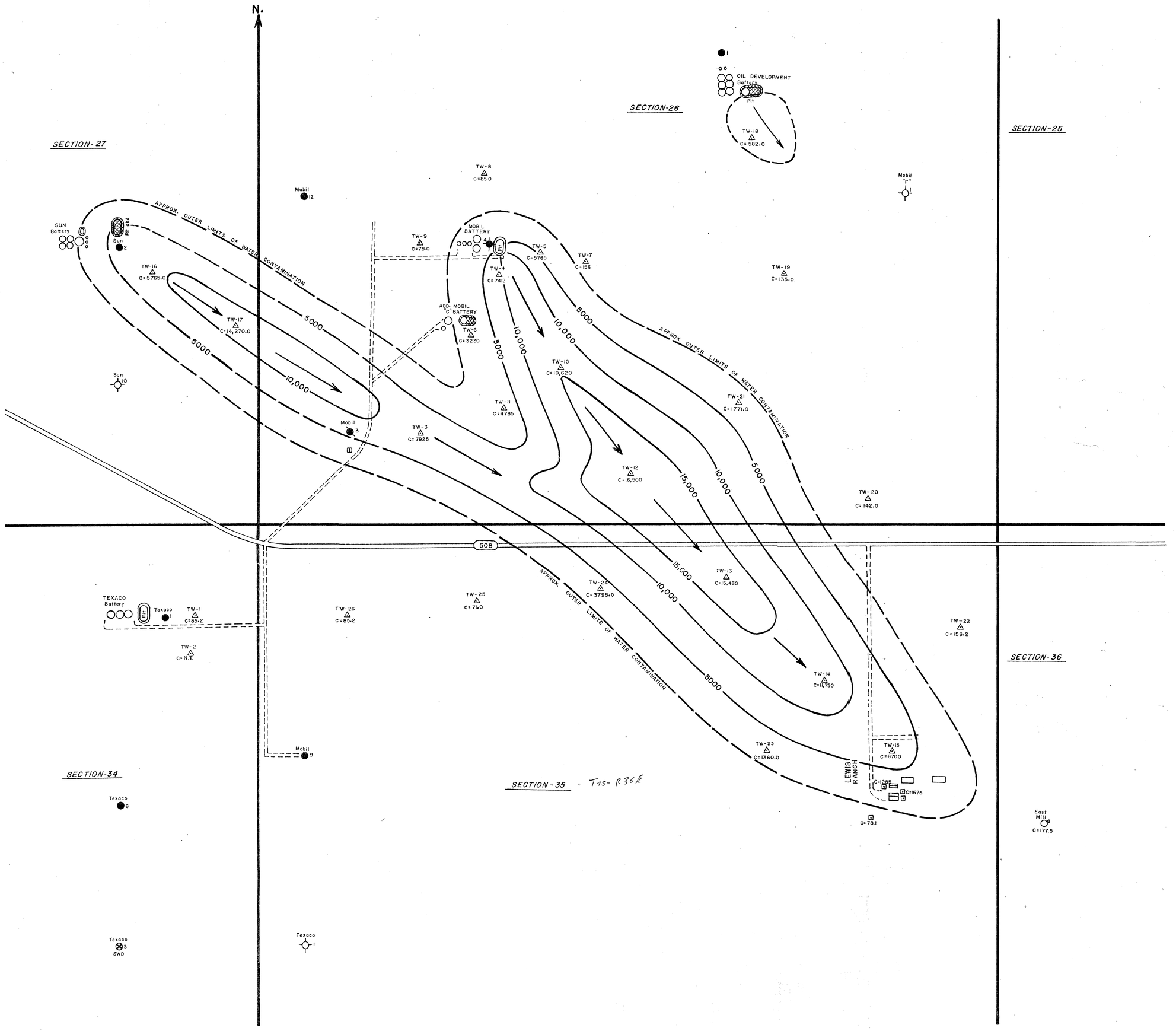

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