

1R - 151

REPORTS

DATE:

08-1984

FUQUA WATER STUDY
West Lovington

New Mexico Oil Conservation Division
Post Office Box 1980
Hobbs, New Mexico 88240

Eddie W. Seay
Field Representative II
Oil Conservation Division
August, 1984

* * * * *
*
*
*
*
*

* * * * *
*
*
*
*
*

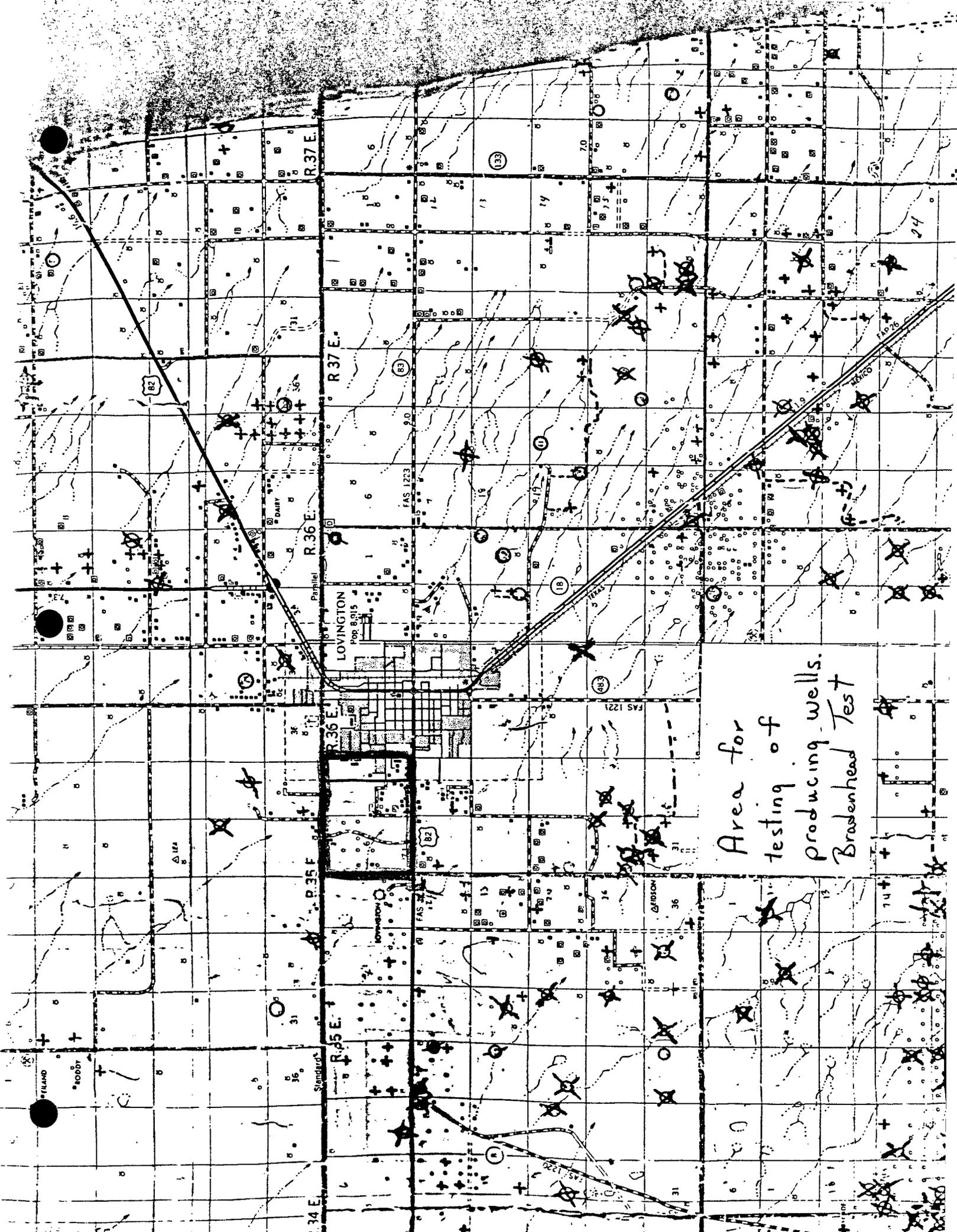
A P P E N D I X

Location Plat and Redbed Map
Results of Survey
General Statistics of Survey
Daily Field Reports
Water Analysis
Drillers' Logs

Maps. . .(1) Area of Study
 (2) Redbed Map - State Engineer's
 (3) Results Map

*
*
*
*
*
* * * * *

*
*
*
*
*
* * * * *



Area for testing of producing wells. Bradenhead Test

LOVINGTON
Pop 8,915

R. 37 E.

R. 37 E.

R. 36 E.

R. 36 E.

R. 35 E.

R. 35 E.

R. 34 E.

63

18

82

82

82

82

82

82

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

13

12

11

10

9

FUQUA WATER STUDY

Mr. Sexton of the Oil Conservation Division field office in Hobbs, New Mexico, was first contacted January 30, 1984, about an apparent bad water well belonging to Mrs. Fuqua, located in the extreme northwest edge of Lovington, Lea County, New Mexico.

A field investigation was made the same day and water samples taken. Fuqua water well analysis showed 2130 ppm chloride. Water samples were collected from surrounding domestic wells in Sections 5 and 6, Township 16 South, Range 36 East, to the north, south, east, and west of the Fuqua well. All water analysis showed excellent chloride quality. During the field investigation it was noted that just to the west and north of the Fuqua well in Section 6 there was a number of open pits, which were used for disposal of produced water prior to the no pitting order of 1969. After our investigation, it was assumed that the contaminant came from either the pits or a casing leak from surrounding producing wells.

A casing leak survey was set up and testing was done February 22, 1984, on all producing oil wells in Sections 5 and 6, T16S, R36E. The survey covered 8 wells belonging to Charles Gillespie Oil Company and 4 wells belonging to Sun Oil Company. Results of casing leak survey indicated no casing leaks in the area.

After considering information gathered from water analysis and the casing leak survey it was felt the probable source of contamination came from abandoned surface pits in the area. Due to the location of the contaminated area and the direction of the water flow, which is southeast, and the possibility that a number of individually owned water wells which could be contaminated in the future, the OCD personnel decided to do test well drilling to determine the source of contamination,

the area affected, and the possible effects of the contaminant in the future.

Test well drilling began August 15, 1984, with a total of 7 wells drilled and tested. All test well locations were selected on the basis of the following information, redbed depths, direction of water movement, chloride analysis, and topographical structure. The selections were agreed upon by Jerry Sexton, District Supervisor and Eddie W. Seay, Field Rep.

Test well #1 was selected halfway between the closest surface pit located approximately 1300 feet northwest of the contaminated well. Test was done by drilling into water sand formation or to redbed formation, which is an impermeable zone located below fresh water sand. Testing in all wells had to be done by running PVC casing into the hole because the water sand formation was so unconsolidated the wellbore would not hold up under normal testing procedures. Sampling was done by running drill pipe into PVC casing, jetting air into cased hole, forcing water to come to surface where water samples were gathered and analysed. The PVC casing was pulled and well was plugged. Samples were gathered every ten to fifteen minutes and chloride content was analysed on-site until a stabilized chloride content had been reached. Test well #1 was drilled to 137 feet which was redbed, it was cased with 5" PVC pipe with perforations from 127 to 137 feet. A total of 8 samples were taken before a stabilized chloride content of 31,000 ppm was reached. From this point it was decided to move north and south to determine the size of the plume.

In test well #2, located approximately 250 feet northeast of test well #1, it was decided to test the water formation on top and bottom to see what kind of mixing effect it had on all the water formation.

Test well #2 was drilled to 85 feet and 5" PVC casing was run with perforations from 60 to 80 feet since the top of the water formation was at approximately 62 feet in this area. Water samples were jetted from well and analysed. The chloride content stabilized at 71 ppm in this well. The PVC casing was pulled from the well and well was drilled on to the redbed formation which was 143 feet. Then 5" PVC casing was re-run to bottom with perforations from 123 to 143 feet and water samples were obtained by jetting and the samples analysed. The chloride content stabilized at 18,500 ppm.

Test well #3 was located 250 feet south by southeast of test well #1. This location was selected to determine the southern most boundary of the water contamination plume. First drilled to a depth of 80 feet and ran 5" PVC casing to bottom with perforations from 60 to 80 feet. Samples were jetted to surface and analysed for chloride content which was found to be 71 ppm. The PVC casing was then pulled and well was drilled on to redbed formation which was 139 feet. The 5" PVC casing was run to bottom with perforations from 119 to 139 feet testing the lower water sand formation. Samples were jetted to surface and analysed. A total of 5 samples were tested with a maximum chloride content of 52.6 ppm. The drilling of this well showed the south boundary of the contamination plume.

Test well #4 was drilled approximately 200 feet northwest of surface pit. The selection of this site was made so that we could tie the source of contamination to the surface pit, since the test well was directly in line with the direction of water flow and any other contamination source. It was decided to drill only to the redbed and test the water at lowermost water sand formation which would give the highest chloride content. Well #4 was drilled to redbeds at 125' and cased with 5" PVC casing with perforations from 105 to 125 feet. Samples were analysed

and the chloride content was found to be 127 ppm. The results of this well confirmed the contamination source to the pit.

Test well #5 was drilled to determine the saturation level of the contaminant on the total water sand formation from 62 feet to redbeds. This well was located approximately 150 feet southeast of test well #1, in line with the contaminated water. Only the upper portion of the water formation was tested since we had analysis from test well #1 which reflected the chloride content on bottom. Test well #5 was drilled to 100 feet and 5" PVC casing was run to bottom with perforation from 80 to 100 feet and water tested. A total of 6 samples were collected and analysed with a maximum chloride content of 99.4 ppm.

Test well #6 was drilled on the extreme southwest corner of the Fuqua property approximately 150 feet south of the contaminated water well. The location for this site was selected because it was the furthest point from the septic system and the contaminated well. The well will be used to test the top water sand to check the availability and quality of the water for the new well. Test well #6 was drilled to 100 feet, cased with 5" PVC pipe with perforations from 80 to 100 feet. The samples were tested and were found to have a chloride content of 56.8 ppm. With the results of this well there can and will be a new water well drilled and completed.

Test well #7 was drilled north of test well #2 approximately 300 feet. This selection was made so the area of contamination or plume could be defined. Test well #7 was drilled to redbeds at 151 feet and was cased with 5" PVC casing with perforations from 131 to 151 feet. Water samples were collected and analysed having a maximum of 71 ppm chloride. This defined the north edge of the contamination area.

The last point of testing was the Fuqua contaminated well, which is located in Section 5, T16S, R36E, approximately 75 feet from the west

line and 1300 feet from the surface pit. The well was drilled in December 1983 to a total depth of 126 feet and was cased with 5" PVC casing with perforations from 116 to 126 feet having pump set at 124 feet. Water samples were collected and analysed, with a chloride content of 1600 ppm.

SUMMARY

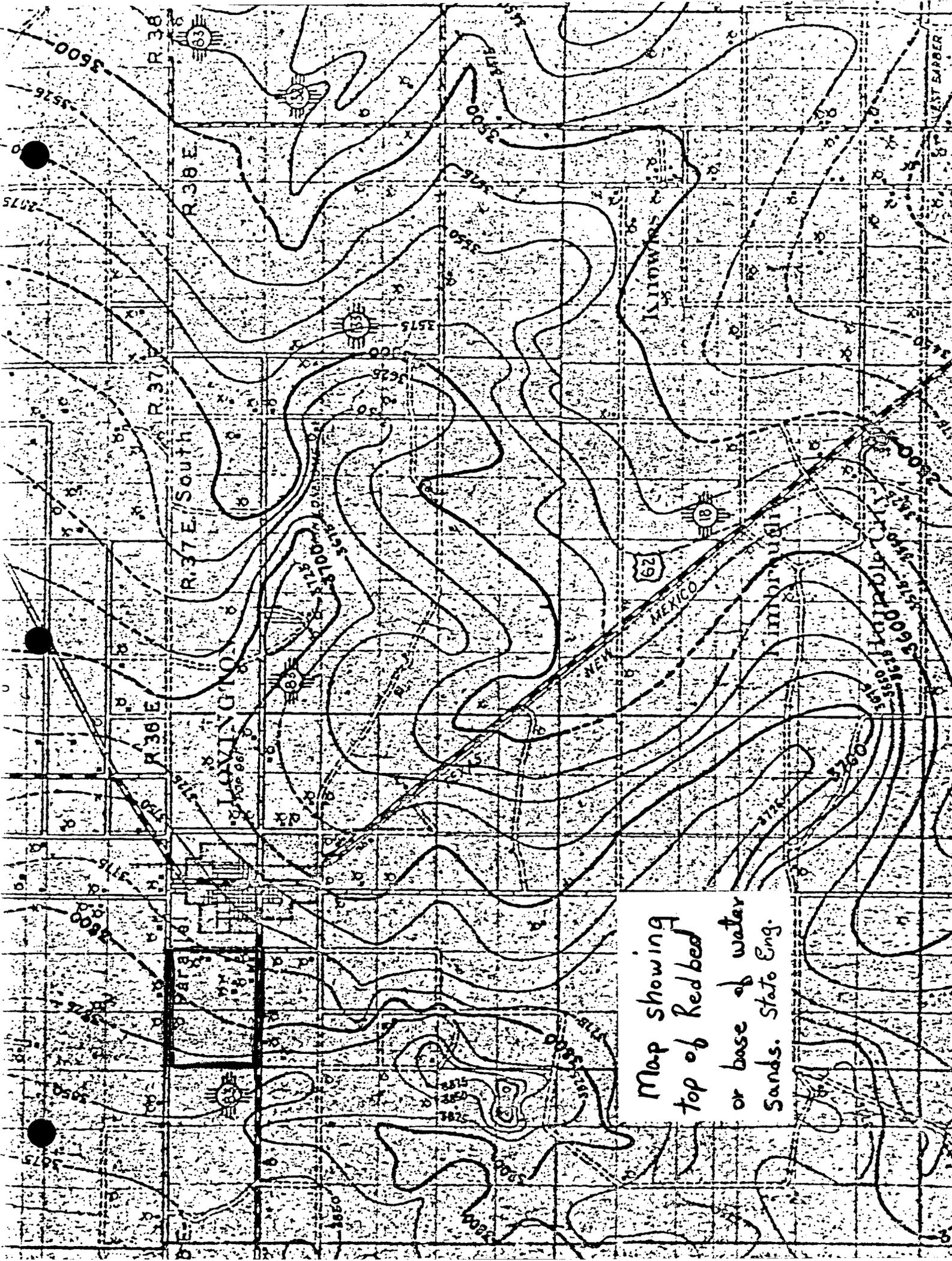
From the information gathered from test well drilling at a cost of approximately \$11,000, we feel the contamination did come from the surface pit at the Charles Gillespie Oil Company Snyder Battery, which was used before the no pit order was issued by the State of New Mexico in 1969. Also, our study showed that the contaminant is either moving extremely slow or laying idle in a redbed low depression. This redbed low depression is an impermeable layer of clay located below our fresh water formation. Our findings show a depression approximately 25 feet deep covering an area 1300 feet east and west by 400 feet north and south. From the testing of water sands at various levels, we find that salt water contamination has a segregating effect, whereas the heavier contaminant lays on top of the redbed area and along the lowermost portion of the water formation. We feel, had the Fuqua water well not been drilled to 126 feet and perforated to 116 feet, the contamination would not have been detected. We feel that the time and money spent on drilling and testing by the OCD and the State of New Mexico was of great value in relieving worry and possible contamination in the future, for the citizens of Lovington, New Mexico.

From the testing on this water study some new information has been found. In the past, test on contamination problems were done only on the lowermost portion of the water formation and was believed that the entire water strata was affected. By testing the water formation at different levels we have found you can have productive, usable water

in a contaminated area. We feel that additional funding and testing of our fresh water aquifer in known contaminated areas would be of great value to protect such a valuable and necessary resource.

Mr. Charles B. Gillespie, owner of Gillespie Oil Company purchased the property from Austral Oil Corporation just prior to the no pit order in 1969. The pits have not been used by Gillespie Oil Company and have since been removed from the area.

Even though Gillespie Oil Company was not directly responsible, they were greatly concerned with the Fuqua water well. Charles Gillespie, while working closely with the OCD, agreed to drill a replacement well for the Fuqua family. A replacement well was drilled in the extreme southwest corner of the Faqua property re-entering test well #6. The well was drilled with a 12" bit to 100 feet, cased with 5" PVC casing with perforations from 60 to 100 feet. A good 7" of gravel packing was used and a new water well pump installed. All connections were made and water tested with a chloride content of 56.8 ppm. Through conversations with Mrs. Fugua and later testing of the well, it has been determined that the water quality of this well is excellent to date.



Map showing
top of Redbed
or base of water
Sands. Stato Eng.

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

Well Ownership: Mrs. Fuqua Well No. _____

Land Status: State _____ Federal _____ Fee x

Well Location: Unit Letter _____, Section 5, T. 16 S, R. 36 E

Type Well: water well Depth 126 feet.

Well Use: domestic

Sample Number: _____

Date Taken: 2-2-84

Taken By: Eddie W. Seay

Specific Conductance: _____ m/s

Total dissolved Solids: _____ PPM.

Chlorides: 1,597.5 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: V.Low Low Medium High

Sulfides: None Low Medium High

Date Analyzed: 2-2-84

By: Eddie W. Seay - Eddie Seay
Oil Conservation Division

REMARKS: 10 ml 355 x 4.5 = 1,597.5 ppm Cl - sample was taken after pumping well
for 30 mins.

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS

Well Ownership: Mr. Fuqua Well No. _____

Land Status: State _____ Federal _____ Fee X

Well Location: Unit Letter _____, Section 5, T 16 S, R 36 E

Type Well: water well Depth 126 feet.

Well Use: domestic

Sample Number: _____

Date Taken: 2-2-84

Taken By: Eddie Seay

Specific Conductance: _____ m/s

Total dissolved Solids: _____ PPM.

Chlorides: 1,491 PPM.

Sulfates: _____ PPM.

Ortho-phosphates: V.Low Low Medium High

Sulfides: None Low Medium High

Date Analyzed: 2-2-84

By: Eddie Seay - Eddie Seay
Oil Conservation Division

REMARKS: 10 ml 355 x 4.2 = 1,491 ppm Cl - sample taken after 4 hrs of pumping.

WATER ANALYSIS
Sec 615T16S, R36E
February 1, 1984

1. Joe Fuqua -- 10 ml 355 x 4.5 = 1597.5 ppm chlorides
2. Bissetts Ranch House -- 25 ml 142 x .5 = 71 ppm chlorides
3. Archie Byrd -- 25 ml 142 x .4 = 56.8 ppm chlorides
4. Wayne Velar -- 25 ml 142 x .4 = 56.8 ppm chlorides
5. Mr. Bailey -- 25 ml 142 x .4 = 56.8 ppm chlorides
6. Fannie Smith -- 25 ml 142 x .3 = 42.6 ppm chlorides
7. Bryant Pope -- 25 ml 142 x .3 = 42.6 ppm chlorides
8. Don Pebsworth -- 25 ml 142 x .5 = 71 ppm chlorides
9. Lovington Airport -- 25 ml 142 x .5 = 71 ppm chlorides
10. Carlton Pope -- 25 ml 142 x .4 = 56.8 ppm chlorides
11. Stroup -- 25 ml 142 x .5 = 71 ppm chlorides

NEW MEXICO OIL CONSERVATION COMMISSION
FIELD TRIP REPORT

Name Eddie W. Seay Date 8-15-84 Miles 56 District 1
Time of Departure 7:00 a.m. Time of Return 7:00 p.m. Car No. 736

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature Eddie W. Seay

W O 0 12

1 well - West Lovington area to drill test wells on water contamination study - Fuqua area - test well #F-1 - located 660' FEL & 4160' FNL - 6-16-36

#F-1 drill to Red Beds - 137 TD-139
test water by jetting water samples

sample #1 - 23572 ppm
#2 - 26838 ppm
#3 - 28542 ppm
#4 - 30388 ppm
#5 - 30388 ppm
#6 - 30333 ppm

shut down - will retest in a.m.

<u>Mileage</u>	<u>Per Diem</u>	<u>Hours</u>
UIC _____	UIC _____	UIC _____
RFA _____	RFA _____	RFA _____
Other <u>56</u>	Other <u>13.00</u>	Other <u>12</u>

TYPE INSPECTION PERFORMED

INSPECTION CLASSIFICATION

NATURE OF SPECIFIC WELL OR FACILITY INSPECTED

H - Housekeeping
P - Plugging
C - Plugging Cleanup
T - Well Test
R - Repair/Workover
F - Waterflow
M - Mishap or Spill
W - Water Contamination
O - Other

U - Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)
R - Inspections relating to Reclamation Fund Activity
O - Other - Inspections not related to injection or The Reclamation Fund

D - Drilling
P - Production
I - Injection
C - Combined prod. inj. operations
S - SWD
U - Underground Storage
G - General Operation
F - Facility or location
H - Hoisting
O - Other

E - Indicates some form of enforcement action taken in the field (show immediately below the letter U, R or O)

NEW MEXICO OIL CONSERVATION COMMISSION
FIELD TRIP REPORT

Name Eddie W. Seay Date 8-16-84 Miles 84 District 1
Time of Departure 7:00 a.m. Time of Return 7:00 p.m. Car No. 736

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature Eddie W. Seay

INFORMATION
 QUARTER
 HOURS

W O 10
 W O F 2

2 wells - West Loving - Fuqua Contamination Study
re-test F-1 Sample #7 - 31950
Sample #8 - 32600

pull PVC - move rig to F-2 - plug well & cleanup location

F-2 located 450' FEL & 3850' FNL S-6-16-36 - will drill top water sand and test. - drill to 85' - perf 20' of PVC - test water - pump fine sand 2 1/2 hrs. after water came in - collect water samples every 20 mins.

#1 - 71 ppm #2 - 71 ppm #3 - 56.8 ppm #4 - 71 ppm

1 other - Lovington area to meet w/Mr. Don Hamm w/Southern Union Refinery - rain had washed oil onto ground around area - will cleanup & report.

<u>Mileage</u>	<u>Per Diem</u>	<u>Hours</u>
UIC _____	UIC _____	UIC _____
RFA _____	RFA _____	RFA _____
Other <u>84</u>	Other <u>13.00</u>	Other <u>12</u>

TYPE INSPECTION PERFORMED	INSPECTION CLASSIFICATION	NATURE OF SPECIFIC WELL OR FACILITY INSPECTED
H - Housekeeping	U - Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)	D - Drilling
P - Plugging	R - Inspections relating to Reclamation Fund Activity	P - Production
C - Plugging Cleanup	O - Other - Inspections not related to injection or The Reclamation Fund	I - Injection
T - Well Test	E - Indicates some form of enforcement action taken in the field (show immediately below the letter U, R or O)	C - Combined prod. inj. operations
R - Repair/Workover		S - SWD
F - Waterflow		U - Underground Storage
M - Mishap or Spill		G - General Operation
N - Water Contamination		F - Facility or location
O - Other		M - Meeting
		O - Other

NEW MEXICO OIL CONSERVATION COMMISSION
FIELD TRIP REPORT

Name Eddie Seay Date 8-17-84 Miles 49 District 1
Time of Departure 7:00 a.m. Time of Return 7:00 p.m. Car No. 7360

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature Eddie Seay

V 0 0 12

2 wells - Lovington area to drill test wells on Fuqua contamination study - well #F-2 6-16-36 - pull PVC pipe - run bit and drill to Red Beds & test Red Beds - 143'. TD - 145' run PVC w/20' of perf. on bottom - jet load water & sand & test every 20 mins.

Sample #1 - 710 x 14.8 = 10,508 ppm
Sample #2 - 3550 x 5.0 = 17,750 ppm
Sample #3 - 3550 x 5.1 = 18,105 ppm
Sample #4 - 3550 x 5.2 = 18,460 ppm
Sample #5 - 3550 x 5.2 = 18,460 ppm
Sample #6 - 3550 x 5.2 = 18,460 ppm
Sample #7 - 3550 x 5.2 = 18,460 ppm

Pull PVC - rig down - plug & move to F-3

F-3 440'. FEL & 4450'. FNL - drill to 80' to test top water sand - run 5" PVC w/20' perf. - run pipe & jet water & sand - let set overnight & test.

<u>Mileage</u>	<u>Per Diem</u>	<u>Hours</u>
UIC _____	UIC _____	UIC _____
RFA _____	RFA _____	RFA _____
Other <u>49</u>	Other <u>13.00</u>	Other <u>12</u>

TYPE INSPECTION PERFORMED

INSPECTION CLASSIFICATION

NATURE OF SPECIFIC WELL OR FACILITY INSPECTED

- H - Housekeeping
- P - Plugging
- C - Plugging Cleanup
- T - Well Test
- R - Repair/Workover
- F - Waterflow
- M - Mishap or Spill
- W - Water Contamination
- O - Other

- U - Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)
- R - Inspections relating to Reclamation Fund Activity
- O - Other - Inspections not related to injection or The Reclamation Fund

- D - Drilling
- P - Production
- I - Injection
- C - Combined prod. inj. operations
- S - SWD
- U - Underground Storage
- G - General Operation
- F - Facility or location
- M - Meeting
- O - Other

E - Indicates some form of enforcement action taken in the field (show immediately below the letter U, R or O)

NEW MEXICO OIL CONSERVATION COMMISSION
FIELD TRIP REPORT

Name Eddie Seay Date 8-18-84 Miles 60 District _____
Time of Departure 6:00 a.m. Time of Return 2:00 p.m. Car No. _____

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature Eddie W Seay

CLASSIFICATION	FACILITY	OURS	QUARTER
		HOURS	HOURS
W	O	8	

1 well - Lovington Area to drill test well on Fuqua contamination study - F-3 - start jetting water to sample - sampling 20 mins. apart.

Sample # 1 - .5 x 142 = 71 ppm
 Sample #2 - .5 x 142 = 71 ppm
 Sample #3 - .5 x 142 = 71 ppm
 Sample #4 - .5 x 142 = 71 ppm

pull pipe & PVC - drill to red bed & test Redbeds 139 TD 140 run PVC w/20' perf. on bottom and test:

Sample #1 - .3 x 142 = 42.6 ppm
 Sample #2 - .3 x 142 = 42.6 ppm
 Sample #3 - .3 x 142 = 42.6 ppm
 Sample #4 - .3 x 142 = 42.6 ppm
 Sample #5 - .3 x 142 = 42.6 ppm

will leave 5" PVC in hole - to monitor - rig down - move to F-4.

<u>Mileage</u>	<u>Per Diem</u>	<u>Hours</u>
UIC _____	UIC _____	UIC _____
RFA _____	RFA _____	RFA _____
Other <u>60</u>	Other <u>6.00</u>	Other <u>8</u>

TYPE INSPECTION PERFORMED	INSPECTION CLASSIFICATION	NATURE OF SPECIFIC WELL OR FACILITY INSPECTED
H - Housekeeping	U - Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)	D - Drilling
P - Plugging	R - Inspections relating to Reclamation Fund Activity	P - Production
PC - Plugging Cleanup	O - Other - Inspections not related to injection or The Reclamation Fund	I - Injection
T - Well Test	E - Indicates some form of enforcement action taken in the field (show immediately below the letter U, R or O)	C - Combined prod. inj operations
R - Repair/Workover		S - SWD
F - Waterflow		U - Underground Storage
M - Mishap or Spill		G - General Operation
W - Water Contamination		F - Facility or locati
O - Other		H - Hoisting
		O - Other

NEW MEXICO OIL CONSERVATION COMMISSION
FIELD TRIP REPORT

Name Eddie W. Seay Date 8-20-84 Miles 64 District 1
Time of Departure 7:00 a.m. Time of Return 4:00 p.m. Car No. 73

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature Eddie W. Seay

SY CATION	C L I T Y	H O U R S	Q U A R T E R	H O U R S

1 well - Lovington area to drill test well on Fuqua contamination study - F-4 3400' FSL & 835' FEL - 6-16-36 - drill to redbed & test

Red Beds 125 TD 127
run 5" PVC pipe w/20' of perf. on bottom & test - pump well approx. 3 1/2 hrs. trying to get water to come in, then catch sample every 20 mins.

Sample #1 - .9 x 142 = 127.8 ppm
Sample #2 - .8 x 142 = 113.6 ppm
Sample #3 - .8 x 142 = 113.6 ppm
Sample #4 - .7 x 142 = 99.4 ppm
Sample #5 - .8 x 142 = 113.4 ppm

shut in overnight & catch samples.

<u>Mileage</u>	<u>Per Diem</u>	<u>Hours</u>
UIC _____	UIC _____	UIC _____
RFA _____	RFA _____	RFA _____
Other <u>64</u>	Other <u>13.00</u>	Other <u>12</u>

TYPE INSPECTION PERFORMED	INSPECTION CLASSIFICATION	NATURE OF SPECIFIC WELL OR FACILITY INSPECTED
H - Housekeeping P - Plugging C - Plugging Cleanup T - Well Test R - Repair/Workover F - Waterflow M - Mishap or Spill W - Water Contamination O - Other	U - Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.) R - Inspections relating to Reclamation Fund Activity O - Other - Inspections not related to injection or The Reclamation Fund E - Indicates some form of enforcement action taken in the	D - Drilling P - Production I - Injection C - Combined prod. inj. operations S - SWD U - Underground Storage G - General Operation F - Facility or location M - Meeting

NEW MEXICO OIL CONSERVATION COMMISSION
FIELD TRIP REPORT

CATION
 ILITY
 OURS
 QUARTER
 HOURS

Name Eddie W. Seay Date 8-21-84 Miles 56 District 1
 Time of Departure 7:00 a.m. Time of Return 7:00 p.m. Car No. 736

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature Eddie W. Seay

0
0
12

2 wells - Lovington area to drill and test water wells on Fuqua contamination study:

Catch sample from F-4 6-16-36
 Sample #6 - .9 x 142 = 127.8 ppm
 pull pipe & PVC - plug well and move to F-5 550' FEL & 4200" FNL - 6-16-36 - drill to water sand at 100' and test run 5" PVC w/20' perf. on bottom - blow out load water & test well every 20 mins. -

Sample #1 - .8 x 142 = 113.6 ppm
 Sample #2 - .8 x 142 = 113.6 ppm
 Sample #3 - .7 x 142 = 99.4 ppm
 Sample #4 - .7 x 142 = 99.4 ppm
 Sample #5 - .7 x 142 = 99.4 ppm
 Sample #6 - .7 x 142 = 99.4 ppm

Pull PVC - rig down - move to F-6

<u>Mileage</u>	<u>Per Diem</u>	<u>Hours</u>
UIC _____	UIC _____	UIC _____
RFA _____	RFA _____	RFA _____
Other <u>56</u>	Other <u>13.00</u>	Other <u>12</u>

TYPE INSPECTION PERFORMED	INSPECTION CLASSIFICATION	NATURE OF SPECIFIC WELL OR FACILITY INSPECTED
H - Housekeeping	U - Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)	D - Drilling
P - Plugging	R - Inspections relating to Reclamation Fund Activity	P - Production
C - Plugging Cleanup	O - Other - Inspections not related to injection or The Reclamation Fund	I - Injection
T - Well Test	E - Indicates some form of enforcement action taken in the	C - Combined prod. inj operations
R - Repair/Workover		S - SWD
F - Waterflow		U - Underground Storage
N - Mishap or Spill		G - General Operation
W - Water Contamination		F - Facility or local
O - Other		H - Hoisting
		O - Other

NEW MEXICO OIL CONSERVATION COMMISSION
FIELD TRIP REPORT

Name Eddie W. Seay Date 8-22-84 Miles 57 District 1
Time of Departure 7:00 a.m. Time of Return 6:00 p.m. Car No. 7

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature Eddie W. Seay

CLASSIFICATION
 CITY
 HOURS
 QUARTER
 HOURS

W 0 11

1 well - Lovington Area to drill test well on Fuqua contamination study - test well F-6 50'FWL 4500" FNL - 5-16-36 - on SW Corner of Fuqua property:

drill to 100' - run 5" pvc w/20' of perf. on bottom - blow hole test water every 20 mins. - Her existing well 1420 ppm Cl.

- Sample #1 - .5 x 142 = 71 ppm
- Sample #2 - .4 x 142 = 56.8 ppm
- Sample #3 - .4 x 142 = 56.8 ppm
- Sample #4 - .4 x 142 = 56.8 ppm
- Sample #5 - .4 x 142 = 56.8 ppm

Will re-drill to complete water well.

<u>Mileage</u>	<u>Per Diem</u>	<u>Hours</u>
UIC _____	UIC _____	UIC _____
RFA _____	RFA _____	RFA _____
Other <u>57</u>	Other <u>6.00</u>	Other <u>11</u>

TYPE INSPECTION PERFORMED

INSPECTION CLASSIFICATION

NATURE OF SPECIFIC WELL OR FACILITY INSPECTED

- H - Housekeeping
- P - Plugging
- C - Plugging Cleanup
- T - Well Test
- R - Repair/Workover
- F - Waterflow
- M - Mishap or Spill
- W - Water Contamination
- O - Other

- U - Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)
- R - Inspections relating to Reclamation Fund Activity
- O - Other - Inspections not related to injection or The Reclamation Fund

- D - Drilling
- P - Production
- I - Injection
- C - Combined prod. inj. operations
- S - SWD
- U - Underground Storage
- G - General Operation
- F - Facility or local
- M - Maintenance

NEW MEXICO OIL CONSERVATION COMMISSION
FIELD TRIP REPORT

Name Eddie Seay Date 8-25-84 Miles 76 District 1
Time of Departure 6:00 a.m. Time of Return 1:00 p.m. Car No. 7

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature Eddie Seay

CLASSIFICATION	CITY	OURS	QUARTER
			HOURS
W0	0	6	

1 well - Lovington area - to drill test wells on Fuqua water study - well #F-7 - 3450' FNL & 450' FEL - drill to red beds and test water - red bed-151 - TD-153 - run 5" PVC & test:

Sample #1 - .4 x 142 = 56.8 ppm
Sample #2 - .5 x 142 = 71 ppm
" #3 - .5 x 142 = 71 "
" #4 - .5 x 142 = 71 "
" #5 - .5 x 142 = 71 "
" #6 - .5 x 142 = 71 "

<u>Mileage</u>	<u>Per Diem</u>	<u>Hours</u>
UIC _____	UIC _____	UIC _____
RFA _____	RFA _____	RFA _____
Other <u>76</u>	Other <u>6.00</u>	Other <u>6</u>

TYPE INSPECTION PERFORMED	INSPECTION CLASSIFICATION	NATURE OF SPECIFIC WELL OR FACILITY INSPECTED
H - Housekeeping	U - Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)	D - Drilling
P - Plugging	R - Inspections relating to Reclamation Fund Activity	P - Production
C - Plugging Cleanup	O - Other - Inspections not related to injection or The Reclamation Fund	I - Injection
T - Well Test	E - Indicates some form of enforcement action taken in the	C - Combined prod. in operations
R - Repair/Workover		S - SWD
F - Waterflow		U - Underground Storage
M - Mishap or Spill		G - General Operation
W - Water Contamination		F - Facility or location
O - Other		M - Meeting
		O - Other

STATE ENGINEER OFFICE
WELL RECORD

Well # 1

Section 1. GENERAL INFORMATION

(A) Owner of well NM Oil & Conservation Division Owner's Well No. _____
Street or Post Office Address P.O. Box 1980
City and State Hobbs, NM 88340

Well was drilled under Permit No. L-9500 and is located in the:

- a. _____ ¼ _____ ¼ _____ ¼ _____ ¼ of Section 5 Township 16S Range 36E N.M.P.M.
- b. Tract No. _____ of Map No. _____ of the _____
- c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in Lea County.
- d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in
the _____ Grant.

(B) Drilling Contractor Larry's Drilling License No. WD8823

Address 1601 W. Bender, Hobbs, NM 88340

Drilling Began 8-31-84 Completed 8-31-84 Type tools tricone Size of hole 7 7/8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 139 ft.

Completed well is shallow artesian. Depth to water upon completion of well 59 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
<u>60</u>	<u>124</u>	<u>64</u>	<u>sand & sandstone</u>	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
<u>5</u>	<u>160FVC</u>		<u>-1</u>	<u>139</u>	<u>140</u>			

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

State Engineer Representative

FOR USE OF STATE ENGINEER ONLY

Date Received _____ Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

STATE ENGINEER OFFICE
WELL RECORD

#2

Section 1. GENERAL INFORMATION

(A) Owner of well MM Oil & Conservation Owner's Well No. _____
Street or Post Office Address P.O. Box 1939
City and State EBERT Hobbs, NM 88340

Well was drilled under Permit No. 1-9500 and is located in the:
a. _____ ¼ _____ ¼ _____ ¼ _____ ¼ of Section 3 Township 16S Range 34E N.M.P.M.
b. Tract No. _____ of Map No. _____ of the _____
c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ Lea County.
d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in
the _____ Grant.

(B) Drilling Contractor Larry's Drilling License No. WD802
Address 3601 W. Bender, Hobbs, NM 88340
Drilling Began 9-1-84 Completed 9-1-84 Type tools arizona Size of hole 7 7/8 in.
Elevation of land surface or _____ at well is _____ ft. Total depth of well 145 ft.
Completed well is shallow artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
<u>78</u>	<u>124</u>	<u>46</u>	<u>sand & sandstone</u>	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
<u>3</u>	<u>160PPC</u>		<u>-1</u>	<u>143</u>	<u>146</u>			
<u>casing pulled & hole plugged</u>								

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
<u>1</u>			
<u>2</u>			
<u>3</u>			
<u>4</u>			

FOR USE OF STATE ENGINEER ONLY

Date Received _____ Quad _____ FWL _____ FSL _____
File No. _____ Use _____ Location No. _____

STATE ENGINEER OFFICE
WELL RECORD

Well # 8

Section 1. GENERAL INFORMATION

(A) Owner of well WM (M) & Construction Owner's Well No. _____
Street or Post Office Address _____
City and State P.O. Box 1980
Hobbs, NM 88240

Well was drilled under Permit No. L-6200 and is located in the:

a. _____ ¼ _____ ¼ _____ ¼ _____ ¼ of Section 5 Township 16S Range 36E N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in
the _____ Grant.

(B) Drilling Contractor Larry's Drilling License No. WD082

Address Hobbs, NM

Drilling Began 9-1-84 Completed 9-1-84 Type tools Tricone Size of hole 7 7/8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 140 ft.

Completed well is shallow artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
<u>64</u>	<u>139</u>	<u>75</u>	<u>sand & sandstone</u>	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
<u>5</u>	<u>160PVC</u>		<u>-1</u>	<u>140</u>	<u>141</u>			
<u>casing pulled and hole plugged</u>								

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____

State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
<u>1</u>			
<u>2</u>			
<u>3</u>			
<u>4</u>			

FOR USE OF STATE ENGINEER ONLY

Date Received _____ Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

STATE ENGINEER OFFICE
WELL RECORD

#1

Section 1. GENERAL INFORMATION

(A) Owner of well EM Oil & Conservation Owner's Well No. _____
Street or Post Office Address P.O. Box 1980
City and State Kobbe, N.M.

Well was drilled under Permit No. L-9303 and is located in the:

- a. _____ ¼ _____ ¼ _____ ¼ _____ ¼ of Section 5 Township 16S Range 36E N.M.P.M.
b. Tract No. _____ of Map No. _____ of the _____
c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ Lea County.
d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in
the _____ Grant.

(B) Drilling Contractor Larry's Drilling License No. W8892
Address 2201 W. Bender, Kobbe, NM

Drilling Began 9-1-84 Completed 9-3-84 Type tools tricone Size of hole 7 7/8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 127 ft.

Completed well is shallow artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
<u>76</u>	<u>106</u>	<u>30</u>	<u>sand & sandstone</u>	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
<u>5</u>	<u>160PTC</u>		<u>-1</u>	<u>127</u>	<u>128</u>			
			<u>casing pulled & hole plugged</u>					

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
<u>1</u>			
<u>2</u>			
<u>3</u>			
<u>4</u>			

FOR USE OF STATE ENGINEER ONLY

Date Received _____ Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

STATE ENGINEER OFFICE
WELL RECORD

Section 1. GENERAL INFORMATION **Well #5**

(A) Owner of well HPI Oil & Construction Owner's Well No. _____
Street or Post Office Address P.O. Box 1980
City and State Walla, WA 98648

Well was drilled under Permit No. W-9500 and is located in the:

- a. _____ ¼ _____ ¼ _____ ¼ of Section 6 Township 24N Range 3E N.M.P.M.
- b. Tract No. _____ of Map No. _____ of the _____
- c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ 122 County.
- d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in
the _____ Grant.

(B) Drilling Contractor Larry's Drilling License No. WD882

Address 1001 N. Swader, Hobbs, WA

Drilling Began 9-4-77 Completed 9-4-77 Type tools airline Size of hole 7 7/8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 100 ft.

Completed well is shallow artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
<u>64</u>	<u>100</u>	<u>46</u>	<u>sand & sandstone</u>	
0	3	3	gravel	
3	34	31	caliche	
34	48	14	sand & clay. thin layers of sandstone	
48	54	6	hard white rock	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
<u>5</u>	<u>10200</u>		<u>0</u>	<u>100</u>	<u>100</u>			
<u>casing pulled & hole plugged</u>								

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
1			
2			
3			
4			

State Engineer Representative

FOR USE OF STATE ENGINEER ONLY

Date Received _____

Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

STATE ENGINEER OFFICE
WELL RECORD

Section 1. GENERAL INFORMATION

Well #6

(A) Owner of well WM Oil & Gas Corporation Owner's Well No. _____
Street or Post Office Address P.O. Box 1460
City and State Hobbs, N.M. 88240

Well was drilled under Permit No. 19500 and is located in the:

- a. _____ ¼ _____ ¼ _____ ¼ _____ ¼ of Section 6 Township 16S Range 36E N.M.P.M.
- b. Tract No. _____ of Map No. _____ of the _____
- c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.
- d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in
the _____ Grant.

(B) Drilling Contractor Larry's Drilling License No. WD882

Address 2601 W. Pender, Hobbs, NM

Drilling Began 9-5-84 Completed 9-9-84 Type tools tricone Size of hole 7 7/8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 100 ft.

Completed well is shallow artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
<u>62</u>	<u>80</u>	<u>18</u>	<u>sand & sandstone</u>	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
<u>3</u>	<u>160PVC</u>		<u>1</u>	<u>100</u>	<u>101</u>			
			<u>casing pulled & hole plugged</u>					

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
<u>1</u>			
<u>2</u>			
<u>3</u>			
<u>4</u>			

State Engineer Representative

FOR USE OF STATE ENGINEER ONLY

Date Received _____ Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

STATE ENGINEER OFFICE
WELL RECORD

Section 1. GENERAL INFORMATION

Well #7

(A) Owner of well Wm Oil & Conservation Owner's Well No. _____
Street or Post Office Address P.O. Box 1980
City and State Madison, WI

Well was drilled under Permit No. L-9930 and is located in the:

- a. $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{1}{4}$ of Section 6 Township 158 Range 368 N.M.P.M.
b. Tract No. _____ of Map No. _____ of the _____
c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in Log County.
d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in
the _____ Grant.

(B) Drilling Contractor Larry's Drilling License No. WD882
Address 2601 W. Bender, Wabesa, WI

Drilling Began 9-5-84 Completed 9-6-84 Type tools ericone Size of hole 7 7/8 in.

Elevation of land surface or _____ at well is _____ ft. Total depth of well 153 ft.

Completed well is shallow artesian. Depth to water upon completion of well _____ ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
From	To			
<u>57</u>	<u>130</u>	<u>73</u>	<u>sand & sandstone</u>	

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
<u>5</u>	<u>160PTC</u>		<u>-1</u>	<u>153</u>	<u>154</u>			
<u>well casing pulled and well plugged</u>								

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
From	To				

Section 5. PLUGGING RECORD

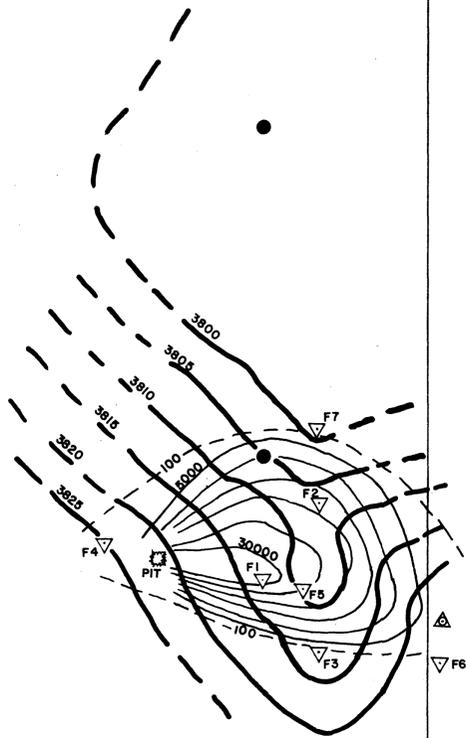
Plugging Contractor _____
Address _____
Plugging Method _____
Date Well Plugged _____
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet		Cubic Feet of Cement
	Top	Bottom	
<u>1</u>			
<u>2</u>			
<u>3</u>			
<u>4</u>			

FOR USE OF STATE ENGINEER ONLY

Date Received _____ Quad _____ FWL _____ FSL _____
File No. _____ Use _____ Location No. _____





- ⊙ DRY HOLE
- OIL WELL
- ▽ FRESH WATER SAMPLE WELL
- ▲ DOMESTIC FRESH WATER WELL
- ▣ PIT
- CONTOUR TOP RED BEDS
C.I. = 5 FEET
- CONTOUR CHLORIDE CONTENT
C.I. = 5000 PPM
10000
- CHLORIDE CONTENT 100 PPM
- SCALE 1 INCH = 330 FEET
1:3960
- NEW MEXICO OIL CONSERVATION DIVISION
FUQUA WATER STUDY

6 - 16 - 36