

APPLICATION FOR AUTHORIZATION TO INJECT

PURPOSE: Secondary Recovery ☒ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ Yes ☐ No

II. OPERATOR: CBS OPERATING CORP.

ADDRESS: P. O. BOX 2236, MIDLAND, TX 79702

CONTACT PARTY: M. A. SIRGO, III PHONE: 432/685-0878

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.
Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? ☒ Yes ☐ No R-11435-A 5/3/02
If yes, give the Division order number authorizing the project: R-1110 (Dated 1/15/58 as amended)

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

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

NAME: M. A. SIRGO, III TITLE: ENGINEER

SIGNATURE: *M. A. Sirgo III* DATE: 10-3-03

E-MAIL ADDRESS: mastres@aol.com

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

North Square Lake Unit

Planned Injection Wells (Does not include the original 7 approved by R-11435-A, Bold is latest Request)

Loc	NSLU#	API	WELL NAME	NS	FTG	EW	FTG	UL	UL2	Sec	Tsp	Rge	Last	Comp Stat	PLUG DATE	TVD	OGRD	LT	WT	OrigTarget
NE	15	30-015-04859	BAXTER A FEDERAL #001 (#15)	660S		1980E	O	O	20	16S	31E	10-1994	ZONE ABAN		1995-02-07		817 F	I		1
NE	16	30-015-04860	BAXTER A FEDERAL #002 (#16)	660S		660E	P	P	20	16S	31E	05-1994	ZONE ABAN		1995-02-07		817 F	O		2
NE	23	30-015-04906	GRIER FEDERAL #002 (#23)	810N		1980W	C	C	29	16S	31E	NONE	ZONE ABAN		1987-02-18	3445	8359 F	O		PLUGGED & ABANDON
NE	24	30-015-04912	NORTH SQUARE LAKE UNIT #024	660N		1980E	B	B	29	16S	31E	04-2003	ACTIVE			3509	216852 F	O		O
NE	25	30-015-04913	NORTH SQUARE LAKE UNIT #025	810N		990E	A	A	29	16S	31E	04-2003	ACTIVE			3432	216852 F	O		O
NE	41	30-015-04907	NORTH SQUARE LAKE UNIT #041	1980N		1980W	F	F	29	16S	31E	04-2003	ACTIVE			3491	216852 F	O		—
NE	42	30-015-04908	BRUNING #003 (#42)	1980N		1980E	G	G	29	16S	31E	NONE	ZONE ABAN		1987-02-12	3376	8359 F	O		PLUGGED & ABANDON
NE	43	30-015-04909	NORTH SQUARE LAKE UNIT #043	1980N		660E	E	H	29	16S	31E	04-2003	ACTIVE			3415	216852 F	O		—
NE	60	30-015-04914	NORTH SQUARE LAKE UNIT #060	1980S		1880E	J	J	29	16S	31E	04-2003	ACTIVE			3525	216852 F	O		YATES PET CORP /BRUNING
NE	61	30-015-04903	PRE-ONGARD WELL #005 (#61)	1980S		660E	I	I	29	16S	31E	NONE	NO COMPL			0	214263	O		UT
SW	124	30-015-24580	NORTH SQUARE LAKE UNIT #124	1250N		1031W	C	C	31	16S	31E	04-2003	ACTIVE			3414	216852 F	O		1
SW	126	30-015-04947	NORTH SQUARE LAKE UNIT #126	1980N		1980E	G	G	31	16S	31E	NONE	NO COMPL			0	214263	O		ANADARKO PET CORP /GRIER
SW	144	30-015-04941	NORTH SQUARE LAKE UNIT #144	1980S		1680W	K	K	31	16S	31E	04-2003	ACTIVE			3170	216852 F	O		1
N	3	30-015-20183	NORTH SQUARE LAKE UNIT #3	1980S		1980E	J	J	19	16S	31E									O
N	5	30-015-10322	NORTH SQUARE LAKE UNIT #5	1650S		990W	L	L	20	16S	31E									O
N	12	30-015-04856	NORTH SQUARE LAKE UNIT #12	660S		660E	P	P	19	16S	31E									1
N	20	30-015-04936	NORTH SQUARE LAKE UNIT #20	660N		1980E	B	B	30	16S	31E									O
N	22	30-015-04905	NORTH SQUARE LAKE UNIT #22	760N		560W	D	D	29	16S	31E									O
N	62	30-015-04892	NORTH SQUARE LAKE UNIT #62	1980S		660W	L	L	28	16S	31E									O
N	83	30-015-04915	NORTH SQUARE LAKE UNIT #83	550S		550E	P	P	29	16S	31E									O
N	85	30-015-04895	NORTH SQUARE LAKE UNIT #85	560S		1880W	N	N	28	16S	31E									O
N	111	30-015-04979	NORTH SQUARE LAKE UNIT #111	660N		1980E	B	B	33	16S	31E									O
N	162	30-015-24457	NORTH SQUARE LAKE UNIT #162	660S		1980E	O	O	31	16S	31E									1

CBS OPERATING CORP.

P. O. BOX 2236, MIDLAND, TX 79702 432/685-0878 FAX 685-1945

February 19, 2004

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION EMNR
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Attention: Mr. Richard Ezeanyim
Mr. Will Jones

Re: CBS Operating Corp.
C-108 Applications
North Square Lake Unit
Eddy County, New Mexico

Gentlemen:

Since our last meeting, CBS Operating has drilled 10 new producing locations on the North Square Lake Unit. Although all 10 wells are not yet completed, CBS Operating is ready to finalize the C-108 Applications for the pressure maintenance wells needed for these new locations.

In our previous meeting, CBS Operating was charged with identifying the specific C-108 Applications that CBS would return to review with you and propose specific remedies for any problem wells previously identified within the area of review by Mr. Will Jones.

In preparation for that review, following is a list of 17 previously submitted C-108 Applications that CBS is considering as potential pressure maintenance wells for the 10 new locations. The list also identified the wells Mr. Will Jones indicated were problem wells within each specific C-108 wells area of review. In preparation for that meeting, could you please verify that this list of problem wells is complete. This data was derived from Mr. Jones' spreadsheet dated November 26, 2003.

February 19, 2004
Page 2

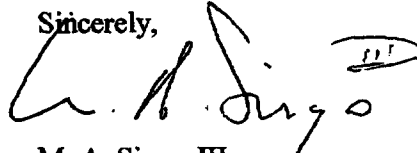
C-108 WELLAREA OF REVIEW PROBLEM WELL

- | | |
|---------------|--|
| 1) NSLU #5 | No problem wells within AOR |
| 2) NSLU #12 | NSLU #19 |
| 3) NSLU #15 | NSLU #8 |
| 4) NSLU #16 | NSLU #8, UL E, Sec. 21, NSLU #26, NSLU #27 |
| 5) NSLU #22 | No problem wells within AOR |
| 6) NSLU #23 | No problem wells within AOR |
| 7) NSLU #24 | NSLU #26 |
| 8) NSLU #25 | NSLU #26 |
| 9) NSLU #41 | No problem wells within AOR |
| 10) NSLU #42 | NSLU #26 |
| 11) NSLU #43 | NSLU #26, NSLU #27 |
| 12) NSLU #60 | No problem wells within AOR |
| 13) NSLU #61 | NSLU #26 |
| 14) NSLU #62 | NSLU #85 |
| 15) NSLU #83 | NSLU #85 |
| 16) NSLU #85 | Re-entry |
| 17) NSLU #111 | NSLU #85, NSLU #137 |

CBS Operating would like to meet with the NMOCD anytime within the next two weeks to finalize these C-108 Applications.

Please call if you need any additional information.

Sincerely,



M. A. Sirgo, III

MAS/pr

cc: Mr. Bill Carr

CBS Operating Corp
Feb-04

North Square Lake Unit
C - 108 Applications

Potential C - 108 Well No	API # 30 - 015 -
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Area of Review Problem Well	API # 30 - 015 -
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1.) NSLU # 5 ✓ 10322

2.) NLSU # 12 4856

3.) NSLU # 15 4859

4.) NSLU # 16 4860

5.) NSLU # 22 4905

6.) NSLU # 23 4906

7.) NSLU # 24 4912

8.) NSLU # 25 4913

9.) NSLU # 41 4907

10.) NSLU # 42 4908

11.) NSLU # 43 4909

12.) NSLU # 60 4914

13.) NSLU # 61 4903

14.) NSLU # 62 4892

15.) NSLU # 83 4915

16.) NSLU # 85 4895

17.) NSLU # 111 4979

No problem wells within AOR ✓

~~NSLU # 19~~ 04924 ✓
~~10469~~

NSLU # 8 4864 ✓

NSLU # 8 4864 ✓

* ~~E-21-16-31~~ No data

NSLU # 26 4897 ✓

~~NSLU # 27~~ 10549

No problem wells within AOR ✓

No problem wells within AOR ✓

~~NSLU # 26~~ 4897 ✓

~~NSLU # 26~~ OK 4897 ✓

No problem wells within AOR ✓

~~NSLU # 26~~ 4897 ✓

~~NSLU # 27~~ 10549

No problem wells within AOR ✓

~~NSLU # 26~~ 4897

~~NSLU # 85~~ 4895

~~NSLU # 85~~ 4895

Re-entry no problem wells within AOR ✓

~~NSLU # 85~~ 4895

~~NSLU # 137~~ 4971

* Could not find any data in NMOCD files or scout ticket data about this well. Field inspection of this location found no dry hole marker,

CBS OPERATING CORP.

P. O. BOX 2236, MIDLAND, TX 79702 432/685-0878 FAX 685-1945

August 19, 2003

State of New Mexico
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Attention: Mr. Richard Ezeanyim

Re: North Square Lake Unit
Eddy County, New Mexico
Transmittal of C-108 Application

Mr. Ezeanyim:

As per your request, enclosed please find 13 individual C-108 applications for certain wells located within the North Square Lake Unit.

Data common to all 13 wells has been presented only once and is located by section, and includes all sections except Section III, Section V and Section VI of the NMOCD Form C-108.

Section III is tabbed by each of the individual wells that are being applied for. A separate well data sheet is presented for each separate C-108 applicant well.

Section V is presented by each individual C-108 applicant well. The exhibit consists of an "Area of Review Map" for all wells located within a one-half mile radius of each C-108 applicant well.

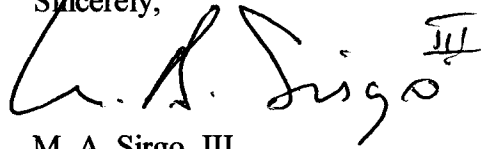
Section VI is presented by each individual C-108 applicant well. There are two exhibits for each well. The first is a tabular summary of pertinent data for all wells located within a C-108 applicant well's "Area of Review". The second exhibit is a schematic diagram for each plugged well that is located within a C-108 applicant well's "Area of Review". This schematic reflects all known prior plugging operations, and reflects the location of the base of the red bed, top and base of the salt intervals in each plugged well.

Preparation of this C-108 application included CBS Operating Corp.'s contracting Ritter Environmental & Geotechnical Services, as well as R T. Hicks Consultants, Ltd. to specifically study the potential of any subsurface sources of drinking water located within the unit area. Additionally, Ritter reviewed the Salado section within the unit boundary to determine any potential issues resulting from the proposed pressure maintenance activity. The reports prepared by Ritter and Hicks are located in Section VIII of the application.

CBS Operating requests that once the Oil Conservation Division has had time to review the 13 applications, that CBS meet with the NMOCD to address any issues or questions that may arise.

If any additional information is needed prior to then, please do not hesitate to call. Your consideration of these applications is greatly appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read "M. A. Sirgo, III". The signature is fluid and cursive, with the last name "Sirgo" being the most prominent part, followed by a comma and the Roman numeral "III".

M. A. Sirgo, III

MAS/pr

Enclosures

**CBS OPERATING CORP.
NORTH SQUARE LAKE UNIT
AUGUST 2003 C-108 APPLICATION**

VII. Data on proposed operation.

1. Proposed average injection rate: 150 BWPD per well
Proposed maximum injection rate: 300 BWPD per well
2. The system will be a closed system.
3. Proposed average injection pressure: 500 psi
Proposed maximum injection pressure: 600 psi (In no instance will the pressure exceed a .2 psi/ft gradient to the upper perf or top of the open hole interval).
4. The proposed injection fluid at this time is to be limited to produced water.
5. A chemical analysis of the formation water in the proposed injection horizon is attached.

Enviro-Chem, Inc.

WATER ANALYSIS REPORT

SAMPLE

Oil Co. :
 Lease : Grier
 Well No. : Water Tank
 Lab No. : 101688.001

Sample Loc. :
 Date Analyzed: 16-October-1998
 Date Sampled : 09-October-1998

ANALYSIS

1. pH 7.080
2. Specific Gravity 60/60 F. 1.068
3. CaCO_3 Saturation Index @ 60 F. +0.609
 @ 140 F. +1.529

Dissolved Gases

4. Hydrogen Sulfide Not Present
5. Carbon Dioxide Not Determined
6. Dissolved Oxygen Not Determined

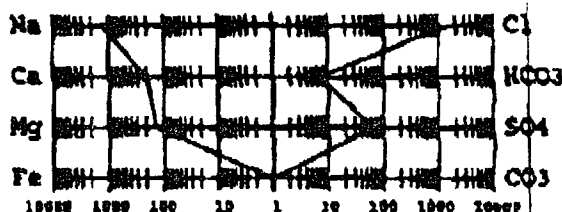
Cations

- | | | | | |
|--|----------------|---|--------|----------|
| 7. Calcium (Ca^{++}) | 4.188 | / | 20.1 = | 207.36 |
| 8. Magnesium (Mg^{++}) | 1.580 | / | 12.2 = | 129.51 |
| 9. Sodium (Na^{+}) (Calculated) | 29.432 | / | 23.0 = | 1,279.85 |
| 10. Barium (Ba^{++}) | Not Determined | | | |

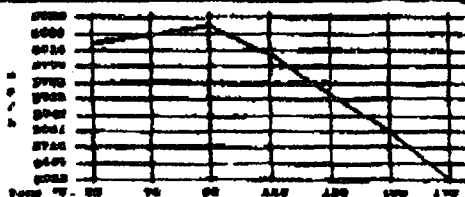
Anions

- | | | | | |
|--|------------|---|--------|----------|
| 11. Hydroxyl (OH^{-}) | 0 | / | 17.0 = | 0.00 |
| 12. Carbonate (CO_3^{--}) | 0 | / | 30.0 = | 0.00 |
| 13. Bicarbonate (HCO_3^{-}) | 41.000 | / | 61.1 = | 59.43 |
| 14. Sulfate (SO_4^{--}) | 2,800.000 | / | 48.0 = | 58.46 |
| 15. Chloride (Cl^{-}) | 54,988 | / | 35.5 = | 1,548.96 |
| 16. Total Dissolved Solids | 93,483 | | | |
| 17. Total Iron (Fe) | 15.913 | / | 18.2 = | 0.08 |
| 18. Total Hardness As CaCO_3 | 15.913 | | | |
| 19. Resistivity @ 75 F. (Calculated) | 0.101 /cm. | | | |

LOGARITHMIC WATER PATTERN *mg/L.



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION COMPOUND mg. wt. X *mg/L = mg/L.

$\text{Ca}(\text{HCO}_3)_2$	81.04	6.79	550
CaSO_4	68.07	59.43	4,045
CaCl_2	55.50	141.14	7,834
$\text{Mg}(\text{HCO}_3)_2$	73.17	0.00	0
MgSO_4	60.19	0.00	0
MgCl_2	47.62	129.51	6,167
NaHCO_3	84.00	0.00	0
NaSO_4	71.03	0.00	0
NaCl	58.46	1,278.30	74,730

This water is mildly corrosive due to the pH observed on analysis.
 The corrosivity is increased by the content of mineral salts in solution.

*Milli Equivalents per Liter

**CBS OPERATING CORP.
NORTH SQUARE LAKE UNIT
AUGUST 2003 C-108 APPLICATION**

- VIII. The injection interval is located in the Grayburg-San Andres formation. This Permian age horizon is nearly 1200' thick in this area. The top of the Grayburg formation is a depth of approximately 2800' with the base of the San Andres at a depth of about 4000'.

There are three known Quaternary age fresh water wells within one mile of the proposed unit. The pertinent information on these wells are:

<u>Location</u>	<u>Depth</u>	<u>Chlorides</u>
Section 24 T16S, R30E	45'	156 ppm
Section 33 T16S, R30E	385'	3780 ppm
Section 24 T16S, R30E	167'	66 ppm

There are no fresh water zones underlying the proposed injection zone.

MEMBERSHIP

DEPTH WSP DATED TO CLTR USE LOCATION

LEELEV FT CLIN CHLORIDES CONDUCT TDS TENS AGE DATA CHAD DATE SOURCE OFN

MEIER

0	PSA	78/07/19	SE0	IRR	165.26E.35.123411	0.00	YT	1130	5540	0	0	0	0	0186	0
0	PSA	85/08/27	SE0	IRR	165.26E.35.123411	0.00	DP	304	2691	0	71	0	0	1185	0
0	PAT	88/10/21	SE0	STK	165.27E.03.14121	0.00	DP	423	4685	0	69	0	0	0289	0
0	PAT	57/05/01	US6	STK	165.27E.03.141212	3495.00	DP	695	4940	0	66	X	0	0585	0
0	PAT	65/06/03	SE0	STK	165.27E.03.141212	3499.00	DP	740	4946	0	73	0	0	0635	0
0	PAT	68/10/21	SE0	STK	165.27E.03.141212	3495.00	DP	623	4685	0	65	0	0	0689	0
131	PAT	40/10/03	US6	STK	165.27E.06.444424	3439.00	DP	435	4100	0	0	X	0	0695	0
131	PAT	57/05/01	US6	STK	165.27E.06.444424	3439.00	DP	455	4220	0	66	X	0	0695	0
131	PAT	85/06/03	SE0	STK	165.27E.06.444424	3439.00	DP	448	4143	0	72	0	0	0683	0
131	PAT	58/10/25	SE0	STK	165.27E.06.444424	3439.00	DP	514	4333	0	70	0	0	1152	0
0	PSA	50/05/11	ONR	DIL	165.27E.23.14000	0.00	EL2700	*****	0	0	0	X	0	0586	0
0	PAT	60/04/26	DLR	DIL	165.27E.26.43200	0.00	EL1455	6880	21630	0	0	0	0	0382	0
60	PAT	57/05/01	US6	STK	165.27E.36.212114	3454.00	DP	2540	11300	0	65	X	0	0685	0
60	PAT	85/10/08	SE0	STK	165.27E.36.212114	3454.00	DP	1240	7221	0	64	0	0	0186	0
60	PAT	88/10/27	SE0	STK	165.27E.36.212114	3454.00	DP	1564	8339	0	64	0	0	1188	0
54	FAT	26/06/12	SE0	STK	165.28E.12.22132	3584.00	DP	362	3764	0	68	0	0	0287	0
54	FAT	90/09/14	SE0	STK	165.28E.12.22132	3580.00	DP	790	4620	0	66	0	0	0191	0
0	FAT	53/12/13	SE0	STK	165.28E.12.22132A	3580.00	DP	714	3780	0	66	0	0	0694	0
0	GAL	86/06/12	SE0	STK	165.28E.24.22423A	3568.00	DP	28	2413	0	70	0	0	0287	0
0	FAT	93/12/13	SE0	STK	165.28E.24.22423A	3580.00	DP	136	2560	0	60	0	0	0694	0
85	FAT	90/09/18	SE0	STK	165.28E.25.33243	3577.00	DP	214	3200	0	66	0	0	0191	0
45	GAL	93/12/13	SE0	STK	165.28E.25.33243	3577.00	DP	0	4470	0	0	0	0	0594	0
0	TRE	80/12/30	CEC		165.30E.24.12233	0.00		101	0	0	0	X	0	1084	0
0	TRE	85/03/12	SE0	STK	165.30E.24.12233	0.00	DP	340	699	0	0	0	0	0463	0
15	BL	07/18	SE0	STK	165.30E.25.33243	3577.00	DP	436	3081	0	68	0	0	0187	0
395	TRS	86/04/25	SE0	NOT	165.30E.33.42443	3729.00	T58383	4330	14576	0	0	0	0	0586	0
395	TRS	90/09/18	SE0	NOT	165.30E.33.42443	0.00	T58383	3780	13570	0	0	0	0	0191	0
433	TRS	58/11/26	ONR	SRG	165.30E.33.44233	3727.00	DP	6730	0	0	0	X	0	0586	0
433	TRS	86/04/25	SE0	NOT	165.30E.33.44233	3727.00	T58430	5100	92130	0	0	0	0	0594	0
320	T06	48/12/09	US6	STK	165.31E.02.12124	4416.00	DP	82	616	0	0	X	0	1276	0
320	T06	76/12/21	SE0	STK	165.31E.02.12124	4416.00	DP	82	758	0	58	0	0	15-71000	0
320	T06	79/10/26	SE0	STK	165.31E.02.12124	4416.00	DP	74	682	0	66	0	0	15-71000	0
320	T06	84/12/04	SE0	STK	165.31E.02.12124	4416.00	DP	95	819	0	0	0	0	15-71000	0
320	T06	90/07/16	SE0	DOM	165.31E.02.12124	4416.00	DP	115	532	0	0	0	0	15-71000	0
0	T06	95/09/25	SE0	DIL	165.31E.02.12124	4416.00	DP	95	720	0	0	0	0	0194	0
0	T06	42/12/06	US6	STK	165.31E.12.42300	4365.00	DP	14	612	0	0	X	0	15-12367	0
0	T06	76/12/21	SE0	STK	165.31E.14.24444	4396.00	DP	19	458	0	69	0	0	15-71001	0
0	T06	79/11/13	SE0	STK	165.31E.14.24444	4396.00	DP	36	527	0	67	0	0	15-71001	0
0	T06	84/12/04	SE0	STK	165.31E.14.24444	4396.00	DP	21	461	0	65	0	0	15-71001	0
0	T06	85/03/03	SE0	STK	165.31E.14.24444	4396.00	DP	22	472	0	65	0	0	15-71001	0
0	T06	90/07/16	SE0	STK	165.31E.14.24444	4396.00	DP	62	523	0	72	0	0	15-71001	0
0	T06	53/10/16	SE0	STK	165.31E.14.24444	4376.00	DP	23	530	0	0	0	0	15-71001	0
157	T06	81/09/29	SE0	STK	165.31E.23.44321	4250.00	DP	72	678	0	69	0	0	15-71002	0
157	T06	81/09/29	SE0	STK	165.31E.23.44321	4250.00	TANK	76	685	0	0	0	0	15-71002	0
157	T06	24/12/13	SE0	STK	165.31E.23.44321	4250.00	DP	53	609	0	67	0	0	15-71002	0
157	T06	85/05/05	SE0	STK	165.31E.23.44321	4250.00	DP	164	653	0	67	0	0	15-71002	0
0	T06	79/11/13	SE0	STK	165.32E.03.344324	4015.00	DP	14	773	0	66	0	0	25-11050	0
0	T06	84/10/11	SE0	STK	165.32E.03.344324	4315.00	SELA	32	760	0	0	0	0	25-11050	0
0	T06	79/11/13	SE0	STK	165.32E.11.34140	4295.00	DP	56	410	0	65	0	0	25-11053	0
0	T06	79/11/13	SE0	STK	165.32E.11.34140	4295.00	DP	14	780	0	0	0	0	25-11057	0

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RITTER ENVIRONMENTAL & GEOTECHNICAL SERVICES, INC.

2900 N. Big Spring, Midland, Texas 79705

Bus: (915) 682-7404 • (915) 570-REGS • Metro: (915) 570-6007 • Fax: (915) 682-7440

August 7, 2003

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Re: C 108 Applications – CBS Operating Company – North Square
Lake Unit – Lea County, New Mexico

I. Introduction

CBS Operating Company engaged the services of Ritter Environmental and Geotechnical Services, Inc. (Ritter) to study and evaluate the potential for groundwater impacts related to injection of produced water in the North Square Lake Unit (NSLU). Ritter has engaged the Hicks Consulting Firm, R. T. Hicks Consultants Ltd., to assist in certain aspects of the study and evaluation. Mr. Randal Hicks, his assistant Mr. Parker and I have reviewed and researched published information on the geology and hydrology of the region and local area. We obtained available research from the New Mexico State Engineer's Office as well as unpublished information for the Sandia National Lab and Roswell BLM Offices. A second report under Hick's letterhead accompanies these C 108 applications. The information contained herein will uniformly apply to all C 108 applications inside the North Square Lake Unit (NSLU).

II. Summary

The NSLU sets in the far northeast corner of Eddy County, north of the highway between Loco Hills and Maljamar, New Mexico. It is situated just west of the western limit of the Caprock of the high plains. It is located at the far east edge of the region where the topographic drainage is to the Pecos River.

Review of available groundwater information had determined that very little, if any, usable groundwater is present in the NSLU area. The nearest significant groundwater source to the

NSLU are water wells that are up on the Caprock, north and east of the unit. These wells produce from the Ogallala aquifer. The Ogallala is not present at the NSLU site.

The only potential sources of potable groundwater in the NSLU area are the near surface alluvium (generally less than 50 feet from the surface), the Dewey Lake and the lower Dockum (Santa Rosa) (from approximately 50 to 750 feet from the surface). The near surface alluvium consists primarily of un-compacted sands. The strata below the alluvium consists of interbedded sands, caliche (lime), anhydrites, red beds and shale. These comprise the Dewey Lake and Dockum Groups. These zones sit on top of the Rustler formation, which is an anhydrite setting on top of the Salado salt section. The Rustler formation is approximately 150 feet thick in the vicinity of the NSLU. The Salado salt section is impermeable and does not allow the recharge of any deeper zones with fresh water. The Salado in the vicinity of the NSLU is approximately 1000 feet thick.

No aquifer below the top of the Rustler in the NSLU is known to produce groundwater in sufficient quantity or quality to be usable for animal or human consumption or agricultural use.

Although the quality of groundwater in some windmills in the area is generally good, quantities of water have been insufficient for use except for sparse cattle watering. There are currently no fresh groundwater wells within the NSLU boundary. The nearest reported water wells were located in sections 24 and 25 T-16-S, R-30-E. One of these wells was reportedly completed at a depth of 45 feet and are now apparently abandoned.

Only two of the approximately 200 oil wells drilled inside the unit reported or tested any fresh water. One oil well, located on the far west side of the unit, NSLU #3, (Sec 25 T-16-S R-30-E) tested five bailers per hour at a depth of 450 feet which is in the red beds of the Dewey Lake. The only other well to test water was on the south central part of the unit NSLU #129 (Sec 32 T-16-S R-31-E). This well bailed one-half bailer per hour from a depth of 450 feet which is also in the Dewey Lake red beds.

In the 1960's, approximately 16 oil wells were drilled on the northeast and east side of the unit with permission from the OCD to drill to the top of the salt (or anhydrite) and test for fresh water. If no groundwater was found, a shallow surface casing was allowed to be set (less than 100 feet) and a cement plug was to be set at the top of the salt, behind the production string. Apparently, none of these wells encountered freshwater. Of the 16 wells that were allowed to set shallow surface casing less than 100 feet, those that were completed as oil wells were either two stage cemented with a DV tool from the top of the Rustler anhydrite or cement grouted behind the production string with a one-inch trim line from the top of the anhydrite. Those that were later plugged and abandoned were cemented with a plug to protect the fresh water zone above the Rustler. Thus, no well within the Area of Review for the NSLU is currently unprotected in the potential fresh water strata above the Rustler.

Geologic e-log cross-sections across the NSLU field fail to confirm the development of any continuous sandstone units capable of being significant sources of groundwater above the

Rustler. Approximately 11 wells were drilled in the township due south of the NSLU specifically looking for a water source. All of these test wells were dry.

Chemical analysis of wells in the area of the NSLU indicate that, where present, the water quality is generally good with Chloride levels ranging from approximately 100 to 150 mg/L and Conductivity ranging from approximately 300 to 3100 mg/L. Some of these water samples were taken from wells that are reportedly completed in the shallow alluvium and not in the Dewey Lake red beds.

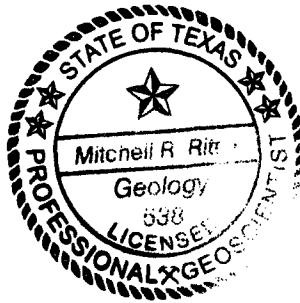
Conclusions:

1. The R.T. Hicks Consulting, Ltd. hydrogeological study concluded that the only potential sources of protectable groundwater would be the Dewey Lake and Dockum Groups, that neither of these geological units are capable of providing appreciable amounts of groundwater and that surface pipe already in place is sufficient to protect any groundwater present in these units from the proposed injection in the NSLU.
2. Evaluation of fresh water usage and sources in the vicinity of NSLU has identified only minimal use due to the lack of groundwater aquifers in this area. Only a relative few windmills exist or once existed in this area. Those wells were minimal at best and some are now abandoned. The nearest fresh water well is located one mile northwest. It is now abandoned. Stock tank windmills are located to the north but productivity is low. Wells drilled to test for fresh water to the south of the NSLU were all dry.
3. Generally, the oil wells drilled in the NSLU are surface cased through the top of the Rustler formation. Only two of two hundred wells encountered and tested fresh water. The amounts of fresh water tested in these two were between $\frac{1}{2}$ and 5 bailers per hour. Sixteen wells on the northeast side of the unit were drilled with out surface casing below 100 feet; however, these wells were allowed by the OCD to cement behind the production string back to the surface from the Rustler. We have found no wells where the surface zones from the Rustler back to the top is not protected.
4. E Log review has not confirmed the existence of any major fresh water aquifers in the NSLU area. In fact, the cities of Loco Hills and Maljamar are dependant on an aqueduct that draws water from the Ogallala on the Caprock to the east for their municipal water supplies.
5. No usable fresh water exists below the top of the Rustler formation, which in this area is an anhydrite. The Rustler ranges from a depth of approximately 300 feet on the west end of the unit to approximately 700 feet on the east end of the unit. The top of the Rustler established the lower most protectable strata for the protection of potential fresh water zones in the NSLU.

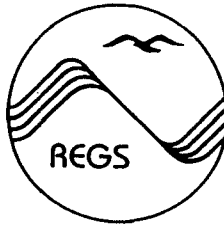
6. The proposed pressure maintenance project by CBS Operating Company should not adversely impact any fresh water aquifer in the vicinity of the NSLU. All well bores are properly protected by pipe and cement plugs. CBS will carefully monitor wells for any abnormality that may relate to down hole issues that could potentially impact that fresh water zone.



Mitchell Ritter
Licensed Professional Geologist Number #538
Registered Environmental Manager (REM) Number #11402



MR/lr



RITTER ENVIRONMENTAL & GEOTECHNICAL SERVICES, INC.

2900 N. Big Spring, Midland, Texas 79705

Bus: (915) 682-7404 • (915) 570-REGS • Metro: (915) 570-6007 • Fax: (915) 682-7440

August 19, 2003

Mr. Richard Ezeanyim, P.E.
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Re: North Square Lake Unit (NSLU) Area-Salado Salt Discussion

Dear Mr. Ezeanyim,

Attached to this letter is an excerpt from a publication from the USGS, the New Mexico Bureau of Mines and the State Engineer's office. This publication is authored by G.E. Hendrickson and is titled "Geology and Groundwater Resources of Eddy County, New Mexico". This report addresses the specifics of the geology and groundwater in the vicinity of North Square Lake Unit area. In relation to groundwater and the salt section known as the Salado formation, the report states on page 73, "Occurrence of Groundwater-The Salt of the Salado is impermeable, primarily because the weight of the over burden is sufficient to cause plastic flow of the salt and hence prevent the development of cracks and crevices through which water might move." Based on this information, it is not feasible that the salt section of the Salado is leachable and therefore not an issue of concern for casing leaks that might encounter the salt section.

To date, over 48,000,000 barrels of produced water have been injected into this field. It is logical to assume that any casing leaks associated with the salt section would have manifested themselves by this time. Review of records of the existing wells in this field revealed no high pressure casing leaks in the salt section.

The most recent well drilled was Well #106, which was drilled in 1986. This well did not encounter water in the salt section or have any indication of a pressured salt section. This was long after the injection of the majority of water in this field.

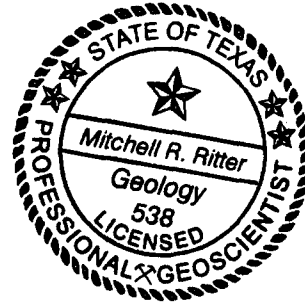
The proposed project is designed as a pressure maintenance project, not a full flood with high pressures. The water being injected is produced water, which is expected to be chemically

compatible with the salt section. Even if it were in contact with the salt, leaching of the salt is not anticipated.

We therefore conclude that cement protection of the salt section in the vicinity of the North Square Lake Unit is not warranted. Retrofit of wells with cement over the salt section does not appear to be a prudent use of funds in this particular area.



Mitchell Ritter
Licensed Professional Geologist Number #538
Registered Environmental Manager (REM) Number #11402



MR/ts

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GROUND-WATER REPORT 3

Geology and Ground-Water Resources of Eddy County, New Mexico

by G. E. HENDRICKSON, *Geologist*
and R. S. JONES, *Geologist*

UNITED STATES GEOLOGICAL SURVEY

*Prepared cooperatively by
The United States Geological Survey,
New Mexico Bureau of Mines & Mineral Resources,
and the State Engineer of New Mexico*

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108 feet. The south well is reported to be 100 feet deep and to yield a small supply of soft water. The reported depth to water in this well is 75 feet.

In the outcrop area of the Chalk Bluff formation north of Lake McMillan water can also be obtained from wells at depths generally less than 200 feet, but the water is likely to be more highly mineralized than that in the area farther south. The limestone of the Chalk Bluff formation grades into gypsum and anhydrite to the north, and as a result the water in that area contains a comparatively high concentration of sulfate. Water from well 17.27.11.110 (see table 3), about 8 miles east of Artesia, contained 1,780 parts per million of sulfate but only 33 parts per million of chloride.

Water in the Chalk Bluff also becomes more highly mineralized to the east. East of the outcrop area of the Chalk Bluff formation the Whitehorse group, the subsurface equivalent of the Chalk Bluff formation, probably contains water of quality similar to that in the Rustler formation.

The Castile formation, overlying the Whitehorse group and overlain by the Salado formation in the Delaware basin in the southeastern part of Eddy County, is absent north and west of the buried reef front. The extent of the Delaware basin in Eddy County is shown in the sketch map (fig. 4). The Castile formation probably is not a source of ground water anywhere in the county east of the Pecos.

Salado and Rustler formations

Character, extent, and thickness.—The Salado formation, consisting chiefly of halite and small amounts of anhydrite, polyhalite, and red sandy shale, does not crop out in Eddy County, but it underlies most of the area east of the Pecos.

The top of the salt of the Salado is an irregular surface, owing chiefly to solution and removal of the salt by ground water moving in the basal beds of the Rustler. The local relief on top of the Salado is as much as 300 feet in 1 mile. Over much of Nash Draw and parts of Clayton Basin the surface depressions coincide with relatively low parts of the surface of the salt. Figure 5 is a map of the potash-mines area showing contours on top of the salt of the Salado formation. This map is based on records of potash core tests that were made available by R. H. Allport, Regional Engineer of the Conservation Branch, U. S. Geological Survey, at Carlsbad. The depth to the top of the salt in any given spot can be determined by subtracting the altitude of the top of the salt from that of the land surface.

The Rustler formation consists of anhydrite, gypsum, interbedded sandy clay and shale, and irregular beds of dolomite. It unconformably overlies the Salado formation in most of the area east of the Pecos River and ranges in thickness from about 200 feet in northern Eddy County

to about 500 feet southeast of Carlsbad. Indicated on plate 1 is the approximate area of outcrop of the Rustler formation, including places where the Rustler is mantled by the wind-laid so-called Mescalero sands.

Occurrence of ground water.—The salt of the Salado is impermeable, primarily because the weight of the overburden is sufficient to cause plastic flow of the salt and hence prevent the development of cracks and crevices through which water might move. The extensive potash mines in this formation, although several hundred feet below the water table, are entirely dry except where water enters the shafts through the overlying Rustler formation. The Salado formation is important, however, as the lower confining strata to the basal aquifer in the overlying Rustler formation.

The Rustler formation, throughout most of its outcrop area, is the only possible source of ground water. Water may be obtainable from the underlying Whitehorse group in a small area in the northeast part of the outcrop area. Where the Rustler is underlain by the Salado, drilling below the Rustler for potable water would be useless.

Several water-bearing zones in the Rustler have been penetrated in the numerous potash test holes drilled into the underlying Salado formation. The basal beds of the Rustler consist of porous gypsum in a large part of Nash Draw and southwest to Malaga Bend. These beds, which are in contact with the underlying salt of the Salado formation in some places and separated from it by a few feet of clay in others, contain a brine saturated with sodium chloride, as shown by a number of samples taken during drilling (Robinson and Lang, 1938, pp. 87, 88). The brine in this aquifer moves southwest in Nash Draw past Salt Lake (Laguna Grande de la Sal) to discharge into the Pecos River at Malaga Bend. Calculations based on the increase in chloride content of the Pecos River water in the vicinity of Malaga Bend show that the brine aquifer probably discharges about 340 tons of salt a day to the river (Theis, Sayre, and others, 1942, p. 69).

The most important aquifer above the basal brine aquifer in the Rustler is the 35-foot unit of dolomitic limestone at the top of the lower part of the Rustler as defined by Lang. This limestone unit yields water to most wells penetrating it in the potash mines area (Theis, Sayre, and others, 1942, p. 67). However, a test hole at the site of the No. 2 shaft of the International Minerals and Chemical Corp., 22.29.11, on Quahada Ridge found no water in the Rustler above the basal brine aquifer.

Water is generally confined in the limestone aquifer where it is overlain by the upper beds of the Rustler. Water in it is under water-table conditions where the limestone is near the surface, as in the lower part of Nash Draw and in the vicinity of Salt Lake. This limestone aquifer is the chief source of the water in the shafts of the potash mines. (See p. 76.)

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW Suite 142 Albuquerque, New Mexico 87104 505.266.5004 Fax: 505.246.1818

August 10, 2003

Mr. Mitch Ritter
Ritter Environmental
2900 N. Big Spring
Midland, Texas 79705

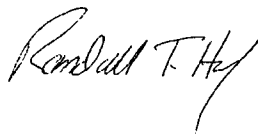
RE: Hydrogeology of North Square Lake Unit Area

Dear Mr. Ritter:

My firm researched published documents, we examined the records of the New Mexico Office of the State Engineer (OSE), we obtained unpublished information from Sandia National Laboratories and the Roswell BLM office, and we visited the site. In addition, we examined site-specific data including several gamma and gamma/neutron logs of the shallow subsurface, driller's logs, and NMOCD on-line data. We believe we have evaluated all applicable information on the geology and ground water resources of the general area of the North Square Lake Unit (NSLU). Below, we list our conclusions. We list the facts that support our conclusions and provide the source for all of these facts.

If you have any questions concerning the attachment, please contact me.

Sincerely,
R.T. Hicks Consultants, Ltd.



Randall T. Hicks
Principal

Hydrogeology of North Square Lake Unit, Eddy County, New Mexico

Conclusions:

1. Only the near-surface alluvium, Dewey Lake and Dockum Group redbeds could contain ground water with a total dissolved solids (TDS) concentration of less than 10,000 mg/L
2. The preponderance of evidence allows us to conclude that none of these units produce sufficient quantity of water to encourage their development as a water supply (stock, agriculture, or domestic).
3. Cemented oil well surface casing can effectively protect any undiscovered ground water in the redbeds from brine intrusion due to enhanced oil recovery operations in the NSLU.

Facts:

Geology

- Figure 1, which is a stratigraphic column of southeast New Mexico, shows the relative position of water-bearing and low permeability units (Sattler, 2003).
- Figure 2 is a geologic map of the area (Anderson and others, 1997). The sections that comprise the NSLU are outlined on this map. Erosion removed the Ogallala Aquifer in the area of the NSLU, but is present to the east of the NSLU. As the figure suggests, the surface geology is Quaternary eolian and pediment deposits (Qe/Qp), which is underlain by the redbeds of the Dockum Group and the Santa Rosa Sandstone. Kelley (1971) suggests that Late Permian/Early Triassic erosion removed the Dewey Lake Formation northwest of the NSLU and he maps the Santa Rosa Sandstone unconformably overlying the Rustler Formation. Figure 2, which used the mapping of Kelley as a source, shows this relationship north and west of the NSLU.
- The three large-scale cross-sections generated by the geologist for CBS Operating Company (attached) show that evaporates (anhydrite and salt) underlie the redbeds (Dewey Lake, Santa Rosa Sandstone, and Upper Dockum Group).
- Gamma logs that characterize the Dockum Group, Santa Rosa and Dewey Lake Redbeds are available for some oil and gas wells within the NSLU. Although Kelley mapped the Santa Rosa Sandstone unconformably overlying the Rustler Formation northwest of the NSLU, the gamma logs confirm the presence of about 200 feet of the Dewey Lake within the unit. Figure 3 presents the gamma log for NSLU 60 (API 3001504914), which is typical of many available logs for the area. We interpreted a low gamma

activity section between 218 and 270 feet below surface as the Santa Rosa Sandstone horizon. The lack of contrast of the gamma log suggests that this horizon may contain fine-grained clay in addition to sand/silt.

Continuous coarser-grained units (low gamma activity) above or below the Santa Rosa Sandstone horizon are very difficult to trace between wells.

- Figure 4 from McGowen and others (1977) show the erosional/depositional edge of the Lower Dockum Group in the area of the NSLU. The thickness of the Lower Dockum Group is zero west of the NSLU and 600-800 feet at the Eddy/Lea County line. Figure 5 (McGowen and others, 1977) confirms that the Lower Dockum Group (including the Santa Rosa Sandstone horizon) is very fine grained. In and near the NLSU, the Lower Dockum Group contains less than 20% sandstone.
- Figure 6 is a schematic northwest to southeast section of the Dewey Lake and Dockum Group redbeds. In this figure, which we generated from gamma log data, the Santa Rosa Sandstone is yellow.

Regional Ground Water Resources

- The BLM determined that the limestone units of the Rustler Formation are saline and are not protected by surface casing on Federal lands in the general area (John Simitz, BLM Roswell, personal communication, 2003).
- In west Texas, the Santa Rosa Sandstone (lower Dockum Group) yields sufficient quantities of ground water for a small community supply wells. The municipalities of Happy, Hereford, and Tulia obtain some or all of their water from the lower Dockum Group (Dutton and Simpkins, 1986)
- The Santa Rosa Sandstone is not employed extensively as a water supply source in New Mexico. The Santa Rosa Sandstone is a secondary source of water for the City of Las Vegas, New Mexico, where the well field is located adjacent to the outcrop (Lazarus and Drakos, 2002).
- Thin, discontinuous sandstones in the Dockum Group and Dewey Lake Redbeds, which may provide water to windmills for several years or a decade or more, often contain relatively poor quality ground water (Dutton and Simpkins, 1986; Hendrickson and Jones, 1952).
- Where present the Ogallala Aquifer supplies water to municipal supply wells, agriculture, and industry. For example, Maljamar and Loco Hills derive their water via pipeline from wells completed in the Ogallala Aquifer east of the area of interest.

Ground Water Quantity and Quality within the NSLU Area

- Sixteen oil and gas wells, drilled with cable tools in the 1960's, explored for useable quantities of ground water in these redbeds in the NSLU. These wells, which are distributed primarily on the northeast side of the unit, did not detect meaningful quantities of water. Also, several wells were drilled specifically for fresh water in the township due south of the unit did not find

any water in any well.(CBS Operating Company, personal communication, 2003).

- Despite the large number of oil and gas wells drilled in and adjacent to the NSLU, no water supply wells draw water from the redbeds within or near the North Square Lake Unit (NSLU). Throughout New Mexico, producers recomplete abandoned oil and gas wells as shallow water wells for the benefit of the surface owner. Figure 7 plots the location of all water supply wells from the Office of the State Engineer (OSE, 2003) database. Note that no wells exist within the NSLU.
- The closest water well is an abandoned windmill located about 3 miles north of the site. This well (Figure 8) probably tapped water associated with the dune sands in this closed depression
- The total dissolved solids (TDS) content of water in the Santa Rosa Sandstone in the area of North Square Lake Unit (NSLU) may exhibit TDS content greater than 5,000 mg/L (Figure 9; Dutton and others, 1986). However, the lower Dockum Group contains brine near Amarillo, Texas (Wilson and Esparza, 2002) and ground water could be of similar quality within the area of interest.
- The volume of anhydrite in the Rustler Formation and the mass of underlying salt permit us to concur with the BLM's conclusion that permeable units below the Dewey Lake Redbeds contain brine and are not suitable for domestic or agricultural use.

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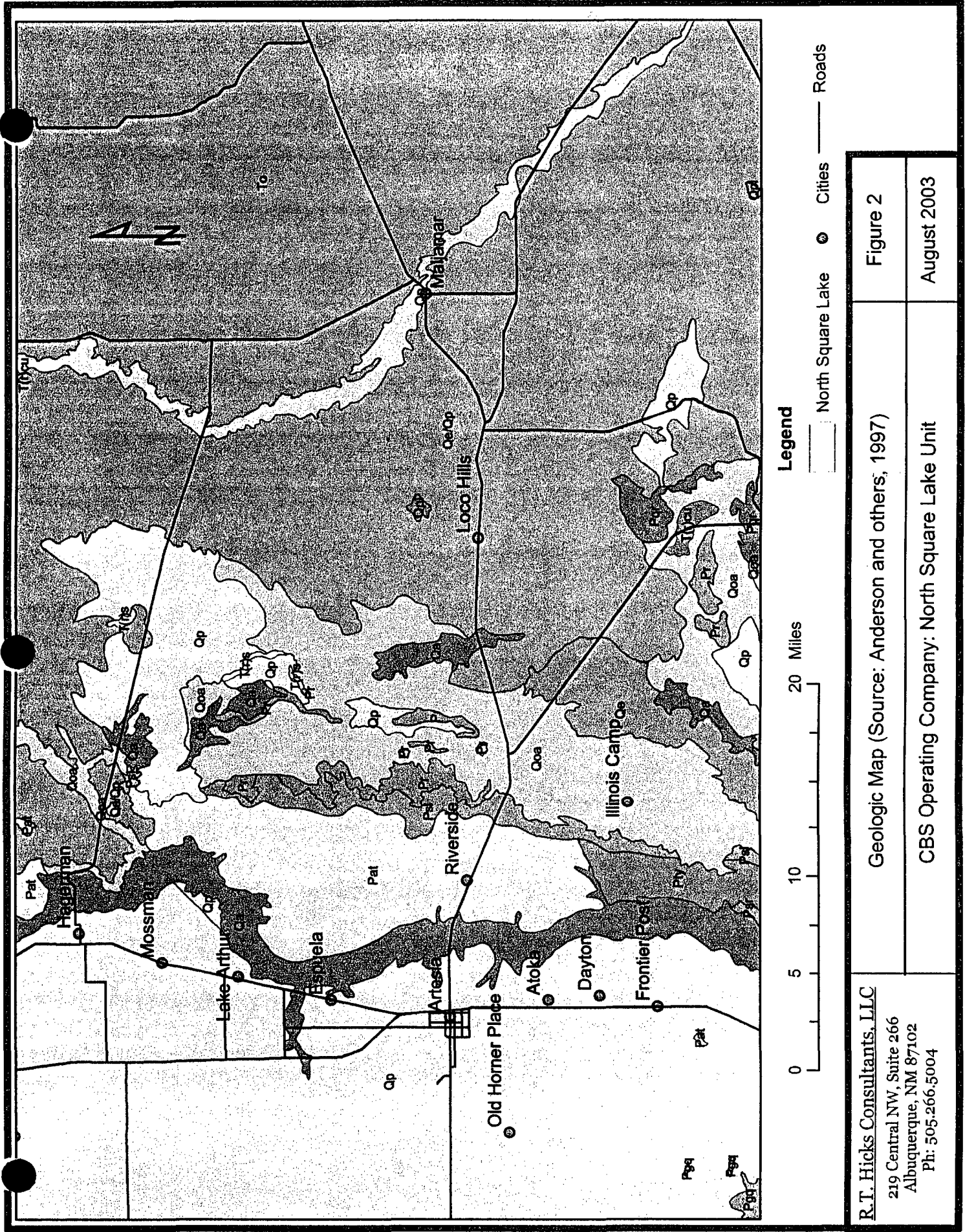
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Wilson, L., and Esparza, L.E., 2002, Lake Meredith Salinity Control Project: in Water Issues of Eastern New Mexico, 42nd annual New Mexico Conference, (<http://wrri.nmsu.edu/publish/watcon/proc/proc42/wilson.html>).

Figure 1. Geologic Column

System	Series	Group	Formation	Member	
Recent	Recent		Surficial Deposits		
Quaternary	Pleistocene		Mescalero Caliche		
			Gatuña		
Tertiary	Mid-Pliocene		Ogallala		
Triassic		Dockum	Chinle		125'
			Santa Rosa		450'
Permian	Ochoan		Dewey Lake		760'
			Rustler	Forty-niner	1255'
				Magenta Dolomite	
				Tamarisk	
				Culebra Dolomite	
				lower	
			Salado	upper	1585'
				McNitt Potash	
				lower	
			Castile		
	Guadalupian	Delaware Mountain	Bell Canyon		
			Cherry Canyon		
			Brushy Canyon		



R.T. Hicks Consultants, LLC

219 Central NW, Suite 266
Albuquerque, NM 87102
Ph: 505.266.5004

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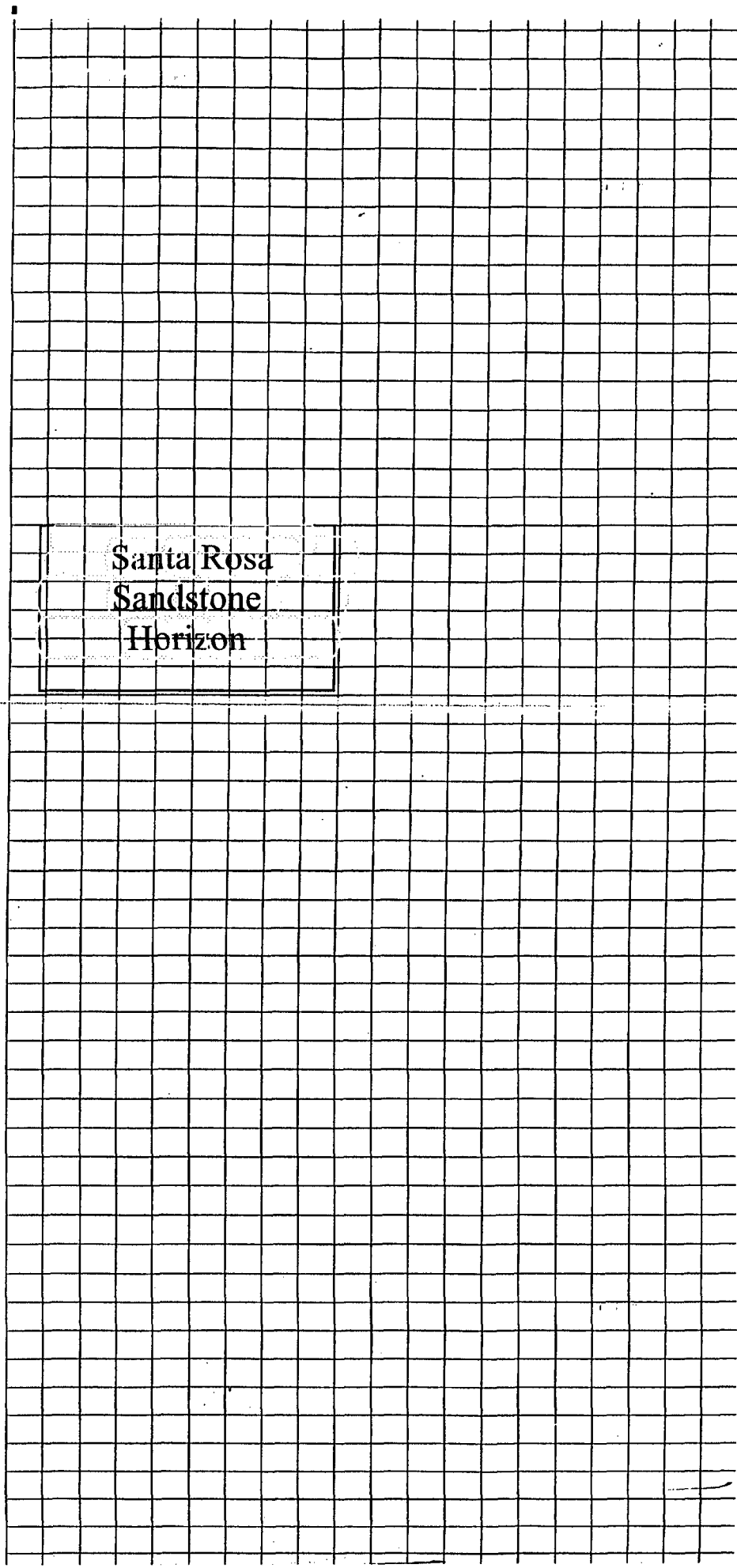
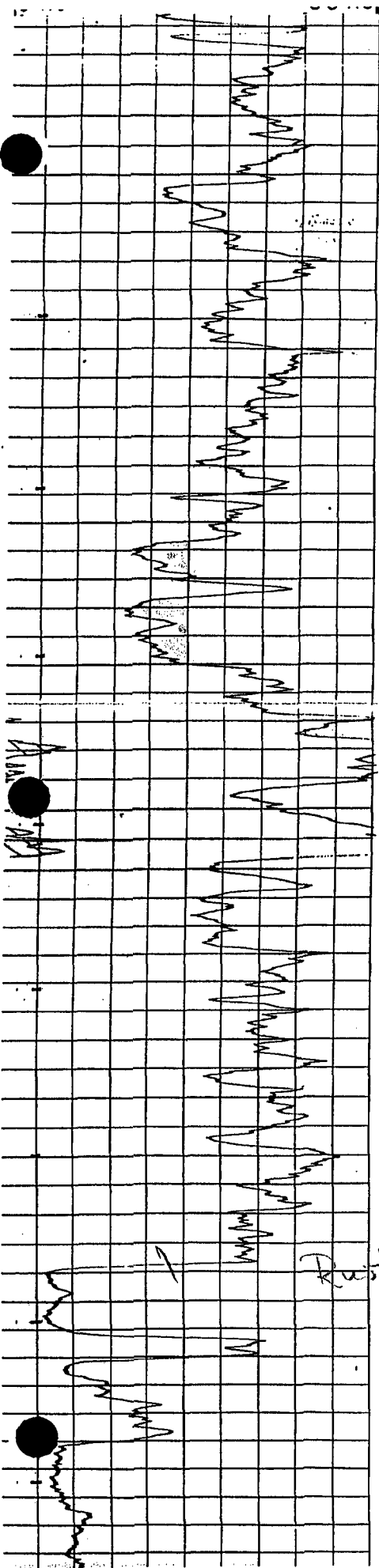
300

400

500

Santa Rosa
Sandstone
Horizon

Rustle



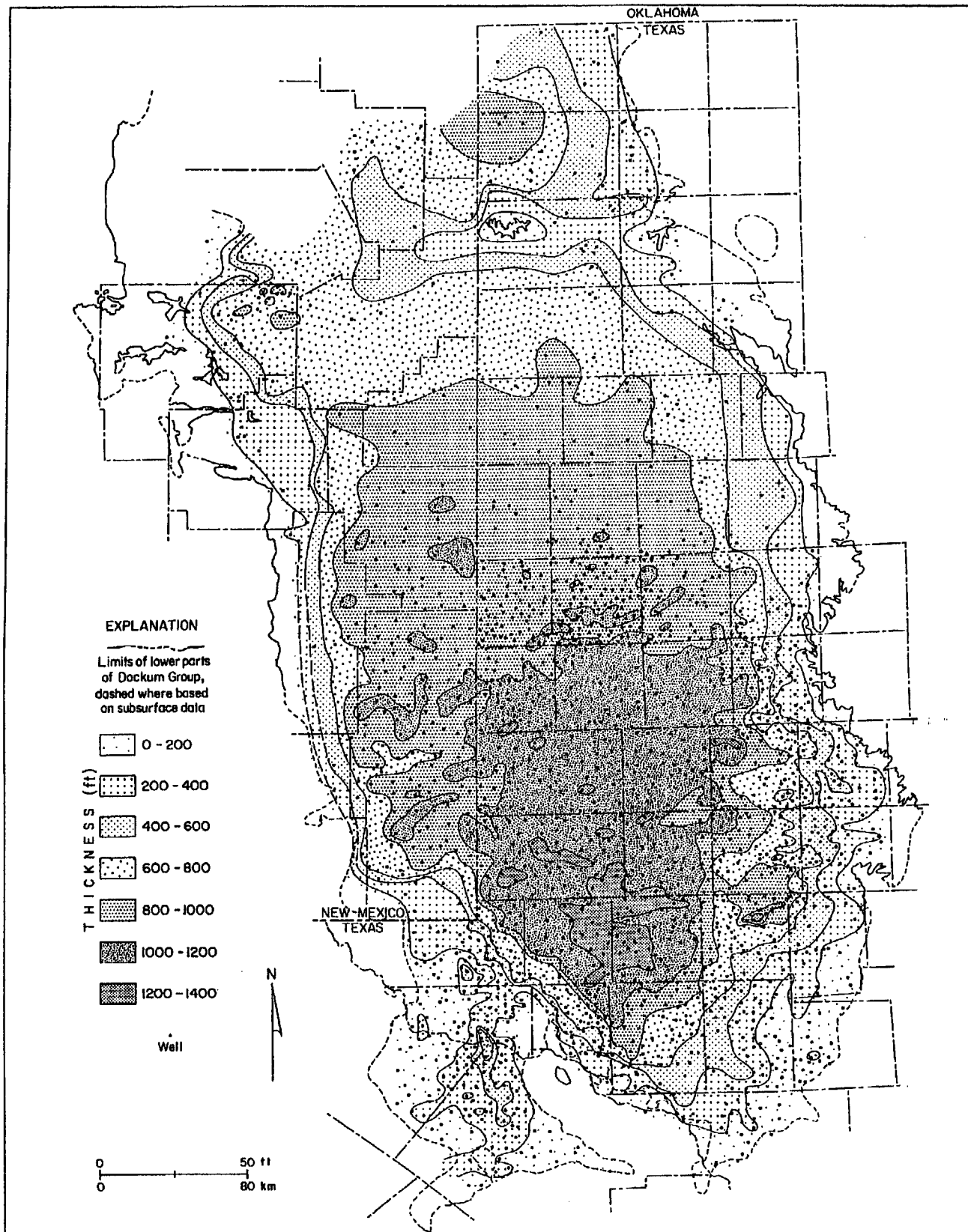


Figure 4: Isopach map of the Lower Dockum Group (McGowen and others, 1977).

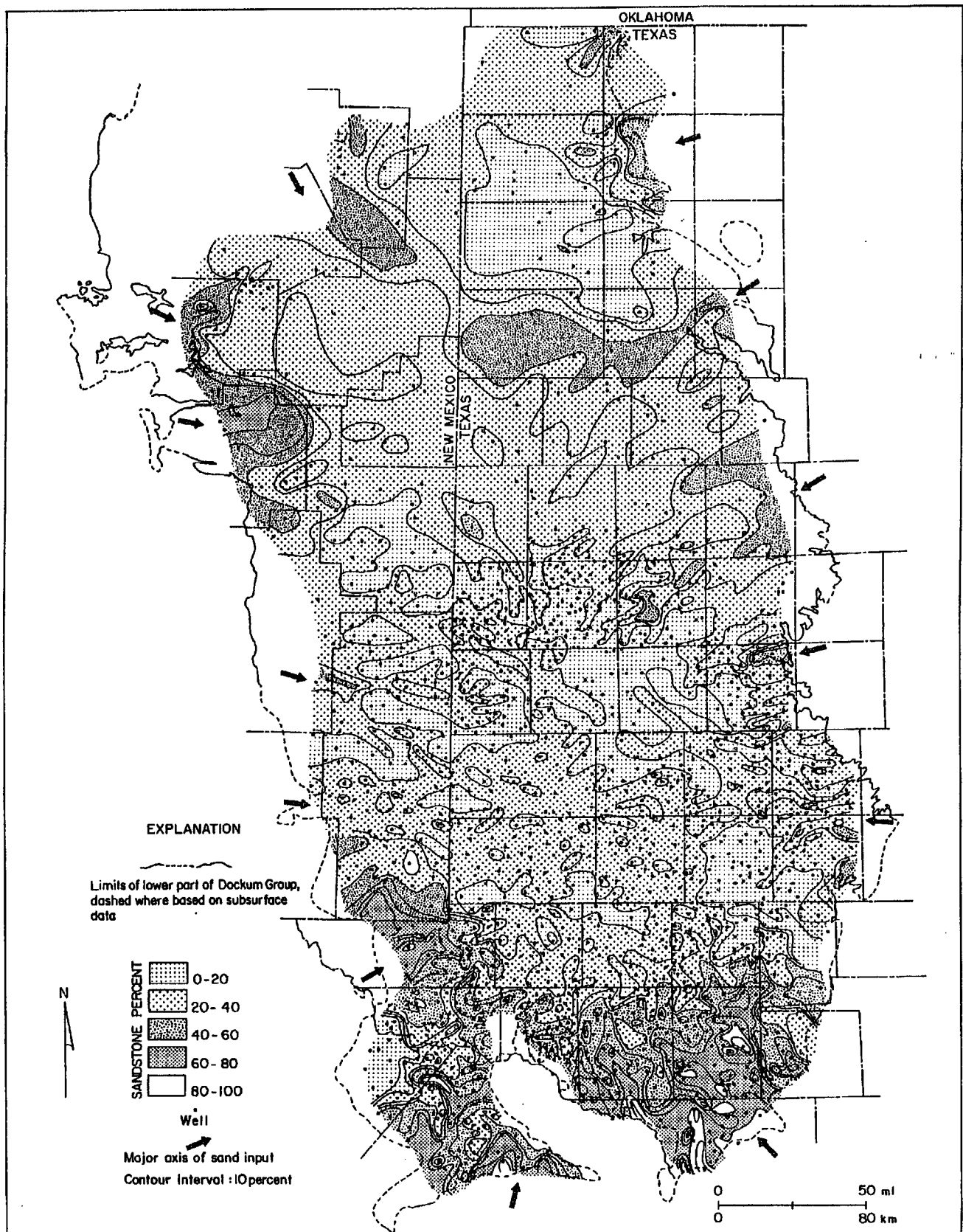
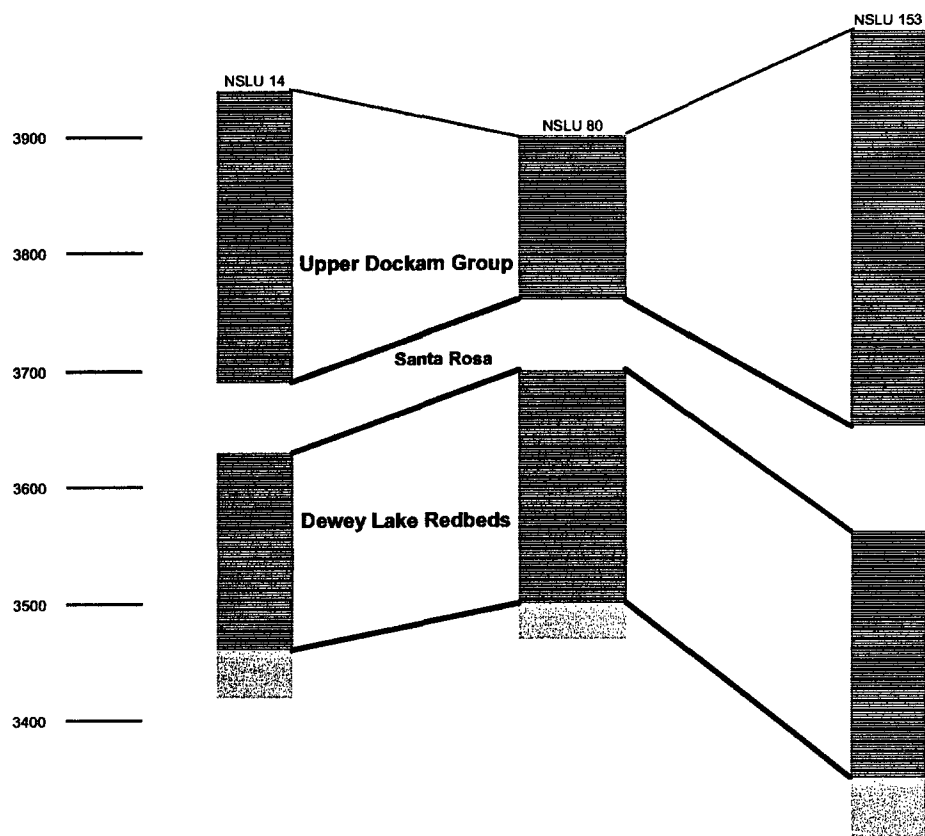
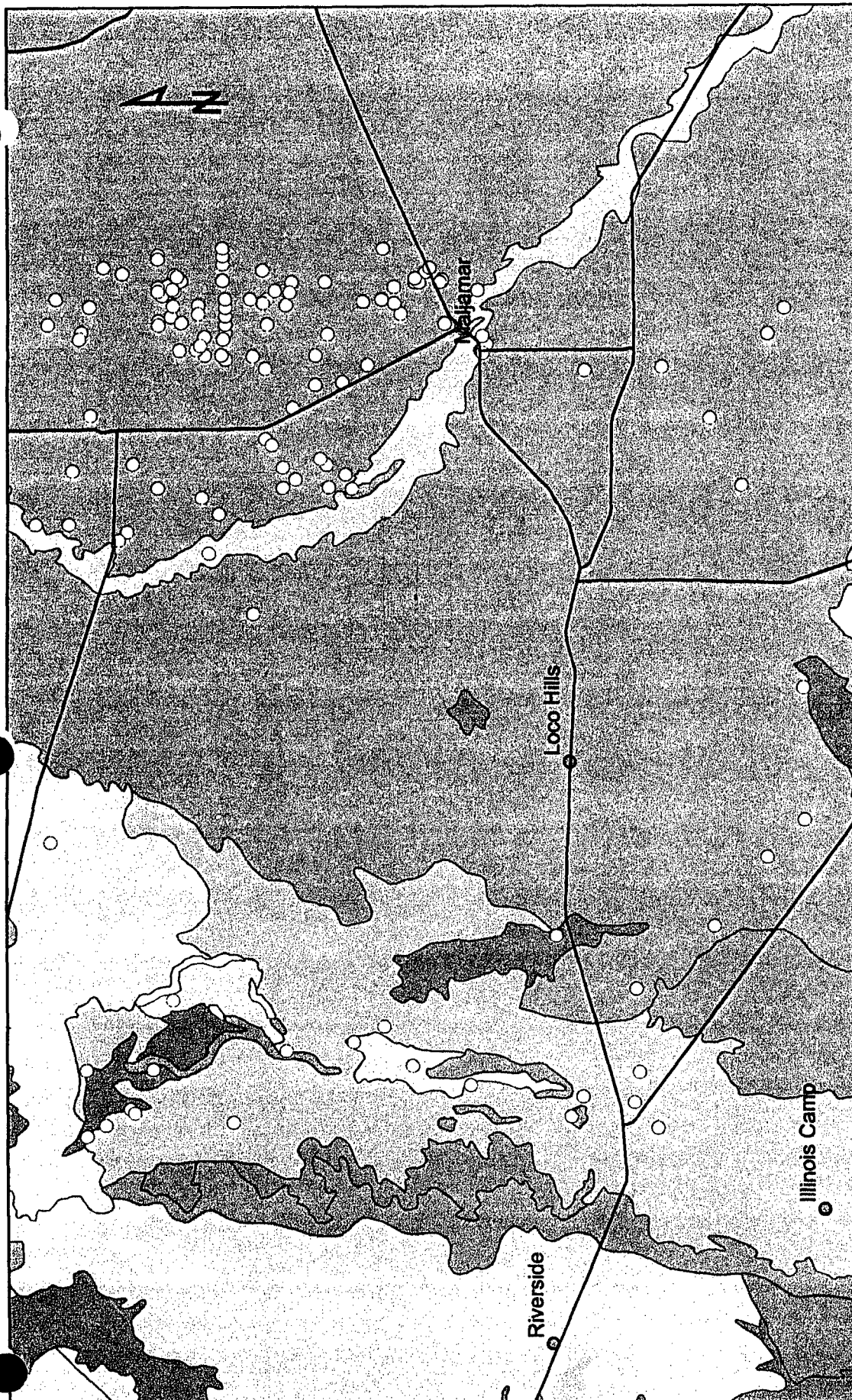


Figure 5: Regional map of percent sandstone in the Lower Dockum Group (McGowen and others, 1977).

Figure 6: Schematic Northwest-Southeast Stratigraphic Cross Section NSLU





Legend



Roads
 OSE Wells
 Cities
 North Square Lake

R.T. Hicks Consultants, LLC

219 Central NW, Suite 266
 Albuquerque, NM 87102
 Ph: 505.266.5004

Location of wells from the New Mexico Office of the State Engineer database

Figure 7

CBS Operating Company: North Square Lake Unit

August 2003

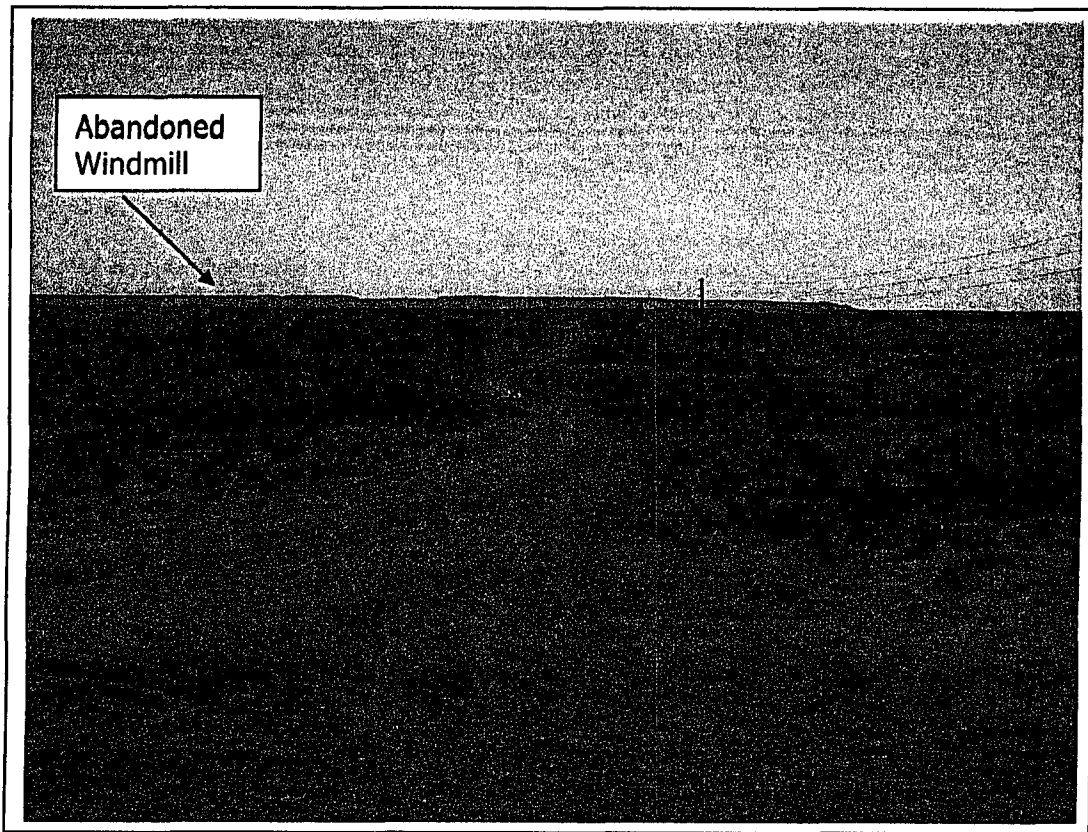
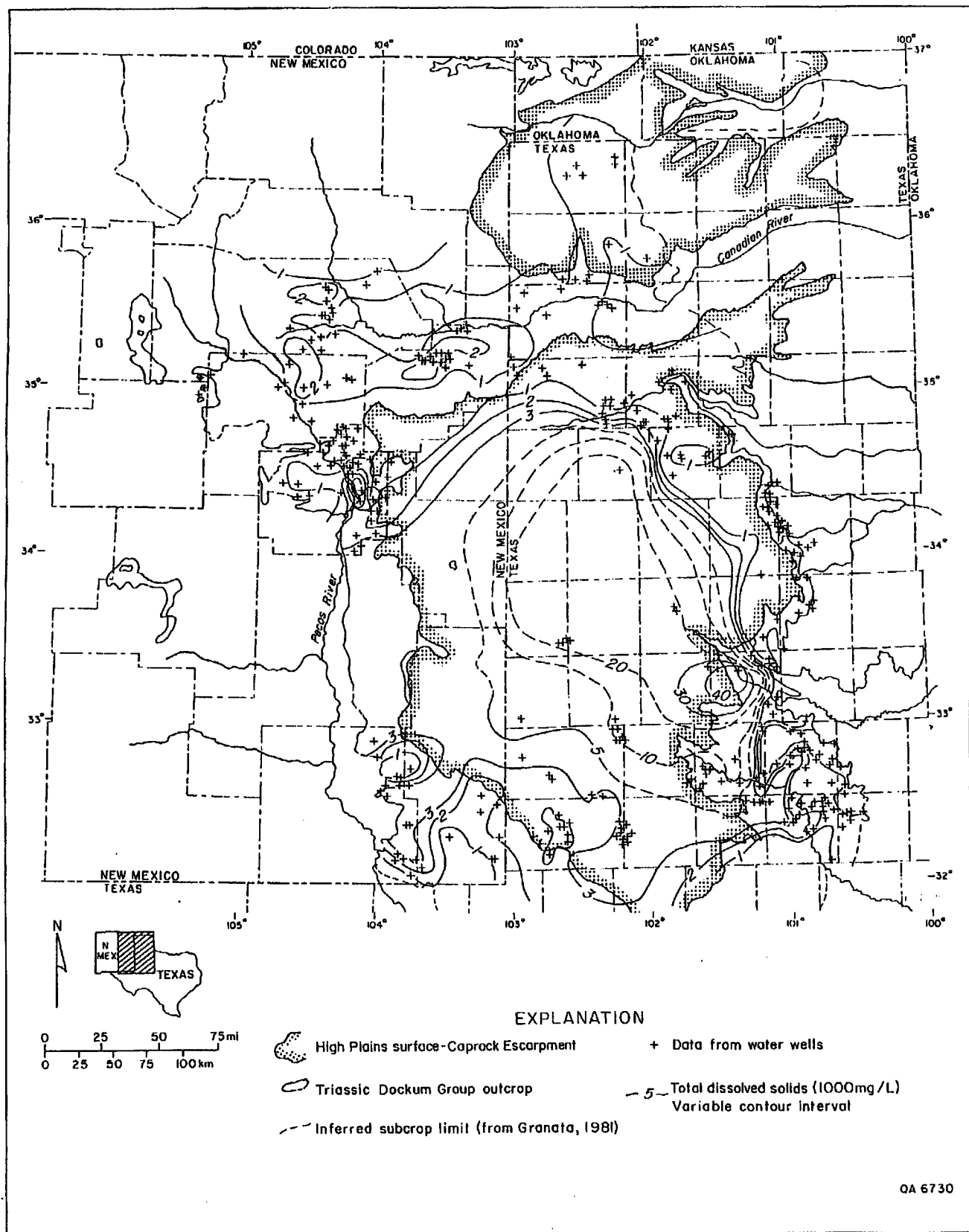


Figure 8: Abandoned Windmill North of NSLU



**CBS OPERATING CORP.
NORTH SQUARE LAKE UNIT
AUGUST 2003 C-108 APPLICATION**

- IX. Stimulation in the applied for injection wells will consist of small acid clean up jobs of 15% HCl ranging in volume from 500-1000 gallons per well.

**CBS OPERATING CORP.
NORTH SQUARE LAKE UNIT
AUGUST 2003 C-108 APPLICATION**

- X. Logs have previously been submitted to the OCD.

**CBS OPERATING CORP.
NORTH SQUARE LAKE UNIT
AUGUST 2003 C-108 APPLICATION**

XI. Analysis of the fresh water in the area is attached.

Enviro-Chem, Inc.

WATER ANALYSIS REPORT

SAMPLE

Oil Co. :
 Lease : Griner
 Well No. : Fresh Water
 Lab No. : 101890.001

Sample Loc. :
 Date Analyzed: 16-October-1998
 Date Sampled : 09-October-1998

ANALYSIS

1. pH
2. Specific Gravity 50/60 F.
3. CaCO_3 Saturation Index @ 80 F. @ 140 F.

8.460
 1.003
 F. +0.260
 F. +1.580

Dissolved Gases

4. Hydrogen Sulfide
5. Carbon Dioxide
6. Dissolved Oxygen

Not Present
 Not Determined
 Not Determined

Cations

7. Calcium (Ca^{++})
8. Magnesium (Mg^{++})
9. Sodium (Na^+)
10. Barium (Ba^{++}) (Calculated)

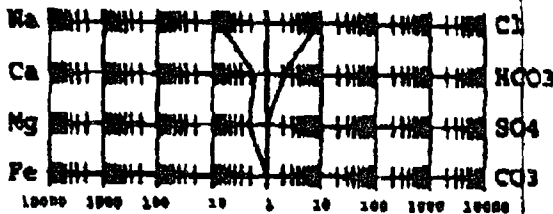
MG/L	EQ. WT.	*MEQ/L
31	20.1	1.54
25	12.2	2.05
177	23.0	7.70
0	68.7	0.00

Anions

11. Hydroxyl (OH^-)
12. Carbonate (CO_3^{--})
13. Bicarbonate (HCO_3^-)
14. Sulfate (SO_4^{--})
15. Chloride (Cl^-)
16. Total Dissolved Solids
17. Total Iron (Fe)
18. Total Hardness as CaCO_3
19. Resistivity @ 75 F. (Calculated)

0	17.0	0.00
119	30.0	0.63
117	61.1	1.90
45	48.0	0.94
300	35.5	8.46
695		
182	18.2	0.08

LOGARITHMIC WATER PATTERN



Calcium Sulfate Solubility Profile



PROBABLE MINERAL COMPOSITION

COMPOUND	EQ. WT. X	*MEQ/L = MG/L.	
$\text{Ca}(\text{HCO}_3)_2$	81.04	1.54	125
CaSO_4	68.07	0.00	0
CaCl_2	55.50	0.00	0
$\text{Mg}(\text{HCO}_3)_2$	73.17	0.37	27
MgSO_4	60.19	0.92	56
MgCl_2	47.62	0.75	36
NaHCO_3	84.00	0.00	0
NaSO_4	71.03	0.00	0
NaCl	58.46	7.70	450

*Milli Equivalents per Liter

This water is slightly corrosive due to the pH observed on analysis.
 The corrosivity is increased by the content of mineral salts in solution.

**CBS OPERATING CORP.
NORTH SQUARE LAKE UNIT
AUGUST 2003 C-108 APPLICATION**

- XII. An examination of this area has determined there are no open faults or other hydrologic connection between the disposal zone and any potential underground sources of drinking water.

**CBS OPERATING CORP.
NORTH SQUARE LAKE UNIT
AUGUST 2003 C-108 APPLICATION**

XIII. PROOF OF NOTICE

Thompson Petroleum Corp., leasehold operator, has been furnished by certified mail a copy of the C-108 application as they are within the one-half mile radius of North Square Lake Unit Well No. 144.

Copy of Publication and Affidavit of Publication from the Artesia Daily Press, a daily newspaper, is attached. This legal advertisement was published in Eddy County, New Mexico on August 17, 2003.

(ACTIVE) "WALL" MERIT energy Co.
for J.L. Kneel "B" # 035 within 1/2 mile of #144
(6/17/03/31E)
X "MACK" has Sheldon Fed #6 (P/28/16/31E)
(Last Prod 6/87) (P/AED)
X "Aradarko" has Baxter A Fed # 1, 2 (O, P/20/16/31E)
Last Prod 10/94 (P/AED)

CBS OPERATING CORP.

P. O. BOX 2236, MIDLAND, TX 79702 432/685-0878 FAX 685-1945

August 19, 2003

THOMPSON PETROLEUM CORP.
325 North St. Paul, Suite 4300
Dallas, Texas 75201

Dear Mr. Thompson:

Enclosed is CBS Operating Corp.'s C-108 Application to Inject on the North Square Lake Unit. Copies are being furnished to you, as you are a leasehold operator located one-half mile of a proposed injection well within this application.

As required by statute, should you have any objections to the enclosed applications, you must file with the Oil Conservation Division, EMNRD, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505 with 15 days of receipt.

Should you have any questions or need additional information, please contact me at 432/685-0878.

Sincerely,

M. A. Sirgo, III
Engineer

MAS/pr

Enclosure

Affidavit of Publication

NO. 18183

STATE OF NEW MEXICO

County of Eddy:

Gary D. Scott being dulysworn, says: That he is the Publisher of The

Artesia Daily Press, a daily newspaper of general

circulation, published in English at Artesia, said county

and county and state, and that the here to attached

Legal Notice

was published in a regular and entire issue of the said

Artesia Daily Press, a daily newspaper duly qualified

for that purpose within the meaning of Chapter 167 of

the 1937 Session Laws of the state of New Mexico for

1 consecutive weeks/days on the same

day as follows:

First Publication August 17 2003

Second Publication _____

Third Publication _____

Fourth Publication _____

Fifth Publication _____

Subscribed and sworn to before me this

19th day of August 2003Notary Public, Eddy County, New MexicoMy Commission expires September: 23, 2003**Copy of Publication****Legal Notice**NSLU WELL NO. 126,
SEC. 31, (G) T16S,
R31E
NSLU WELL NO. 144,
SEC. 31, (K) T16S, R31E

The above wells' purpose is to inject water in the Grayburg-San Andres formation for pressure maintenance purposes located at an average depth of approximately 3400'. Maximum expected per well injection rates are 300 barrels of water per day at an expected maximum injection pressure of 600 psi. (in no instance will the pressure exceed a .2 psi/ft. gradient to the upper perforation of the injection interval).

Any interested party must file an objection or request for hearing with the Oil Conservation Division, 2040 South Pacheco, Santa Fe, New Mexico 87505 within 15 days of this notice. Published in the Artesia Daily Press, Artesia, N.M. August 17, 2003.

Legal 18183

INJECTION WELLS

CBS Operating Corp.,
P.O. Box 2236
Midland, TX 79702
M.A. Sirgo, III
432-685-0878
CBS Operating Corp.
has filed a Form C-108
Application to Inject with
the State of New Mexico
Oil Conservation
Division.

The Application covers the following pressure maintenance water injection wells located in the North Square Lake Unit, Eddy County, New Mexico.

The wells covered in the application are as follows and located as described:

NSLU WELL NO. 15,
SEC. 20 (O) T16S, R31E
NSLU WELL NO. 16,
SEC. 20 (P) T16S, R31E
NSLU WELL NO. 23,
SEC. 29 (C) T-16S,
R31E

NSLU WELL NO. 24,
SEC. 29 (B) T16S, R31E
NSLU WELL NO. 25,
SEC. 29 (A) T16S, R31E

NSLU WELL NO. 41,
SEC. 29 (F) T16S, R31E
NSLU WELL NO. 42,
SEC. 29 (G) T16S, R31E

NSLU WELL NO. 43,
SEC. 29 (H) T16S, R31E
NSLU WELL NO. 60,
SEC. 29 (J) T16S, R31E

NSLU WELL NO. 61,
SEC. 28 (I) T16S, R31E
NSLU WELL NO. 124,
SEC. 31, (C) T16S,
R31E

CBS OPERATING CORP.

P. O. BOX 2236, MIDLAND, TX 79702 432/685-0878 FAX 685-1945

RECEIVED

SEP 08 2003

September 2, 2003

VIA FAX 505/476-3462 **OIL CONSERVATION
DIVISION**

STATE OF NEW MEXICO
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Attention: Mr. William Jones

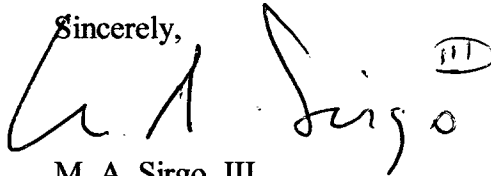
Re: Affidavit of Notice
CBS Operating Corp.
North Square Lake Unit
C-108 Application
Eddy County, New Mexico

Mr. Jones,

As per your request, please find attached an Affidavit of Notice reflecting an additional public notice run on August 29, 2003 for the referenced C-108 Application. This second notice was posted to correct the address for third party notices to the New Mexico Oil Conservation Division.

If you have any additional questions or comments, please do not hesitate to call.

Sincerely,

A handwritten signature in black ink, appearing to read "M. A. Sirgo, III". The signature is stylized with a large initial "M" and a circled "III" at the end.

M. A. Sirgo, III

MAS/pr

Attachment

Affidavit of Publication

NO. 18200

STATE OF NEW MEXICO

County of Eddy:

Gary D. Scott being duly

sworn, says: That he is the Publisher of The
 Artesia Daily Press, a daily newspaper of general
 circulation, published in English at Artesia, said county
 and county and state, and that the here to attached

Legal Notice

was published in a regular and entire issue of the said
 Artesia Daily Press, a daily newspaper duly qualified
 for that purpose within the meaning of Chapter 167 of
 the 1937 Session Laws of the state of New Mexico for
1 consecutive weeks/days on the same

day as follows:

First Publication August 29 2003

Second Publication

Third Publication

Fourth Publication

Fifth Publication

Subscribed and sworn to before me this

29th day of August 2003

Barbara Ann Brown
Notary Public, Eddy County, New Mexico

My Commission expires September: 23, 2003

Copy of Public**LEGAL NOTICE**

Grayburg-San Andres
 formation for pressure
 maintenance purposes
 located at an average
 depth of approximately
 3400'. Maximum expect-
 ed per well injection
 rates are 300 barrels of
 water per day at an ex-
 pected maximum injection
 pressure of 600 psi.
 (In no instance will the
 pressure exceed a .2
 psi/ft. gradient to the up-
 per perforation of the in-
 jection interval).
 Any interested party
 must file an objection or
 request for hearing with
 the Oil Conservation Di-
 vision, 1220 South St.
 Francis Dr., Santa Fe,
 New Mexico 87505 within
 15 days of this notice.
 Published in the Artesia
 Daily Press, Artesia,
 N.M. August 29, 2003.
 Legal 18200

CBS Operating Corp.
 P.O. Box 2236
 Midland, TX 79702
 M.A. Sirgo, III
 432-685-0878

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 SEC. 29 (C) T-16S,

R31E

NSLU WELL NO. 24,
 SEC. 29 (B) T16S, R31E

NSLU WELL NO. 25,
 SEC. 29 (A) T16S, R31E

NSLU WELL NO. 41,
 SEC. 29 (F) T16S, R31E

NSLU WELL NO. 42,
 SEC. 29 (G) T16S, R31E

NSLU WELL NO. 43,
 SEC. 29 (H) T16S, R31E

NSLU WELL NO. 80,
 SEC. 29 (J) T16S, R31E

NSLU WELL NO. 61,
 SEC. 29 (I) T16S, R31E

NSLU WELL NO. 124,
 SEC. 31, (C) T16S,

R31E

NSLU WELL NO. 128,
 SEC. 31, (G) T16S,

R31E

NSLU WELL NO. 144,
 SEC. 31, (K) T16S, R31E

The above wells' purpose

is to inject water in the

CBS OPERATING CORP.**P. O. BOX 2236, MIDLAND, TX 79702 432/685-0878 FAX 685-1945****F A C S I M I L E M E S S A G E**TO: Mr William Jones 505-476-3462LOCATION: Santa Fe OCDFROM: Manny LugoDATE: Sept 2 2003MESSAGE: Original will be mailed
today.NUMBER OF PAGES TO BE TRANSMITTED - INCLUDING TOP SHEET: 3

IF ANY ERROR WHEN TRANSMITTING, PLEASE CALL (915) 685-0878

CBS OPERATING CORP.

P. O. BOX 2236, MIDLAND, TX 79702 432/685-0878 FAX 685-1945

September 2, 2003

VIA FAX 505/476-3462

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Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Attention: Mr. William Jones

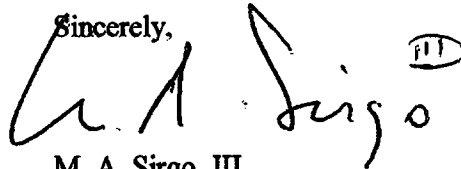
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C-108 Application
Eddy County, New Mexico

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Sincerely,

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M. A. Sirgo, III

MAS/pr

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First Publication August 29 2003

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Notary Public, Eddy County, New Mexico

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SEC. 29 (B) T16S, R31E

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SEC. 29 (A) T16S, R31E

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SEC. 29 (E) T16S, R31E

NSLU WELL NO. 42,
SEC. 29 (G) T16S, R31E

NSLU WELL NO. 43,
SEC. 29 (H) T16S, R31E

NSLU WELL NO. 60,
SEC. 29 (J) T16S, R31E

NSLU WELL NO. 61,
SEC. 29 (I) T16S, R31E

NSLU WELL NO. 124,
SEC. 31 (C) T16S,
R31E

NSLU WELL NO. 126,
SEC. 31 (G) T16S,
R31E

NSLU WELL NO. 144,
SEC. 31 (K) T16S, R31E

The above wells' purpose
is to inject water in the

CBS OPERATING CORP.**P. O. BOX 2236, MIDLAND, TX 79702 432/685-0878 FAX 685-1945****F A C S I M I L E M E S S A G E**

TO: William Jones 505-476-3462

LOCATION: OCD Santa Fe

FROM: Manny Sigo

DATE: Sept 3 2003

MESSAGE: Letter to Merit Energy mailed
today.

NUMBER OF PAGES TO BE TRANSMITTED - INCLUDING TOP SHEET: 3

IF ANY ERROR WHEN TRANSMITTING, PLEASE CALL (915) 685-0878

CBS OPERATING CORP.

P. O. BOX 2236, MIDLAND, TX 79702 432/685-0878 FAX 685-1945

September 3, 2003

MERIT ENERGY COMPANY
13727 Noel Road, Suite 500
Dallas, Texas 75240

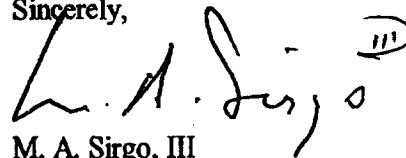
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Sincerely,

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M. A. Sirgo, III
Engineer

MAS/pr

Enclosure

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

MERIT ENERGY CO
13727 NOEL RD STE 500
DALLAS TX 75240

2. Article Number **7002 2410 0001 5839 8114**
(Transfer from service label)

PS Form 3811, August 2001

Domestic Return Receipt

102595-02-M-1035

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ YesIf YES, enter delivery address below: ☐ No

3. Service Type

☐ Certified Mail ☐ Express Mail☐ Registered ☐ Return Receipt for Merchandise☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

7002 2410 0001 5839 8114

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE.

CERTIFIED MAIL™

7002 2410 0001 5839 8114

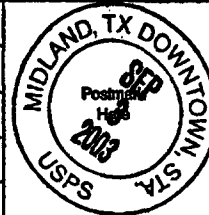
U.S. Postal Service

CERTIFIED MAIL RECEIPT

(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com**OFFICIAL USE**Postage \$ **1.98**Certified Fee **2.30**Return Receipt Fee (Endorsement Required) **1.75**

Restricted Delivery Fee (Endorsement Required)

Total Postage & Fees \$ **6.03**Sent To **MERIT ENERGY CO**Street, Apt. No., or PO Box No. **13727 NOEL RD STE 500**City, State, ZIP+4 **DALLAS TX 75240**

PS Form 3800, June 2002

See Reverse for Instructions

North Square Lake Unit

Sections 25, 36, T16S, R30E

Sections 19 - 31, T16S, R31E

Notes on the North Square Lake Unit:

The latest Division Order is R-11435-A approving a Pressure Maintenance Project on 5/30/2002. This approved 7 injection wells and required 6 wells to be replugged. The latest operator, CBS, does not want to replug these wells.

Many hearing orders over the years pertain to this area: R-5065, R-2752(A), R-1110(A,B,C,D), R-2977(A,B), R-3677, ETC

Most hearing orders required periodic operations reports, the latest orders have also, who has these?

Many Waterflood Expansion Administrative Orders also apply: WFX-291,473,320,490, etc

Later (early 1960's) consisted of installing waterfloods and sometimes drilling out and running 4" FJ liners on bottom.

This area has been at an advanced state of depletion since the 1960s.

This area has been waterflooded long before the SDWA and the UIC program limited pressures and ensured confinement to zone.

Typical stratigraphic section here: Sand and Red bed to 450 feet, Anhydrite and Salt to 1400 feet, Yates, Queen, Grayburg, then San Andres at TD.

Some shallow sands above the red beds and some windmills, but this area generally believed to not have appreciable ground water sands.

The formations targeted here for producing and waterflooding are the Premier (Grayburg) and the Lovington (San Andres) usually from 3300 to 3600 feet.

In some early cases, the Grayburg was flooded down the annulus and the San Andres down the tubing.

Many wells drilled and plugged in the mid 1940s.

Operators have changed MANY times for this area since the 1940's.

This is BLM surface. Also many records show the BLM supervising and regulating plugging and casing fixes.

Earlier casing designs consisted of setting surface pipe to 500 feet with some cement, running temporary 7 inch thru the yates, drilling out and running 5 1/2 inch to TD, pulling most of the 7 inch, and cementing the 5 1/2 inch only on the bottom.

Most surface pipes are not cemented to surface.

Most long strings are not cemented even up to the base of the salt.

Therefore the surface of the hole with any possible water sands and the salt have OLD casing over them but no sheaths of cement.

Pinholes and other corrosion common in upper wellbore, surface pipe.

Many remedial operations consist of replacing numerous joints of surface pipe or long string pipe.

Many wells have had casing leaks from 140 feet to 2250 feet - both in the red beds above the salt, in the salt, and below the salt in the yates and queen formations.

In some cases, casing has collapsed opposite the Queen or the Yates formations - above the cement top.

Many wells have had water flows while cementing, or remedial cementing that have taken time to stop.

In some cases, 2 7/8" casing has been run inside existing casing in order to preserve mechanical integrity, this will likely have to be done more often.

Many P&A operations have found numerous casing leaks and water flows.

Older P&As usually pulled all casing possible.

All of the plugged wells that are questionable are from the early 1950s and before.

Latest casing design consists of circulating cement on the surface pipe and the long string - intermediates normally not needed. This took 4000 sacks of cement on a recent well.

P&A should consist of verifiable cement plugs of adequate thickness (in and out of pipe) above the producing zone, above the Queen, at the base of the salt, above the salt, and at the surface.

All bradenheads in this area should be tested on a frequent basis.

The presence of the salt section, the evidence of corrosion, the age of existing casing, and the lack of cement all indicate that extensive waterflow problems will likely exist in this area, especially if waterflooding is aggressively pursued.

In the AOR for the first 13 well PMX application, there are 24 P&A wellbores and 44 other wells.

Geol Tops per Box

Salado	525
BX	1360
TRUS	1810
Queen	2415
Grayburg	2833
San Andres	3133

TYPICAL
TOPS
IN
THIS
AREA

FORMATION RECORD

FROM	TO	THICKNESS IN FEET	FORMATION
0	30		Sand
30	280		Red Bed
280	460		Anhydrite
460	465		Water Sand
465	1320		Salt
1320	2370		Anhydrite
2370	2400		Red Sand
2400	2781		Anhydrite
2781	3012		Lime
3012	3018		Sand
3018	3040		Lime

TYPICAL
Cable Tool
RECORDS

Jones, William V

From: Jones, William V
Sent: Tuesday, December 02, 2003 5:01 PM
To: 'MASTRES@aol.com'
Cc: Ezeanyim, Richard
Subject: RE: CBS Operating Corp. - C-108 Applications

Manny:

Please don't work on the previous list...

Based on discussion yesterday, we have narrowed the list of problem wells as shown on the attached EXCEL file.

1 well needs casing/P&A information and possible work.

1 well needs a cement bond log and possible work.

The rest need to be replugged.

Please review for accuracy and if you still desire, supply reasons to Richard that this work should not be required. If we do not agree with your reasons or solution and this gets set to hearing by the Division, the application will likely include required fixes on all wells plugged prior to 1955 within the AOR of your intended injection wells or subset thereof.

Within bounds of our other work, we are now ready to issue an order permitting all the remaining C-108 application wells - with stipulations to fix these problem wells.

Please look at the latest hearing order and note all discrepancies and/or misconceptions from what was intended. Forward your notes to Richard and he will get the attorneys to look at it.

Regards,
Will Jones

3/31/2004

Wells with Questionable Cement/Plugging/Data

List of Problem AOR wells within the AORs of the 23 planned injection wells submitted for approval in August and October, 2003.																	
Group	NSLU#	API	WELL NAME	NS FTG	EW FTG	UL	Sec	Isp	Rge	Action Item	Near Wells	AOR Feet	L.T	WT	Last	Comp Stat	PLUG DATE
SW	NA	30-015-04029	Welch State #1	660N	660E	A	36	16S	30E	Replug	124	1790	S	O	NONE	NO COMPL	P&A
NE	8	30-015-04864	NSLU #8	1980S	660E	I	20	16S	31E	Run CBL or Prove Cmt Top	15,16	1866, 1320	F	I	11-2002	SHUT IN WIW	
NE	26	30-015-04897	NSLU #26	660N	660W	D	28	16S	31E	Replug	16, 25	1867, 1657	F	O		ZONE ABAN	P&A
New	NA	30-015-04924	Etz #2	310N	1666W	C	30	16S	31E	Replug	12	1596			NONE	NO COMPL	1900-01-01
SW	103	30-015-04940	Grier #009 (#103)	660N	660E	A	31	16S	31E	Replug	126	1866		O	NONE	NO COMPL	P&A
SW	NA	30-015-04950	Grier #003	660S	512W	M	31	16S	31E	Replug	144	1762		O	NONE	NO COMPL	P&A 1948
SW	NA	30-015-04952	Grier #5	1980S	660E	I	31	16S	31E	Replug	126, 162	1866, 1867		O	NONE	NO COMPL	
SW	NA	30-015-05975	Grier #007	NA	NA	H	31	16S	31E	Get Csg/Cmt data	126	500		I	NONE	NO COMPL	

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
MISCELLANEOUS NOTICES

Submit this notice in triplicate to the Oil Conservation Commission or its proper agent before the work specified is to begin. A copy will be returned to the sender on which will be given the approval, with any modifications considered advisable, or the rejection by the Commission or agent, of the plan submitted. The plan as approved should be followed, and work should not begin until approval is obtained. See additional instructions in the Rules and Regulations of the Commission.

Indicate nature of notice by checking below:

NOTICE OF INTENTION TO TEST CASING SHUT-OFF		NOTICE OF INTENTION TO SHOOT OR CHEMICALLY TREAT WELL	
NOTICE OF INTENTION TO CHANGE PLANS		NOTICE OF INTENTION TO PULL OR OTHERWISE ALTER CASING	
NOTICE OF INTENTION TO REPAIR WELL		NOTICE OF INTENTION TO PLUG WELL	X
NOTICE OF INTENTION TO DEEPEN WELL			

Artesia, New Mexico

Place

February 25, 1949

Date

OIL CONSERVATION COMMISSION,
Santa Fe, New Mexico.

Gentlemen:

Following is a notice of intention to do certain work as described below at the

V.S. Welch State Well No. 1 in NE 1/4 NE 1/4
Company or Operator Lease
of Sec. 36, T. 16, R. 30, N. M. P. M., Square Lake Field.
Eddy County.

FULL DETAILS OF PROPOSED PLAN OF WORK

FOLLOW INSTRUCTIONS IN THE RULES AND REGULATIONS OF THE COMMISSION

Expect to fill with mud to bottom of 7 inch. Set plug and cement with 20 sacks. Knock off 7 inch above where cemented and pull 7 inch. Fill with mud to 510 feet. Cement with 10 sacks and pull 8 inch. Fill with mud to surface and set regulation marker.

Approved FEB 28 1949, 19____
except as follows:

By [Signature]
ARTESIA REPRESENTATIVE
Title

V.S. Welch
Company or Operator
By [Signature]
Position Auditor
Send communications regarding well to
Name V.S. Welch
Address Box 1056
Artesia, New Mexico

30-015-04029

OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

MISCELLANEOUS REPORTS ON WELLS

Submit this report in triplicate to the Oil Conservation Commission or its proper agent within ten days after the work specified is completed. It should be signed and sworn to before a notary public for reports on beginning drilling operations, results of shooting well, results of test of casing shut-off, result of plugging of well, and other important operations, even though the work was witnessed by an agent of the Commission. Reports on minor operations need not be signed and sworn to before a notary public. See additional instructions in the Rules and Regulations of the Commission.

Indicate nature of report by checking below:

REPORT ON BEGINNING DRILLING OPERATIONS		REPORT ON REPAIRING WELL	
REPORT ON RESULT OF SHOOTING OR CHEMICAL TREATMENT OF WELL		REPORT ON PULLING OR OTHERWISE ALTERING CASING	
REPORT ON RESULT OF TEST OF CASING SHUT-OFF		REPORT ON DEEPENING WELL	
REPORT ON RESULT OF PLUGGING OF WELL	X		

Artesia, New Mexico

Place

June 13, 1949

Date

OIL CONSERVATION COMMISSION,
SANTA FE, NEW MEXICO.

Gentlemen:

Following is a report on the work done and the results obtained under the heading noted above at the

V.S. Welch State State Well No. 1 in the
Company or Operator Lease
NE 1/4 NE 1/4 of Sec. 36, T. 16, R. 30, N. M. P. M.,
Square Lake Field, Eddy County.

The dates of this work were as follows: March 1, 1949

Notice of intention to do the work was (~~XXXX~~) submitted on Form C-102 on February 25 19 49
and approval of the proposed plan was (~~XXXX~~) obtained. (Cross out incorrect words.)

DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED

Filled hole with mud to bottom of 7 inch. Set plug and cemented with 20 sacks cement. Knocked off 7 inch above where cemented and pulled 1570' of 7". Filled with mud to 510 feet. Cemented with 10 sacks cement and pulled 200' of 8 inch. Filled with mud to surface and set regulation marker.

Witnessed by F.W. Marshall

Name

V.S. Welch

Company

Sup't.

Subscribed and sworn before me this 13

I hereby swear or affirm that the information given above is true and correct.

day of June, 19 49

Name _____

Position AuditorRepresenting V.S. Welch

Company or Operator

My commission expires June 6, 1953Address Box 1056

Remarks:

Just Thomas

George Adams

Name

Title

GP II E AGY, INC.

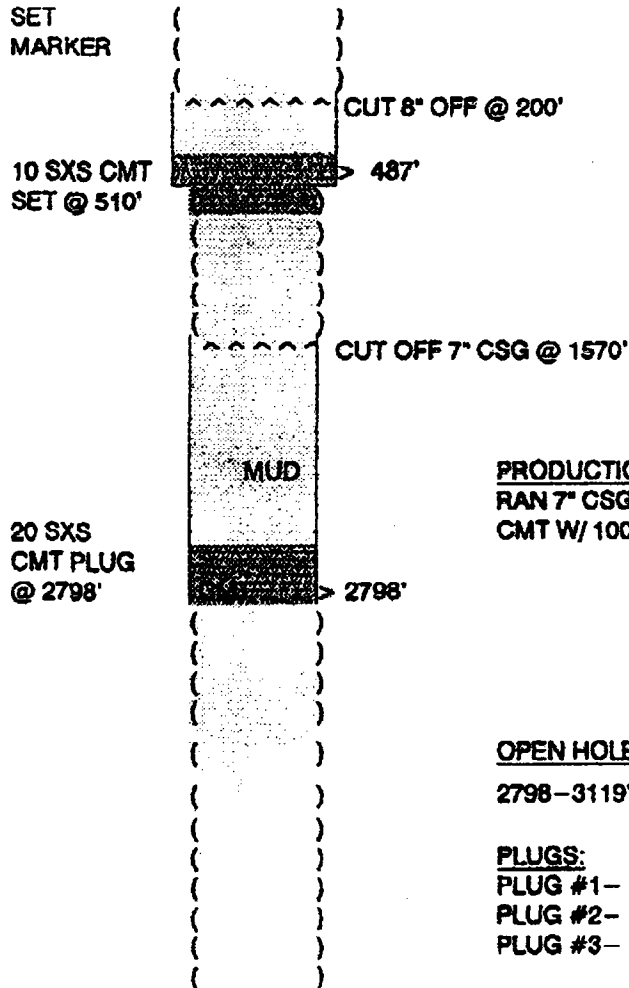
P & A WELLBORE DIAGRAM

WELL: STATE B #1
FIELD: SQUARE LAKE
INTERVAL: GB-SA

LOCATION:
880' FNL & 880' FEL
SEC 36, T-16-S, R-30-E
EDDY COUNTY, NEW MEXICO

30-015-04029

SURFACE CASING:
RAN 8 1/4" CSG, SET @ 487'
CMT. W/ 50 SXS., TOC @ 313' (CALC.)



PRODUCTION CASING:
RAN 7" CSG, SET @ 2798'.
CMT W/ 100 SXS, TOP OF CEMENT @ 2112' (CALC.)

OPEN HOLE
2798-3119'

PLUGS:
PLUG #1- 20 SXS CMT @ 2798'
PLUG #2- 10 SXS CMT @ 510'
PLUG #3- FILL HOLE WITH MUD & SET REGULATION MARKER

TD: 3119'

04-Dec-98

GP II, Inc. 2122

NSL

Plugged & Abandoned Wells Located

Well No.: NSLU # 26

API No.: 30-015-04897

Location : 660' FNL & 660' FWL

Sec-Twn-Rng : Sec. 28, T16S, R31E

Field : Square Lake

Interval: Grayburg - San Andres

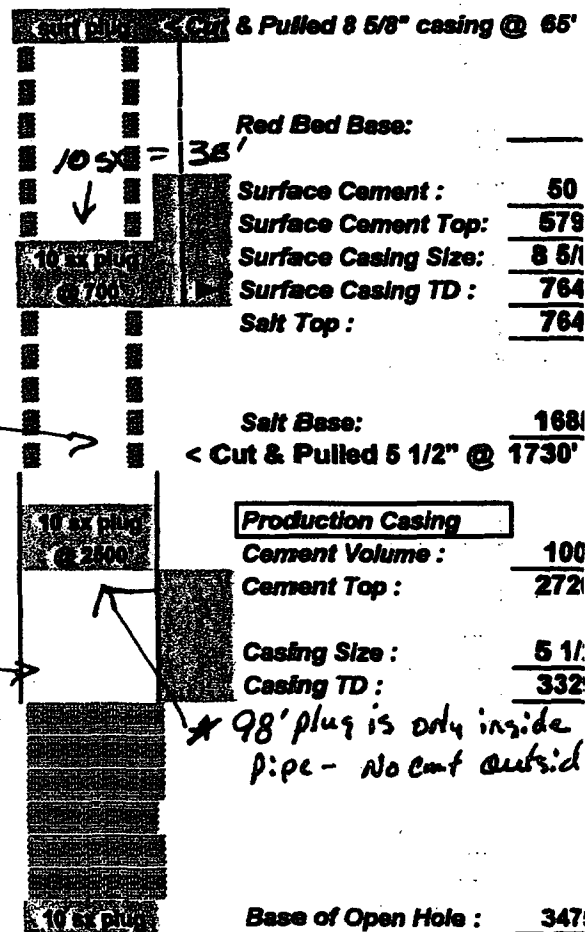
115' plug 0'-115' - TAG

100' plug 714'-814' - TAG

100' plug 1400'-1500' - (Yates plug)

150' plug 1630'-1780' - TAG

25 SX plug @ 3329' - TAG



Type Well @ Abandonment :

Producer

Date Well Abandoned :

12/1951

Operator that Plugged Well :

D. D. Thomas

Date Well Drilled :

4 / 1945

Original Well Type :

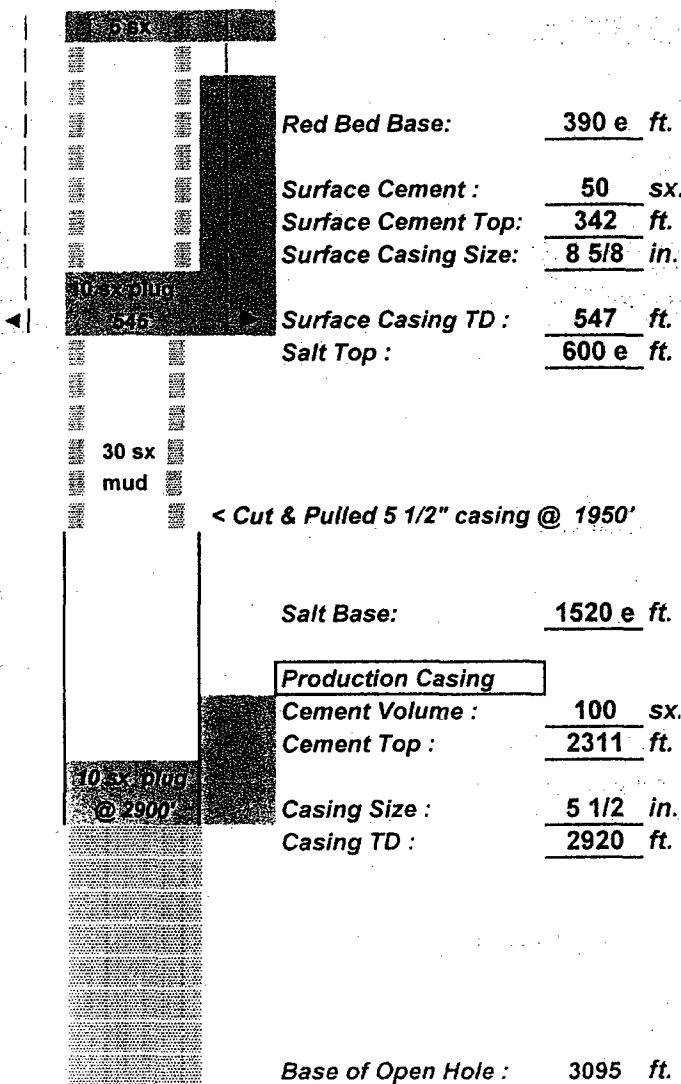
Producer

9/03

Well No.: George Etz # 2
API No.: 30-015-04924

Location : 810' FNL & 1666' FWL
Sec-Twn-Rng : Sec. 30, T16S, R31E

Field : Square Lake
Interval: Grayburg - San Andres



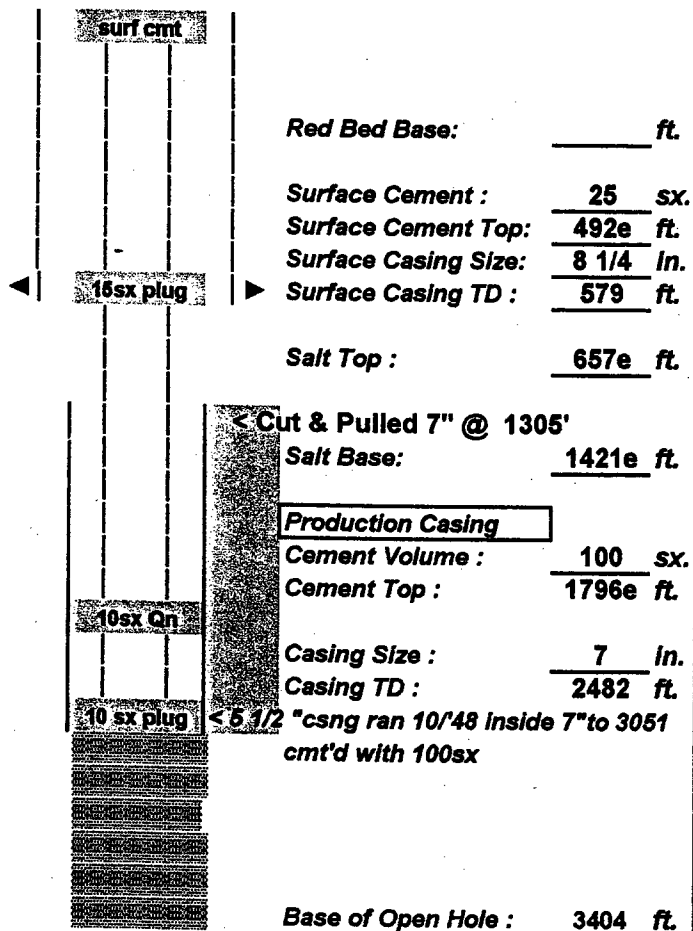
Type Well @ Abandonment : Producer
Date Well Abandoned : Sep-48
Operator that Plugged Well : Brewer Dring.

Date Well Drilled : Nov-44
Original Well Type : Producer

Well No.: NSLU # 103
API No.: 30-015-04940

Location : 660' FNL & 660' FEL
Sec-Twn-Rng : Sec. 31, T16S, R31E

Field : Square Lake
Interval: Grayburg - San Andres



Type Well @ Abandonment : Producer
Date Well Abandoned : 2 / 1949
Operator that Plugged Well : Nay Hightower Inc.

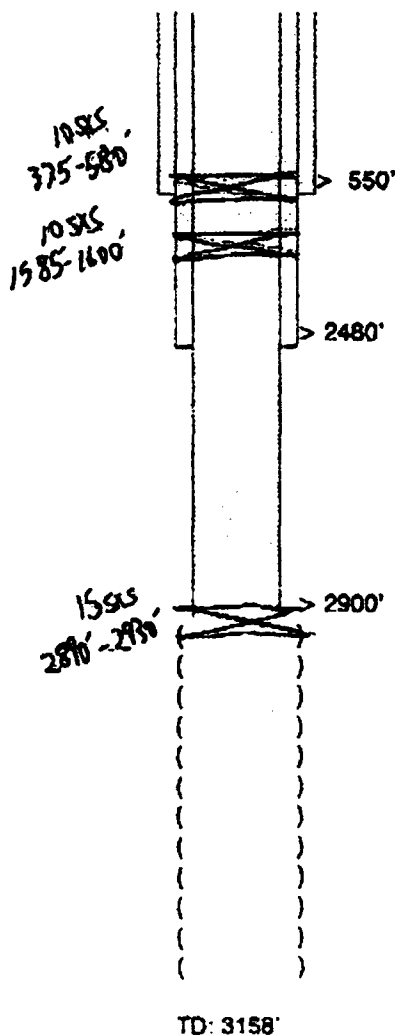
Date Well Drilled : 9 / 1942
Original Well Type : Producer

GP II E SY, INC.

P & A WELLBORE DIAGRAM

WELL: GRIER #3
 FIELD: SQUARE LAKE
 INTERVAL: GB-SA

LOCATION: 512
 660' FSL & 660' FWL
 SEC 31, T-16-S, R-31-E
 EDDY COUNTY, NEW MEXICO

APPROXIMATENO PLUGGING REPORT AVAILABLE

SURFACE CASING:
 RAN 8" CSG, SET @ 550'
 CMT. W/ 50 SXS., TOC @ 376' (CALC.)

INTERMEDIATE CASING:
 RAN 7" CSG, SET @ 2480'
 CMT. W/ 15 SXS., TOC @ 2377' (CALC.)

PRODUCTION CASING:
 RAN 5 1/2" CSG, SET @ 2900'
 CMT W/ 100 SXS, TOP OF CEMENT @ 2291' (CALC.)

OPEN HOLE
 2900 - 3158'

PLUGS:

30-015-04950

~~NEEDING~~

Square Lake Unit, Eddy Cty., New Mexico
Application Well : NSLU # 126

Page 1 of 1

Well No.: Grier # 5
API No.: 30-015-04952

Location : 1980' FSL & 660' FEL
Sec-Twn-Rng : Sec. 31, T16S, R31E

Field : Square Lake
Interval: Grayburg - San Andres

Ref CS9. @ 60'- Place 60' of
Cmt inside ? Outside of CS9.
0'-60'- T₁S

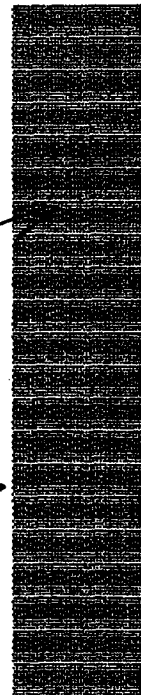
144' plug 530'-674'- T₂S

100' plug - 1410'-1510'- T₂S

100' plug 2800'-2900'- T₂S

Red Bed Base:		ft.
Surface Cement :	50	sx.
Surface Cement Top:	439	ft.
Surface Casing Size:	8 5/8	in.
Salt Top :	580	ft.
Surface Casing TD :	624	ft.

Salt Base: 1410 ft.



Well Drilled to 3465 and Plugged

Type Well @ Abandonment :	<u>Dryhole-Junked</u>
Date Well Abandoned :	<u>3 / 1944</u>
Operator that Plugged Well :	<u>McDonald & Williams</u>
Date Well Drilled :	<u>3 / 1944</u>
Original Well Type :	<u>Dryhole-Junked</u>

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

Operator : CBS Operating Corp.

August-03
Page 1 of 2

Well Name & Number: North Square Lake Unit #

23

API # 30-015-04906

Well Location: 810' FNL & 1980' FWL

Footage Location

C

Unit Letter

16-South

Township

31-East

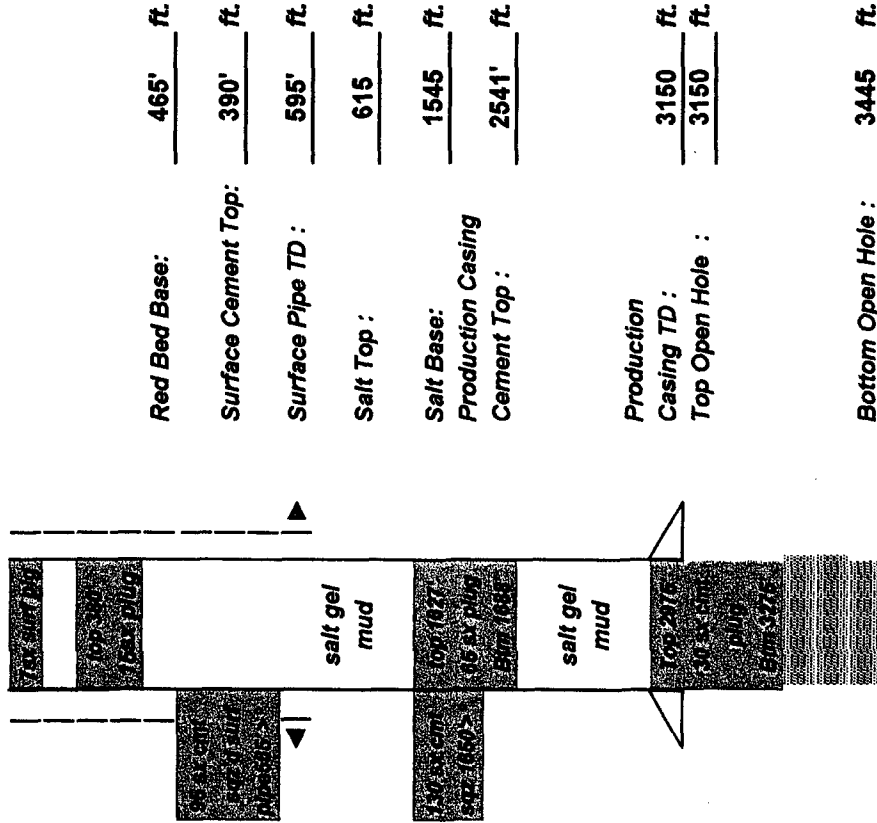
Range

Eddy

County

Current Wellbore Schematic

Type Well : Plugged & Abandoned Injection Well



Wellbore Construction Data			
Surface Casing			
Hole Size:		Casing Size:	8 5/8"
Cemented with:	50 sx. or	cu.ft.	
Top of Cement:	390'	Method Determined:	calc
Intermediate Casing			
Hole Size:		Casing Size:	
Cemented with:	50 sx. or	cu.ft.	
Top of Cement:		Method Determined:	
Production Casing			
Hole Size:		Casing Size:	5 1/2"
Cemented with:	100 sx. or	cu.ft.	
Top of Cement:	2541'	Method Determined:	calc
Liner			
Hole Size:		Casing Size:	
Cemented with:	50 sx. or	cu.ft.	
Top of Cement:		Method Determined:	
Top of Liner :		TD of Liner :	

Injection Interval			
Perforations :	Top	Bottom	
Open Hole :	Top 3150	Bottom 3445	

Injection Well Data Sheet

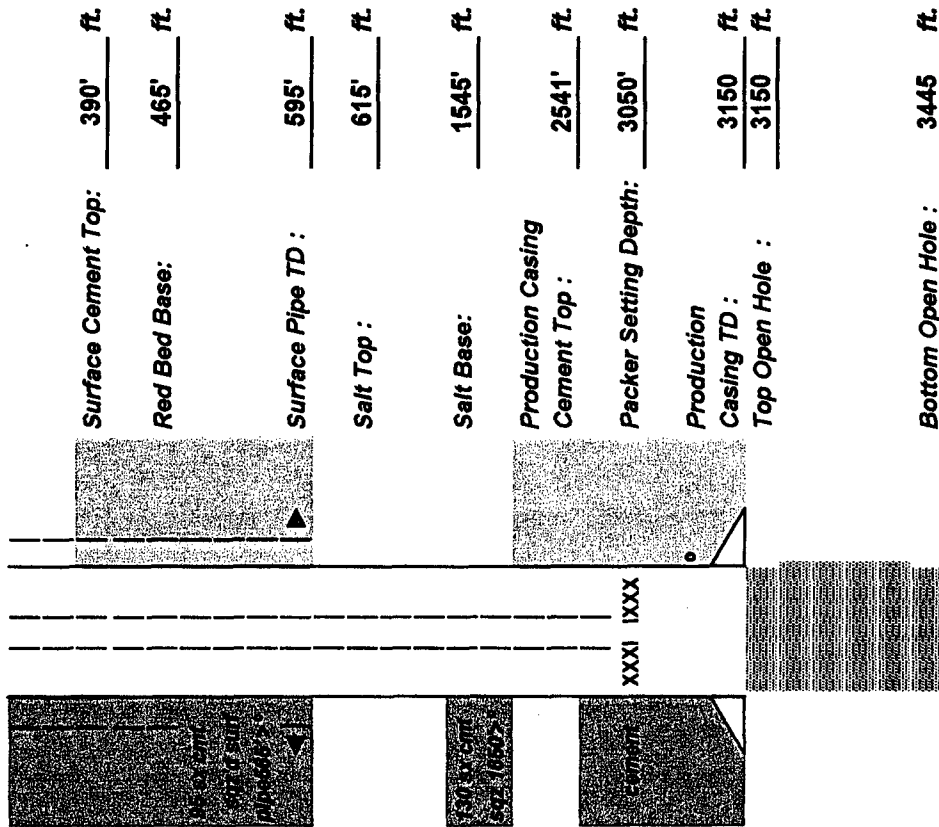
New Mexico Oil Conservation Division C-108 Application

August-03
Page 2 of 2
API # 30-015-04906

Well Name & Number: North Square Lake Unit # 23

Proposed Wellbore Schematic

Type Well : Active Injector



Tubing Data	
Tubing Size :	2 3/8" Lining: plastic coated
Type of Packer:	AD-1
Packer Setting Depth:	3256'

Additional Data	
1.) Is this a new well drilled for Injection ?	Yes ☒ No ☐
If No original purpose well was drilled ? <u>original D&C 1/1944 as producer , convert to injector 5/1965 Plugged 2/1987</u>	
2.) Name of Injection Interval ?	<u>Grayburg-Locho Hills, Metex, & Premier San Andres-Lovington</u>
3.) Name of Pool ?	<u>Square Lake</u>
4.) Has this well ever been perforated in any other zones ?	Yes ☒ No ☐
If yes, following is perforating and plugging detail : <u>Sqz holes @ top & base of salt: 565' & 1650'</u>	
5.) Give the name and depths of any oil or gas zones underlying or overlying the proposed injection interval in this area:	<u>None</u>
6.) If this well was previously an injection well in same proposed interval the following data is provided: Date injection occurred: <u>Start: 5/29/1965</u> Cumulative barrels of water injected in this well in the proposed injection interval: <u>821,000</u> bbls. NMOCD Authorization: <u>Order No. unknown</u>	

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

August-03
Page 1 of 2

Operator: CBS Operating Corp.

Well Name & Number: North Square Lake Unit #

24

API # 30-015-04912

Well Location: 660' FNL & 1980' FEL

Footage Location

Unit Letter
B

16-South
Township

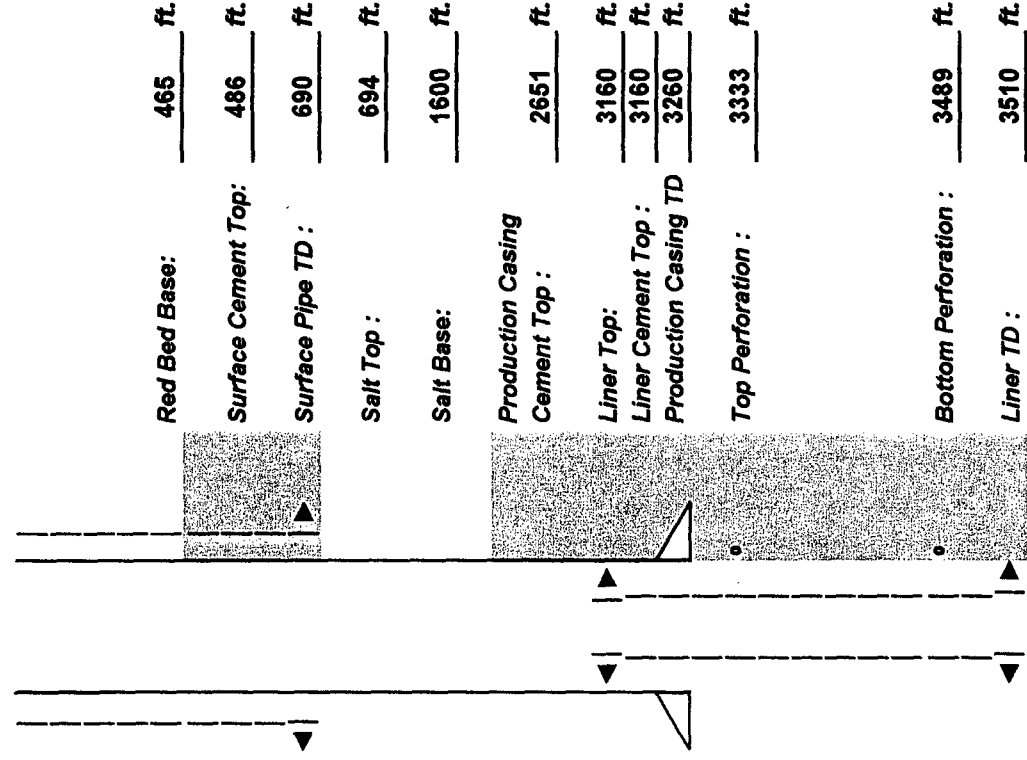
31-East
Range

Eddy
County

29
Section

Current Wellbore Schematic

Type Well : Active Producer



Wellbore Construction Data			
Surface Casing			
Hole Size:		Casing Size:	8 5/8"
Cemented with:	50+50 sx. or	cu.ft.	
Top of Cement:	486'	Method Determined:	calc
orig 320' before re-entry and tie back on			
Intermediate Casing			
Hole Size:		Casing Size:	
Cemented with:	sx. or	cu.ft.	
Top of Cement:		Method Determined:	
Production Casing			
Hole Size:		Casing Size:	5 1/2"
Cemented with:	100 + 100 sx. or	cu.ft.	
Top of Cement:	2651'	Method Determined:	calc
orig 1450' before re-entry and tie back on			
Liner			
Hole Size:		Casing Size:	4"
Cemented with:	35 sx. or	cu.ft.	
Top of Cement:		Method Determined:	
Top of Liner :	3160'	TD of Liner :	3510'
Injection Interval			
Perforations :	Top	Bottom	
Open Hole :	Top	Bottom	

Injection Well Data Sheet

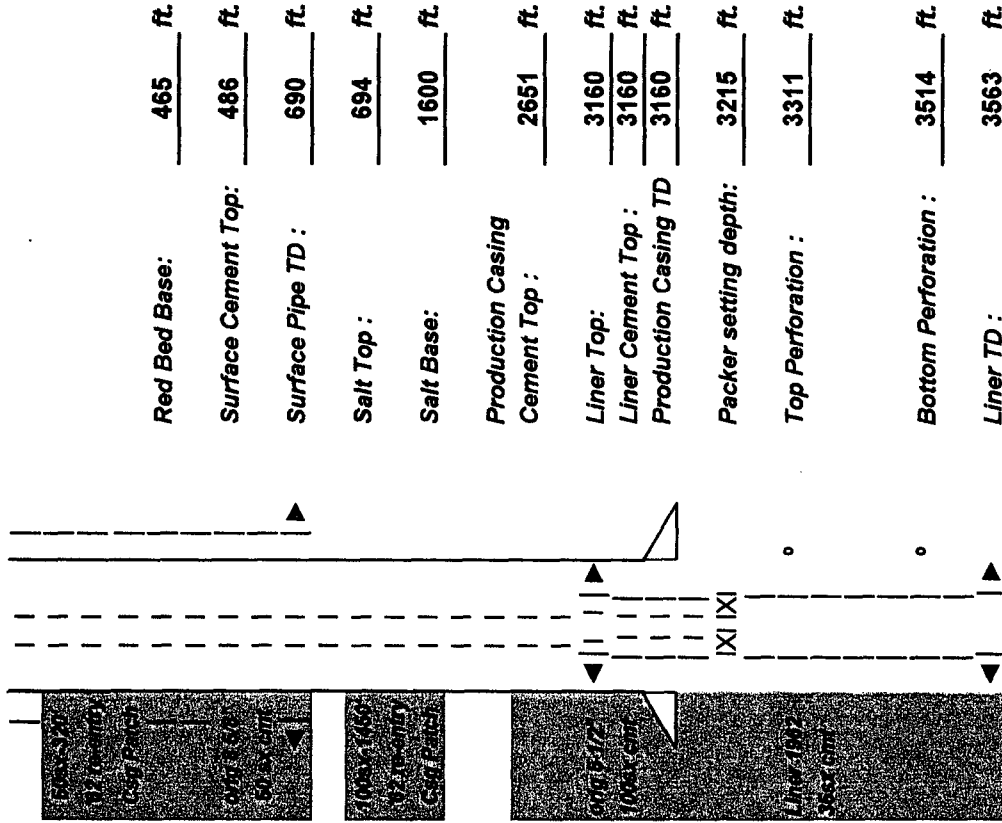
New Mexico Oil Conservation Division C-108 Application

August-03
Page 2 of 2
API # 30-015-04912

Well Name & Number: North Square Lake Unit # 24

Proposed Wellbore Schematic

Type Well : Active Injector



Tubing Data	
Tubing Size :	2 3/8"
Type of Packer:	AD-1
Packer Setting Depth:	3215'
Lining:	plastic coated

Additional Data	
1.) Is this a new well drilled for Injection ?	Yes ☐ No ☒
If No original purpose well was drilled ? orig D & C 10/44 P & A 6/51, Re-enter 5/62 deepn & run liner, all producer status	
2.) Name of Injection Interval ?	Grayburg-Locho Hills, Metex, & Premier San Andres-Lovington
3.) Name of Pool ?	Square Lake
4.) Has this well ever been perforated in any other zones ?	Yes ☐ No ☒
If yes, following is perforating and plugging detail :	
5.) Give the name and depths of any oil or gas zones underlying or overlying the proposed injection interval in this area:	
None	
6.) If this well was previously an injection well in same proposed interval the following data is provided:	
Date Injection occurred:	Start: _____
Cumulative barrels of water injected in this well in the proposed injection interval:	_____ bbls.
NMOCD Authorization:	Order No. _____

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

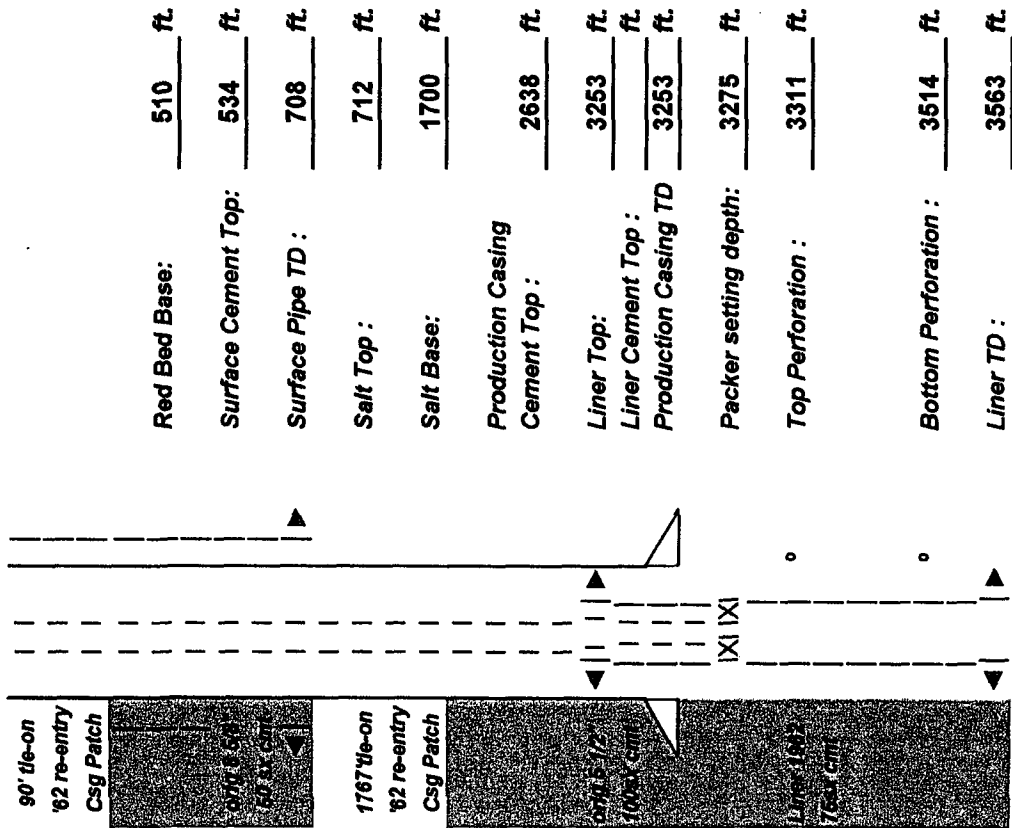
August-03
Page 2 of 2

Well Name & Number: North Square Lake Unit # 25

API # 30-015-04913

Proposed Wellbore Schematic

Type Well : Active Injector



Tubing Data	
Tubing Size :	2 3/8" Lining: plastic coated
Type of Packer:	AD-1
Packer Setting Depth:	

Additional Data	
1.) Is this a new well drilled for Injection ?	Yes ☐ No ☒
If No original purpose well was drilled ? orig D & C 10/44 P & A 6/51, Re-enter 3/62 deepn & run liner, all producer status	
2.) Name of Injection Interval ?	Grayburg-Locho Hills, Metex, & Premier San Andres-Lovington
3.) Name of Pool ?	Square Lake
4.) Has this well ever been perforated in any other zones ?	Yes ☐ No ☒
If yes, following is perforating and plugging detail :	
5.) Give the name and depths of any oil or gas zones underlying or overlying the proposed injection interval in this area:	
None	
6.) If this well was previously an injection well in same proposed interval the following data is provided:	
Date injection occurred:	Start: _____
Cumulative barrels of water injected in this well in the proposed injection interval:	_____ bbls.
NMOCD Authorization:	Order No. _____

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

August-03
Page 1 of 2

Operator: CBS Operating Corp.

Well Name & Number: North Square Lake Unit # 25

API # 30-015-04913

Well Location: 810' FNL & 990' FEL
Footage Location

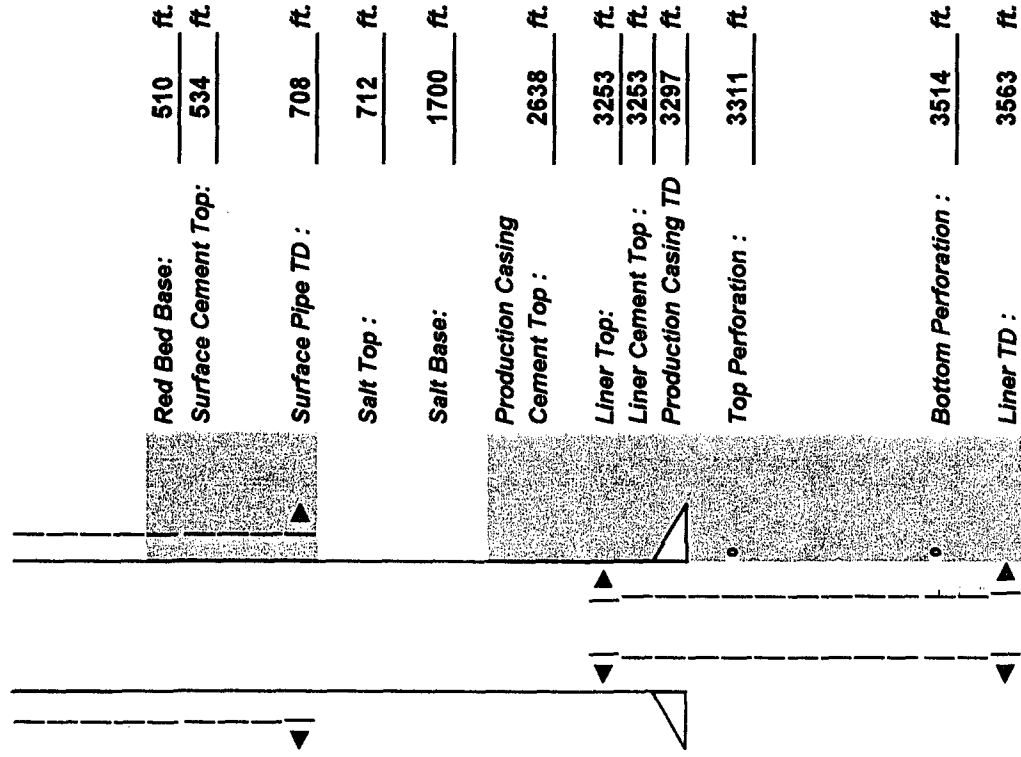
Unit Letter A

Section 29
Township 16-South

Range 31-East
County Eddy

Current Wellbore Schematic

Type Well : Active Producer



Wellbore Construction Data			
Surface Casing			
Hole Size:		Casing Size:	8 5/8"
Cemented with:	50 sx. or	cu.ft.	
Top of Cement:	534'	Method Determined:	calc
orig 90' before re-entry and tie back on			
Intermediate Casing			
Hole Size:		Casing Size:	
Cemented with:	sx. or	cu.ft.	
Top of Cement:		Method Determined:	
Production Casing			
Hole Size:		Casing Size:	5 1/2"
Cemented with:	100 sx. or	cu.ft.	
Top of Cement:	2638'	Method Determined:	calc
orig 1767' before re-entry and tie back on			
Liner			
Hole Size:		Casing Size:	4"
Cemented with:	75 sx. or	cu.ft.	
Top of Cement:	3253'	Method Determined:	calc
Top of Liner:	3253'	TD of Liner:	3563'
Injection Interval			
Perforations:	Top	Bottom	
Open Hole:	Top	Bottom	

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

August-03
Page 1 of 2

Operator : CBS Operating Corp.

Well Name & Number: North Square Lake Unit # 3

API # 30-015-20183

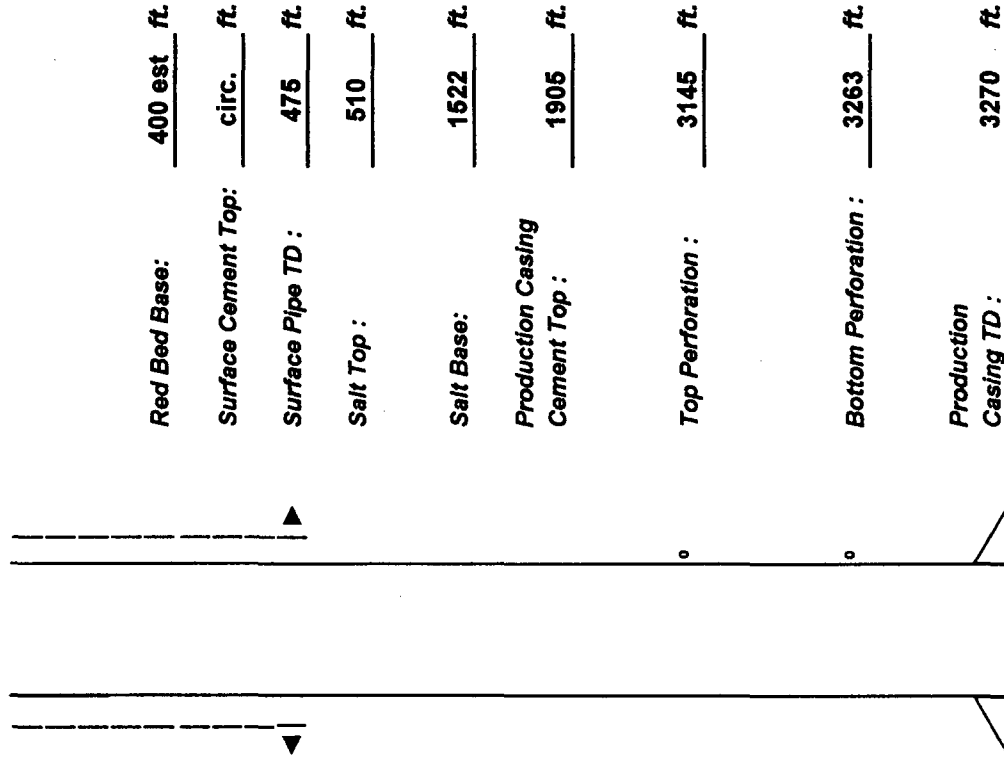
Well Location: 1980' FSL & 1980' FEL
Footage Location

Unit Letter J

Section 19 16-South Township 31-East Range Eddy County

Current Wellbore Schematic

Type Well : Active Producer



Wellbore Construction Data			
Surface Casing			
Hole Size:		Casing Size:	8 5/8 "
Cemented with:	150 sx. or		cu.ft.
Top of Cement:	circ.	Method Determined:	reported
Intermediate Casing			
Hole Size:		Casing Size:	
Cemented with:	sx. or		cu.ft.
Top of Cement:		Method Determined:	
Production Casing			
Hole Size:		Casing Size:	4 1/2"
Cemented with:	300 sx. or		cu.ft.
Top of Cement:	1905'	Method Determined:	calculated
Liner			
Hole Size:		Casing Size:	
Cemented with:	sx. or		cu.ft.
Top of Cement:		Method Determined:	
Top of Liner:		TD of Liner:	
Injection Interval			
Perforations:	Top 3145	Bottom	3263
Open Hole:	Top	Bottom	

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

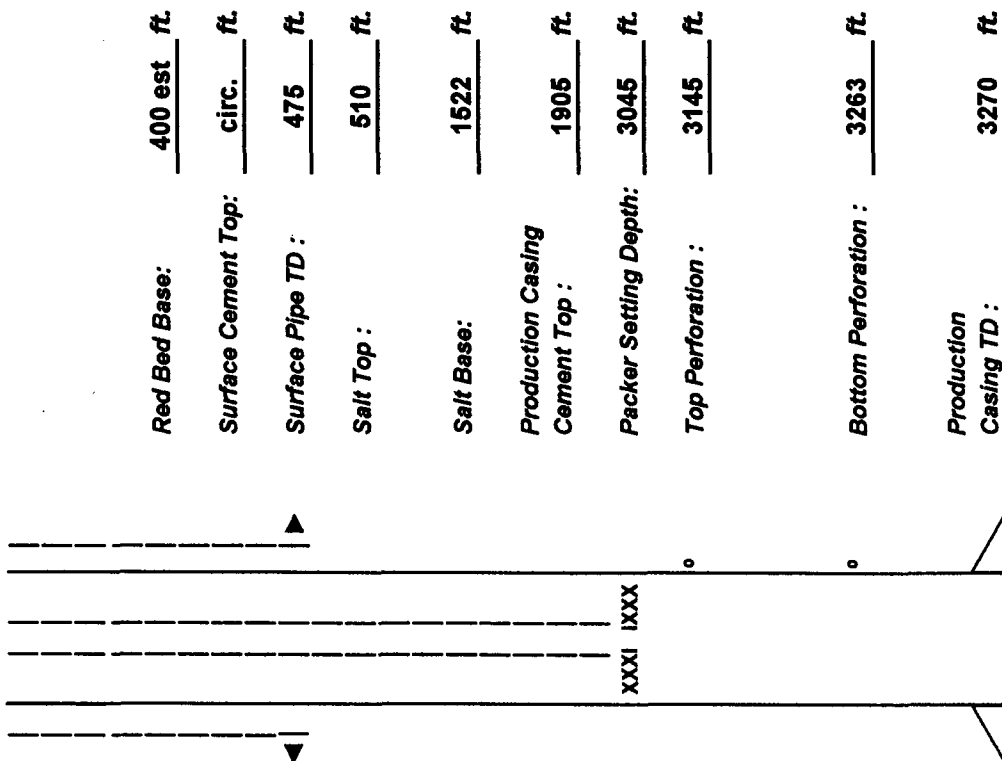
August-03
Page 2 of 2

Well Name & Number: North Square Lake Unit # 3

API # 30-015-20183

Proposed Wellbore Schematic

Type Well : Active Injector



Tubing Data

Tubing Size : 2 3/8 " Lining: plastic coating
Type of Packer: AD - 1
Packer Setting Depth: 3045 ft.

Additional Data

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

If No original purpose well was drilled ? original D & C
12 / 1968 as producer

2.) Name of Injection Interval ? Grayburg-Locho Hills, Metex, & Premier
San Andres-Lovington

3.) Name of Pool ? Square Lake

4.) Has this well ever been perforated in any other zones ? Yes ☒ No ☐

If yes, following is perforating and plugging detail :

5.) Give the name and depths of any oil or gas zones underlying or overlying the proposed injection interval in this area:
None

6.) If this well was previously an injection well in same proposed interval the following data is provided:

Date Injection occurred: Start: n/a Last:

Cumulative barrels of water injected in this well
In the proposed injection interval: n/a bbls.

NMOCD Authorization: Order No. n/a Issue Date:

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

August-03
Page 1 of 2

Operator : CBS Operating Corp.

Well Name & Number: North Square Lake Unit # 5

API # 30-015-10322

Well Location: 1650' FSL & 990' FWL
Footage Location

L
Unit Letter

16-South
Township

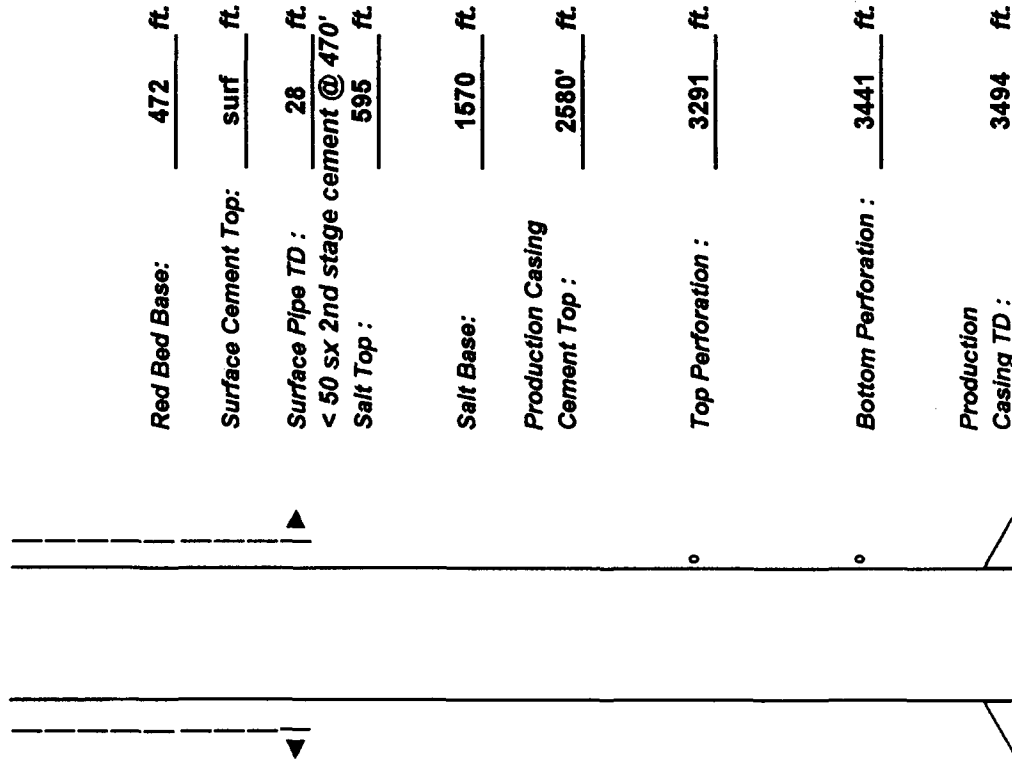
31-East
Range

Eddy
County

20
Section

Current Wellbore Schematic

Type Well : Active Producer



Wellbore Construction Data			
Surface Casing			
Hole Size:		Casing Size:	13 3/8 "
Cemented with:	22 sx. or		cu.ft.
Top of Cement:	surf	Method Determined:	reported
Note: 2 nd stage on primary cement job 50 sx @ 470 '			
Intermediate Casing			
Hole Size:		Casing Size:	
Cemented with:	sx. or		cu.ft.
Top of Cement:		Method Determined:	
Production Casing			
Hole Size:		Casing Size:	5 1/2 "
Cemented with:	150 sx. or		cu.ft.
Top of Cement:	2580'	Method Determined:	calculated
Liner			
Hole Size:		Casing Size:	
Cemented with:	sx. or		cu.ft.
Top of Cement:		Method Determined:	
Top of Liner :		TD of Liner :	
Injection Interval			
Perforations :	Top 3291	Bottom	3441
Open Hole :	Top	Bottom	

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

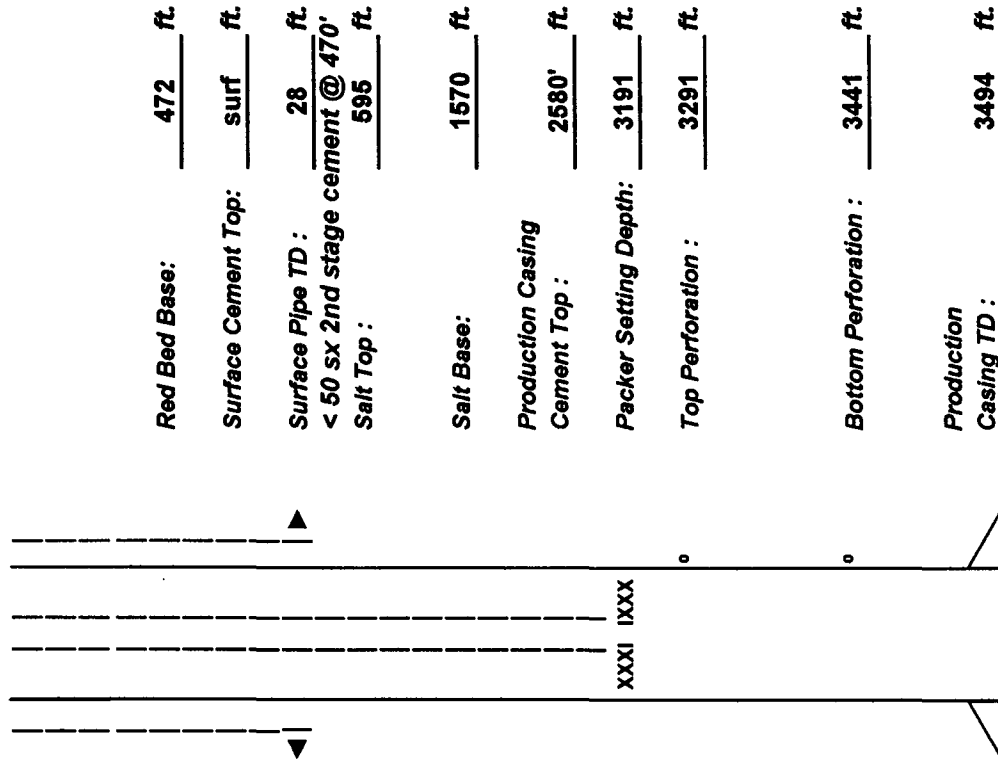
August-03
Page 2 of 2

Well Name & Number: North Square Lake Unit # 5

API # 30-015-10322

Proposed Wellbore Schematic

Type Well : Active Injector



Tubing Data

Tubing Size : 2 3/8 " Lining: plastic coating
Type of Packer: AD - 1
Packer Setting Depth: 3191 ft.

Additional Data

1.) Is this a new well drilled for Injection ? Yes ☒ No ☐

If No original purpose well was drilled ? original D & C
3 / 1964 as producer

2.) Name of Injection Interval ? Grayburg-Locho Hills, Metex, & Premier
San Andres-Lovington

3.) Name of Pool ? Square Lake

4.) Has this well ever been perforated in any other zones ? Yes ☒ No ☐

If yes, following is perforating and plugging detail :

5.) Give the name and depths of any oil or gas zones underlying or overlying the proposed Injection Interval in this area:
None

6.) If this well was previously an Injection well in same proposed interval the following data is provided:
Date Injection occurred: Start: n/a Last: n/a

Cumulative barrels of water injected in this well in the proposed Injection Interval: n/a bbls.

NMOCD Authorization: Order No. n/a Issue Date:

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

August-03
Page 1 of 2

Operator : CBS Operating Corp.

Well Name & Number: North Square Lake Unit # 20

API # 30-015-04936

Well Location: 660' FNL & 1980' FEL
Footage Location

Unit Letter B

16-South
Township

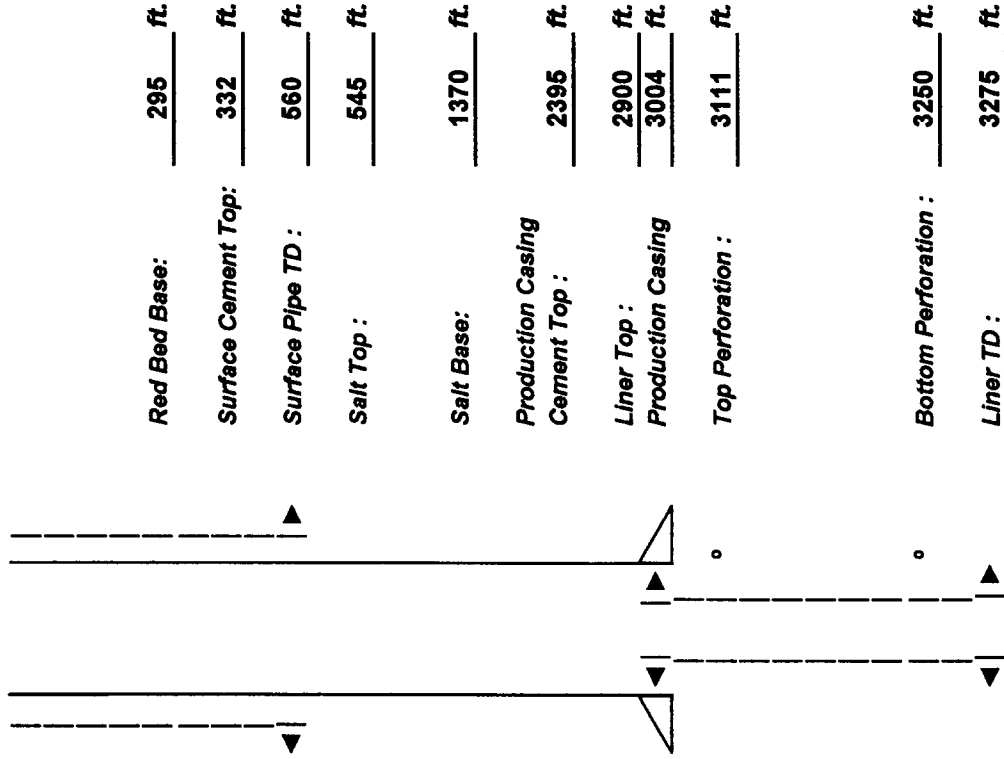
31-East
Range

Eddy
County

30
Section

Current Wellbore Schematic

Type Well : Active Producer



Wellbore Construction Data			
Surface Casing			
Hole Size:		Casing Size:	8 5/8 "
Cemented with:	50 sx. or		cu.ft.
Top of Cement:	332 ft.	Method Determined:	calculated
Intermediate Casing			
Hole Size:		Casing Size:	
Cemented with:	50 sx. or		cu.ft.
Top of Cement:		Method Determined:	
Production Casing			
Hole Size:		Casing Size:	5 1/2 "
Cemented with:	100 sx. or		cu.ft.
Top of Cement:	2395 ft.	Method Determined:	calculated
Liner			
Hole Size:		Casing Size:	4 1/2 "
Cemented with:	75 sx. or		cu.ft.
Top of Cement:	2900 ft.	Method Determined:	calc
Top of Liner :	2900 ft.	TD of Liner :	3275
Injection Interval			
Perforations :	Top 3111	Bottom	3250
Open Hole :	Top	Bottom	

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

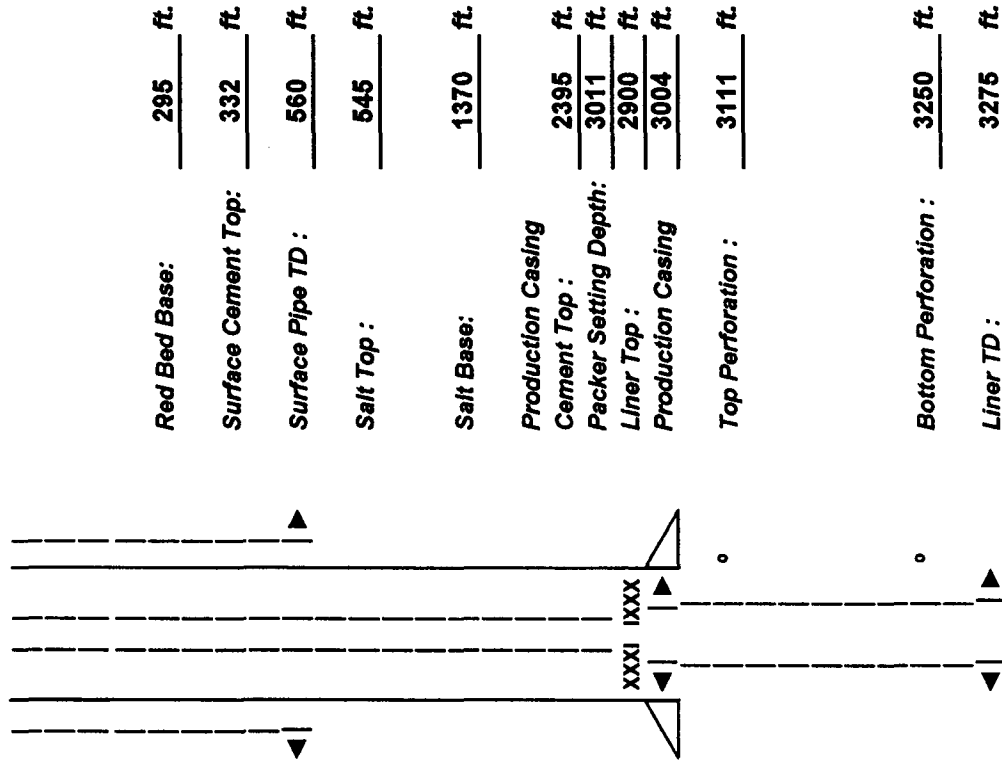
August-03
Page 2 of 2

Well Name & Number: North Square Lake Unit # 20

API # 30-015-04936

Proposed Wellbore Schematic

Type Well : Active Injector



Tubing Data	
Tubing Size :	2 3/8 " Lining: plastic coating
Type of Packer:	AD - 1
Packer Setting Depth:	3011 ft.

Additional Data	
1.) Is this a new well drilled for injection ?	Yes ☐ No ☒
If No original purpose well was drilled ? original D & C	
7 / 1944 as producer to 3144':12/1965 dpn - 3275' & ran liner	
2.) Name of Injection Interval ?	Grayburg-Locho Hills, Metex, & Premier San Andres-Lovington
3.) Name of Pool ?	Square Lake
4.) Has this well ever been perforated in any other zones ?	Yes ☐ No ☒
If yes, following is perforating and plugging detail :	
5.) Give the name and depths of any oil or gas zones underlying or overlying the proposed injection interval in this area:	
None	
6.) If this well was previously an injection well in same proposed interval the following data is provided:	
Date injection occurred:	Start: n/a Last:
Cumulative barrels of water injected in this well in the proposed injection interval:	n/a bbls.
NMOCD Authorization:	Order No. n/a Issue Date:

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

August-03
Page 1 of 2

Operator : CBS Operating Corp.

Well Name & Number: North Square Lake Unit # 22

API # 30-015-04905

Well Location: 760' FNL & 560' FWL
Footage Location

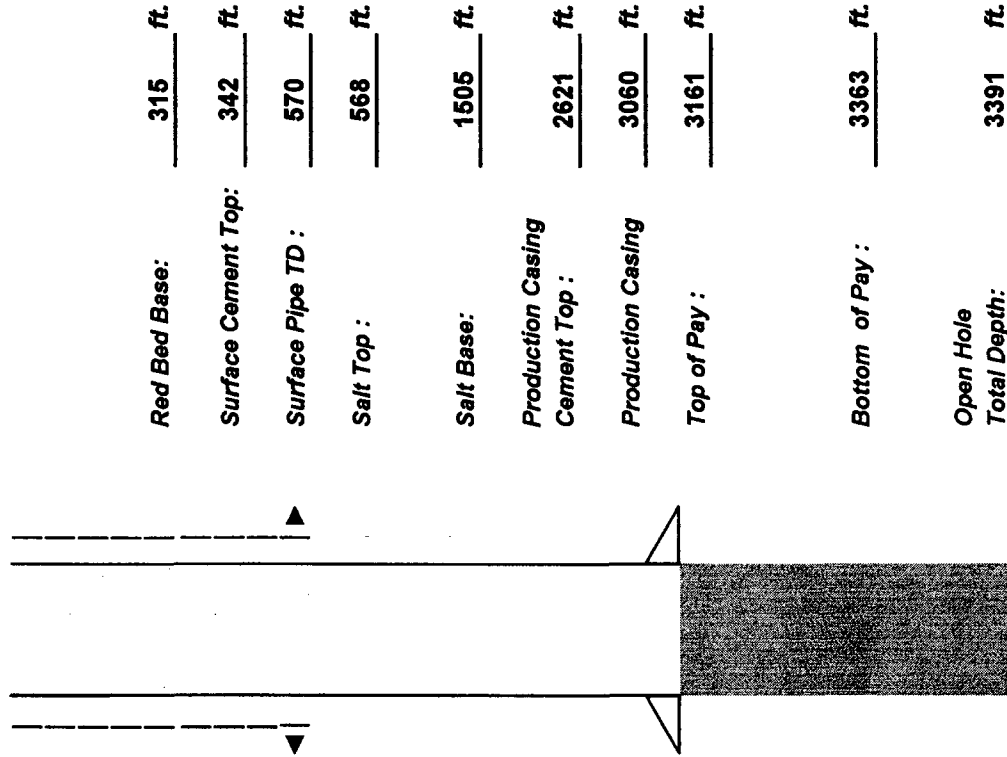
D
Unit Letter

29 Section
16-South Township

31-East Range
Eddy County

Current Wellbore Schematic

Type Well : Active Producer



Wellbore Construction Data			
Surface Casing			
Hole Size:		Casing Size:	8 5/8 "
Cemented with:	50 sx. or		cu.ft.
Top of Cement:	342 ft.	Method Determined:	calculated
Intermediate Casing			
Hole Size:		Casing Size:	
Cemented with:	sx. or		cu.ft.
Top of Cement:		Method Determined:	
Production Casing			
Hole Size:		Casing Size:	5 1/2 "
Cemented with:	100 sx. or		cu.ft.
Top of Cement:	2621 ft.	Method Determined:	calculated
Liner			
Hole Size:		Casing Size:	
Cemented with:	sx. or		cu.ft.
Top of Cement:		Method Determined:	
Top of Liner:		TD of Liner:	
Injection Interval			
Perforations:	Top	Bottom	
Open Hole:	Top 3060 ft.	Bottom	3391

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

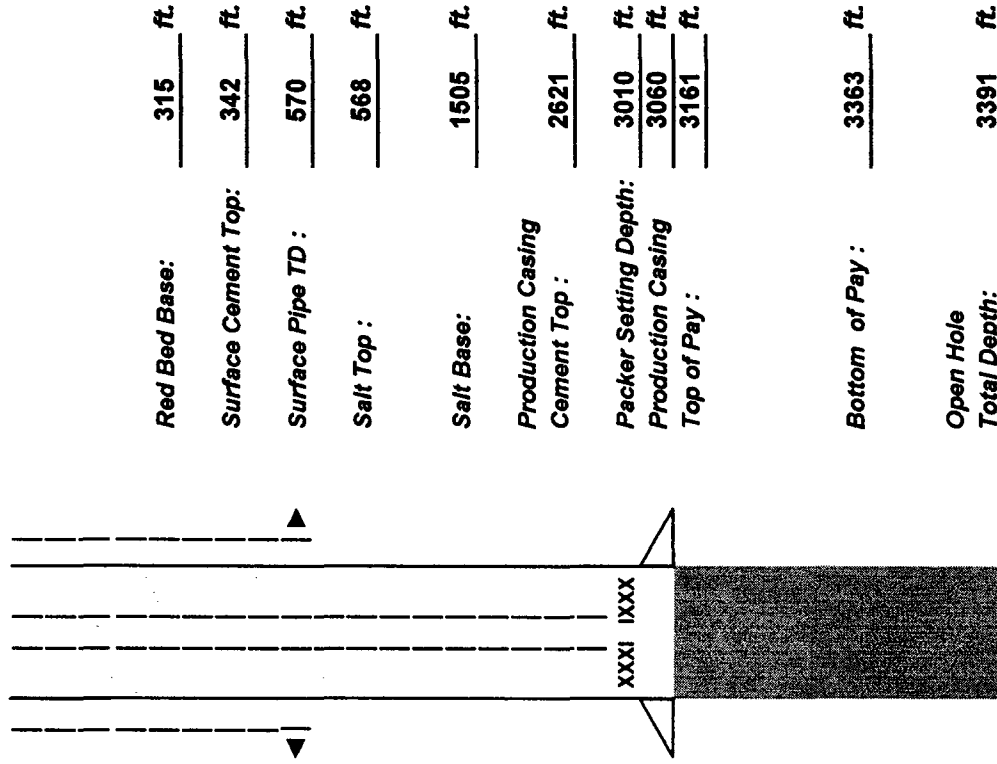
August-03
Page 2 of 2

Well Name & Number: North Square Lake Unit # 22

API # 30-015-04905

Proposed Wellbore Schematic

Type Well : Active Injector



Tubing Data		
Tubing Size :	2 3/8 "	Lining: plastic coating
Type of Packer:	AD - 1	
Packer Setting Depth:	3010 ft.	

Additional Data		
1.) Is this a new well drilled for Injection ?	Yes ☐	No ☒
If No original purpose well was drilled ? original D & C 1 / 1944 as producer to 3230'; 12/1945 dpn - 3391'		
2.) Name of Injection Interval ?	Grayburg-Locho Hills, Metex, & Premier San Andres-Lovington	
3.) Name of Pool ?	Square Lake	
4.) Has this well ever been perforated in any other zones ?	Yes ☐	No ☒
If yes, following is perforating and plugging detail :		
5.) Give the name and depths of any oil or gas zones underlying or overlying the proposed Injection Interval in this area:		
None		
6.) If this well was previously an Injection well in same proposed interval the following data is provided:		
Date Injection occurred:	Start: n/a	Last:
Cumulative barrels of water injected in this well in the proposed injection interval: n/a bbls.		
NMOCDC Authorization:	Order No. n/a	Issue Date:

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

August-03
Page 1 of 2

Operator : CBS Operating Corp.

Well Name & Number: North Square Lake Unit # 62

API # 30-015-04892

Well Location: 1980' FSL & 660' FWL
Footage Location

L
Unit Letter

16-South
Township

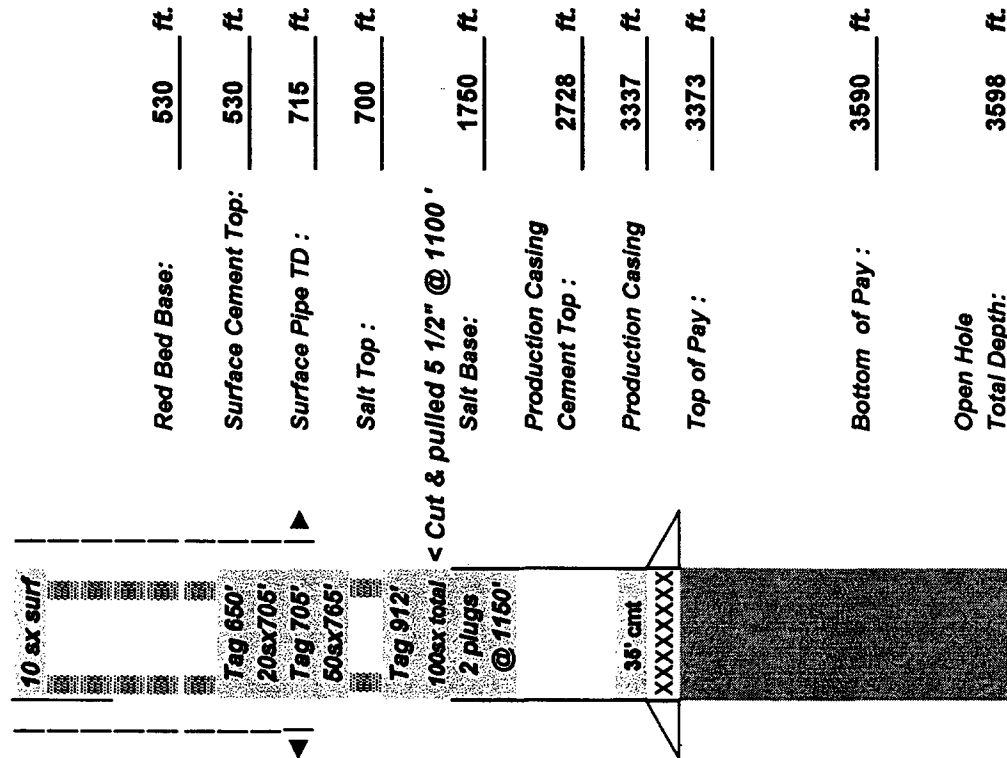
31-East
Range

Eddy
County

28
Section

Current Wellbore Schematic

Type Well : Plugged & Abandoned Producer



Wellbore Construction Data			
Surface Casing			
Hole Size:		Casing Size:	8 5/8 "
Cemented with:	50 sx. or	cu.ft.	
Top of Cement:	530 ft.	Method Determined:	calculated
Intermediate Casing			
Hole Size:		Casing Size:	
Cemented with:	50 sx. or	cu.ft.	
Top of Cement:		Method Determined:	
Production Casing			
Hole Size:		Casing Size:	5 1/2 "
Cemented with:	100 sx. or	cu.ft.	
Top of Cement:	2728 ft.	Method Determined:	calculated
Liner			
Hole Size:		Casing Size:	
Cemented with:	50 sx. or	cu.ft.	
Top of Cement:		Method Determined:	
Top of Liner :		TD of Liner :	
Injection Interval			
Perforations :	Top	Bottom	
Open Hole :	Top 3337 ft.	Bottom 3598	

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

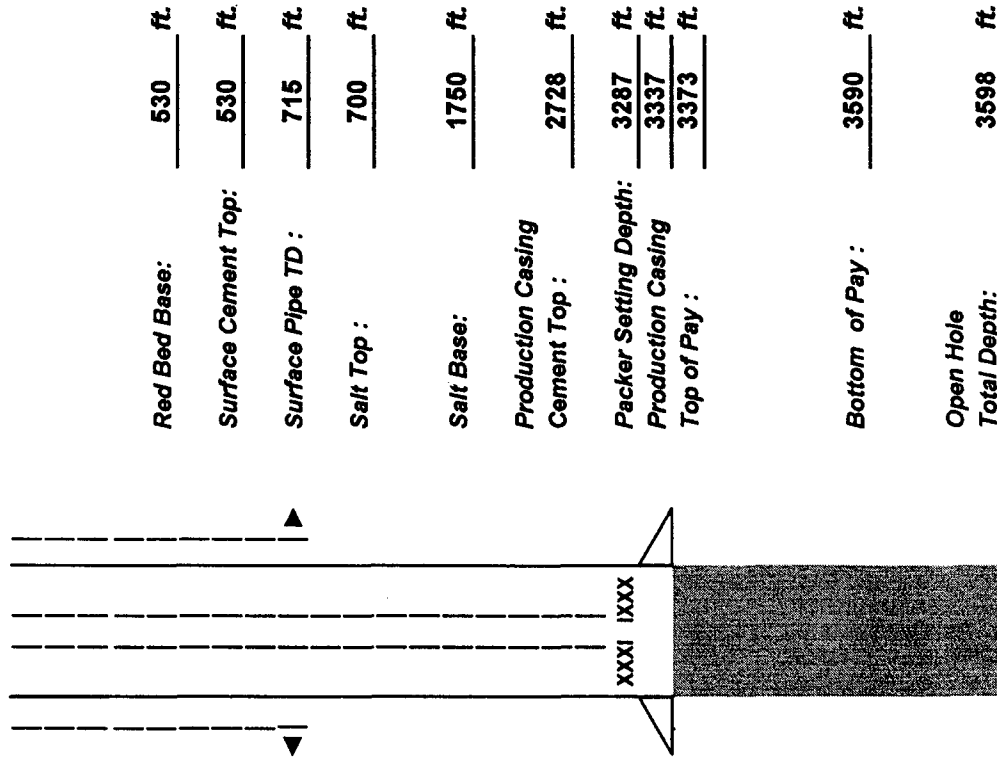
August-03
Page 2 of 2

Well Name & Number: North Square Lake Unit # 62

API # 30-015-04892

Proposed Wellbore Schematic

Type Well : Active Injector



Tubing Data	
Tubing Size : 2 3/8 "	Lining: plastic coating
Type of Packer: AD - 1	
Packer Setting Depth: 3287 ft.	
Additional Data	
1.) Is this a new well drilled for Injection ? Yes ☐ No ☒	
If No original purpose well was drilled ? original D & C 11 / 1944 as producer to 3230'; 11/1946 dpn - 3598'; P & A 1/1997	
2.) Name of Injection Interval ? Grayburg-LoCo Hills, Metex, & Premier San Andres-Lovington	
3.) Name of Pool ? Square Lake	
4.) Has this well ever been perforated in any other zones ? Yes ☐ No ☒	
If yes, following is perforating and plugging detail : plugging detail noted on above diagram	
5.) Give the name and depths of any oil or gas zones underlying or overlying the proposed injection interval in this area: None	
6.) If this well was previously an injection well in same proposed interval the following data is provided: Date injection occurred: Start: n/a Last: Cumulative barrels of water injected in this well in the proposed injection interval: n/a bbls. NMOCD Authorization: Order No. n/a Issue Date:	

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

August-03
Page 1 of 2

Operator : CBS Operating Corp.

Well Name & Number: North Square Lake Unit # 83

API # 30-015-04915

Well Location: 550' FSL & 550' FEL
Footage Location

P
Unit Letter

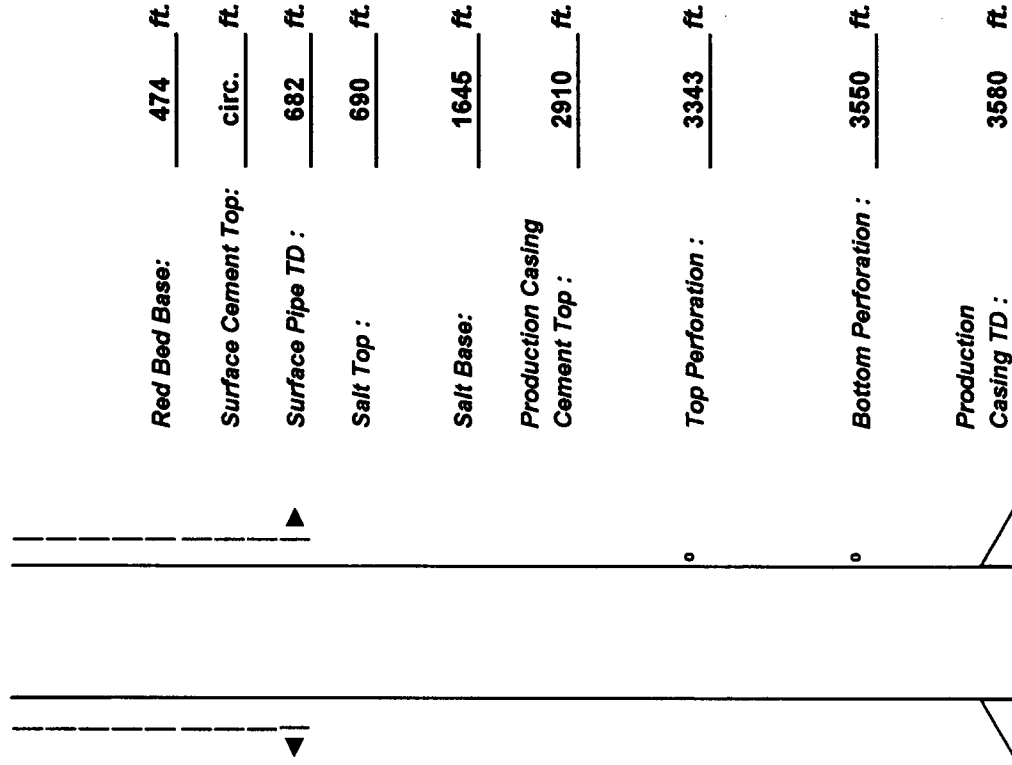
16-South
Township

31-East
Range

Eddy
County

Current Wellbore Schematic

Type Well : Active Producer



Wellbore Construction Data			
Surface Casing			
Hole Size:		Casing Size:	8 5/8 "
Cemented with:	50 sx. or	cu.ft.	
Top of Cement:	454	Method Determined:	calculated
Intermediate Casing			
Hole Size:		Casing Size:	
Cemented with:	sx. or	cu.ft.	
Top of Cement:		Method Determined:	
Production Casing			
Hole Size:		Casing Size:	5 1/2"
Cemented with:	110 sx. or	cu.ft.	
Top of Cement:	2910 ft.	Method Determined:	calculated
Liner			
Hole Size:		Casing Size:	
Cemented with:	sx. or	cu.ft.	
Top of Cement:		Method Determined:	
Top of Liner :		TD of Liner :	
Injection Interval			
Perforations :	Top 3343	Bottom	3550
Open Hole :	Top	Bottom	

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

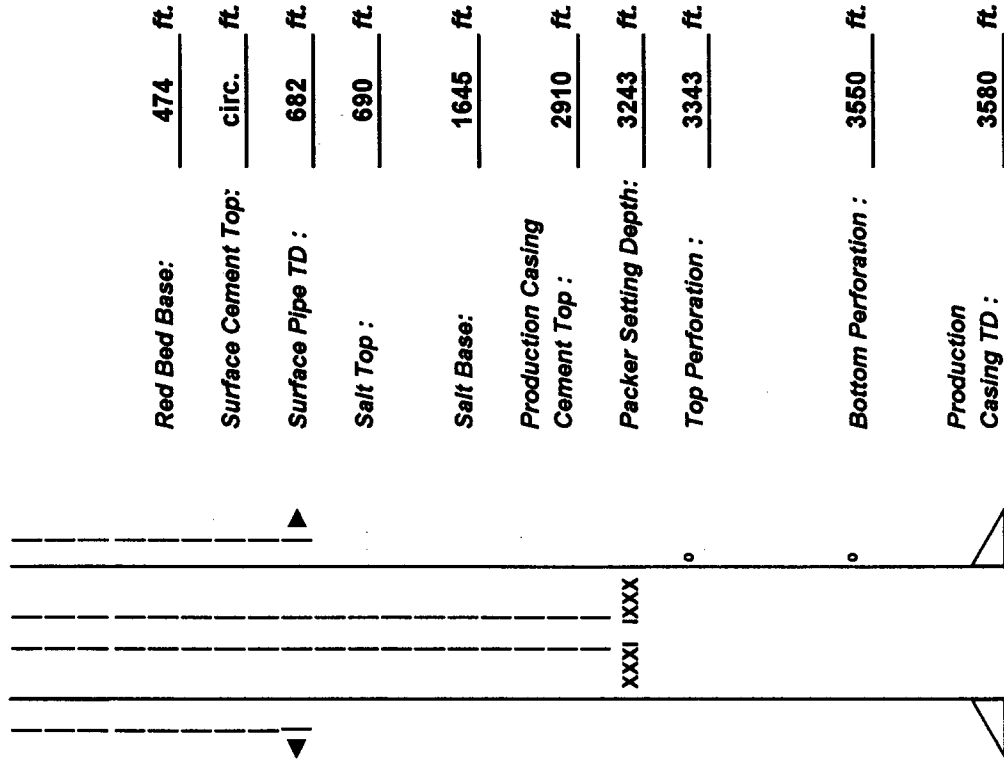
August-03
Page 2 of 2

Well Name & Number: North Square Lake Unit # 83

API # 30-015-04915

Proposed Wellbore Schematic

Type Well : Active Injector



Tubing Data

Tubing Size : 2 3/8 " Lining: plastic coating
Type of Packer: AD - 1
Packer Setting Depth: 3243 ft.

Additional Data

1.) Is this a new well drilled for Injection ? Yes ☒ No ☐

If No original purpose well was drilled ? original D & C
4 / 1963 as producer

2.) Name of Injection Interval ? Grayburg-LoCo Hills, Metex, & Premier
San Andres-Lovington

3.) Name of Pool ? Square Lake

4.) Has this well ever been perforated in any other zones ? Yes ☒ No ☐

If yes, following is perforating and plugging detail :

5.) Give the name and depths of any oil or gas zones underlying or overlying the proposed Injection Interval in this area:

None

6.) If this well was previously an Injection well in same proposed interval the following data is provided:

Date injection occurred: Start: n/a Last: n/a

Cumulative barrels of water injected in this well in the proposed Injection Interval: n/a bbls.

NMOCD Authorization: Order No. n/a Issue Date:

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

August-03
Page 1 of 2

Operator : CBS Operating Corp.

Well Name & Number: North Square Lake Unit # 85

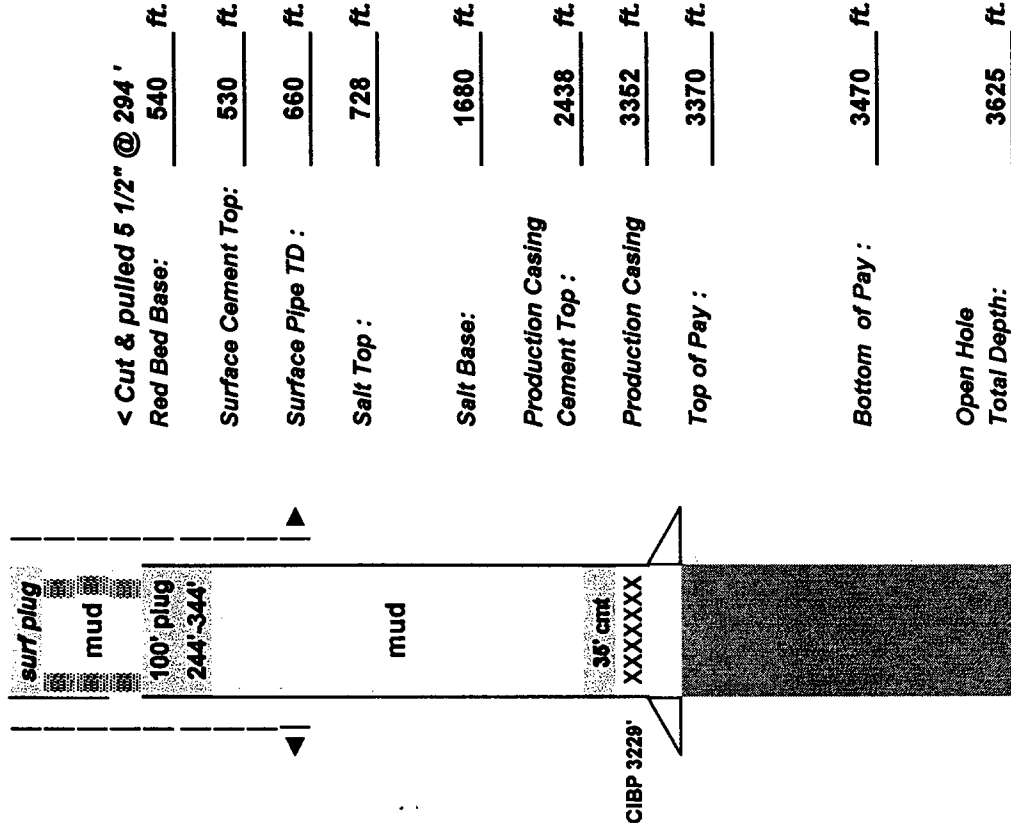
Well Location: 560' FSL & 1880' FWL
Footage Location

28 Section 16-South Township 31-East Range Eddy County

API # 30-015-04895

Current Wellbore Schematic

Type Well : Plugged & Abandoned Producer



Wellbore Construction Data			
Surface Casing			
Hole Size:		Casing Size:	8 5/8 "
Cemented with:	50 sx. or	cu.ft.	
Top of Cement:	530 ft.	Method Determined:	calculated
Intermediate Casing			
Hole Size:		Casing Size:	
Cemented with:	sx. or	cu.ft.	
Top of Cement:		Method Determined:	
Production Casing			
Hole Size:		Casing Size:	5 1/2 "
Cemented with:	150 sx. or	cu.ft.	
Top of Cement:	2438 ft.	Method Determined:	calculated
2 stage after re-entry 50sx @ 529'			
Liner			
Hole Size:		Casing Size:	
Cemented with:	sx. or	cu.ft.	
Top of Cement:		Method Determined:	
Top of Liner :		TD of Liner :	
Injection Interval			
Perforations :	Top	Bottom	
Open Hole :	Top 3352 ft.	Bottom	3625

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

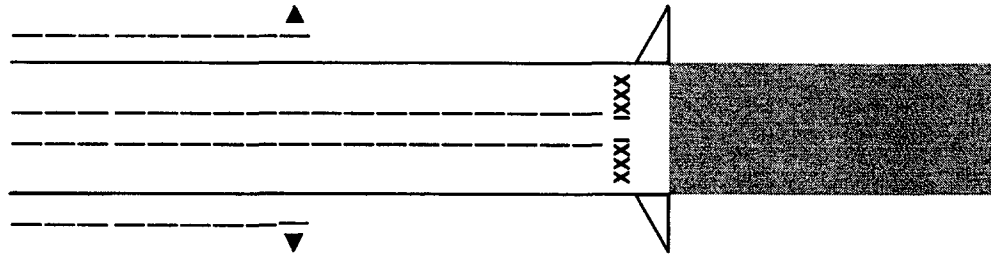
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Well Name & Number: North Square Lake Unit # 85

API # 30-015-04895

Proposed Wellbore Schematic

Type Well : Active Injector



Red Bed Base:	540	ft.
Surface Cement Top:	530	ft.
Surface Pipe TD :	660	ft.
Salt Top :	728	ft.
Salt Base:	1680	ft.
Production Casing Cement Top :	2438	ft.
Packer Setting Depth:	3302	ft.
Production Casing	3352	ft.
Top of Pay :	3370	ft.
Bottom of Pay :	3470	ft.
Open Hole		
Total Depth:	3625	ft.

Tubing Data

Tubing Size : 2 3/8 " Lining: plastic coating
Type of Packer: AD - 1
Packer Setting Depth: 3302 ft.

Additional Data

1.) Is this a new well drilled for Injection ? Yes ☒ No ☐

If No original purpose well was drilled ? original D & C
7 / 1944 as producer to 3398'; 1/1946 dpn - 3476'; 12/62-dpn-3625
P & A'd - 9 / 1975

2.) Name of Injection Interval ? Grayburg-Locho Hills, Metex, & Premier
San Andres-Lovington

3.) Name of Pool ? Square Lake

4.) Has this well ever been perforated in any other zones ? Yes ☒ No ☐

If yes, following is perforating and plugging detail : plugging detail
noted on above diagram

5.) Give the name and depths of any oil or gas zones underlying or
overlying the proposed injection interval in this area:
None

6.) If this well was previously an injection well in same proposed interval
the following data is provided:

Date Injection occurred: Start: n/a Last:

Cumulative barrels of water injected in this well
in the proposed injection interval: n/a bbls.

NMOCD Authorization: Order No. n/a Issue Date:

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

August-03
Page 1 of 2

Operator : CBS Operating Corp.

Well Name & Number: North Square Lake Unit # 111

API # 30-015-04979

Well Location: 660' FNL & 1980' FEL
Footage Location

B
Unit Letter

16-South
Township

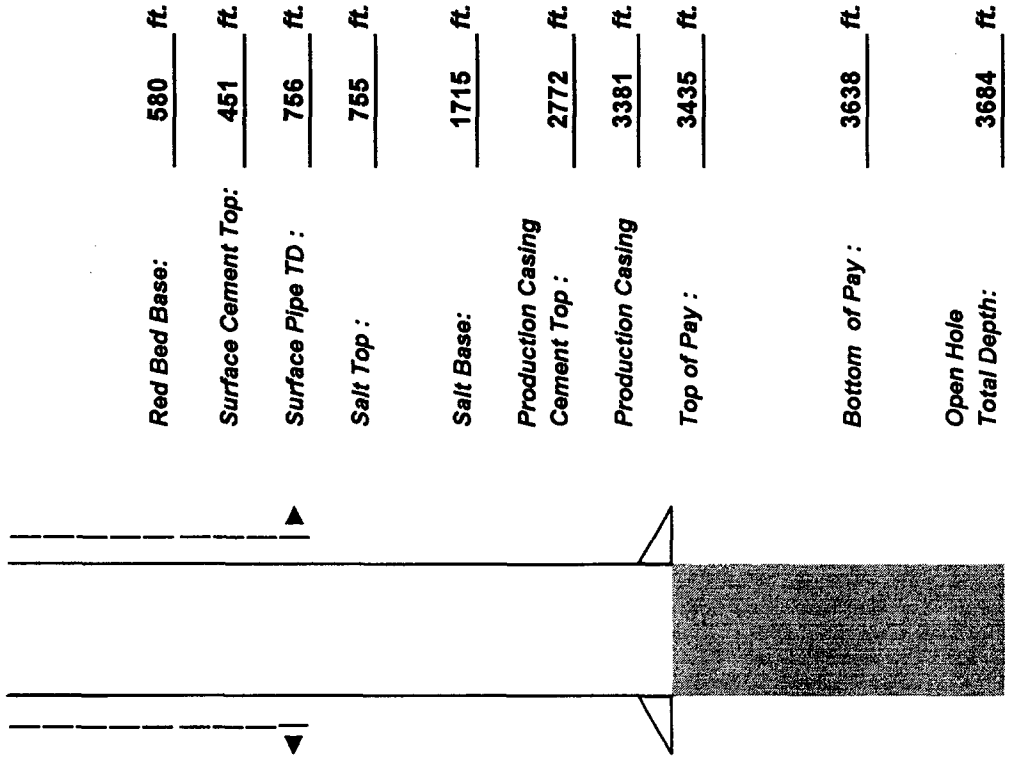
31-East
Range

Eddy
County

33
Section

Current Wellbore Schematic

Type Well : Shut-in Producer



Wellbore Construction Data			
Surface Casing			
Hole Size:		Casing Size:	8 5/8 "
Cemented with:	50 sx. or	cu.ft.	
Top of Cement:	451 ft.	Method Determined:	calculated
Intermediate Casing			
Hole Size:		Casing Size:	
Cemented with:	50 sx. or	cu.ft.	
Top of Cement:		Method Determined:	
Production Casing			
Hole Size:		Casing Size:	5 1/2 "
Cemented with:	100 sx. or	cu.ft.	
Top of Cement:	2772 ft.	Method Determined:	calculated
Liner			
Hole Size:		Casing Size:	
Cemented with:	50 sx. or	cu.ft.	
Top of Cement:		Method Determined:	
Top of Liner :		TD of Liner :	
Injection Interval			
Perforations :	Top	Bottom	
Open Hole :	Top 3381 ft.	Bottom	3684

Injection Well Data Sheet

New Mexico Oil Conservation Division C-108 Application

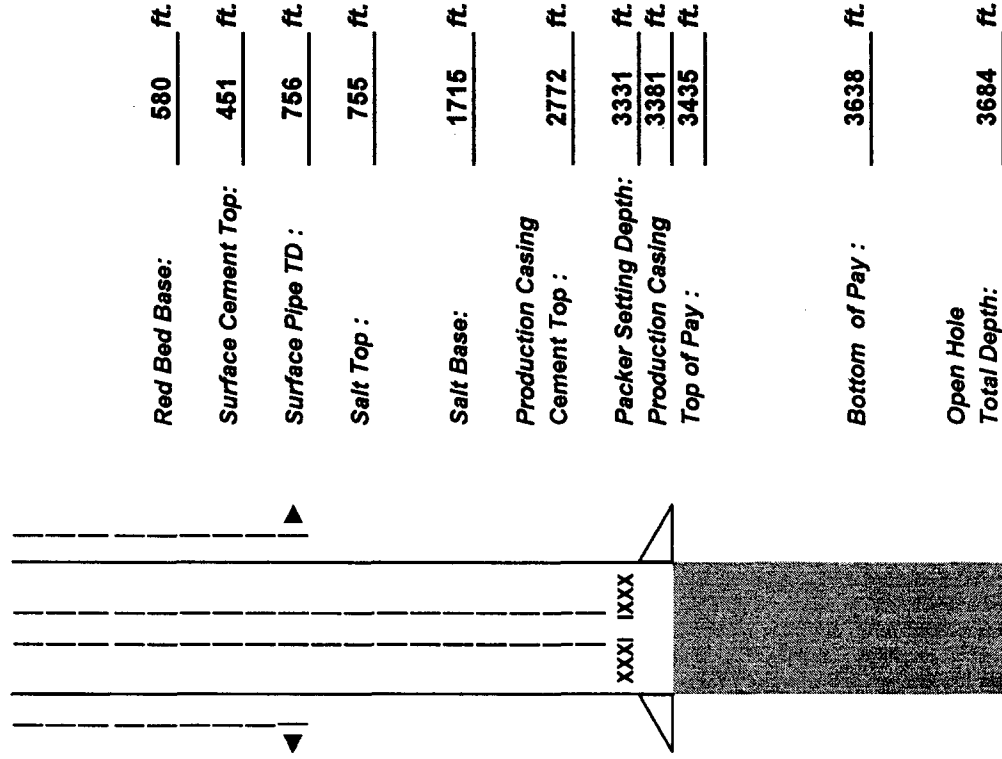
August-03
Page 2 of 2

Well Name & Number: North Square Lake Unit # 111

API # 30-015-04979

Proposed Wellbore Schematic

Type Well : Active Injector



Tubing Data	
Tubing Size :	2 3/8 " Lining: plastic coating
Type of Packer:	AD - 1
Packer Setting Depth:	3331 ft.

Additional Data	
1.) Is this a new well drilled for Injection ?	Yes ☐ No ☒
If No original purpose well was drilled ? original D & C 7 / 1944 as producer to 3600': 9/1948 dpn - 3684'	
2.) Name of Injection Interval ?	Grayburg-LoCo Hills, Metex, & Premier San Andres-Lovington
3.) Name of Pool ?	Square Lake
4.) Has this well ever been perforated in any other zones ?	Yes ☐ No ☒
If yes, following is perforating and plugging detail :	
5.) Give the name and depths of any oil or gas zones underlying or overlying the proposed injection interval in this area:	
None	
6.) If this well was previously an injection well in same proposed interval the following data is provided:	
Date Injection occurred:	Start: n/a Last:
Cumulative barrels of water injected in this well in the proposed injection interval:	n/a bbls.
NMOCD Authorization:	Order No. n/a Issue Date:

6 partide
3150-3445

NSLU #23 WELLS IN THE AREA OF REVIEW

LEASE NAME (Original)	WELL #	NSLU API # well no.	S-T-R	LOC'N	CURRENT STATUS	SPUD DATE	COMP DATE	TD/ PBT	CASING PROGRAM	TOC	FORM.	COMP. ZONE	STIMULATION	IP
Rowley Federal	1	10206	20K-16-31	1650' FSL 1980' FWL	P&A	1/9/1964	2/5/1964	3513'/ 3499'	5 1/2" Csg set @ 3511' w/ 150 sxs	2597'	GB-SA	3322-469	Frac w/ 40 M gal & 48 M#	50 BOPD
Grier	3	04858	20M-16-31	330' FSL 510' FWL	P&A WIW	11/29/1944	1/24/1945	3237'	8 1/4" Csg set @ 590' w/ 50 sxs 5 1/2" Csg set @ 3115' w/ 100 sxs	416' 2506'	GB-SA	2574-3237	220 qts. Nitro	75 BOPD
Grier	4	10343	20N-16-31	990' FSL 1980' FWL	Active Producer	4/8/1964	5/8/1964	3505'/ 3499'	5 1/2" Csg set @ 3504' w/ 150 sxs	2591'	GB-SA	3250-3461	70 M gal & 70 M#	292 BOPD
Baxter "A"	1	04859	20O-16-31	660' FSL 1980' FEL	P&A WIW	12/19/1960	1/14/1961	3517'/ 3505'	8 5/8" Csg set @ 262' w/ 200 sxs 5 1/2" Csg set @ 3517' w/ 175 sxs	Circ. 2451'	GB-SA	3356-3500	35 M gal & 48 M#	64 BOPD
Vickers	2	04934	30A-16-31	660' FNL 660' FEL	P&A WIW	2/1/1944	4/1/1944	3205'/ 3205'	8 5/8" Csg set @ 617' w/ 100 sxs 5 1/2" Csg set @ 3030' w/ 100 sxs	208' 2421'	GB-SA	3030-205 (OH)	NA	150 BOPD
Grier	1	04905	29D-16-31	760' FNL 560' FWL	Inactive Producer	11/29/1943	1/15/1944	3230'	8 5/8" Csg set @ 570' w/ 50 sxs 5 1/2" Csg set @ 3055' w/ 100 sxs	396' 2451'	GB-SA	3055-3230 (OH)	120 qts. Nitro	90 BOPD
J. N. Fidel "A"	3	04912	29B-16-31	660' FNL 1980' FEL	Active Producer	8/1/1944	11/17/1944	3342'	8 5/8" Csg set @ 690' w/ 50 sxs 5 1/2" Csg set @ 3260' w/ 100 sxs 4 1/2" Lnr 3158-514 W/ 35 sxs Lnr ran 5/62	486' 2651'	GB-SA	3260-3342 (OH) 3269-3358	160 Qts nitro 26 MGAL & 38.5 M#	
J. N. Fidel "A"	4	04913	29A-16-31	810' FNL 990' FEL	Active Producer	12/5/1944	2/5/1945	3563'	8 1/4" Csg set @ 708' w/ 50 sxs 5 1/2" Csg set @ 3247' w/ 100 sxs 4 1/2" Lnr 3253-3563 W/ 50 sxs Lnr ran 10/62	534' 2638'	GB-SA	3297-432 (OH) 3311-3514	200 QTS. NITRO 45 MGAL & 39 M#	
Bruning	1	04911	29E-16-31	1980' FNL 660' FWL	P&A WIW	10/28/1943	1/15/1944	3279'	8 5/8" Csg set @ 565' w/ 50 sxs 7" Csg 2590-2490' w/ 50 sxs 5 1/2" Csg set @ 3119' w/ 100 sxs	360' All 2510'	GB-SA	3119-3279 (OH)	NA	150 BOPD
Bruning	2	04907	29F-16-31	1980' FNL 1980' FWL	Active Producer	1/23/1944	4/28/1944	3276'	8 1/4" Csg set @ 616' w/ 50 sxs 5 1/2" Csg set @ 3056' w/ 100 sxs	411' 2447'	GB-SA	3056-3287 (OH)	80 qts. Nitro	250 BOPD
Bruning	3	04908	29G-16-31	1980' FNL 1980' FEL	P&A WIW	5/17/1944	7/23/1944	3376'	8 5/8" Csg set @ 648' w/ 50 sxs 5 1/2" Csg set @ 3195' w/ 100 sxs	444' 2586'	GB-SA	3195-3376	NA	125 BOPD

NSLU #24 WELLS IN THE AREA OF REVIEW

LEASE NAME (Original)	WELL #	NSLU well no.	API # 30-015	S-T-R	LOC'N.	CURRENT STATUS	SPUD DATE	COMP DATE	TD/ PBT	CASING PROGRAM	TOC FORM.	COMP. ZONE	STIMULATION	IP
Rowley Federal	1	6	10206	20K-16-31	1650' FSL 1980' FWL	P&A	1/9/1964	2/5/1964	3513'/ 3499'	5 1/2" Csg set @ 3511' w/ 150 sxs	GB-SA	3322-469	Frac w/ 40 M gal & 48 M#	50 BOPD
Grier	13	7	04863	20J-16-31	1980' FSL 1980' FEL	Active Producer	9/23/1961	11/13/1961	3535'/ 3533'	10" Csg set @ 548' w/ 75 sxs 5 1/2" Csg set @ 3535' w/ 76 sxs	GB-SA	3502-24	11.2 GAL & 6 M#	184 BOPD
Grier	4	14	10343	20N-16-31	990' FSL 1980' FWL	Active Producer	4/8/1964	5/8/1964	3505'/ 3499'	5 1/2" Csg set @ 3504' w/ 150 sxs	GB-SA	3250-3461	70 M gal & 70 M#	292 BOPD
Baxter "A"	1	15	04859	20O-16-31	660' FSL 1980' FEL	P&A	12/19/1960	1/14/1961	3517'/ 3505'	8 5/8" Csg set @ 262' w/ 200 sxs 5 1/2" Csg set @ 3517' w/ 175 sxs	GB-SA	3356-3500	35 M gal & 48 M#	64 BOPD
Baxter "A"	2	16	04860	20P-16-31	660' FSL 660' FEL	P&A	5/6/1961	6/30/1961	3582'/ 3582'	8 5/8" Csg set @ 349' w/ 275 sxs 5 1/2" Csg set @ 3582' w/ 175 sxs	GB-SA	3354-3562	30 M gal & 54 M#	55 BOPD
Grier	2	23	04906	29C-16-31	810' FNL 1980' FWL	P&A WIW	8/4/1944	9/29/1944	3296'	8 5/8" Csg set @ 595' w/ 50 sxs 5 1/2" Csg set @ 3150' w/ 100 sxs	GB-SA	3150-3296 (OH)	50 qts. Nitro	100 BOPD
J. N. Fidel "A"	4	25	04913	29A-16-31	810' FNL 990' FEL	Active Producer	12/5/1944	2/5/1945	3563'	8 1/4" Csg set @ 708' w/ 50 sxs 5 1/2" Csg set @ 3247' w/ 100 sxs 4 1/2" Lnr 3253-3563 W/ 50 sxs Lnr ran 10/62	GB-SA	3297-432 (OH) 3311-3514	200 QTS. NITRO 45 MGAL & 39 M#	
Sheldon	3 (6)	Twin to 26	04901	28D-16-31	660' FNL 330' FWL	P&A	10/18/1961	3/20/1962	3625'/ 3530'	8 5/8" Csg set @ 490' w/ 200 sxs 5 1/2" Csg set @ 3625' w/ 200 sxs	GB-SA	3407-3580	Frac w/ 20 M gal & 26 M#	43 BOPD
Bruning	2	41	04907	29F-16-31	1980' FNL 1980' FWL	Active Producer	1/25/1944	4/28/1944	3276'	8 1/4" Csg set @ 616' w/ 50 sxs 5 1/2" Csg set @ 3056' w/ 100 sxs	GB-SA	3056-3287 (OH)	80 qts. Nitro	250 BOPD
Bruning	3	42	04908	29G-16-31	1980' FNL 1980' FEL	P&A WIW	5/17/1944	7/25/1944	3376'	8 5/8" Csg set @ 648' w/ 50 sxs 5 1/2" Csg set @ 3195' w/ 100 sxs	GB-SA	3195-3376	NA	125 BOPD
Bruning	4	43	04909	29H-16-31	1980' FNL 660' FEL	Active Producer	8/20/1944	10/10/1944	3415'	8" Csg set @ 685' w/ 50 sxs 5" Csg set @ 3252' w/ 100 sxs	GB-SA	3252-3415 (OH)	160 qts. Nitro	50 BOPD
Carper "G"	3	60	04914	29J-16-31	1980' FSL 1880' FEL	Active Producer	6/2/1961	7/10/1961	3526'/ 3526'	7" Csg set @ 705' w/ 50 sxs 4 1/2" Csg set @ 3526' w/ 200 sxs	GB-SA	3478-3502	34 MGAL & 49 M#	67 BOPD
Sheldon		26	4897	28D-16-31	660' FNL 660' FWL	P&A	4/1/1945		3475'	8 5/8" Csg set @ 764' w/ 50 sxs 5 1/2" Csg set @ 3329' w/ 100 sxs	GB-SA	3329 - 3475(OH)		

3333 - 3489

3,311'-3,514'

NSLU #25 WELLS IN THE AREA OF REVIEW															
LEASE NAME (Original)	WELL #	NSLU well no.	API #	S-T-R	LOC'N.	CURRENT STATUS	SPUD DATE	COMP DATE	TD/ PBTD	CASING PROGRAM	TOC	FORM.	COMP. ZONE	STIMULATION	IP
Baxter "A"	1	15	04859	200-16-31	660' FSL 1980' FEL	P&A	12/19/1960	1/14/1961	3517' / 3505'	8 5/8" Csg set @ 262' w/ 200 sxs 5 1/2" Csg set @ 3517' w/ 175 sxs	Circ. 2451'	GB-SA	3356-3500	35 M gal & 48 M#	64 BOPD
Baxter "A"	2	16	04860	20P-16-31	660' FSL 660' FEL	P&A	5/6/1961	6/30/1961	3582' / 3582'	8 5/8" Csg set @ 349' w/ 275 sxs 5 1/2" Csg set @ 3582' w/ 175 sxs	Circ. 2516'	GB-SA	3354-3562	30 M gal & 54 M#	55 BOPD
Grier	2	23	04906	29C-16-31	810' FNL 1980' FWL	P& A WTW	8/4/1944	9/29/1944	3296'	8 5/8" Csg set @ 595' w/ 50 sxs 5 1/2" Csg set @ 3150' w/ 100 sxs	390' 2541'	GB-SA	3150-3296 (OH)	50 qts. Nitro	100 BOPD
J. N. Fidel "A"	3	24	04912	29B-16-31	660' FNL 1980' FEL	Active Producer	8/1/1944	11/17/1944	3342'	8 5/8" Csg set @ 690' w/ 50 sxs 5 1/2" Csg set @ 3260' w/ 100 sxs 4 1/2" Lnr 3158-514 W/ 35 sxs Lnr ran 5/62	486' 2651'	GB-SA	3260-3342 (OH) 3269-3358	160 Qts nitro 26 MGAL & 38.5 M#	
Sheldon	3 (6)	Twin to 26	04901	28D-16-31	660' FNL 330' FWL	Inactive Producer	10/18/1961	3/20/1962	3625' / 3530'	8 5/8" Csg set @ 490' w/ 200 sxs 5 1/2" Csg set @ 3625' w/ 200 sxs	Circ. 2407'	GB-SA	3407-3580	Frac w/ 20 M gal & 26 M#	43 BOPD
Bruning	2	41	04907	29F-16-31	1980' FNL 1980' FWL	Active Producer	1/23/1944	4/28/1944	3276'	8 1/4" Csg set @ 616' w/ 50 sx 5 1/2" Csg set @ 3056' w/ 100 sxs	411' 2447'	GB-SA	3056-3287 (OH)	80 qts. Nitro	250 BOPD
Bruning	3	42	04908	29G-16-31	1980' FNL 1980' FEL	P& A WTW	5/17/1944	7/23/1944	3376'	8 5/8" Csg set @ 648' w/ 50 sxs 5 1/2" Csg set @ 3195' w/ 100 sxs	444' 2586'	GB-SA	3195-3376	NA	125 BOPD
Bruning	4	43	04909	29H-16-31	1980' FNL 660' FEL	Active Producer	8/20/1944	10/10/1944	3415'	8" Csg set @ 685' w/ 50 sxs 5" Csg set @ 3252' w/ 100 sxs	511' 2652'	GB-SA	3252-3415 (OH)	160 qts. Nitro	50 BOPD
Sheldon	3	44	04896	28E-16-31	1980' FNL 660' FWL	P&A	11/22/1944	1/15/1945	3475' / 3475'	8 1/4" Csg set @ 734' w/ 50 sxs 5 1/2" Csg set @ 3286' w/ 100 sxs	560' 2677'	GB-SA	3286-3475	180 qts. Nitro	75 BOPD
Carper "G"	3	60	04914	29J-16-31	1980' FSL 1880' FEL	Active Producer	6/2/1961	7/10/1961	3526' / 3526'	7" Csg set @ 705' w/ 50 sxs 4 1/2" Csg set @ 3526' w/ 200 sxs	362' 2614'	GB-SA	3478-3502	34 MGAL & 49 M#	67 BOPD
Bruning	5	61	04903	29I-16-31	1980' FSL 660' FEL	P&A	6/13/1944	8/15/1944	3433' / 3433'	8 5/8" Csg set @ 632' w/ 50 sxs 5 1/2" Csg set @ 3265' w/ 100 sxs	427' 2656'	GB-SA	3265-3433	NA	100 BOPD
Federal A	3	na	4865	21M-16-31	660' FSL 660' FWL	P&A	11/1/1961	1/1/1962	3615'	8 5/8" Csg set @ 359' w/ 250 sxs 4 1/2" Csg set @ 3615' w/ 160 sxs	circ 3115	GB-SA	3439-45 3593-97	A/ 1000g	35 BOPD
Sheldon		26	4897	28D-16-31	660' FNL 660' FWL	P&A	4/1/1945		3475	8 5/8" Csg set @ 764' w/ 50 sxs 5 1/2" Csg set @ 3329' w/ 100 sxs	579 2720	GB-SA	3329 - 3475(OH)		

NSLU # 3 WELLS IN THE AREA OF REVIEW

LEASE NAME (Original)	WELL #	NSLU well no.	API # 30-015	S-T-R	LOC'N.	CURRENT STATUS	SPUD DATE	COMP DATE	TD/ PBTD	CASING PROGRAM	TOC	FORM.	COMP. ZONE	STIMULATION	IP
Carper	1	1	04854	19L-16-31	1980' FSL 500' FWL	Active Producer	6/8/1959	9/27/1959	3264'	8 5/8" Csg set @ 342' w/ 50 sxs 5 1/2" Csg set @ 3263' w/ 100 sxs	137' 2654'	GB-SA	3035-114	Frac w/ 8.4 M gal & 17M#	1069 MCFPD
Carper	2	2	04855	19K-16-31	1980' FSL 1660' FWL	P & A'd	7/18/1959	9/22/1959	3315'/ 3315'	8 5/8" Csg set @ 370' w/ 50 sxs 5 1/2" Csg set @ 3315' w/ 100 sxs	165' 2706'	GB-SA	3054-3263	Frac w/ 63 M gal & 90 M#	39 BOPD
Etz	3	4	20127	19I-16-31	1650' FSL 990' FEL	Active Injector	3/13/1968	4/1/68	3350	8 5/8" Csg set @ 468' w/ 150 sxs. 4 1/2" Csg set @ 3350' w/ 300 sxs.	Circ. 1982'	GB-SA	3170-3305	30 MGAL & 30 M#	61 BOPD
Etz	2	10	04853	19N-16-31	660' FSL 1668' FWL	Active Producer	2/15/1945	4/30/1945	3362'/ 3362'	10 3/4" Csg set @ 400' w/ 50 sxs. 7" Csg set @ 2975' w/ 100 sxs.	Circ. 2289'	GB-SA	2975-3362' (OH)	290 qts. Nitro @ 3175-3300	65 BOPD
Vickers	6	11	04857	19O-16-31	660' FSL 1980' FEL	Active Producer	8/25/1965	9/20/1965	3288	8 5/8" Csg set @ 566' w/ 50 sxs. 5 1/2" Csg set @ 3015' w/ 150 sxs. 4 1/2" Lnr ????? w/ ??? sxs Liner set 9/65	361' 2102'	GB-SA	3060-257' (OH) 3060-3257 Perfs.	200 qts. Nitro Acidize w/ 1400 gal Frac w/ 77.2Mg & 48M#	68 BOPD 38 BWPD
Vickers	5	12	04856	19P-16-31	660' FSL 660' FEL	Inactive Producer	6/20/1944	9/26/1944	3195'	8 5/8" Csg set @ 596' w/ 50 sxs. 5 1/2" Csg set @ 2580' w/ 100 sxs.	392' 1971'	GB-SA	2580-3150' (OH)	90 qts. Nitro @ 3065-3195	75 BOPD
Vickers	4	20	04936	30B-16-31	660' FNL 1980' FEL	Active Producer	5/10/1944	7/9/1944	3267'/ 3258'	8 5/8" Csg set @ 560' w/ 50 sxs 5 1/2" Csg set @ 3004' w/ 100 sxs 4 1/2" Lnr 2892-3267 w/ 75 sxs Lnr ran 12/65	355' 2395'	GB-SA	3004-3267 (OH)	NATURAL 40 MGAL & 38 M#	160 BOPD
H J Loe	3	19	10469	30C-16-31	330' FNL 1995' FWL	P & A'd	2/17/1965	3/29/1965	3275'	13" Csg set @ 30' w/ 20 sxs. 5 1/2" Csg set @ 3274' w/ 250 sxs. plus 50 sxs. @ 400'	surf 1751'	GB-SA	3037-3230	19 MGAL & 19 M#	25 BOPD

NSLU # 5 WELLS IN THE AREA OF REVIEW

LEASE NAME (Original)	WELL #	NSLU well no.	API # 30-015	S-T-R	LOC'N.	CURRENT STATUS	SPUD DATE	COMP DATE	TD/ PBT	CASING PROGRAM	TOC FORM.	COMP. ZONE	STIMULATION	IP
Rowley Federal	1	6	10206	20K-16-31	1650' FSL 1980' FWL	P&A	1/9/1964	2/5/1964	3513'/ 3499'	5 1/2" Csg set @ 3511' w/ 150 sxs	GB-SA	3322-469	Frac w/ 40 M gal & 48 M#	50 BOPD
Grier	13	7	04863	20J-16-31	1980' FSL 1980' FEL	Active Producer	9/23/1961	11/13/1961	3535'/ 3533'	10" Csg set @ 548' w/ 75 sxs 5 1/2" Csg set @ 3535' w/ 76 sxs	GB-SA	3502-24	11.2 GAL & 6 M#	184 BOPD
Grier	3	13	04858	20M-16-31	330' FSL 510' FWL	P&A WTW	11/29/1944	1/24/1945	3237'	8 1/4" Csg set @ 590' w/ 50 sxs 5 1/2" Csg set @ 3115' w/ 100 sxs	GB-SA	2574-3237'	220 qts. Nitro	75 BOPD
Grier	4	14	10343	20N-16-31	990' FSL 1980' FWL	Active Producer	4/8/1964	5/8/1964	3505'/ 3499'	5 1/2" Csg set @ 3504' w/ 150 sxs	GB-SA	3250-3461	70 M gal & 70 M#	292 BOPD
Baxter "A"	1	15	04859	20O-16-31	660' FSL 1980' FEL	P&A WTW	12/19/1960	1/14/1961	3517'/ 3505'	8 5/8" Csg set @ 262' w/ 200 sxs 5 1/2" Csg set @ 3517' w/ 175 sxs	GB-SA	3356-3500	35 M gal & 48 M#	64 BOPD
Etz	3	4	20127	19I-16-31	1650' FSL 990' FEL	Active Injector	3/13/1968	4/1/68	3350	8 5/8" Csg set @ 468' w/ 150 sxs. 4 1/2" Csg set @ 3350' w/ 300 sxs.	GB-SA	3170-3305	30 MGAL & 30 M#	61 BOPD
Vickers	5	12	04856	19P-16-31	660' FSL 660' FEL	Inactive Producer	6/20/1944	9/26/1944	3195'	8 5/8" Csg set @ 596' w/ 50 sxs. 5 1/2" Csg set @ 2580' w/ 100 sxs.	GB-SA	2580-3150' (OH)	90 qts. Nitro @ 3065-3195	75 BOPD
Superior Fed.	1	NA	10751	20F-16-31	2310' FNL 1980' FWL	P & A'd	11/23/1965	12/1/1965	3527'/ 3497'	12 3/4" Csg set @ 30' 4 1/2" Csg set @ 3527' w/ 300 sxs. plus 50 sx @ 525'	GB-SA	2913-3464	20MGAL + 20 M# 20MGOIL + 16M# 22MGOIL + 12M#	7 BOPD + 88 MCF

NSLU # 12 WELLS IN THE AREA OF REVIEW

LEASE NAME (Original)	WELL #	NSLU well no.	API # 30-015	S-T-R	LOC'N.	CURRENT STATUS	SPUD DATE	COMP DATE	TD/ PBD	CASING PROGRAM	TOC	FORM.	COMP. ZONE	STIMULATION	IP
Rowley Federal	2	5	10322	20L-16-31	1650' FSL 990' FNL	Active Producer	2/18/1964	3/26/1964	3491'/ 3490	5 1/2" Csg set @ 3490' w/ 150 sxs	2576'	GB-SA	3291-3440	44 MGAL & 39.5 M#	44 BOPD
Grier	3	13	04858	20M-16-31	330' FSL 510' FWL	P&A WTW	11/29/1944	1/24/1945	3237'	8 1/4" Csg set @ 590' w/ 50 sxs 5 1/2" Csg set @ 3115' w/ 100 sxs	416' 2506'	GB-SA	2574-3237'	220 qts. Nitro	75 BOPD
Vickers	2	21	04934	30A-16-31	660' FNL 660' FEL	P&A WTW	2/1/1944	4/1/1944	3205'/ 3205'	8 5/8" Csg set @ 617' w/ 100 sxs 5 1/2" Csg set @ 3030' w/ 100 sxs	208' 2421'	GB-SA	3030-205 (OH)	NA	150 BOPD
Grier	1	22	04905	29D-16-31	760' FNL 560' FWL	Inactive Producer	11/29/1943	1/15/1944	3230'	8 5/8" Csg set @ 570' w/ 50 sxs 5 1/2" Csg set @ 3055' w/ 100 sxs	396' 2451'	GB-SA	3055-3230 (OH)	120 qts. Nitro	90 BOPD
Vickers	1	39	04933	30H-16-31	1980' FNL 660' FEL	Active Producer	11/7/1943	1/21/1944	3326'/ 3326'	8 5/8" Csg set @ 550' w/ 50 sxs 5 1/2" Csg set @ 3100' w/ 100 sxs	346' 2491'	GB-SA	3100-3326 (OH) In 4/71 add 3108-3309	NA 15 MGAL & 15 M#	86 BOPD
Etz	4	3	20183	19J-16-31	1980' FSL 1980' FEL	Active Producer	11/14/1968	12/17/1968	3322'/ 3321'	8 5/8" Csg set @ 476' w/ 450 sxs. 4 1/2" Csg set @ 3321' w/ 300 sxs.	Circ. 1953'	GB-SA	3145-3263	30 MGAL & 30 M#	30 BOPD
Etz	3	4	20127	19L-16-31	1650' FSL 990' FEL	Active Injector	3/13/1968	4/1/68	3350	8 5/8" Csg set @ 468' w/ 150 sxs. 4 1/2" Csg set @ 3350' w/ 300 sxs.	Circ. 1982'	GB-SA	3170-3305	30 MGAL & 30 M#	61 BOPD
Etz	2	10	04853	19N-16-31	660' FSL 1668' FWL	Active Producer	2/15/1945	4/30/1945	3362'/ 3362	10 3/4" Csg set @ 400' w/ 50 sxs. 7" Csg set @ 2975' w/ 100 sxs.	Circ. 2289'	GB-SA	2975-3362 (OH)	290 qts. Nitro @ 3175-3300	65 BOPD
Vickers	6	11	04857	19O-16-31	660' FSL 1980' FEL	Active Producer	8/25/1965	9/20/1965	3288	8 5/8" Csg set @ 566' w/ 50 sxs. 5 1/2" Csg set @ 3015' w/ 150 sxs. 4 1/2" Lnr ????? w/ ??? sxs Liner set 9/65	361' 2102'	GB-SA	3060-257' (OH) 3060-3257 Perfs.	200 qts. Nitro Acidize w/ 1400 gal Frac w/ 77.2Mg & 48M#	68 BOPD 38 BWPB
H J Loe	3	19	10469	30C-16-31	330' FNL 1995' FWL	P & A'd	2/17/1965	3/29/1965	3275'	13" Csg set @ 30' w/ 20 sxs. 5 1/2" Csg set @ 3274' w/ 250 sxs. plus 50 sxs. @ 400'	surf 1751'	GB-SA	3037-3230	19 MGAL & 19 M#	25 BOPD
Vickers	4	20	04936	30B-16-31	660' FNL 1980' FEL	Active Producer	5/10/1944	7/9/1944	3267'/ 3258'	8 5/8" Csg set @ 560' w/ 50 sxs 5 1/2" Csg set @ 3004' w/ 100 sxs 4 1/2" Lnr 2892-3267 w/ 75 sxs Lnr ran 12/65	355' 2395'	GB-SA	3004-3267 (OH)	NATURAL 40 MGAL & 38 M#	160 BOPD
Etz	7	38	4937	30G-16-31	1345' FNL 1345' FEL	Inactive Producer	4/28/1956	6/10/1956	3207'	10 3/4" Csg set @ 416' w/ 325 sxs. 5 1/2" Csg set @ 3076' w/ 100 sxs.	surf 2467'	GB-SA	3076-3207 (OH)	not recorded	11 BOPD

NSLU # 20 WELLS IN THE AREA OF REVIEW

LEASE NAME (Original)	WELL #	NSLU well no.	API # 30-015	S-T-R	LOC.N.	CURRENT STATUS	SPUD DATE	COMP DATE	TD/ PBD	CASING PROGRAM	TOC	FORM.	COMP. ZONE	STIMULATION	IP
Vickers	2	21	04934	30A-16-31	660' FNL 660' FEL	P & A WIW	2/1/1944	4/1/1944	3205' 3205'	8 5/8" Csg set @ 617' w/ 100 sxs 5 1/2" Csg set @ 3030' w/ 100 sxs	208' 2421'	GB-SA	3030-205 (OH)	NA	150 BOPD
Grier	1	22	04905	29D-16-31	760' FNL 560' FWL	Inactive Producer	11/29/1943	1/15/1944	3230'	8 5/8" Csg set @ 570' w/ 50 sxs 5 1/2" Csg set @ 3055' w/ 100 sxs	396' 2451'	GB-SA	3055-3230 (OH)	120 qts. Nitro	90 BOPD
Vickers	1	39	04933	30H-16-31	1980' FNL 660' FEL	Active Producer	11/7/1943	1/21/1944	3326' 3326'	8 5/8" Csg set @ 550' w/ 50 sxs 5 1/2" Csg set @ 3100' w/ 100 sxs	346' 2491'	GB-SA	3100-3326 (OH) In 4/71 add 3108-3309	NA 15 MGAL & 15 M#	86 BOPD
Etz	4	3	20183	19J-16-31	1980' FSL 1980' FEL	Active Producer	11/14/1968	12/17/1968	3322' 3321'	8 5/8" Csg set @ 476' w/ 450 sxs 4 1/2" Csg set @ 3321' w/ 300 sxs	Circ. 1953'	GB-SA	3145-3263	30 MGAL & 30 M#	30 BOPD
Etz	3	4	20127	19I-16-31	1650' FSL 990' FEL	Active Injector	3/13/1968	4/1/68	3350'	8 5/8" Csg set @ 468' w/ 150 sxs 4 1/2" Csg set @ 3350' w/ 300 sxs	Circ. 1982'	GB-SA	3170-3305	30 MGAL & 30 M#	61 BOPD
Etz	2	10	04853	19N-16-31	660' FSL 1668' FWL	Active Producer	2/15/1945	4/30/1945	3362' 3362'	10 3/4" Csg set @ 400' w/ 50 sxs 7" Csg set @ 2975' w/ 100 sxs	Circ. 2289'	GB-SA	2975-3362 (OH)	290 qts. Nitro @ 3175-3300	65 BOPD
Vickers	6	11	04857	19O-16-31	660' FSL 1980' FEL	Active Producer	8/25/1965	9/20/1965	3288'	8 5/8" Csg set @ 566' w/ 50 sxs 5 1/2" Csg set @ 3015' w/ 150 sxs 4 1/2" Lnr ????? w/ ??? sxs Liner set 9/65	361' 2102'	GB-SA	3060-257' (OH) 3060-3257 Perfs.	200 qts. Nitro Acidize w/1400 gal Frac w/77.2Mg & 48M#	68 BOPD 38 BWPD
Vickers	5	12	04856	19P-16-31	660' FSL 660' FEL	Inactive Producer	6/20/1944	9/26/1944	3195'	8 5/8" Csg set @ 596' w/ 50 sxs 5 1/2" Csg set @ 2580' w/ 100 sxs	392' 1971'	GB-SA	2580-3150' (OH)	90 qts. Nitro @ 3065-3195	75 BOPD
George Etz	1	18	4923	30D-16-31	810' FNL 503' FWL	P & A'd	11/20/1943	1/19/1944	3090'	8 5/8" Csg set @ 520' w/ 50 sxs 5 1/2" Csg set @ 2910' w/ 100 sxs	315' 2301'	GB-SA	2910-3090 (OH)	120 qts. Nitro @ 3030-3090	72 BOPD
H J Lee	3	19	10469	30C-16-31	330' FNL 1995' FWL	P & A'd	2/17/1965	3/29/1965	3275'	13" Csg set @ 30' w/ 20 sxs 5 1/2" Csg set @ 3274' w/ 250 sxs plus 50 sxs @ 400'	surf 1751'	GB-SA	3037-3230	19 MGAL & 19 M#	25 BOPD
LOE	2	35	10416	30E-16-31	1980' FNL 1346' FWL	Active Producer	9/13/1964	10/9/1964	3300' 3294'	8 5/8" Csg set @ 332' w/ 150 sxs 5 1/2" Csg set @ 3300' w/ 325 sxs	Circ. 1320'	GB-SA	3082-262	68.8 Mg & 20.5 M#	37 BOPD 63 BWPD
Vickers	3	37	04935	30G-16-31	1980' FNL 1980' FEL	P & A'd	4/12/1944	5/30/1944	3164' 3164'	8 5/8" Csg set @ 615' w/ 100 sxs 5 1/2" Csg set @ 3020' w/ 100 sxs	206' 2411'	GB-SA	3020-3164 (OH)	NA	112 BOPD
Grier	12	56	04929	30J-16-31	1980' FSL 1980' FEL	Active Producer	1/3/1944	3/2/1944	3285' 3285'	10" Csg set @ 526' w/ 50 sxs 8 1/4" Csg set @ 500' w/ 50 sxs 5 1/2" Csg set @ 2988' w/ 100 sxs 4 1/2" Lnr 2872-3284 w/ 250 sxs Lnr run 4/67	326' 2379' 2379'	GB-SA	2988-3184 (OH) 3091-3271	NA 26.3 MGAL & 21 M#	390 BOPD 30 BOPD 140 BWPD
Etz	7	38	4937	30G-16-31	1345' FNL 1345' FEL	Inactive Producer	4/28/1956	6/10/1956	3207'	10 3/4" Csg set @ 416' w/ 325 sxs 5 1/2" Csg set @ 3076' w/ 100 sxs	surf 2467'	GB-SA	3076-3207 (OH)	not recorded	11 BOPD
Etz	1	9	4852	20M-16-31	660' FSL 504' FWL	P & A'd	2/25/1945	5/25/1945	3277'	10 3/4" Csg set @ 467' w/ 100 sxs 7" Csg set @ 2855' w/ 100 sxs	surf 2075'	GB-SA	2855-3277 (OH)	210 qts nitro 3010'-3175'	60 BOPD
Etz	2	36	4922	30F-16-31	1980' FNL 1850' FWL	P & A'd	10/30/1944	1/11/1945	3138'	8 5/8" Csg set @ 525' w/ 50 sxs 5 1/2" Csg set @ 2950' w/ 100 sxs	320' 2341'	GB-SA	2950-3138 (OH)	100 qts nitro 3060'-3130'	200 BOPD
Etz	2	na	4924	30C-16-31	810' FNL 1666' FWL	P & A'd	10/5/1944	11/26/1944	3095'	8 5/8" Csg set @ 547' w/ 50 sxs 5 1/2" Csg set @ 2920' w/ 150 sxs	319' 2006'	GB-SA	2920-3095 (OH)	70 qts nitro 3065'-3095'	200 BOPD

NSLU # 22 WELLS IN THE AREA OF REVIEW

LEASE NAME (Original)	WELL #	NSLU well no.	API # 30-015	S-T-R	LOC'N.	CURRENT STATUS	SPUD DATE	COMP DATE	ID/ PBITD	CASING PROGRAM	TOC	FORM.	COMP. ZONE	STIMULATION	IP
Grier	4	14	10343	20N-16-31	990' FSL 1980' FWL	Active Producer	4/8/1964	5/8/1964	3505'/ 3499	5 1/2" Csg set @ 3504' w/ 150 sxs	2591'	GB-SA	3250-3461	70 M gal & 70 M#	292 BOPD
Vickers	2	21	04934	30A-16-31	660' FNL 660' FEL	P&A WTW	2/1/1944	4/1/1944	3205'/ 3205'	8 5/8" Csg set @ 617' w/ 100 sxs 5 1/2" Csg set @ 3030' w/ 100 sxs	208' 2421'	GB-SA	3030-205 (OH)	NA	150 BOPD
Grier	2	23	04906	29C-16-31	810' FNL 1980' FWL	P&A WTW	8/4/1944	9/29/1944	3296'	8 5/8" Csg set @ 595' w/ 50 sxs 5 1/2" Csg set @ 3150' w/ 100 sxs	390' 2541'	GB-SA	3150-3296 (OH)	50 qts. Nitro	100 BOPD
Vickers	1	39	04933	30H-16-31	1980' FNL 660' FEL	Active Producer	11/7/1943	1/21/1944	3326'/ 3326'	8 5/8" Csg set @ 550' w/ 50 sxs 5 1/2" Csg set @ 3100' w/ 100 sxs	346' 2491'	GB-SA	3100-3326 (OH) In 4/71 add 3108-3309	NA 15 MGAL & 15 M#	86 BOPD
Bruning	1	40	04911	29E-16-31	1980' FNL 660' FWL	P&A WTW	10/28/1943	1/15/1944	3279'	8 5/8" Csg set @ 565' w/ 50 sxs 7" Csg 2590-2490' w/ 50 sxs 5 1/2" Csg set @ 3119' w/ 100 sxs	360' All 2510'	GB-SA	3119-3279 (OH)	NA	150 BOPD
Bruning	2	41	04907	29F-16-31	1980' FNL 1980' FWL	Active Producer	1/23/1944	4/28/1944	3276'	8 1/4" Csg set @ 616' w/ 50 sxs 5 1/2" Csg set @ 3056' w/ 100 sxs	411' 2447'	GB-SA	3056-3287 (OH)	80 qts. Nitro	250 BOPD
Vickers	5	12	04856	19P-16-31	660' FSL 660' FEL	Inactive Producer	6/20/1944	9/26/1944	3195'	8 5/8" Csg set @ 596' w/ 50 sxs. 5 1/2" Csg set @ 2580' w/ 100 sxs.	392' 1971'	GB-SA	2580-3150' (OH)	90 qts. Nitro @ 3065-3195	75 BOPD
Grier	3	13	04858	20M-16-31	330' FSL 510' FWL	P&A WTW	11/29/1944	1/24/1945	3237'	8 1/4" Csg set @ 590' w/ 50 sxs 5 1/2" Csg set @ 3115' w/ 100 sxs	416' 2506'	GB-SA	2574-3237	220 qts. Nitro	75 BOPD
Vickers	4	20	04936	30B-16-31	660' FNL 1980' FEL	Active Producer	5/10/1944	7/9/1944	3267'/ 3258'	8 5/8" Csg set @ 560' w/ 50 sxs 5 1/2" Csg set @ 3004' w/ 100 sxs 4 1/2" Lnr 2892-3267 w/ 75 sxs Lnr ran 12/65	355' 2395'	GB-SA	3004-3267 (OH)	NATURAL 40 MGAL & 38 M#	160 BOPD
Etz	7	38	4937	30G-16-31	1345' FNL 1345' FEL	Inactive Producer	4/28/1956	6/10/1956	3207'	10 3/4" Csg set @ 416' w/ 325 sxs. 5 1/2" Csg set @ 3076' w/ 100 sxs.	surf 2467'	GB-SA	3076-3207 (OH)	not recorded	11 BOPD
Vickers	3	37	04935	30G-16-31	1980' FNL 1980' FEL	P & A'd	4/12/1944	5/30/1944	3164'/ 3164'	8 5/8" Csg set @ 615' w/ 100 sxs 5 1/2" Csg set @ 3020' w/ 100 sxs	206' 2411'	GB-SA	3020-3164 (OH)	NA	112 BOPD
Texas Trading "A"	3	58	04918	29L-16-31	1980' FSL 660' FWL	Active Producer	1/6/1944	2/5/1944	3426'/ 3426'	8 5/8" Csg set @ 585' w/ 50 sxs 5 1/2" Csg set @ 3193' w/ 100 sxs	411' 2584'	GB-SA	3193-3426 (OH)	165 qts. Nitro 80 M gal & 16 M#	200 BOPD
Grier	2	57	4925	30I-16-31	1980' FSL 660' FEL	P & A'd	6/1/1943	7/20/1943	3203'	8 5/8" Csg set @ 610' w/ 50 sxs 5 1/2" Csg set @ 3055' w/ 100 sxs	405' 2446'	GB-SA	3055-3203 (OH)	Natural	75 BOPD

NSLU # 62 WELLS IN THE AREA OF REVIEW															
LEASE NAME (Original)	WELL #	NSLU well no.	API # 30-015	S-T-R	LOC'N.	CURRENT STATUS	SPUD DATE	COMP DATE	TD/ PBTd	CASING PROGRAM	TOC	FORM.	COMP. ZONE	STIMULATION	IP
Burning	4	43	04909	29H-16-31	1980' FNL 660' FEL	Active Producer	8/20/1944	10/10/1944	3415'	8" Csg set @ 685' w/ 50 sxs 5" Csg set @ 3252' w/ 100 sxs	511' 2652'	GB-SA	3252-3415 (OH)	160 qts. Nitro	50 BOPD
Sheldon	3	44	04896	28E-16-31	1980' FNL 660' FWL	P&A	11/22/1944	1/15/1945	3475/ 3475'	8 1/4" Csg set @ 734' w/ 50 sxs 5 1/2" Csg set @ 3286' w/ 100 sxs	560' 2677'	GB-SA	3286-3475	180 qts. Nitro	75 BOPD
Carpet "G"	3	60	04914	29J-16-31	1980' FSL 1880' FEL	Active Producer	6/2/1961	7/10/1961	3526/ 3526'	7" Csg set @ 705' w/ 50 sxs 4 1/2" Csg set @ 3526' w/ 200 sxs	362' 2614'	GB-SA	3478-3502'	34 MGAL & 49 M#	67 BOPD
Burning	5	61	04903	29I-16-31	1980' FSL 660' FEL	P&A	6/13/1944	8/15/1944	3433/ 3433'	8 5/8" Csg set @ 632' w/ 50 sxs 5 1/2" Csg set @ 3265' w/ 100 sxs	427' 2656'	GB-SA	3265-3433	NA	100 BOPD
Johnson	4	62	04892	28L-16-31	1980' FSL 660' FWL	P&A	10/10/1944	11/30/1944	3469'	8 5/8" Csg set @ 715' w/ 50 sx 5 1/2" Csg set @ 3337' w/ 100 sxs	Circ. 2728'	GB-SA	3337-469 (OH)	250 qts. Nitro	150 BOPD
Johnson	2	84	04891	28M-16-31	660' FSL 660' FWL	P&A	8/14/1944	10/6/1944	3392'	8 5/8" Csg set @ 725' w/ 50 sx 5 1/2" Csg set @ 3344' w/ 100 sxs	520' 2735'	GB-SA	3344-3392 (OH)	NA	135 BOPD
Kennedy Fed.	2	45	10321	28F-16-31	1650' FNL 2310' FWL	Active Producer	6/24/1964	7/21/1964	3660'	13 3/8" Csg set @ 26' circ w/ 7 sx 5 1/2" Csg set @ 3660' w/ 200 sxs	Circ. 2442'	GB-SA	3401-3631	136MGAL + 33 M#	39 BOPD
Johnson	1	63	4894	28K-16-31	1980' FSL 1980' FWL	P&A	8/5/1943	8/12/1958	4298/ re-entr 3599'	8 5/8" Csg set @ 745' w/ 35 sx 4 1/2" Csg set @ 3599' w/ 200 sxs	601' 2689'	GB-SA	3470-78	8 MGAL + 9.5 M#	30 BOPD
Carpet "G"	4	83	04915	29P-16-31	550' FSL 550' FEL	Active Producer	5/8/1962	7/2/1962	3580/ 3580'	8 5/8" Csg set @ 690' w/ 75 sxs 5 1/2" Csg set @ 3580' w/ 110 sxs	383' 2910'	GB-SA	3343-3550	20 M gal & 46 M#	114 BOPD
Texas Trading	1	109	04977	33D-16-31	660' FNL 660' FWL	Active Producer	11/1/1943	1/31/1944	3590/ 3590'	8 5/8" Csg set @ 705' w/ 50 sxs 5 1/2" Csg set @ 3338' w/ 100 sxs	531' 2729'	GB-SA	3338-3590 (OH)	200 qts. Nitro	200 BOPD
Johnson	2	85	4895	28N-16-31	660' FSL 1980' FWL	P&A	5/17/1944	7/9/1944 1/12/1946 12/2/1962	3398/ 3476' 3625'	8 5/8" Csg set @ 728' w/ 50 sxs 5 1/2" Csg set @ 3352' w/ 100 sxs	500' 2729'	GB-SA	3352-3398 3352-3476 3352-3625	not recorded 120 qts. Nitro 500 cc Acid	100 BOPD 75 BOPD 61 BOPD

NSLU # 83 WELLS IN THE AREA OF REVIEW

LEASE NAME (Original)	WELL #	NSLU well no.	API # 30-015	S-T-R	LOC'N.	CURRENT STATUS	SPUD DATE	COMP DATE	TD/ PBT	CASING PROGRAM	TOC FORM.	COMP. ZONE	STIMULATION	IP
Carper "G"	3	60	04914	29J-16-31	1980' FSL 1880' FEL	Active Producer	6/2/1961	7/10/1961	3526'/ 3526'	7" Csg set @ 705' w/ 50 sxs 4 1/2" Csg set @ 3526' w/ 200 sxs	GB-SA	3478-3502'	34 MGAL & 49 M#	67 BOPD
Bruning	5	61	04903	29I-16-31	1980' FSL 660' FEL	P&A	6/13/1944	8/15/1944	3433'/ 3433'	8 5/8" Csg set @ 632' w/ 50 sxs 5 1/2" Csg set @ 3265' w/ 100 sxs	GB-SA	3265-3433	NA	100 BOPD
Johnson	4	62	04892	28L-16-31	1980' FSL 660' FWL	P&A	10/10/1944	11/30/1944	3469'	8 5/8" Csg set @ 715' w/ 50 sxs 5 1/2" Csg set @ 3337' w/ 100 sxs	GB-SA	3337-469 (OH)	250 qts. Nitro	150 BOPD
Texas Trading "A"	2	81	04917	29N-16-31	660' FSL 1980' FWL	Inactive Producer	2/23/1943	5/8/1943	3354'/ 3258'	8 5/8" Csg set @ 645' w/ 50 sxs 5 1/2" Csg set @ 3198' w/ 100 sxs	GB-SA	3198-3354 (OH)	70 qts. Nitro	250 BOPD
Bruning	6	82	04910	29O-16-31	660' FSL 1980' FEL	P&A	7/10/1943	10/8/1943	3397'	8 5/8" Csg set @ 623' w/ 50 sxs 5 1/2" Csg @ 3156' w/ 100 sxs	GB-SA	3156-3398	NA	200 BOPD
Johnson	2	84	04891	28M-16-31	660' FSL 660' FWL	P&A	8/14/1944	10/6/1944	3392'	8 5/8" Csg set @ 725' w/ 50 sxs 5 1/2" Csg set @ 3344' w/ 100 sxs	GB-SA	3344-3392 (OH)	NA	135 BOPD
Texas Trading	1	109	04977	33D-16-31	660' FNL 660' FWL	Active Producer	11/1/1943	1/31/1944	3590'/ 3590'	8 5/8" Csg set @ 705' w/ 50 sxs 5 1/2" Csg set @ 3338' w/ 100 sxs	GB-SA	3338-3590 (OH)	200 qts. Nitro	200 BOPD
Johnson	2	85	4895	28N-16-31	660' FSL 1980' FWL	P&A	5/17/1944	7/9/1944 1/12/1946 12/2/1962	3398' 3476' 3625'	8 5/8" Csg set @ 728' w/ 50 sxs 5 1/2" Csg set @ 3352' w/ 100 sxs	GB-SA	3352-3398 3352-3476 3352-3625	not recorded 120 qts. Nitro 500 g. Acid	100 BOPD 75 BOPD 61 BOPD
Zephyr ZQ	1	106	25029	32B-16-31	330' FNL 2310' FEL	Active Producer	10/3/1984	12/11/1984	5700'/ 5385'	13 3/8" Csg set @ 448' w/ 375 sxs 5 1/2" Csg set @ 5620' w/ 1000 sxs	GB-SA	3351-3504	35 MGAL & 32.5 M#	50 BOPD
State C	1	107	4960	32B-16-31	660' FNL 1980' FEL	P&A	4/7/1944	6/19/1944	3405'	8 5/8" Csg set @ 633' w/ 50 sxs 5 1/2" Csg set @ 3205' w/ 100 sxs	GB-SA	3205-3405 (OH)	110 qts. Nitro	50 BOPD
State C	2	108	4961	32A-16-31	660' FNL 660' FEL	P&A	6/22/1944	8/25/1944	3485'	8 5/8" Csg set @ 669' w/ 50 sxs 5 1/2" Csg set @ 3300' w/ 100 sxs	GB-SA	3300-3485 (OH)	170 qts. Nitro	150 BOPD
State C	3	131	4962	32H-16-31	1980' FNL 660' FEL	P&A	9/2/1944	12/1/1944	3569'	8 5/8" Csg set @ 648' w/ 50 sxs 5 1/2" Csg set @ 3295' w/ 100 sxs	GB-SA	3295-3569 (OH)	4000 qts. Nitro	35 BOPD

NSLU # 85 WELLS IN THE AREA OF REVIEW

LEASE NAME (Original)	WELL #	NSLU well no.	API # 30-015	S-T-R	LOC'N.	CURRENT STATUS	SPUD DATE	COMP DATE	TD/ PBDT	CASING PROGRAM	TOC	FORM.	COMP. ZONE	STIMULATION	IP
Johnson	4	62	04892	28L-16-31	1980' FSL 660' FWL	P&A	10/10/1944	11/30/1944	3469'	8 5/8" Csg set @ 715' w/ 50 sx 5 1/2" Csg set @ 3337' w/ 100 sx	Circ. 2728'	GB-SA	3337-469 (OH)	250 qts. Nitro	150 BOPD
Carper "G"	4	83	04915	29P-16-31	550 FSL 550' FEL	Active Producer	5/8/1962	7/2/1962	3580'/ 3580'	8 5/8" Csg set @ 690' w/ 75 sx 5 1/2" Csg set @ 3580' w/ 110 sx	383' 2910'	GB-SA	3343-3550	20 M gal & 46 M#	114 BOPD
Johnson	2	84	04891	28M-16-31	660' FSL 660' FWL	P&A	8/14/1944	10/6/1944	3392'	8 5/8" Csg set @ 725' w/ 50 sx 5 1/2" Csg set @ 3344' w/ 100 sx	520' 2735'	GB-SA	3344-3392 (OH)	N/A	135 BOPL
Johnson	1	63	4894	28K-16-31	1980' FSL 1980' FWL	P&A	8/5/1943	8/12/1958	4298'/ re-entr 3599'	8 5/8" Csg set @ 745' w/ 35 sx 4 1/2" Csg set @ 3599' w/ 200 sx	601' 2689'	GB-SA	3470-78	8 MGAL + 9.5 M#	30 BOPD
Johnson B	7	86	4893	28O-16-31	660' FSL 1980' FEL	P&A	4/8/1945	6/12/1945	3457'	8 5/8" Csg set @ 737' w/ 50 sx 7" Csg set @ 3373' w/ 100 sx	533' 2687'	GB-SA	3373-3457 (OH)	N/A	42 BOPD
Texas Trading	1	109	04977	33D-16-31	660' FNL 660' FWL	Active Producer	11/1/1943	1/31/1944	3590'/ 3590'	8 5/8" Csg set @ 705' w/ 50 sx 5 1/2" Csg set @ 3338' w/ 100 sx	531' 2729'	GB-SA	3338-3590 (OH)	200 qts. Nitro	200 BOPL
Kennedy	3	64	4890	28J-16-31	2310' FNL 1650' FEL	P & A'd	8/15/1960	9/19/1960	3701'	8 5/8" Csg set @ 364' w/ 150 sx 5 1/2" Csg set @ 3700' w/ 150 sx	circ. 2786'	GB-SA	3444-3674	not reported	67 BOPD
Texas Trading	3	111	04979	33B-16-31	660' FNL 1980' FEL	Inactive Producer	5/9/1944	7/3/1944	3684'/ 3684'	8 5/8" Csg set @ 756' w/ 50 sx 5 1/2" Csg set @ 3381' w/ 100 sx	551' 2772'	GB-SA	3381-3600 (OH)	360 QTS. NITRO	250 BOPL
Johnson "A"	3	133	04975	33F-16-31	1980' FNL 1980' FWL	Active Producer	4/26/1944	7/26/1944	3612'/ 3612'	8 5/8" Csg set @ 715' w/ 50 sx 7" Csg set @ 3363' w/ 100 sx	510' 2677'	GB-SA	3363-3612 (OH)	416 qts. Nitro	95 BOPD
Texas Trading	8	135	04984	33B-16-31	1270' FNL 1650' FEL	Active Producer	3/21/1948	5/10/1948	3671'/ 3671'	8 5/8" Csg set @ 642' w/ 50 sx 7" Csg set @ 3387' w/ 100 sx	437' 2701'	GB-SA	3387-3671 (OH)	160 qts. Nitro	35 BOPD
Johnson	1	110	4976	33C-16-31	660' FNL 1980' FWL	P & A'd	2/16/1944	4/17/1944 9/4/1946	3497' 3598'	8 5/8" Csg set @ 703' w/ 50 sx 7" Csg set @ 3375' w/ 100 sx	475' 2766'	GB-SA	3375-3497 3375-3598 (OH)	170 qts. Nitro none reported	161 BOPL not rpt'd

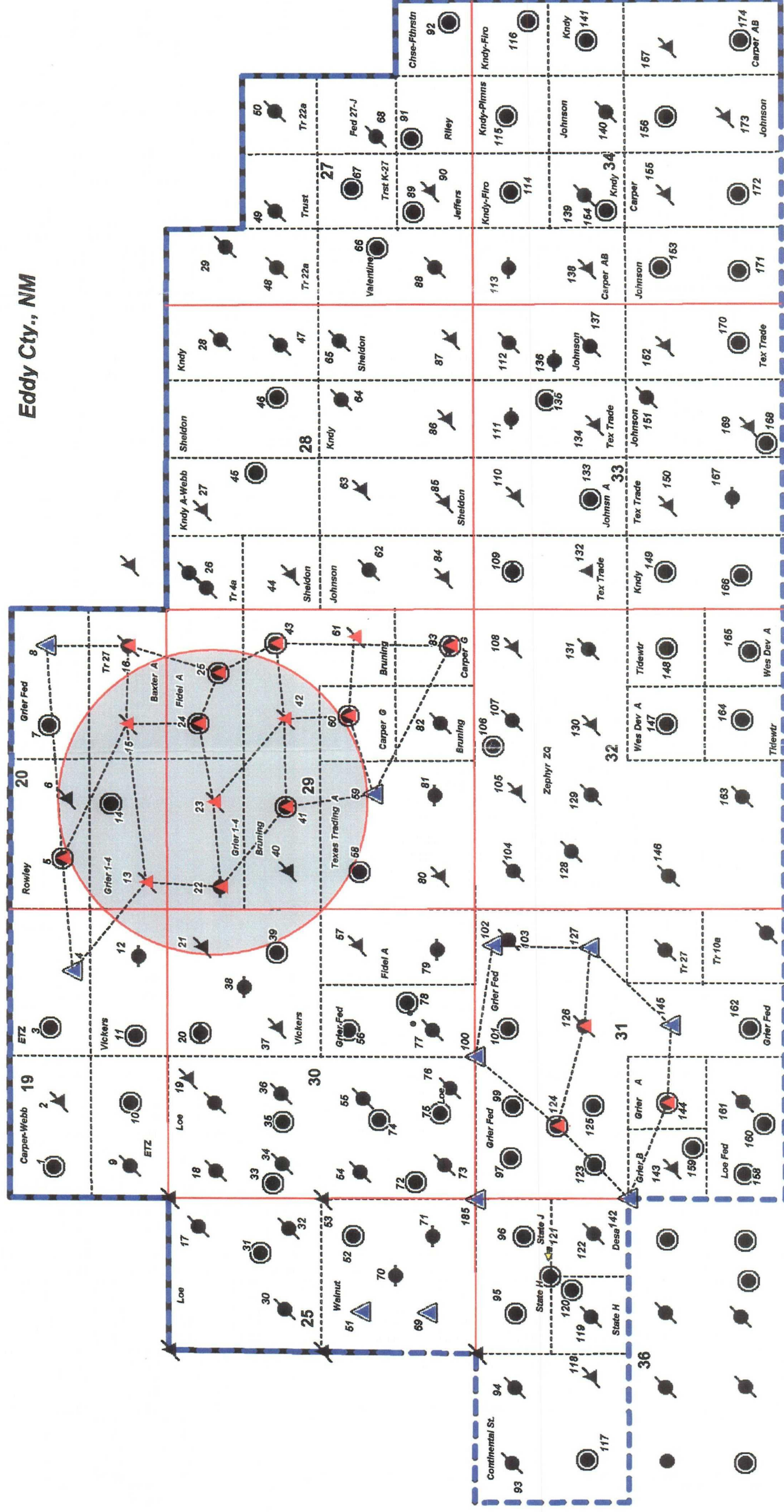
NSLU # 111 WELLS IN THE AREA OF REVIEW															
LEASE NAME (Original)	WELL #	NSLU well no.	API # 30-015	S-T-R	LOC'N.	CURRENT STATUS	SPUD DATE	COMP DATE	TD/ PBD	CASING PROGRAM	TOC	FORM.	COMP. ZONE	STIMULATION	IP
Johnson	2	85	4895	28N-16-31	660' FSL 1980' FWL	P&A	5/17/1944	7/9/1944 1/12/1946 12/2/1962	3398' 3476' 3625'	8 5/8" Csg set @ 728' w/ 50 sxs 5 1/2" Csg set @ 3352' w/ 100 sxs	500' 2729'	GB-SA	3352-3398 3352-3476 3352-3625	not recorded 120 qts. Nitro 500 g Acid	100 BOPD 75 BOPD 61 BOPD
Johnson B	7	86	4893	28O-16-31	660' FSL 1980' FEL	P&A	4/8/1945	6/12/1945	3457'	8 5/8" Csg set @ 737' w/ 50 sxs 7" Csg set @ 3373' w/ 100 sxs	533' 2687'	GB-SA	3373-3457 (OH)	NA	42 BOPD
Johnson	1	110	4976	33C-16-31	660' FNL 1980' FWL	P & A'd	2/16/1944	4/17/1944 9/4/1946	3497' 3598'	8 5/8" Csg set @ 703' w/ 50 sxs 7" Csg set @ 3375' w/ 100 sxs	475' 2766'	GB-SA	3375-3497 3375-3598 (OH)	170 qts. Nitro none reported	161 BOPD not rpt'd
Johnson "A"	3	133	04975	33F-16-31	1980' FNL 1980' FWL	Active Producer	4/26/1944	7/26/1944	3612'/ 3612'	8 5/8" Csg set @ 715' w/ 50 sxs 7" Csg set @ 3363' w/ 100 sxs	510' 2677'	GB-SA	3363-3612 (OH)	416 qts. Nitro	95 BOPD
Texas Trading	8	135	04984	33B-16-31	1270' FNL 1650' FEL	Active Producer	3/21/1948	5/10/1948	3671'/ 3671'	8 5/8" Csg set @ 642' w/ 50 sxs 7" Csg set @ 3387' w/ 100 sxs	437' 2701'	GB-SA	3387-3671 (OH)	160 qts. Nitro	35 BOPD
Johnson	13	136	04970	33H-16-31	1370' FNL 990' FEL	Inactive Producer	10/16/1947	12/1/1947	3680'/ 3680'	8 5/8" Csg set @ 740' w/ 50 sxs 5 1/2" Csg set @ 3392' w/ 100 sxs 4 1/2" Lnr 3380-682 w/ ??? sxs Lnr ran 3/65	535' 2783'	GB-SA	3392-3680 (OH) 3426-3562	110 qts. Nitro 20 M gal & 12 M#	350 BOPD
Johnson	5	137	04971	33H-16-31	1980' FNL 660' FEL	P&A	12/7/1944	1/28/1945	3521'/ 3521'	8 1/4" Csg set @ 755' w/ 50 sxs 5 1/2" Csg set @ 3387' w/ 100 sxs	581' 2778'	GB-SA	3387-3521 (OH)	Natural	215 BOPD
Johnson	15	151	04973	33J-16-31	2310' FSL 1650' FEL	P&A	9/26/1949	12/10/1949	3635'/ 3635'	8 1/4" Csg set @ 705' w/ 50 sxs 7" Csg set @ 3375' w/ 100 sxs	531' 2701'	GB-SA	3596-3635 (OH)	130 qts. Nitro	10 BOPD
Sheldon	3	87	10078	28P-16-31	330' FSL 626' FEL	P&A	8/26/1963	9/24/1963	3708'	13 3/8" Csg set @ 30' w/ 13 sxs 5 1/2" Csg set @ 3445' w/ 150 sxs plus 50 sxs @ 3445'	Circ. 2531'	GB-SA	3445-3708 (OH)	500 gal Acid	111 BOPI
Johnson	6-B	112	4972	33A-16-31	660' FNL 660' FEL	P&A	2/8/1945	4/1/1945	3620'	8 5/8" Csg set @ 761' w/ 50 sxs 7" Csg set @ 3410' w/ 100 sxs	533' 2801'	GB-SA	3410-3620 (OH)	not reported	110 BOPI
Texas Trading	4-B	134	04980	33G-16-31	1980' FNL 1980' FEL	P&A	9/16/1944	12/1/1944 4/15/1948 5/22/1963	3490' 3642' 3642'	8 5/8" Csg set @ 771' w/ 50 sxs 5 1/2" Csg set @ 3370' w/ 100 sxs ran 4 1/2" liner 3270-3642w/100sxs	566' 2761'	GB-SA	3370-3490 3370-3642 3405-3615 perfs >	natural 150 qts nitro 500 g Acid	100 BOPI 35 BOPI Injection

16s-30e 16s-31e

North Square Lake Unit Boundary

CBS Operating Corp.

Eddy Cty., NM



Potential New Injector

Area of Review for NSLU # 23

Authorized Injector

Plugged Injector

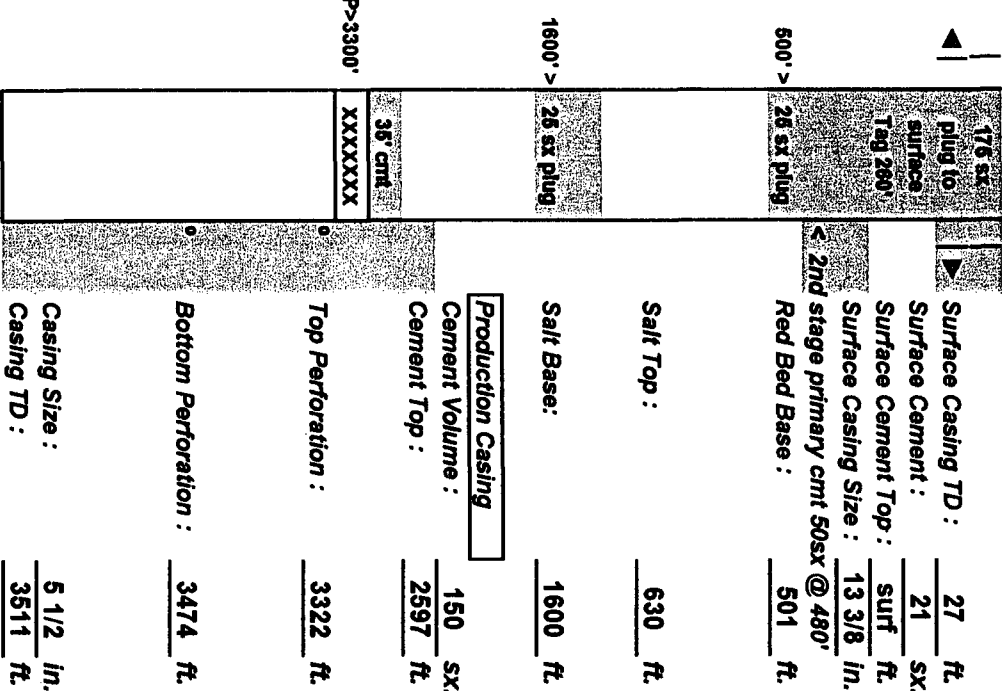
Active Producer

Plugged Producer

Shut-in Producer

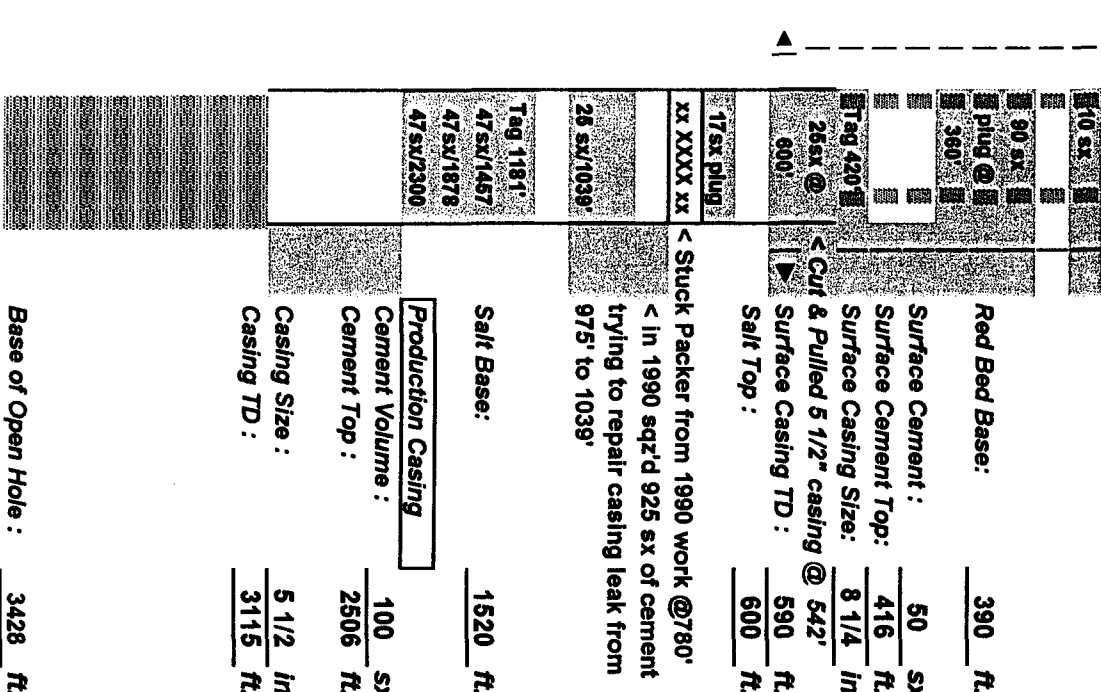
August 2003

Well No.: NSLU # 6
API No.: 30-015-10206
Location : 1650' FSL & 1980' FWL
Sec-Twn-Rng : Sec. 20, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



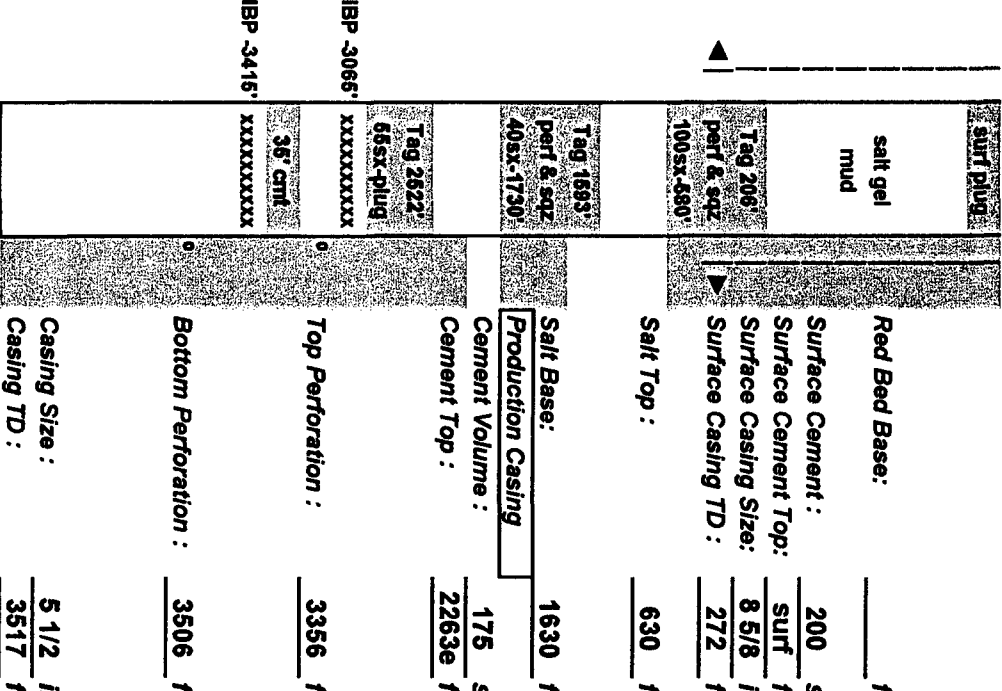
Type Well @ Abandonment : Injector
Date Well Abandoned : 10 / 1991
Operator that Plugged Well : Kennedy Oil Co.
Date Well Drilled : 2 / 1964
Original Well Type : Producer
Cum Water Injected in this Well : 568,000 BBL

Well No.: NSLU # 13
API No.: 30-015-04858
Location : 330' FSL & 510' FWL
Sec-Twn-Rng : Sec. 20, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



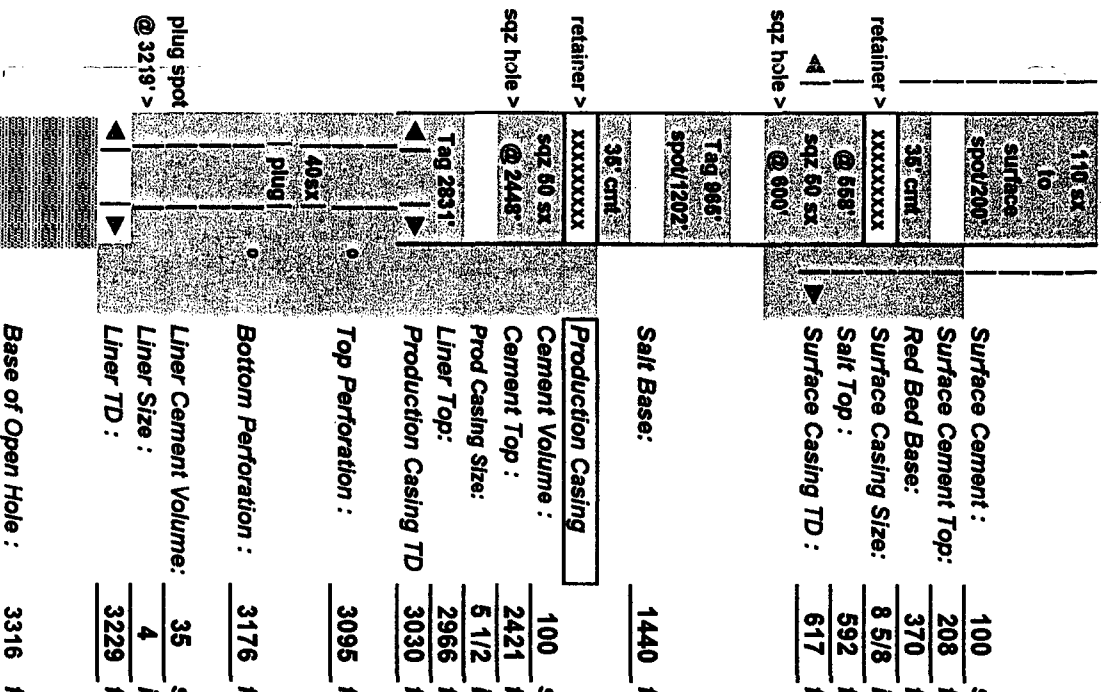
Type Well @ Abandonment : Injector
Date Well Abandoned : 4 / 1990
Operator that Plugged Well : Yates Petr. Corp.
Date Well Drilled : 1 / 1945
Original Well Type : Producer
Cum Water Injected in this Well : 414000 BBL

C-108 Application Well
Well No.: NSLU # 15
API No.: 30-015-04859
Location : 1980' FEL & 660' FSL
Sec-Twn-Rng : Sec. 20, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



Type Well @ Abandonment : Injector
Date Well Abandoned : 2 / 1995
Operator that Plugged Well : Anadarko Petr.
Date Well Drilled : 1 / 1961
Original Well Type : Producer
Cum Water Injected in this Well : 508436 BBL

Well No.: NSLU # 21
API No.: 30-015-04934
Location : 660' FNL & 660' FEL
Sec-Twn-Rng : Sec. 30, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres

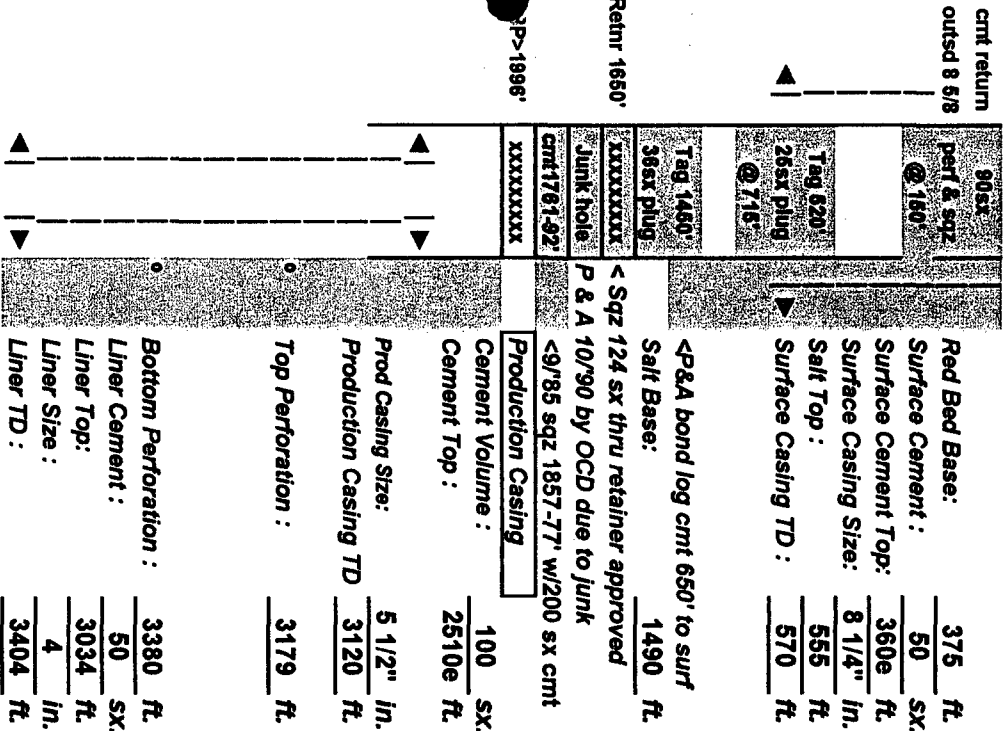


Type Well @ Abandonment : Injector
Date Well Abandoned : 12 / 1991
Operator that Plugged Well : Yates Petr. Corp.
Date Well Drilled : 3 / 1944
Original Well Type : Producer
Cum Water Injected in this Well : 1518000 BBL

Well No.: NSLU # 40
API No.: 30-015-04911

Location : 1980' FNL & 660' FWL
Sec-Twn-Rng : Sec. 29, T16S, R31E

Field : Square Lake
Interval: Grayburg - San Andres

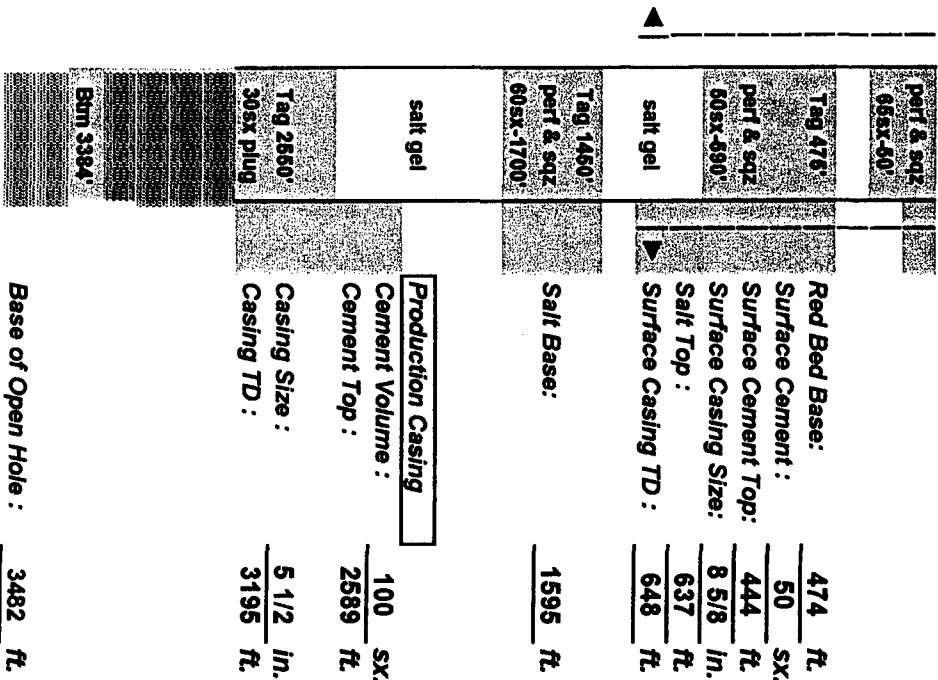


Type Well @ Abandonment : Injector
Date Well Abandoned : 10 / 1990
Operator that Plugged Well : Yates Petr. Corp.
Date Well Drilled : 1/1944
Original Well Type : Producer
Cum Water Injected in this Well : 1623780 BBL
thru 5 / 1975

Well No.: NSLU # 42
API No.: 30-015-04908

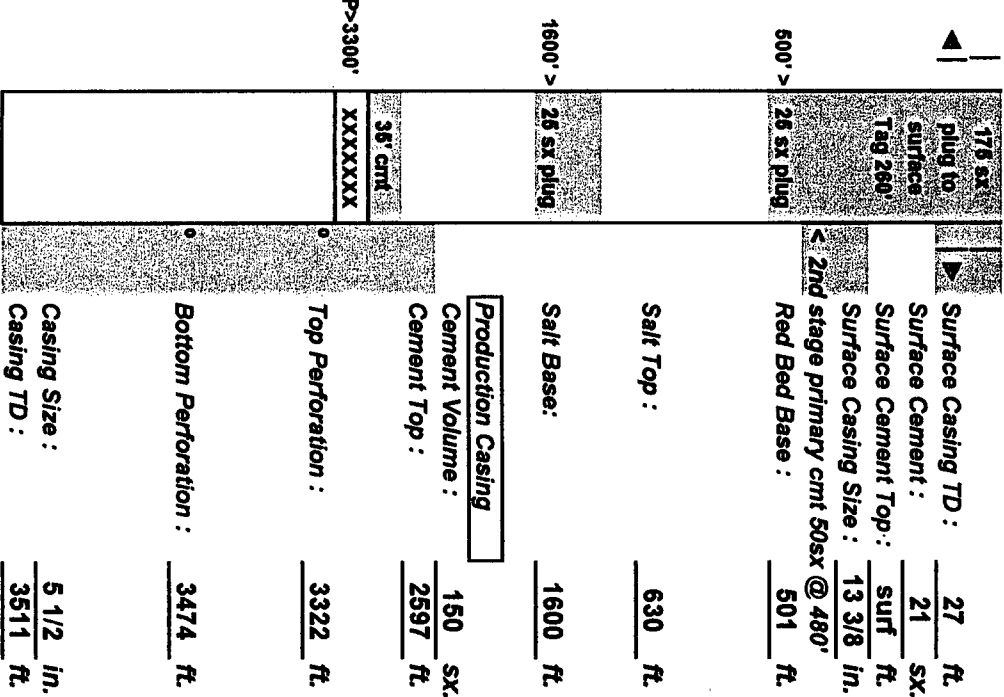
Location : 1980' FNL & 1980' FEL
Sec-Twn-Rng : Sec. 29, T16S, R31E

Field : Square Lake
Interval: Grayburg - San Andres



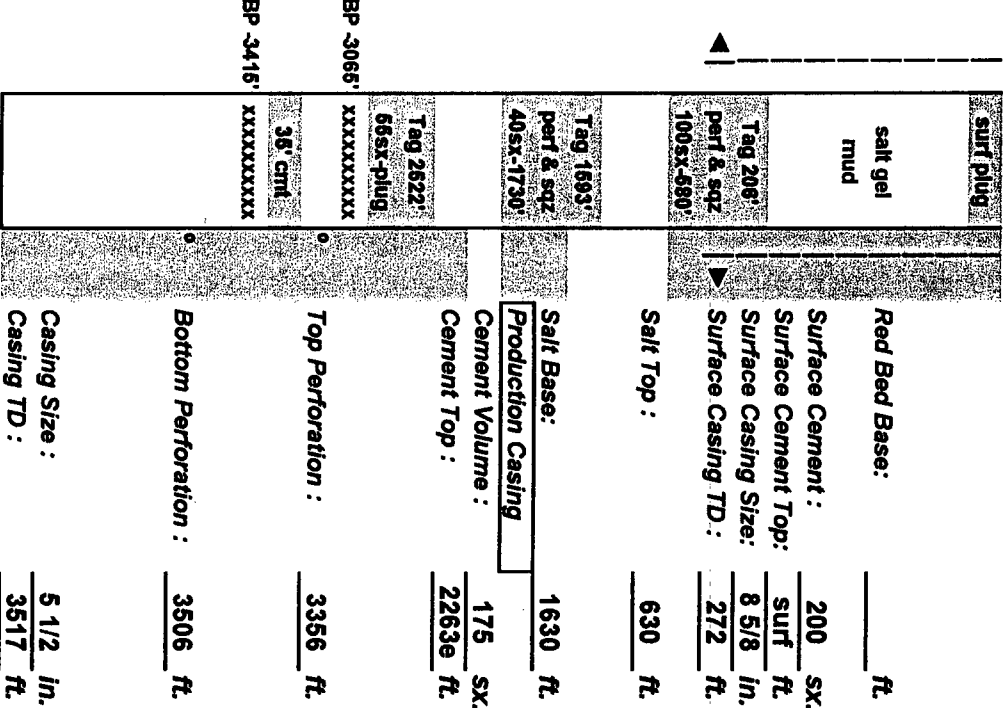
Type Well @ Abandonment : Injector
Date Well Abandoned : 2 / 1987
Operator that Plugged Well : Yates Petr Corp.
Date Well Drilled : 7 / 1944
Original Well Type : Producer
Cum Water Injected in this Well : 793000 BBL

Well No.: NSLU # 6
API No.: 30-015-10206
Location : 1650' FSL & 1980' FWL
Sec-Twn-Rng : Sec. 20, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



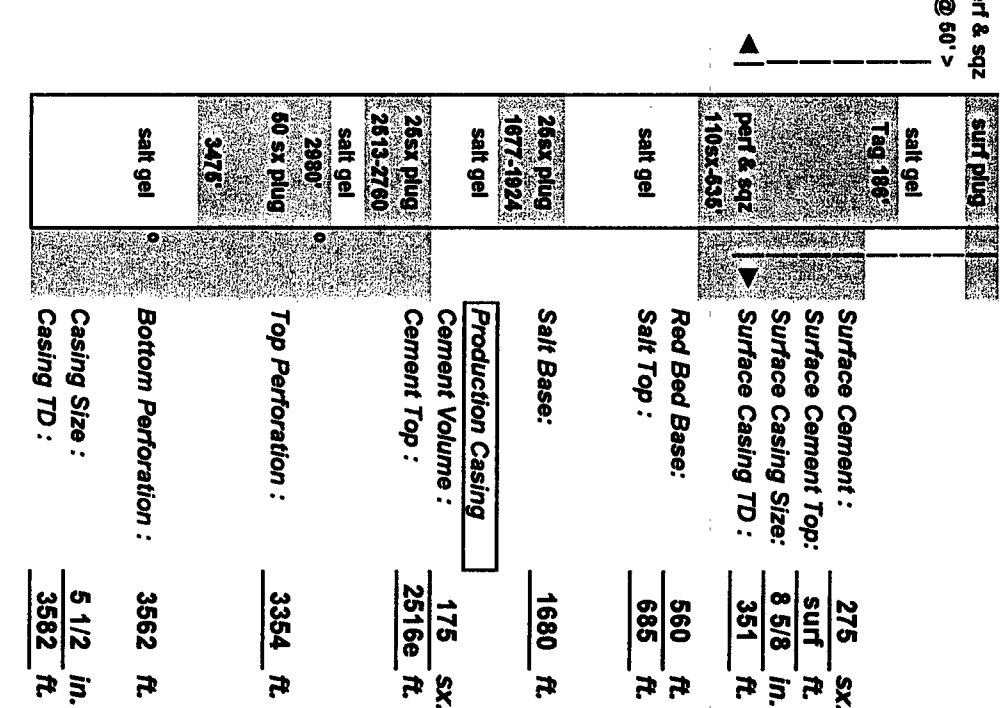
Type Well @ Abandonment : Injector
Date Well Abandoned : 10 / 1991
Operator that Plugged Well : Kennedy Oil Co.
Date Well Drilled : 2 / 1964
Original Well Type : Producer
Cum Water Injected in this Well : 568,000 BBL

C-108 Application Well
Well No.: NSLU # 15
API No.: 30-015-04859
Location : 1980' FEL & 660' FSL
Sec-Twn-Rng : Sec. 20, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



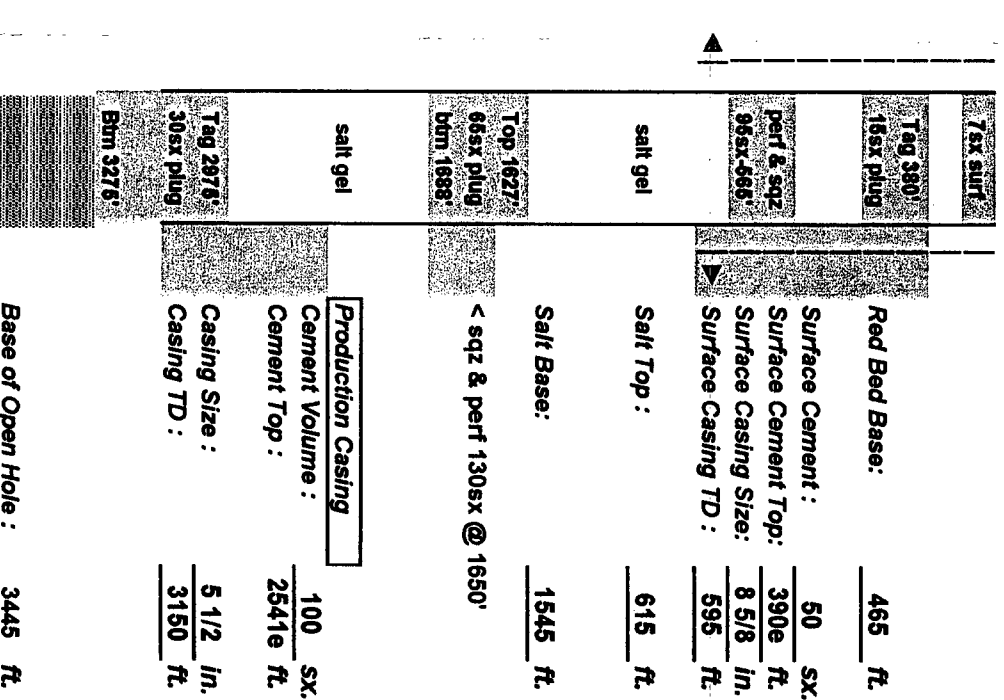
Type Well @ Abandonment : Injector
Date Well Abandoned : 2 / 1995
Operator that Plugged Well : Anadarko Petr.
Date Well Drilled : 1 / 1961
Original Well Type : Producer
Cum Water Injected in this Well : 508436 BBL

C-108 Application Well
Well No.: NSLU # 16
API No.: 30-015-04860
Location : 660' FSL & 660' FEL
Sec-Twn-Rng : Sec. 20, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres

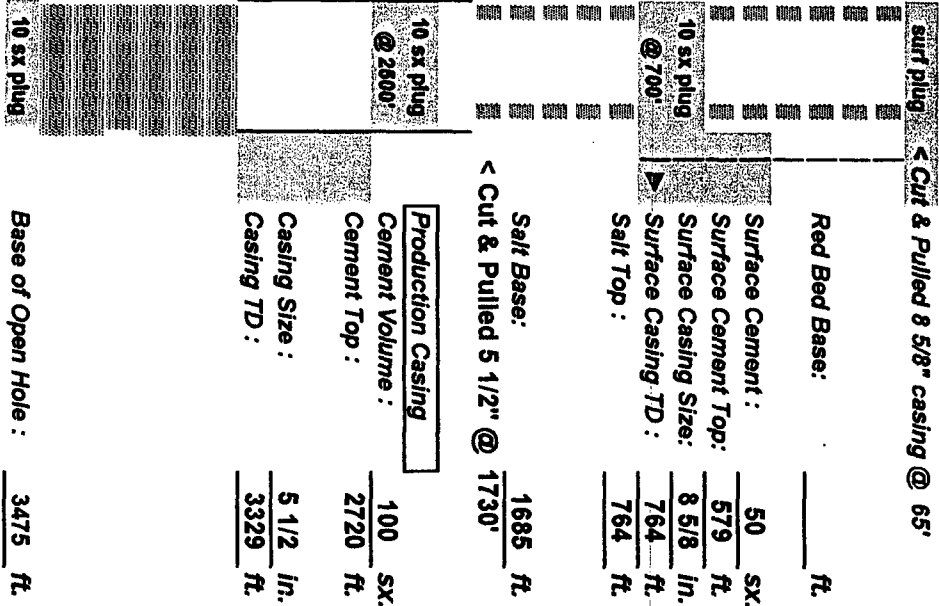
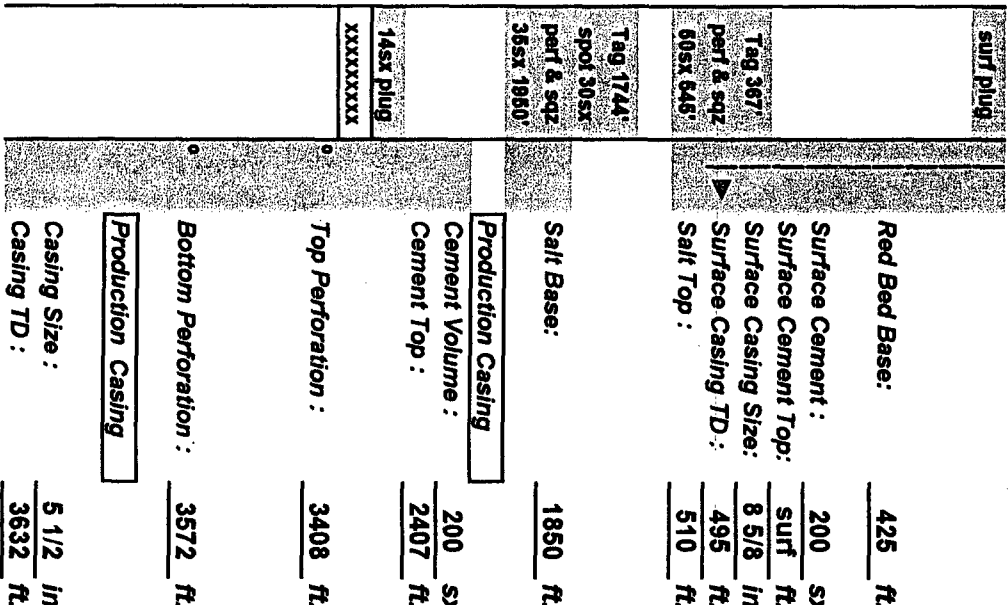
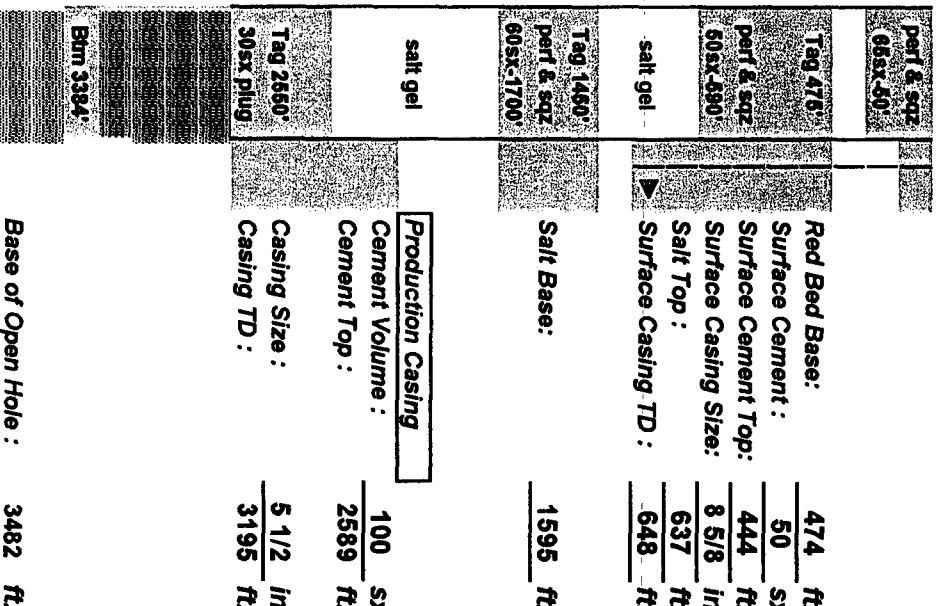


Type Well @ Abandonment : Producer
Date Well Abandoned : 2 / 1995
Operator that Plugged Well : Anadarko Petr.
Date Well Drilled : 5 / 1961
Original Well Type : Producer

C-108 Application Well
Well No.: NSLU # 23
API No.: 30-015-04906
Location : 810' FNL & 1980' FWL
Sec-Twn-Rng : Sec. 29, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



Type Well @ Abandonment : Injector
Date Well Abandoned : 2 / 1987
Operator that Plugged Well : Yates Petr Corp.
Date Well Drilled : 9 / 1944
Original Well Type : Producer
Cum Water Injected in this Well : 821000 BBL

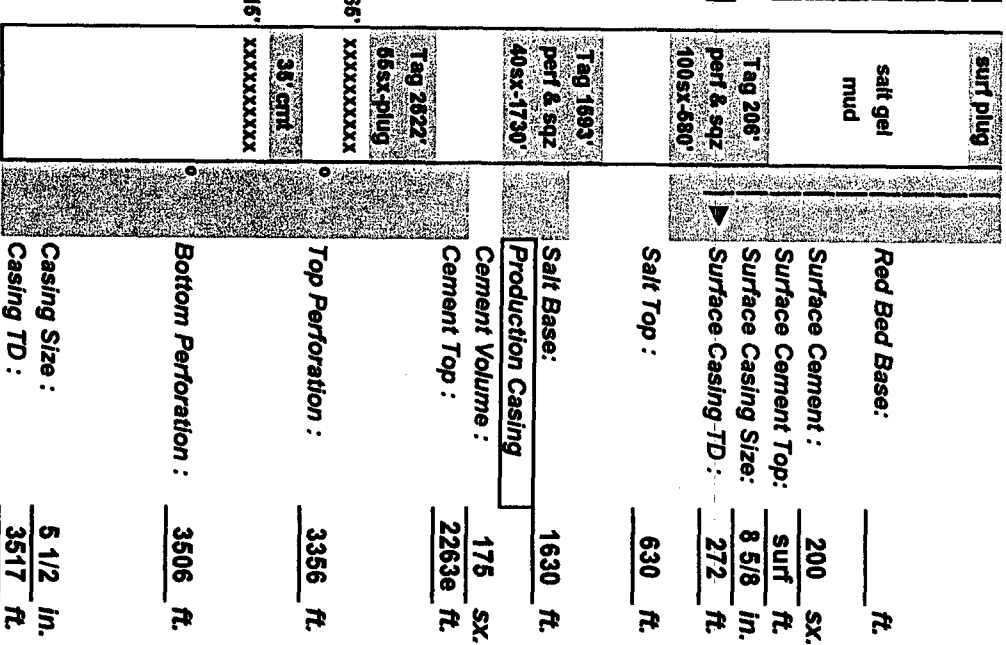
Well No.: NSLU # 26 API No.: 30-015-04897		Well No.: Sheldon #6 (offset NSLU#26) API No.: 30-015-04901		C-108 Application Well Well No.: NSLU # 42 API No.: 30-015-04908	
Location : 660' FNL & 660' FWL Sec-Twn-Rng : Sec. 28, T16S, R31E		Location : 660' FNL & 330' FWL Sec-Twn-Rng : Sec. 28, T16S, R31E		Location : 1980' FNL & 1980' FEL Sec-Twn-Rng : Sec. 29, T16S, R31E	
Field : Square Lake Interval: Grayburg - San Andres		Field : Square Lake Interval: Grayburg - San Andres		Field : Square Lake Interval: Grayburg - San Andres	
 surf plug < Cut & Pulled 8 5/8" casing @ 65' Red Bed Base: _____ ft. Surface Cement : 50 sx. Surface Cement Top: 579 ft. Surface Casing Size: 8 5/8 in. Surface Casing TD : 764 ft. Salt Top : 764 ft. Salt Base: 1685 ft. < Cut & Pulled 5 1/2" @ 1730' Production Casing _____ Cement Volume : 100 sx. Cement Top : 2720 ft. Casing Size : 5 1/2 in. Casing TD : 3329 ft. 10 sx plug @ 2600' Base of Open Hole : 3475 ft.		 surf plug Red Bed Base: 425 ft. Surface Cement : 200 sx. Surface Cement Top: surf ft. Surface Casing Size: 8 5/8 in. Surface Casing TD : 495 ft. Salt Top : 510 ft. Tag 367' perf & sqz 60sx 646' Salt Base: 1850 ft. Tag 174' spot 30sx perf & sqz 36sx 1980' Production Casing _____ Cement Volume : 200 sx. Cement Top : 2407 ft. Top Perforation : 3408 ft. 14sx plug xxxxxxxx Bottom Perforation : 3572 ft. Production Casing _____ Casing Size : 5 1/2 in. Casing TD : 3632 ft. CIBP>3300'		 perf & sqz 66sx 40' Tag 476' perf & sqz 60sx 480' salt gel Red Bed Base: 474 ft. Surface Cement : 50 sx. Surface Cement Top: 444 ft. Surface Casing Size: 8 5/8 in. Salt Top : 637 ft. Surface Casing TD : 648 ft. Tag 1460' perf & sqz 60sx 1700' Salt Base: 1595 ft. salt gel Production Casing _____ Cement Volume : 100 sx. Cement Top : 2589 ft. Casing Size : 5 1/2 in. Casing TD : 3195 ft. Tag 2660' 30sx plug Bom 3384' Base of Open Hole : 3482 ft.	
Type Well @ Abandonment : Date Well Abandoned : Operator that Plugged Well : Date Well Drilled : Original Well Type :		Type Well @ Abandonment : Date Well Abandoned : Operator that Plugged Well : Date Well Drilled : Original Well Type :		Type Well @ Abandonment : Date Well Abandoned : Operator that Plugged Well : Date Well Drilled : Original Well Type : Cum Water Injected in this Well :	
Producer 12/1951 D. D. Thomas 4 / 1945 Producer		Producer 6 / 1995 Mack Energy 11 / 1961 Producer		Injector 2 / 1987 Yates Petr Corp. 7 / 1944 Producer 793000 BBL	

C-108 Application Well

Well No.: NSLU # 15
API No.: 30-015-04859

Location : 1980' FEL & 660' FSL
Sec-Twn-Rng : Sec. 20, T16S, R31E

Field : Square Lake
Interval: Grayburg - San Andres



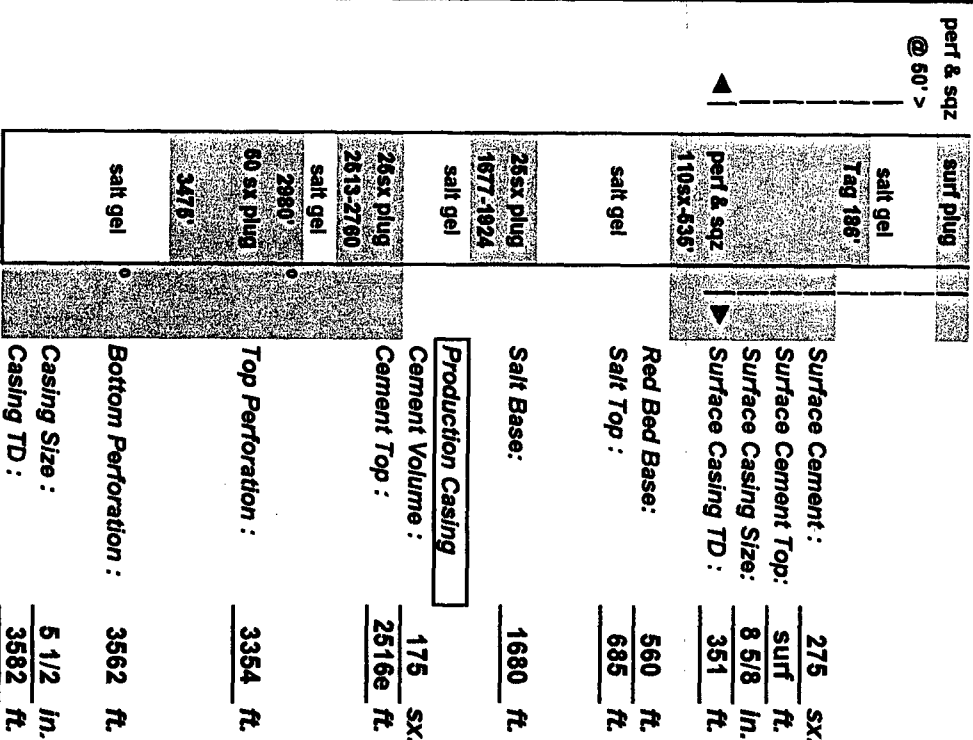
Type Well @ Abandonment : Injector
Date Well Abandoned : 2 / 1995
Operator that Plugged Well : Anadarko Petr.
Date Well Drilled : 1 / 1961
Original Well Type : Producer
Cum Water Injected in this Well : 508436 BBL

C-108 Application Well

Well No.: NSLU # 16
API No.: 30-015-04860

Location : 660' FSL & 660' FEL
Sec-Twn-Rng : Sec. 20, T16S, R31E

Field : Square Lake
Interval: Grayburg - San Andres



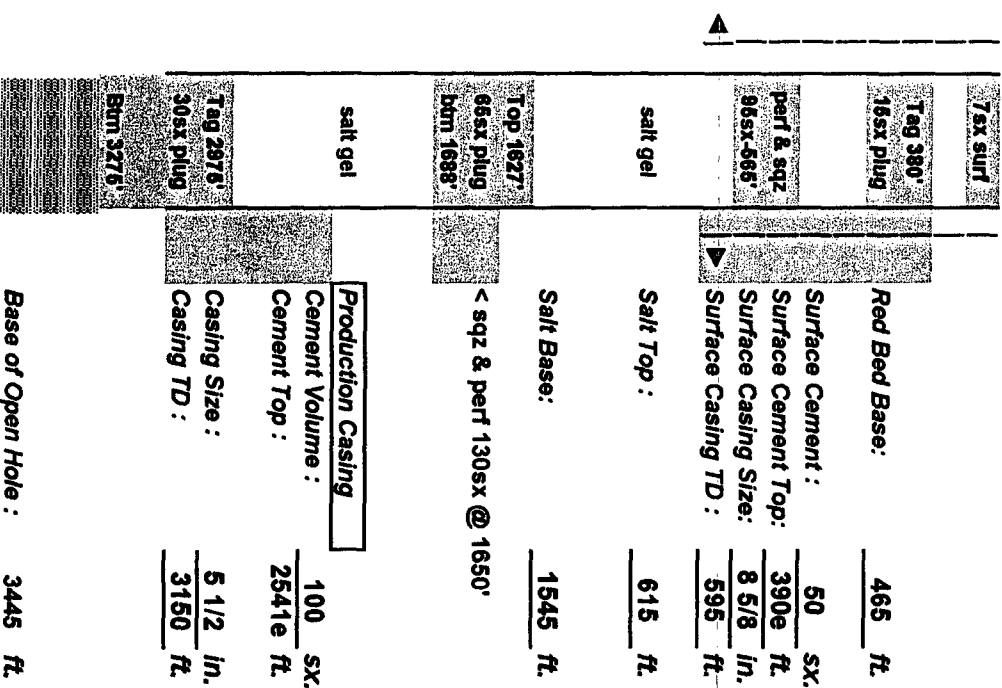
Type Well @ Abandonment : Producer
Date Well Abandoned : 2 / 1995
Operator that Plugged Well : Anadarko Petr.
Date Well Drilled : 5 / 1961
Original Well Type : Producer

C-108 Application Well

Well No.: NSLU # 23
API No.: 30-015-04906

Location : 810' FNL & 1980' FWL
Sec-Twn-Rng : Sec. 29, T16S, R31E

Field : Square Lake
Interval: Grayburg - San Andres



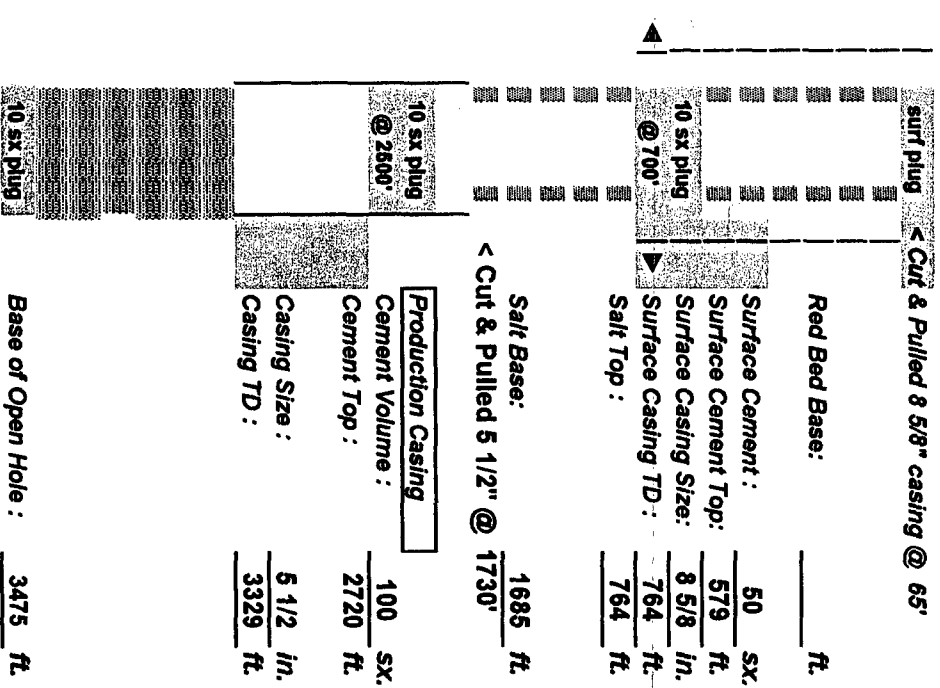
Type Well @ Abandonment : Injector
Date Well Abandoned : 2 / 1987
Operator that Plugged Well : Yates Petr Corp.
Date Well Drilled : 9 / 1944
Original Well Type : Producer
Cum Water Injected in this Well : 821000 BBL

C-108 Application Well

Well No.: NSLU # 26
API No.: 30-015-04897

Location : 660' FNL & 660' FWL
Sec-Twn-Rng : Sec. 28, T16S, R31E

Field : Square Lake
Interval: Grayburg - San Andres

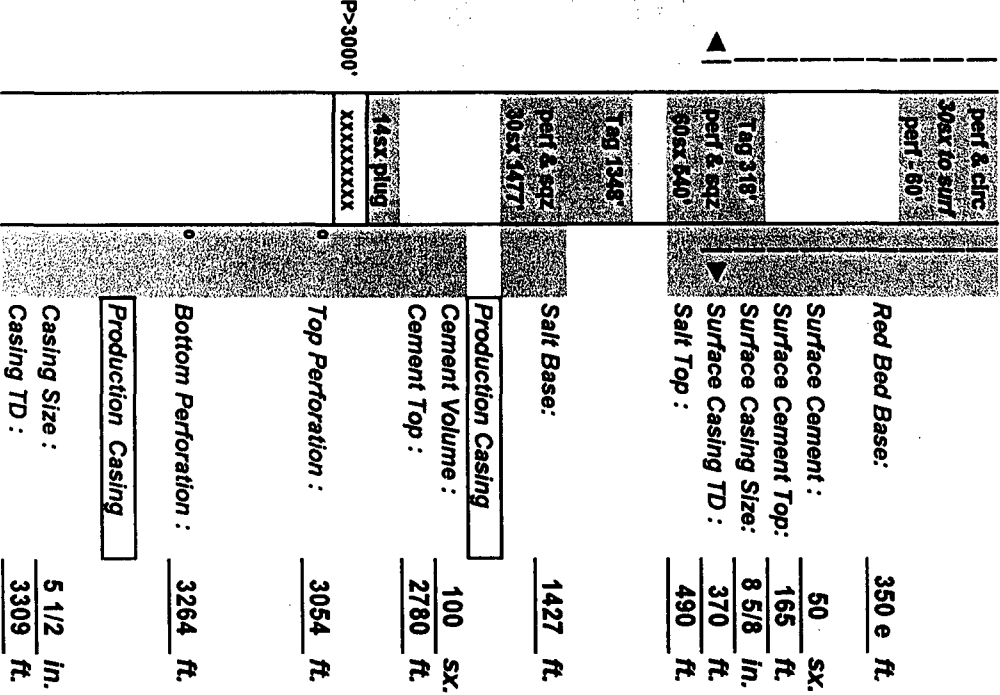


Type Well @ Abandonment : Producer
Date Well Abandoned : 12/1951
Operator that Plugged Well : D. D. Thomas
Date Well Drilled : 4 / 1945
Original Well Type : Producer

Well No.: Sheldon #6 (offset NSLU#26)		Well No.: NSLU # 42		Well No.: NSLU # 44		Well No.: NSLU # 61							
API No.: 30-015-04901		API No.: 30-015-04908		API No.: 30-015-04896		API No.: 30-015-04903							
Location : 660' FNL & 330' FWL		Location : 1980' FNL & 1980' FEL		Location : 2080' FNL & 560' FWL		Location : 1980' FSL & 660' FEL							
Sec-Twn-Rng : Sec. 28, T16S, R31E		Sec-Twn-Rng : Sec. 29, T16S, R31E		Sec-Twn-Rng : Sec. 28, T16S, R31E		Sec-Twn-Rng : Sec. 29, T16S, R31E							
Field : Square Lake		Field : Square Lake		Field : Square Lake		Field : Square Lake							
Interval: Grayburg - San Andres		Interval: Grayburg - San Andres		Interval: Grayburg - San Andres		Interval: Grayburg - San Andres							
surf plug Tag 1744' spot 30sx perf & sqz 36sx 1960' Red Bed Base: 425 ft. Surface Cement : 200 sx. Surface Cement Top: surf ft. Surface Casing Size: 8 5/8 in. Surface Casing TD : 495 ft. Tag 367' perf & sqz 60sx 646' Surface Casing TD : 510 ft. Salt Top : 510 ft. Salt Base: 1850 ft. Production Casing Cement Volume : 200 sx. Cement Top : 2407 ft. Top Perforation : 3408 ft. 14sx plug xxxxxxxx Bottom Perforation : 3572 ft. Production Casing Casing Size : 5 1/2 in. Casing TD : 3632 ft.		perf & sqz 66sx-60' Tag 476' perf & sqz 60sx-690' Red Bed Base: 474 ft. Surface Cement : 50 sx. Surface Cement Top: 444 ft. Surface Casing Size: 8 5/8 in. Salt Top : 637 ft. Surface Casing TD : 648 ft. salt gel Tag 1460' perf & sqz 60sx-1700' Salt Base: 1595 ft. Production Casing Cement Volume : 100 sx. Cement Top : 2589 ft. Casing Size : 5 1/2 in. Casing TD : 3195 ft. Tag 2660' 30sx plug Btm 3384' Base of Open Hole : 3482 ft.		16 sx surf Tag 337' Red Bed Base: during Cut & Pulled 8 5/8" @ 230' during 1st P & A in 12 / 1951 Orig Drill & Complete Data Surface Cement : unknow sx. Surface Cement Top: 230e ft. Surface Casing Size: 8 5/8 in. Surface Casing TD : 700e ft. 41sx @ 736' inside 3 1/2' Salt Top : 735 ft. Salt Base: 1650 ft. < '82 PA perf salt could not pump < Cut & Pulled 5 1/2" @ 2360' during 1st P & A in 12 / 1951 Production Casing Cement Volume : orig ? sx. Cement Top : 2360e ft. Casing Size : (orig) 5 1/2 in. Casing TD : (orig) 2500e ft. Tag 2680' 60sx plug 6/1982 p&a inside 3 1/2' Original TD Reached : 3475e ft. Date ? Re-enter TD Reached: 3640 ft. 3/1963		16sx surf Tag 241' Red Bed Base: 505 ft. Surface Cement : 50 sx. Surface Cement Top: 427 ft. Surface Casing Size: 8 5/8 in. Salt Top : 675 ft. Surface Casing TD : 682 ft. salt gel perf & sqz 60sx-1635' Salt Base: 1635 ft. Production Casing Cement Volume : 100 sx. Cement Top : 2656e ft. Casing Size : 5 1/2 in. Casing TD : 3265 ft. Tag 2794' 60 sx plug Btm 3384' Base of Open Hole : 3433 ft.		Type Well @ Abandonment : Injector		Type Well @ Abandonment : Injector		Type Well @ Abandonment : Injector	
Date Well Abandoned : 6 / 1995		Date Well Abandoned : 2 / 1987		Date Well Abandoned : 12/1951 & 6/1982		Date Well Abandoned : 9 / 1982							
Operator that Plugged Well : Mack Energy		Operator that Plugged Well : Yates Petr Corp.		Operator that Plugged Well : Newmont-1982		Operator that Plugged Well : Newmont Oil							
Date Well Drilled : 11 / 1961		Date Well Drilled : 7 / 1944		Date Well Drilled : Orig?re-enter3/63		Date Well Drilled : 8 / 1944							
Original Well Type : Producer		Original Well Type : Producer		Original Well Type : Producer		Original Well Type : Producer							
Cum Water Injected in this Well : 793000 BBL		Cum Water Injected in this Well : 7800 BBL		Cum Water Injected in this Well : 7800 BBL		Cum Water Injected in this Well : 777000 BBL							

Well No.: NSLU # 2
API No.: 30-015-04855
Old Carper Fed #2
Location : 1980' FSL & 1660' FWL
Sec-Twn-Rng : Sec. 19, T16S, R31E

Field : Square Lake
Interval: Grayburg - San Andres



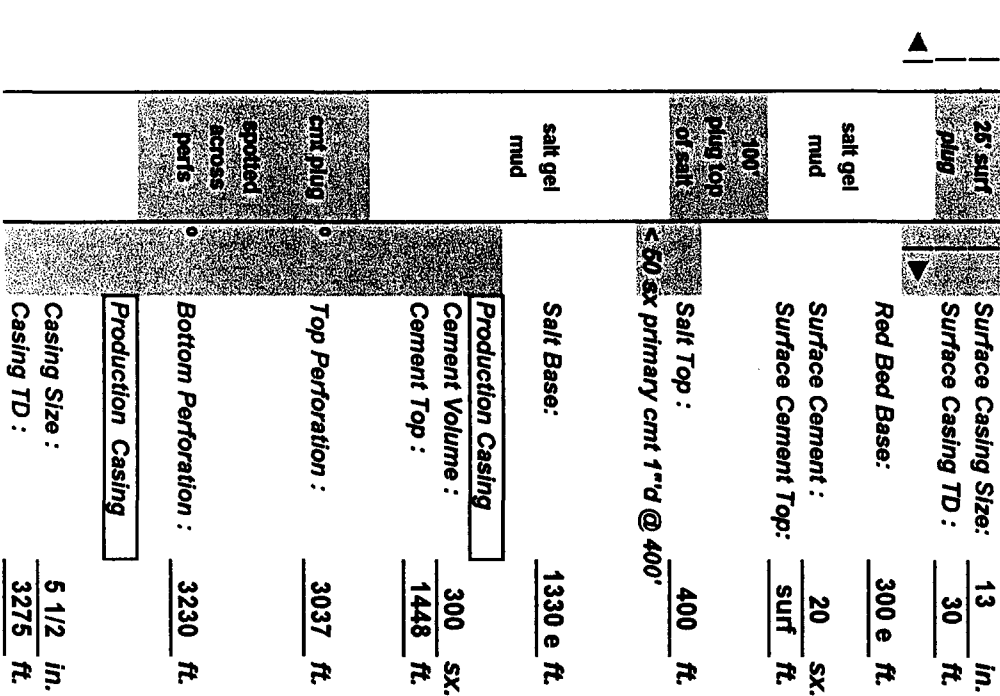
Type Well @ Abandonment : Injector
Date Well Abandoned : 6 / 1995
Operator that Plugged Well : Mack Energy

Date Well Drilled : Jul-59
Original Well Type : Producer

Cum Water Injected in this Well : 614000 BBL

Well No.: NSLU # 19
API No.: 30-015-10469
Old Loe Fed # 3
Location : 330' FNL & 1995' FWL
Sec-Twn-Rng : Sec. 30, T16S, R31E

Field : Square Lake
Interval: Grayburg - San Andres



Type Well @ Abandonment : Injector
Date Well Abandoned : May-78
Operator that Plugged Well : Arwood Ltd.

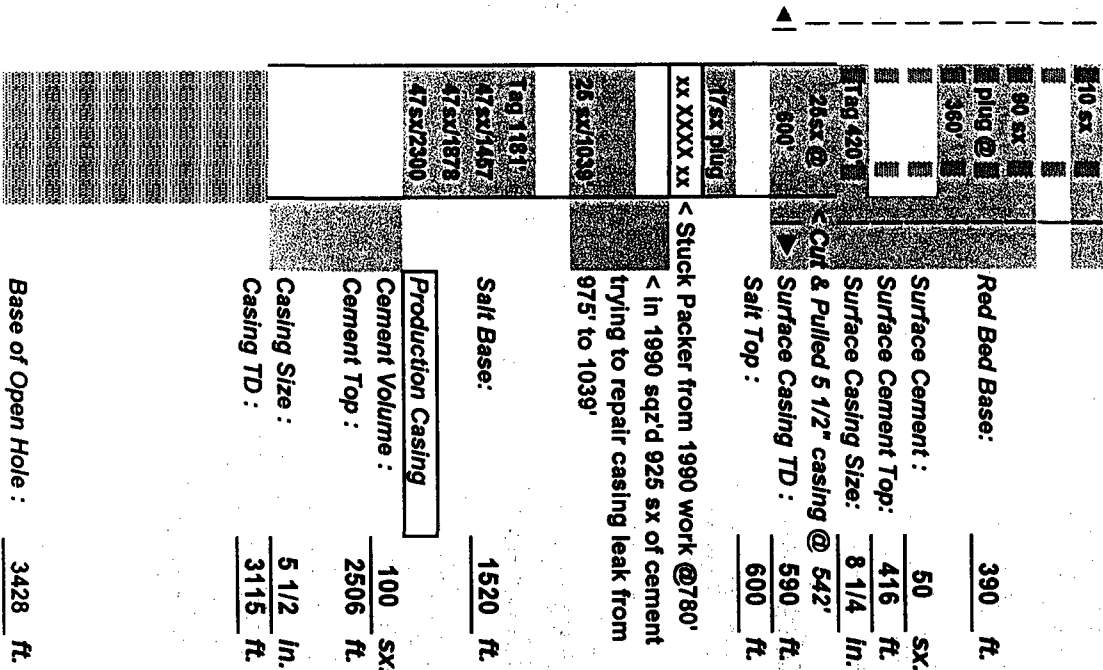
Date Well Drilled : Feb-65
Original Well Type : Producer

Cum Water Injected in this Well : 813000 BBL

Well No.:	NSLU # 13	C-108 Application Well	Well No.:	NSLU # 15	Superior Fed # 1
API No.:	30-015-04858		API No.:	30-015-04859	30-015-10761
Location :	330' FSL & 510' FWL		Location :	1980' FEL & 660' FSL	2310' FNL & 1980' FWL
Sec-Twn-Rng :	Sec. 20, T16S, R31E		Sec-Twn-Rng :	Sec. 20, T16S, R31E	Sec. 20, T16S, R31E
Field :	Square Lake		Field :	Square Lake	Square Lake
Interval:	Grayburg - San Andres		Interval:	Grayburg - San Andres	Grayburg - San Andres
Type Well @ Abandonment :	Injector		Type Well @ Abandonment :	Injector	Producer
Date Well Abandoned :	4 / 1990		Date Well Abandoned :	2 / 1995	Aug-02
Operator that Plugged Well :	Yates Petr. Corp.		Operator that Plugged Well :	Anadarko Petr.	George A Chase Jr.
Date Well Drilled :	1 / 1945		Date Well Drilled :	1 / 1961	Dec-65
Original Well Type :	Producer		Original Well Type :	Producer	Producer
Cum Water Injected in this Well :	414000 BBL		Cum Water Injected in this Well :	508436 BBL	

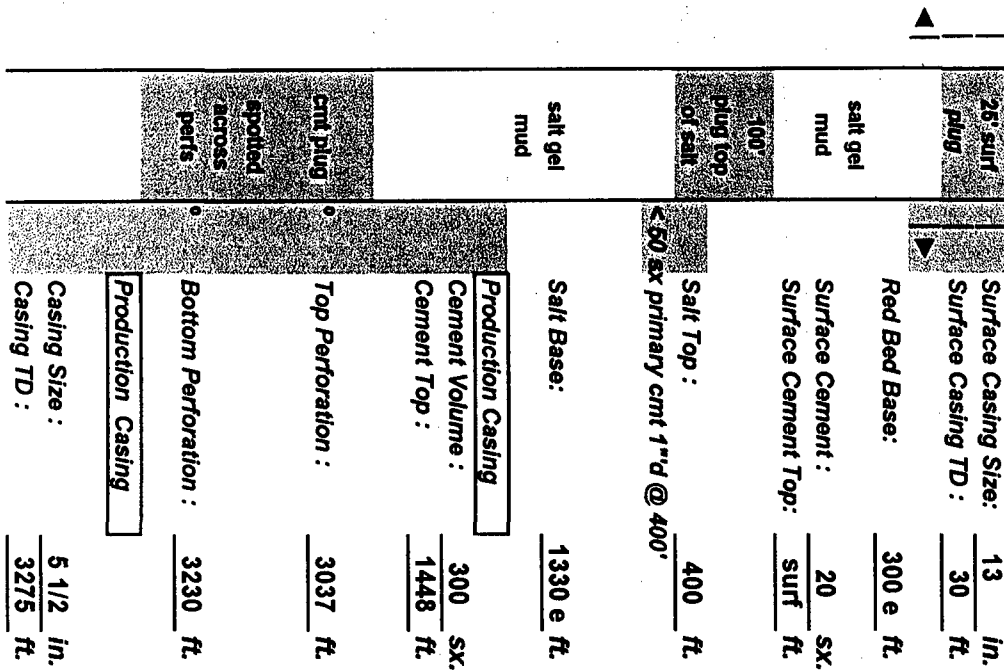
Well No.:	NSLU # 13	C-108 Application Well	Well No.:	NSLU # 15	Superior Fed # 1
API No.:	30-015-04858		API No.:	30-015-04859	30-015-10761
Location :	330' FSL & 510' FWL		Location :	1980' FEL & 660' FSL	2310' FNL & 1980' FWL
Sec-Twn-Rng :	Sec. 20, T16S, R31E		Sec-Twn-Rng :	Sec. 20, T16S, R31E	Sec. 20, T16S, R31E
Field :	Square Lake		Field :	Square Lake	Square Lake
Interval:	Grayburg - San Andres		Interval:	Grayburg - San Andres	Grayburg - San Andres
Type Well @ Abandonment :	Injector		Type Well @ Abandonment :	Injector	Producer
Date Well Abandoned :	4 / 1990		Date Well Abandoned :	2 / 1995	Aug-02
Operator that Plugged Well :	Yates Petr. Corp.		Operator that Plugged Well :	Anadarko Petr.	George A Chase Jr.
Date Well Drilled :	1 / 1945		Date Well Drilled :	1 / 1961	Dec-65
Original Well Type :	Producer		Original Well Type :	Producer	Producer
Cum Water Injected in this Well :	414000 BBL		Cum Water Injected in this Well :	508436 BBL	

Well No.: NSLU # 13
API No.: 30-015-04858
Location : 330' FSL & 510' FWL
Sec-Twn-Rng : Sec. 20, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



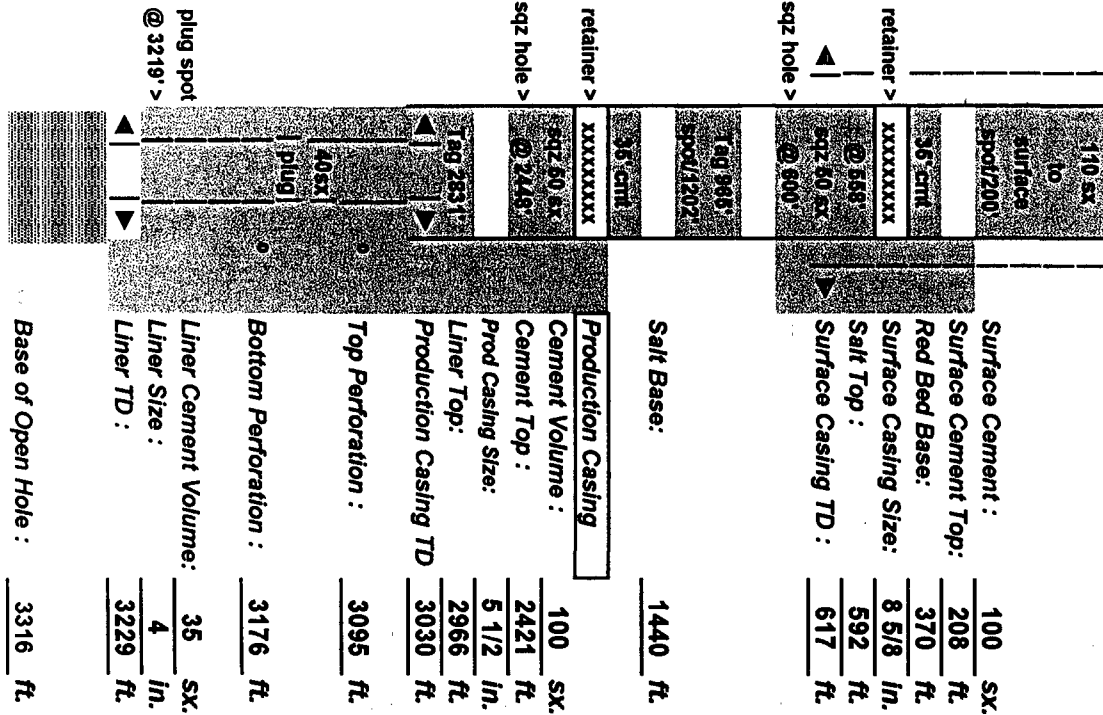
Type Well @ Abandonment : Injector
Date Well Abandoned : 4 / 1990
Operator that Plugged Well : Yates Petr. Corp.
Date Well Drilled : 1 / 1945
Original Well Type : Producer
Cum Water Injected in this Well : 414000 BBL

Well No.: NSLU # 19
API No.: 30-015-10469
Location : 330' FNL & 1995' FWL
Sec-Twn-Rng : Sec. 30, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



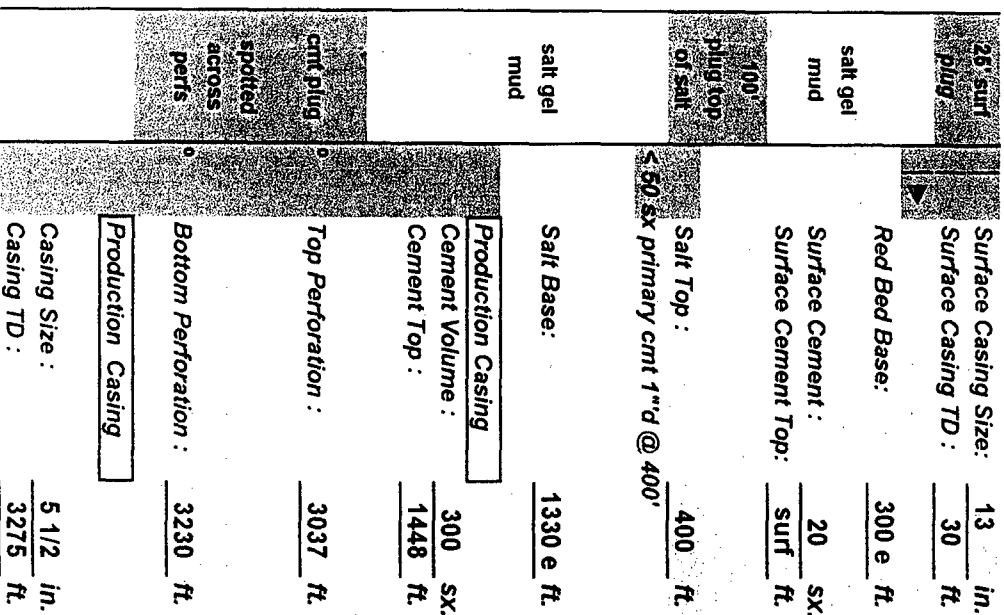
Type Well @ Abandonment : Injector
Date Well Abandoned : May-78
Operator that Plugged Well : Arwood Ltd.
Date Well Drilled : Feb-65
Original Well Type : Producer
Cum Water Injected in this Well : 813000 BBL

Well No.: NSLU # 21
API No.: 30-015-04934
Location : 660' FNL & 660' FEL
Sec-Twn-Rng : Sec. 30, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



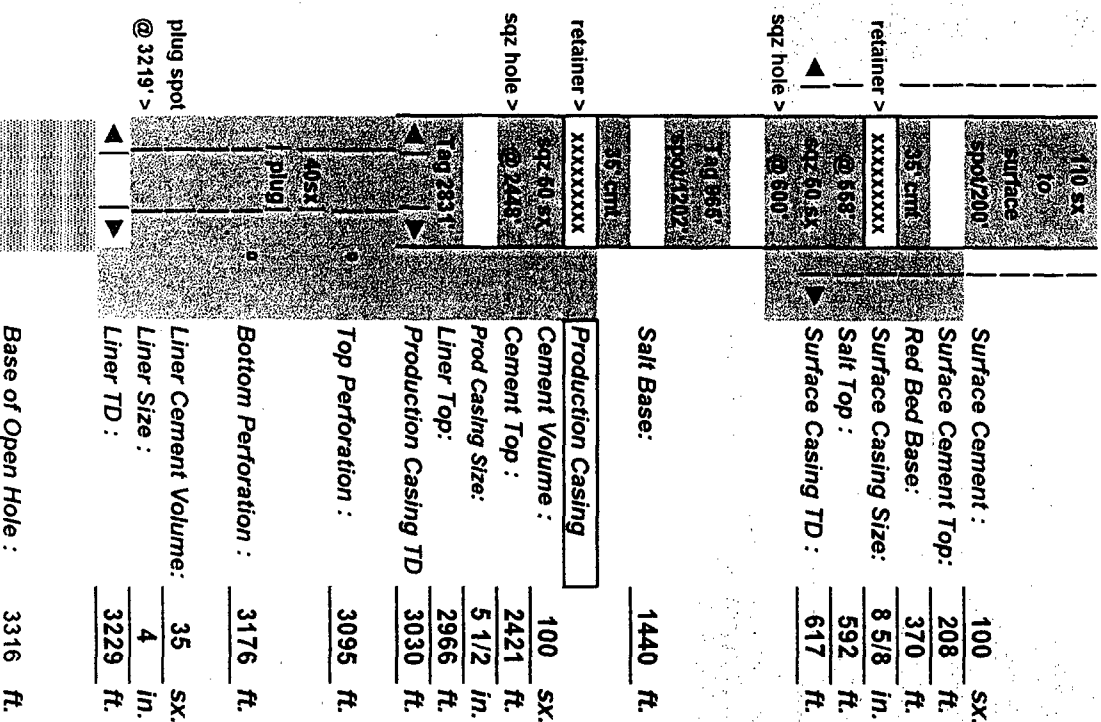
Type Well @ Abandonment : Injector
Date Well Abandoned : 12 / 1991
Operator that Plugged Well : Yates Petr. Corp.
Date Well Drilled : 3 / 1944
Original Well Type : Producer
Cum Water Injected in this Well : 1518000 BBL

Well No.: NSLU # 19
API No.: 30-015-10469
Location : 330' FNL & 1995' FWL
Sec-Twn-Rng : Sec. 30, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



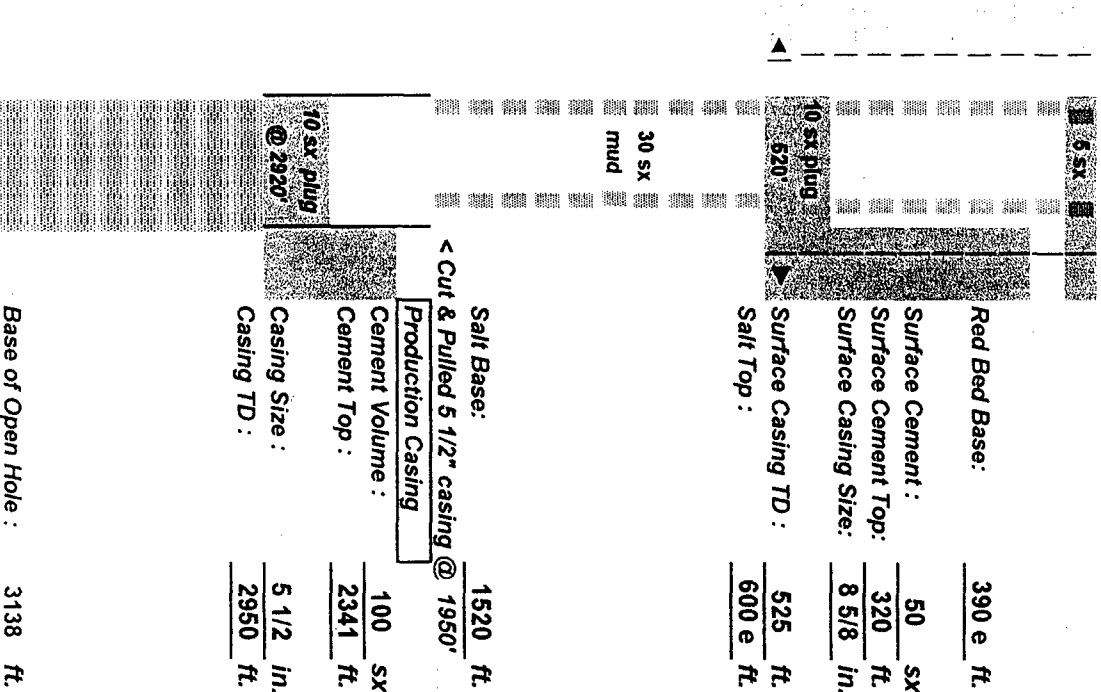
Type Well @ Abandonment : Injector
Date Well Abandoned : May-78
Operator that Plugged Well : Arwood Ltd.
Date Well Drilled : Feb-65
Original Well Type : Producer
Cum Water Injected in this Well : 813000 BBL

Well No.: NSLU # 21
API No.: 30-015-04934
Location : 660' FNL & 660' FEL
Sec-Twn-Rng : Sec. 30, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



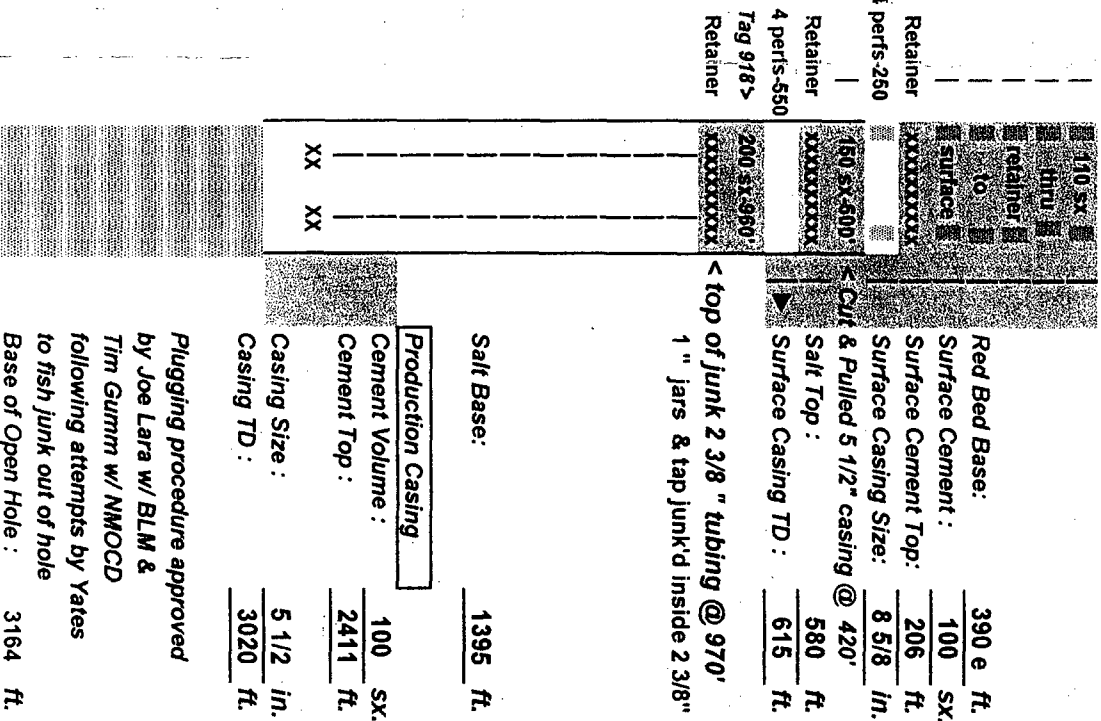
Type Well @ Abandonment : Injector
Date Well Abandoned : 12 / 1991
Operator that Plugged Well : Yates Petr. Corp.
Date Well Drilled : 3 / 1944
Original Well Type : Producer
Cum Water Injected in this Well : 1518000 BBL

Well No.: NSLU # 36
API No.: 30-015-04922
Location : 1980' FNL & 1850' FWL
Sec-Twn-Rng : Sec. 30, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres

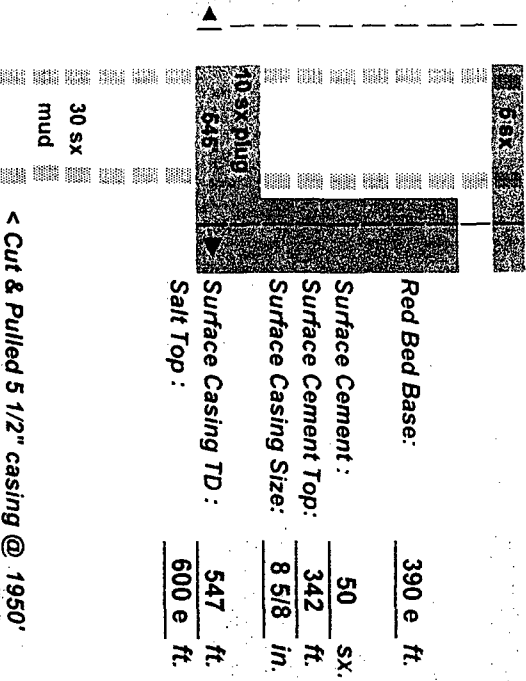
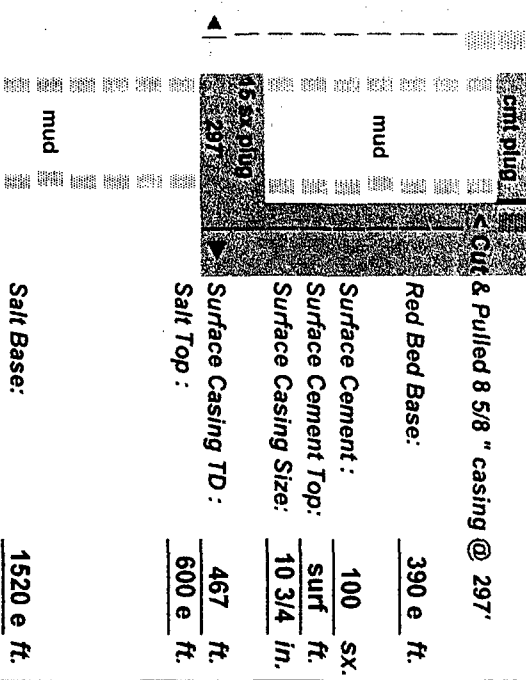
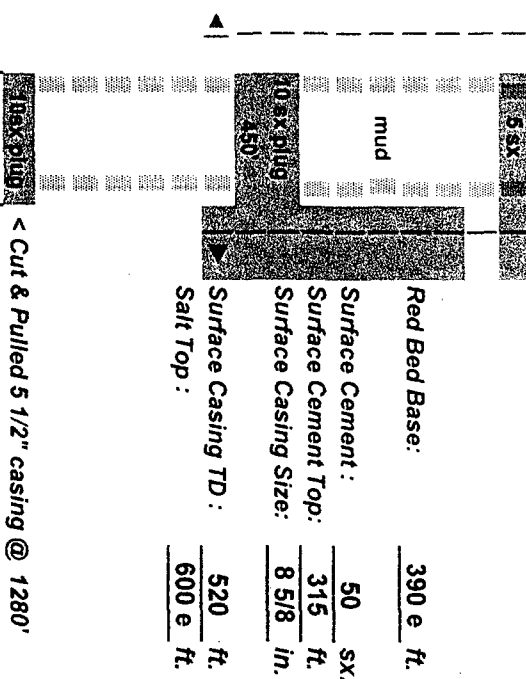


Type Well @ Abandonment : Producer
Date Well Abandoned : Sep-48
Operator that Plugged Well : Brewer Dring.
Date Well Drilled : Oct-44
Original Well Type : Producer
Cum Water Injected in this Well : 1237000 BBL

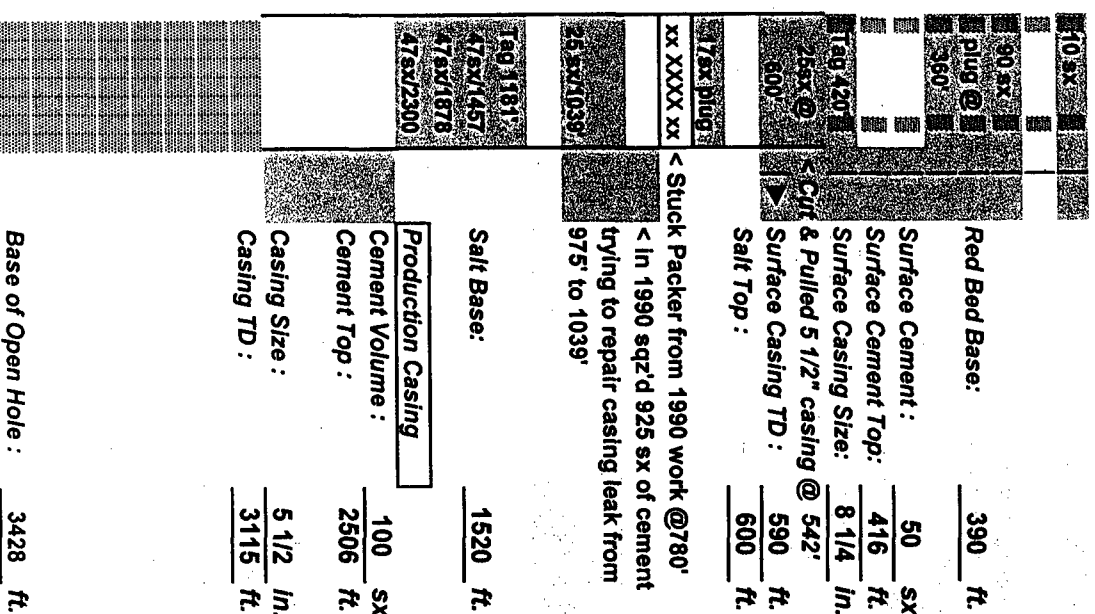
Well No.: NSLU # 37
API No.: 30-015-04935
Location : 1980' FNL & 1980' FEL
Sec-Twn-Rng : Sec. 30, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



Type Well @ Abandonment : Injector
Date Well Abandoned : Oct-94
Operator that Plugged Well : Yates Petr.
Date Well Drilled : Apr-44
Original Well Type : Producer
Cum Water Injected in this Well : 1237000 BBL

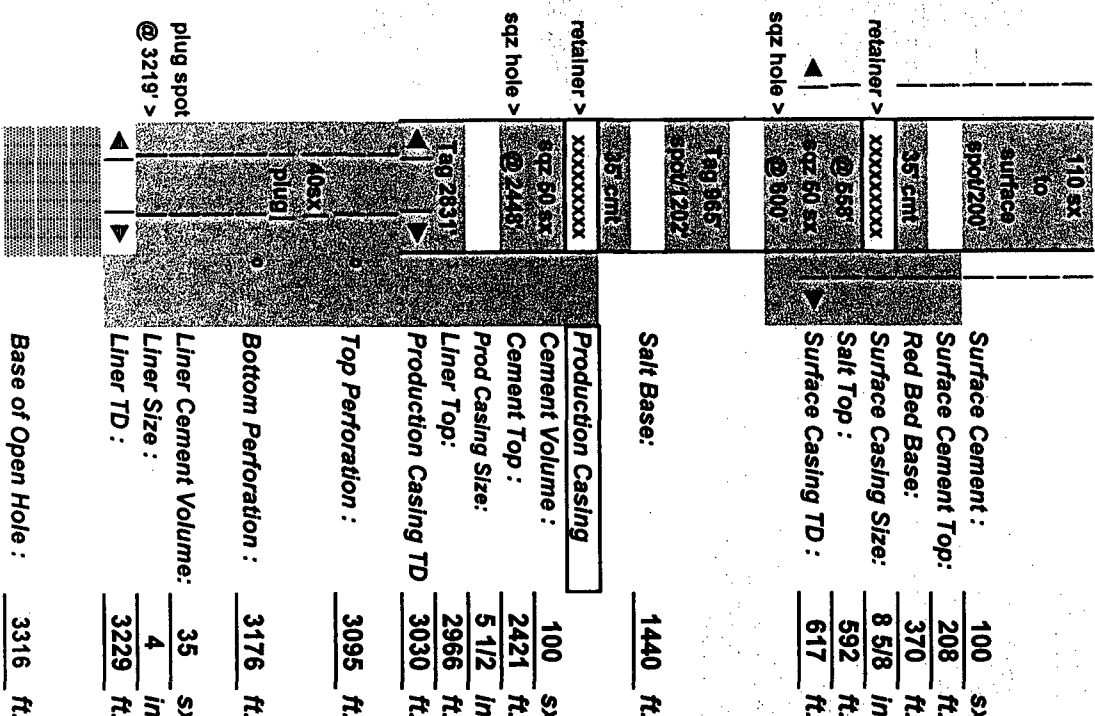
Well No.: George Etz # 2 API No.: 30-015-04924 Location : 810' FNL & 1666' FWL Sec-Twn-Rng : Sec. 30, T16S, R31E Field : Square Lake Interval: Grayburg - San Andres  Diagram details: 5 1/2" sx plug @ 645', 10" sx plug @ 645', 30" sx mud, 5 1/2" sx casing @ 1950'. Red Bed Base: 390 e ft. Surface Cement: 50 sx. Surface Cement Top: 342 ft. Surface Casing Size: 8 5/8 in. Surface Casing TD: 547 ft. Salt Top: 600 e ft. < Cut & Pulled 5 1/2" casing @ 1950' Salt Base: 1520 e ft. Production Casing Cement Volume: 100 sx. Cement Top: 2311 ft. Casing Size: 5 1/2 in. Casing TD: 2920 ft. Base of Open Hole: 3095 ft. Type Well @ Abandonment: Producer Date Well Abandoned: Sep-48 Operator that Plugged Well: Brewer Dring. Date Well Drilled: Nov-44 Original Well Type: Producer	Well No.: NSLU # 9 API No.: 30-015-04852 Location : 660' FSL & 504' FWL Sec-Twn-Rng : Sec. 19, T16S, R31E Field : Square Lake Interval: Grayburg - San Andres  Diagram details: 5 1/2" sx plug @ 297', 10" sx plug @ 297', 30" sx mud, 5 1/2" sx casing @ 2101'. Red Bed Base: 390 e ft. Surface Cement: 100 sx. Surface Cement Top: surf ft. Surface Casing Size: 10 3/4 in. Surface Casing TD: 467 ft. Salt Top: 600 e ft. < Cut & Pulled 8 5/8 " casing @ 297' < plug set across red sand Queen Salt Base: 1520 e ft. Production Casing Cement Volume: 100 sx. Cement Top: 2075 ft. Casing Size: 7 in. Casing TD: 2855 ft. Base of Open Hole: 3095 ft. Type Well @ Abandonment: Producer Date Well Abandoned: Feb-49 Operator that Plugged Well: Nay Hightower Date Well Drilled: Feb-45 Original Well Type: Producer	Well No.: NSLU # 18 API No.: 30-015-04923 Location : 810' FNL & 503' FWL Sec-Twn-Rng : Sec. 30, T16S, R31E Field : Square Lake Interval: Grayburg - San Andres  Diagram details: 5 1/2" sx plug @ 450', 10" sx plug @ 450', 30" sx mud, 5 1/2" sx casing @ 1280'. Red Bed Base: 390 e ft. Surface Cement: 50 sx. Surface Cement Top: 315 ft. Surface Casing Size: 8 5/8 in. Surface Casing TD: 520 ft. Salt Top: 600 e ft. < Cut & Pulled 5 1/2" casing @ 1280' Salt Base: 1520 e ft. Production Casing Cement Volume: 100 sx. Cement Top: 2301 ft. Casing Size: 5 1/2 in. Casing TD: 2910 ft. Base of Open Hole: 3090 ft. Type Well @ Abandonment: Producer Date Well Abandoned: Feb-49 Operator that Plugged Well: Brewer Dring. Date Well Drilled: Nov-43 Original Well Type: Producer
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Well No.: NSLU # 13
API No.: 30-015-04858
Location : 330' FSL & 510' FWL
Sec-Twn-Rng : Sec. 20, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



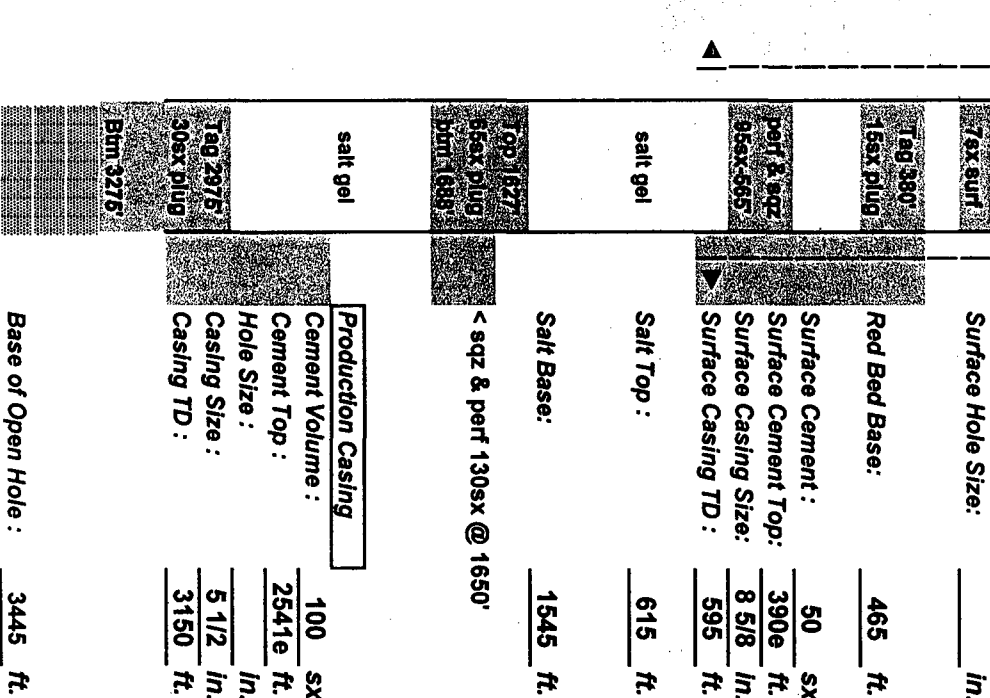
Type Well @ Abandonment : Injector
Date Well Abandoned : 4 / 1990
Operator that Plugged Well : Yates Petr. Corp.
Date Well Drilled : 1 / 1945
Original Well Type : Producer
Cum Water Injected in this Well : 414000 BBL

Well No.: NSLU # 21
API No.: 30-015-04934
Location : 660' FNL & 660' FEL
Sec-Twn-Rng : Sec. 30, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



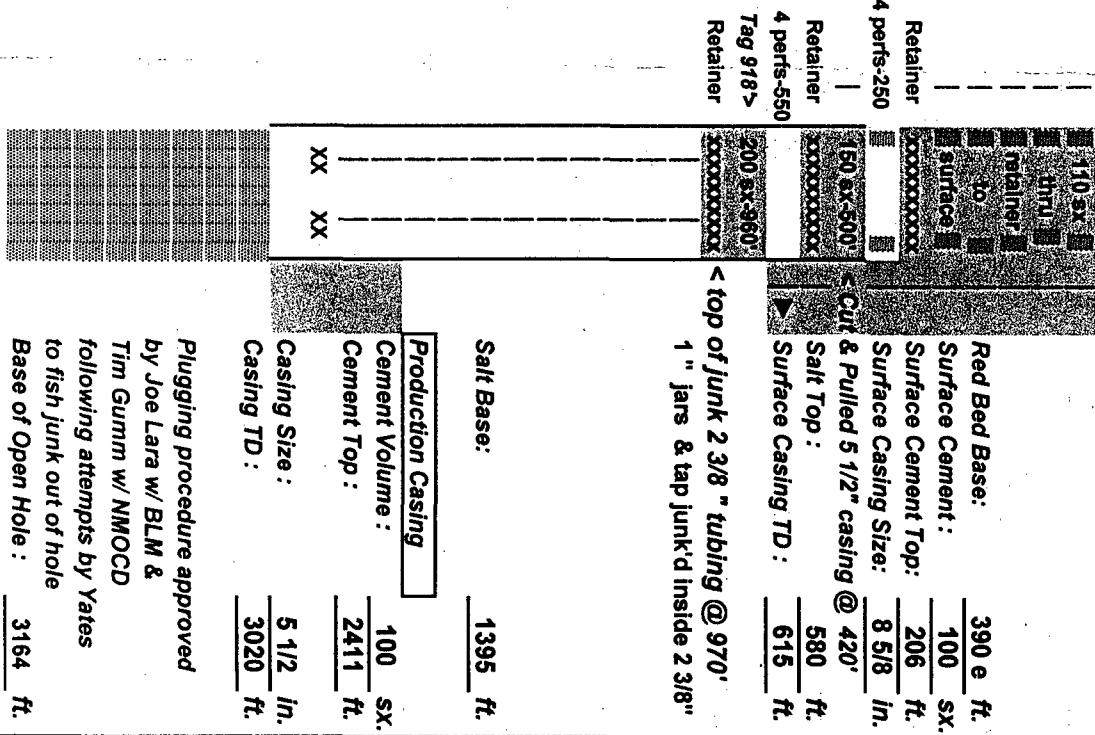
Type Well @ Abandonment : Injector
Date Well Abandoned : 12 / 1991
Operator that Plugged Well : Yates Petr. Corp.
Date Well Drilled : 3 / 1944
Original Well Type : Producer
Cum Water Injected in this Well : 1518000 BBL

C-108 Application Well
Well No.: NSLU # 23
API No.: 30-015-04906
Location : 810' FNL & 1980' FWL
Sec-Twn-Rng : Sec. 29, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



Type Well @ Abandonment : Injector
Date Well Abandoned : 2 / 1987
Operator that Plugged Well : Yates Petr Corp.
Date Well Drilled : 9 / 1944
Original Well Type : Producer
Cum Water Injected in this Well : 821000 BBL

Well No.: NSLU # 37
API No.: 30-015-04935
Location : 1980' FNL & 1980' FEL
Sec-Twn-Rng : Sec. 30, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



Type Well @ Abandonment : Injector
Date Well Abandoned : Oct-94
Operator that Plugged Well : Yates Petr.
Date Well Drilled : Apr-44
Original Well Type : Producer
Cum Water Injected in this Well : 1237000 BBL

Well No.:	NSLU # 40
API No.:	30-015-04911
Location:	1980' FNL & 660' FWL
Sec-Twn-Rng:	Sec. 29, T16S, R31E
Field:	Square Lake
Interval:	Grayburg - San Andres

cmt return outsd 8 5/8 9057 part A & sqz @ 150'	Red Bed Base: Surface Cement: Surface Cement Top: Surface Casing Size: Salt Top: Surface Casing TD:	375 ft. 50 sx. 360e ft. 8 1/4" in. 555 ft. 570 ft.
tag 620 25ex plug @ 715		
tag 1450 36ex plug cmt 1761-92 junk hole cmt 1761-92 xxxxxxxx	<P&A bond log cmt 650' to surf Salt Base: < Sqz 124 sx thru retainer approved P & A 10/90 by OCD due to junk <9/85 sqz 1857-77" w/200 sx cmt Production Casing	1490 ft. 5 1/2" in. 3120 ft. 3179 ft.
Retnr 1650'		
RBP>1996'		

Bottom Perforation:	3380 ft.
Liner Cement:	50 sx.
Liner Top:	3034 ft.
Liner Size:	4 in.
Liner TD:	3404 ft.

Type Well @ Abandonment:	Injector
Date Well Abandoned:	10 / 1990
Operator that Plugged Well:	Yates Petr. Corp.
Date Well Drilled:	1/1944
Original Well Type:	Producer
Cum Water Injected in this Well:	1623780 BBL thru 5 / 1975

Well No.: API No.:	NSLU # 44 30-015-04896
Location :	2080' FNL & 560' FWL
Sec-Twn-Ring :	Sec. 28, T16S, R31E
Field :	Square Lake
Interval:	Grayburg - San Andres

15 sx surf	< Cut & Pulled 8 5/8" @ 230' during 1st P & A in 12 / 1951
Tag 337'	Red Bed Base: ft.
61982 pda	Orig Drill & Complete Data
perf & eqz	Surface Cement : unknow sx.
415x @ 235	Surface Cement Top: 230e ft.
inside 3 1/2	Surface Casing Size: 8 5/8 in.
	Surface Casing TD : 700e ft.
	Salt Top : 735 ft.
1550'	Salt Base: 1650 ft.
61982 pda	< '82 PA perf salt could not pump
1750'	< Cut & Pulled 5 1/2" @ 2360' during 1st P & A in 12 / 1951
	Production Casing orig ? sx.
	Cement Volume : 2360e ft.
	Cement Top :(orig)
	Casing Size :(orig) 5 1/2 in.
	Casing TD :(orig) 2500e ft.
Tag 2680'	< 3 / 1963 re-entered well drilled deeper & ran 3 1/2" tubing from surface to new TD - 3640'
50sx plug	cmt 325 sx + 25 sx at surface.
61982 pda	Original TD Reached : 3 3475e ft.
inside 3 1/2	Date ?
	Re-enter TD Reached: 3640 ft.
	3/1963
	Type Well @ Abandonment : Injector
	Date Well Abandoned : 12/1951 & 6/1982
	Operator that Plugged Well : Newmont-1982
	Date Well Drilled : Orig?re-enter3/63
	Original Well Type : Producer
	Cum Water Injected in this Well : 7800 BBL

Well No.: API No.:	NSLU # 61 30-015-04903
Location :	1980' FSL & 660' FEL
Sec-Twn-Ring :	Sec. 29, T16S, R31E
Field :	Square Lake
Interval:	Grayburg - San Andres

16sx surf	Tag 241'	Red Bed Base: 505 ft.
	perf & eqz	Surface Cement : 50 sx.
	240e-515'	Surface Cement Top: 427 ft.
	salt gel	Surface Casing Size: 8 5/8 in.
	50e-1535'	Salt Top : 675 ft.
		Surface Casing TD : 682 ft.
		Salt Base: 1635 ft.
	Production Casing	100 sx.
		Cement Volume : 2656e ft.
		Cement Top :
		Casing Size : 5 1/2 in.
		Casing TD : 3265 ft.
	Tag 2784'	
	50 ex plug	
	Btm 3384'	
	Base of Open Hole : 3433 ft.	

Type Well @ Abandonment : Date Well Abandoned : Operator that Plugged Well :	Injector 9 / 1982 Newmont Oil
Date Well Drilled : Original Well Type :	8 / 1944 Producer
Cum Water Injected in this Well : 777000 BBL	

Well No.: API No.:	NSLU # 62 30-015-04892
Location :	1980' FSL & 660' FWL
Sec-Twn-Ring :	Sec. 28, T16S, R31E
Field :	Square Lake
Interval:	Grayburg - San Andres

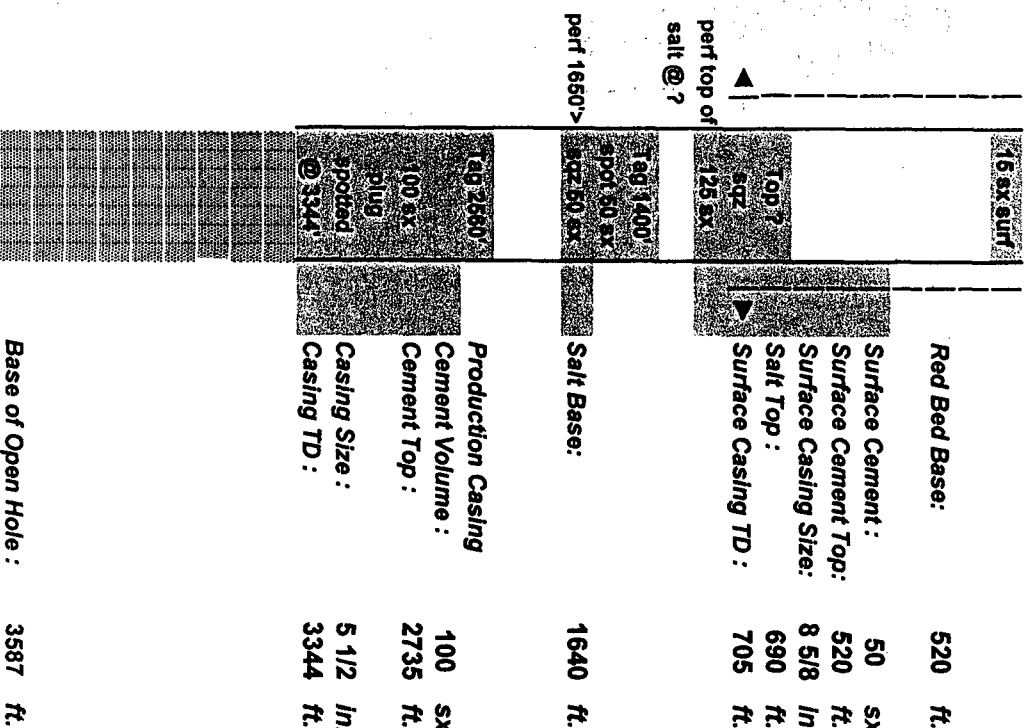
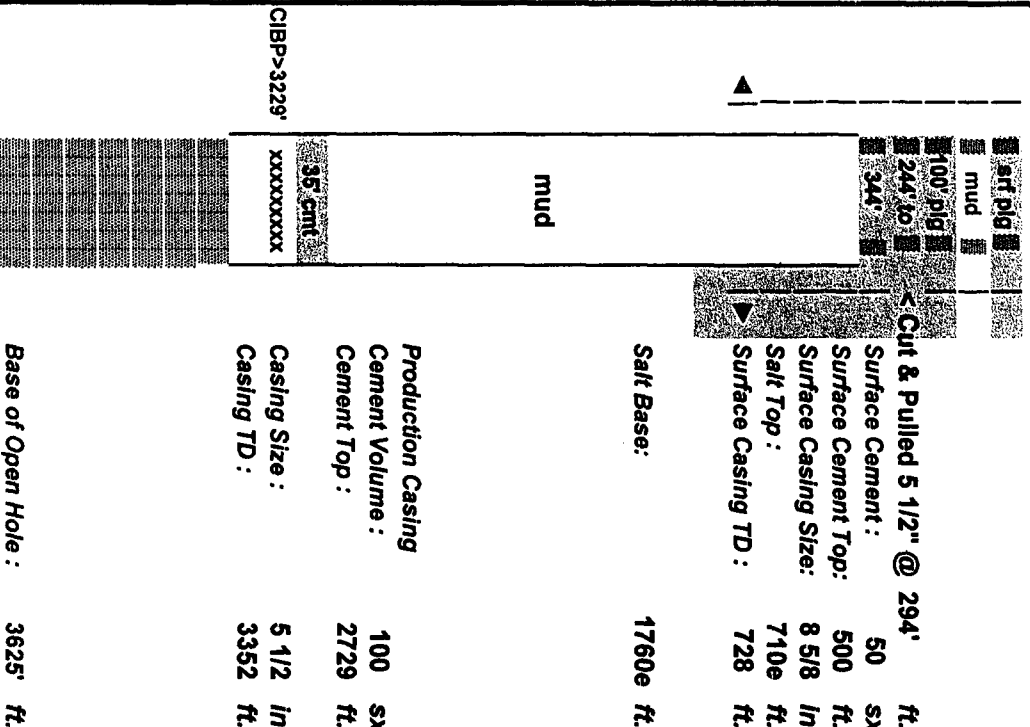
10sx surf	Tag 850'	Red Bed Base: 530 ft.
	20e-705'	Surface Cement : 50 sx.
	Tag 705'	Surface Cement Top: 530e ft.
	50e-765'	Surface Casing Size: 8 5/8 in.
		Salt Top : 700 ft.
		Surface Casing TD : 715 ft.
		Salt Base: 1750 ft.
	Production Casing	100 sx.
		Cement Volume : 2728e ft.
		Cement Top :
		Casing Size : 5 1/2 in.
		Casing TD : 3337 ft.
	Tag 812'	
	100ex total	
	2 plugs @ 1150'	
	< Cut & Pulled 5 1/2" @ 1100'	
	Salt Base: 1750 ft.	
	Production Casing	100 sx.
		Cement Volume : 2728e ft.
		Cement Top :
		Casing Size : 5 1/2 in.
		Casing TD : 3337 ft.
	35' cmt	
	xxxxxxx	
	< may be typo on P & A report 3305'?	
	Base of Open Hole : 3598 ft.	
	CIBP>3405'	

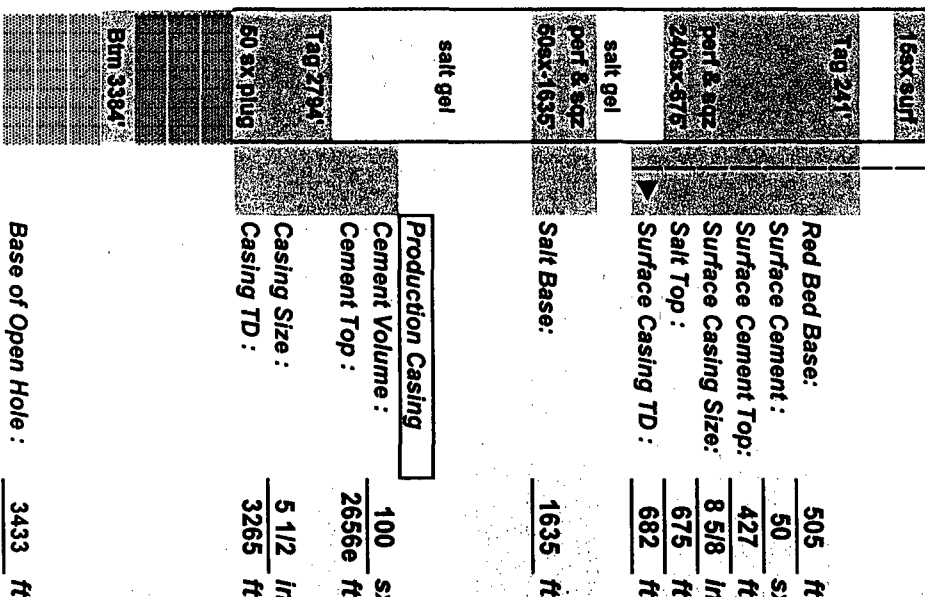
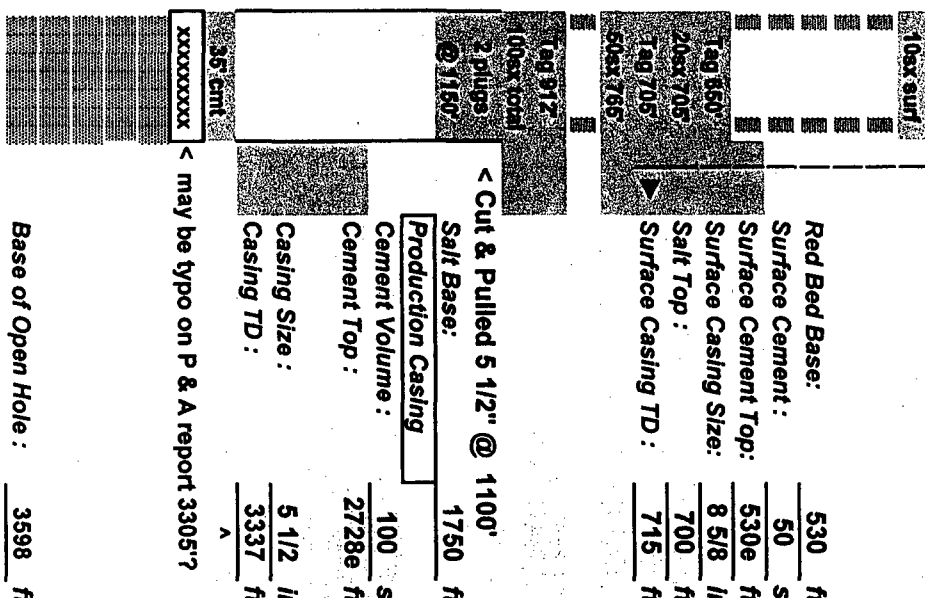
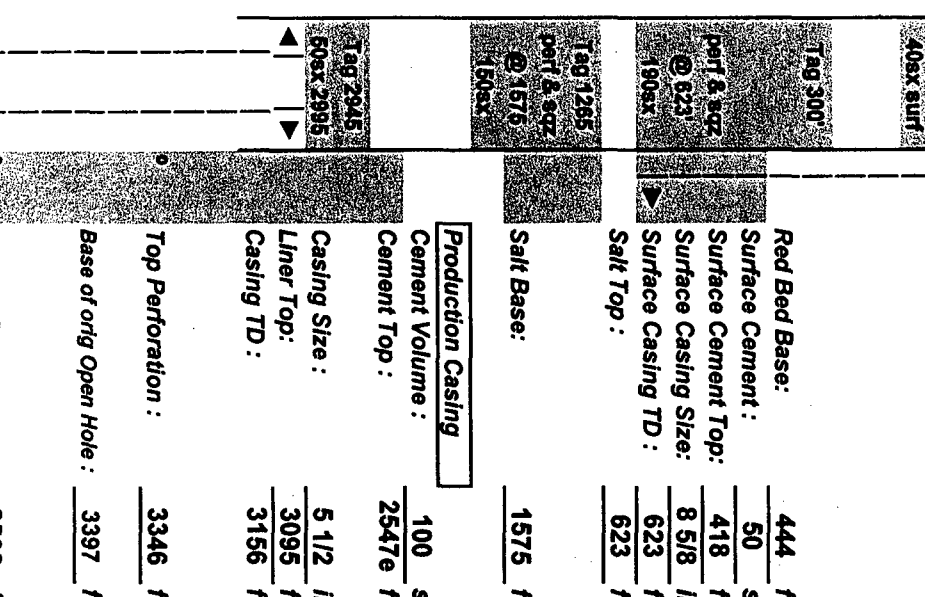
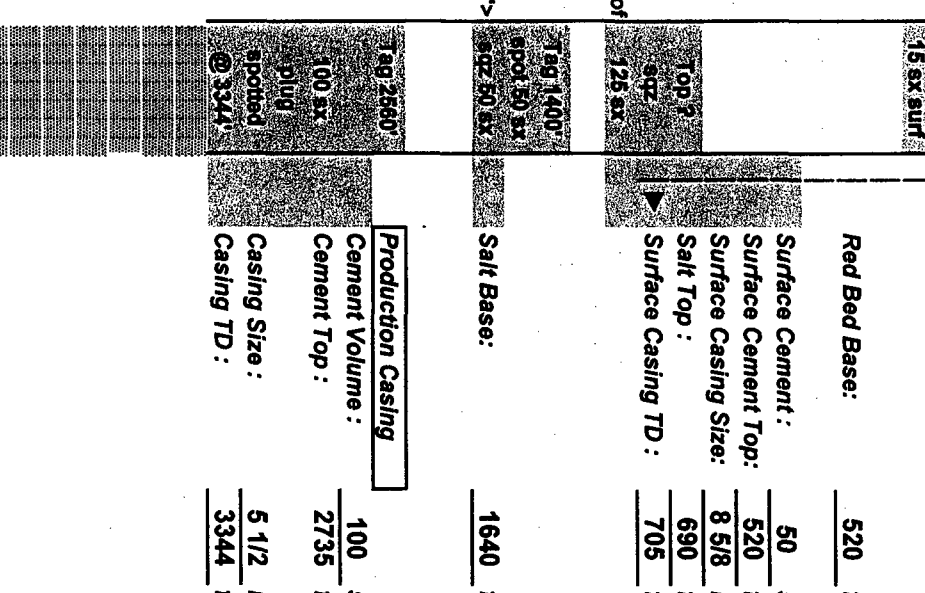
Type Well @ Abandonment : Date Well Abandoned : Operator that Plugged Well :	Producer 1 / 1997 Xeric Oil & Gas
Date Well Drilled : Original Well Type :	11/1/1944 Producer

Well No.: API No.:	NSLU # 63 30-015-04894
Location :	1980' FSL & 1980' FWL
Sec-Twn-Ring :	Sec. 28, T16S, R31E
Field :	Square Lake
Interval:	Grayburg - San Andres

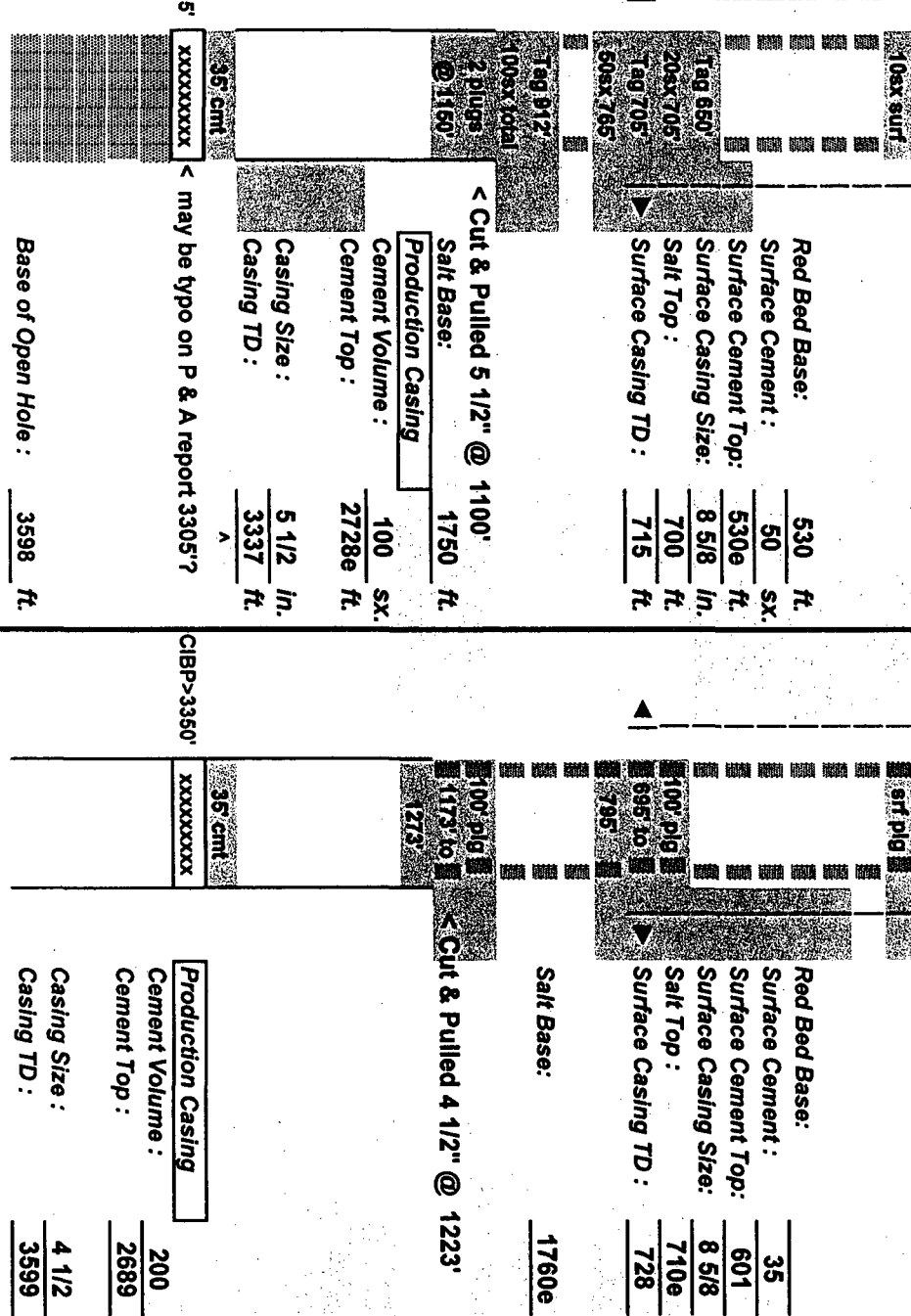
surf plug	100' plug	Red Bed Base: ft.
	1173-1275'	Surface Cement : 35 sx.
	1275'	Surface Cement Top: 601 ft.
		Surface Casing Size: 8 5/8 in.
		Salt Top : 710e ft.
		Surface Casing TD : 728 ft.
		Salt Base: 1760e ft.
		< Cut & Pulled 4 1/2" @ 1223'
		Production Casing
		Cement Volume : 200 sx
		Cement Top : 2689 ft.
		Casing Size : 4 1/2 in.
		Casing TD : 3599 ft.
	35' cmt	
	xxxxxxx	
	CIBP>3350'	

Type Well @ Abandonment : Date Well Abandoned : Operator that Plugged Well :	Injector 9 / 1974 Kennedy Oil
Date Well Drilled : Original Well Type :	7 / 1944 Producer

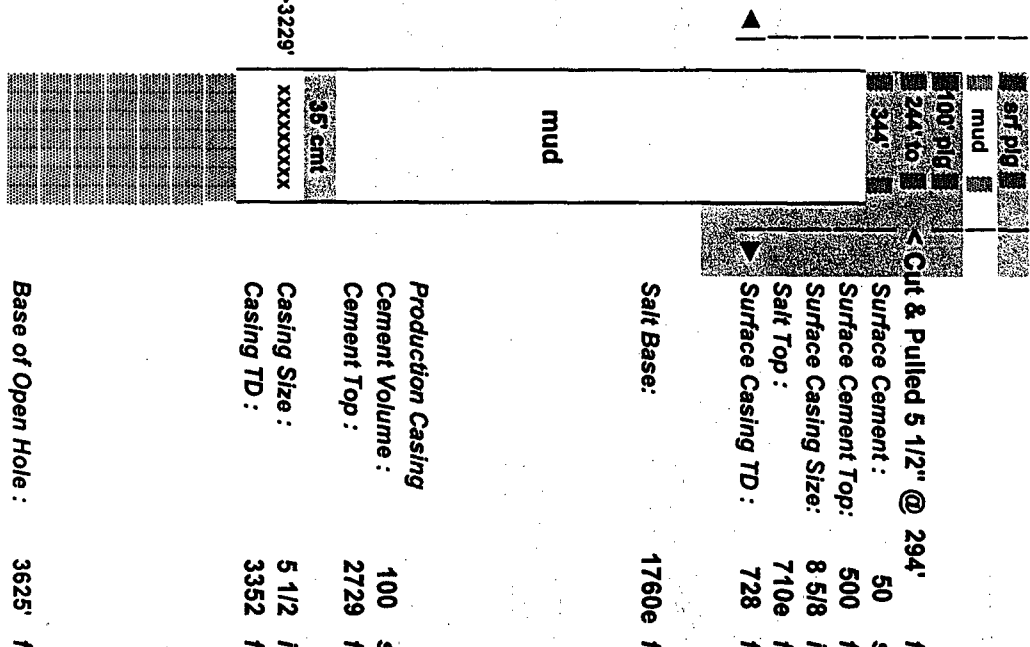
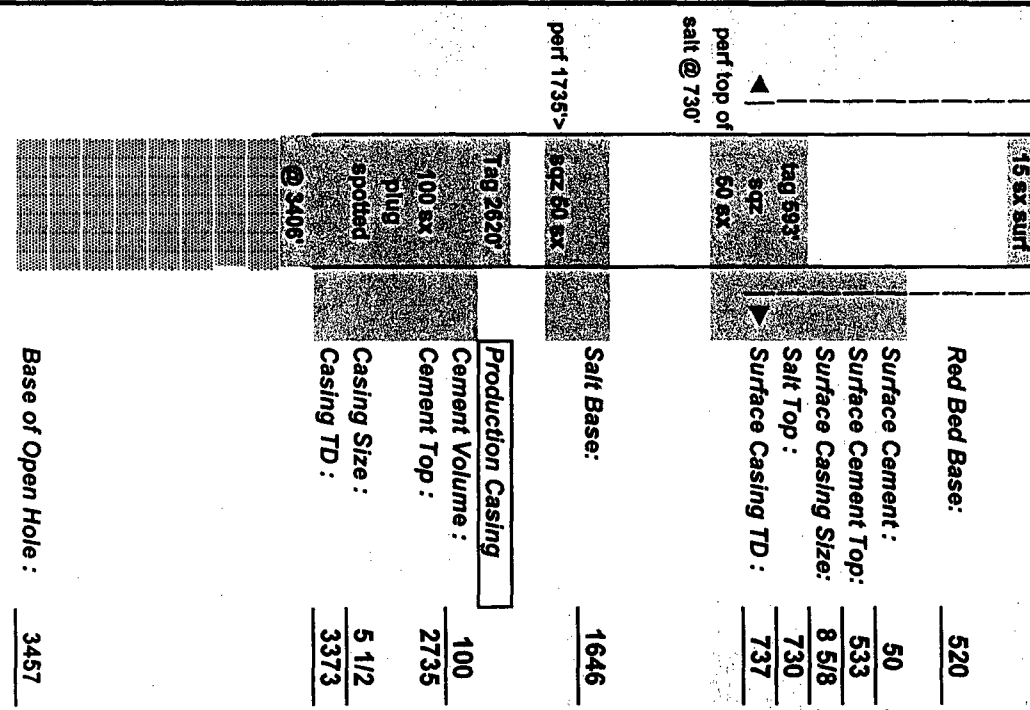
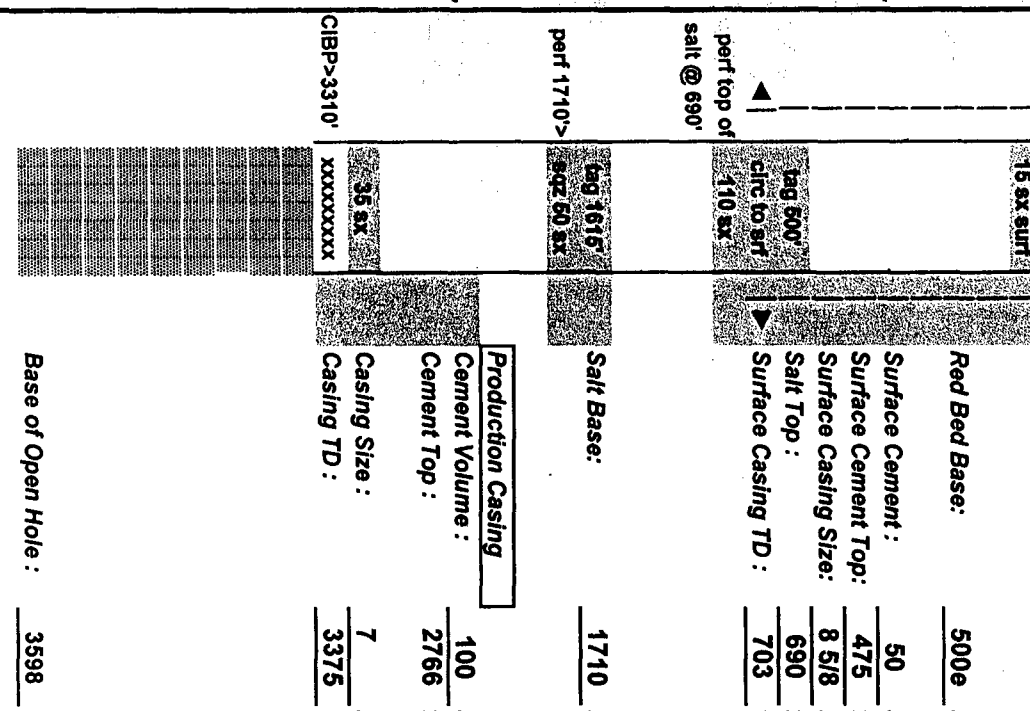
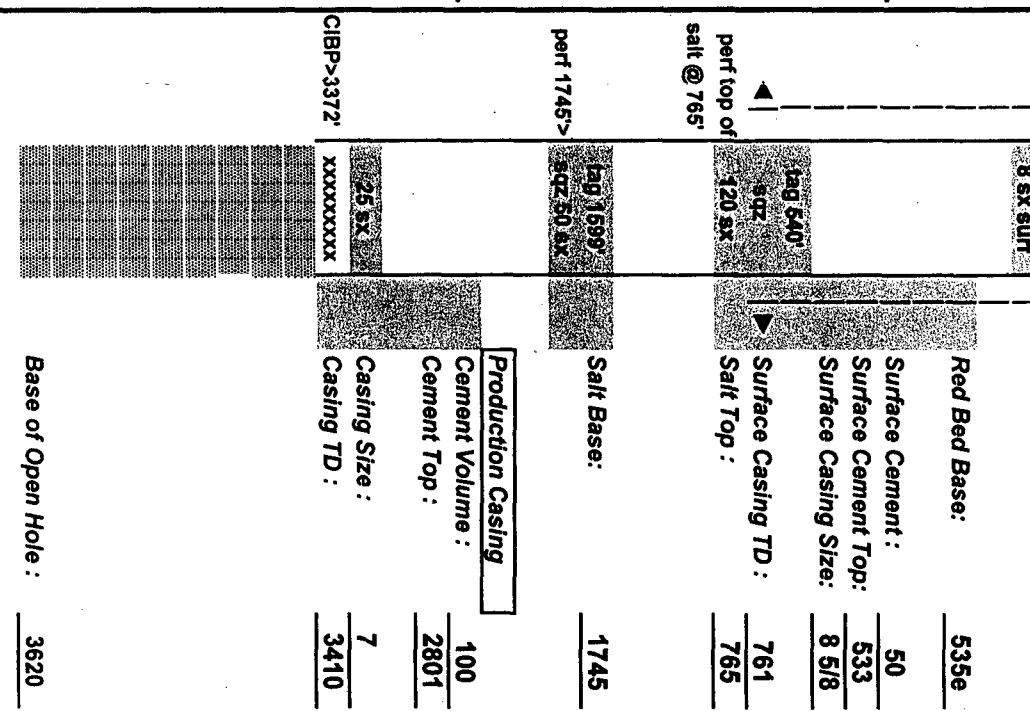
Well No.: NSLU # 84 API No.: 30-015-04891		Well No.: NSLU # 85 API No.: 30-015-04895	
Location : 660' FSL & 660' FWL Sec-Twn-Rng : Sec. 28, T16S, R31E		Location : 660' FSL & 1980' FWL Sec-Twn-Rng : Sec. 28, T16S, R31E	
Field : Square Lake Interval: Grayburg - San Andres		Field : Square Lake Interval: Grayburg - San Andres	
 16 ex surf Red Bed Base: 520 ft. Surface Cement : 50 sx. Surface Cement Top: 520 ft. Surface Casing Size: 8 5/8 in. Salt Top : 690 ft. Surface Casing TD : 705 ft. Top ? sq. 125 sx perf top of salt @ ? 1 sq 1400 spot 50 sx sq 250 sx perf 1650 > eg 2560 100 sx plug spotted @ 3344'		 100' pig 244' to 344' mud sq Cut & Pulled 5 1/2" @ 294' ft. Surface Cement : 50 sx. Surface Cement Top: 500 ft. Surface Casing Size: 8 5/8 in. Salt Top : 710e ft. Surface Casing TD : 728 ft. Salt Base: 1760e ft. mud Production Casing Cement Volume : 100 sx. Cement Top : 2729 ft. Casing Size : 5 1/2 in. Casing TD : 3352 ft. 35' cnt xxxxxxx CIBP>3229'	
Base of Open Hole : 3587 ft.		Base of Open Hole : 3625' ft.	
Type Well @ Abandonment : Injector Date Well Abandoned : 7 / 1982 Operator that Plugged Well : Yates Petr. Corp.		Type Well @ Abandonment : Producer Date Well Abandoned : 8 / 1974 Operator that Plugged Well : Kennedy Oil	
Date Well Drilled : 10 / 1944 Original Well Type : Producer		Date Well Drilled : 7 / 1944 Original Well Type : Producer	
Cum Water Injected in this Well : 1521000 BBL			

C-108 Application Well		Well No.: NSLU # 61 API No.: 30-015-04903		Location : 1980' FSL & 660' FEL Sec-Twn-Rng : Sec. 29, T16S, R31E		Field : Square Lake Interval: Grayburg - San Andres	
		Red Bed Base: 505 ft. Surface Cement : 50 sx. Surface Cement Top: 427 ft. Surface Casing Size: 8 5/8 in. Surface Casing TD : 675 ft. Salt Top : 682 ft. Surface Casing TD : 682 ft.		Production Casing Cement Volume : 100 sx. Cement Top : 2656 ft. Casing Size : 5 1/2 in. Casing TD : 3265 ft.		Base of Open Hole : 3433 ft.	
Type Well @ Abandonment : Date Well Abandoned : Operator that Plugged Well :		Injector 9 / 1982 Newmont Oil		Date Well Drilled : Original Well Type :		8 / 1944 Producer	
Cum Water Injected in this Well :		777000 BBL					
C-108 Application Well		Well No.: NSLU # 62 API No.: 30-015-04892		Location : 1980' FSL & 660' FWL Sec-Twn-Rng : Sec. 28, T16S, R31E		Field : Square Lake Interval: Grayburg - San Andres	
		Red Bed Base: 530 ft. Surface Cement : 50 sx. Surface Cement Top: 530 ft. Surface Casing Size: 8 5/8 in. Surface Casing TD : 700 ft. Salt Top : 715 ft. Surface Casing TD : 715 ft.		Production Casing Cement Volume : 100 sx. Cement Top : 2728 ft. Casing Size : 5 1/2 in. Casing TD : 3337 ft.		Base of Open Hole : 3598 ft.	
Type Well @ Abandonment : Date Well Abandoned : Operator that Plugged Well :		Producer 1 / 1997 Xeric Oil & Gas		Date Well Drilled : Original Well Type :		11/1/1944 Producer	
Cum Water Injected in this Well :		1405000 BBL					
C-108 Application Well		Well No.: NSLU # 82 API No.: 30-015-04910		Location : 660' FSL & 1980' FEL Sec-Twn-Rng : Sec. 29, T16S, R31E		Field : Square Lake Interval: Grayburg - San Andres	
		Red Bed Base: 444 ft. Surface Cement : 50 sx. Surface Cement Top: 418 ft. Surface Casing Size: 8 5/8 in. Surface Casing TD : 623 ft. Salt Top : 623 ft. Surface Casing TD : 623 ft.		Production Casing Cement Volume : 100 sx. Cement Top : 2547 ft. Casing Size : 5 1/2 in. Casing TD : 3156 ft.		Base of orig Open Hole : 3397 ft.	
Type Well @ Abandonment : Date Well Abandoned : Operator that Plugged Well :		Injector 8 / 1982 Newmont Oil Co.		Date Well Drilled : Original Well Type :		9 / 1943 Producer	
Cum Water Injected in this Well :		1405000 BBL					
C-108 Application Well		Well No.: NSLU # 84 API No.: 30-015-04891		Location : 660' FSL & 660' FWL Sec-Twn-Rng : Sec. 28, T16S, R31E		Field : Square Lake Interval: Grayburg - San Andres	
		Red Bed Base: 520 ft. Surface Cement : 50 sx. Surface Cement Top: 520 ft. Surface Casing Size: 8 5/8 in. Surface Casing TD : 690 ft. Salt Top : 705 ft. Surface Casing TD : 705 ft.		Production Casing Cement Volume : 100 sx. Cement Top : 2735 ft. Casing Size : 5 1/2 in. Casing TD : 3344 ft.		Base of Open Hole : 3587 ft.	
Type Well @ Abandonment : Date Well Abandoned : Operator that Plugged Well :		Injector 7 / 1982 Yates Petr. Corp.		Date Well Drilled : Original Well Type :		10 / 1944 Producer	
Cum Water Injected in this Well :		1521000 BBL					

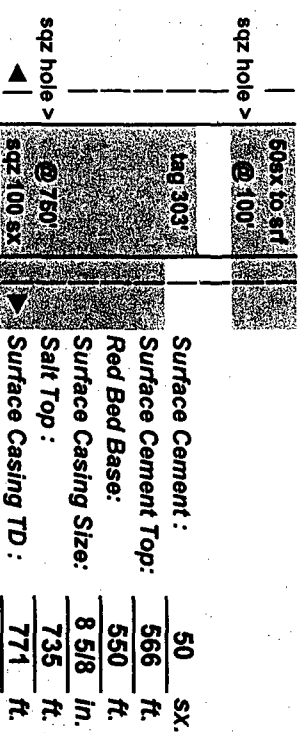
Well No.: NSLU # 85 API No.: 30-015-04895 Location : 660' FSL & 1980' FWL Sec-Twn-Rng : Sec. 28, T16S, R31E Field : Square Lake Interval: Grayburg - San Andres 100' plug mud 244' to 244' < Cut & Pulled 5 1/2" @ 294' Surface Cement : 50 ft. Surface Cement Top: 500 ft. Surface Casing Size: 8 5/8 in. Salt Top : 710e ft. Surface Casing TD : 728 ft. Salt Base: 1760e ft. mud 35' cmt xxxxxxx CIBP>3229' Production Casing Cement Volume : 100 sx. Cement Top : 2729 ft. Casing Size : 5 1/2 in. Casing TD : 3352 ft. Base of Open Hole : 3625' ft. Type Well @ Abandonment : Producer Date Well Abandoned : 8 / 1974 Operator that Plugged Well : Kennedy Oil Date Well Drilled : 7 / 1944 Original Well Type : Producer	Well No.: NSLU # 107 API No.: 30-015-04960 Location : 660' FNL & 1980' FEL Sec-Twn-Rng : Sec. 32, T16S, R31E Field : Square Lake Interval: Grayburg - San Andres 100' plug mud 970' to 1070' < Cut & Pulled 5 1/2" @ 1020' Red Bed Base: 450e ft. Surface Cement : 50 sx. Surface Cement Top: 405 ft. Surface Casing Size: 8 5/8 in. Surface Casing TD : 633 ft. Salt Top : 650 ft. 100' plug mud 600' to 700' Surface Casing TD : 633 ft. Salt Top : 650 ft. Salt Base: 1600e ft. mud 35' cmt xxxxxxx CIBP>3136' Production Casing Cement Volume : 100 sx. Cement Top : 2596 ft. Casing Size : 5 1/2 in. Casing TD : 3205 ft. Base of Open Hole : 3405' ft. Type Well @ Abandonment : Producer Date Well Abandoned : 9/1/1974 Operator that Plugged Well : Kennedy Oil Date Well Drilled : 4/1/1944 Original Well Type : Producer	Well No.: NSLU # 108 API No.: 30-015-04961 Location : 660' FNL & 660' FEL Sec-Twn-Rng : Sec. 32, T16S, R31E Field : Square Lake Interval: Grayburg - San Andres 100' plug mud 1020' to 1120' < Cut & Pulled 5 1/2" @ 1070' Red Bed Base: 465e ft. Surface Cement : 50 sx. Surface Cement Top: 441 ft. Surface Casing Size: 8 5/8 in. Surface Casing TD : 669 ft. Salt Top : 670 e ft. 100' plug mud 600' to 700' Surface Casing TD : 669 ft. Salt Top : 670 e ft. Salt Base: 1600e ft. mud 35' cmt xxxxxxx CIBP>3150' Production Casing Cement Volume : 100 sx. Cement Top : 2691 ft. Casing Size : 5 1/2 in. Casing TD : 3300 ft. Base of Open Hole : 3485' ft. Type Well @ Abandonment : Injector Date Well Abandoned : 9/1/1974 Operator that Plugged Well : Kennedy Oil Date Well Drilled : 6/1/1944 Original Well Type : Producer Cum Water Injected in this Well : 279000 BBL	Well No.: NSLU # 131 API No.: 30-015-04962 Location : 1980' FNL & 660' FEL Sec-Twn-Rng : Sec. 32, T16S, R31E Field : Square Lake Interval: Grayburg - San Andres 100' plug mud 722' to 822' < Cut & Pulled 5 1/2" @ 772' Red Bed Base: 445e ft. Surface Cement : 50 sx. Surface Cement Top: 420 ft. Surface Casing Size: 8 5/8 in. Surface Casing TD : 648 ft. Salt Top : 650e ft. 100' plug mud 695' to 695' Surface Casing TD : 648 ft. Salt Top : 650e ft. Salt Base: 1580 ft. mud 35' cmt xxxxxxx CIBP>3150' Production Casing Cement Volume : 100 sx. Cement Top : 2686 ft. Casing Size : 5 1/2 in. Casing TD : 3295 ft. Base of Open Hole : 3569' ft. Type Well @ Abandonment : Producer Date Well Abandoned : 9/1/1974 Operator that Plugged Well : Kennedy Oil Date Well Drilled : 9/1/1944 Original Well Type : Producer
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Well No.:	NSLU # 62	Well No.:	NSLU # 63	Well No.:	NSLU # 64	Well No.:	NSLU # 84				
API No.:	30-015-04892	API No.:	30-015-04894	API No.:	30-015-04890	API No.:	30-015-04891				
Location :	1980' FSL & 660' FWL	Location :	1980' FSL & 1980' FWL	Location :	2310' FNL & 1650' FEL	Location :	660' FSL & 660' FWL				
Sec-Twn-Rng :	Sec. 28, T16S, R31E	Sec-Twn-Rng :	Sec. 28, T16S, R31E	Sec-Twn-Rng :	Sec. 28, T16S, R31E	Sec-Twn-Rng :	Sec. 28, T16S, R31E				
Field :	Square Lake	Field :	Square Lake	Field :	Square Lake	Field :	Square Lake				
Interval:	Grayburg - San Andres	Interval:	Grayburg - San Andres	Interval:	Grayburg - San Andres	Interval:	Grayburg - San Andres				
											
CIBP>3405'	xxxxxxx	< may be typo on P & A report 3305'?	CIBP>3360'	xxxxxxx		CIBP>3375'	xxxxxxx				
Type Well @ Abandonment :				Type Well @ Abandonment :				Type Well @ Abandonment :			
Date Well Abandoned :				Date Well Abandoned :				Date Well Abandoned :			
Operator that Plugged Well :				Operator that Plugged Well :				Operator that Plugged Well :			
Date Well Drilled :				Date Well Drilled :				Date Well Drilled :			
Original Well Type :				Original Well Type :				Original Well Type :			

Well No.: NSLU # 86 API No.: 30-015-04893 Location : 660' FSL & 1980' FEL Sec-Twn-Rng : Sec. 28, T16S, R31E Field : Square Lake Interval: Grayburg - San Andres		Well No.: NSLU # 110 API No.: 30-015-04976 Location : 660' FNL & 1980' FWL Sec-Twn-Rng : Sec. 33, T16S, R31E Field : Square Lake Interval: Grayburg - San Andres	
15 sx surf Red Bed Base: 520 ft. Surface Cement : 50 sx. Surface Cement Top: 533 ft. Surface Casing Size: 8 5/8 in. Salt Top : 730 ft. Surface Casing TD : 737 ft. perft top of salt @ 730' tag 693' sqz perft 1735'> sqz 50 sx 100 sx. Cement Volume : 2735 ft. Cement Top : 5 1/2 in. Casing Size : 3373 ft. Casing TD : 3406' plug spotted Tag 2620' Base of Open Hole : 3457 ft. Type Well @ Abandonment : Injector Date Well Abandoned : 7 / 1982 Operator that Plugged Well : Yates Petr. Corp. Date Well Drilled : 4 / 1945 Original Well Type : Producer Cum Water Injected in this Well :		15 sx surf Red Bed Base: 500e ft. Surface Cement : 50 sx. Surface Cement Top: 475 ft. Surface Casing Size: 8 5/8 in. Salt Top : 690 ft. Surface Casing TD : 703 ft. perft top of salt @ 690' tag 600' circ to str perft 1710'> sqz 50 sx 100 sx. Cement Volume : 2766 ft. Cement Top : 7 in. Casing Size : 3375 ft. Casing TD : CIBP>3310' 35 sx xxxxxxx Base of Open Hole : 3598 ft. Type Well @ Abandonment : Injector Date Well Abandoned : 7 / 1982 Operator that Plugged Well : Newmont Oil Date Well Drilled : 2 / 1944 Original Well Type : Producer Cum Water Injected in this Well : 903000 bbl	

Well No.: NSLU # 85 API No.: 30-015-04895 Location : 660' FSL & 1980' FWL Sec-Twn-Rng : Sec. 28, T16S, R31E Field : Square Lake Interval: Grayburg - San Andres  Surface Cement : 50 sx. Surface Cement Top: 500 ft. Surface Casing Size: 8 5/8 in. Salt Top : 710e ft. Surface Casing TD : 728 ft. Salt Base: 1760e ft. Production Casing Cement Volume : 100 sx. Cement Top : 2729 ft. Casing Size : 5 1/2 in. Casing TD : 3352 ft. CIBP>3229' xxxxxxx 35' cmt Base of Open Hole : 3625' ft. Type Well @ Abandonment : Producer Date Well Abandoned : 8 / 1974 Operator that Plugged Well : Kennedy Oil Date Well Drilled : 7 / 1944 Original Well Type : Producer	Well No.: NSLU # 86 API No.: 30-015-04893 Location : 660' FSL & 1980' FEL Sec-Twn-Rng : Sec. 28, T16S, R31E Field : Square Lake Interval: Grayburg - San Andres  Surface Cement : 50 sx. Surface Cement Top: 533 ft. Surface Casing Size: 8 5/8 in. Salt Top : 730 ft. Surface Casing TD : 737 ft. Salt Base: 1646 ft. Production Casing Cement Volume : 100 sx. Cement Top : 2735 ft. Casing Size : 5 1/2 in. Casing TD : 3373 ft. Tag 2620' 100' ex plugged 3406' Base of Open Hole : 3457 ft. Type Well @ Abandonment : Injector Date Well Abandoned : 7 / 1982 Operator that Plugged Well : Yates Petr. Corp. Date Well Drilled : 4 / 1945 Original Well Type : Producer	Well No.: NSLU # 110 API No.: 30-015-04976 Location : 660' FNL & 1980' FWL Sec-Twn-Rng : Sec. 33, T16S, R31E Field : Square Lake Interval: Grayburg - San Andres  Surface Cement : 50 sx. Surface Cement Top: 475 ft. Surface Casing Size: 8 5/8 in. Salt Top : 690 ft. Surface Casing TD : 703 ft. Salt Base: 1710 ft. Production Casing Cement Volume : 100 sx. Cement Top : 2766 ft. Casing Size : 7 in. Casing TD : 3375 ft. Tag 1616' 60' ex perf 1710'> Base of Open Hole : 3598 ft. Type Well @ Abandonment : Injector Date Well Abandoned : 7 / 1982 Operator that Plugged Well : Newmont Oil Date Well Drilled : 2 / 1944 Original Well Type : Producer	Well No.: NSLU # 112 API No.: 30-015-04972 Location : 660' FNL & 660' FEL Sec-Twn-Rng : Sec. 33, T16S, R31E Field : Square Lake Interval: Grayburg - San Andres  Surface Cement : 50 sx. Surface Cement Top: 533 ft. Surface Casing Size: 8 5/8 in. Salt Top : 761 ft. Surface Casing TD : 765 ft. Salt Base: 1745 ft. Production Casing Cement Volume : 100 sx. Cement Top : 2801 ft. Casing Size : 7 in. Casing TD : 3410 ft. Tag 1699' 50' ex perf 1745'> Base of Open Hole : 3620 ft. Type Well @ Abandonment : Producer Date Well Abandoned : 7 / 1982 Operator that Plugged Well : Yates Petr. Corp. Date Well Drilled : 2 / 1945 Original Well Type : Producer
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Well No.: NSLU # 134
API No.: 30-015-04980
Location : 1980' FNL & 1980' FEL
Sec-Twn-Rng : Sec. 33, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



sqz hole > sqz 26sx 1610-1700'

Salt Base: 1725 ft.

sqz hole > sqz 60 sx 2818 to 2450'

Production Casing : 100 sx.
Cement Volume : 2761 ft.
Cement Top : 5 1/2 in.
Prod Casing Size: 3270 ft.
Liner Top: 3370 ft.
Production Casing TD : 3370 ft.

16sx 2875 to 2840'

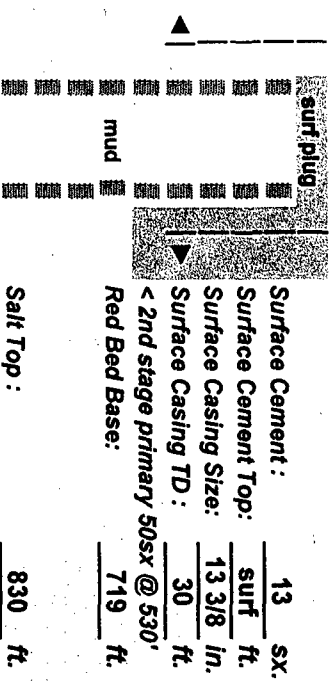
Top Perforation : 3405 ft.

Bottom Perforation : 3615 ft.

Liner Cement Volume: 100 sx.
Liner Size : 40 1/2 in.
Liner TD : 3615 ft.

Type Well @ Abandonment : Injector
Date Well Abandoned : 9 / 1994
Operator that Plugged Well : Yates Petr. Corp.
Date Well Drilled : 12 / 1944
Original Well Type : Producer
Cum Water Injected in this Well : 627000 BBL

Well No.: NSLU # 87
API No.: 30-015-10078
Location : 330' FSL & 626' FEL
Sec-Twn-Rng : Sec. 28, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



100' plug 1168 to 1268'

< Cut & Pulled 5 1/2" @ 1208'

Salt Base: 1646 ft.

mud

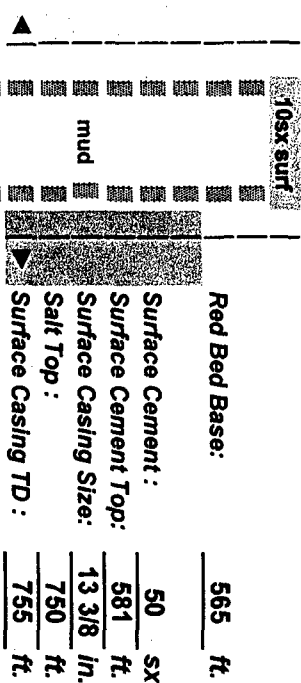
Production Casing : 150 sx.
Cement Volume : 2531 ft.
Cement Top : 5 1/2 in.
Casing Size : 3445 ft.
Casing TD : 3445 ft.

35 cmt xxxxxxxx

Base of Open Hole : 3708 ft.

Type Well @ Abandonment : Producer
Date Well Abandoned : 1 / 1997
Operator that Plugged Well : Xeric Oil & Gas
Date Well Drilled : 11/1/1944
Original Well Type : Producer

Well No.: NSLU # 137
API No.: 30-015-04971
Location : 1980' FNL & 660' FEL
Sec-Twn-Rng : Sec. 33, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



tag @ 974' 60 ex @ 1160'

< Cut & Pulled 5 1/2" @ 1160'

Salt Base: 1725 ft.

mud

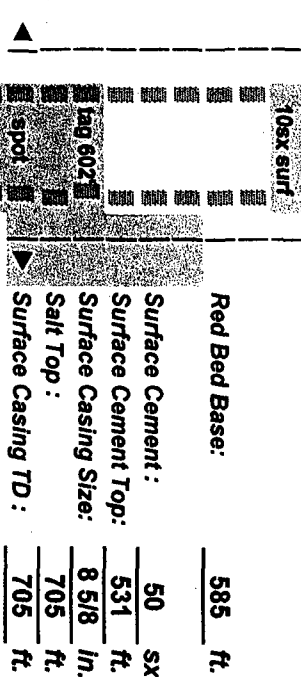
Production Casing : 100 sx.
Cement Volume : 2778 ft.
Cement Top : 5 1/2 in.
Casing Size : 3387 ft.
Casing TD : 3387 ft.

35 cmt xxxxxxxx

Base of Open Hole : 3521 ft.

Type Well @ Abandonment : Producer
Date Well Abandoned : 1 / 1997
Operator that Plugged Well : Xeric Oil & Gas
Date Well Drilled : Jan-45
Original Well Type : Producer

Well No.: NSLU # 151
API No.: 30-015-04973
Location : 2310' FSL & 1650' FEL
Sec-Twn-Rng : Sec. 33, T16S, R31E
Field : Square Lake
Interval: Grayburg - San Andres



< Cut & Pulled 7 " @ 805'

Salt Base: 1695 ft.

mud

Production Casing : 100 sx.
Cement Volume : 2701 ft.
Cement Top : 7 in.
Casing Size : 3375 ft.
Casing TD : 3375 ft.

tag 3076' spot 30sx @ 3220'

Base of Open Hole : 3635 ft.

Type Well @ Abandonment : Producer
Date Well Abandoned : 2 / 1997
Operator that Plugged Well : Xeric Oil & Gas
Date Well Drilled : Sep-49
Original Well Type : Producer

Well No.: NSLU # 161
API No.: 30-015-04951

Location : 660' FSL & 1864' FWL
Sec-Twn-Rng : Sec. 31, T16S, R31E

Field : Square Lake
Interval: Grayburg - San Andres

surf cmt: < Cut & Pulled 1 jnt of surface csg

Red Bed Base: 455 ft.

Surface Cement : 50 sx.

Surface Cement Top: 419 ft.

Surface Casing Size: 8 1/4 in.

Surface Casing TD : 591 ft.

Salt Top : 660 ft.

Salt Base: 1365 ft.

< Cut & Pulled 5 1/2" @ 1578'

Production Casing

Cement Volume : 100 sx.

Cement Top : 2338 ft.

Casing Size : 5 1/2 in.

Casing TD : 2947 ft.

cmt plug
2936-2976

mud

Base of Open Hole : 3574 ft.

Type Well @ Abandonment : Producer
Date Well Abandoned : 10 / 1948
Operator that Plugged Well : Boyd - Plemons
Date Well Drilled : 7 / 1943
Original Well Type : Producer