



MURPHY OPERATING CORPORATION
UNITED BANK PLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

April 21, 1988

RETURN RECEIPT REQUESTED

Mr. David R. Catanach, Petroleum Engineer
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87501

Re: Request for Approval to Convert Nine (9)
Wells to Injection / Expansion of Waterflood;
Todd Lower San Andres Unit ("the Todd Unit");
Roosevelt County, New Mexico.

Dear Mr. Catanach:

I have enclosed herewith for your review and approval Murphy Operating Corporation's application dated April 21, 1988 for the conversion to injection of nine (9) wells located in the Todd Lower San Andres Unit referenced above. The utilization of these wells (#29-15, #30-2, #30-6, #30-12, #31-11, #32-7, #35-1, #35-5, #36-1 marked in blue on the map attached hereto) should complete the creation of two sets of line-drive patterns along two preferential permeability trends. This configuration will also begin the expansion of the waterflood injection pattern to 80-acre five spots, where appropriate throughout the unit. The conversion to injection of wells(s) #35-1, #35-5, and #36-1 will allow Murphy Operating Corporation ("MOC") to initiate injection into the "western" portion of the Todd Unit, thereby allowing MOC the opportunity to evaluate this area for the possible existence of any preferential permeability trends prior to the selection of an ultimate injection pattern.

Enclosed with the application is a land plat upon which a 1/2 mile radius circle ("area of review") has been drawn around each injection well. A "typical" schematic diagram with the required downhole information is also included herewith. Certain statements necessary to the completion of application Form C-108 are given below:

REQUIRED INFORMATION: (Presented in same sequence and format as on Form C-108)

- V. Attached as Exhibit I (pages 1-9).
- VI. Attached as "Table of Drilling and Completion Information". Note that the plugged wells within the area(s) of review have schematic diagrams attached).
- VII.
 - 1) Included in tabular form (see VI above).
 - 2) This is a closed system.
 - 3) Included in tabular form (see VI above).
 - 4) Attached, see water analysis and letter dated September, 30 1987 from Permian Treating Chemicals.
 - 5) Not applicable.
- VIII. Geological data and description of "Injection Zone" and "Fresh Water Zones" in area.

Injection Zone: The proposed injection zone is known as the Slaughter P-2 porosity zone of the San Andres Formation. This zone is a tan to brown dolomite. Scattered anhydrite inclusion and bedding occurs along with infrequent zones of fine solution porosity. The top of the P-2 occurs at approximately 4220' below ground level and has an approximate thickness of 40 to 60 feet. This zone dips south and east and as a result the bottom of this zone can occur at depths approaching 4335' below ground level.

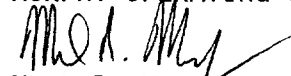
Fresh Water Zone: The only known fresh water source in this area is the Ogalala Formation. This is a fresh water sand that is infrequently present throughout the area. The maximum reported depth is 250 feet below ground level as evidenced in two water wells located approximately 2-1/2 miles east of the Todd Lower San Andres Unit eastern boundary line. If a local presence of the Ogalala exists, it will be protected by the 280 feet or more of 8 5/8" surface casing set in all of the wells in the Todd Lower San Andres Unit.

- IX. All past stimulation programs are listed in tabular form (see VI above).
- X. Wells logs have been previously submitted to the Division.
- XI. There are no producing fresh water wells within one mile of the proposed injection wells.
- XII. Although this requirement is for disposal wells, Murphy Operating Corporation has examined available geologic and engineering data and finds no evidence of open faults or any other hydrologic connection between the proposed disposal (injection) zone and any underground source of drinking water
- XIII. The Proof of Notice requirement has been complied with. Please see the attached Affidavit of Publication and a copy of the certified receipts from the landowner, Ted Williamson, Milnesand, New Mexico and the offsetting leasehold operators within 1/2 mile acknowledging receipt of this application.

Murphy Operating Corporation hereby respectfully requests administrative approval to the application contained herein. Should you have any questions or comments, please contact the undersigned at the telephone number listed above.

Sincerely,

MURPHY OPERATING CORPORATION



Mark B. Murphy
President and Chief Operating Officer

MBM/ms1

cc: Mr. Jerry Sexton, Supervisor
Oil Conservation Division
Post Office Box 1980
Hobbs, New Mexico 88240

Enclosures:

Exhibit I - Landplats outlining "Area of Review";
Exhibit II - Table of Drilling and Completion Information;
Letter - Permian Treating Chemicals dated 9/30/87;
Typical schematic diagram;
Plugging Diagrams for wells within Area of Review;
Affidavit of Publication;
Copy of Correspondence Dated April 21, 1988; and
Copies of certified receipt(s) - landowner and offsetting leasehold operators.

WELL NAME AND NUMBER	FOOTAGE LOCATION	LOCATION	MAXIMUM SURFACE INJECTION PRESSURE
TLSAU Well No. 15	660' FSL & 1980' FEL	O-29-T7S-R36E	<u>853</u>
TLSAU Well No. 2	660' FNL & 1980' FEL	B-30-T7S-R36E	<u>848</u>
TLSAU Well No. 6	1980' FNL & 1873' FWL	F-30-T7S-R36E	<u>846</u>
TLSAU Well No. 12	1980' FSL & 611' FEL	L-30-T7S-R36E	<u>846</u>
TLSAU Well No. 11	2120' FSL & 2023' FWL	K-31-T7S-R36E	<u>876</u>
TLSAU Well No. 7	1780' FNL & 1980' FEL	G-32-T7S-R36E	<u>863</u>
TLSAU Well No. 1	990' FNL & 990' FEL	A-35-T7S-R35E	<u>847</u>
TLSAU Well No. 5	1980' FNL & 660' FWL	E-35-T7S-R35E	<u>856</u>
TLSAU Well No. 1	990' FNL & 990' FEL	A-36-T7S-R35E	<u>847</u>

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☒ Secondary Recovery ☐ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no
- II. Operator: Murphy Operating Corporation
Address: Post Office Box 2648, Roswell, New Mexico 88202-2648
Contact party: Mark B. Murphy Phone: 505/623-7210
- III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? ☒ yes ☐ no
If yes, give the Division order number authorizing the project #14-08-0001-19582
NMOCD #R-6677
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- * VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- * X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
- * XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification
- I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- Name: Mark B. Murphy Title: President/Chief Operating Officer
Signature:  Date: April 21, 1988
- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. Murphy Operating Corporation correspondence dated October 16, 1987
and C-108 Application dated October 9, 1987.
- DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) the formation name and depth with expected maximum injection rates and pressures; and
- (4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2038, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

EXHIBIT 1
PAGE 1 of 9

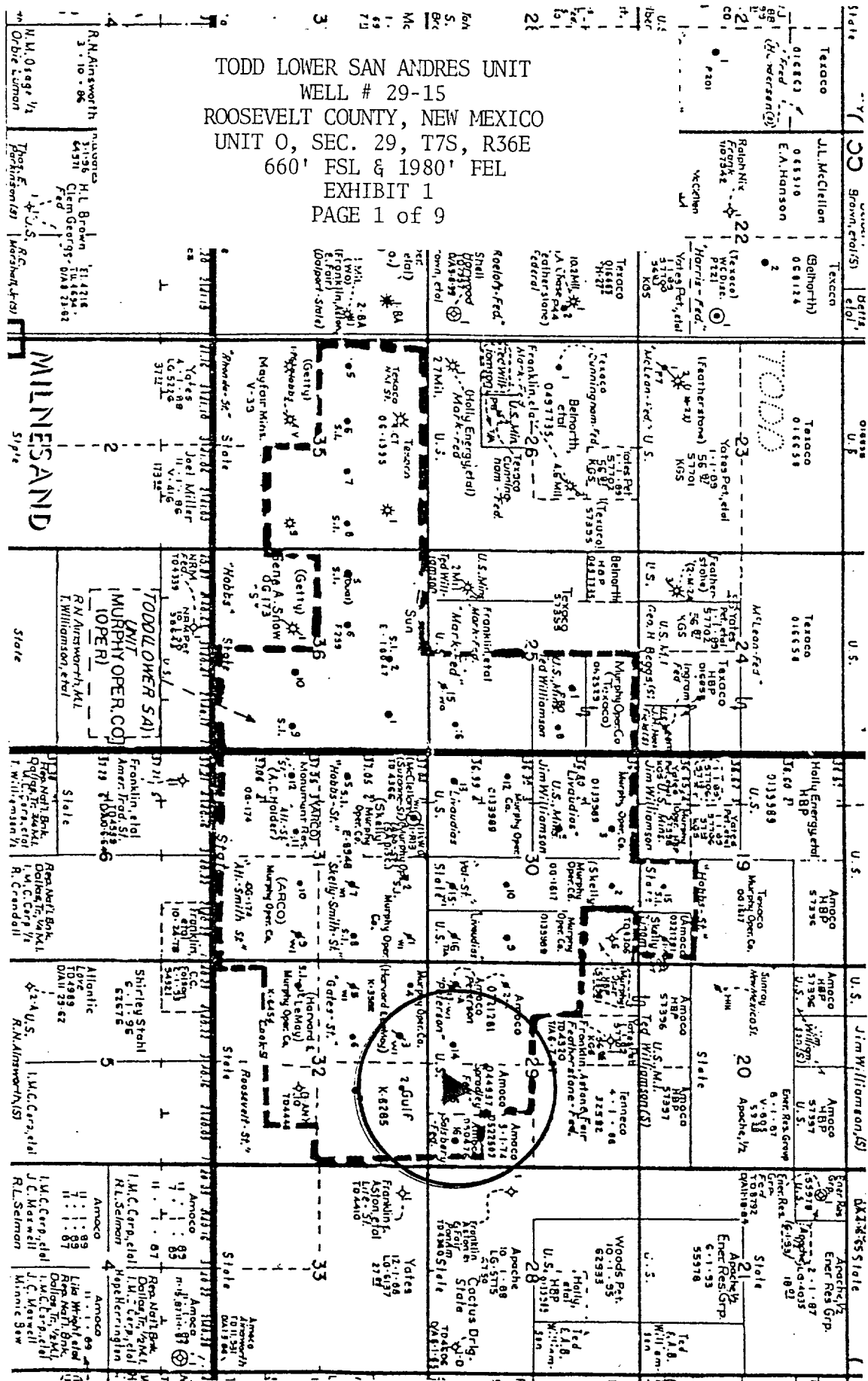


EXHIBIT 1
PAGE 2 of 9

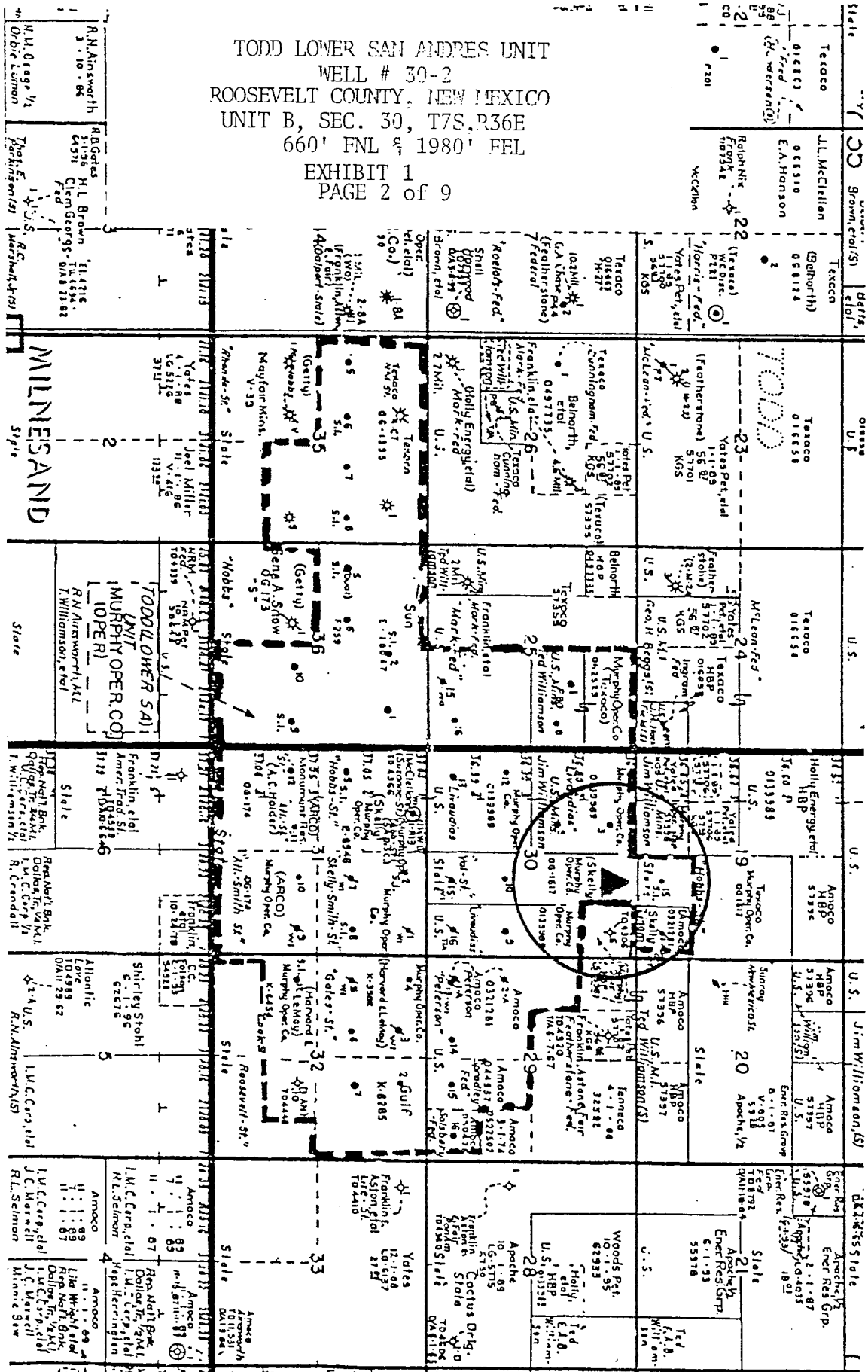
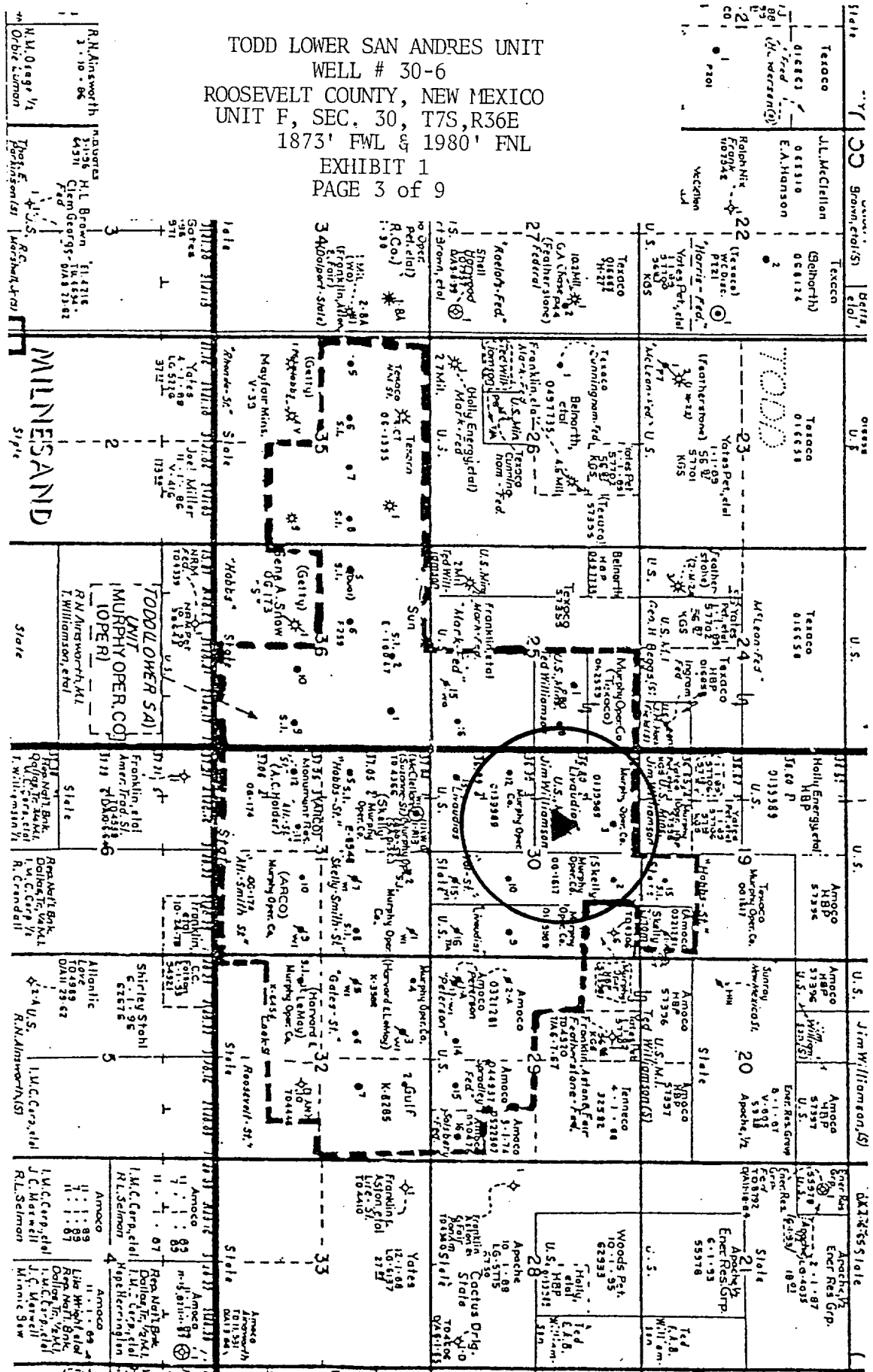


EXHIBIT 1
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TODD LOWER SAN ANDRES UNIT
WELL # 30-12
ROOSEVELT COUNTY, NEW MEXICO
UNIT L, SEC. 30, T7S, R36E
611.3' FWL @ 1980' FSL

EXHIBIT 1
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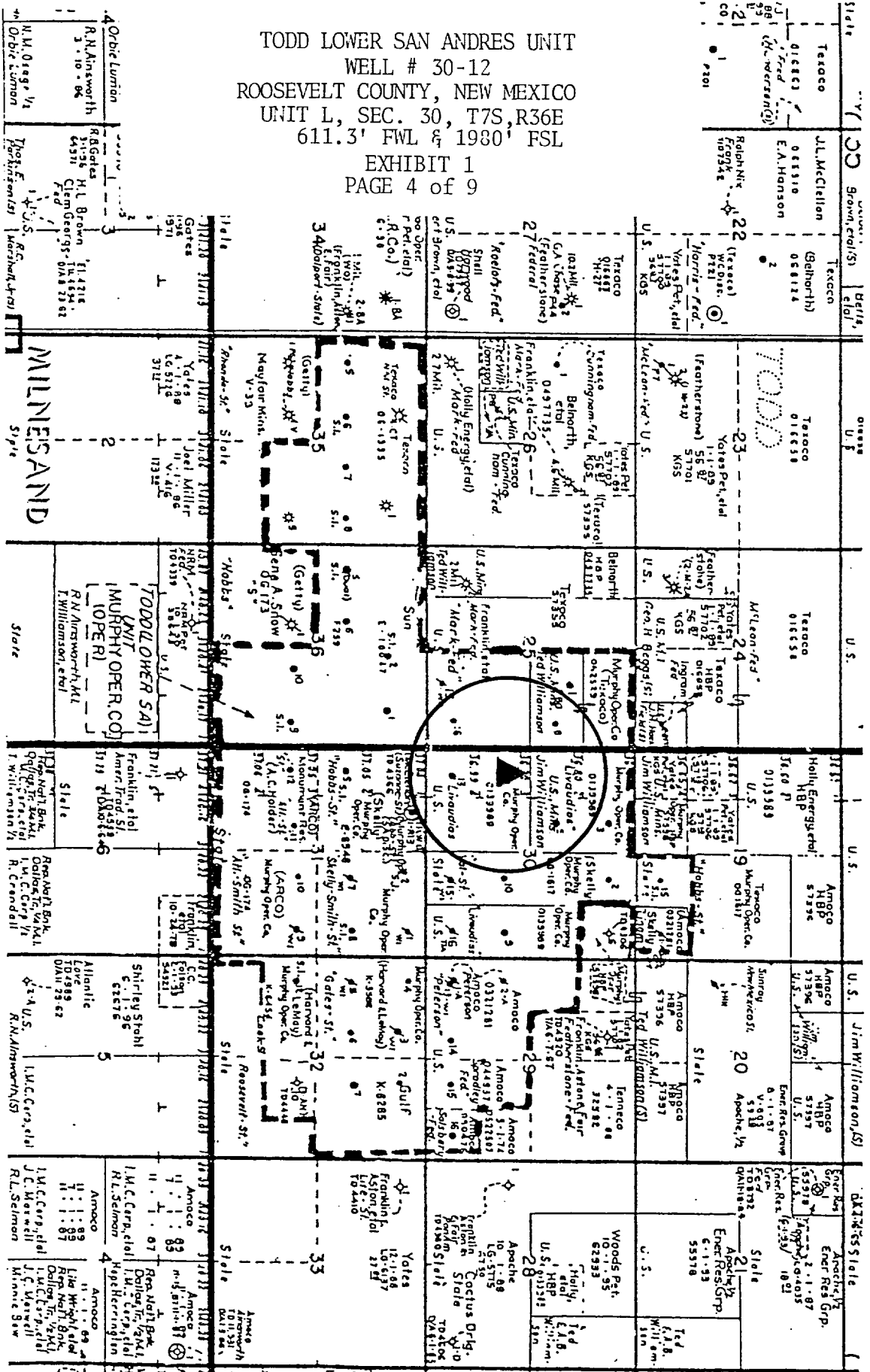
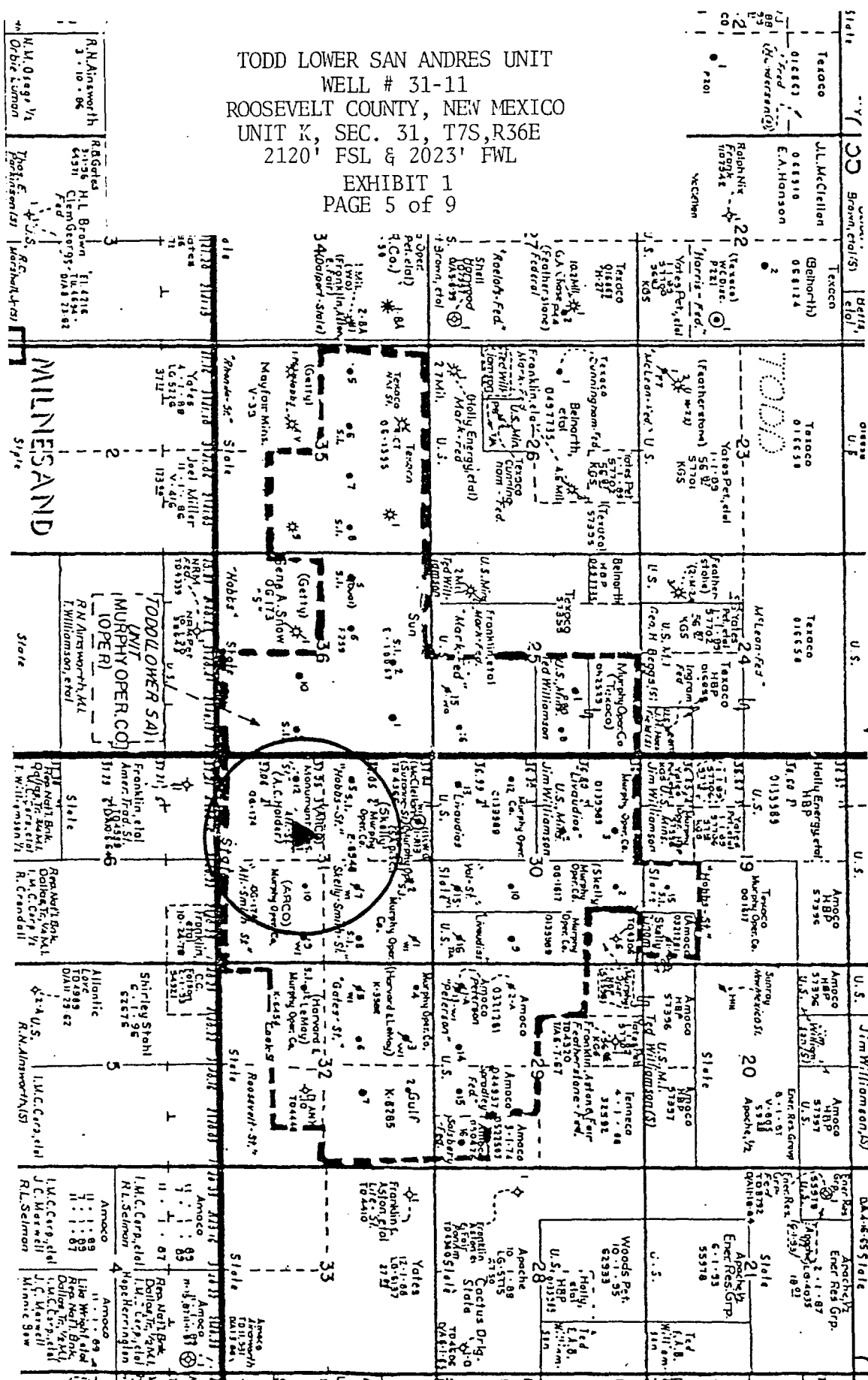
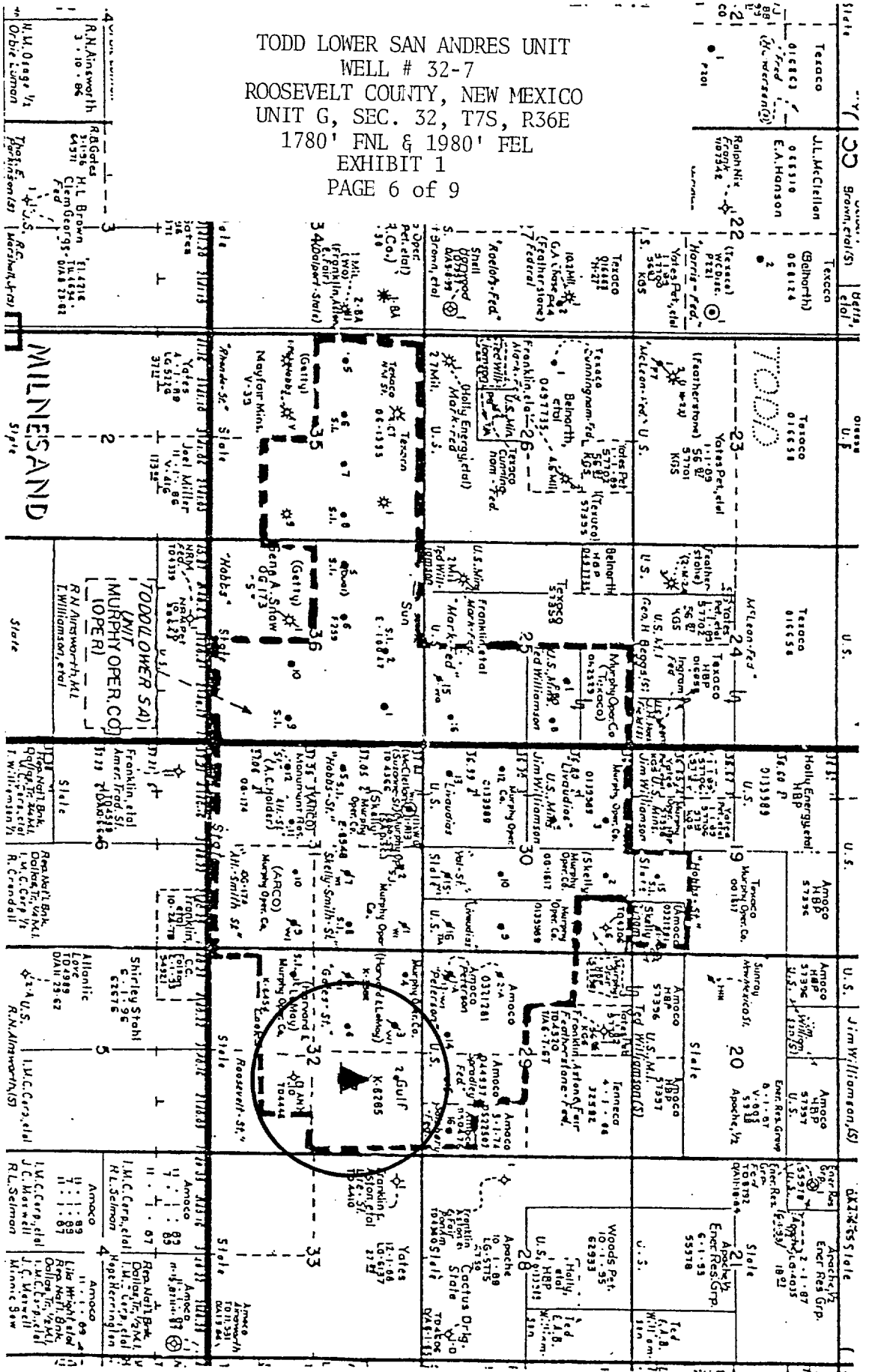


EXHIBIT 1
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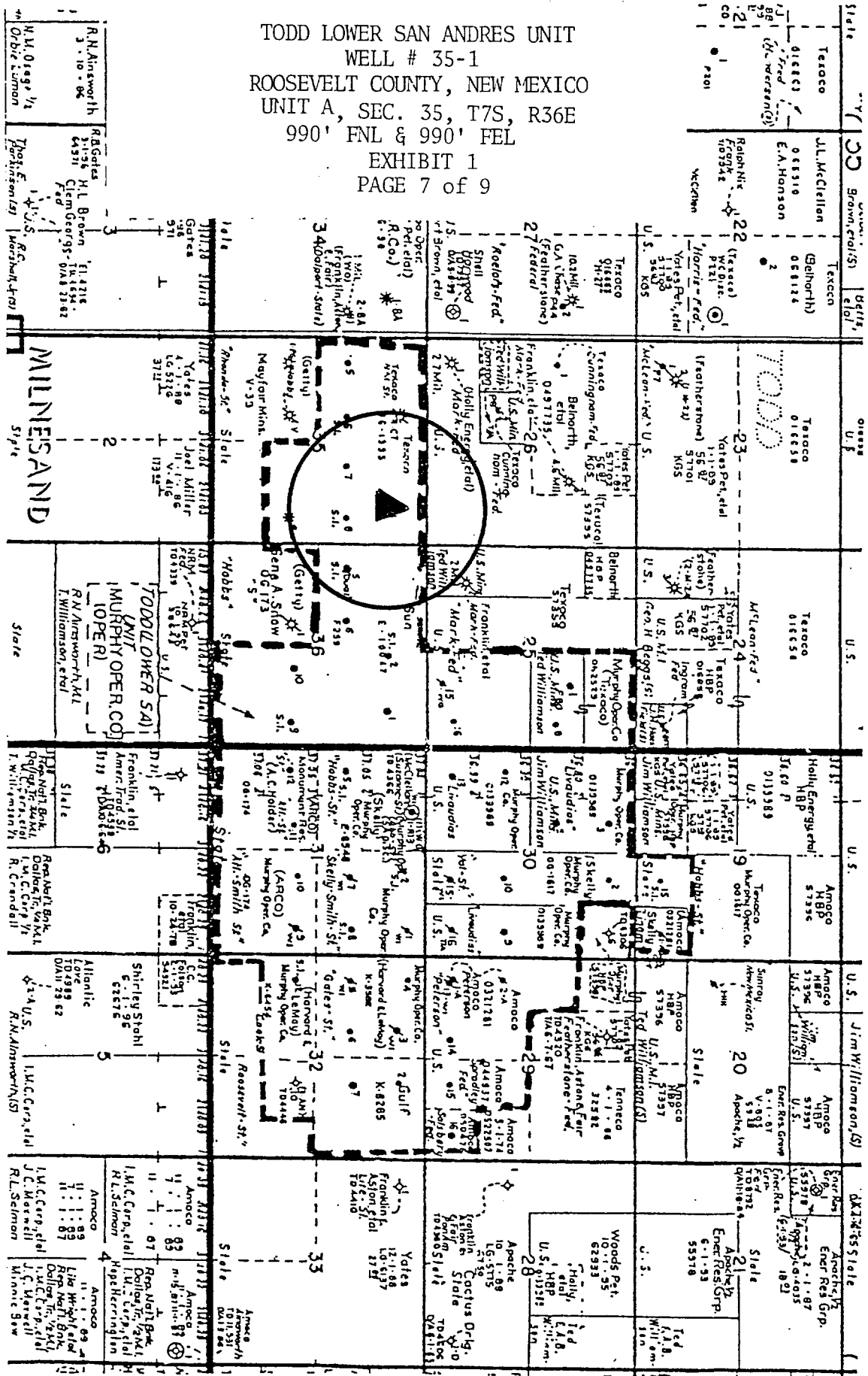
TODD LOWER SAN ANDRES UNIT
WELL # 32-7
ROOSEVELT COUNTY, NEW MEXICO
UNIT G, SEC. 32, T7S, R36E
1780' FNL & 1980' FEL

EXHIBIT 1
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TODD LOWER SAN ANDRES UNIT
WELL # 35-1
ROOSEVELT COUNTY, NEW MEXICO
UNIT A, SEC. 35, T7S, R36E
990' FNL & 990' FEL

EXHIBIT 1
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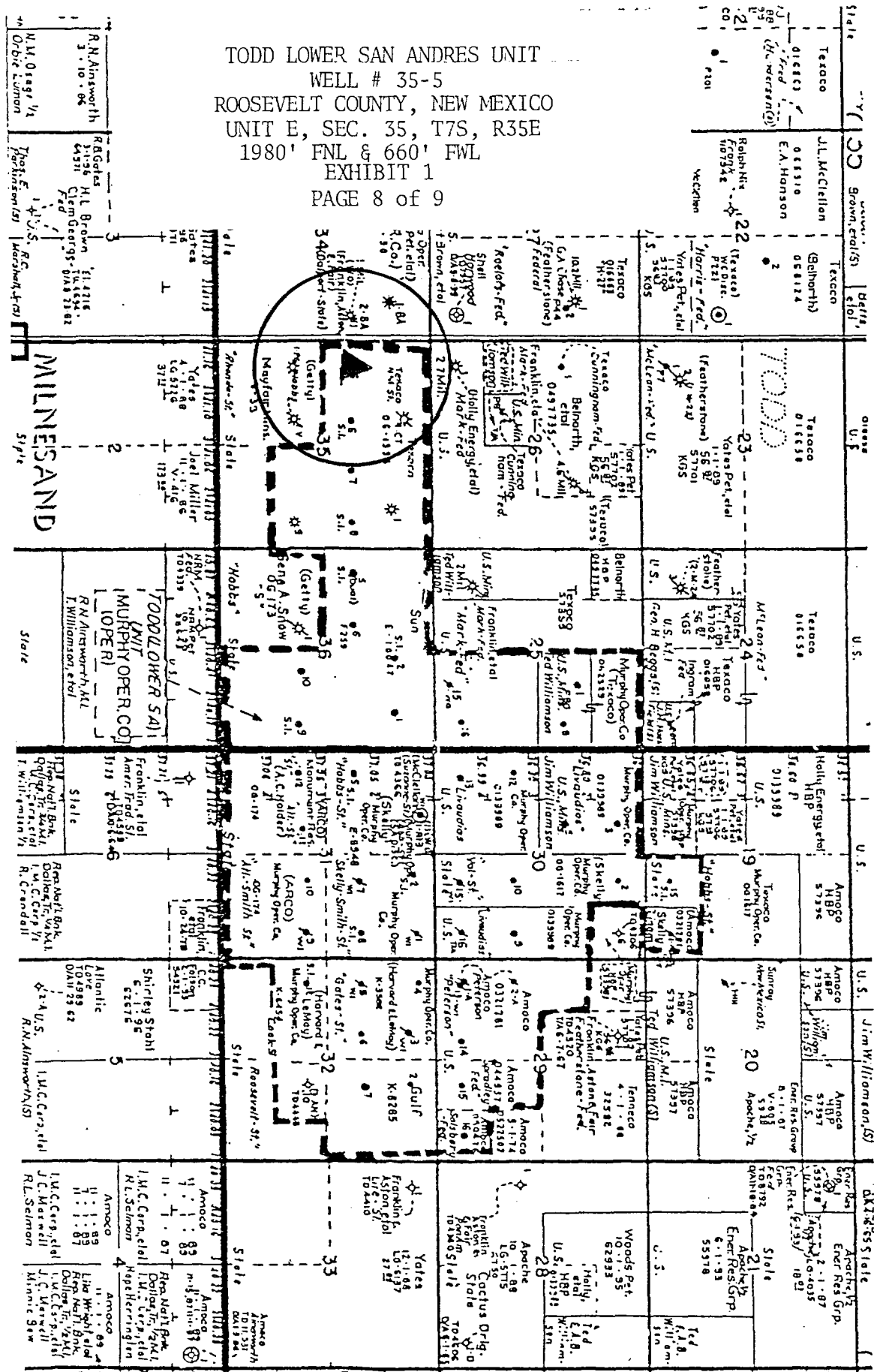
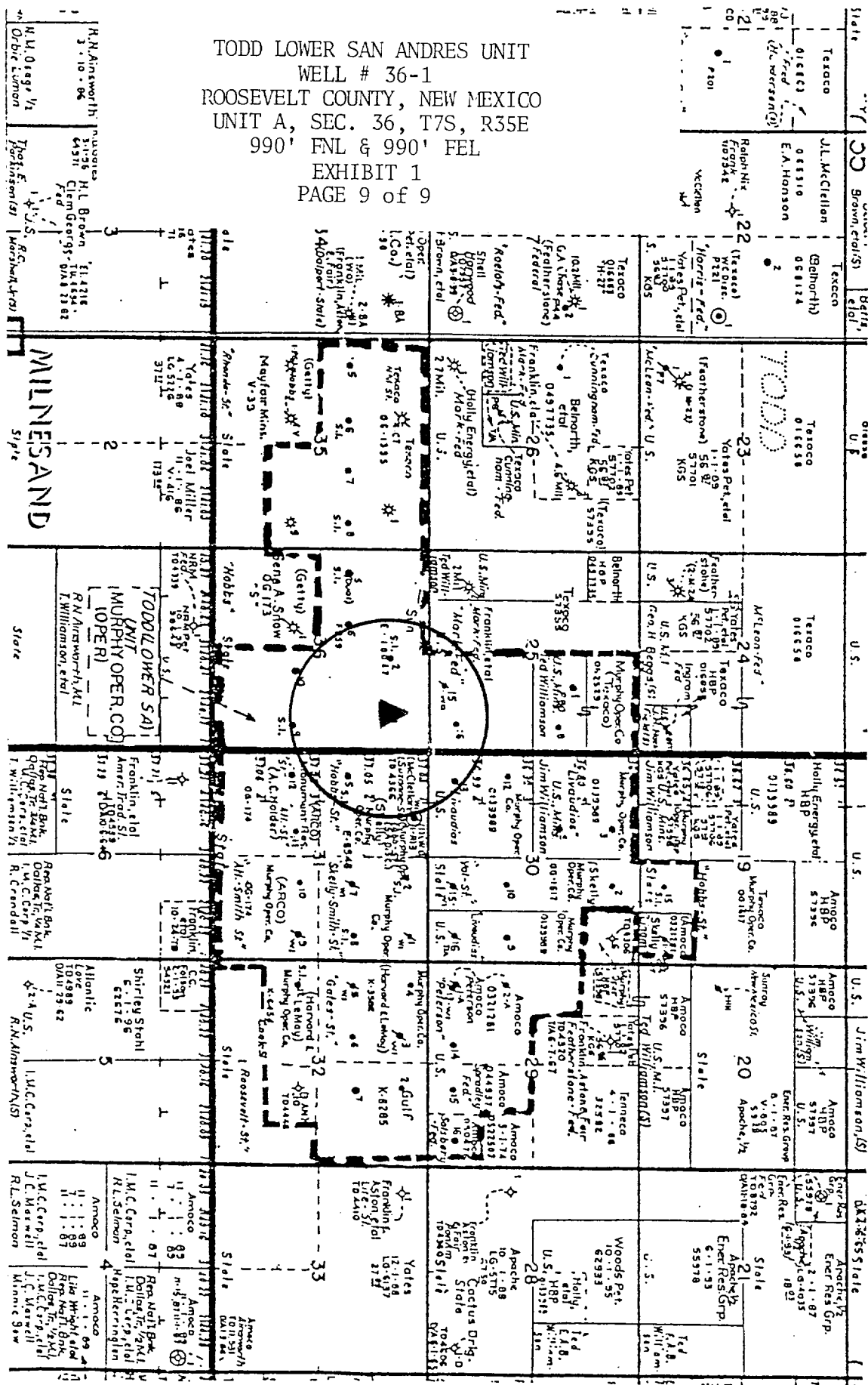


EXHIBIT 1
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Well name & Location	Well Type*	Casing Record	Date Drig. & Comp.		Total Depth	Perforations/Open Hole	Completion	Proposed Injection Equipment		Proposed Inj. Rate (BPD)	
								Downhole Tubing	Packer	Proposed Inj. Average	Press. (PSI) Maximum
TLSAU SEC.29 15 O 29-T7S-R36E (Spradley) 660' FSL & 1980' FEL Elevation 4140' R.D.B.	IP	11"hole 8 5/8" 24# set at 329' 250sk cmt. circ surf. 4 1/2"9.5# set at 4330' 300 sks cmt Top cmt 3600' by CE 10g	12/30 68 1/10 69		4330' KB	2JSPF 4263-72', 80-96	(2/19/70)Acidize w/4000gal 20%STNE frac w/30,000gal gel brine 1# 1 1/2# 20/40 mesh sand in 1st25,000 tai1 w/1# 10/20 in last 500gal.	2 3/8" 4.7# Ceramic coated set Approx. 4168'	4 1/2" UNI - 1 Tension Packer set 4171'	400/400	600/850#
TLSAU SEC.30 2 B 30-T7S-R36E (Val) 660' FNL & 1980' FEL Elevation 4152.2 G.R.	IP	290' 8 5/8" 24# in 12-1/4" hole 150 sks cmt. circ surf. 4293' 5-1/2 14.5# in 7 7/8" hole. 250 sks Top cmt 3475' by CE 10g	11/29 /67 2/9 /67		4294'	1JSPF 4238', 41, 44, 47, 51, 55, 58, 63, 65, 72	Acidize w/ 3000 gal 15% DS-30	2 3/8" 4.7# Ceramic coated set Approx. 4138'	5 1/2" UNI - 1 Tension Packer set 4141'	400/400#	600/850#
TLSAU SEC.30 6 F 30-T7S-R36E (Livaudais) 1873' FWL & 1980' FNL Elevation 4151 G.L.	IP	294' 8 5/8" 24# in 12-1/4" hole. 150 sks circ surf 4290' 5-1/2" 14# in 7/8"hole. 250 sks Top cmt 3460' by CE 10g.	5/12 /67 6/2 /67		4290'	1JSPF 4230, 36, 39, 40, 44, 48, 52, 57, 58, 64	Acidize w/ 3000 gal 15% DS-30. Frac w/ 5000 gal oil and 51000# 20/40 sand	2 3/8" 4.7# Ceramic coated set Approx. 4127'	5 1/2" UNI - 1 Tension Packer set 4130'	400/400#	600/850#
TLSAU SEC.30 12 L 30-T7S-R36E (Livaudais) 611.3 FWL & 1980' FSL Elevation 4157' K.B.	IP	12 1/4"hole 8 5/8" 24# set at 281' 160sk cmt. Circ surf 7 7/8" hole 5 1/2" 15.5 set at 4290' 250sk cmt w/2% gel w/ 8# CaCl per sk Top cmt 3482' by CE 10g.	9/19 66 10/2 66		4305' GL	1SPF 4232', 38', 43', 48', 57', 58', 63', 66' Open hole 4290' - 4305'	Acidize w/3000gal DS-30 fraced w/ 30,000gal crude oil & 30,000# 20/40 mesh sand.	2 3/8" 4.7# Ceramic coated set Approx. 4137'	5 1/2" UNI - 1 Tension Packer set 4140'	400/400#	600/850#

*Key: P - Producing
I - Injection
IP - Proposed Injection
PA - Plugged & Abandoned

TABLE OF DRILLING AND COMPLETION INFORMATION
TODD LOWER SAN ANDRES UNIT PROPOSED INJECTION WELLS AND WELLS WITHIN AREA OF REVIEW

Well name & Location	Well Type*	Casing Record	Comp. & Drig. Date	Total Depth	Perforations/Open Hole	Completion	Proposed Injection		Proposed Inj. Rate (BPD)	
							Downhole Tubing	Equipment	Average	Maximum
TLSAU SEC.31 11 K 31-T7S-R36E (Atl. Sm.) 2120' FSL & 2023' FWL Elevation 4149' K.B. Elevation 4140' G.L.	IP	331' 8 5/8" 20# in 2 1/4" hole 225sks cmt. circ surf 4333.5-1/2 7 7/8"hole 250 sks cmt. Top cmt above 3900'	7/8 68 7/16 68	4335' 4333.5' PBTD	1JSPF 4382', 84', 89', 91', 96', 4301', 07', 09', 12', 15', 17'	Acidize w/3000gal 15% acid Frac w/ 30,000gal lease oil & 35,000# 20/40 sand.	2 3/8" 4.7# Ceramic coated set Approx. 4268'	5 1/2" UNI - 1 Tension Packer set 4271'	400/400#	600/850#
TLSAU SEC.32 7 G 32-T7S-R36E (Roosevelt) 1780' FNL & 1980' FEL Elevation 4128' G.R.	IP	362' 8 5/8" 24# in 12 1/4" hole 225sks cmt. circ surf. 4400' 4 1/2 9.5# in 7 7/8" hole 1150sks cmt good returns of cmt. at surface	5/15 69 5/26 69	4400' PBTD 4366'	4JHPF 4318'-4324'	Acidized w/2000gal 28% NEFE acid	2 3/8" 4.7# Ceramic coated set Approx. 4217'	4 1/2" UNI - 1 Tension Packer set Approx. 4220'	400/400#	600/850#
TLSAU SEC. 35 1 A 35-T7S-R35E (Texaco) 990' FNL & 990' FEL Elevation 4185' D.F.	IP	350' 7 " in 9 7/8" hole 200 sks cmt. circ. surf. 4399' 2 7/8" in 6 3/4" hole. 500 sks cmt at surf. Top calc. cmt 1300'	9/14 64 9/18 65	4400'	2JSPF 4235', 37', 41', 43' 51', 62', 78'	Acidized w/500 gal acetic acid. Reacidized w/1500 gal. 15% NeFe.	2 1/6" Ceramic coated set Approx. 4127'	2 7/8" UNI - 1 Tension Packer set 4130'	400/400#	600/850#
TLSAU SEC. 35 5 E 35-T7S-R-35-E (Texaco) 1980' FNL & 660' FWL Elevation 4197' D.F.	IP	357' 7 7/8" in 9 5/8" hole. 200 sks cmt cir to surface. 4360' 4 1/2" in 6 3/4" hole 500 sks cmt. Est. top cmt @ 3450'	4/3 67 4/16 67	4360'	2JSPF 4280', 84', 92', 97', 4308', 16', 20'	Acidize w/2000 gal. 15% NeFe	2 3/8" 4.7# Ceramic coated set Approx. 4168'	4 1/2" UNI - 1 Tension Packer set Approx. 4171'	400/400#	600/850#

TABLE OF DRILLING AND COMPLETION INFORMATION
TODD LOWER SAN ANDRES UNIT PROPOSED INJECTION WELLS AND WELLS WITHIN AREA OF REVIEW

Date
Drig.

Well name & Location	Well Type*	Casing Record	& Total		Perforations/Open Hole	Completion	Proposed Injection		Proposed Inj. Rate (BPD)	
			Comp.	Depth			Tubing	Packer	Average	Maximum
TLSAU SEC. 36 1 A 36-T7S-R-35-E (Sun) 990' FNL & 990' FEL Elevation 4165' D.F.	IP	363' 8 5/8" in 12 1/4" hole 250 skt cmt circ. surf. 4325' 4 1/2" in 7 7/8" hole. 200 skt cmt. Top cmt. 3530' CE Log.	2/13 65 3/17 65	4325'	10-1-87 squeezed old perfs. w/100 sacks class C cmt. 4235', 42', 49', 53', 58', 68', 73', 80'	Acidized w/ 2000 gal Spearhead acid Frac w/ 20,000 gal ref oil & 20,000# sand w/ 551,000 cu. ft. CO2.	2 3/8"	4 1/2" UNI - 1 Tension Packer set 4178'	400/400#	600/850#
TLSAU SEC.19 15 0 19-T7S-R36E (Hobbs Z) 660' FSL & 1980' FEL Elevation 4167' D.F.	P	357'KB 8 5/8"24# in 11"hole 250skt cmt. circ surf. 4318' 4 1/2"10.5# in 7 7/8"hole 350 skt cmt. Top cmt. 3600'by CE log	7/15 67 7/29 67	4318' PBTD 4287'	1JSPF 4243', 51, 55, 61, 64, 66, 73, 77, 4280'	Acidize w/3750gal 24% & 3000 gal treated water. fraced w/30,000gal lease oil 37,500# 20/40 sand.				
TLSAU SEC. 25 7 G 25-T7S-R35E (Mark) 1650' FNL & 1650' FEL Elevation 4181' G.L.	P	277' 8 5/8" 24# in 12 3/4" hole 150 skt cmt circ to surf. 4340' K.B. 4 1/2" 9.5# in 7 7/8" hole 300 skt cmt. Top cmt 3350' CE Log	6/7 65 7/6 65	4328'	1JSPF 4236', 40', 44', 50', 53', 58', 63', 68', 70', 79', 4284'	Acidize w/ 3500 gal acid. Frac w/ 20,000 gal lease oil w/ 20,000 # 20/40 sand. 9-23-87 Reacidized w/ 500 gal 15% NeFe mix w/ xylene				
TLSAU SEC.25 8 H 25-T7S-T35E (Mark) 1980' FNL & 660' FEL Elevation 4175.8' G.R.	P	274' 8 5/8" in 12" hole. 150 skt to circ. surf. 4305' K.B. 5 1/2" in 7 7/8" hole. 250 skt cmt. Top cmt 3141' CB Log	6/16 66 6/24 66	4310'	1JSPF 4242', 48', 54', 61', 70', 76', 84'	Acidize w/1000 gal acid w/ oil Frac of 29,000 gal lease oil & 29,000 # 20/40 sand. 9-14-85 Reacidized w/ 500 gal 15% NeFe. 9-23-87 Reacidized w/500 gal 15% NeFe w/ xylene				

TODD LOWER SAN ANDRES UNIT PROPOSED INJECTION WELLS AND WELLS WITHIN AREA OF REVIEW

Date
Drig.

Well name & Location	Well Type*	Casing Record	Comp. & Drig.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection		Proposed Inj. Rate (BPD)	
							Downhole Tubing	Equipment	Average	Maximum
TL5AU SEC.25 15 0 25-T7S-R35E (Mark) 330' FSL & 1650' FEL Elevation 4154' G.L.	I	287' 8 5/8" in 12 1/4" hole. 175 sks cmt to surf. 4315' K.B. 5 1/2" in 7 7/8" hole. 300 sks cmt. Top cmt 3641' CE Log	8/23 65 10/22 65	4315'	1JSPF 4213', 15', 23', 25', 27', 32', 36', 38', 42', 45', 47', 59', 65', 70', Reperforated 4213' - 4241' 1JSPF = 18 holes	Acidize w/ 4250 gal 15% acid. SOF 20,000# sand. 10-24-87 Reacidize w/ 5000 gal 15% Nefe acid	2 3/8" 4.7# Ceramic coated set at Approx 4110'	5 1/2" UNI - 1 Tension Packer set 4113'		
TL5AU SEC.25 16 P 25-T7S-R35E (Mark) 660' FSL & 660' FEL Elevation 4151' G.R.	P	272' 8 5/8" in 12 3/4" hole 150 sks cmt circ to surf. 4306' K.B. 4 1/2" in 7 7/8" hole 250 sks cmt. Top of cmt 3655' CE Log	1/20 66 2/2 66	4307'	1JSPF 4230', 44', 49', 62' 66', 73'	Acidize w/ 1500 gal acid. 3-30-66 Frac w/ 40,000 gal lease oil & 40,000# 20/40 mesh sand. 9-24-87 Reacidize w/ 5000 gal 15% Nefe mixed w/ xylene				
TL5AU SEC.29 13 M 29-T7S-R36E (Peterson) 330' FSL & 660' FWL Elevation 4140' G.L.	I	334.55'G1.8 5/8" 24#J-55in12 1/4" hole.250sks cmt., circ. surf. 4334'G1. 5 1/2" 15.5# J-55in 7 7/8" hole 1000 sks cmt. circ to surf.	12/7/ 84 1/2/ 85	4335' GL.	1JSPF .42" diam 4246'-4296' GL.	Acidize w/10,000 gal 28% HCl, 12,000# 100 mesh sand.	2 3/8"4.7# J-55 PVC lined set approx. 4167 GL.	5 1/2" UNI-1 Tension packer set approx 4170' GL	180/400#	600/850#
TL5AU SEC.29 14 N 29-T7S-R36E (Peterson) 660' FSL & 2180' FWL Elevation 4142' R.D.B.	P	12 1/4"hole 8 5/8" set at 317' 275 sks cmt circ to surf. 7 7/8"hole 4 1/2" set at 4326' 300sks cmt Top cmt 3482' by CE log	8/15 73 8/31 73	4326' KB	2JSPF 4249', 54', 66-78, 82-90	Acidize w/1000gal 15% NE & fraced w/ 35,000 gal gel brine & 42,500# sand.				

TABLE OF DRILLING AND COMPLETION INFORMATION
TODD LOWER SAN ANDRES UNIT PROPOSED INJECTION WELLS AND WELLS WITHIN AREA OF REVIEW

Well name & Location	Well Type*	Casing Record	Date Drig.	& Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection			Proposed Inj. Rate (BPD)	
								Downhole Tubing	Equipment	Packer	Proposed Inj. Average	Press. (PSI) Maximum
TLSAU SEC.29 16 P 29-T7S-R36E (Solisbury) 660' FSL & 660' FEL Elevation 4137' R.D.B.	P	12 1/4" hole w/ 8 5/8" 24# set at 330' 250sks cmt Circ surf 7 7/8" hole 4 1/2" 9.5# set at 4363' 300 sks cmt. Top cmt 3600' by CE 10g	12/14	69	4363' KB	2SPF 4305' - 4319'	Acidize w/4000gal of 20% fraced w/ 30,000gal gel brine & 35,000 20/40 mesh sand 5000 10/20					
TLSAU SEC. 30 3 C 30-T7S-R36E(Va1 State) 1871.3' FML & 660' FNL Elevation 4166.1' K.B.	P	299' K.B. 8 5/8" in 12 1/2" hole. 160 sks cmt circ to surface. 4290' 5 1/2" in 7 7/8" hole. 250 sks cmt. Top cmt 3788' CE Log	3/10	67	4290'	1JSPF 4230', 34', 40', 43', 49', 50', 51', 52', 53', 54', 55', 56', 60', 67', 70'	Acidize w/3000 gal 15% DS-30 Frac w/ 27,000# 20/40 sand. 9-22-87 Reacidized w/ 500 gal 15% NeFe mixed w/ xylene					
TLSAU SEC. 30 7 G 30-T7S-R36E(Va1 State) 1867' FEL & 2040' FNL Elevation 4154' G.L.	P	354' 8 5/8" 24# in 12 1/4" hole 250 sks cmt circ surf 4374' K.B. 5 1/2" 15.5# in 7 7/8" hole. 1000 sks Howcolite 1/4# Flodale/sk Top cmt @ 250' by Temp survey.	1/29	88	4375'	1 JSPF 37" @ 4223', 35.5', 40.5', 44', 48', 50', 51.5', 56', 58', 61.5', 63', 72.5'	Acidize w/ 4000 gal 15% NeFe. Frac w/ 50,000 gal lease oil and 48,600# 20/40 sand					
TLSAU SEC.30 9 I 30-T7S-R36E (Liyaudais) 1980' FSL & 660' FEL Elevation 4144' G.L.	I	323' 8 5/8" 24# J-55 in 12 1/4" hole 250sks cmt circ surf 4299' 5 1/2" 15.5# J-55 in 7 7/8" hole 1,100sks cmt, 150sks to pit	11/30	83	4320' GL 4299' PBTD	1JSPF .50" 4240-4290' GL.	Acidize w/10,000 gal 28% HCL 12,000 # 100 mesh sand	2 3/8" 4.7# J-55 PVC lined set approx. 4137'	5 1/2" UNI-1 Tension packer set approx 4140'		180/400#	600/850#

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TODD LOWER SAN ANDRES UNIT PROPOSED INJECTION WELLS AND WELLS WITHIN AREA OF REVIEW

Well name & Location	Well Type*	Casing Record	Comp. & Drig. Date	Total Depth	Perforations/Open Hole	Completion	Proposed Injection		Proposed Inj. Rate (BPD)	
							Downhole Tubing	Equipment	Average	Maximum
TLSAU SEC.30 10 J 30-T7S-R36E (Val State) 1980' FSL & 1980' FEL Elevation 4151' K.B.	IP	296 KB 8 5/8" 24# in 12 1/4" hole 150sks cmt. Circ surf. 4293' 5 1/2 15.5 in 7 7/8" hole 250sks cmt Top cmt 3582' by CE 10g.	12/30 66 1/15 67	4293'	1JSPF .42" 4236', 38, 44, 47, 51, 55, 63 4267'	Acidize w/3000gal frac w/30,000gal lease oil & 30,000# 20/40 mesh sand.	2 3/8" 4.7# Ceramic coated set approx. 4130'	5 1/2" Unit-1 Tension packer set approx. 4133'	400/400#	600/850#
TLSAU SEC.30 13 M 30-T7S-R36E (Liivaudais) 610.5' FWL & 660' FSL Elevation 4151' G.R.	P	285' 8 5/8" 24# in 12 1/4" hole 150sks cmt circ surf 4305' 5 1/2 14# in 7 7/8"hole 250sks cmt. Top cmt above 3950' by CE 10g	4/10 66 4/26 66	4315' KB	1JSPF .39" 4234', 39, 53, 57 62, 69, 75	Acidize w/1500gal 15% DS-30 Frac w/ 31,000gal lease crude31,000# 20/40 mesh sand				
TLSAU SEC.31 3 C 31-T7S-R36E (Hobb R) 330' FNL & 1650' FWL Elevation 4161' G.R.	I	254' 8 5/8" 24# in 12 3/4"hole 150sks cmt. circ surf. 4430' GL 4 1/2" 10.5# in 7 7/8"hole 250 sks cmt. Top cmt 3339'by temp survey.	Spud 10/31 64 Rntr 4/2 65 Comp 4/24 64	4440' KB	1JSPF 4257', 63, 67, 70, 74, 82, 90, 98 & 4302' 9 shots. (2/17/84) Reperf 1JSPF .50" 4252'-4302' 50 shots.	Acidize w/2000gal 15% HCl. Frac w/ 20,000gal gel 1se oil 20,000# 20/40 sand (2/17/84)Reacidize w/24bbls 28% HCl	2 3/8"4.7# J-55 PVC lined set approx. 4167' GL	4 1/2" UNI-1 Tension packer set approx 4170' GL	160/400#	600/850#
TLSAU SEC.31 5 E 31-T7S-R36E (Hobbs R) 1980' FNL & 661.1" FEL Elevation 4156' D.F.	P	350' 8 5/8" 12 1/2 hole 200sks cmt. 4375' 4 1/2" in 7 7/8"hole 250 sks cmt. Top cmt above 3900'CE 10g	5/21 65 6/26 65	4375' PBD 4364'	20 shots 4259'-4300.5 10/8/84 Reperforate w/.42 diam. 60 holes. 1JSPF 4244'-4304'	Acidize w/2000gal 15% frac w/20,000 gal lease oil & 20,000# sand. 10/8/84 Reacidize w/500gal Xylene				

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TODD LOWER SAN ANDRES UNIT PROPOSED INJECTION WELLS AND WELLS WITHIN AREA OF REVIEW

Well name & Location	Well Type*	Casing Record	Date Drig. & Comp.		Total Depth	Perforations/Open Hole	Completion	Proposed Injection		Proposed Inj. Rate (BPD)	
								Tubing Downhole	Equipment	Average	Maximum
Well name & Location TLSAU SEC.31 7 G 31-T7S-R36E (Skelly Sm) 1830' FNL & 1980' FEL Elevation 4135' G.L.	I	285' KB 8 5/8" 24# 24# in 12" hole. 150sks cmt. circ surf. 4305' KB 5 1/2" 14# 7 7/8" hole. 300sks cmt. Top cmt above 3000' by CE log	1/8/71	71	4305 KB 4285PB TDKB	1JSPF 4255, 57, 58, 62, 68, 69, 71, 72, 75, 86, 88, 4290' (3/7/84) Reperforated 1JSPF .42" 4236'-4284' KB	Acidize w/ Phase1 3000gal 15% DS-30 Phase2 8000gal 15% DS-30 (3/7/84) Reacidize w/1000 gal 20% NEFE	2 3/8" 4.7# J-55 PVC lined set approx. 4145'	5 1/2" UNI-1 Tension packer set approx 4148'	150/400#	600/850#
TLSAU SEC.31 9 I 31-T7S-R36E (Atl. Sm.) 2180' FSL & 660' FEL Elevation 4126.1' G.R. 4135' K.B.	I	282' 8 5/8" 24# J-55 in 12 1/4" hole 150sks cmt circ surf. 4326' GL 5 1/2" 14# J-55 7 7/8" hole.250sks cmt. Top cmt 3470' by CE log.	1/1968	68	4326' GL	1JSPF .50" 4282-4322' GL. (9-12-84) Reperf 1 JSPF 4282, 86, 88, 91, 94, 98 4300', 04, 12, 15, 17	Acidized w/3,000 gal 15% DS-30 Frac w/30,000gal lease oil & 30,000 # 20/40 mesh sand. (9-12-84)Reacidize w/2000gal 20% NEFE				
TLSAU SEC.31 10 J 31-T7S-R36E (Atl. Sm.) 2180' FSL & 1980' FEL Elevation 4136' G.R. 4146' K.B.	P	301'KB 8 5/8"24# in 12 1/4" hole 150sks cmt. circ surf 4333' 5 1/2" 15.5in 7 7/8"hole 240sks cmt. Top cmt 3700' by CE log.	11/167	67	4333' 11/15 84	1JSPF 4280', 81, 86, 87, 90, 91, 96, 98, 4303', 13, 15 11/16/84 Reperforated 1JSPF 41' 4280'-4230'	Acidize w/3000gal 15%. 11/16/84 reacidize Acidize w/500gal xylene,2000gal 28% NEFE				
TLSAU SEC.31 12 L 31-T7S-R36E (State BC) 1980' FSL & 608.5' FWL Elevation 4155' K.B. 4144.5 G.L.	P	360.14' 8 5/8" 24# in 11" hole 200sks cmt.circ 4399.98' 4 1/2" in 7 7/8" hole 320sks cmt. Top cmt. 3400' by State Comp Form	7/1865	65	4400' PBTD 4370'	1JSPF .41 size of 4281', 89, 96, 4299' & 4304' 1/29/85 Reperf 1JSPF .42 dia (4272'-4332')	Acidize w/2000gal 15% acid Frac w/ 20,000gal oil & 20/40 sand 1/30/85 Reacidized w/2000gal 28% NEFE				

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TODD LOWER SAN ANDRES UNIT PROPOSED INJECTION WELLS AND WELLS WITHIN AREA OF REVIEW

Well name & Location	Well Type*	Casing Record	Comp. & Drig. Date	Total Depth	Perforations/Open Hole	Completion	Proposed Injection Equipment		Proposed Inj. Rate (BPD)	
							Tubing	Packer	Average	Maximum
TL3AU SEC.32 2 B 32-T7S-R36E (Roosevelt) 660' FNL & 1980' FEL Elevation 4139' K.D.B.	P	363' 8 5/8" in 12 1/4" hole 255 sks cmt.circ surf 4 1/2" in 7 7/8" hole 900sks cmt. circ to surf.	2/27 69 3/18 69	4350' PBTD 4322' KB	2 JSPF 4231'-33' 4172'-74' 4119'-21'	Acidized w/2000gal 28% NEFE acid				
TL3AU SEC.32 3 C 32-T7S-R36E (Gates) 640' FNL & 1980' FWL Elevation 4123' G.R.	I	291' KB 8 5/8" 24# in 12 1/4" hole 150sks cmt. circ surf. 4320' 5 1/2" 14# in 7 7/8" hole. 275sks cmt Topcmt cmt. 3470' by CE 1og.	4/27/	4320' GL	9 shots 4274'-4297' (2-13-84)Reperforated 1JSPF .50" 4263'-4303'	Acidized w/ Phase 1 3000gal 15% DS-30 Phase 2 6000gal 15% DS-30 (2-13-84)Reacidize w/1000 gallons 28% HCl	2 3/8"4.7# J-55 PVC lined set approx. 4127'	5 1/2" UNI-1 Tension packer set approx 4130'	180/400#	600/850#
TL3AU SEC.32 4 D 32-T7S-R36E (Gates St.) 460' FNL & 660' FWL Elevation 4126.7 G.R. 4137.7 K.B.	P	298' 8 5/8" in 12 1/4" hole 150 sks cmt.circ surf 4306'KB 5 1/2" in 7 7/8"hole 250sks cmt.Top cmt.above 3950' by CE 1og	1/8 68 2/3 68	4306' KB	1JSPF 4244', 52, 54, 58, 61, 65, 68, 71, 78, 83, 86 10/30/84 Reperf 1JSPF 4304'-4244'	Acidize w/3500gal 15% DS-30 Frac w/ 30,000gal crude oil, 30,000# 20/40 sand 900# Adomite KB 4310' KBM 10/30/84 Reacidize w/500gal Xylene, 2000gal 28% NEFE				
TL3AU SEC.32 5 E 32-T7S-R36E (Gates) 1830' FNL & 660' FWL Elevation 4122' G.R. 4129' G.L. 4141' K.B.	I	272' KB 8 5/8" 24# in 12" hole 175sks cmt. Circ. surf. 4308' K.B. 5 1/2 14# in 7 7/8"hole 300sks Top cmt. above 3600' by CE 1og	8/18/ 71 9/20/ 71	4308' KB	1JSPF 4267, 68, 70, 72, 74, 76, 84, 86, 88, 90, 92 (9-26-84) Reperf. & drill open hole 1JSPF .42" 4251'-4307' KB Open Hole 4308'-4320' KB	Acidize w/ Phase 1 3000 gal 15% DS-30 Phase 2 8000gal 15% DS-30 (9-27-84)Reacidize w/1000gal 15% NEFE	2 3/8"4.7# J-55 PVC lined set approx. 4148' KB	5 1/2" UNI-1 Tension packer set approx 4151' K.B.	150/400#	600/850#

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TODD LOWER SAN ANDRES UNIT PROPOSED INJECTION WELLS AND WELLS WITHIN AREA OF REVIEW

Well name & Location	Well Type*	Casing Record	Drig. & Comp.		Total Depth	Perforations/Open Hole	Completion	Proposed Injection Equipment		Proposed Inf. Rate (BPD)	Proposed Inf. Press. (PSI)
								Downhole Tubing	Packer		
TL5AU SEC.32 6 F 32-T7S-R36E (Gates St.) 1830' FNL & 1980' FWL Elevation 4127' K.B. 4117' G.L.	P	295' 8 5/8" in 12 1/4" hole 175 skc cmt.circ surf 4338' 4 1/2" in 7 7/8" hole 300skc cmt.Top cmt above 3950' by CBL	3/18	70	4338'	1JSPF 4284', 84', 90', 92' 86', 96', 98'	Acidized w/3000gal 15% DS-30				
TL5AU SEC.32 10 J 32-T7S-R36E (Roosevelt) 2180' FSL & 1980' FEL elevation 4120' G.R.	I	360' 8 5/8" 24# J-55 in 12-1/4" hole. 225 skc cmt circ. to surf. 4445'.4 1/2" 9.5# J-55 in 7- 7/8" hole.1250skc cmt circ surf	7/11	69	4445' / TD 4420' / PB TD	4JSPF 4408' - 10' 4413' - 15'	Acidized w/ 2000 gal 28% HCl	2 3/8" 4.7# plastic coated set approx. 4268'	4 1/2" Guiberson Type Af set @ 4271'	400/400#	600/850#
TL5AU SEC.35 6 F 35-T7S-R35E (Texaco) 1980' FNL & 1980' FWL Elevation 4191' D.F.	P	320' 7 5/8" in 11" hole 200 skc cmt circ surf. 4355' 4 1/2" in 6 3/4" hole 500 skc cmt. Top cmt 3400' CE Log	6/14	66	4355'	2JSPF 4262', 66', 76', 82' 90', 4306'	Acidize w/ 2000gal 15% NeFe				
TL5AU SEC.35 7 G 35-T7S-R35E (Texaco) 1980' FNL & 1980' FEL Elevation 4185' D.F.	I	362' 7 5/8" in 9 5/8" hole 200 skc cmt circ surf. 4325' 4 1/2" in 6 3/4" hole 500 skc cmt. Top cmt 3520' CE Log	3/24	67 3/31 67	4325'	2JSPF 4248', 58', 66', 74' 84', 96'	Acidize w/2000gal 15% NeFe				

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TODD LOWER SAN ANDRES UNIT PROPOSED INJECTION WELLS AND WELLS WITHIN AREA OF REVIEW

Well name & Location	Well Type*	Casing Record	Date Drig. & Comp.		Total Depth	Perforations/Open Hole	Completion	Proposed Inj. Rate (BPD)		
								Proposed Downhole Tubing	Proposed Injection Equipment	Proposed Inj. Rate (BPD) Average
TL5AU SEC.35 8 H 35-T7S-R35E (Texaco) 1980' FNL & 660' FEL Elevation 4167' G.R.	P	357' 7 5/8" in 9 7/8" hole 200 skc cmt circ surf 4358' 4 1/2" in 6 3/4" hole 500 skc cmt. Est top cmt @ 3400'	4/22	67	4358'	2JSPF, 4256', 60', 68', 77', 87', 97'	Acidize w/ 500 gal acetic acid & 2000 gal unisol			
TL5AU SEC.35 9 I 35-T7S-R35E (Texaco) 660' FEL & 1980' FSL Elevation 4166' G.L.	P	337' 7 5/8" in 9 5/8" hole 250 skc cmt circ to surf. 4350' 4 1/2" in 6 3/4" hole 500 skc cmt. Est top cmt @3400'	8/6	66	4350'	1JSPF 4286', 4294', 4301', 09'	Acidized w/250 gal 15% BDA			
TL5AU SEC.36 2 B 36-T7S-R35E (Sun) 990' FNL & 2310' FEL Elevation 4169' D.F.	P	356' 8 5/8" 24# in 12 1/4" hole 250 skc cmt circ surf. 4400' K.B. 4 1/2" in 7 7/8" hole 200 sks cmt. Top cmt 3700' Temp Survey	1/9	65	4440'	2JSPF 4236', 40', 49', 51', 55', 67', 72', 76', 83', 87'	Acidized w/ 2000 gal BDA 10-21-87 Reacidize w/2000 gal 15% NeFe			
TL5AU SEC.36 5 E 36-T7S-R35E 9 (Sun) 1980' FNL & 660' FML Elevation 4168' G.R.	I	339' 8 5/8" 24# in 12 1/4" hole. 250 sks cmt circ surf. 4363' 4 1/2" 95# in 7 7/8" hole. 200 sks cmt. Top cmt 3520'. Temp Survey	4/27	65	4363'	2JSPF 4251', 65', 79', 89', 94'	Acidized w/1000 gal Spear Head acid. Frac w/ 20,000# sand			

TODD LOWER SAN ANDRES UNIT PROPOSED INJECTION WELLS AND WELLS WITHIN AREA OF REVIEW

Date
Drig.

Well name & Location	Well Type*	Casing Record	Total		Perforations/Open Hole	Completion	Proposed Injection		Proposed Inj. Rate (BPD)	
			Comp. & Date	Depth			Downhole Tubing	Equipment Packer	Proposed Inj. Average	Press. (PSI) Maximum
TLSAU SEC.36 6 F 36-T7S-R35E (Sun) 1980' FNL & 1980' FWL Elevation 4170.7' D.F.	P	365' 8 5/8" in 12 1/4" hole. 250 sks cmt circ surf. 4431' 4 1/2" in 7 7/8" hole w/200 sks cmt. Top cmt 3620' Temp survey	3/1 65 3/18 65	4430'	2SPF 4251', 69', 74', 90' 96'	Acidized perfs 4290' & 96' w/ 5000 gal BDA 4269' & 94' w/ 500 BDA. 4251' w/250 gal BDA Frac w/ 20,000gal lease oil & 20,000# sand & 1000# Adomite				
TLSAU SEC.36 9 I 36-T7S-R35E (Sun) 1980' FSL & 660' FEL Elevation 4160' D.F.	P	372' 8 5/8" in 11" hole 250 sks cmt circ surf 4372' 4 1/2" in 7 7/8" hole 200 sks cmt. Top cmt 3520' Temp survey	5/23 65 6/4 65	4370'	1SPF 4325', 17', 4303', 4298', 87', 85', 82', 76'	Acidized w/ 2000 gal BDA				
TLSAU SEC.36 10 J 36-T7S-R35E (Sun) 2110' FSL & 1980' FEL Elevation 4170' D.F.	I	354' 8 5/8" in 12 1/4" hole. 250 sks cmt circ surf. 4423' 4 1/2" in 7 7/8" hole 200 sks cmt Top cmt 3690' Temp survey	4/12 65 4/25 65	4430'	2SPF 4276', 91', 97', 4307' 20', 24'	Acidized w/1250gal BDA				
LINAM 'A' WELL NO. 1 19-T7S-R35E 660' FSL & 660' FEL Elevation 4167' G.L.	PA	370' 8 5/8" 250 sks cmt circ surf. 4325' 4 1/2" 350 sks cmt. Est. top cmt approx. 3600'	11/9 67 11/26 67	4325'	1JSPF 4266', 69', 76', 4278', 81'	Acidized w/ 750 gallions 15% HCl				

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Well name & Location	Well Type*	Casing Record	Date Drig. & Total		Perforations/Open Hole	Completion	Proposed Injection		Proposed Inf. Rate (BPD)	
			Comp.	Depth			Downhole Tubing	Equipment Packer	Proposed Inf. Average	Press. Maximum (PSI)
STATE 'BA' WELL NO. 1 34-T7S-R35E 990' FSL & 990' FEL Elevation 4203' G.L.	P	330' 8 5/8" 200 skc cmt circ surf. 4430' 4 1/2" 250 sks cmt. Est. top cmt approx 3700'	8/18 64 12/3 64	4430'	IP San Andres 4214' - 38'	Acidized w/2500 gal acid. Frac w/ 54,000 gal water & 55,000# sand				
STATE 'BA' WELL NO. 2 34-T7S-R35-E 1980' FNL & 660' FEL Elevation 4202' G.L.	P	281' 8 5/8" 150 skc cmt circ surf. 4338' 5 1/2" 250 sks cmt. Est top cmt 3700'	Recom 5/13 68	4338'	IP San Andres 4224' - 29'	Acidized 4139' - 4229' w/500gal (MA) 4139' - 4229' w/ 1000 gal 15% (HCL)				
HOBBS 'V' WELL NO. 1 35-T7S-R35E 1980' FSL & 1980' FWL Elevation 4188' G.L.	PA	400' 8 5/8" 225 skc cmt circ surf 4428' 4 1/2" 350 sks cmt. Est top cmt approx. 3600'	9/28 65 11/1 65	4430'	1JSPF 4191', 94', 4200.5', 03', 13', 53'	Acidized w/1000 gal acid.				
TLSAU SEC.35 3 C 35-T7S-R35E CT (State) 660' FNL & 1980' FWL Elevation 4189' D.F.	PA	347' 7 5/8" 200 skc cmt circ surf 4325' 4 1/2" 500 skc cmt. Est. top cmt 3400'	Recom 4/7 68	4335'	Original completion 8-1-66 San Andres Perfs 4240' - 85' 4-8-68 - 4125', 55', 62', 65', 90', 96'	Acidized w/2500 gal 15% NeFe				
MARK FEDERAL WELL #1-M 26-T7S-R35E 660' FSL & 660' FWL Elevation 4206' G.L.	PA	290' 8 5/8" 175 skc cmt circ surf 4355' 4 1/2" 100 skc cmt. Top cmt 4000'	10/31 63 12/12 63	4355'	ISPF 4211' - 21'	Acidized w/2000 gal acid				

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Well name & Location	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Inj. Rate (BPD)		
							Downhole Tubing	Injection Equipment	Proposed Inj. Rate (BPD) Average
MARK FEDERAL WELL #2-M 25-T7S-R35E 660' FSL & 660' FML Elevation 4170' D.F.	PA	290' 8 5/8" 175 skt cmt circ surf 4355' 4 1/2" 100 skt cmt. Top cmt 4000'	10/31/63 12/12/63	4355'	4211' -21' w/ 1SPF	Acidized w/ 2000 gallons acid			
LIVADUIS FEDERAL WELL No. 6 - A 30-T7S-R35E 660' FNL & 660' FML Elevation 4154' K.B.	PA	293' 8 5/8" 150 skt cmt circ surf 4306' 5 1/2" 250 skt cmt. Top cmt 3700'	6/16/68 12/8/68	4306'	4232' - 85' w/ 11 shots	Acidized w/ 3000 gallons (swbcl) & Flwd load. Frac w/ 30,000 gallons oil & 30,000# sand.			
HOBBS 'PG' WELL #6 A 35-T7S-R35E 1980' FSL & 660' FML Elevation 4193' G.L.	P	39' 13 3/8" 81 skt cmt to surf. 2043' 8 5/8" 700 skt cmt. 4225' 4 1/2" 445 skt. Est. top cmt 3500'	12/4/81	4525'	4318', 21', 22', 28', 33' 46', 51', 54', 55', 58', w/ 2 SPF	Acidized w/ 6000 gallons acid.			

PERMIAN

Treating Chemicals, Inc.

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September 30, 1987

Murphy Operating Corporation
P. O. Drawer 2648
Roswell, NM 88202

Subject: Compatibility of fresh and produced waters
from Todd Lower San Andres Unit.

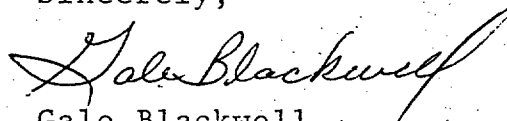
Gentlemen:

We have ran analysis on produced, fresh, and commingled
waters from the above mentioned lease (see attached copies.)

We at Permian Treating Chemicals, Inc. feel that these
waters injected seperately or commingled are very
compatible.

If we can be of any further assistance, please call myself
or Mr. David Nailon at anytime.

Sincerely,



Gale Blackwell
Permian Treating Chemicals, Inc.

OCT 7 1987

PERMIAN

Treating Chemicals, Inc.

P.O. BOX 728
LOVINGTON, NM 88260
PHONE (505) 396-5674

WATER ANALYSIS REPORT

Company Murphy Operating Corporation Date Sampled 9-30-87
Field Todd County Roosevelt
Lease Lower San Andres Unit State NM
Well _____ Formation _____
Type of Water Fresh Water, B/D _____
Sampling Point Fresh water tank Sampled By Blackwell

DISSOLVED SOLIDS

OTHER PROPERTIES

CATIONS	mg/l	meq/l	pH
Sodium, Na+(Calc)	<u>37</u>	<u>1.6</u>	<u>7.2</u>
Calcium, Ca++	<u>148</u>	<u>7.4</u>	Specific Gravity
Magnesium, Mg++	<u>24</u>	<u>2</u>	<u>1.000</u>
Barium, Ba++	<u>-0-</u>	<u>-0-</u>	H ₂ S <u>Negative</u>
Iron, Fe (Total)	<u>.04</u>		Total Dissolved
			Solids <u>745 Mg/L.</u>
			Total Hardness
			<u>466 Mg/L.</u>

ANIONS

Chloride, Cl-	<u>100</u>	<u>2.8</u>
Sulfate, SO ₄ =	<u>220</u>	<u>4.6</u>
Carbonate, CO ₃ =	<u>-0-</u>	<u>-0-</u>
Bicarbonate, HCO ₃ -	<u>216</u>	<u>3.5</u>

Remarks and Recommendations _____

PERMIAN

Treating Chemicals, Inc.

P.O. BOX 728
LOVINGTON, N.M. 88260
PHONE (505) 396-5674

WATER ANALYSIS REPORT

Company Murphy Operating Corporation Date Sampled 9-30-87
Field Todd County Roosevelt
Lease Lower San Andres Unit State NM
Well _____ Formation _____
Type of Water Commingled, Produced, Fresh Water, B/D _____
Sampling Point Todd Plant Sampled By Blackwell

DISSOLVED SOLIDS

OTHER PROPERTIES

CATIONS	mg/l	meq/l	pH
Sodium, Na+(Calc)	<u>13721</u>	<u>÷ 23</u>	<u>597</u>
Calcium, Ca++	<u>5013</u>	<u>÷ 20</u>	<u>251</u>
Magnesium, Mg++	<u>978</u>	<u>÷ 12.2</u>	<u>80</u>
Barium, Ba++	<u>-0-</u>	<u>÷ 68.7</u>	
Iron, Fe (Total)	<u>2</u>		

Specific Gravity 1.040
H₂S Positive
Total Dissolved Solids 52550
Total Hardness 16 715

ANIONS

Chloride, Cl-	<u>32621</u>	<u>÷ 35.5</u>	<u>919</u>
Sulfate, So ₄ =	<u>410</u>	<u>÷ 48</u>	<u>9</u>
Carbonate, Co ₃ =	<u>-0-</u>	<u>÷ 30</u>	
Bicarbonate, HCo ₃ -	<u>326</u>	<u>÷ 61</u>	<u>5</u>

Remarks and Recommendations _____

PERMIAN

Treating Chemicals, Inc.

P.O. BOX 728
LOWINGTON, N.M. 88260
PHONE (505) 396-5674

WATER ANALYSIS REPORT

Company Murphy Operating Corporation Date Sampled 9-30-87
Field Todd County Roosevelt
Lease Lower San Andres Unit State NM
Well _____ Formation San Andres
Type of Water Produced Water, B/D _____

Sampling Point Produced water Injection tank. Sampled By Blackwell

DISSOLVED SOLIDS

OTHER PROPERTIES

CATIONS	mg/l	÷	meq/l	pH <u>5.5</u>
Sodium, Na+(Calc)	<u>28993</u>	÷ 23	<u>1261</u>	Specific Gravity
Calcium, Ca++	<u>10238</u>	÷ 20	<u>512</u>	<u>1.080</u>
Magnesium, Mg++	<u>2148</u>	÷ 12.2	<u>176</u>	H ₂ S <u>Positive</u>
Barium, Ba++	<u>-0-</u>	÷ 68.7	<u>-0-</u>	Total Dissolved
Iron, Fe (Total)	_____			Solids <u>111.052</u>
_____	_____			Total Hardness
_____	_____			<u>34370</u>

ANIONS

Chloride, Cl-	<u>67985</u>	÷ 35.5	<u>1918</u>
Sulfate, So ₄ =	<u>900</u>	÷ 48	<u>19</u>
Carbonate, Co ₃ =	<u>-0-</u>	÷ 30	<u>-0-</u>
Bicarbonate, HCo ₃ -	<u>743</u>	÷ 61	<u>12</u>
_____	_____		

Remarks and Recommendations _____

Todd Lower San Andres Unit
Wells #29-15, #30-2, #30-6, #30-12,
#31-11, #32-7, #35-1, #35-5, #36-1
Roosevelt County, New Mexico

Typical Data Sheet

8 5/8" J-55 in 12 1/4" hole.
Cement circulated to the surface

Annulus is filled with inert
fluid and pressure tested.

4 1/2" or 5 1/2" Uni-I packer set
approximately 100' above upper most
perforation.

The proposed injection interval is
the P-2 zone of the San Andres
Formation. This well was
originally drilled as a producer.
No known commercial oil or gas
production exists in the next high
or next lower zone.

2 3/8" 4.7# J-55 ceramic lined and set
in all wells except Well #36-1.

Proposed injection	Rate/Pressure
	BPD/PSI
Average	400/400#
Maximum	600/850#

2 1/6" 3/25# J-55 ceramic lined and
set in Well #36-1.

4 1/2" or 5 1/2" 7-7/8" hole. Top of
cement 500' - 1000' above uppermost
perforation.

WELL #	T.D.
29-15	4330'
30-2	4294'
30-6	4290'
30-12	4305'
31-11	4335'
32-7	4400'
35-1	4400'
35-5	4360'
36-1	4325'

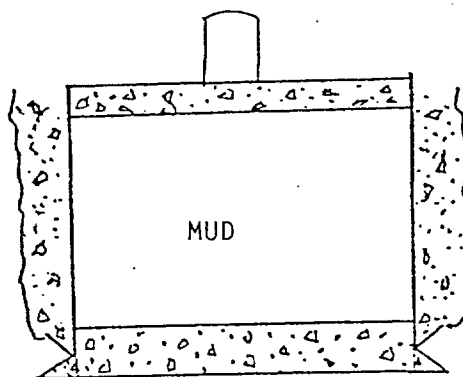
P-2 S.A. Perforations

NOT DRAWN TO SCALE

Todd Lower San Andres
 Roosevelt County, New Mexico
 Linam "A" Well No. 1
 Unit P, Section 19, T-7-S, R-36-E
 Section 19, T-7-S, R-36-E
 660 FSL & 660 FEL

PLUGGING DIAGRAM

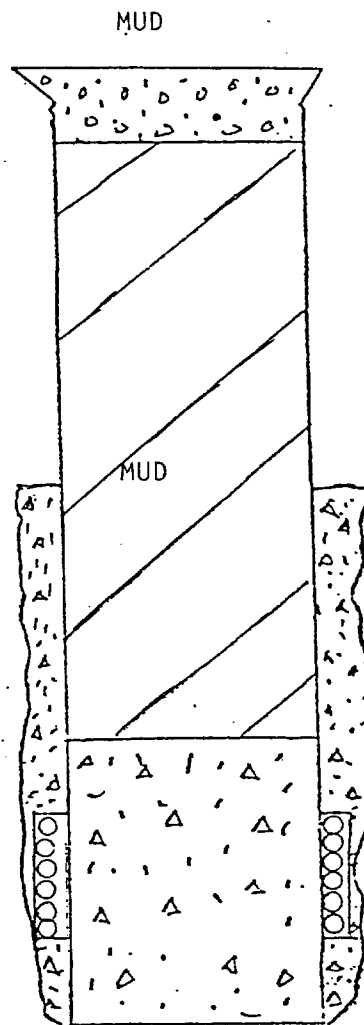
370' 3 5/8" in 12 1/4" hole
 250 sacks cement circulated
 to surface.



10 sacks cement plug to
 surface.

25 sack cement plug @ 299' - 368

4325' 4 1/2" in 7 7/8" hole
 350 sacks cement.



MUD

25 sacks cement plug @ 2028' - 228'

Plugged well 1-13-72.
 Plugged as follows:

Loaded hole with mud
 and spotted 35 sacks cement
 at 4305' - 3846'. Shot off
 4 1/2" casing at 2180'.

Cement spotted as follows:

- 10# mud 3846' - 2282'
 - 25 sacks cement 2282' - 2028'
 - 10# mud 2028' - 368'
 - 25 sacks cement 368' - 299'
 - 10# mud 299' - 28'
 - 10 sacks cement to surface.
- Set marker.

4266' - 81'

35 sack cement plug 4305' - 3846

T.D. 4325'

UNIT STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN TRIPlicate
(Other instructions on
reverse side)Form approved
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

NM 0321281

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Linam "A"

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Todd Lower San Andres

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

Sec. 19-7S-36E

12. COUNTY OR PARISH

Roosevelt

13. STATE

New Mexico

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)1. OIL WELL ☐ GAS WELL ☐ OTHER ☒ **Plugged and Abandoned**

2. NAME OF OPERATOR

Skelly Oil Company

3. ADDRESS OF OPERATOR

P. O. Box 1351, Midland, Texas 79701

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.
See also space 17 below.)
At surface

660' FSL and 660' FRL, Sec. 19-7S-36E

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

4167' DF

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

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

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

- 1) Moved in and rigged up pulling unit 1-13-72. Pulled rods and tubing
- 2) Loaded hole with 10# mud.
- 3) Spotted 35-sack cement plug 4305-3846'.
- 4) Shot off 4-1/2" OD casing at 2180' and pulled 68 joints (2272').
- 5) Spotted cement plugs as follows:

10# mud 3846--2282'
25 sacks cement 2282-2028'
10# mud 2028-368'
25 sacks cement 368-299'
10# mud 299-28'
10 sacks cement 28'-Surface

6) Set marker.

Well plugged and abandoned January 15, 1972.

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

SIGNED (Signed) D. R. Crow

TITLE Lead Clerk

DATE Jan. 19, 1972

(This space for Federal or State office use)

APPROVED BY
CONDITIONS OF APPROVAL, IF ANY:

TITLE

APPROVED

MAY 1973

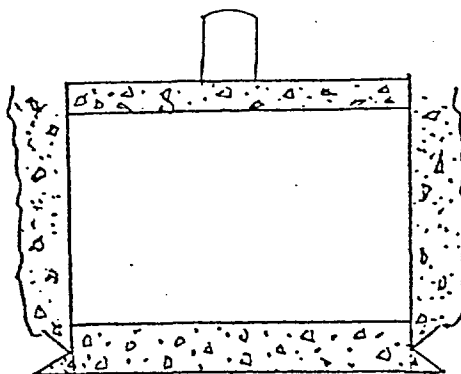
*See Instructions on Reverse Side

J. L. GORDON
DISTRICT ENGINEER

Todd Upper San Andres
 Roosevelt County, New Mexico
 Hobb "V" Well No. 1
 Unit K, Section 35, T-7-S, R-35-E
 1980 FSL & 1980 FWL

PLUGGING DIAGRAM

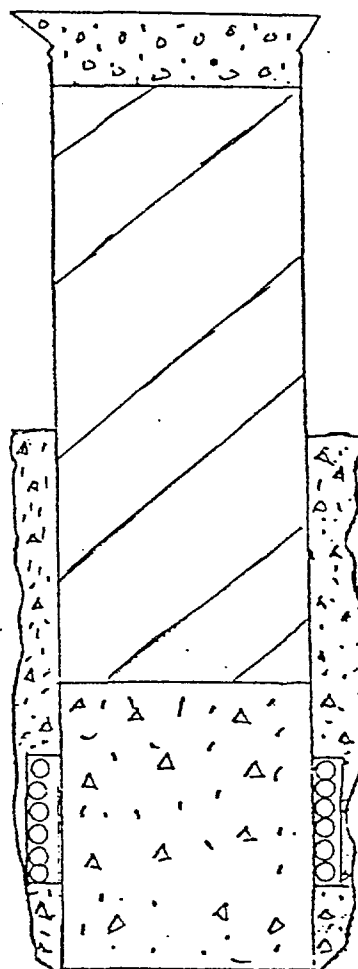
400' 8 5/8"
 225 sacks cement circulated
 to surface.



10 sacks cement plugged
 to surface.

35 sacks cement plug @ 321' - 421'

4428' 4 1/2" 350
 sacks cement



35 sacks cement plug @ 1340' - 1440'

Well plugged 10-16-74.
 Plugged as follows:

Fill hole w/ good mud
 set 4 1/2 C.I. Bridge
 Plug @ 3800'. Cut and
 removed 4 1/2" casing
 1393' set 35 sacks
 cement plug 1440' - 1340'.
 Set 35 sacks cement plug
 421' - 321'.
 Set 10 sacks cement plug
 10' - 0'.
 Installed markee.

4191' - 53' K.B.

4 1/2" C.I. Bridge Plug
 3800'

T.D. - 4430'

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FILE		
U.S.G.S.		
LAND OFFICE		
OPERATOR		

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-103
Supersedes Old
C-102 and C-103
Effective 1-1-65

5a. Indicate Type of Lease	
State ☒	Fee ☐
5. State Oil & Gas Lease No. OG-172	

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

1. OIL WELL ☐ GAS WELL ☒ OTHER ☐	7. Unit Agreement Name
2. Name of Operator Gene A Snow	8. Farm or Lease Name Hobb V"
3. Address of Operator 606 So. 13th. Lovington, N. Mexico 88260	9. Well No. 1
4. Location of Well UNIT LETTER K 1980 FEET FROM THE South LINE AND 1980 FEET FROM THE West LINE, SECTION 35 TOWNSHIP 7 S RANGE 35 E NMPM.	10. Field and Pool, or Wildcat Tob Upper San Andre
15. Elevation (Show whether DF, RT, GR, etc.)	12. County Roosevelt.

16.

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐
TEMPORARILY ABANDON ☐
PULL OR ALTER CASING ☐
OTHER ☐

PLUG AND ABANDON ☐
CHANGE PLANS ☐
OTHER ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐
COMMENCE DRILLING OPNS. ☐
CASING TEST AND CEMENT JOBS ☐
OTHER ☐
ALTERING CASING ☐
PLUG AND ABANDONMENT ☐

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

Plugged well as follows:

1. Filled hole w/ good mud.
2. Set 4 1/2" C.I. bridge plug @ 3800'.
3. Cut and removed 4 1/2" casing @ 1393'.
4. Set 35 Sks cement plug 1440' to 1340'.
" " " " " 421' to 321'.
" 10 " " " 10' to 0'.
5. Installed regulation marker.
6. Will notify when location is ready for inspection.

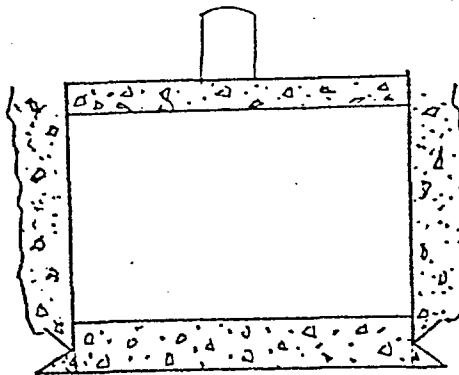
18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED Gene A Snow	TITLE owner	DATE 10-16-74
APPROVED BY John W. Runyan	TITLE Geologist	DATE FEB 22 1977
CONDITIONS OF APPROVAL, IF ANY:		

Todd Upper San Andres
 Roosevelt County, New Mexico
 Well No. 35-3
 Formerly CT State Well No. 4
 Unit C, Section 35, T-7-S, R-35-E
 660 FNL & 1980 FWL

PLUGGING DIAGRAM

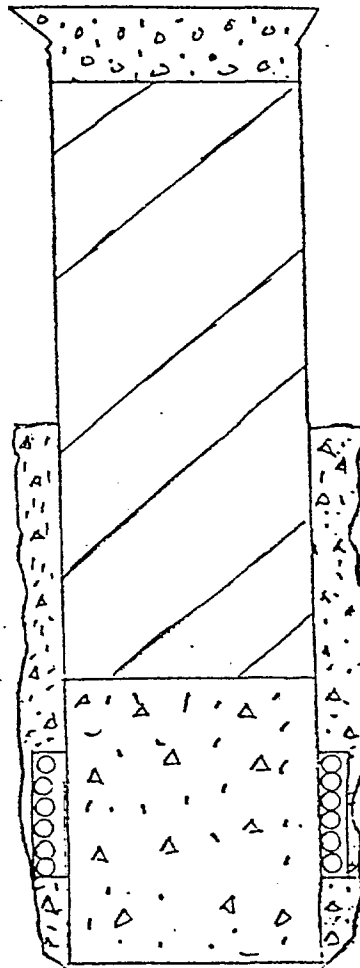
347' K.B. 7 5/8" 200
 sacks cement circulated
 to surface.



25 sacks cement plug at
 surface.

35 sacks cement plug.

4325' K.B., 4 1/2" 500
 sacks cement.



100 sack cement plug.

Well Abandoned 12-19-83.
 Plugged as follows:

Spot 25 sacks on top of
 retainer to 4040'. Perforate
 4 1/2" casing w/ 2-JS
 2000'. Spot 35 sacks plug
 on top of retainer to 1913'
 spot 25 sacks plug from
 372' to surface. Install marker

4125' - 96' K.B.

100 sack cement plug.
 4040'

T.D. - 4189'

C. CONSERVATION DIVISION
P. O. BOX 2058
SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-1-7

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SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

5a. Indicate Type of Lease
State ☐ For ☐

5. State Oil & Gas Lease No.
OC-1395

SUNDRY NOTICES AND REPORTS ON WELLS

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

OIL WELL ☐ GAS WELL ☒ OTHER ☐

Name of Operator
TEXACO Inc

Address of Operator
P. O. Box 728, Hobbs, New Mexico 88240

Location of Well

UNIT LETTER C 660 FEET FROM THE North LINE AND 1080 FEET FROM
THE West LINE, SECTION 35 TOWNSHIP 7-S RANGE 35-E NMPM.

7. Unit Agreement Name

8. Farm or Lease Name
New Mexico CT State

9. Well No.
4

10. Field and Pool, or Wildcat
Todd-Upper San Andres G

15. Elevation (Show whether DF, RT, GR, etc.)
4189' (DF)

12. County
Roosevelt

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data
NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK ☐
TEMPORARILY ABANDON ☐
PULL OR ALTER CASING ☐
OTHER ☐

PLUG AND ABANDON ☐
CHANGE PLANS ☐
OTHER ☐

REMEDIAL WORK ☐
COMMENCE DRILLING OPERATIONS ☐
CASING TEST AND CEMENT JOBS ☐
OTHER ☐

ALTERING CASING ☐
PLUG AND ABANDONMENT ☐

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

1. RIGGED UP.
2. SET CEMENT RETAINER @ 4075'. SQUEEZE CASING PERFS 4125'-4196' W/100 SX CLASS H NEAT CEMENT. SPOT 25 SX PLUG ON TOP OF RETAINER TO 4040'.
3. PERFORATE 4 1/2" CASING W/2-JS @ 2000'.
4. SET CEMENT RETAINER @ 1948'. SQUEEZE CASING PERFS @ 2000' W/100 SX CLASS H NEAT CEMENT. SPOT 35' PLUG ON TOP OF RETAINER TO 1913'.
5. SPOT 25 SX CEMENT PLUG FROM 372' - SURFACE.
6. INSTALL DRY HOLE MARKER AND CLEAN LOCATION. WELL PLUGGED AND ABANDONED, 12-19-83.

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

SIGNED Paul Kautz TITLE ASST DIST MGR

DATE 12-22-83

Original signed by

Paul Kautz

TITLE OIL & GAS INSPECTOR

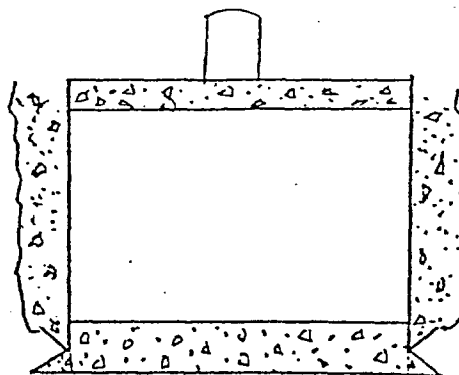
DATE FEB 29 1984

APPROVED BY
CONDITIONS OF APPROVAL, IF ANY:

Todd San Andres
 Roosevelt County, New Mexico
 Mark Federal Well No. 1
 Unit M, Section 26, T-7-S, R-35-E
 660 FSL & 660 FWL

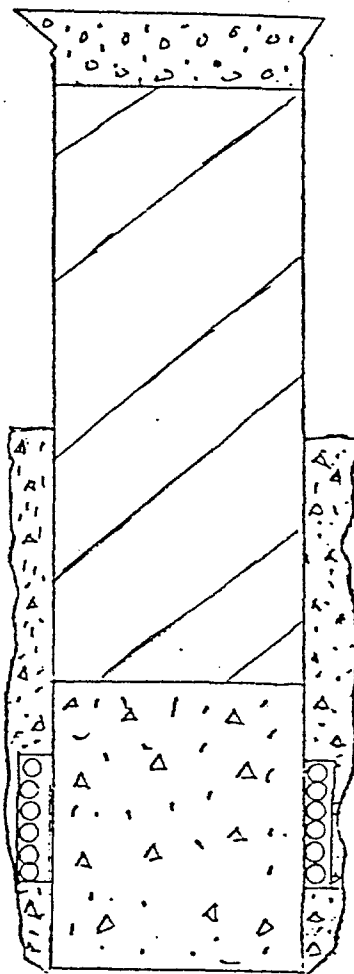
PLUGGING DIAGRAM

290' K.B. 8 5/8" in 12 1/4"
 hole. 175 sacks cement
 circulated to surface.



10 sacks cement plug
 at surface.

4297' K.B. 4 1/2" in 7 7/8"
 hole. 300 sacks cement.



Well plugged 5-28-80
 Cement through 2" tubing.
 20 sacks at 4206' and set
 10 sacks at surface.
 Install marker.

20 sacks cement plug 4206'

4211' - 21' Perforations

T.D. 4355'

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYCOPY TO O. C. G.
SUBMIT IN TRIPI
(Other instructions on re-
verse side)Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

Lc 062529-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Mark Federal

9. WELL NO.

#1

10. FIELD AND POOL, OR WILDCAT

Todd-San Andres

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

26-7-35

Sec 2 T-7S R-30E

12. COUNTY OR PARISH 13. STATE

Roswell N.M.

SUNDRY NOTICES AND REPORTS ON WELLS
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)1. OIL ☐ GAS ☐ OTHER ☒
WELL ☐ WELL ☐

2. NAME OF OPERATOR

Holly Energy Inc.

3. ADDRESS OF OPERATOR

P.O. Box 726

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface

660 FSL 660 FWL

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

4206' GL

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

☐
☐
☐
☐

FULL OR ALTER CASING

☐
☐
☐
☐

FRACTURE TREAT

MULTIPLE COMPLETE

SHOOT OR ACIDIZE

ABANDON*

REPAIR WELL

CHANGE PLANS

(Other)

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

☐
☐
☐
☐

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

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

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

Cement thru 2" tubing-pump 20 sacks Class C 2% cacl. at 4206'
and set 10 sacks Class C 2%cacl. at surface. Install dry hole
marker. Witnessed by Winnie Kelly U.S.G.S. 5-28-80

RECEIVED

JUN 3 1980

U. S. GEOLOGICAL SURVEY
HOBBS, NEW MEXICO

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

SIGNED

Robert Loyd

TITLE Superintendent

DATE

6-2-80

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

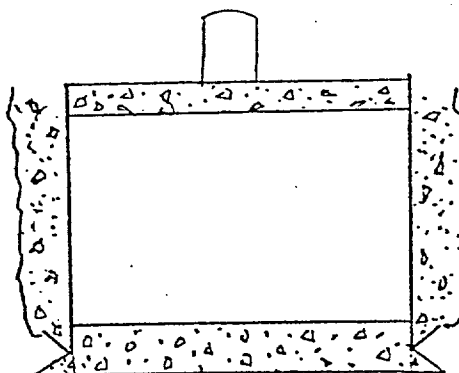
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Todd Upper San Andres
 Roosevelt County, New Mexico
 Mark Federal Well No. 2
 Unit M, Section 25, T-7-S, R-35-E
 990 FSL & 990 FWL

PLUGGING DIAGRAM

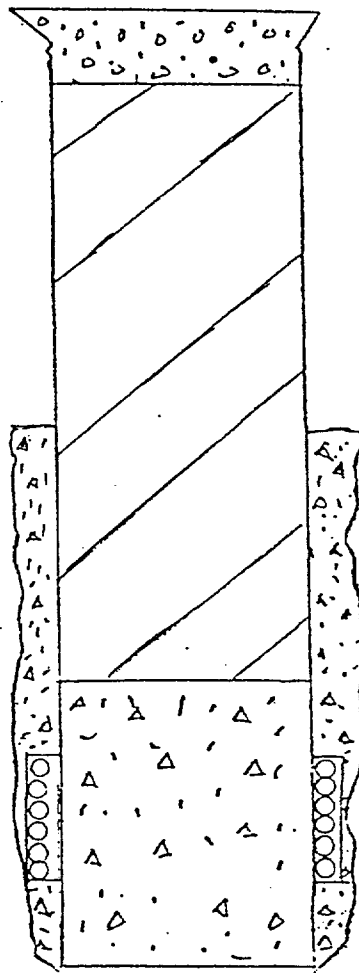
286' 8 5/8" in 12 1/4" hole.
 200 sacks cement circulated
 to surface.



5 sacks cement plug to
 surface.

25 sack cement plug @ 286'

4297' 4 1/2" in 7 7/8" hole
 300 sacks cement



35 sack cement plug @ 1210'

Well plugged 4-7-80.
 Well plugged as follows:

Circulated mud, spotted 35
 sacks cement plug across all
 perforations. 4106' - 4248'.
 Tubing pull and free point
 run. 4 1/2" casing shot and
 a 35 sack cement plug spotted
 in and out of 8 5/8" casing at
 286' and 5 sack plug at surface.

Installed Marker

4106' - 4147' s/ ISPI

35 sack cement plug.
 4106' - 4248'

T.D. - 4321'

UNIT STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN TRIPPLICATE
(Other instructions on
reverse side)Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

LC 062529-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Mark Federal

9. WELL NO.

2

10. FIELD AND POOL, OR WILDCAT

Todd - Upper San Andres Ga

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

25-7S-35E, N.M.P.M.

12. COUNTY OR PARISH

Roosevelt

13. STATE

New Mexico

1.

OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR

FRANKLIN, ASTON & FAIR, INC.

3. ADDRESS OF OPERATOR

P. O. Box 1090, Roswell, New Mexico 88201

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)

At surface

990' FSL & 990' FWL, Sec. 25, T. 7 S., R. 35 E.

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

4170' DF

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

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

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

On April 7, 1970, this well was plugged and abandoned as follows:

Went to bottom with tubing and circulated mud and spotted 35 sack cement plug across all perfs. 4106' - 4248'. The tubing was then pulled and free point run. The 4½" csg was shot and a 35 sack cement plug spotted at 1210'. A 25 sack cement plug was spotted in and out of the 8 5/8" csg. at 286' and a 5 sack plug and marker set at surface.

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

SIGNED

Grant M. Smith

TITLE Geologist

DATE 4-17-70

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

APPROVED

DATE

MAY 28 1970

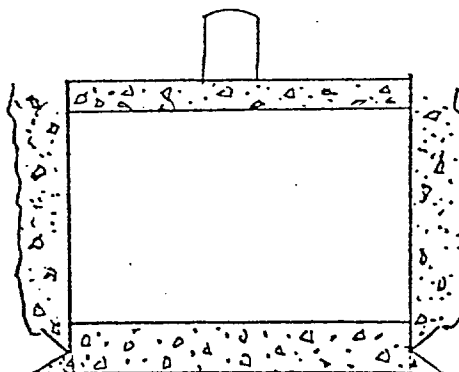
*See Instructions on Reverse Side

J L GORDON
ACTING DISTRICT ENGINEER

Todd Lower San Andres
 Roosevelt County, New Mexico
 Livaduis Federal Well No. 6
 Unit A, Section 30, T-7-S, R-36-E
 660 FNL & 660 FEL

PLUGGING DIAGRAM

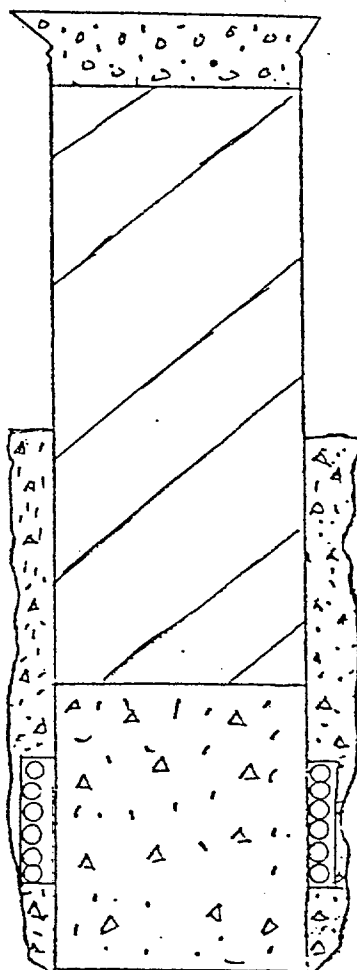
293' K.B. 8 5/8" in
 12 1/4" hole. 150 sacks
 cement circulated to
 surface.



10 sacks cement plug at
 surface.

30 sack cement plug @ 293'

4325' 5 1/2" in 7 7/8"
 hole. 250 sacks cement.



30 sack cement plug @ 1535'

Well was plugged 12-14-68.
 Plugged as follows:

30 sacks cement plug across
 4232' - 4285' via tubing.
 30 sacks cement plug at top
 of 5 1/2" casing after running
 free point and shooting casing
 at 1535'. 30 sack plug at
 293' in and out of 8 5/8"
 surface casing. 10 sack plug
 and marker at surface.

Perforations
 4232' - 85' K.B.

30 sack cement plug 4232' - 4285'

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN TRIPL
(Other instructions
reverse side)DE*
re-Form approved.
Budget Bureau No. 42-R1424.

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER ☒ Dry hole		5. LEASE DESIGNATION AND SERIAL NO. NM 0139989
2. NAME OF OPERATOR FRANKLIN, ASTON & FAIR, INC.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR P. O. Box 1090, Roswell, New Mexico 88201		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 660' FN&EL's Sec. 30-7S-36E, N.M.P.M.		8. FARM OR LEASE NAME Llvaudais Federal
14. PERMIT NO.		9. WELL NO. 6
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 4145.9' GL, 4154.4' KB		10. FIELD AND POOL, OR WILDCAT Todd Lower San Andres
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 30-7S-36E, N.M.P.M.
		12. COUNTY OR PARISH Roosevelt
		13. STATE New Mexico

16.

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

☐

PULL OR ALTER CASING

☐

FRACTURE TREAT

☐

MULTIPLE COMPLETE

☐

SHOOT OR ACIDIZE

☐

ABANDON*

☐

REPAIR WELL

☐

CHANGE PLANS

☐

(Other)

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

☐

FRACTURE TREATMENT

☐

SHOOTING OR ACIDIZING

☐

(Other)

☐

REPAIRING WELL

☐

ALTERING CASING

☐

ABANDONMENT

☒

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

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

This well was plugged and abandoned on December 14, 1968 as follows:

30 sack cement plug across 4232'-4285' via tubing
30 sack cement plug at top of 5 1/2" casing after running
free point and shooting casing at 1535'
30 sack plug at 293' in and out of 8 5/8" surface casing
10 sack plug and marker at surface

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

SIGNED

Grant M. Smith

TITLE

Geologist

DATE

12-18-68

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

APPROVED

DATE

DEC 18 1968

*See Instructions on Reverse Side
L. GORDON
ACTING DISTRICT ENGINEER

LEGAL NOTICE

This shall constitute notice to all the world that Murphy Operating Corporation (United Bank Plaza, Suite 300, Post Office Box 2648, Roswell, New Mexico 88202-2648, Attention Mark B. Murphy, telephone number (505) 623-7210) intends to convert the following wells from producing to injection service for the purpose of expanding the existing waterflood project, the Todd Lower San Andres Unit, located in Roosevelt County, New Mexico.

Well No., Unit, Section, and Township, Range respectively.

29-15, O, 29, T-7-S, R-36-E, NMPM;
30-2, B, 30, T-7-S, R-36-E, NMPM;
30-6, F, 30, T-7-S, R-36-E, NMPM;
30-12, L, 30, T-7-S, R-36-E, NMPM;
31-11, K, 31, T-7-S, R-36-E, NMPM;
32-7, G, 32, T-7-S, R-36-E, NMPM;
36-1, A, 36, T-7-S, R-35-E, NMPM;
35-1, A, 35, T-7-S, R-35-E, NMPM;
35-5, E, 35, T-7-S, R-35-E, NMPM

Water will be injected into the P-2 zone of the San Andres formation (between depths of 4200' to 4350') at rates of approximately 400 BWPD and at maximum wellhead pressures not exceeding 850psi.

Interested parties must file objections or requests for hearing with the Oil Conservation Division, Post Office Box 2088, Santa Fe, New Mexico 87501 within 15 days.

Published in the Portales News-Tribune March 25, 27, 28. Legal #0245.

Affidavit of Publication

I, Marshall Stinnett
Business Manager of

THE PORTALES NEWS-TRIBUNE

a newspaper of general paid circulation and entered under second class postal privilege in Roosevelt County, published daily, (except Saturday) at Portales, New Mexico, for the fifty-two (52) consecutive weeks preceding this date, do solemnly swear that a copy of the above notice, as per clipping attached, was published weekly in the regular and entire issue of said

newspaper, and not in any supplement thereof for

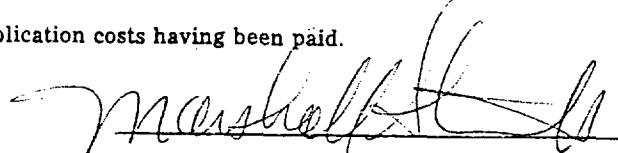
consecutive weeks commencing with the issue dated

March 25 1988

and ending with the issue dated

March 28 1988

All publication costs having been paid.



28th day of March 1988

De Maris Barnett

Notary Public

Subscribed and sworn to before me this

My commission expires 3/7/91 1991

March 29 1908

Murphy Operating Corp.

P. C. Box 2649

Roswell, N.N. 88202-2648

TO Portales News-Tribune DR.

Phone 356-4481 — P.O. Box 848

PORTALES, NEW MEXICO 88130

[illegible]

April 21, 1988

▽

Re: Todd Lower San Andres Unit
Roosevelt County, New Mexico

▽

This letter is to constitute notice that Murphy Operating Corporation, Roswell, New Mexico, intends to convert the following wells from producing to injection service for the purpose of expanding the existing waterflood project, the Todd Lower San Andres Unit, located in Township 7 South, Range 36 East, NMPM, Roosevelt County, New Mexico

<u>Well No.</u>	<u>Unit</u>	<u>Section</u>	<u>Township, Range</u>
29-15	O	29	T-7-S, R-36-E, NMPM
30- 2	B	30	T-7-S, R-36-E, NMPM
30- 6	F	30	T-7-S, R-36-E, NMPM
30-12	L	30	T-7-S, R-36-E, NMPM
31-11	K	31	T-7-S, R-36-E, NMPM
32- 7	G	32	T-7-S, R-36-E, NMPM
36- 1	A	36	T-7-S, R-35-E, NMPM
35- 1	A	35	T-7-S, R-35-E, NMPM
35- 5	E	35	T-7-S, R-35-E, NMPM

Water will be injected into the P-2 zone of the San Andres formation between the depths of 4200' - 4350' at rates of approximately 400 BWPd and at maximum wellhead pressures not exceeding 850psi.

Enclosed for your review and information, please find a copy of the State of New Mexico Oil Conservation Division Form C-108, "Application for Authorization to Inject".

If you should have any questions concerning this matter, I can be contacted at the telephone number listed above. Interested parties must file objections or requests for hearing with the Oil Conservation Division, Post Office Box 2088, Santa Fe, New Mexico 87501 within fifteen (15) days.

Sincerely,

MURPHY OPERATING CORPORATION

Mark B. Murphy
President and Chief Operating Officer

MBM/msl

Enclosure:

State of New Mexico Oil Conservation Division
Form C-108, "Application for Authorization to Inject"

Distribution List

Todd Lower San Andres Unit

Injection Expansion
Form C-108

Mr. Bill Coppoc, Engineer
Apache Corporation
500 Triad Center
7666 East 61st Street
Tulsa, Oklahoma 74133-1201

Dear Mr. Coppoc:

Mr. Kenneth D. Crews,
Landman and Attorney
Mayfair Minerals, Inc.
Post Office Box 940
Mayfair, Texas 78502

Dear Mr. Crews:

Mr. Mike Slater, Operations Manager
Yates Petroleum Corporation
105 South 4th Street
Artesian, New Mexico 88210

Dear Mr. Slater:

Mr. H.R. Lewis, District Manager
Amoco Production Company
Post Office Box 4072
Odessa, Texas 79760

Dear Mr. Lewis:

Mr. John M. Weaver, District Manager
Texaco, Inc.
Post Office Box 1270
Midland, Texas 79702

Dear Mr. Weaver:

Mr. Micky Warlick
Gulf Chevron, U.S.A.
Post Office Box 670
Hobbs, New Mexico 88240

Mr. Bill Graham
G & P Exploration, Inc.
4800 San Felipe - Suite 620
Houston, Texas 77056

Dear Mr. Graham:

P 219 882 486
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO Mr. John M. Weaver, D.M.	
STREET AND NO. Post Office Box 1270	
P.O. STATE AND ZIP CODE Midland, Texas 79702	
POSTAGE	\$
CONSULT POSTMASTER FOR FEES OPTIONAL SERVICES RETURN RECEIPT SERVICE	CERTIFIED FEE
	SPECIAL DELIVERY
	RESTRICTED DELIVERY
	SHOW TO WHOM AND DATE DELIVERED
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY
TOTAL POSTAGE AND FEES \$2.00	
POSTMARK OR DATE 4-21-88	

PS Form 3800, Apr. 1976

P 219 882 487
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO Mr. H. R. Lewis, D.M.	
STREET AND NO. Post Office Box 4072	
P.O. STATE AND ZIP CODE Odessa, Texas 79760	
POSTAGE	\$
CONSULT POSTMASTER FOR FEES OPTIONAL SERVICES RETURN RECEIPT SERVICE	CERTIFIED FEE
	SPECIAL DELIVERY
	RESTRICTED DELIVERY
	SHOW TO WHOM AND DATE DELIVERED
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY
TOTAL POSTAGE AND FEES \$2.00	
POSTMARK OR DATE 4-21-88	

PS Form 3800, Apr. 1976

P 219 882 493
RECEIPT FOR CERTIFIED MA

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO Mr. Kenneth D. Crews	
STREET AND NO. Post Office Box 940	
P.O. STATE AND ZIP CODE Mayfair, Texas 78502	
POSTAGE	\$
CONSULT POSTMASTER FOR FEES OPTIONAL SERVICES RETURN RECEIPT SERVICE	CERTIFIED FEE
	SPECIAL DELIVERY
	RESTRICTED DELIVERY
	SHOW TO WHOM AND DATE DELIVERED
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY
TOTAL POSTAGE AND FEES \$2.00	
POSTMARK OR DATE 4-21-88	

PS Form 3800, Apr. 1976

P 219 882 504
RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO Mr. Ted Williamson	
STREET AND NO. 88215	
P.O. STATE AND ZIP CODE Milnesand, New Mexico	
POSTAGE	\$
CONSULT POSTMASTER FOR FEES OPTIONAL SERVICES RETURN RECEIPT SERVICE	CERTIFIED FEE
	SPECIAL DELIVERY
	RESTRICTED DELIVERY
	SHOW TO WHOM AND DATE DELIVERED
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY
TOTAL POSTAGE AND FEES \$2.00	
POSTMARK OR DATE 4-21-88	

PS Form 3800, Apr. 1976

P 219 882 488
RECEIPT FOR CERTIFIED MA

NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO Mr. Mike Slater, O.M.	
STREET AND NO. 105 South 4th Street	
P.O. STATE AND ZIP CODE Artesia, New Mex. 88210	
POSTAGE	\$
CONSULT POSTMASTER FOR FEES OPTIONAL SERVICES RETURN RECEIPT SERVICE	CERTIFIED FEE
	SPECIAL DELIVERY
	RESTRICTED DELIVERY
	SHOW TO WHOM AND DATE DELIVERED
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY
TOTAL POSTAGE AND FEES \$2.00	
POSTMARK OR DATE 4-21-88	

PS Form 3800, Apr. 1976

P 310 153 482

RECEIPT FOR CERTIFIED MAIL
 NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

PS Form 3800, June 1985

★ U.S.G.P.O. 1985-480-794

Sent to Mr. Bill Coppoc, Engineer	
Street and No. 7666 East 61st Street	
P.O., State and ZIP Code Tulsa, Oklahoma 74133-1201	
Postage	\$ 2.00
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$ 2.00
Postmark or Date 4-21-88	

P 219 882 509

RECEIPT FOR CERTIFIED MAIL
 NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

PS Form 3800, Apr. 1976

SENT TO Mr. Bill Graham			
STREET AND NO. 4800 San Felipe-Suite 620			
P.O., STATE AND ZIP CODE Houston, Texas 77056			
POSTAGE	\$		
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢	
	SPECIAL DELIVERY	¢	
	RESTRICTED DELIVERY	¢	
	OPTIONAL SERVICES	SHOW TO WHOM AND DATE DELIVERED	¢
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		¢	
TOTAL POSTAGE AND FEES	\$ 2.00		
POSTMARK OR DATE 4-21-88			

P 219 882 510

RECEIPT FOR CERTIFIED MAIL
 NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

PS Form 3800, Apr. 1976

SENT TO Mr. Micky Warlick			
STREET AND NO. Post Office Box 670			
P.O., STATE AND ZIP CODE Hobbs, New Mex. 88240			
POSTAGE	\$		
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢	
	SPECIAL DELIVERY	¢	
	RESTRICTED DELIVERY	¢	
	OPTIONAL SERVICES	SHOW TO WHOM AND DATE DELIVERED	¢
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		¢	
TOTAL POSTAGE AND FEES	\$ 2.00		
POSTMARK OR DATE 4-21-88			



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

GARREY CARRUTHERS
GOVERNOR

4-27-88

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

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

RE: Proposed:

MC _____
DHC _____
NSL _____
NSP _____
SWD _____
WFX ☒ _____
PMX _____

Sec. 29 #15 T7 R-36
Sec. 30 #2
Sec. 30 #6
Sec. 30 #12
Sec. 31 #11
Sec. 32 #7
Sec. 35 #1 T7-R-35
Sec. 35 #5
Sec. 36 #1

Gentlemen:

I have examined the application for the:

Murphy Oper. Co. Todd Lower SA Unit
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK

Yours very truly,

Jerry Sexton
Supervisor, District 1

/ed