KELLAHIN and KELLAHIN
Attorneys at Law
El Patio - 117 North Guadalupe
Post Office Box 2265
Santa Fe, New Mexico 87504-2265

Jason Kellahin
W. Thomas Kellahin
Karen Aubrey

Telephone 982-4285
Area Code 505

July 23, 1984

RECEIVED
JUL 23 1984
OIL CONSERVATION DIVISION

Mr. Joe D. Ramey
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

"Hand Delivered"

Re: Apollo Energy, Inc.
SWD Federal A-13 No. 1
Section 13, T9S, R35E, Lea County

Dear Mr. Ramey:

On July 16, 1984, we filed an application on behalf of Apollo Energy Inc. for approval of the referenced well as a salt water disposal well.

Please find enclosed the original and one copy of the completed C-108 for the hearing on this application which is set for August 8, 1984.

Very truly yours,

W. Thomas Kellahin

WTK:ca
Enc.

cc: Mr. Mohammed Y. Merchant
Apollo Energy Inc.
P. O. Box 5315
Hobbs, New Mexico 88241

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
- ☒ Show to whom and date delivered..... 60 ¢
- ☐ Show to whom, date and address of delivery.... ¢
- ☐ RESTRICTED DELIVERY
  Show to whom and date delivered..... ¢
- ☐ RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery.$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Layton Enterprises
3103 - 79th Street
Lubbock, Texas 79423

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	P497-963-150	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

4. DATE OF DELIVERY | POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: | CLERK'S INITIALS

☆GPO : 1979-300-459

APOLLO ENERGY, INC.
P. O. Box 5315
HOBBS, NEW MEXICO 88241
(505) 397-3596

LAYTON ENTERPRISES
3103 - 79TH STREET
LUBBOCK, TEXAS 79423

P 497 963 150

RECEIPT FOR CERTIFIED MAIL

Sent to
Layton Enterprises
Street and No.
3103 - 79th Street
P.O., State and ZIP Code
Lubbock, Tx. 79423

Postage	$ .71
Certified Fee	.75
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	.60
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$2.06

Postmark or Date

PS Form 3800, Feb. 1982

CERTIFIED

P 497 963 150

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
XX Show to whom and date delivered.....60 ¢
☐ Show to whom, date and address of delivery.....¢
☐ RESTRICTED DELIVERY
Show to whom and date delivered.....¢
☐ RESTRICTED DELIVERY.
Show to whom, date, and address of delivery.$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Milton Bonds
P. O. Box 963
Corssroads, New Mexico 88114

3. ARTICLE DESCRIPTION:
REGISTERED NO. | CERTIFIED NO. | INSURED NO.
P497-963-148

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

4. DATE OF DELIVERY | POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: | CLERK'S INITIALS

☆GPO : 1979 311 459

APOLLO ENERGY, INC.
P. O. Box 5315
HOBBS, NEW MEXICO 88241
(505) 397-3596

MILTON BONDS
P. O. BOX 963
CROSSROADS, NM 88114

P 497 963 148

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Milton Bonds	
Street and No. P. O. Box 963	
P.O. State and ZIP Code Crossroads, NM 88114	
Postage	$ .71
Certified Fee	.75
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	.60
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$ 2.06
Postmark or Date	

PS Form 3800, Feb. 1982

CERTIFIED
P 497 963 148
MAIL

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
- XX Show to whom and date delivered..... 60 ¢
- ☐ Show to whom, date and address of delivery.... ___ ¢
- ☐ RESTRICTED DELIVERY
  Show to whom and date delivered..... ___ ¢
- ☐ RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery.$ ___

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
M & G Oil Inc.
P. O. Box 957
Crossroads, New Mexico 88114

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	P497-963-149	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

4. DATE OF DELIVERY — POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: — CLERK'S INITIALS

☆GPO : 1979-300-459

APOLLO ENERGY, INC.
P. O. Box 5315
HOBBS, NEW MEXICO 88241
(505) 397-3596

M & G OIL INC.
P. O. BOX 957
CROSSROADS, NM 88114

P 497 963 149

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to M & G Oil Inc.	
Street and No. P. O. Box 957	
P.O. State and ZIP Code Crossroads, NM 88114	
Postage	$ .71
Certified Fee	.75
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	.60
Return Receipt Showing to whom, Date and Address of Delivery	
TOTAL Postage and Fees	$ 2.06
Postmark or Date	

PS Form 3800, Feb. 1982

CERTIFIED
P 497 963 149
MAIL

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

RECEIVED
JUL 2[illegible] 1984
OIL CONSERVATION DIVISION

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☒ no

II. Operator: Apollo Energy, Inc.

Address: P. O. Box 5315, Hobbs, New Mexico 88241

Contact party: M. Y. Merchant Phone: (505)397-3596

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

IV. Is this an expansion of an existing project? ☐ yes ☒ no
If yes, give the Division order number authorizing the project _____.

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

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

VII. Attach data on the proposed operation, including:

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

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

IX. Describe the proposed stimulation program, if any.

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

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

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

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

XIV. Certification

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

Name: Mohammed Yamin Merchant Title President

Signature: Mohammed Yamin Merchant Date: July 17, 1984

* 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. Logs should have been submitted when the well was originally drilled. The operator has ordered a copy from PI.

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 2088, 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.

APOLLO ENERGY, INC.

Exhibit I

WELL DATA ON DISPOSAL WELL

Stimulation Program: None anticipated

Log: See attached

(A) 1. Federal "A" 13
Well No. 1
Unit "C", 660 feet from North and 1980 feet from West
Section 13, Township 9 South, Range 35 East NMPM,
Lea County, New Mexico

(A) 2. Casing strings:

1. 13 3/8" casing at 359 feet with 350 sacks, circulated.
2. 9 5/8" casing at 4410 feet with 2879 sacks, circulated.
3. 7" casing at 9597 feet with 1650 sacks.
4. Top of cement behind 7": 14,488 feet calculated.

   If we allow for hole washout etc. is almost to surface between 7" and 9 5/8" casings.

(A) 3. Tubing:

2 7/8", 6.4# plastic coated at 9500 feet.

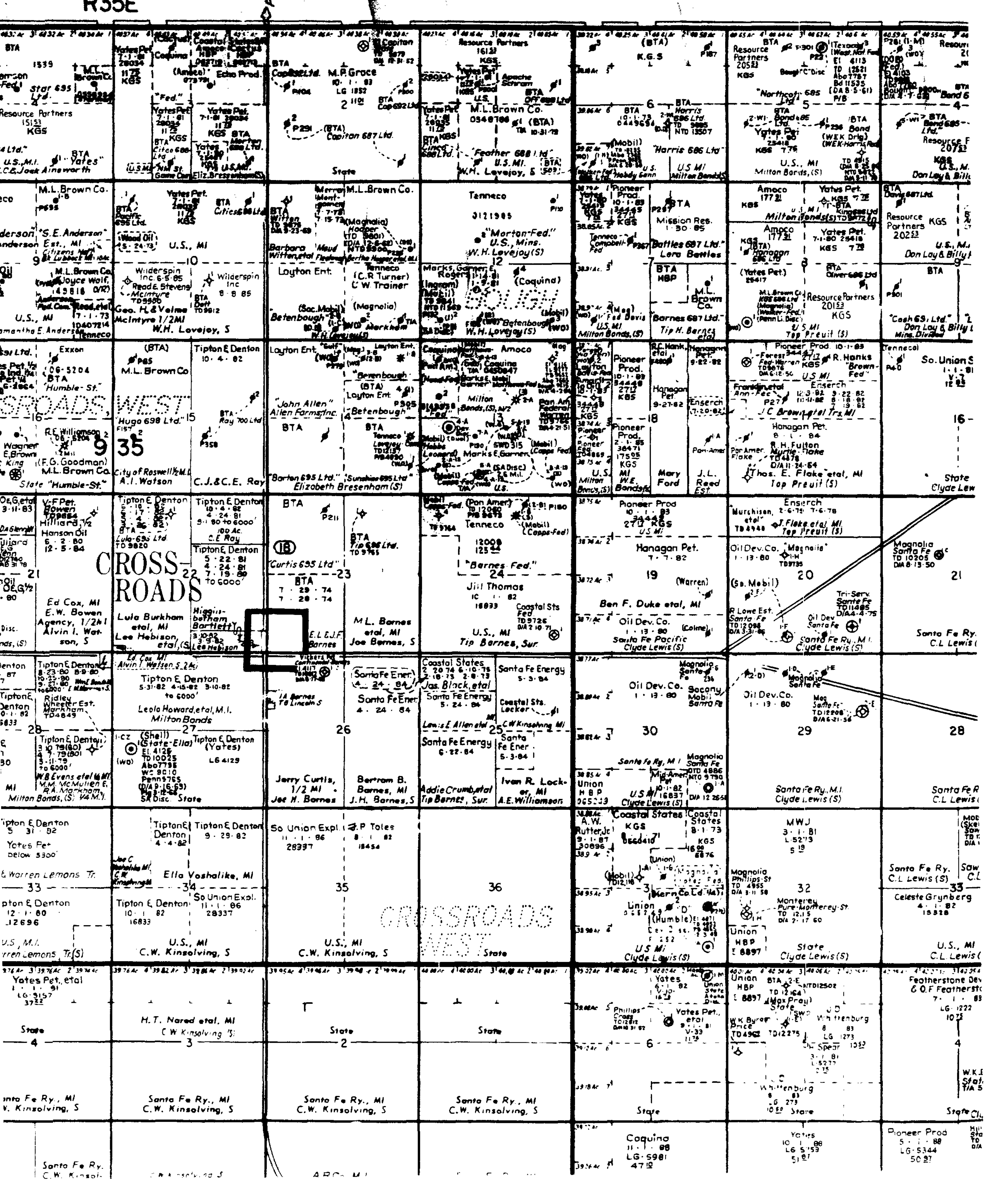
(A) 4. Baker - Plastic coated lok-set at 9500 feet.

(B) 1. Injection formation is Bough C.

(B) 2. Injection interval through open hole 9597 - 9615 feet.

(B) 3. Originally drilled as oil well by Mangolia Petroleum Company. Plugged and abandoned in 1959. Re-entered by McGrath & Smith in November, 1969. Completed in Bough "C" open hole 9597 - 9615 feet as a producer.

Exhibit II



103°20'
R35E
To Portales
BTA
Resource Partners
M.L. Brown Co.
Yates Pet.
M.P. Grace
Capitan 687 Ltd.
Resource Partners
M.L. Brown Co.
U.S., MI
Feather 688 Ltd.
W.H. Lovejoy, S
K.G.S
Harris 686 Ltd
U.S. MI
Milton Bonds (S)
Don Lay & Billy
Tenneco
"Morton-Fed."
U.S., Mins.
W.H. Lovejoy (S)
Layton Ent.
Mission Res.
Battles 687 Ltd.
Lera Battles
Wilderspin Inc.
Geo. H. & Velma McIntyre 1/2MI
W.H. Lovejoy, S
Betenbough
Barnes 687 Ltd.
Tip H. Barnes
Top Preuit (S)
Exxon
M.L. Brown Co
Tipton & Denton
Layton Ent.
Amoco
Pioneer Prod.
Hanagan Pet.
Ensearch
So. Union
"Hugo 698 Ltd."
"John Allen"
Allen Farms Inc.
Betenbough
Milton Bonds, (S), M/2
Marks & Garner
SWD 315
M.L. Brown Co.
City of Roswell 1/2 M.I.
A.I. Watson
C.J. & C.E. Ray
"Barton 695 Ltd."
Elizabeth Bresenham (S)
Mary Ford
J.L. Reed Est.
R.H. Fulton
Thos. E. Flake etal, MI
Top Preuit (S)
State
Clyde Lewis
CROSSROADS WEST
CROSS-ROADS
Tenneco
"Barnes Fed."
Jill Thomas
Hanagan Pet.
Ben F. Duke etal, MI
Oil Dev. Co.
Santa Fe Pacific
Clyde Lewis (S)
Magnolia
Santa Fe Ry., M.I.
Clyde Lewis (S)
Santa Fe Ry.
C.L. Lewis
Ed Cox, MI
E.W. Bowen Agency, 1/2 & I
Alvin I. Watson, S
Lula Burkham etal, MI
Lee Hebison, etal, (S)
"Curtis 695 Ltd"
M.L. Barnes etal, MI
Joe Barnes, S
U.S., MI
Tip Barnes, Sur.
Tipton & Denton
Leola Howard, etal, M.I.
Milton Bonds
Santa Fe Energy
Jas. Black, etal
Coastal States
Oil Dev. Co.
Socony Mobil
Santa Fe Energy
Jerry Curtis, 1/2 MI
Joe H. Barnes
Bertram B. Barnes, MI
J.H. Barnes, S
Addie Crumb, etal
Tip Barnes, Sur.
Ivan R. Locker, MI
A.E. Williamson
Santa Fe Ry., M.I.
Clyde Lewis (S)
Santa Fe R
C.L. Lewis
Milton Bonds, (S), 3/4 M.I.
State
Tipton & Denton
Yates Pet
Warren Lemons Tr.
Ella Voshalike, MI
So Union Expl.
U.S., MI
C.W. Kinsolving, S
So Union Expl.
P. Toles
U.S., MI
C.W. Kinsolving, S
CROSSROADS WEST
State
Coastal States
KGS
Union
Clyde Lewis (S)
MWJ
Magnolia
Monterey
Union
State
Clyde Lewis (S)
Santa Fe Ry.
C.L. Lewis (S)
Celeste Grynberg
U.S., MI
C.L. Lewis
Yates Pet., etal
H.T. Nored etal, MI
C W Kinsolving (S)
State
State
State
Yates Pet., etal
Phillips
Union
Featherstone Dev
& O.F. Featherstone
Whittenburg
Santa Fe Ry., MI
C.W. Kinsolving, S
Santa Fe Ry., MI
C.W. Kinsolving, S
Santa Fe Ry., MI
C.W. Kinsolving, S
Santa Fe Ry., MI
C.W. Kinsolving, S
State
Coquina
Yates
Pioneer Prod
Santa Fe Ry.
C.W. Kinsolving

Exhibit III

Tabulation of data on all wells of public record as required by Paragraph VI of C-108.

Apollo Energy, Inc.	Betenbough No. 5	Unit Letter L, Sec. 12, T9S, R35E Drilled October, 1983 Csg: 13 3/8" @ 355' w/350 sxs 8 5/8" @ 4100' w/300 sxs 5 1/2" @ 9739' w/450 sxs Tbg: 2 3/8" @ 9720' Perfs: 9691" 9715' - Producing
Apollo Energy, Inc.	Betenbough No. 2	Unit Letter M, Sec. 12, T9S, R35E Originally drilled by Mangolia, May, 1949. P & A'd 1956. Re-entered and completed as San Andres. Csg: 13 3/8" @ 354' w/375 sxs 8 5/8" @ 6200' w/4500 sxs 7" @ 9641' w/775 sxs ODT: 11569', OPBTD: 9641' Tbg: 2 3/8" @ 4750' Perfs: 9596' - 9616 (sequeezed) Perfs: 4748' - 50' T/A
Coquina Oil Corp.	Betenbough No. 2	Unit Letter N, Sec. 12, T9S, R35E Drilled January, 1950 Csg: 13 3/8" @ 353' w/350 sxs 8 5/8" @ 4438' w/2300 sxs 7" @ 9606 w/1950 sxs 5" @ 9585' w/35 sxs OH: 9609' - 9639' Pulled 8169' of 5" Cement plugs: 20 sxs @ 8169' 20 sxs @ 4438' 40 sxs @ 2672' 35 sxs @ 366' 10 sxs @ Surface Plugged and abandoned May, 1977.
Layton Enterprises	Betenbough B No. 4	Unit H, Sec. 14, T9S, R35E Drilled March, 1976 Csg: 12 3/4" @ 380' w/375 sxs 8 5/8" @ 4055' w/300 sxs 5 1/2" @ 9752' w/250 sxs Perfs: 9601'-23' CIBP: @9550' w/35 sxs Cut and pulled 5 1/2" @ 4211' 100 sx plug 4260' - 3960' 35 sx plug 2300' - 2185' Cut and pulled 8 5/8" @ 1128' 50 sx plug 1178' - 1048' 75 sx plug 430' - 328' 10 sx @ Surface Plugged and abandoned September, 1980.

Exhibit IV

Tabulation of data on all wells of public record as required by Paragraph VI of C-108 continued.

Coquina Oil Corporation	Federal "13" No. 1	Unit D, Sec. 14, T9S, R35E Drilled January, 1950 Csg: 13 3/8" @ 375' w/350 sxs 9 5/8" @ 4433' w/1900 sxs 7" @ 9615' w/170 sxs Old SA squeezed perfs: 4748'- 51' Penn Perfs: 9585' - 9605' Fish & Junk @ 8072' 50 sx plug on top of fish Top of plug @ 7300' 50 sx plug @ 4600' 35 sx plug @ 2300' 5 sx plug @ Surface Plugged and abandoned July, 1977
Mangolia Petroleum Corp.	Mathew Fed. No. 2	Unit A, Sec. 13, T9S, R35E Drilled January, 1951 Have been unable to get details on this plugged well to date.
Pan American	Federal A No. 2	Unit G, Sec. 13, T9S, R35E Drilled January, 1959 Csg: 10 3/4" @ 440' w/500 sxs 7 5/8" @ 4267' w/1700 sxs Liner 5 1/2" @ 9570' w/1450 sxs Perfs: 9563' - 70' (squeezed) Perfs: 4810' - 20' (gas) Plugged and abandoned March, 1967: 20 sxs cement 4830'- 4600' 20 sxs cement 4205'- 4105' 10 sxs cement @ Surface.
Apollo Energy, Inc.	Federal A No. 5	Unit N, Sec. 13, T9S, R35E Drilled July, 1963 Csg: 13 3/8" @ 460' w/475 sxs 9 5/8" @ 4902' w/1925 sxs 5 1/2" @ 12018' w/250 sxs Dev. Perfs: 12002' - 12' Currently being used as injection well - packer @ 11900'.
Apollo Energy, Inc.	Federal A No. 4	Unit L, Sec. 13, T9S, R35E Drilled May, 1965 Csg. 13 3/8" @ 449' w/475 sxs 9 5/8" @ 4950' w/2450 sxs 7" @ 11940 w/1300 sxs Perfs: 9550' - 60' Squeezed BP @ 11936' - Perfs: 11916' - 23'; 11928' - 35' Currently SI because of high water production.

Tabulation of data on all wells of public record as required by Paragraph VI of C-108 continued.

Apollo Energy, Inc.	Federal A No. 7	Unit K, Sec. 13, T9S, R35E Drilled December, 1971 Csg: 11 3/4" @ 459' w/ 575 sxs 8 5/8" @ 4502' w/1250 sxs 5 1/2 @ 11966' w/300 sxs Tbg: 2 3/8 @ 11958' Well currently producing. Perfs: 11956' - 64'
Apollo Energy, Inc.	Hood Federal No. 2	Unit E, Sec. 13, T9S, R35E Drilled December, 1965 Csg: 13 3/8" @ 452' w/450 sxs 8 5/8" @ 4874 w/2200 sxs 5 1/2" @ 11955' w/1150 sxs Tbg: 2 3/8", N-80 @ 4582' Perfs: 11863' - 72' 11880' - 98' Currently producing.

APOLLO ENERGY, INC.

Exhibit VI

Geological Data on Injection Zone

Pool: Bough - Permo Pennsylvanian

Formation: Bough "C"

Geological Name: Bough "C"

Thicknees: 44 feet (average)

Depth: 9615 feet

Injection Interval: 9597' - 9615' (open hole)

APOLLO ENERGY, INC.

Exhibit VII

Data on Proposed Operation

Federal "A" 13 No. 1 - SWD

1. Proposed average and maximum daily rate and volume of fluids to be injected:

   Average daily rate of 1200 b/d
   Maximum daily rate of 3000 b/d

2. System is closed.

3. Proposed average and maximum injection pressures:

   Average injection pressure: 250 psig
   Maximum injection pressure: 800 psig

4. (a) Source of injection fluid: Producing leases on the same section.

   (b) Analysis of formation fluid:

   (i) Bough "C" formation (attached)
   (ii) Devonian formation (attached)

5. Zone of disposal is productive of oil and gas within one mile of the proposed disposal well.

HALLIBURTON DIVISION LABORATORY
HALLIBURTON COMPANY
LOVINGTON, NEW MEXICO

Exhibit VIII

LABORATORY WATER ANALYSIS No. W1-259-71

To Amoco Production Company

Box 68

Hobbs, New Mexico 88240

Attn: Mr. jim York

Date 5/18/71

Submitted by Date Rec. 5/14/71

Well No. As Marked Depth Formation Bough Devonian

County Field Source Well Head

	FEDERAL "A" # 4	FEDERAL "A" # 5	
Resistivity	.100 @ 76 F	.118 @ 76 F	
Specific Gravity	1.046	1.040	
pH	6.7	6.5	
Calcium (Ca)	3,000	2,500	*MPL
Magnesium (Mg)	990	1,200	
Chlorides (Cl)	41,500	38,500	
Sulfates (SO_4)	1,800	1,400	
Bicarbonates (HCO_3)	360	488	
Soluble Iron (Fe)	20	Nil	

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Robert Lansford

cc:

HALLIBURTON COMPANY

By Robert Lansford
CHEMIST

NOTICE

WATER ANALYSIS
Exhibit IX

Lab. No. T-20,892
Field No. HB-41
API Well No.

ATION SAMPLED: Division Houston District Area Hobbs
rator (Plant) Amoco Production Company Well No. 7 Lease Federal "A"
(Province) New Mexico County (Parish) Lea
. 9S Rng. 35E Sec. 13 Quarter (Lsd.) Other (Meridian)
Wildcat ( ) Field Well (X) Field name Bough Devonian
ple collected from Wellhead Date 8-1-72 Sample collected by Al Klaar
rval sampled to Interval name
overy

n 97 transmitted by V. E. Staley Date August 4, 1972 Authorized by

ORGANIC CONSTITUENTS in mg/l

	BOTTOM	MIDDLE	TOP	MUD	
nc					
nc					
ases					

DESCRIPTION OF SAMPLE

ple used for detailed analyses
received
dition as received
r
r
ended solids
om sediment
or fluorescence

QUALITY OF SAMPLE

	BOTTOM	MIDDLE	TOP
ride			
ng/l:			

MMENTS:

CONVENTIONAL MAJOR ION ANALYSIS

			Major Ions mg/l	% of Total Major Ions	Reaction Value meq/l	% of Total Reaction Value
CATIONS	Sodium	Na^+	18,446	33.58	802.38	42.67
	Calcium	Ca^{++}	2,120	3.86	105.79	5.63
	Magnesium	Mg^{++}	390	.71	32.06	1.70
	Potassium	K^+				
ANIONS	Chloride	Cl^-	31,900	58.07	899.58	47.84
	Bicarbonate	HCO_3^-	576	1.05	9.45	.50
	Sulfate	SO_4^{--}	1,500	2.73	31.20	1.66
	Carbonate	CO_3^{--}	0	0	0	0
	TOTAL		54,932			

Total solids by evaporation 56,020 mg/l
NaCl resistivity equivalent (Dunlap) 54,046 mg/l
Resistivity .128 ohm-meters at 77 °F
pH 7.1 Specific gravity 1.039 at 74 °F
Ryznar stability index (2pHs-pH) at °F

OTHER IONS AND DISSOLVED SOLIDS

CATIONS	mg/l	ANIONS	mg/l	OTHERS	mg/l

REMARKS AND CONCLUSIONS:

H_2S content is 24 ppm. Dissolved iron content is 1 ppm.

T. C. Borland
W. L. Adams
V. E. Staley
G. W. Schmidt

Analyst J. J. Elliott Date 8-18-72

Water charts on back ( )

Exhibit X

Analysis of produced water from Bough "C" (Penn) formation Section 11, Township 9 South, Range 35 East.

mg/liter

Chloride	36000 - 25000
Calcium	2500
Magnesium	200 - 500
Sodium	20000
Bicarbonate	370 - 400
Sulfate	1100 - 1500
pH	6.2 - 6.4

APOLLO ENERGY, INC.

Exhibit XI

Federal "A" 13 - Well No. 1
Salt Water Disposal
Unit "C", Sec. 13, T9S, R35E
Lea County, New Mexico

Affirmative Statement

As required by item XII of Form C-108. Apollo Energy, Inc. has 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.

APOLLO ENERGY, INC.

Exhibit XII

NOTICE

Pursuant to Section XIV of Form C-108.

Apollo Energy, Inc. has mailed copies of the application to the following:

Surface Owner: Milton Bonds
P. O. Box 963
Crossroads, New Mexico 88114

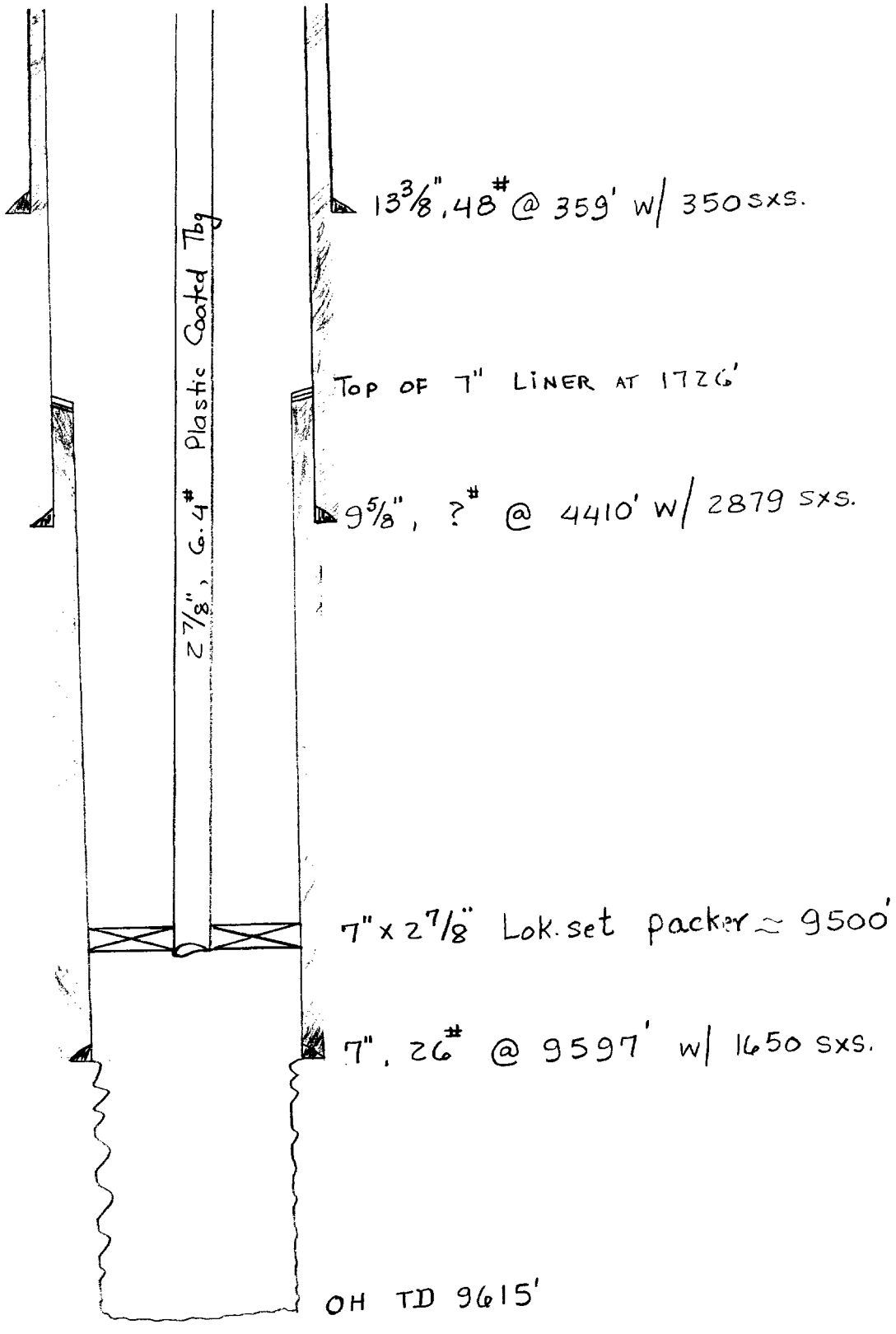
Off-set Operators within one-half mile:

Layton Enterprises
3103 - 79th Street
Lubbock, Texas 79423

M & G Oil Inc.
P. O. Box 957
Crossroads, New Mexico 88114

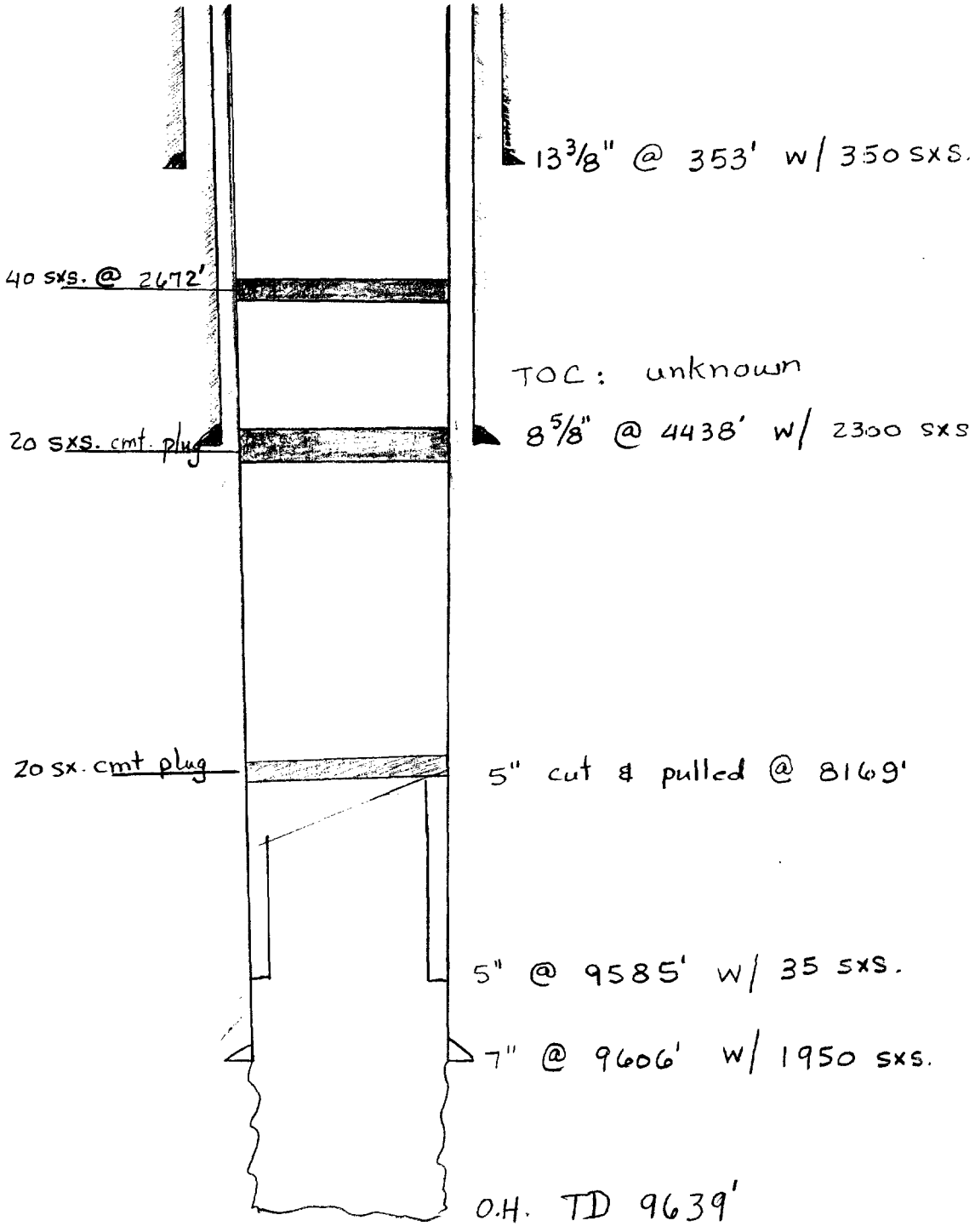
APOLLO ENERGY, INC.
FEDERAL 'A' 13 NO. 1
PROPOSED DISPOSAL WELL
UNIT C, SEC. 13, T9S, R35E

Exhibit XIII



COQUINA OIL CORP.
BETENBOUGH NO. 2
UNIT N, SEC. 12, T9S, R35E

Exhibit XIV

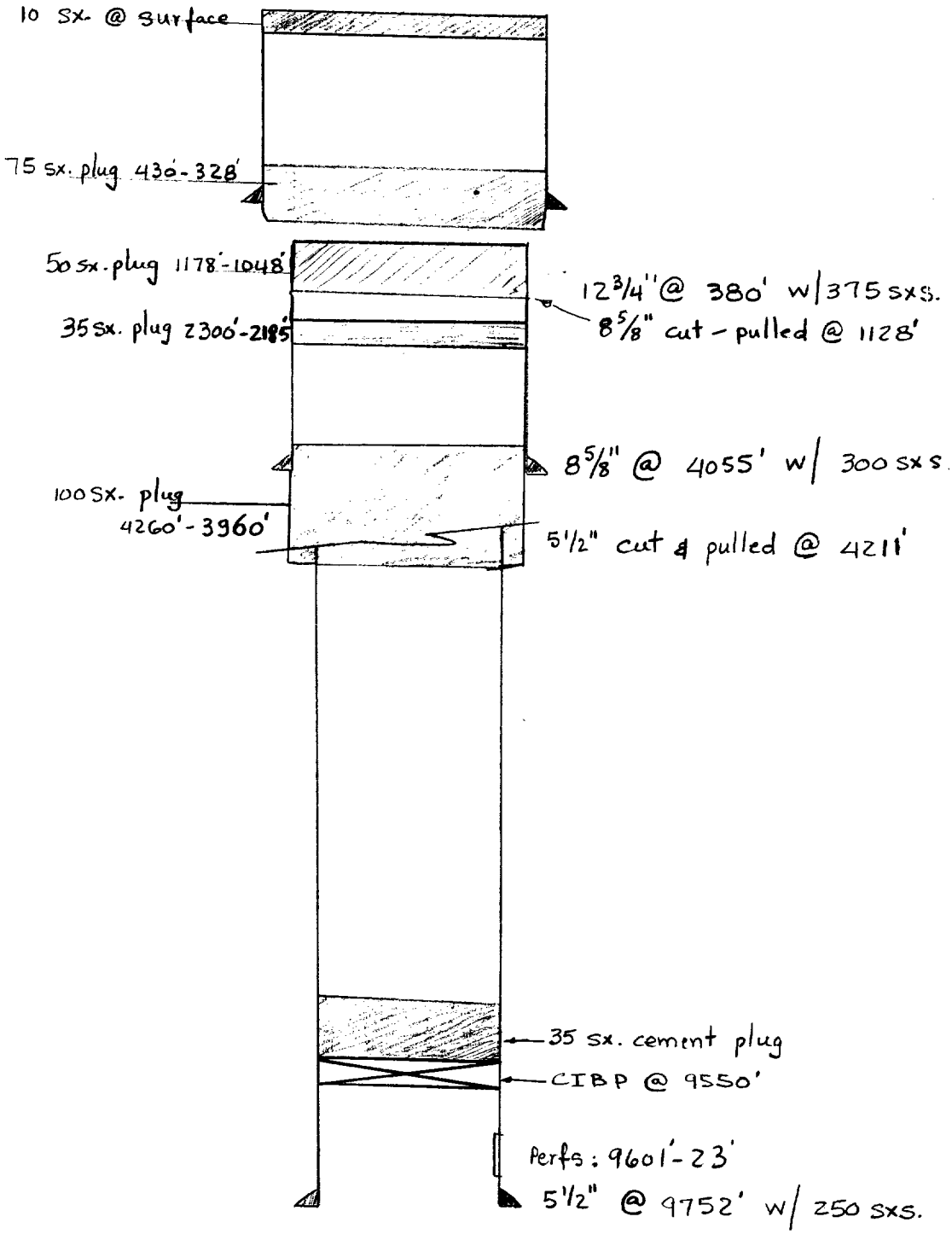


LAYTON ENTERPRISES

BETENBOUGH NO. 4

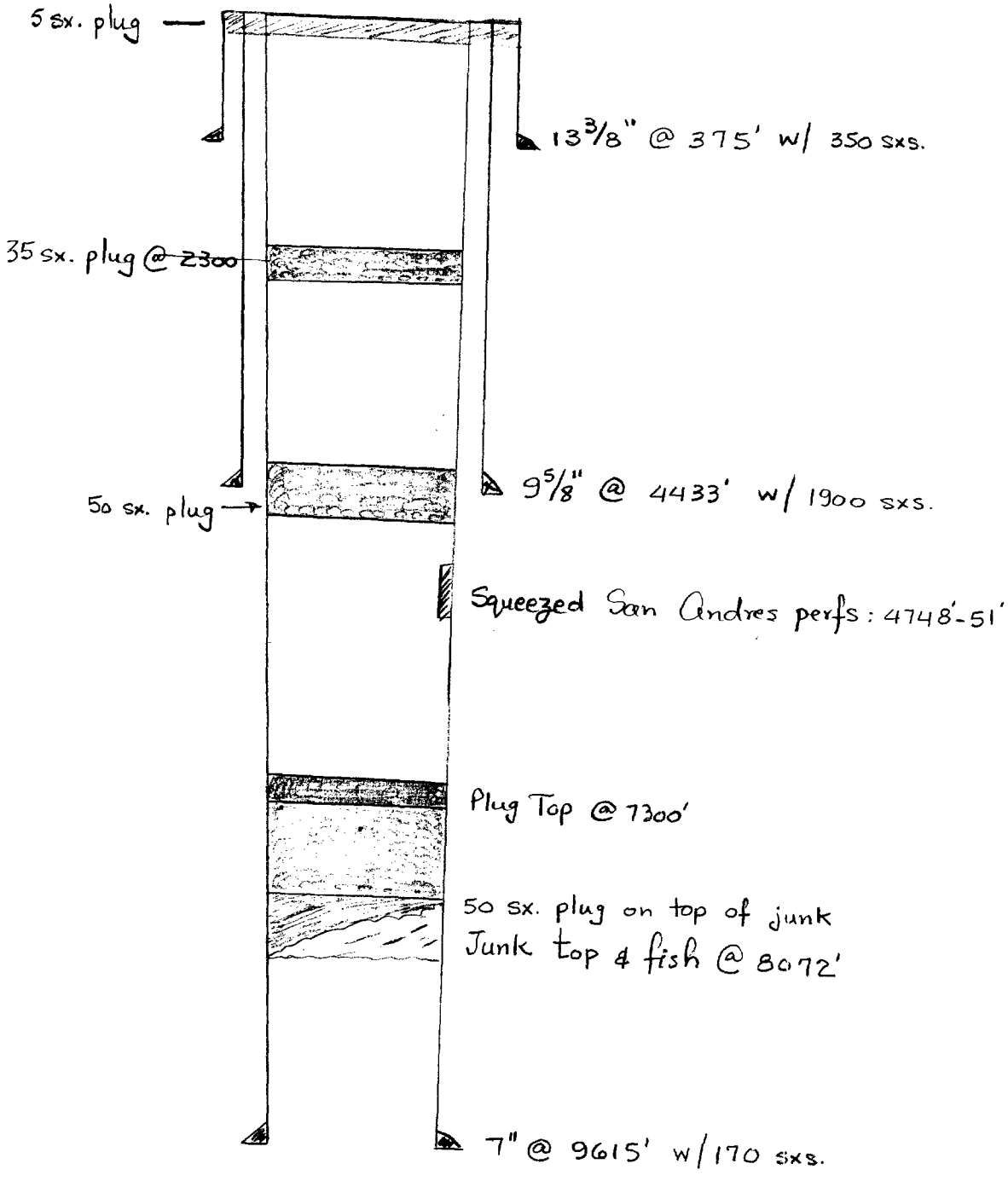
UNIT H, SEC. 14, T9S, R35E

Exhibit XV



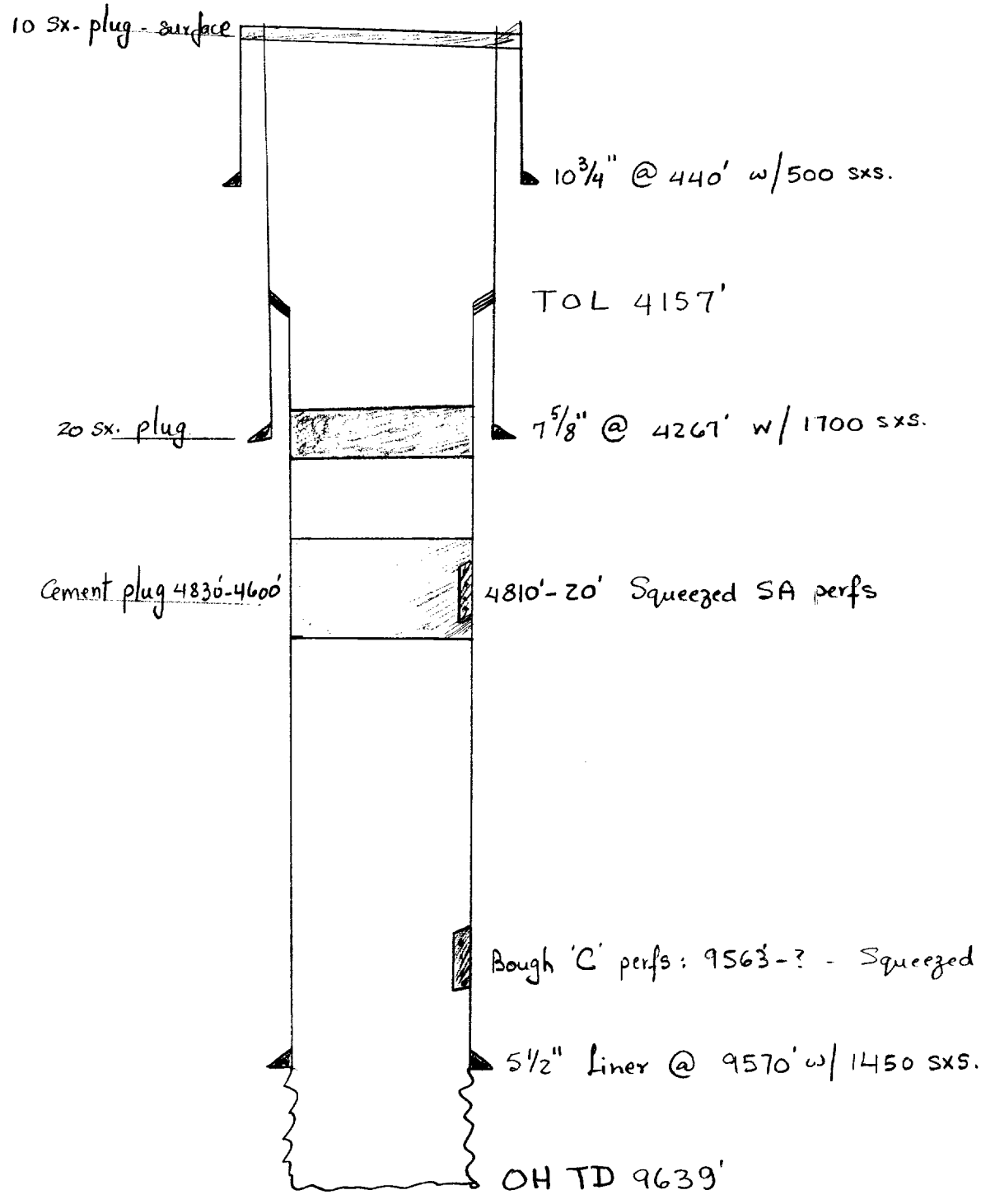
Coquina Oil Corporation
Federal '13' No. 1
Unit D, Sec. 14, T9S, R35E

Exhibit XVI



PAN AMERICAN PET.
FEDERAL "A" NO. 2
Unit "G", Sec. 14, T9S, R35E

Exhibit XVII



PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
   - XX Show to whom and date delivered.....60 ¢
   - ☐ Show to whom, date and address of delivery.....— ¢
   - ☐ RESTRICTED DELIVERY
     Show to whom and date delivered.....— ¢
   - ☐ RESTRICTED DELIVERY.
     Show to whom, date, and address of delivery.$—

   (CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
   Milton Bonds
   P. O. Box 963
   Corssroads, New Mexico 88114

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	P497-963-148	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorised agent

4. DATE OF DELIVERY — POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: — CLERK'S INITIALS

☆GPO : 1979 301 469

APOLLO ENERGY, INC.
P. O. Box 5315
HOBBS, NEW MEXICO 88241
(505) 397-3596

MILTON BONDS
P. O. BOX 963
CROSSROADS, NM 88114

P 497 963 148

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Milton Bonds	
Street and No. P. O. Box 963	
P.O. State and ZIP Code Crossroads, NM 88114	
Postage	$ .71
Certified Fee	.75
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	.60
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$ 2.06
Postmark or Date	

PS Form 3800, Feb. 1982

CERTIFIED

P 497 963 148

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
- [X] Show to whom and date delivered..... 60 ¢
- [ ] Show to whom, date and address of delivery.... ___ ¢
- [ ] RESTRICTED DELIVERY
  Show to whom and date delivered..... ___ ¢
- [ ] RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery.$ ___

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
M & G Oil Inc.
P. O. Box 957
Crossroads, New Mexico 88114

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	P497-963-149	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

4. DATE OF DELIVERY — POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: — CLERK'S INITIALS

☆GPO : 1978-300-459

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

APOLLO ENERGY, INC.
P. O. Box 5315
HOBBS, NEW MEXICO 88241
(505) 397-3596

M & G OIL INC.
P. O. BOX 957
CROSSROADS, NM 88114

P 497 963 149

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to M & G Oil Inc.	
Street and No. P. O. Box 957	
P.O. State and ZIP Code Crossroads, NM 88114	
Postage	$ .71
Certified Fee	.75
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	.60
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$ 2.06
Postmark or Date	

PS Form 3800, Feb. 1982

CERTIFIED
P 497 963 149
MAIL

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
- ☒ Show to whom and date delivered..... 60 ¢
- ☐ Show to whom, date and address of delivery.... ¢
- ☐ RESTRICTED DELIVERY
  Show to whom and date delivered..... ¢
- ☐ RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery.$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:

Layton Enterprises
3103 - 79th Street
Lubbock, Texas 79423

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	P497-963-150	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

4. DATE OF DELIVERY | POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: | CLERK'S INITIALS

☆GPO : 1979-300 459

APOLLO ENERGY, INC.
P. O. Box 5315
HOBBS, NEW MEXICO 88241
(505) 397-3596

LAYTON ENTERPRISES
3103 - 79TH STREET
LUBBOCK, TEXAS 79423

P 497 963 150

RECEIPT FOR CERTIFIED MAIL

Sent to
Layton Enterprises
3103 - 79th Street
Lubbock, Tx. 79423

	.71
	.75
	.60
TOTAL Postage and Fees	2.06

Postmark or Date

PS Form 3800, Feb. 1978

CERTIFIED

P 497 963 150

ENERGY AND MINERALS DEPARTMENT

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

RE

Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

JUL [illegible] 1984

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☒ no

OIL CONSERVATION DIVISION

II. Operator: Apollo Energy, Inc.

Address: P. O. Box 5315, Hobbs, New Mexico 88241

Contact party: M. Y. Merchant Phone: (505)397-3596

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

IV. Is this an expansion of an existing project? ☐ yes ☒ no
If yes, give the Division order number authorizing the project _____.

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

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

VII. Attach data on the proposed operation, including:

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

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

IX. Describe the proposed stimulation program, if any.

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

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

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

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

XIV. Certification

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

Name: Mohammed Yamin Merchant Title President

Signature: Mohammed Yamin Merchant Date: July 17, 1984

* 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. Logs should have been submitted when the well was originally drilled. The operator has ordered a copy from PI.

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 2088, 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.

APOLLO ENERGY, INC.

Exhibit I

WELL DATA ON DISPOSAL WELL

Stimulation Program: None anticipated

Log: See attached

(A) 1. Federal "A" 13
Well No. 1
Unit "C", 660 feet from North and 1980 feet from West
Section 13, Township 9 South, Range 35 East NMPM,
Lea County, New Mexico

(A) 2. Casing strings:

1. 13 3/8" casing at 359 feet with 350 sacks, circulated.
2. 9 5/8" casing at 4410 feet with 2879 sacks, circulated.
3. 7" casing at 9597 feet with 1650 sacks.
4. Top of cement behind 7": 14,488 feet calculated.

   If we allow for hole washout etc. is almost to surface between 7" and 9 5/8" casings.

(A) 3. Tubing:

2 7/8", 6.4# plastic coated at 9500 feet.

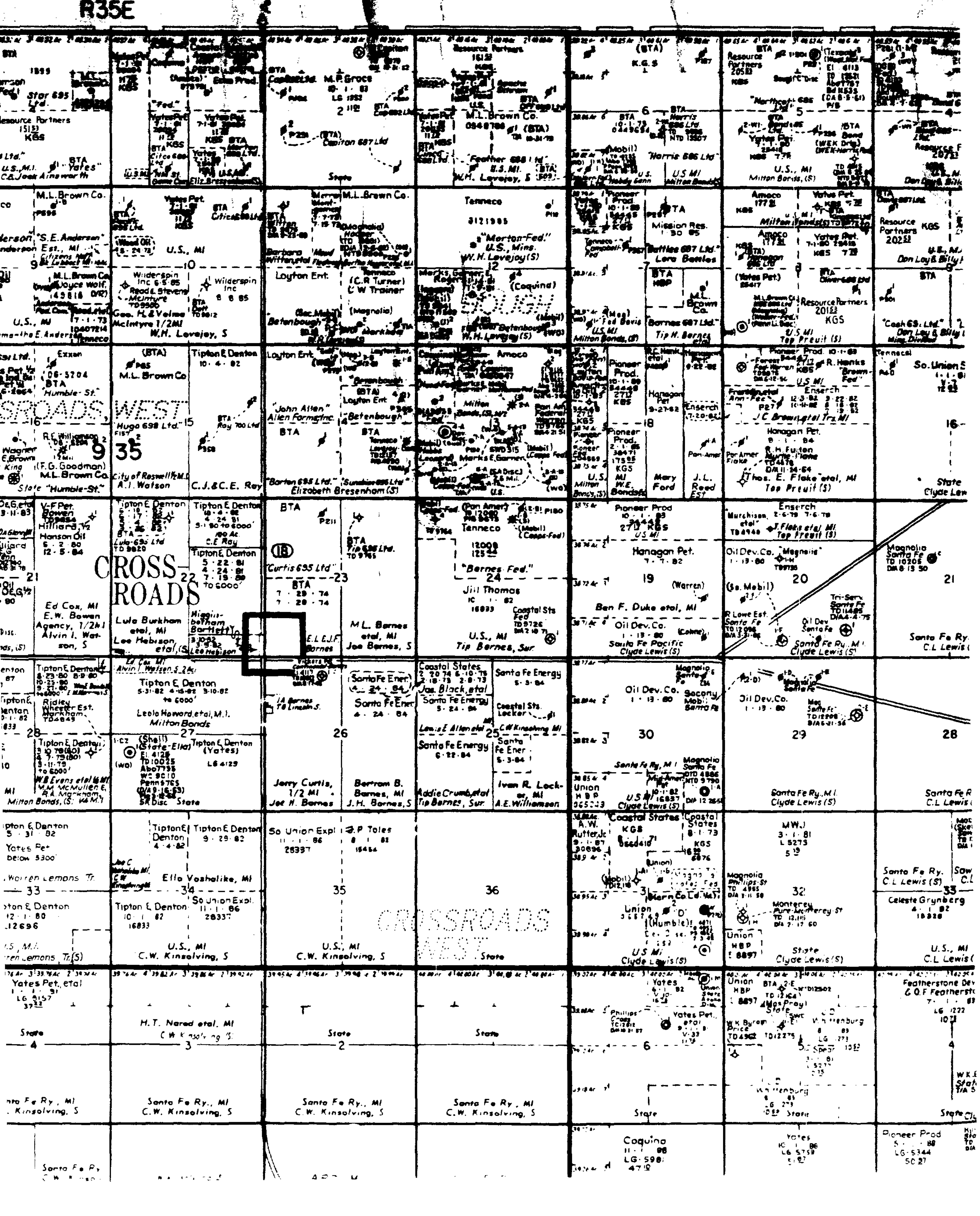
(A) 4. Baker - Plastic coated lok-set at 9500 feet.

(B) 1. Injection formation is Bough C.

(B) 2. Injection interval through open hole 9597 - 9615 feet.

(B) 3. Originally drilled as oil well by Mangolia Petroleum Company. Plugged and abandoned in 1959. Re-entered by McGrath & Smith in November, 1969. Completed in Bough "C" open hole 9597 - 9615 feet as a producer.

Exhibit II



R35E
CROSS-ROADS
CROSSROADS WEST
M.L. Brown Co.
Tenneco
Tipton E. Denton
Santa Fe Energy
Oil Dev. Co.
Coastal States
Santa Fe Ry., MI
C.W. Kinsolving, S
U.S., MI
State
Clyde Lewis (S)
Ensearch
Hanagan Pet.
Resource Partners
Yates Pet.
Amoco
Pioneer Prod.
Layton Ent.

Exhibit III

Tabulation of data on all wells of public record as required by Paragraph VI of C-108.

Apollo Energy, Inc.	Betenbough No. 5	Unit Letter L, Sec. 12, T9S, R35E Drilled October, 1983 Csg: 13 3/8" @ 355' w/350 sxs 8 5/8" @ 4100' w/300 sxs 5 1/2" @ 9739' w/450 sxs Tbg: 2 3/8" @ 9720' Perfs: 9691" 9715' - Producing
Apollo Energy, Inc.	Betenbough No. 2	Unit Letter M, Sec. 12, T9S, R35E Originally drilled by Mangolia, May, 1949. P & A'd 1956. Re-entered and completed as San Andres. Csg: 13 3/8" @ 354' w/375 sxs 8 5/8" @ 6200' w/4500 sxs 7" @ 9641' w/775 sxs ODT: 11569', OPBTD: 9641' Tbg: 2 3/8" @ 4750' Perfs: 9596' - 9616 (sequeezed) Perfs: 4748' - 50' T/A
Coquina Oil Corp.	Betenbough No. 2	Unit Letter N, Sec. 12, T9S, R35E Drilled January, 1950 Csg: 13 3/8" @ 353' w/350 sxs 8 5/8" @ 4438' w/2300 sxs 7" @ 9606 w/1950 sxs 5" @ 9585' w/35 sxs OH: 9609' - 9639' Pulled 8169' of 5" Cement plugs: 20 sxs @ 8169' 20 sxs @ 4438' 40 sxs @ 2672' 35 sxs @ 366' 10 sxs @ Surface Plugged and abandoned May, 1977.
Layton Enterprises	Betenbough B No. 4	Unit H, Sec. 14, T9S, R35E Drilled March, 1976 Csg: 12 3/4" @ 380' w/375 sxs 8 5/8" @ 4055' w/300 sxs 5 1/2" @ 9752' w/250 sxs Perfs: 9601'-23' CIBP: @9550' w/35 sxs Cut and pulled 5 1/2" @ 4211' 100 sx plug 4260' - 3960' 35 sx plug 2300' - 2185' Cut and pulled 8 5/8" @ 1128' 50 sx plug 1178' - 1048' 75 sx plug 430' - 328' 10 sx @ Surface Plugged and abandoned September, 1980.

Exhibit IV

Tabulation of data on all wells of public record as required by Paragraph VI of C-108 continued.

Coquina Oil Corporation	Federal "13" No. 1	Unit D, Sec. 14, T9S, R35E Drilled January, 1950 Csg: 13 3/8" @ 375' w/350 sxs 9 5/8" @ 4433' w/1900 sxs 7" @ 9615' w/170 sxs Old SA squeezed perfs: 4748'- 51' Penn Perfs: 9585' - 9605' Fish & Junk @ 8072' 50 sx plug on top of fish Top of plug @ 7300' 50 sx plug @ 4600' 35 sx plug @ 2300' 5 sx plug @ Surface Plugged and abandoned July, 1977
Mangolia Petroleum Corp.	Mathew Fed. No. 2	Unit A, Sec. 13, T9S, R35E Drilled January, 1951 Have been unable to get details on this plugged well to date.
Pan American	Federal A No. 2	Unit G, Sec. 13, T9S, R35E Drilled January, 1959 Csg: 10 3/4" @ 440' w/500 sxs 7 5/8" @ 4267' w/1700 sxs Liner 5 1/2" @ 9570' w/1450 sxs Perfs: 9563' - 70' (squeezed) Perfs: 4810' - 20' (gas) Plugged and abandoned March, 1967: 20 sxs cement 4830'- 4600' 20 sxs cement 4205'- 4105' 10 sxs cement @ Surface.
Apollo Energy, Inc.	Federal A No. 5	Unit N, Sec. 13, T9S, R35E Drilled July, 1963 Csg: 13 3/8" @ 460' w/475 sxs 9 5/8" @ 4902' w/1925 sxs 5 1/2" @ 12018' w/250 sxs Dev. Perfs: 12002' - 12' Currently being used as injection well - packer @ 11900'.
Apollo Energy, Inc.	Federal A No. 4	Unit L, Sec. 13, T9S, R35E Drilled May, 1965 Csg. 13 3/8" @ 449' w/475 sxs 9 5/8" @ 4950' w/2450 sxs 7" @ 11940 w/1300 sxs Perfs: 9550' - 60' Squeezed BP @ 11936' - Perfs: 11916' - 23'; 11928' - 35' Currently SI because of high water production.

Tabulation of data on all wells of public record as required by Paragraph VI of C-108 continued.

Apollo Energy, Inc.	Federal A No. 7	Unit K, Sec. 13, T9S, R35E Drilled December, 1971 Csg: 11 3/4" @ 459' w/ 575 sxs 8 5/8" @ 4502' w/1250 sxs 5 1/2 @ 11966' w/300 sxs Tbg: 2 3/8 @ 11958' Well currently producing. Perfs: 11956' - 64'
Apollo Energy, Inc.	Hood Federal No. 2	Unit E, Sec. 13, T9S, R35E Drilled December, 1965 Csg: 13 3/8" @ 452' w/450 sxs 8 5/8" @ 4874 w/2200 sxs 5 1/2" @ 11955' w/1150 sxs Tbg: 2 3/8", N-80 @ 4582' Perfs: 11863' - 72' 11880' - 98' Currently producing.

APOLLO ENERGY, INC.

Exhibit VI

Geological Data on Injection Zone

Pool: Bough - Permo Pennsylvanian

Formation: Bough "C"

Geological Name: Bough "C"

Thicknees: 44 feet (average)

Depth: 9615 feet

Injection Interval: 9597' - 9615' (open hole)

APOLLO ENERGY, INC.

Exhibit VII

Data on Proposed Operation

Federal "A" 13 No. 1 - SWD

1. Proposed average and maximum daily rate and volume of fluids to be injected:

   Average daily rate of 1200 b/d
   Maximum daily rate of 3000 b/d

2. System is closed.

3. Proposed average and maximum injection pressures:

   Average injection pressure: 250 psig
   Maximum injection pressure: 800 psig

4. (a) Source of injection fluid: Producing leases on the same section.

   (b) Analysis of formation fluid:

   (i) Bough "C" formation (attached)
   (ii) Devonian formation (attached)

5. Zone of disposal is productive of oil and gas within one mile of the proposed disposal well.

HALLIBURTON COMPANY
LOVINGTON, NEW MEXICO

Exhibit VIII

LABORATORY WATER ANALYSIS

No. W1-259-71

To Amoco Production Company

Box 68

Hobbs, New Mexico 88240

Attn: Mr. jim York

Date 5/18/71

Submitted by

Date Rec. 5/14/71

Well No. As Marked Depth Formation Bough Devonian

County Field Source Well Head

	FEDERAL "A" # 4	FEDERAL "A" # 5	
Resistivity	.100 @ 76 F	.118 @ 76 F	
Specific Gravity	1.046	1.040	
pH	6.7	6.5	
Calcium (Ca)	3,000	2,500	*MPL
Magnesium (Mg)	990	1,200	
Chlorides (Cl)	41,500	38,500	
Sulfates (SO_4)	1,800	1,400	
Bicarbonates (HCO_3)	360	488	
Soluble Iron (Fe)	20	Nil	

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Robert Lansford

cc:

HALLIBURTON COMPANY

By Robert Lansford
CHEMIST

NOTICE

WATER ANALYSIS
Exhibit IX

Field No. HB-41
API Well No.

ATION SAMPLED: Division Houston District Area Hobbs
rator (Plant) Amoco Production Company Well No. 7 Lease Federal "A"
(Province) New Mexico County (Parish) Lea
. 9S Rng. 35E Sec. 13 Quarter (Lsd.) Other (Meridian)
Wildcat ( ) Field Well (X) Field name Bough Devonian
ple collected from Wellhead Date 8-1-72 Sample collected by Al Klaar
rval sampled to Interval name
overy

n 97 transmitted by V. E. Staley Date August 4, 1972 Authorized by

ORGANIC CONSTITUENTS in mg/l

	BOTTOM	MIDDLE	TOP	MUD	
ene					
ne					
ases					

DESCRIPTION OF SAMPLE

ple used for detailed analyses
received
dition as received
or
r
ended solids
om sediment
or fluorescence

QUALITY OF SAMPLE

	BOTTOM	MIDDLE	TOP
ride			
mg/l:			

MMENTS:

CONVENTIONAL MAJOR ION ANALYSIS

		Major Ions mg/l	% of Total Major Ions	Reaction Value meq/l	% of Total Reaction Value
CATIONS	Sodium Na^+	18,446	33.58	802.38	42.67
	Calcium Ca^{++}	2,120	3.86	105.79	5.63
	Magnesium Mg^{++}	390	.71	32.06	1.70
	Potassium K^+				
ANIONS	Chloride Cl^-	31,900	58.07	899.58	47.84
	Bicarbonate HCO_3^-	576	1.05	9.45	.50
	Sulfate SO_4^{--}	1,500	2.73	31.20	1.66
	Carbonate CO_3^{--}	0	0	0	0
	TOTAL	54,932			

Total solids by evaporation 56,020 mg/l
NaCl resistivity equivalent (Dunlap) 54,046 mg/l
Resistivity .128 ohm-meters at 77 °F
pH 7.1 Specific gravity 1.039 at 74 °F
Ryznar stability index (2pHs-pH) at °F

OTHER IONS AND DISSOLVED SOLIDS

CATIONS	mg/l	ANIONS	mg/l	OTHERS	mg/l

REMARKS AND CONCLUSIONS:

H_2S content is 24 ppm. Dissolved iron content is 1 ppm.

T. C. Borland
W. L. Adams
V. E. Staley
G. W. Schmidt

Analyst J. J. Elliott Date 8-18-72

Water Quality Lab

Exhibit X

Analysis of produced water from Bough "C" (Penn) formation Section 11, Township 9 South, Range 35 East.

mg/liter

Chloride	36000 - 25000
Calcium	2500
Magnesium	200 - 500
Sodium	20000
Bicarbonate	370 - 400
Sulfate	1100 - 1500
pH	6.2 - 6.4

APOLLO ENERGY, INC.

Exhibit XI

Federal "A" 13 - Well No. 1
Salt Water Disposal
Unit "C", Sec. 13, T9S, R35E
Lea County, New Mexico

Affirmative Statement

As required by item XII of Form C-108. Apollo Energy, Inc. has 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.

APOLLO ENERGY, INC.

Exhibit XII

NOTICE

Pursuant to Section XIV of Form C-108.

Apollo Energy, Inc. has mailed copies of the application to the following:

Surface Owner: Milton Bonds
P. O. Box 963
Crossroads, New Mexico 88114

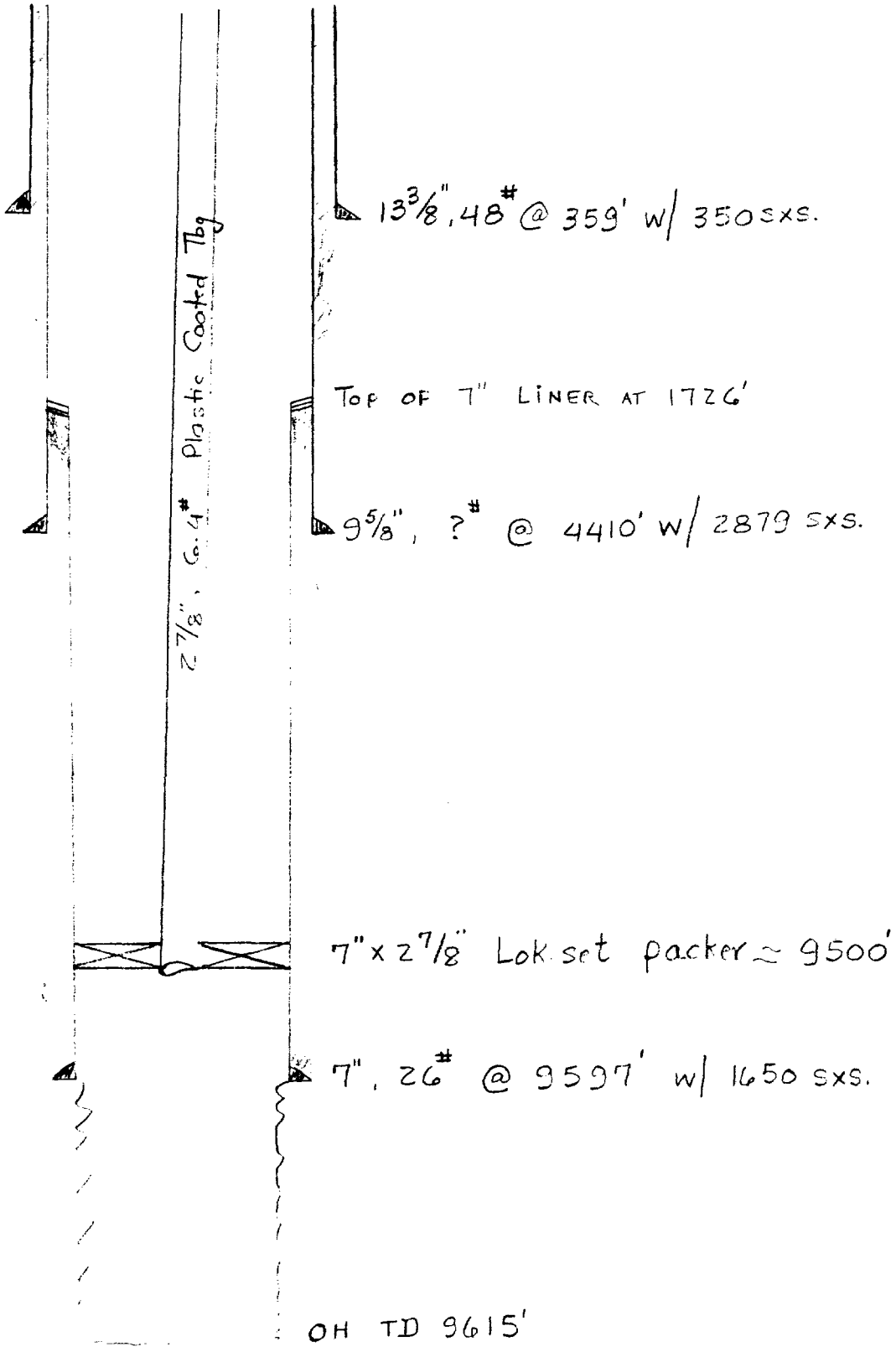
Off-set Operators within one-half mile:

Layton Enterprises
3103 - 79th Street
Lubbock, Texas 79423

M & G Oil Inc.
P. O. Box 957
Crossroads, New Mexico 88114

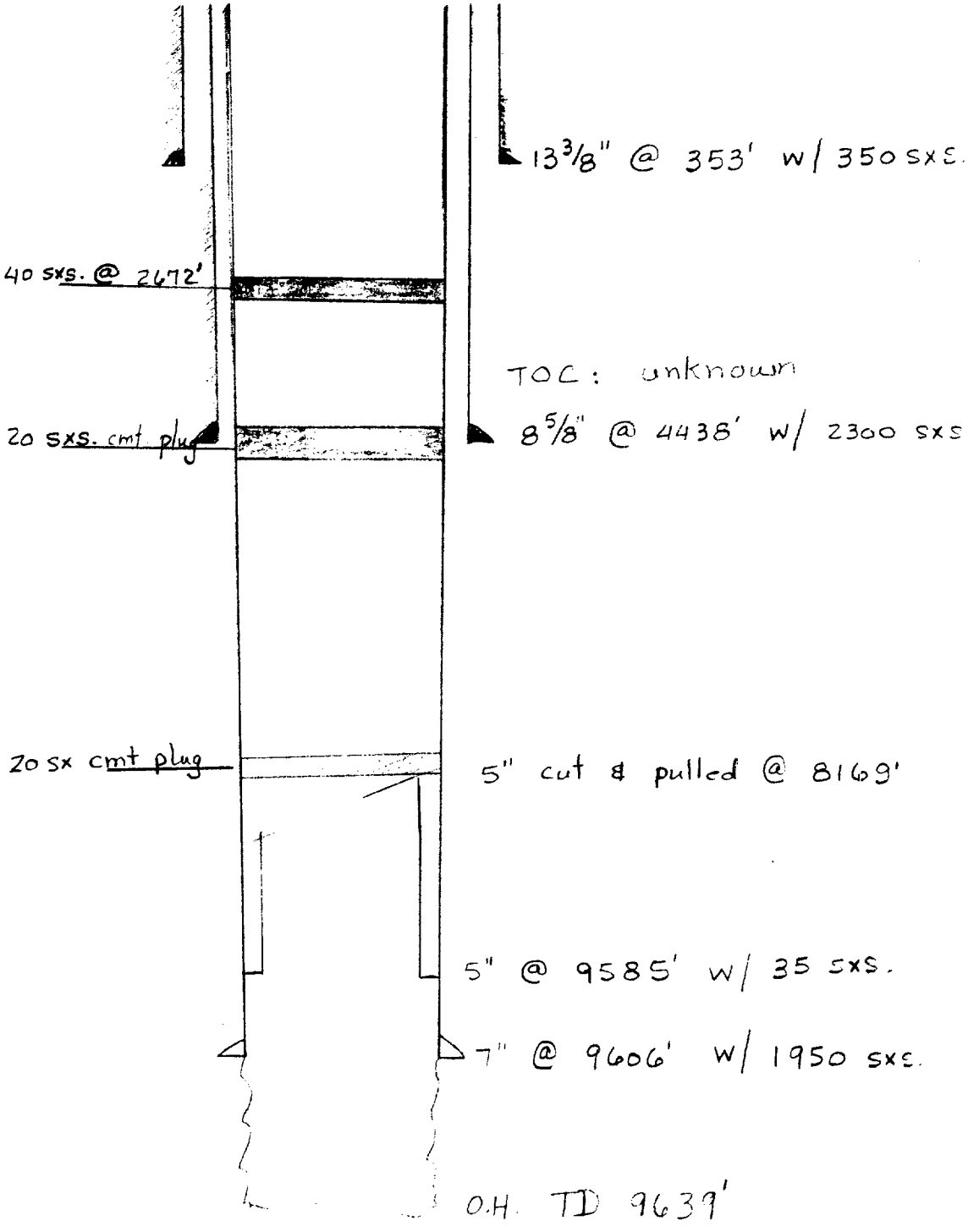
APOLLO ENERGY, INC.
FEDERAL 'A' 13 NO. 1
PROPOSED DISPOSAL WELL
UNIT C, SEC. 13, T9S, R35E

Exhibit XIII



LOQUINA OIL CORP.
BETENBOUGH No. 2
UNIT N, SEC. 12, T9S, R35E

Exhibit XIV

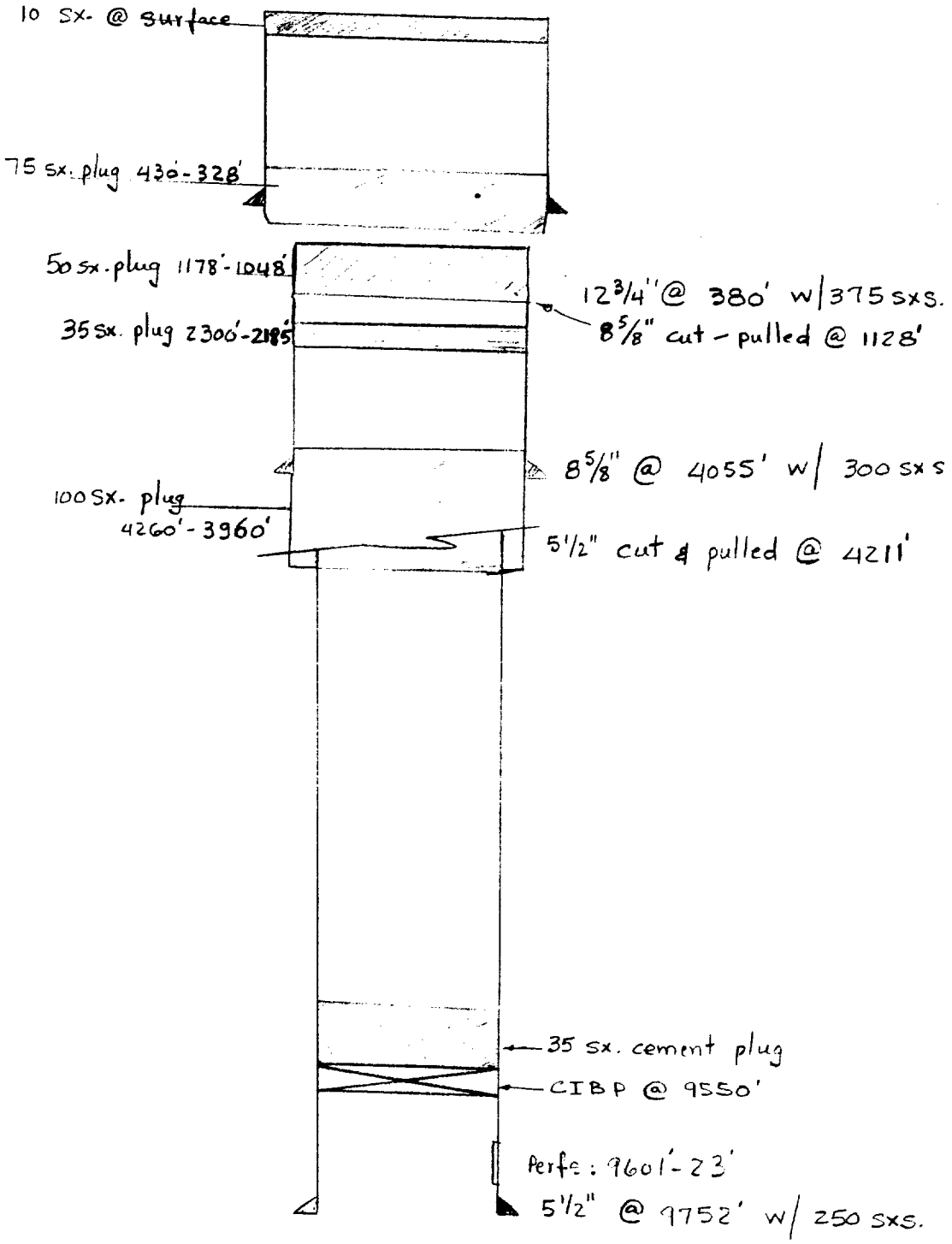


LAYTON ENTERPRISES

BETENBOUGH NO 4

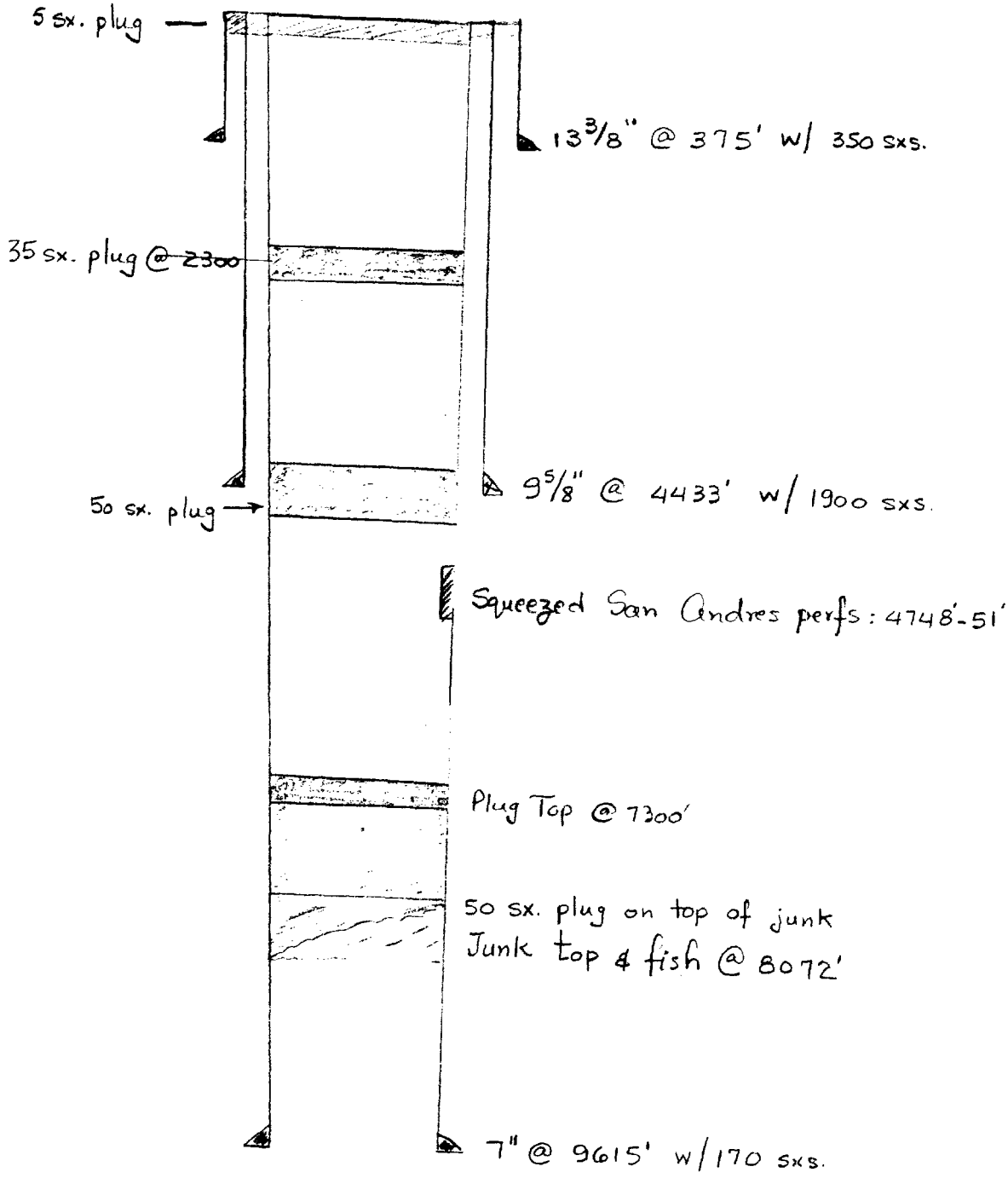
UNIT H, SEC. 14, T9S, R35E

Exhibit XV



Coquina Oil Corporation
Federal '13' No. 1
Unit D, Sec. 14, T9S, R35E

Exhibit XVI



IAN AMERICAN PET.
FEDERAL "A" NO. 2
Unit "G", Sec. 14, T9S, R35E

Exhibit XVII