STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

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 water 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 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

Examiner Stamets
Case No. 8293
EXHIBIT NO. 1

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;

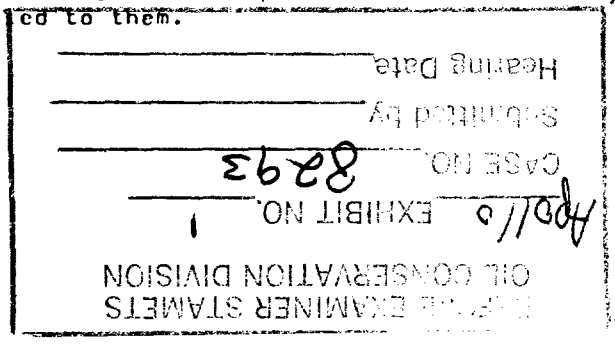
(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

(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.

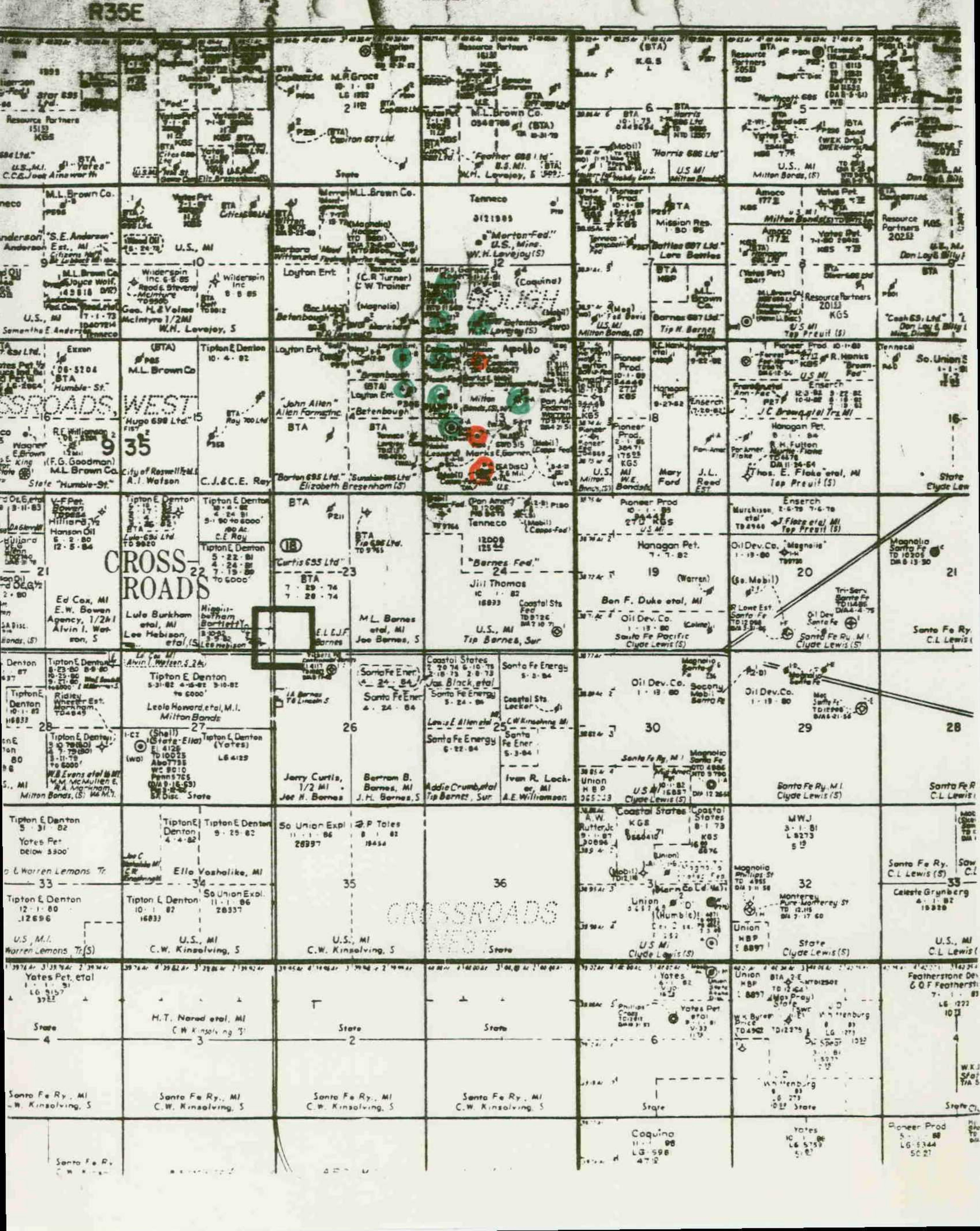
(A) 4. Baker - Plastic coated lok-set at 9500 feet.

(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
Resource Partners
M.L. Brown Co.
M.P. Grace
Capitan 687 Ltd.
Tenneco
"Morton-Fed."
U.S., Mins.
W.H. Lovejoy (S)
Mission Res.
Milton Bonds
Resource Partners
Wilderspin Inc.
W.H. Lovejoy, S
Layton Ent.
(C.R. Turner)
C.W. Trainer
(Coquina)
Resource Partners
KGS
Tip H. Barnes
Top Preuit (S)
Samantha E. Anderson
Tenneco
(BTA)
M.L. Brown Co.
Tipton E. Denton
"Humble-St."
CROSSROADS, WEST
"Hugo 698 Ltd."
"John Allen"
Allen Formsinc.
Betenbough
BTA
Pioneer Prod.
Hanagan Pet.
Ensearch
J.C. Brown et al Tr. MI
Hanagan Pet.
Thos. E. Flake et al, MI
Top Preuit (S)
M.L. Brown Co.
"Humble-St."
City of Roswell
A.I. Watson
C.J.&C.E. Ray
"Barton 695 Ltd."
Elizabeth Bresenham (S)
Mary Ford
J.L. Reed Est.
State
Clyde Lewis
Hanson Oil
BTA
Tenneco
"Barnes Fed."
Pioneer Prod
Hanagan Pet.
Ensearch
Oil Dev. Co.
Magnolia
CROSS-ROADS
"Curtis 695 Ltd"
Jill Thomas
Ben F. Duke etal, MI
(Warren)
(So. Mobil)
Ed Cox, MI
E.W. Bowen Agency, 1/2 MI
Alvin I. Watson, S
Lula Burkham etal, MI
Lee Hebison, etal, S
M.L. Barnes etal, MI
Joe Barnes, S
U.S., MI
Tip Barnes, Sur
Oil Dev. Co.
Santa Fe Pacific
Clyde Lewis (S)
Santa Fe Ry. MI
Clyde Lewis (S)
Santa Fe Ry.
C.L. Lewis
Tipton E. Denton
Leola Howard, etal, M.I.
Milton Bonds
Santa Fe Energy
Jas. Black, etal
Coastal States
Coastal Sts. Locker
Oil Dev. Co.
Socony Mobil
Santa Fe Energy
Santa Fe Ener.
Lewis E. Allen etal
C.W. Kinsolving MI
(Shell)
(State-Ella)
(Yates)
W.B. Evans etal
Milton Bonds, (S)
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
Union HBP
U.S. MI
Clyde Lewis (S)
Santa Fe Ry. M.I.
Clyde Lewis (S)
Santa Fe R
C.L. Lewis
Tipton E. Denton
Yates Pet. Below 5300'
Warren Lemons Tr.
Tipton E. Denton
Ella Vasholike, MI
So Union Expl.
J.P. Tates
A.W. Rutter, Jr
Coastal States
Coastal States
MWJ
Magnolia Phillips St.
Santa Fe Ry.
C.L. Lewis (S)
Tipton E. Denton
So Union Expl.
Union
(Humble)
Monterey
Celeste Grynberg
U.S. M.I.
Warren Lemons Tr. (S)
U.S., MI
C.W. Kinsolving, S
U.S., MI
C.W. Kinsolving, S
CROSSROADS WEST
State
U.S. MI
Clyde Lewis (S)
Union HBP
State
Clyde Lewis (S)
U.S., MI
C.L. Lewis
Yates Pet. etal
H.T. Norad etal, MI
C.W. Kinsolving
State
State
State
Yates
Yates Pet. etal
Whittenburg
Featherstone Dev.
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
Whittenburg
State
Coquina
Yates
Pioneer Prod

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 - circ. 8 5/8" @ 4100' w/300 sxs - TOC 3000' 5 1/2" @ 9739' w/450 sxs - TOC 5839' 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 - circ. 8 5/8" @ 6200' w/4500 sxs - circ. 7" @ 9641' w/775 sxs TOC 1909' 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 No. 1	Unit Letter A, Sec. 14, T9S, R35E Drilled by Mobil 1950 Csg: 13 3/8" @ 372' w/350 sxs - TOC Surface 9 5/8" @ 4429' w/1500 sxs - TOC Surface 7" @ 9638' w/2287 sxs - TOC Surface OH: 9638' - 9659' Plugged and abandoned 1957. Re-entered by Tenneco 1969. Completed for 177 BOPD & 1240 BWPD SI 1973. Bought by Layton Enterprises - June 1979 August, 1980: Set BP @ 9550' - 25 sxs Set BP @ 4900' - 10 sxs Perfs: 4757'-69' 1spf Completed as gas well 110 MCFD Currently Producing

Exhibit IV

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

Layton Enterprises	Betenbough B No. 4	Unit Letter 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 sxs plug 4260' - 3960' 35 sxs plug 2300' - 2185' Cut and pulled 8 5/8" @ 1128' 50 sxs plug 1178' - 1048' 75 sxs plug 430' - 328' 10 sxs @ Surface Plugged and abandoned September, 1980.
Coquina Oil Corporation	Fed. 13 No. 1	Unit Letter D, Sec. 13, 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 AS squeezed perfs: 4748' - 51' Penn Perfs: 9585' - 9605' Fish & Junk @ 8072' 50 sxs plug on top of fish Top of plug @ 7300' 50 sxs plug @ 4600' 35 sxs plug @ 2300' 5 sxs plug @ Surface Plugged and abandoned July, 1977
Mangolia Petroleum Corp.	Mathew Fed. No. 2	Unit Letter A, Sec. 13, T9S, R35E Drilled January, 1951 *Information on this well received per Ms. Margie Delgago, Bureau of Land Management Roswell. Please see Exhibit XVIII.
Pan American	Federal A No. 2	Unit Letter 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" f/ 4155'-9570' w/1450 sxs BP @ 4900' 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.

Exhibit V

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

Apollo Energy, Inc.	Federal A No. 5	Unit Letter N, Sec. 13, T9S, R35E Drilled July, 1963 Csg: 13 3/8" @ 460' w/475 sxs - Circ. 9 5/8" @ 4902' w/1925 sxs - Circ. 5 1/2" @ 12018' w/250 sxs @ 9100' ? calculated Dev. Perf: 12002' - 12' Currently being used as injection well Packer @ 11900' November 28, 1983 - Ran pipe recovery log. TOC 11340' Perforated csg. @ 4960'. Pumped 1200 sxs Class 'C' cement and circulated between 5 1/2" and 9 5/8". Drld. out cement. Tested Squeezed to 1200#. Held O.K. Returned to injection.
Apollo Energy, Inc.	Federal A No. 4	Unit Letter L. Sec. 13, T9s, R35E Drilled May, 1965 Csg. 13 3/8" @ 449' w/475 sxs - Circ. 9 5/8" @ 4950' w/2450 sxs - Circ. ✓ 7" @ 11940 w/1300 sxs - 600' Perfs: 9550' - 60' Squeezed BP @ 11936' Perfs: 11916' - 23' 11928' - 35' Currently SI because of high water production.
Apollo Energy, Inc.	Federal A No. 7	Unit Letter K, Sec. 13, T9S, R35E Drilled December, 1971 Csg: 11 3/4" @ 459' w/575 sxs - Circ. 8 5/8" @ 4502' w/1250 sxs - Circ. 5 1/2" @ 11966' w/300 sxs - TOC 9000' ? Tbg: 2 3/8" @ 11958' Well currently producing. Perfs: 11956' - 11958'
Apollo Energy, Inc.	Hood Federal No. 2	Unit Letter E, Sec. 13, T9S, R35E Drilled December, 1965 Csg: 13 3/8" @ 452' w/450 sxs - Circ. 8 5/8" @ 4874' w/2200 sxs - Circ. 5 1/2" @ 11955' w/1150 sxs - TOC 2856' ✓ 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 L. Lansford
CHEMIST

NOTICE

Exhibit IX

Field No. [illegible]
API Well No. ____

ATION SAMPLED: Division Houston District ____ Area Hobbs
ator (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
le collected from Wellhead Date 8-1-72 Sample collected by Al Klaar
al sampled ____ to ____ Interval name ____
very ____

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

ORGANIC CONSTITUENTS in mg/l

	BOTTOM	MIDDLE	TOP	MUD	
ic					
ic					
ises					

DESCRIPTION OF SAMPLE

le used for detailed analyses ____
received ____
tion as received ____
____
nded solids ____
m sediment ____
r fluorescence ____
____

QUALITY OF SAMPLE

	BOTTOM	MIDDLE	TOP
ide			
g/l:			

IMENTS:

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	32.05	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. Portland
W. L. Adams
V. E. Staley
G. W. Schmidt

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

Water Analysis Laboratory

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

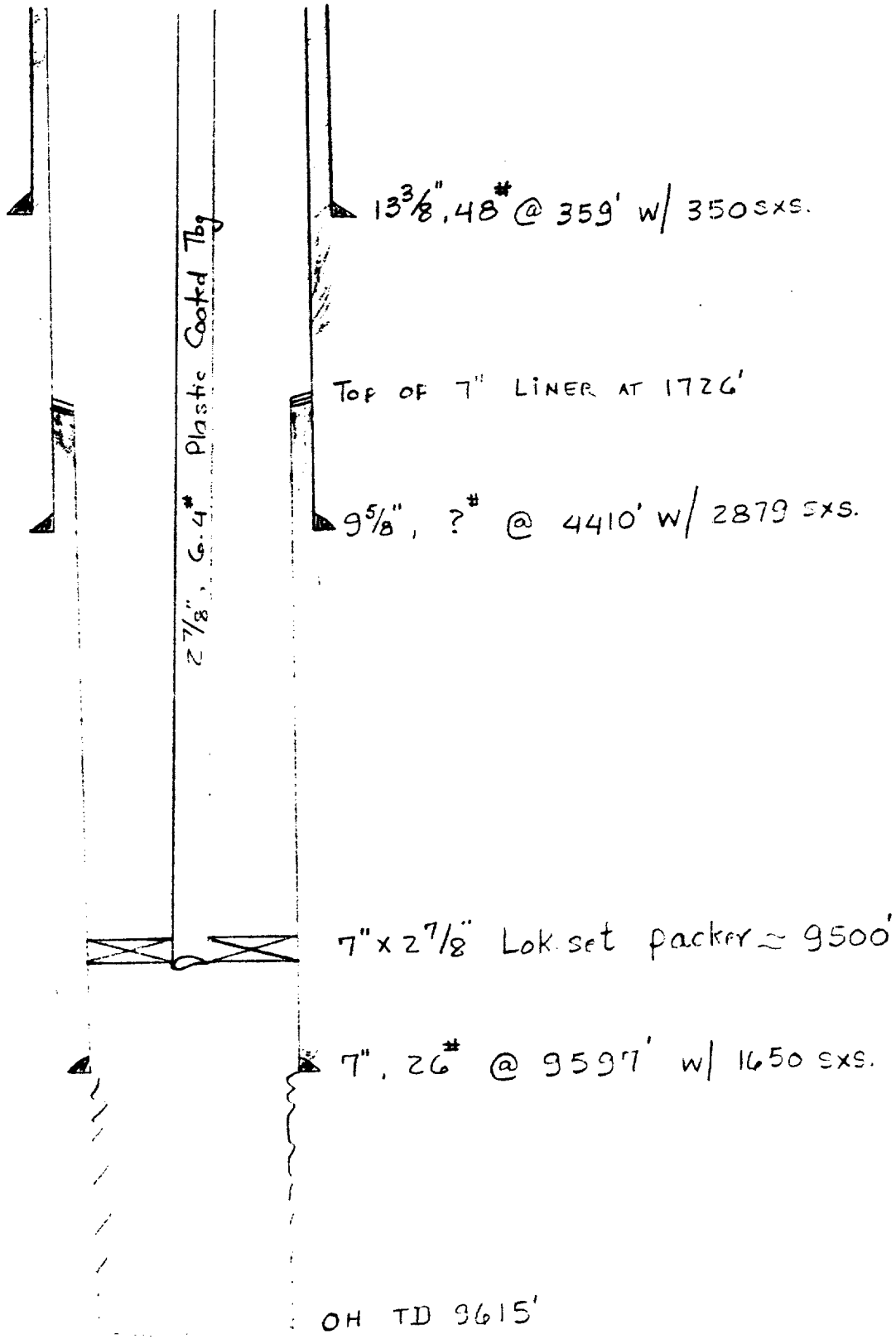


Exhibit XIV

BETENBOUGH No. 2
UNIT N, SEC. 12, T9S, R35E

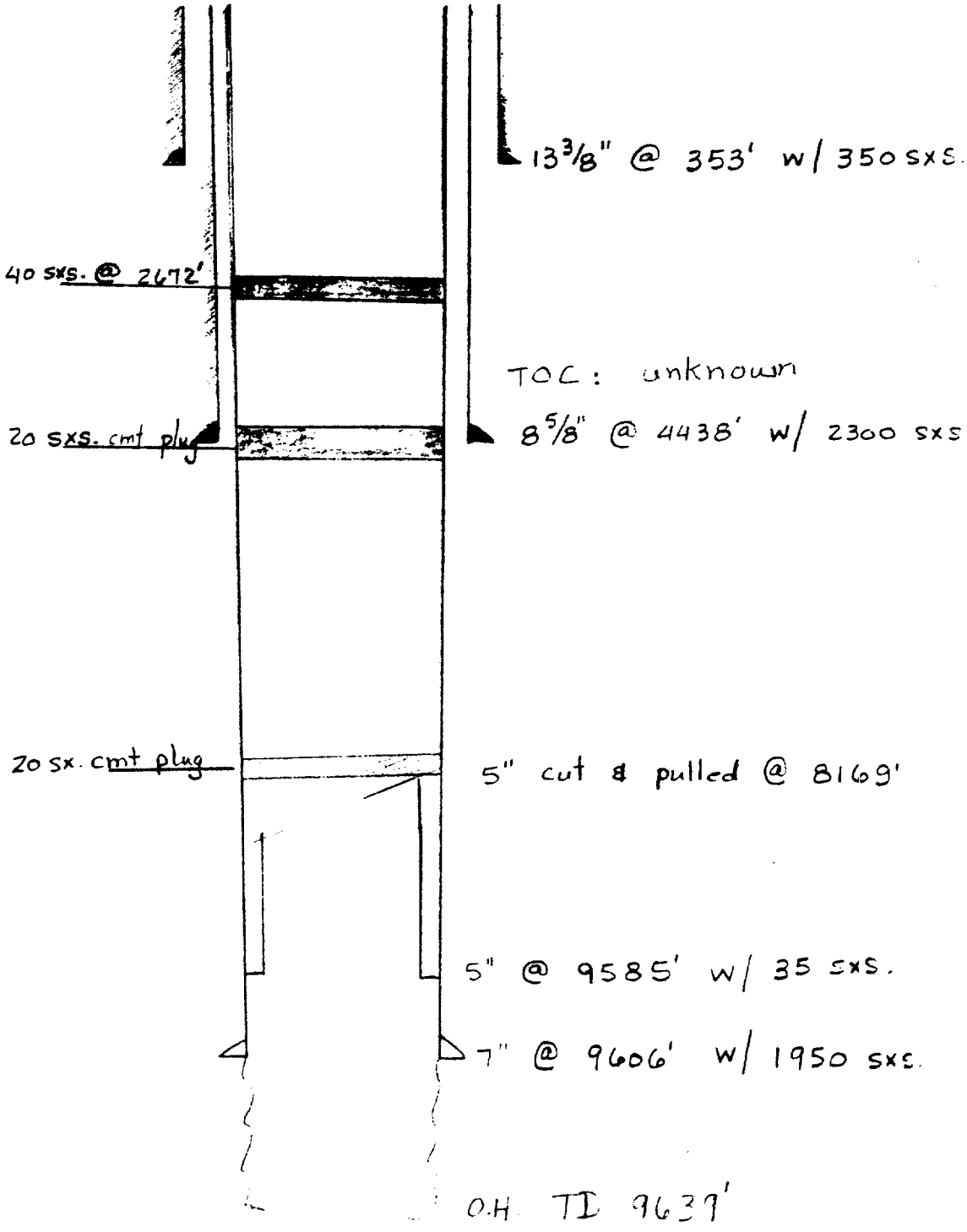
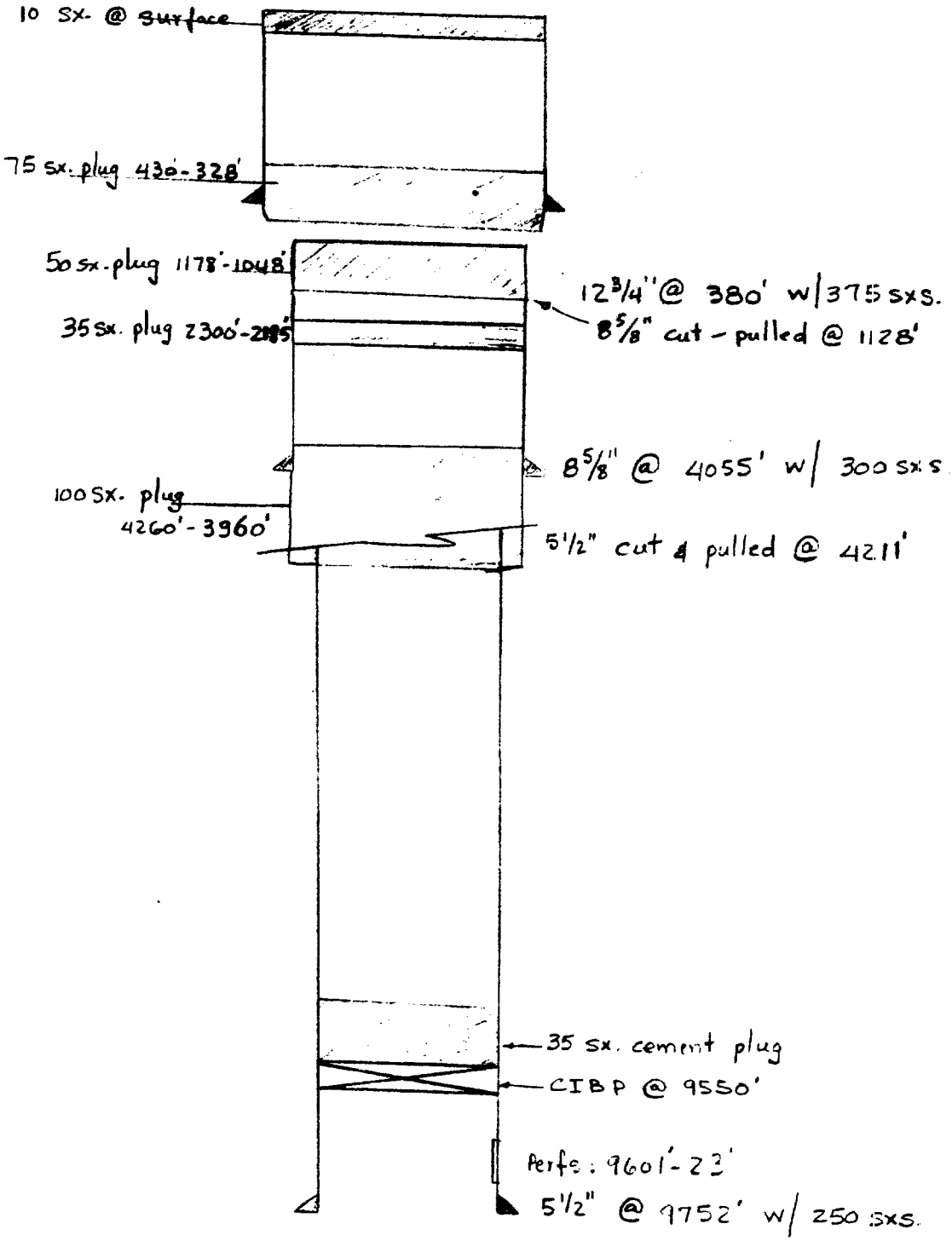


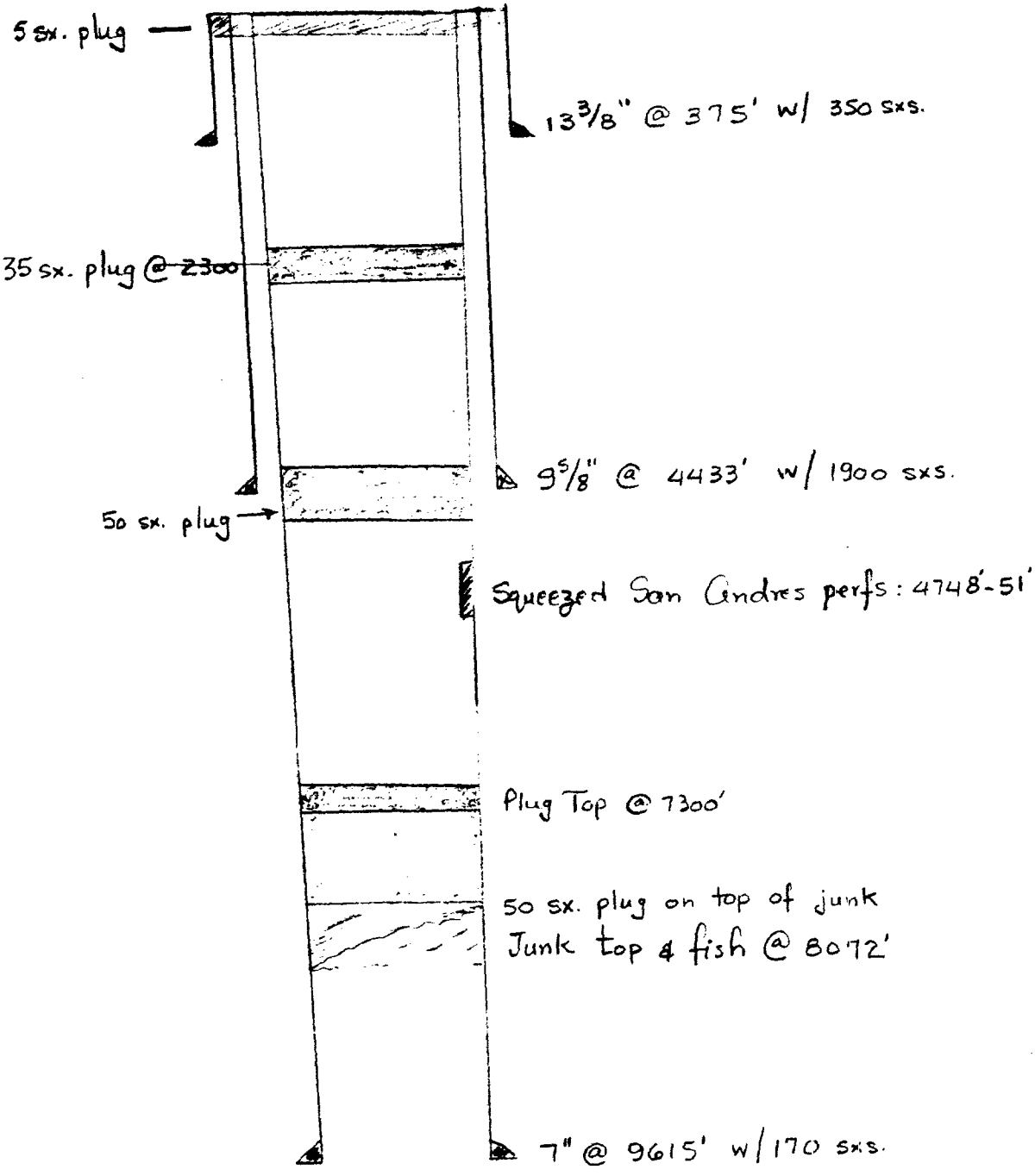
Exhibit XV

BETENBOUGH NO 4
UNIT H, SEC. 14, T9S, R35E



Federal 13 No. 1
Unit D, Sec. 14, T9S, R35

Exhibit XVI



FEDERAL "A" No. 2
Unit "G", Sec. 13, T9S, R35E

Exhibit XVII

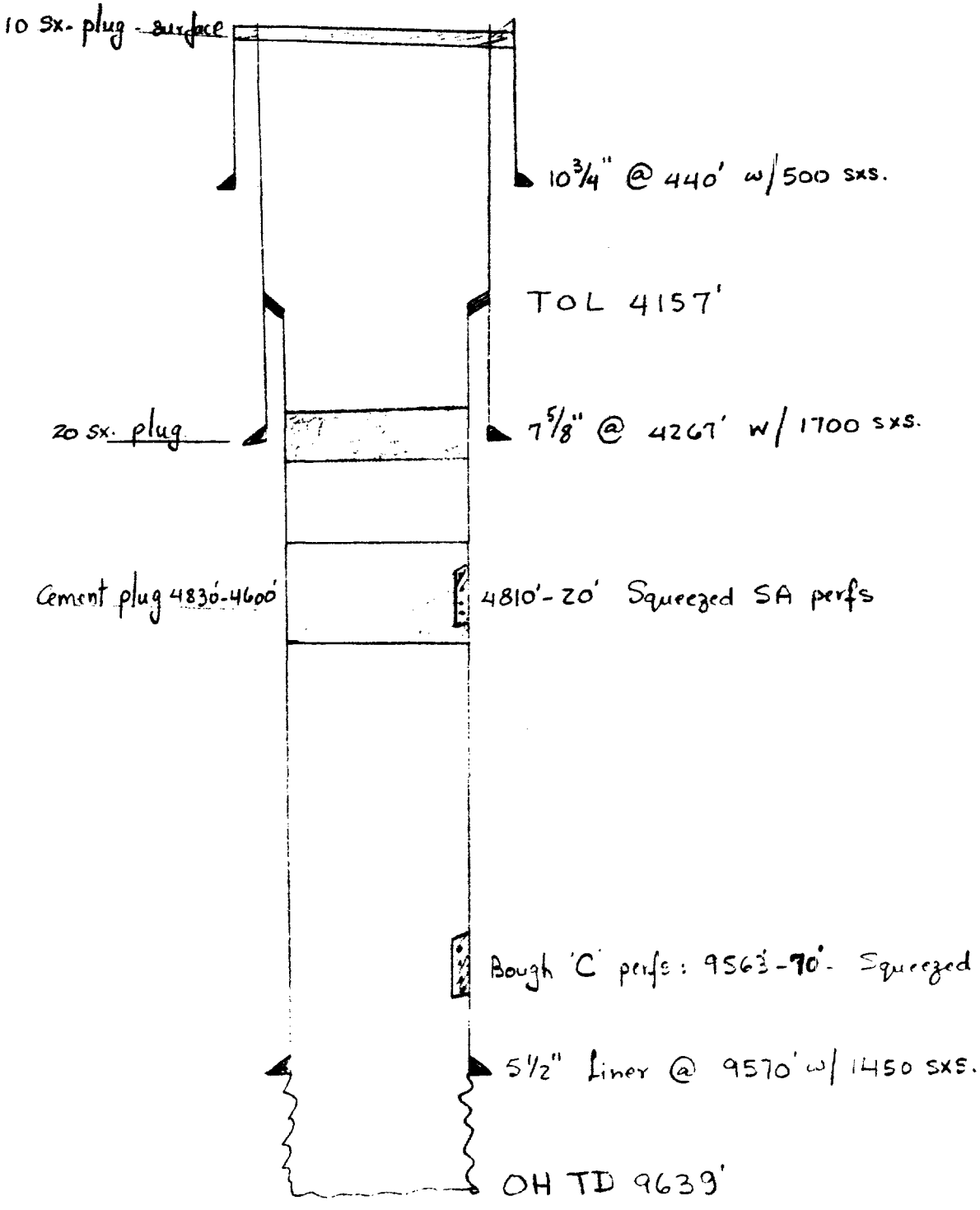


Exhibit XVIII

Mangolia Petroleum Corporation

Mathew Federal No. 2

Unit A, Sec. 13, T19S, R35E

Lea County, New Mexico

Information per telephone conversation with Margie Delgago at Bureau of Land Management in Roswell, New Mexico.

Drilled 1951

Well Plugged and Abandoned January 18, 1955

Plugged and Abandoned as follows: Squeezed 9542' - 9550' W/80 Sxs. cement - 6000#.

Cut 5 1/2" csg. at 4700'

Pulled 4700' 5 1/2" csg.

50 Sxs. cement plug 4720' - 4558'

50 Sxs. cement plug 4330' - 4168'

15 Sxs. cement surface 0' - 15'

Installed Dry Hole Marker.

Mangolia Petroleum Co.

Mathews Federal No. 2

'A', Sec. 13, T9S, R35E

Exhibit XIX