

BEFORE THE
OIL CONSERVATION DIVISION
NEW MEXICO DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES

IN THE MATTER OF THE APPLICATION
OF ARCO OIL AND GAS COMPANY
FOR APPROVAL OF THE CONVERSION OF
SIXTEEN WELLS IN THE EMPIRE ABO
UNIT TO INJECTION,
EDDY COUNTY, NEW MEXICO.

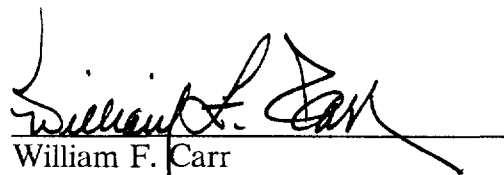
CASE NO. 10813

AFFIDAVIT OF MAILING

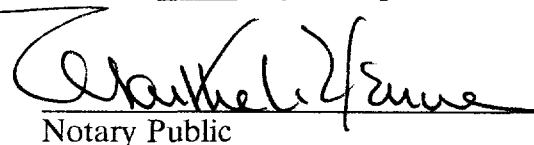
STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

WILLIAM F. CARR, attorney in fact and authorized representative of ARCO Oil and Gas Company, the Applicant herein, being first duly sworn, upon oath, states that the notice provisions of Rule 1207 of the New Mexico Oil Conservation Division have been complied with, that Applicant has caused to be conducted a good faith diligent effort to find the correct addresses of all interested persons entitled to receive notice as shown by Exhibit "A" attached hereto, and that pursuant to Rule 1207, notice has been given at the correct addresses provided by such rule.

Further Affiant sayeth naught.


William F. Carr

SUBSCRIBED AND SWORN to before me this 8th day of September, 1993.


Notary Public

My Commission Expires:

August 19, 1995

EXHIBIT A

Commissioner of Public Lands
State Land Office
Post Office Box 1148
Santa Fe, New Mexico 87504-1148

Phillips Petroleum Company
4001 Penbrook
Odessa, Texas 79762

Durham, Inc.
500 N. Big Spring
Midland, Texas 79701

Rhonda Operating Company
500 N. Loraine
Midland, Texas 79701

United States Department of the Interior
Bureau of Land Management
Roswell District
Post Office Box 1397
Roswell, New Mexico 88202

Bogel Farms
Post Office Box 460
Dexter, New Mexico 88230-0460

BEFORE THE OIL CONSERVATION DIVISION Santa Fe, New Mexico

Case No. 10813 Exhibit No. 2

Submitted by: ARCO Oil and Gas Company

Hearing Date: September 9, 1993

CAMPBELL, CARR, BERGE
& SHERIDAN, P.A.
LAWYERS

MICHAEL B. CAMPBELL
WILLIAM F. CARR
BRADFORD C. BERGE
MARK F. SHERIDAN
WILLIAM P. SLATTERY

PATRICIA A. MATTHEWS
MICHAEL H. FELDEWERT
DAVID B. LAWRENZ
TANYA M. TRUJILLO

JACK M. CAMPBELL
OF COUNSEL

JEFFERSON PLACE
SUITE 1 - 110 NORTH GUADALUPE
POST OFFICE BOX 2208
SANTA FE, NEW MEXICO 87504-2208
TELEPHONE: (505) 988-4421
TELECOPIER: (505) 983-6043

August 18, 1993

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

TO ALL LEASEHOLD OPERATORS WITHIN ONE-HALF MILE OF EACH
PROPOSED NEW INJECTION WELL AND THE OWNER OF THE SURFACE ON
WHICH EACH PROPOSED INJECTION WELL WILL BE LOCATED IN THE
EMPIRE ABO UNIT AREA

Re: Application of ARCO Oil and Gas Company for authority to convert sixteen
(16) producing wells to injection in the Empire Abo Unit, Eddy County, New
Mexico

Gentlemen:

This letter is to advise you that ARCO Oil and Gas Company ("ARCO") has filed an
application with the New Mexico Oil Conservation Division seeking authority to convert
sixteen (16) producing wells to injection into the Abo formation in its Empire Abo Unit
Area, Eddy County, New Mexico.

Attached for your information is a copy of the application filed by ARCO on OCD Form
C-108. All attachments required by this Division Form are enclosed for your information.

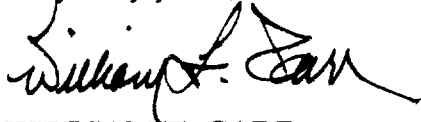
This application has been set for hearing before an Examiner of the Oil Conservation
Division on September 9, 1993. As the owner of an interest who may be affected by this
application, you may appear at that hearing and present testimony. Failure to appear at
that time or otherwise become a party of record will preclude you from challenging this
application at a later date.

Parties appearing in cases before the Division have been requested to file a Pre-hearing
Statement substantially in the form prescribed by the Division (Oil Conservation Division

August 18, 1993
Page 2

Memorandum 2-90). Pre-hearing statements should be filed by 4:00 o'clock p.m., on the Friday before a scheduled hearing.

Very truly yours,

A handwritten signature in black ink, appearing to read "William F. Carr". The signature is fluid and cursive, with a large initial "W" and a stylized "C".

WILLIAM F. CARR
ATTORNEY FOR ARCO OIL AND GAS COMPANY

WFC:ksk
Enclosures

ARCO Oil and Gas Company
Empire ABO Unit Area, Eddy County
Mailing List

Commissioner of Public Lands
State Land Office
P.O. Box 1148
Santa Fe, NM 87504-1148

Phillips Petroleum Company
4001 Penbrook
Odessa, Texas 79762

Durham, Inc.
500 N. Big Spring
Midland, Texas 79701

Rhonda Operating Company
500 N. Lorraine
Midland, Texas 79701

United States Department of the Interior
Bureau of Land Management
Roswell District
P.O. Box 1397
Roswell, New Mexico 88202

Bogel Farms
P.O. Box 460
Dexter, NM 88230-0460

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
 Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent the card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check boxes for additional service(s) requested.
 1. ☐ Show to whom delivered, date, and addressee's address. 2. ☐ Restricted Delivery (Extra charge)

3. Article Addressed to:

Commissioner of Public Lands
 State Land Office
 P.O. Box 1148
 Santa Fe, NM 87504-1148

4. Article Number

P-106 676 698

Type of Service:

☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

8. Addressee's Address (ONLY if requested and for post)

5. Signature - Address

6. Signature - Agent

7. Date of Delivery

AUG 20 1993

PS Form 3811, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

P-106 676 698

RECEIVED
 ALL INFORMATION
 WILL BE
 FORWARDED

Sent to	
Commissioner of Public Lands	
Street and No. State Land Office	
P.O., State and ZIP Code	
P.O. Box 1148, Santa Fe	
Postage	NM 87504 \$
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	\$
Postmark (include)	
AUG 18 1993	

PS Form 3800, June 1985

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
 Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. 2. ☐ Restricted Delivery (Extra charge)

3. Article Addressed to: Phillips Petroleum Company
 4001 Penbrook
 Odessa, Texas 79762

4. Article Number: P-106 676 697

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Address: X

6. Signature - Agent: X

7. Date of Delivery: 8-20-93 (9M)

8. Addressee's Address (ONLY if requested and fee paid)

PS Form 3811, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

P-106 676 697

MAIL

Sent to: Phillips Petroleum Co.
 Street and No.: 4001 Penbrook
 P.O., State and Zip Code: Odessa, Texas 79762

Postage:
 Certified Fee:
 Special Delivery Fee:
 Restricted Delivery Fee:
 Return Receipt showing to whom and Date of delivery:
 Return Receipt showing to whom, Date, and Address of delivery:
 TOTAL Postage and fees:
 Postmark or Date: AUG 18 1993

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check boxes for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. 2. ☐ Restricted Delivery (Extra charge)

3. Article Addressed to: Rhonda Operating Company 500 N. Lorraine Midland, Texas 79701		4. Article Number P-106 676 696	
5. Signature - Address X		6. Signature - Agent X <i>Shirley Johnson</i>	
7. Date of Delivery <i>8-20-93</i>		8. Addressee's Address (ONLY if requested and fee paid) Always obtain signature of addressee or agent and DATE DELIVERED.	
Type of Service: ☐ Registered ☒ Certified ☐ Express Mail ☐ Insured ☐ COD ☒ Return Receipt for Merchandise		Always obtain signature of addressee or agent and DATE DELIVERED.	

PS Form 3811, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

P-106 676 696

RECEIVED MAIL
 AUG 18 1993

Sent to	
Rhonda Operating Co.	
Street and No	
500 N. Lorraine	
P.O. State and Zip Code	
Midland, Texas 79701	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt fee (to whom to whom and date of delivery)	
Return Receipt fee (to whom to whom and date of delivery)	
TOTAL Postage and Fees	\$
Postmark or date	
AUG 18 1993	

P-106 676 099

RECEIVED
U.S. DEPT. OF INTERIOR
BUREAU OF LAND MANAGEMENT
ROSWELL, NM 88202

Sent to	
U.S. Dept of Interior	
Street and No.	
Bureau of Land Mgmnt	
P.O. State and ZIP Code	
Roswell, PO Box 1397	
Postage	Roswell, NM 88202
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt to whom and how to return	
Return Receipt to whom, Date, and address of delivery	
TOTAL POSTAGE & FEES	\$
Postmark or Date	
AUG 18 1993	

PS Form 3800, June 1985

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check boxes for additional service(s) requested. 1. ☐ Show to whom delivered, date, and addressee's address. 2. ☐ Restricted Delivery (Extra charge)	
3. Article Addressed to:	4. Article Number
U.S. Department of the Interior Bureau of Land Management Roswell District Office PO Box 1397 Roswell, NM 88202-1397	P-106 676 099
5. Signature - Address	Type of Service:
☒ Signature - Agent	☐ Registered
☒ Date of Delivery 8/13/93	☐ Certified
	☐ Express Mail
	☐ Insured
	☒ Return Receipt for Merchandise
	Always obtain signature of addressee or agent and DATE DELIVERED.
	8. Addressee's Address (ONLY if requested and fee paid)

PS Form 3811, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
 Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
 1. ☐ Show to whom delivered, date, and addressee's address. 2. ☐ Restricted Delivery (Extra charge)

3. Article Addressed to:

Bogel Farms, Inc.
 P.O. Box 460
 Dexter, NM 88230-0460

4. Article Number

P-106 676 102

Type of Service:

☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

8. Addressee's Address (ONLY if requested and fee paid)

5. Signature - Address

X

6. Signature - Agent

X

7. Date of Delivery

8-20-93

PS Form 3811, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

P-106 676 102

RECEIPT FOR MAIL

Sent to	Bogel Farms, Inc.
Street and No.	P.O. Box 460
P.O. State and ZIP Code	Dexter, NM 88230-0460
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt - to whom and Date of Delivery	
Return Receipt - to whom and Date, and Addressee's Address	
TOTAL Postage and Fees	\$
Postmark or Date	AUG 18 1993

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
 Put your address in the "RETURN TO". Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check boxes for additional service(s) requested.
 1. ☐ Show to whom delivered, date, and addressee's address. 2. ☐ Restricted Delivery (extra charge)

3. Article Addressed to:

Durham, Inc.
 500 N. Big Spring
 Midland, Texas 79701

4. Article Number

P-106 676 170

Type of Service:

☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☒ Return Receipt for Merchandise

Always obtain signature of addressee or agent and **DATE DELIVERED**.

8. Addressee's Address (ONLY if requested and fee paid)

5. Signature - Address

X

6. Signature - Agent

X

7. Date of Delivery

John Aluph
 8-20-93

PS Form 3811, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

P-106 676 170

RECEIVED BY MAIL

Sent to	Durham, Inc.
Street and No.	500 N. Big Spring
P.O., State and ZIP Code	Midland, TX 79701
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt (if any) to whom and Date	
Return Receipt (if any) to whom and Date	
TOTAL Postage and Fees	\$
Postmark or Date	AUG 18 1993

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose: ☐ Secondary Recovery ☒ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☐ no
- II. Operator: ARCO OIL AND GAS COMPANY
Address: P. O. BOX 1610, MIDLAND, TEXAS 79702
Contact party: GARY B. SMALLWOOD Phone: 915-699-5608
- 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 R-4549 AS AMENDED.
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review. ^{THRU "G"}
- * 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: GARY B. SMALLWOOD Title: SENIOR ENGINEER

Signature: Gary B Smallwood Date: 12 Aug 93

- * 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.

I & II

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.

FORM C-108

PART III

INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY		EMPIRE ABO UNIT	
OPERATOR		LEASE	
F-343	2300' FNL & 1675' FWL	34	17-S 28-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP RANGE

SchematicTabular DataSurface CasingSize 8-5/8 " Cemented with 453 sx.TOC surface feet determined by circHole size 11"Intermediate Casing

Size _____ " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long stringSize 5-1/2 " Cemented with 1940 sx.TOC surface feet determined by circHole size 7-7/8"Total depth 6382'Injection interval5650 feet to 6188 feet
(perforated or open-hole, indicate which)Tubing size 2-3/8" lined with N.A. set in a
(material)Baker Lok-set packer at 5600 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Abo
- Name of Field or Pool (if applicable) Empire Abo
- Is this a new well drilled for injection? ☒ Yes ☒ No
If no, for what purpose was the well originally drilled? Oil production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.
Queen 1600, Grayburg 1900, San Andres 3000

PROPOSED WELLBORE SCHEMATIC

Empire Abo Unit F #343

2300' FNL & 1675' FWL (F)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22890

GR-3662'

Spudded 04/18/79

Completed 05/29/79

11" Hole.
8-5/8" casing @ 750'.
Set w/453 sxs cmt. Circ.

DV @ 4486'

2-3/8' tbg & Lok-set pkr @ 5600'.

Abo Perfs @ 5650' to 6188'.

CIBP @ 6200'.

7-7/8" hole.
5-1/2" csg @ 6382' w/1940 sxs cmt. Circ.

TD @ 6383'.

INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY		EMPIRE ABO UNIT	
OPERATOR		LEASE	
G-321	1520' FSL & 250' FEL	33	17-S
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP
			28-E
			RANGE

SchematicTabular DataSurface CasingSize 8-5/8 " Cemented with 200 sx.TOC surface feet determined by circHole size 11"Intermediate Casing

Size _____ " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long stringSize 5-1/2 " Cemented with 1400 sx.TOC surface feet determined by circHole size 7-7/8"Total depth 6401'Injection interval5800 feet to 6350 feet
(perforated or open hole; indicate which)Tubing size 2-3/8" lined with N.A. set in a
(material)Baker Lok-set packer at 5750 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Abo
- Name of Field or Pool (if applicable) Empire Abo
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Oil production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.
Grayburg 1900

PROPOSED WELLBORE SCHEMATIC

Empire Abo Unit G #321

1520' FSL & 250' FEL (I)
Sec 33, T-17S, R-28E, Eddy County, NM
API 30-015-21769
GR-3663.8'
Spudded 04/23/76
Completed 05/21/76

11" Hole.
8-5/8" casing @ 550'.
Set w/200 sxs cmt. Circ.

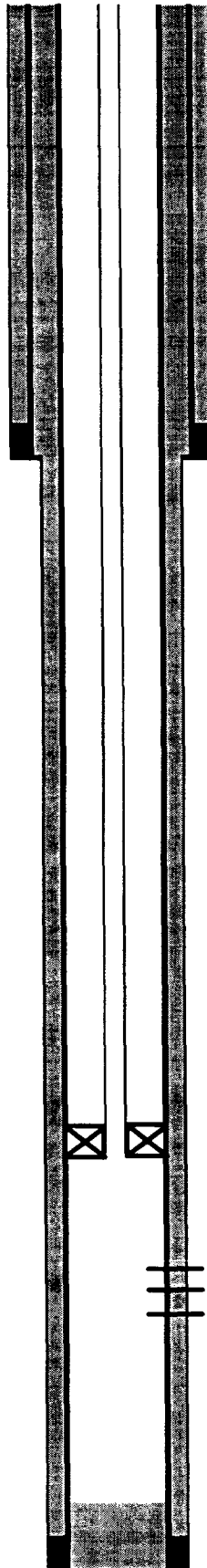
DV @ 3988'.

2-3/8" tbg & Baker Lok-set pkr @ 5750'.

Abo Perfs @ 5800' to 6350'.

PBD @ 6353'.
TD @ 6401'.

7-7/8" hole.
5-1/2" csg @ 6401' w/1400 sxs cmt. Circ.



INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY		EMPIRE ABO UNIT	
OPERATOR		LEASE	
H-261	1400' FWL & 150' FSL	32	17-S
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP
			28-E
			RANGE

SchematicTabular DataSurface CasingSize 8-5/8 " Cemented with 400 sx.TOC surface feet determined by inspectionHole size 11"Intermediate Casing

Size _____ " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long stringSize 5-1/2 " Cemented with 1375 sx.TOC 2645 feet determined by calcHole size 7-7/8"Total depth 6222'Injection interval5650 feet to 6220 feet
(~~perforated~~ or open-hole, indicate which)Tubing size 2-3/8" lined with N.A. set in a
(material)Baker Lok-set packer at 5600 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Abo
- Name of Field or Pool (if applicable) Empire Abo
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Oil production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.
Yates 400, Grayburg 1900, Morrow 10,000

Proposed WELLBORE SCHEMATIC

Empire Abo Unit H #261

150' FSL & 1400' FWL

Sec. 32, T-17S, R-28-E, Eddy County, N

Spudded 6/24/75

Completed 7/31/75

Surface Casing
8 5/8" 24#
Circ to Surf. w/ 400 sx

Shoe @ 1000'

Tubing
2 3/8"
@ 5600'

Shoe @ 4018'

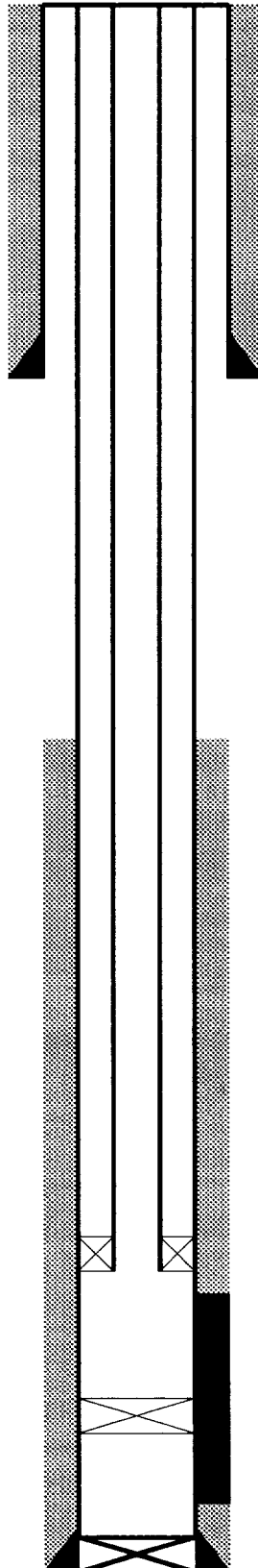
Baker Lok-Set @ 5600'

Production Casing
5 1/2" 14# & 15.5#
Cement 1375 sx

TOC @ 2645' (by calc.)

Perfs 5650-6220'

7 7/8" hole TD @ 6222'



INJECTION, WELL DATA SHEET

ARCO OIL AND GAS COMPANY

EMPIRE ABO UNIT

OPERATOR

LEASE

H-302 1250' FSL & 1925' FWL

33

17-S

28-E

WELL NO.

FOOTAGE LOCATION

SECTION

TOWNSHIP

RANGE

SchematicTabular DataSurface CasingSize 8-5/8 " Cemented with 450 sx.TOC surface feet determined by circ

Hole size _____

Intermediate Casing

Size _____ " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long stringSize 5-1/2 " Cemented with 1365 sx.TOC surface feet determined by circHole size 7-7/8"Total depth 6283'Injection interval5750 feet to 6280 feet
~~Perforated~~ or ~~open-hole~~, indicate which)Tubing size 2-3/8" lined with N.A. set in a
(material)Baker Lok-set packer at 5700 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data1. Name of the injection formation Abo2. Name of Field or Pool (if applicable) Empire Abo3. Is this a new well drilled for injection? ☐ Yes ☒ NoIf no, for what purpose was the well originally drilled? Oil production4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

Grayburg 1900

Proposed WELLBORE SCHEMATIC

Empire Abo Unit H-302

1250' FSL & 1925' FWL
Sec. 33, T-17S, R-28E,
Eddy County, NM
Spudded 8/7/78
Completed 9/2/78

Surface Casing
8 5/8"
Circ w/450 sx cmt

Shoe @ 750'

DV Tool @ 3023'

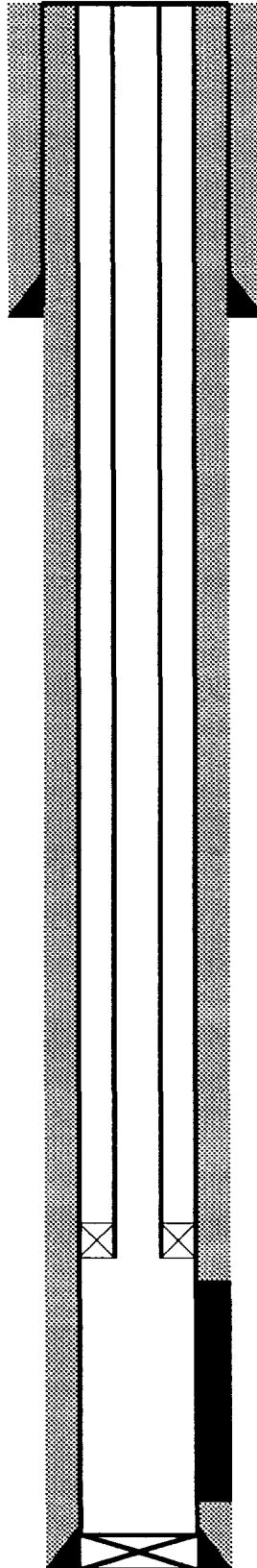
Tubing
2 3/8" w/Baker Lok-Set
Pkr @ 5700'

Production Casing
5 1/2" 15.5# @
Cement w/1365sx
(Circ cmt)

Perfs @ 5750-6280'

Shoe @ 6283'

TD @ 6283'



INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY

EMPIRE ABO UNIT

OPERATOR	LEASE		
I-23	470' FNL & 2170' FEL	6	18-S
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP
			RANGE

SchematicTabular DataSurface CasingSize 10-3/4 " Cemented with N.A. sx.

TOC _____ feet determined by _____

Hole size _____

Intermediate CasingSize 8-5/8 " Cemented with 450 sx.TOC surface feet determined by circ

Hole size _____

Long stringSize 5-1/2 " Cemented with 1200 sx.TOC surface feet determined by circ

Hole size _____

Total depth 6194'Injection interval5700 feet to 6190 feet
(perforated or open-hole, indicate which)Tubing size 2-3/8" lined with N.A. set in a
(material)Baker Lok-set packer at 5650 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Abo
- Name of Field or Pool (if applicable) Empire Abo
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Oil production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.
Grayburg 1900, San Andres 4000, Wolfcamp 7300, Morrow 10,400

Proposed WELLBORE SCHEMATIC

Empire Abo Unit I-23

Surface Casing

10 3/4"

Cmt to Surface NA

Shoe @ 390'

Intermediate Casing

8 5/8"

Cmt to Surface 450 sx

Shoe @ 975'

Tubing 2 3/8"

w/Baker Lok-Set

@ 5650'

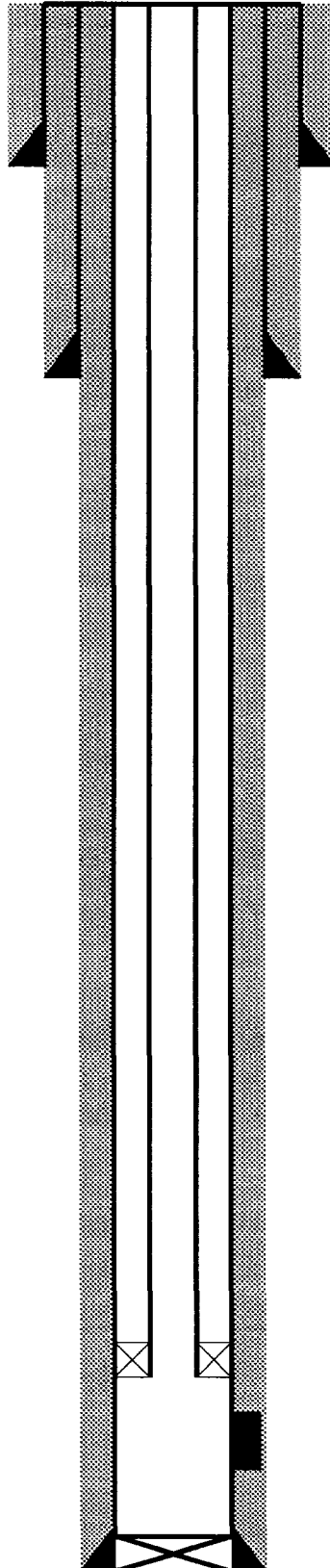
Production Casing

5 1/2"

Cement 350 sx

TOC 4270 by CBL

Shoe @ 6,194'



470' FNL & 2,170' FEL

Sec. 6, T-18S, R-28E, Eddy County, NM

Spudded 10/12/59

Completed 12/26/59

TOC @ surf.

4,175'-sqz'd holes w/ 1200 sx,
circ cmt to surf.

Perfs @ 5700-6190

7 7/8" hole TD @ 6,194'

INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY		EMPIRE ABO UNIT	
OPERATOR		LEASE	
I-283	175' FNL & 300' FEL	5	18-S 28-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP RANGE

SchematicTabular DataSurface CasingSize 8-5/8 " Cemented with 350 sx.TOC surface feet determined by circHole size 11"Intermediate Casing

Size _____ " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long stringSize 5-1/2 " Cemented with 1885 sx.TOC surface feet determined by circHole size 7-7/8"Total depth 6266'Injection interval5900 feet to 6260 feet
(~~perforated~~ or open hole, indicate which)Tubing size 2-3/8" lined with N.A. set in a
(material)Baker Lok-set packer at 5850 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Abo
- Name of Field or Pool (if applicable) Empire Abo
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Oil production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.
Grayburg 1900, San Andres 3000, Wolfcamp 7200, Morrow 10,000

Proposed WELLBORE SCHEMATIC

Empire Abo Unit I-283

175' NL & 300' FEL
Sec. 5, T-18S, R-28E,
Eddy County, NM
Spudded 9/9/78
Completed 10/15/78

Surface Casing
8 5/8" 24#
Circ cmt w/350 sx

Shoe @ 580'

Perf 1095'
Circ 335 sx to Surf.

2 3/8" Tbg w/Baker Lok-Set
@ 5850'

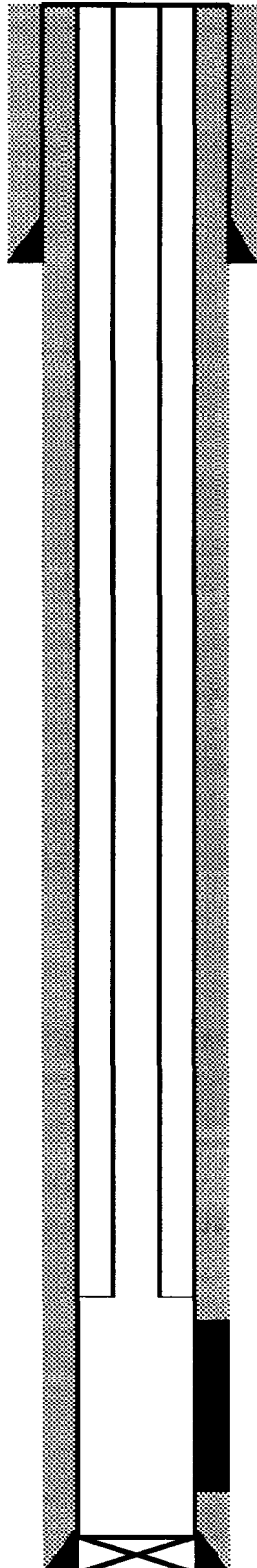
SC @ 3989', Circ w/1125 sx
TOC @ 1200', CBL

Production Csg
5 1/2" 15.5#
Circ w/425 sx
w/SC @ 3989'

Perfs @ 5900-6260'

Shoe @ 6266'

TD @ 6266'



INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY

EMPIRE ABO UNIT

OPERATOR		LEASE		
J-202	2490' FNL & 1299' FEL	1	18-S	27-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

SchematicTabular DataSurface CasingSize 8-5/8 " Cemented with 350 sx.TOC surface feet determined by circHole size 11"Intermediate Casing

Size _____ " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long stringSize 5-1/2 " Cemented with 1475 sx.TOC surface feet determined by circHole size 7-7/8"Total depth 6296'Injection interval5600 feet to 6268 feet
(perforated or open-hole, indicate which)Tubing size 2-3/8" lined with N.A. set in a
(material)Baker Lok-set packer at 5550 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data1. Name of the injection formation Abo2. Name of Field or Pool (if applicable) Empire Abo3. Is this a new well drilled for injection? ☐ Yes ☒ NoIf no, for what purpose was the well originally drilled? Oil production4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

Grayburg 1700, Wolfcamp 6500, Morrow 9500

Proposed WELLBORE SCHEMATIC

Empire Abo Unit J-202

2490' FNL & 1299' FEL
Sec. 1, T-18-S, R-27E
Eddy County, New Mexico
Spudded 4/17/76
Completed 5/13/76

Surface Casing
8 5/8" 24#
Circ 350 sx to Surf.

Shoe @ 1000'

Tubing
2 3/8" Baker Lok-Set
@ 5550'

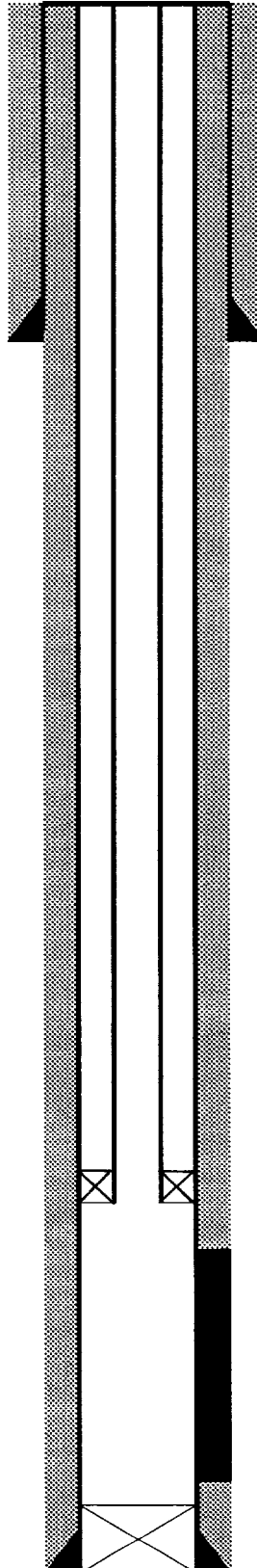
Production Casing
5 1/2", 14# & 15/5#
Circ w/1475 sx to Surf.
Circ DV @ 4009'

DV Tool @ 4009'

Perfs @ 5600-6268'

PBTD @ 6270'

TD @ 6296'



INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY

EMPIRE ABO UNIT

OPERATOR		LEASE		
J-223	2630' FNL & 1930' FWL	6	18-S	28-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

SchematicTabular DataSurface CasingSize 8-5/8 " Cemented with 237 sx.TOC surface feet determined by circHole size 11"Intermediate Casing

Size _____ " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long stringSize 5-1/2 " Cemented with 985 sx.TOC surface feet determined by circHole size 7-7/8"Total depth 6256'Injection interval5550 feet to 6245 feet
(perforated or open-hole, indicate which)Tubing size 2-3/8" lined with N.A. set in a
(material)Baker Lok-set packer at 5500 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data1. Name of the injection formation Abo2. Name of Field or Pool (if applicable) Empire Abo3. Is this a new well drilled for injection? ☐ Yes ☒ NoIf no, for what purpose was the well originally drilled? Oil production4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

Grayburg 1900, San Andres 4000, Wolfcamp 7300, Morrow 10,400

Proposed WELLBORE SCHEMATIC

Empire Abo Unit J-223

2,630' FNL & 1,930' FWL

Sec. 6, T-18S, R-28E, Eddy County, NM

Spudded 04/22/78

Completed 05/19/78

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 237 sx

Shoe @ 585'

TBG 2 3/8"
w/Baker Lok-Set
@ 5500'

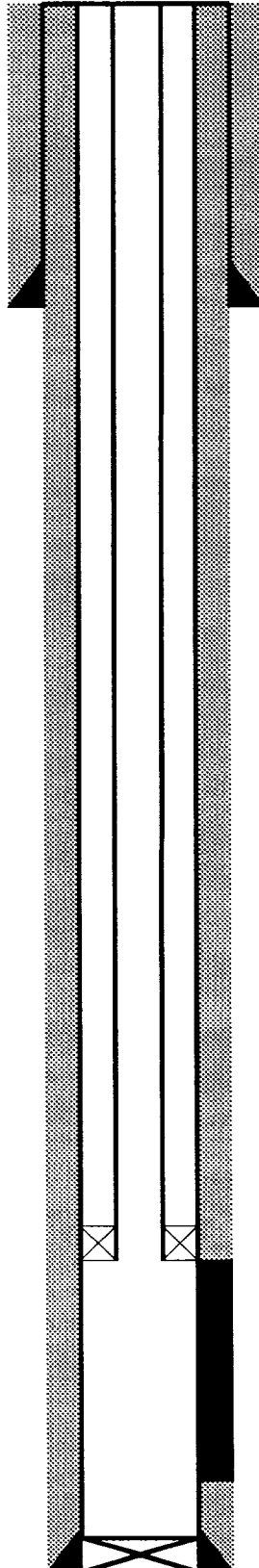
DV Tool @ 3,017'

Production Casing
5 1/2" 15.5#
Cement 985 sx
Circ. Cmt w/
DV Tool @ 3,017'

Perfs @ 5550-6245'

Shoe @ 6,250'

TD @ 6,250'



INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY		EMPIRE ABO UNIT	
OPERATOR	LEASE		
K-182 1533' FSL & 2370' FWL	1	18-S	27-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP
			RANGE

SchematicTabular DataSurface CasingSize 8-5/8 " Cemented with 400 sx.TOC surface feet determined by circHole size 11"Intermediate Casing

Size _____ " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long stringSize 5-1/2 " Cemented with 1300 sx.TOC surface feet determined by circHole size 7-7/8"Total depth 6369'Injection interval5850 feet to 6369 feet
(~~perforated~~ or ~~open-hole~~ indicate which)Tubing size 2-3/8" lined with N.A. set in a
(material)Baker Lok-set packer at 5800 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Abo
- Name of Field or Pool (if applicable) Empire Abo
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Oil production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.
Grayburg 1700, Wolfcamp 6500, Morrow 9500

Proposed WELLBORE SCHEMATIC

Empire Abo Unit K-182

2370" FWL & 1533' FSL
Sec. 1, T-18-S, R-28-E,
Eddy County, NM
Spudded 5/6/76
Completed 5/31/76

Surface Casing
8 5/8" 24#
Circ 540 sx cmt to Surf.

Shoe @ 1003'

Tubing
2 3/8"
w/Baker Lok-Set @
5800'

DV Tool @ 4343'

Production Casing
5 1/2" 14# w/1275 sx
Circ w/DV Tool @ 4343'

Perfs @ 6111-36' (Sqzd)

Perfs @ 6203-13' (Sqzd)

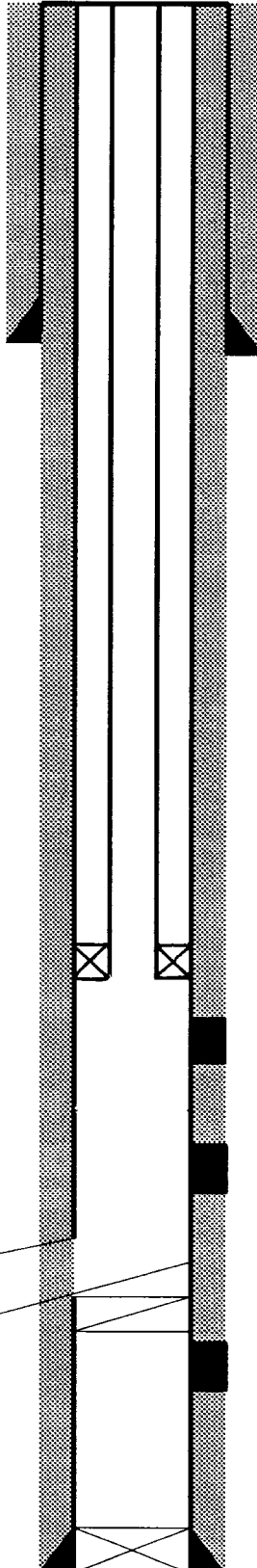
Drainhole
f/6232-6540'

Pkr & Whipstock @ 6232'
Perfs 6240-60' (Sqzd)

PBTD @ 6287'

Org. TD @ 6389'

Shoe @ 6369'



INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY		EMPIRE ABO UNIT	
OPERATOR		LEASE	
L-111	2485' FEL & 20' FSL	3	18-S
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP
			27-E
			RANGE

SchematicTabular DataSurface Casing

Size 8-5/8 " Cemented with 400 sx.
TOC surface feet determined by circ
Hole size 11"

Intermediate Casing

Size _____ " Cemented with _____ sx.
TOC _____ feet determined by _____
Hole size _____

Long string

Size 5-1/2 " Cemented with 1613 sx.
TOC surface feet determined by circ
Hole size 7-7/8"
Total depth 6021'

Injection interval

5320 feet to 6020 feet
(perforated) or open-hole, indicate which)

Tubing size 2-3/8" lined with N.A. set in a
(material)
Baker Lok-set packer at 5270 feet
(brand and model)
(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Abo
- Name of Field or Pool (if applicable) Empire Abo
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Oil production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.
San Andres 2000, Glorieta 3000, Wolfcamp 7000, Morrow 9500

Proposed WELLBORE SCHEMATIC

Empire Abo Unit L-111

2485' FEL & 20' FSL

Sec. 3, T-18S, R-27E, Eddy County, NM

Spudded 08/09/76

Completed 09/06/76

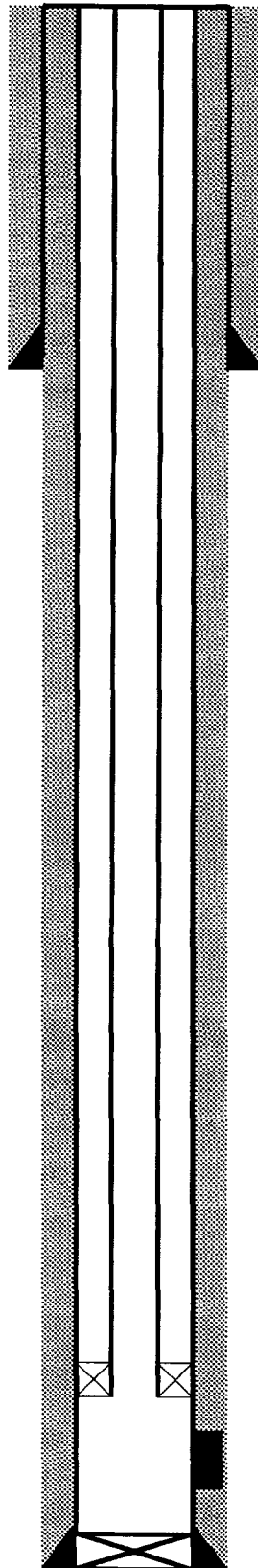
Surface Casing
8 5/8" 24#
Circ Cmt to Surf 400 sx

Shoe @ 1000'

TBG 2 3/8"
w/ Baker Lok-Set
@ 5270'

Production Casing
5 1/2" 14# & 15.5#
Cement 1613 sx
circ cmt w/ DV Tool
@ 4,021'

Shoe @ 6,021'



DV Tool @ 4,021'

Perfs @ 5320-6020'

TD @ 6,021'

INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY		EMPIRE ABO UNIT		
OPERATOR	LEASE			
L-131	100' FSL & 100' FWL	2	18-S	27-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

SchematicTabular DataSurface CasingSize 8-5/8 " Cemented with 325 sx.TOC surface feet determined by circHole size 11"Intermediate Casing

Size _____ " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long stringSize 5-1/2 " Cemented with 1449 sx.TOC surface feet determined by circHole size 7-7/8"Total depth 6187'Injection interval5590 feet to 6185 feet(perforated) or open-hole, indicate which)Tubing size 2-3/8" lined with N.A. set in a
(material)Baker Lok-set packer at 5540 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data1. Name of the injection formation Abo2. Name of Field or Pool (if applicable) Empire Abo3. Is this a new well drilled for injection? ☐ Yes ☒ NoIf no, for what purpose was the well originally drilled? Oil produced4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

Grayburg 1600, Glorieta 3000, Wolfcamp 6500

Proposed WELLBORE SCHEMATIC

Empire Abo Unit L-131

100' FSL & 100' FWL
Sec. 2, T-18S, R-27E,
Eddy County, NM
Spudded 6/26/76
Completed 7/12/76

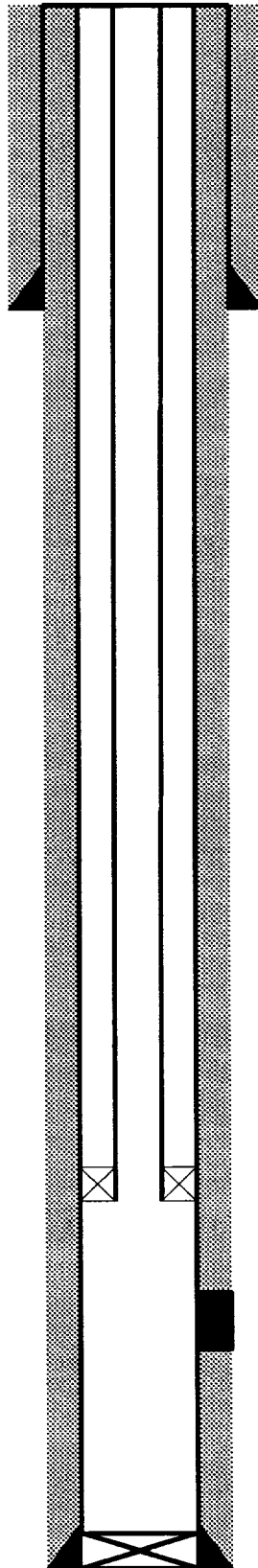
Surface Casing
8 5/8" 24#
Circ Cmt to Surf 325 sx

Shoe @ 1,000'

TBG 2 3/8"
w/ Baker Lok-Set @
5540'

Production Casing
5 1/2" 14 & 15.5#
Cement circ to surface
w/ 1,449 sx

Shoe @ 6,200



Perfs @ 5590-6185'

TD @ 6,187'

INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY		EMPIRE ABO UNIT	
OPERATOR		LEASE	
L-141	1050' FSL & 1360' FWL	2	18-S 27-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP RANGE

SchematicTabular DataSurface CasingSize 8-5/8 " Cemented with 350 sx.TOC surface feet determined by 1" tubingHole size 11"Intermediate Casing

Size _____ " Cemented with _____ sx.

TOC _____ feet determined by _____

Hole size _____

Long stringSize 5-1/2 " Cemented with 1050 sx.TOC surface feet determined by circHole size 7-7/8"Total depth 6127'Injection interval5580 feet to 6125 feet
(perforated or open-hole, indicate which)Tubing size 2-3/8" lined with N.A. set in a
(material)Baker Lok-set packer at 5530 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data1. Name of the injection formation Abo2. Name of Field or Pool (if applicable) Empire Abo3. Is this a new well drilled for injection? ☐ Yes ☒ NoIf no, for what purpose was the well originally drilled? Oil production4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

Grayburg 1600, Glorieta 3000, Wolfcamp 6500

Proposed WELLBORE SCHEMATIC

Empire Abo Unit L-141

1,360' FWL & 1,050' FSL
Sec. 2, T-18S, R-27E, Eddy County, NM
Spudded 06/13/75
Completed 07/08/75
T&A'd 05/12/92

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 350 sx

Shoe @ 1,000'

TBG 2 3/8" Baker Lok-Set
@ 5530'

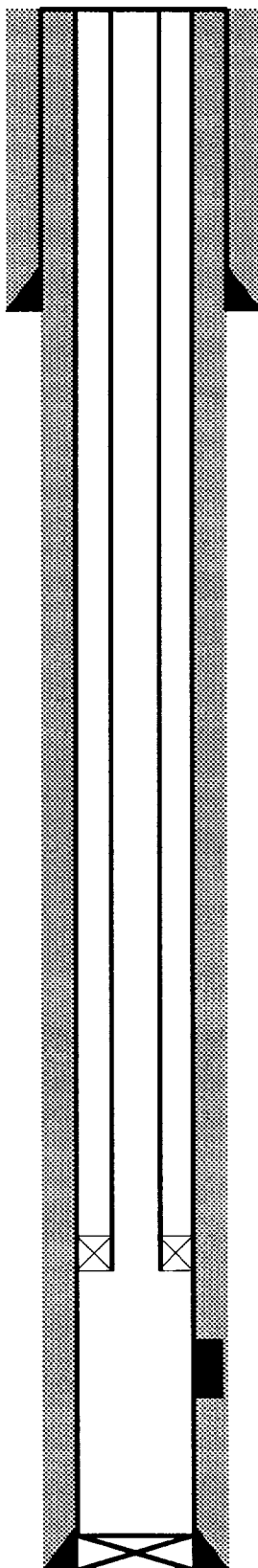
DV Tool @ 4,142'

Production Casing
5 1/2" 14#
Cement 1,050 sx
TOC, SURF, CIRC

Perfs @ 5580-6125'

Shoe @ 6,158'

TD @ 6,127'



INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY		EMPIRE ABO UNIT	
OPERATOR	LEASE		
L-153 90' FSL & 1456' FEL	2	18-S	27-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP
			RANGE

SchematicTabular DataSurface CasingSize 8-5/8 " Cemented with 395 sx.TOC surface feet determined by circHole size 11"Intermediate CasingSize " Cemented with sx.TOC feet determined by Hole size Long stringSize 5-1/2 " Cemented with 1150 sx.TOC surface feet determined by circHole size 7-7/8"Total depth 6303'Injection interval5950 feet to 6300 feet
(~~perforated~~ or open-hole, indicate which)Tubing size 2-3/8" lined with N.A. set in a
(material)Baker Lok-set packer at 5900 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data1. Name of the injection formation Abo2. Name of Field or Pool (if applicable) Empire Abo3. Is this a new well drilled for injection? ☐ Yes ☒ NoIf no, for what purpose was the well originally drilled? Oil production4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

Grayburg 1600, Glorieta 3000, Wolfcamp 1500

Proposed WELLBORE SCHEMATIC

Empire Abo Unit L-153

90' FSL & 1,456' FEL

Sec. 2, T-18S, R-27E, Eddy County, NM

Spudded 03/17/77

Completed 04/20/77

Surface Casing

8 5/8" 24#

Circ Cmt to Surf 395 sx

Shoe @ 1,000'

TBG 2 3/8" Baker Lok-Set

@ 5900'

DV Tool @ 4,989'

Production Casing

5 1/2" 15.5#

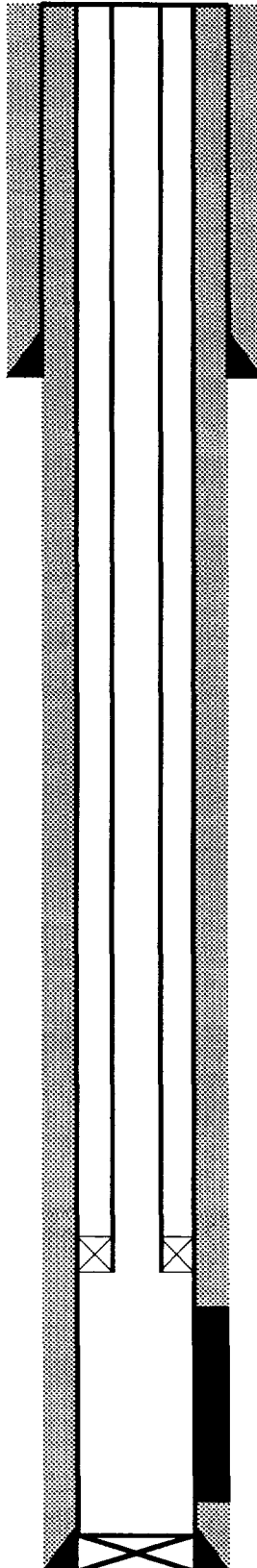
Cement 1,150' sx

Circ DV Tool @ 4,989'

Perfs @ 5950-6300'

Shoe @ 6,303'

TD @ 6,303'



INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY

EMPIRE ABO UNIT

OPERATOR	LEASE			
M-901 1300' FNL & 1220' FWL	11	18-S	27-E	
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

SchematicTabular DataSurface CasingSize 8-5/8 " Cemented with 400 sx.TOC surface feet determined by circHole size 11"Intermediate CasingSize " Cemented with sx.TOC feet determined by Hole size Long stringSize 5-1/2 " Cemented with 1295 sx.TOC surface feet determined by circHole size 7-7/8"Total depth 6106'Injection interval5350 feet to 6100 feet
(perforated or open hole, indicate which)Tubing size 2-3/8" lined with N.A. set in a
(material)Baker Lok-set packer at 5300 feet
(brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Abo
- Name of Field or Pool (if applicable) Empire Abo
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Oil production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.
Grayburg 1000, San Andres 1200, Glorieta 3000, Wolfcamp 6500, Morrow 10,000

Proposed WELLBORE SCHEMATIC

Empire Abo Unit M-901

1300' FNL & 1220' FWL
Sec. 11, T-18-S, R-27-E,
Eddy County, NM
Spudded 7/17/77
Completed 9/18/77
T&A'd 3/31/92

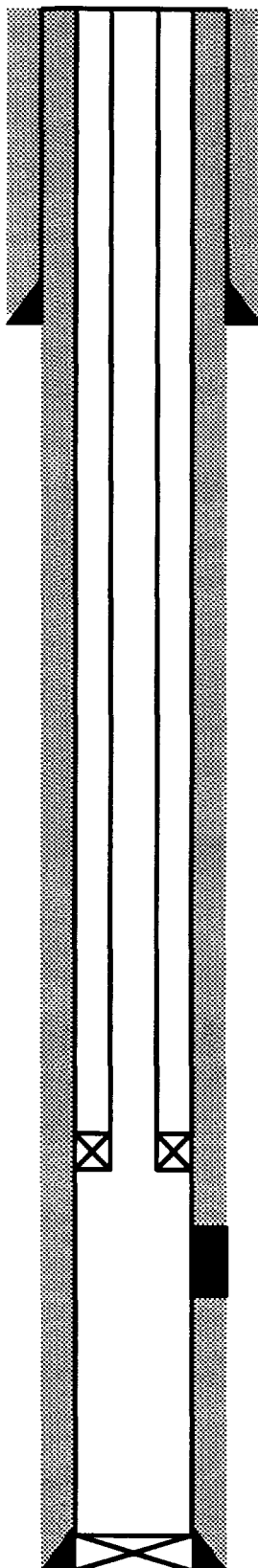
Surface Casing
8 5/8" 24#
Circ w/400 sx

Shoe @ 1000'

Tubing, 2 3/8"
w/Baker Lok-Set
@ 5300'

Production Casing
5 1/2"
Circ w/1295 sx Cmt
SC @ 4189'
TOC @ Surf, Circ.

Shoe @ 6106'



Perfs @ 5350-6100'

TD @6106'

INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY		EMPIRE ABO UNIT		
OPERATOR	LEASE			
P-5	330' FSL & 990' FWL	9	18-S	27-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

SchematicTabular DataSurface Casing

Size 8-5/8 " Cemented with 850 sx.
 TOC surface feet determined by 1" tubing
 Hole size 11"

Intermediate Casing

Size _____ " Cemented with _____ sx.
 TOC _____ feet determined by _____
 Hole size _____

Long string

Size 4-1/2 " Cemented with 1050 sx.
 TOC 900 feet determined by T.S.
 Hole size 7-7/8"
 Total depth 5768'

Injection interval

5250 feet to 5760 feet
 (perforated or open-hole, indicate which)

Tubing size 2-3/8" lined with N.A. set in a
 (material)
Baker Lok-set packer at 5200 feet
 (brand and model)

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Abo
- Name of Field or Pool (if applicable) Empire Abo
- Is this a new well drilled for injection? ☐ Yes ☒ No
 If no, for what purpose was the well originally drilled? Oil production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.
Grayburg 1000, San Andres 1200, Glorieta 3000, Wolfcamp 6200, Morrow 9500

Proposed WELLBORE SCHEMATIC

Empire Abo Unit P-5

330' FSL & 990' FWL

Sec. 9, T-18S, R-27E, Eddy County, NM

Spudded 04/18/60

Completed 05/15/60

TOC @ 900' by T.S.'

Surface Casing

8 5/8"

Cmt to Surface 850 sx

Shoe @ 1,519'

Tubing 2 3/8"

w/Baker Lok-Set @

5200'

Production Casing

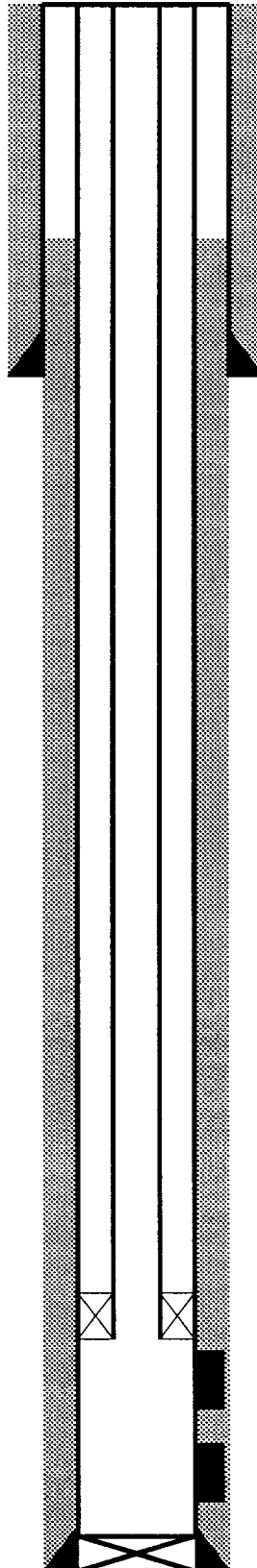
4 1/2"

Cement 1,050 sx

Perfs @ 5250-5760'

7 7/8" hole TD @ 5,768'

Shoe @ 5,768'



INJECTION WELL DATA SHEET

ARCO OIL AND GAS COMPANY		EMPIRE ABO UNIT	
OPERATOR		LEASE	
R-5	1980' FNL & 660' FWL	16	18-S 27-E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP RANGE

SchematicTabular DataSurface Casing

Size 8-5/8 " Cemented with 875 sx.
TOC surface feet determined by 1" tubing
Hole size 11"

Intermediate Casing

Size _____ " Cemented with _____ sx.
TOC _____ feet determined by _____
Hole size _____

Long string

Size 4-1/2 " Cemented with 800 sx.
TOC surface feet determined by circulated
Hole size 7-7/8"
Total depth 5708'

Injection interval

5300 feet to 5694 feet
(perforated or open-hole, indicate which)

Tubing size 2-3/8" lined with N.A. set in a
(material)
Baker Lok-set packer at 5250 feet
(brand and model)
(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Abo
- Name of Field or Pool (if applicable) Empire Abo
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? Oil production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.
Grayburg 1000, San Andres 1200, Glorieta 3000, Wolfcamp 6200, Morrow 9500

Proposed WELLBORE SCHEMATIC

Empire Abo Unit R-5

1,980' FNL & 660' FWL

Sec. 16, T-18S, R-27E, Eddy County, NM

Spudded 08/14/60

Completed 09/13/60

Surface Casing
8 5/8"
Cmt to Surface 800 sx

Shoe @ 1,518'

Tubing 2-3/8"
w/Baker Lok-Set
@ 5250'

Production Casing
4 1/2"
Cement 800 sx

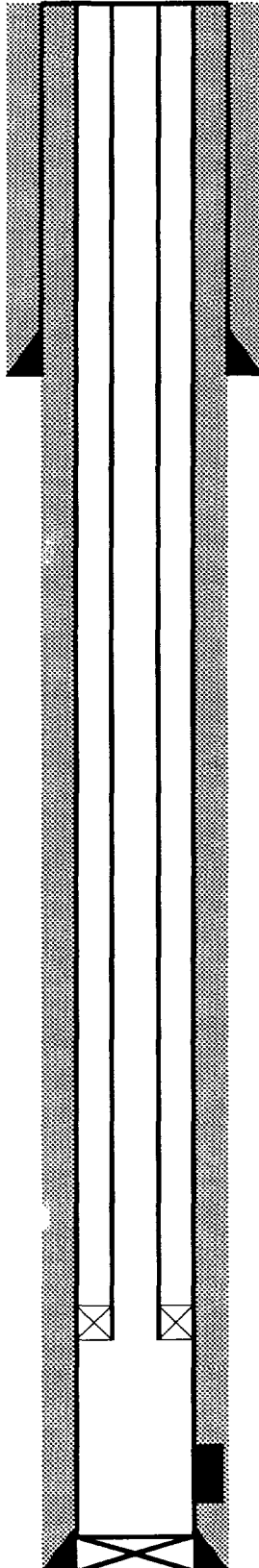
Shoe @ 5,708'

TOC @ surface, Circ.

Perfs @ 5300-5694'

PBTD @ 5,694'

7 7/8" hole TD @ 5,708'

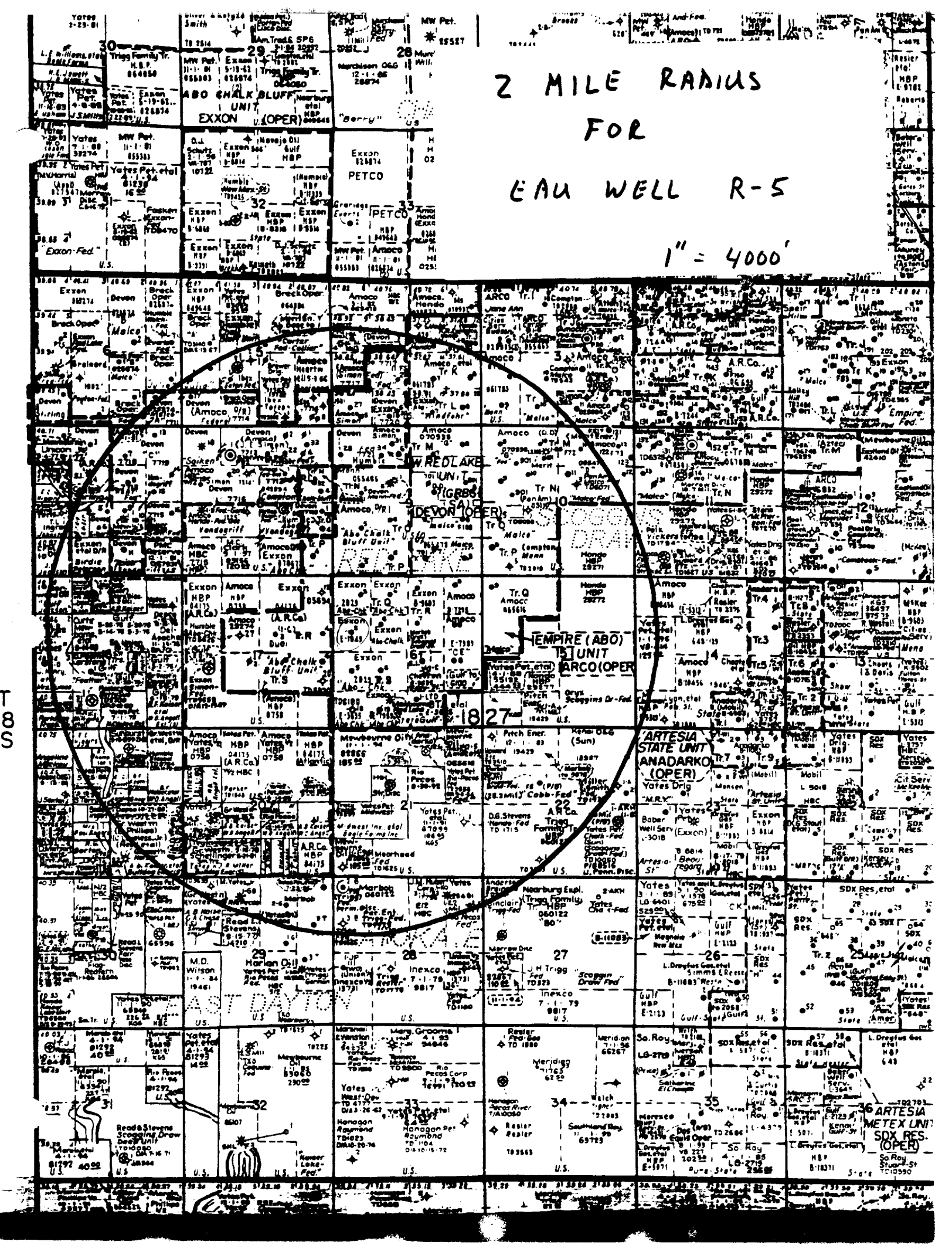


FORM C-108

PART V

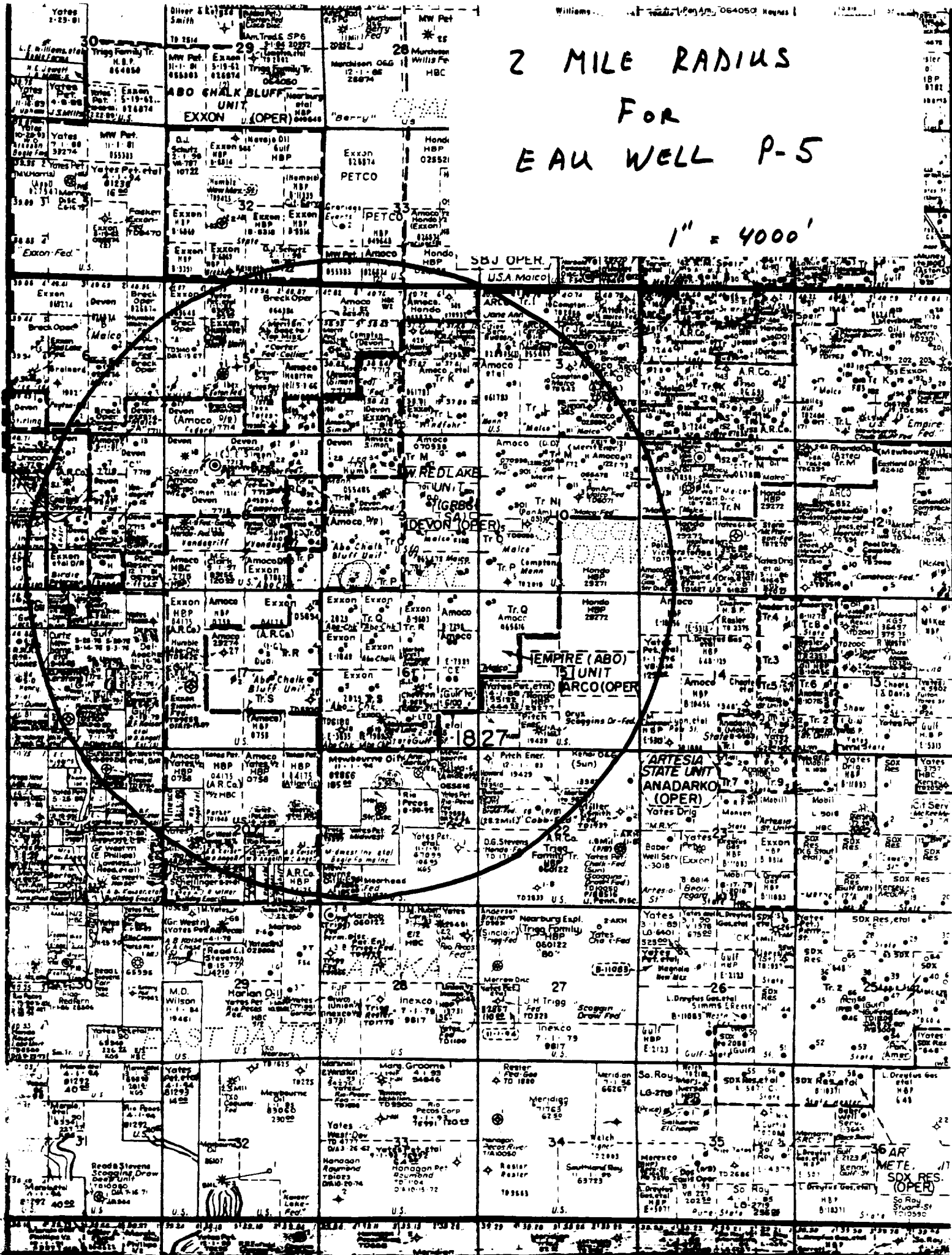
2 MILE RADIUS
FOR
EAU WELL R-5

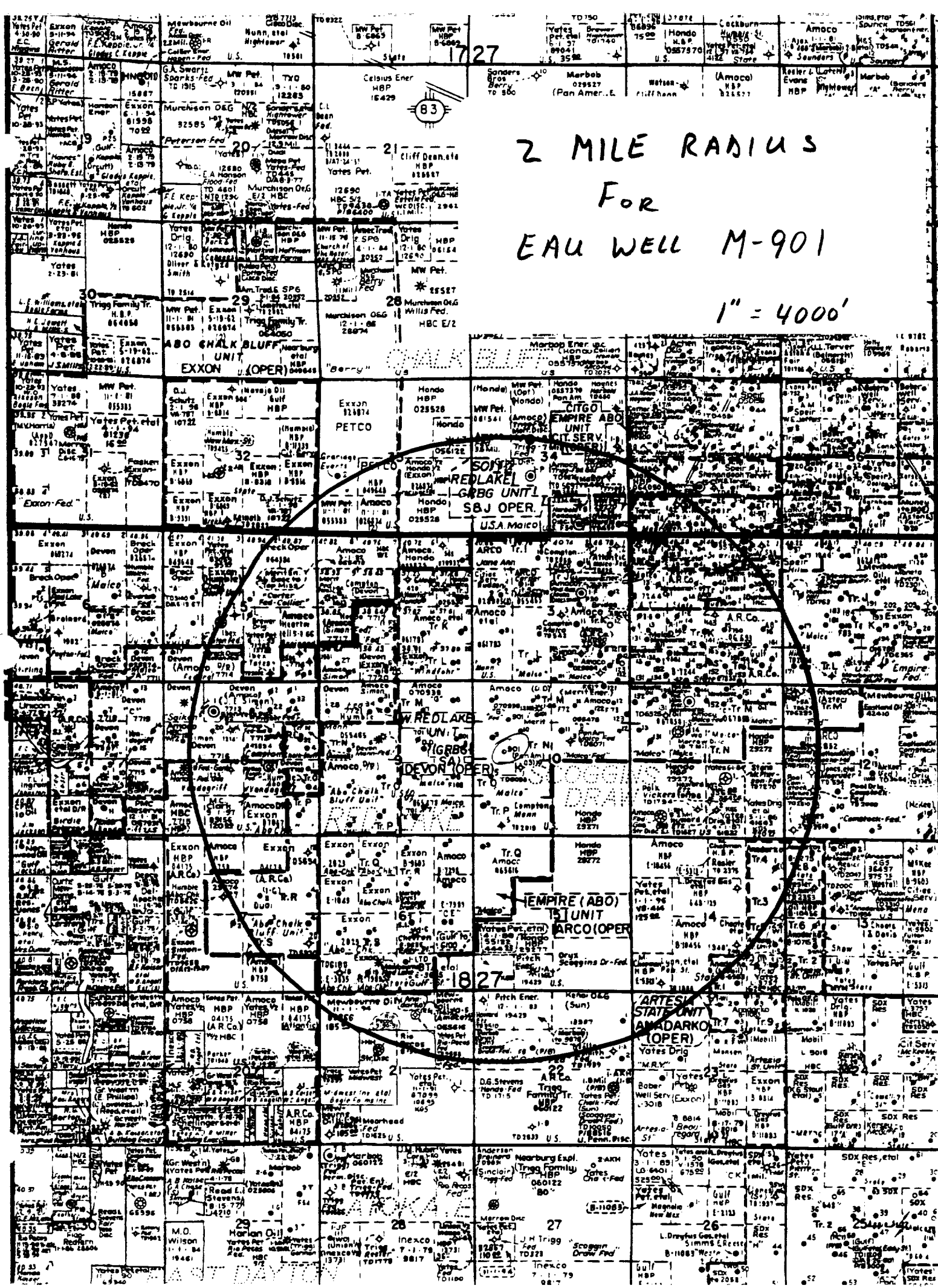
1" = 4000'

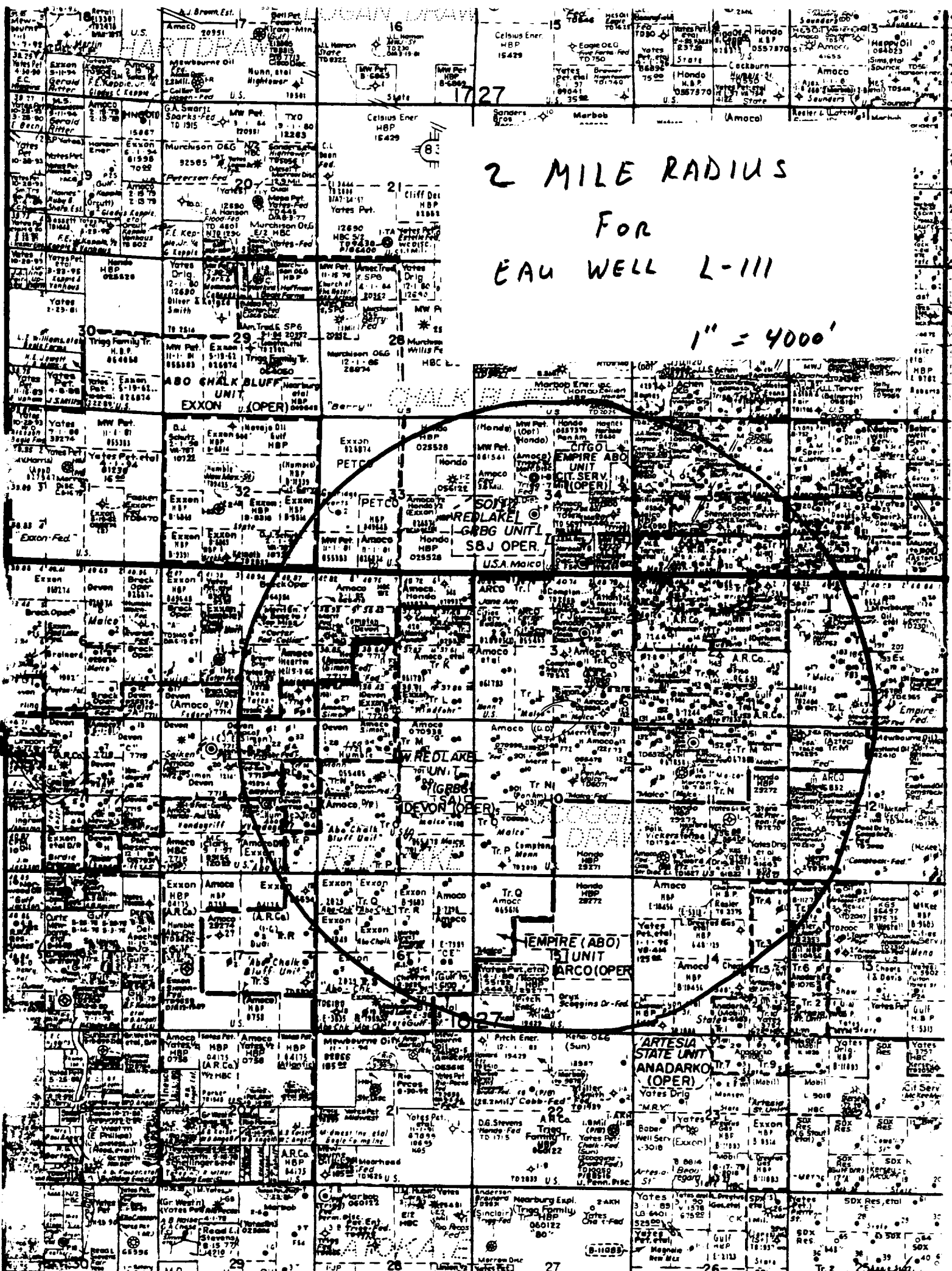


2 MILE RADIUS
FOR
EAL WELL P-5

1" = 4000'

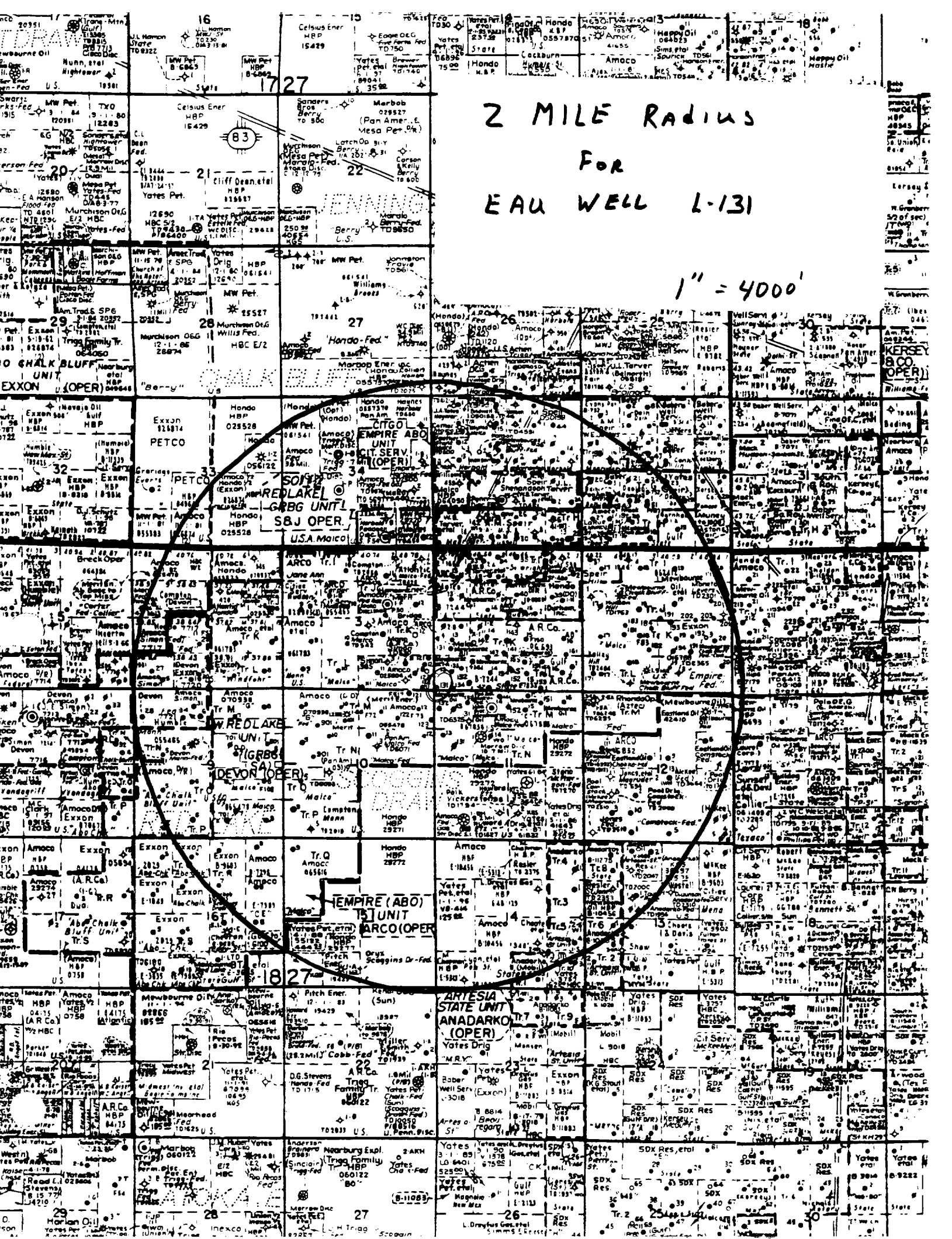


$$1'' = 4000'$$




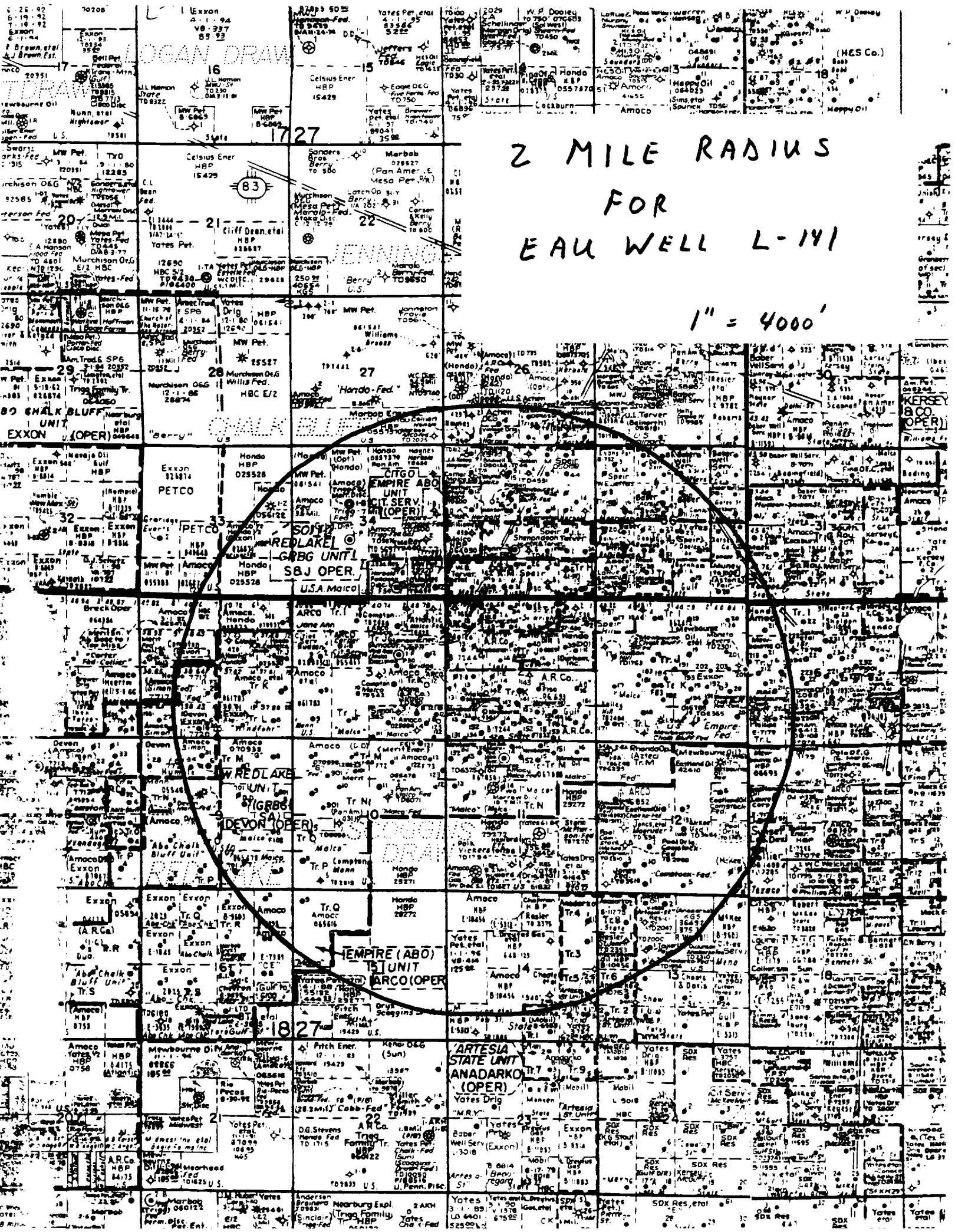
2 MILE RADIUS
FOR
EAU WELL L-111

1" = 4000'



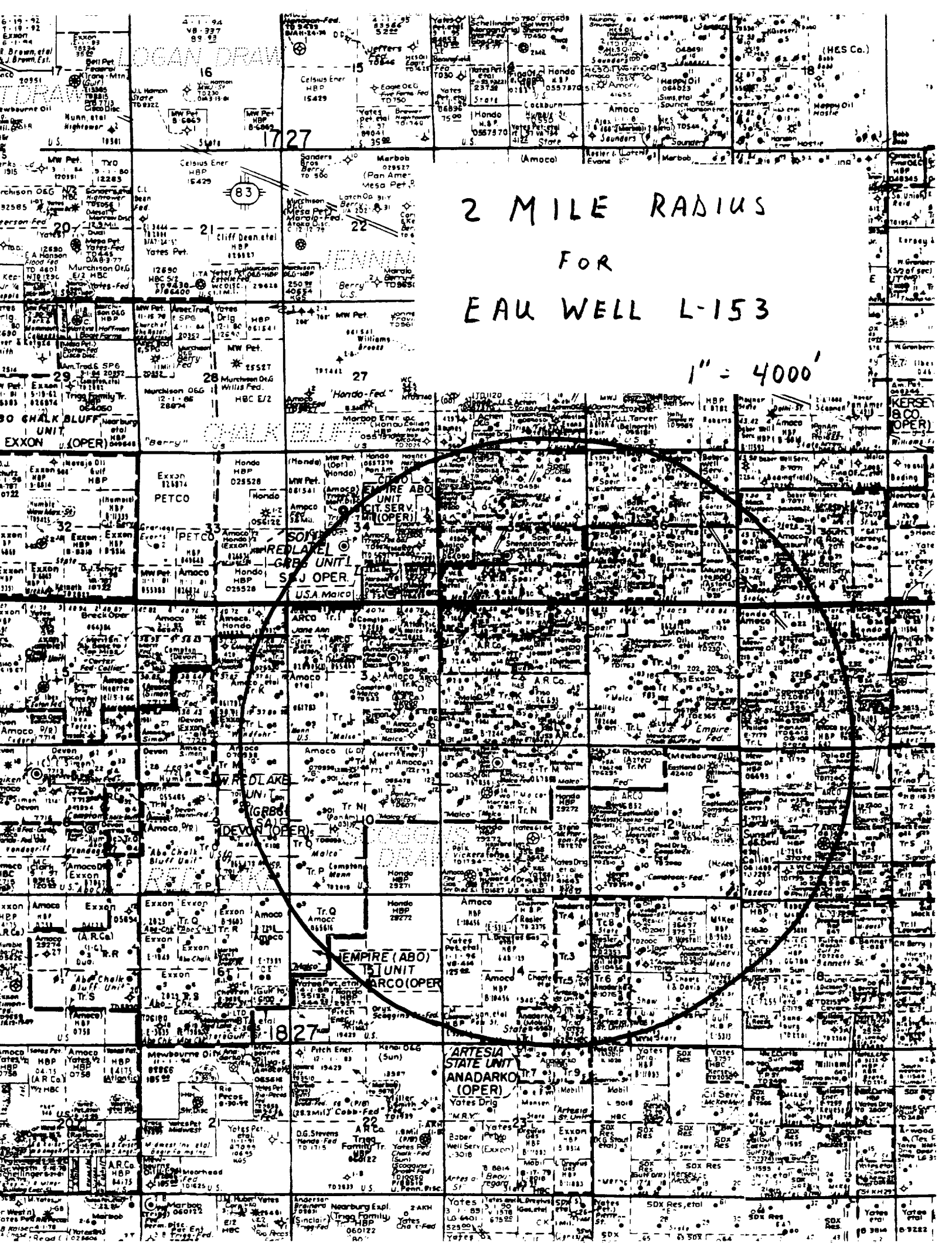
2 MILE RADIUS
FOR
EAU WELL L-131

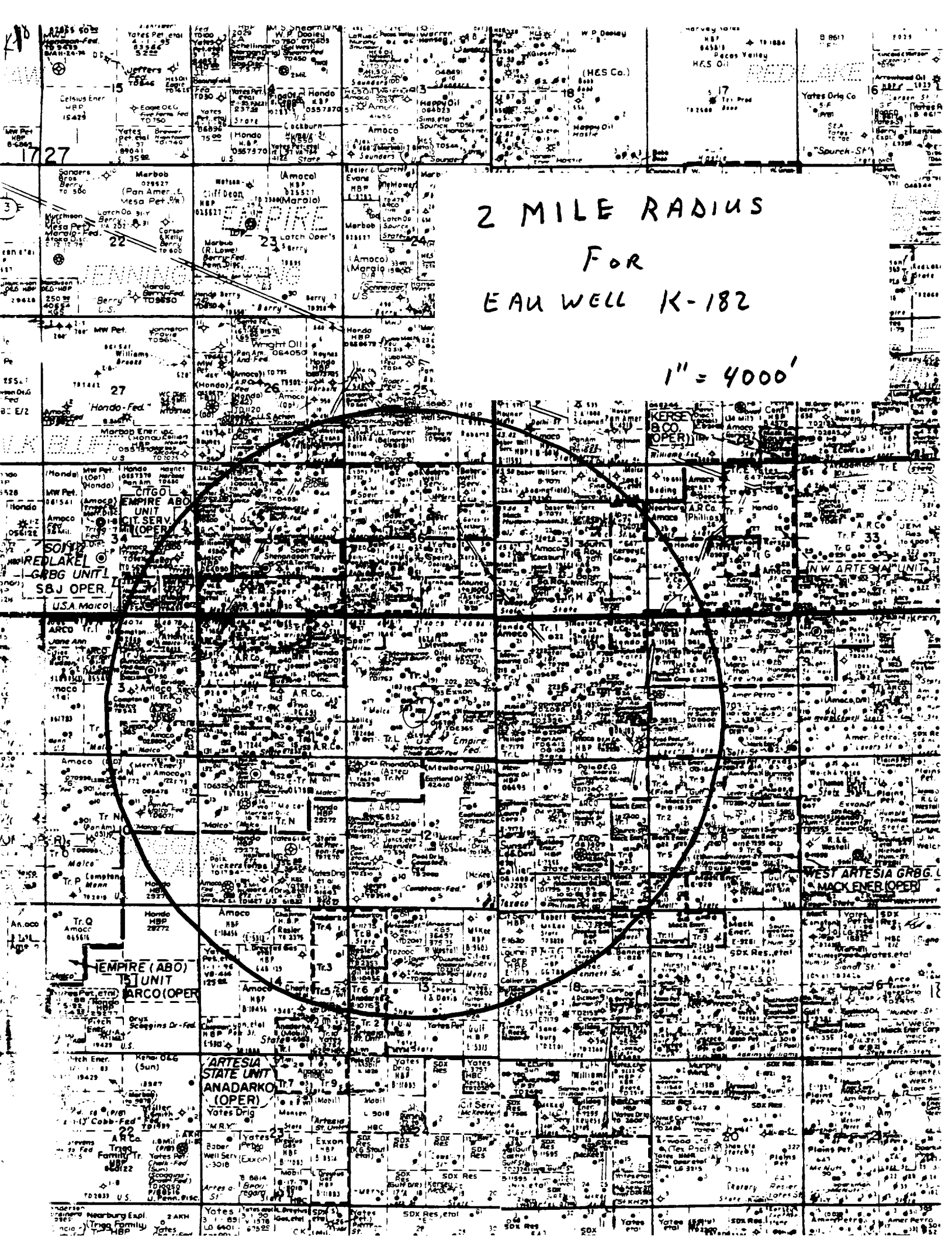
1" = 4000'



2 MILE RADIUS
FOR
EAU WELL L-141

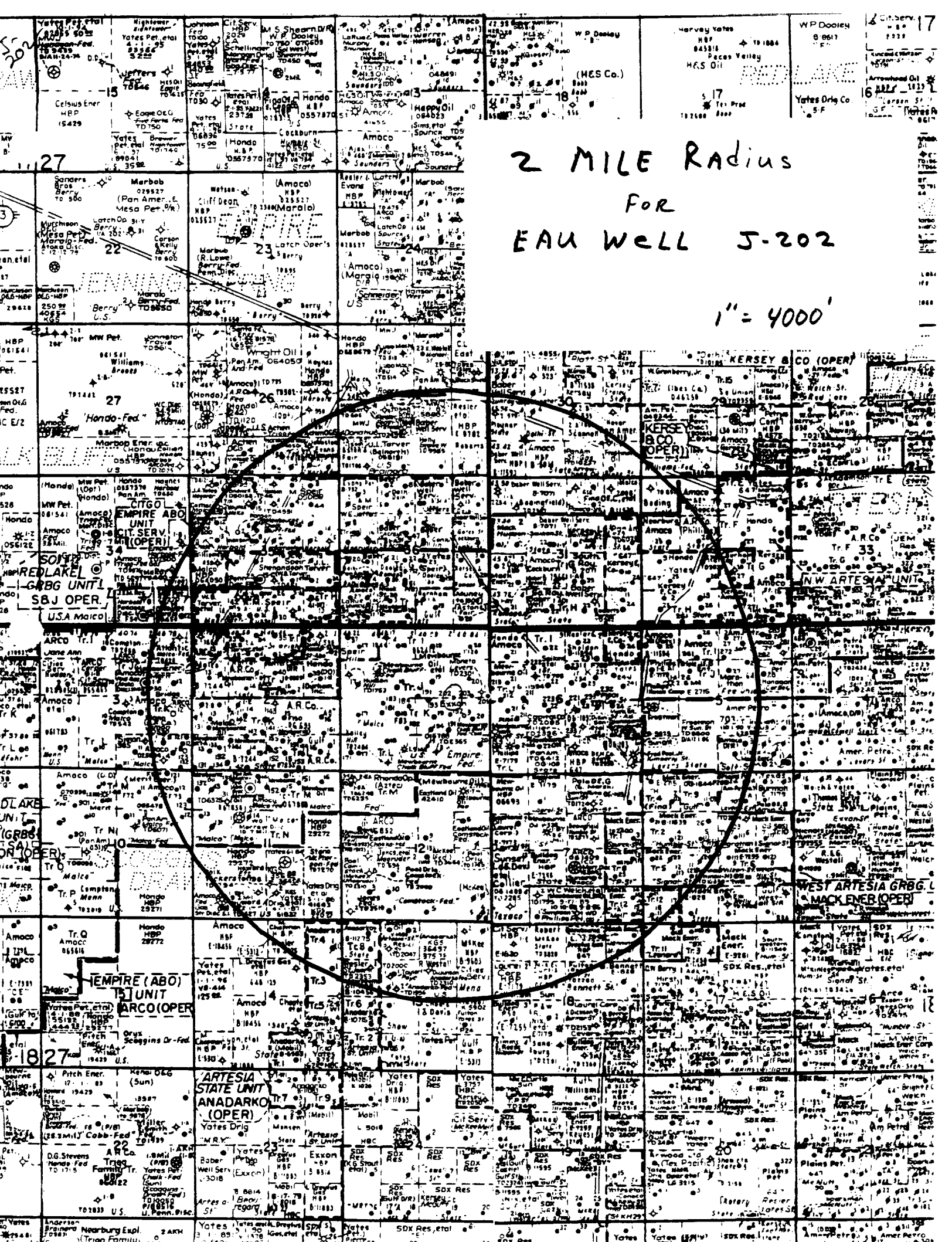
1" = 4000'

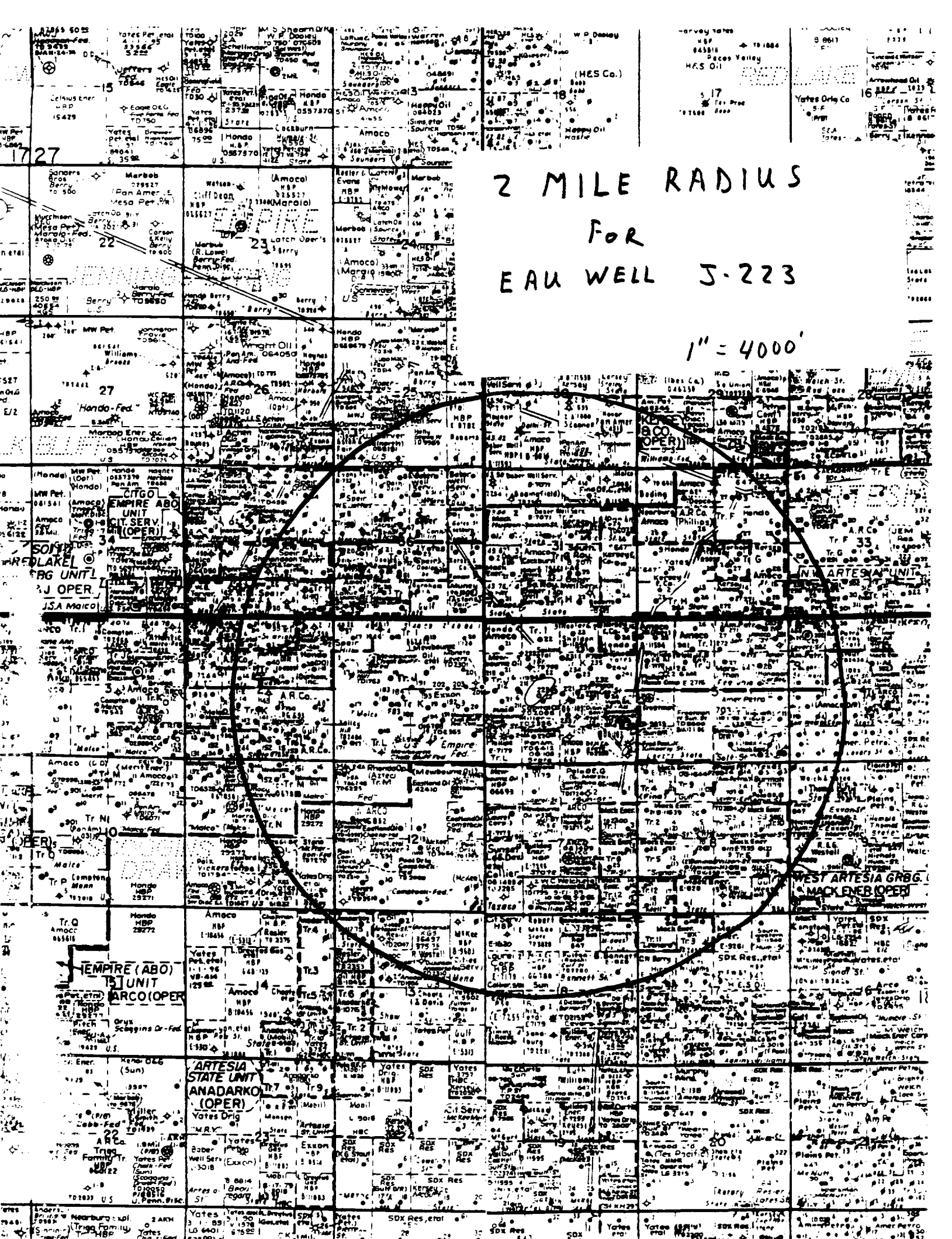
$$1'' = 4000'$$




2 MILE RADIUS
FOR
EAU WELL K-182

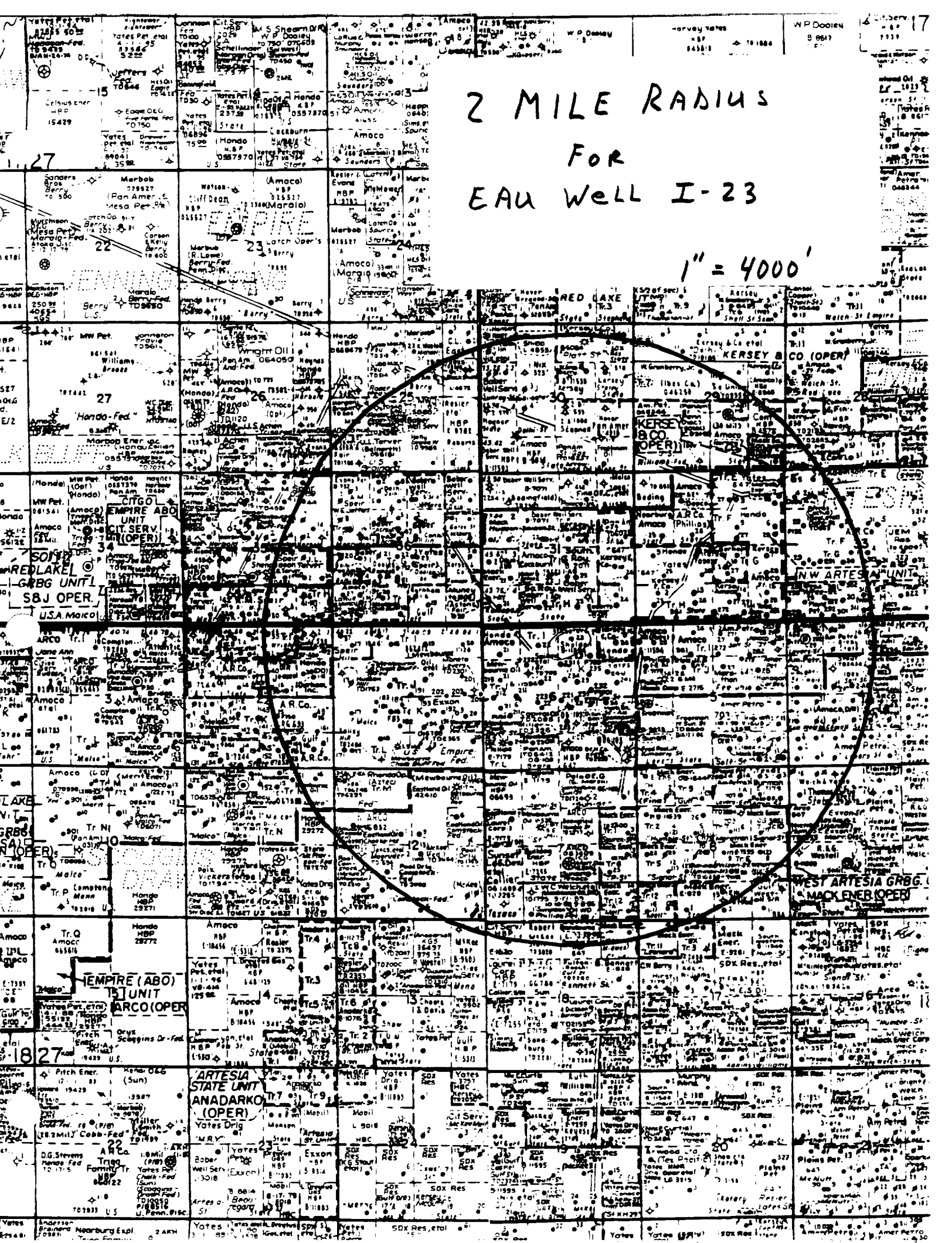
1" = 4000'





2 MILE RADIUS
For
EAU WELL J-223

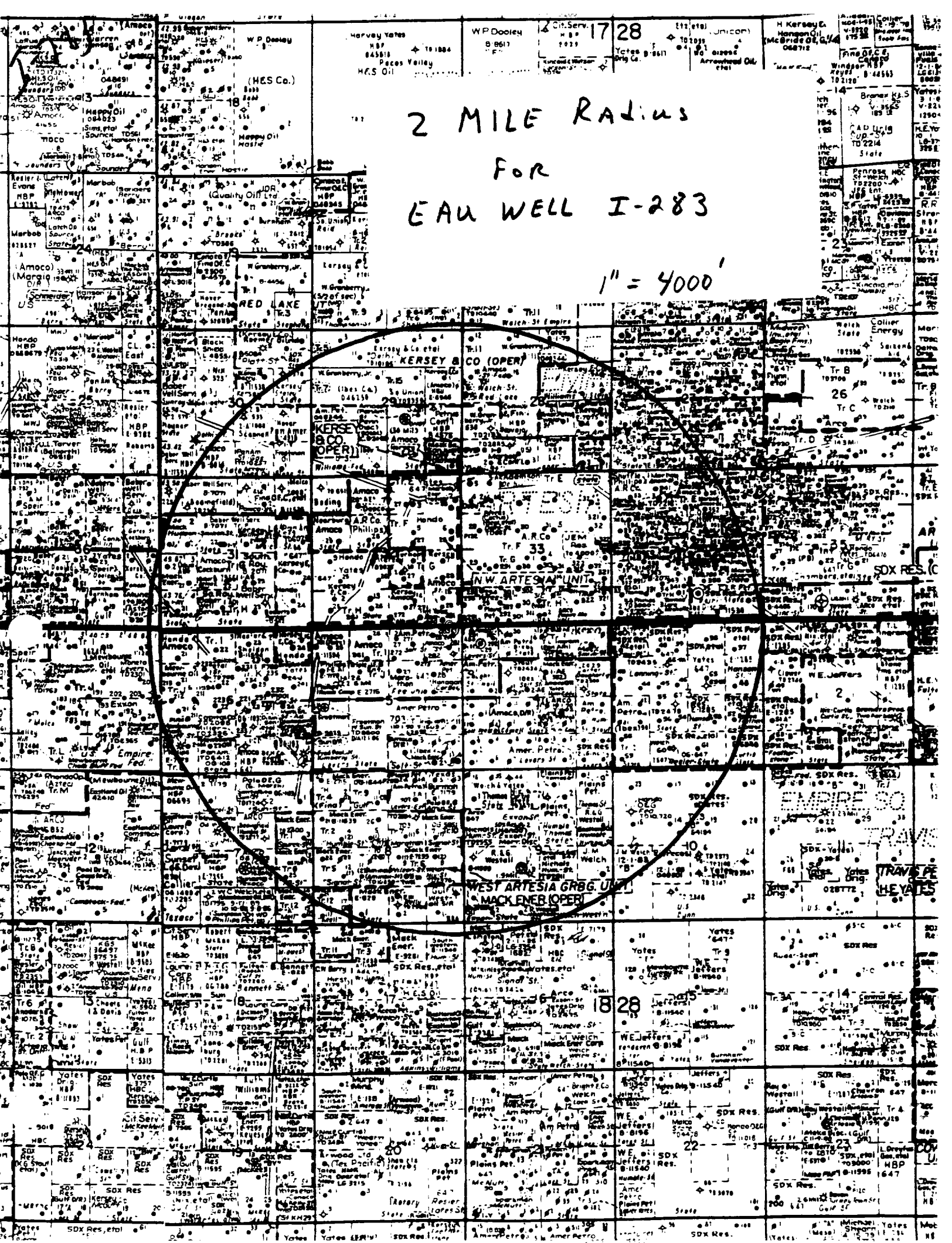
1" = 4000'

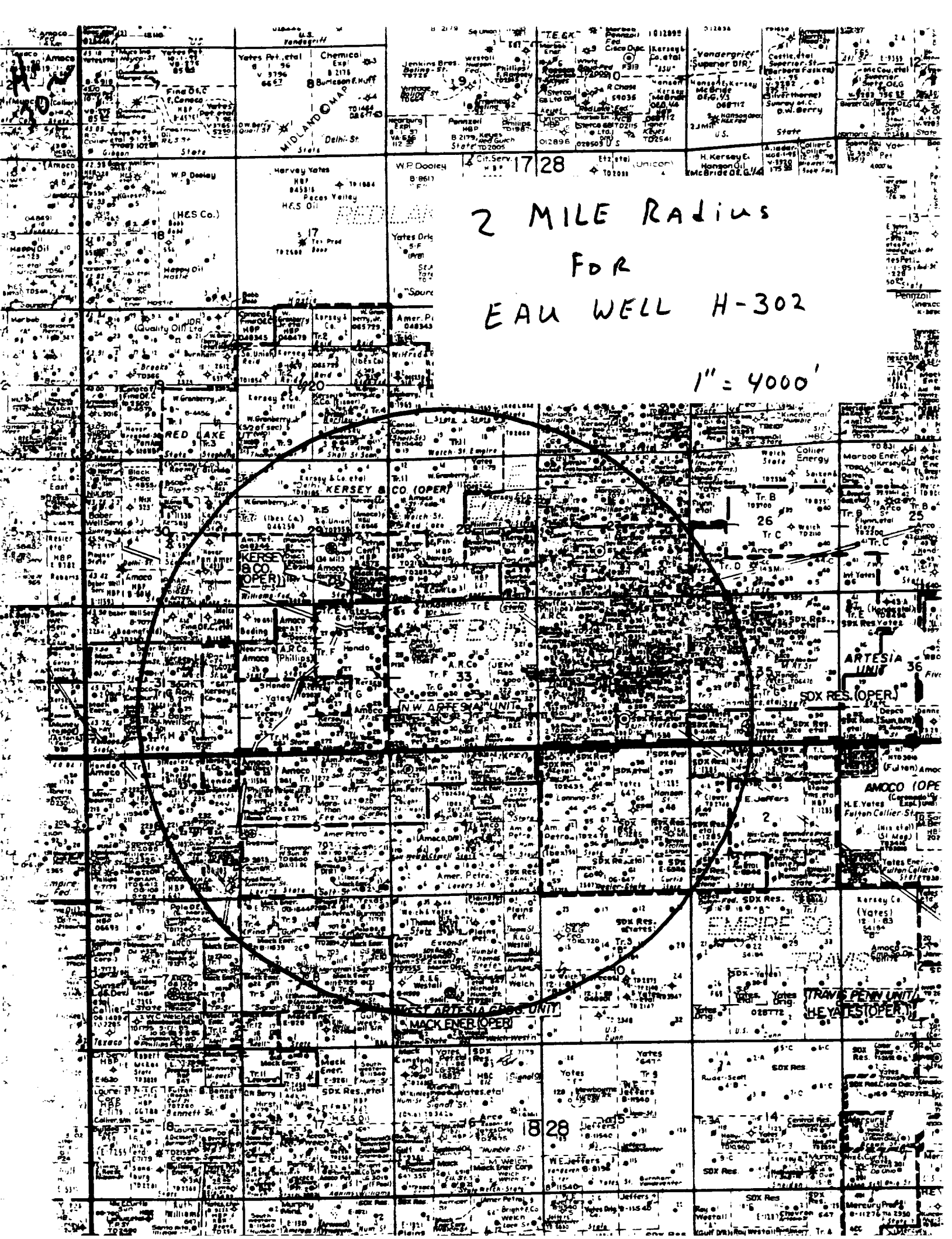
$$1'' = 4000'$$


$$1'' = 4000'$$

2 MILE RADIUS
FOR
EAU WELL I-283

1" = 4000'



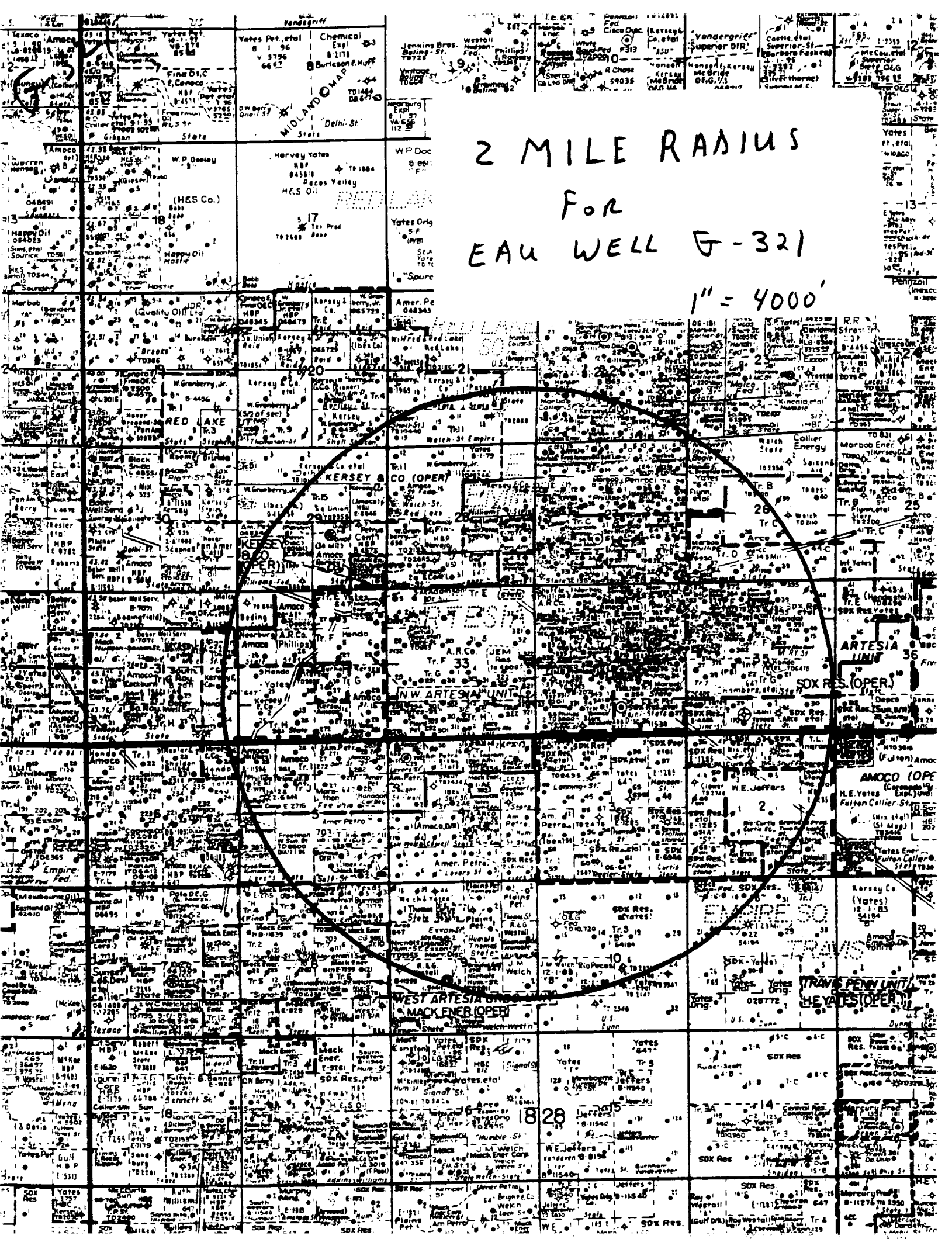


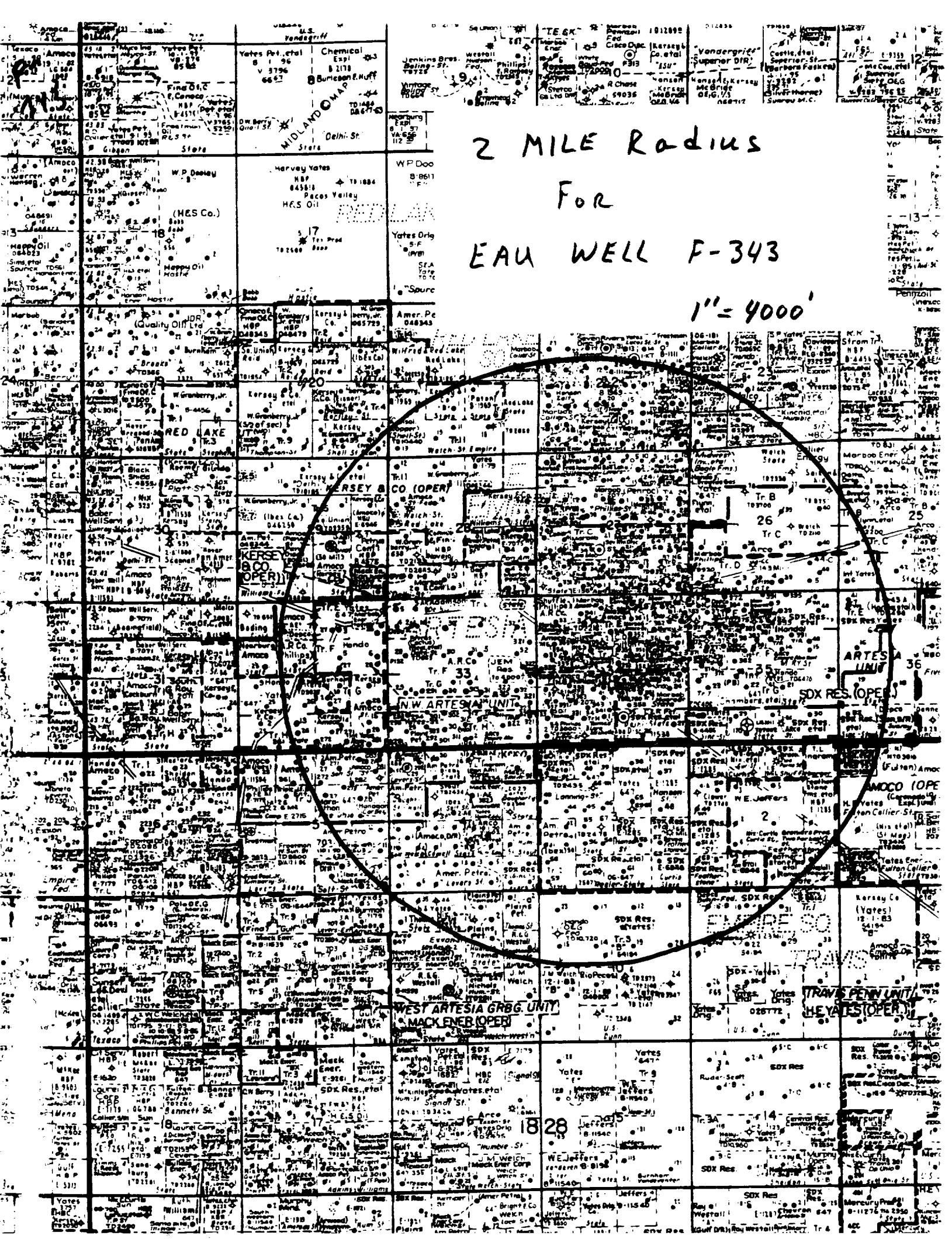
2 MILE RADIUS
FOR
EAU WELL H-302

1" = 4000'

2 MILE RADIUS
FOR
EAU WELL G-321

1" = 4000'





2 MILE Radius

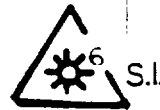
For

EAU WELL F-343

1" = 4000'

R 2 7 E

AREA OF REVIEW
1/2 MILE RADIUS
FOR
R-5 + P-5



1" = 1000'

M

N

O

P

Q

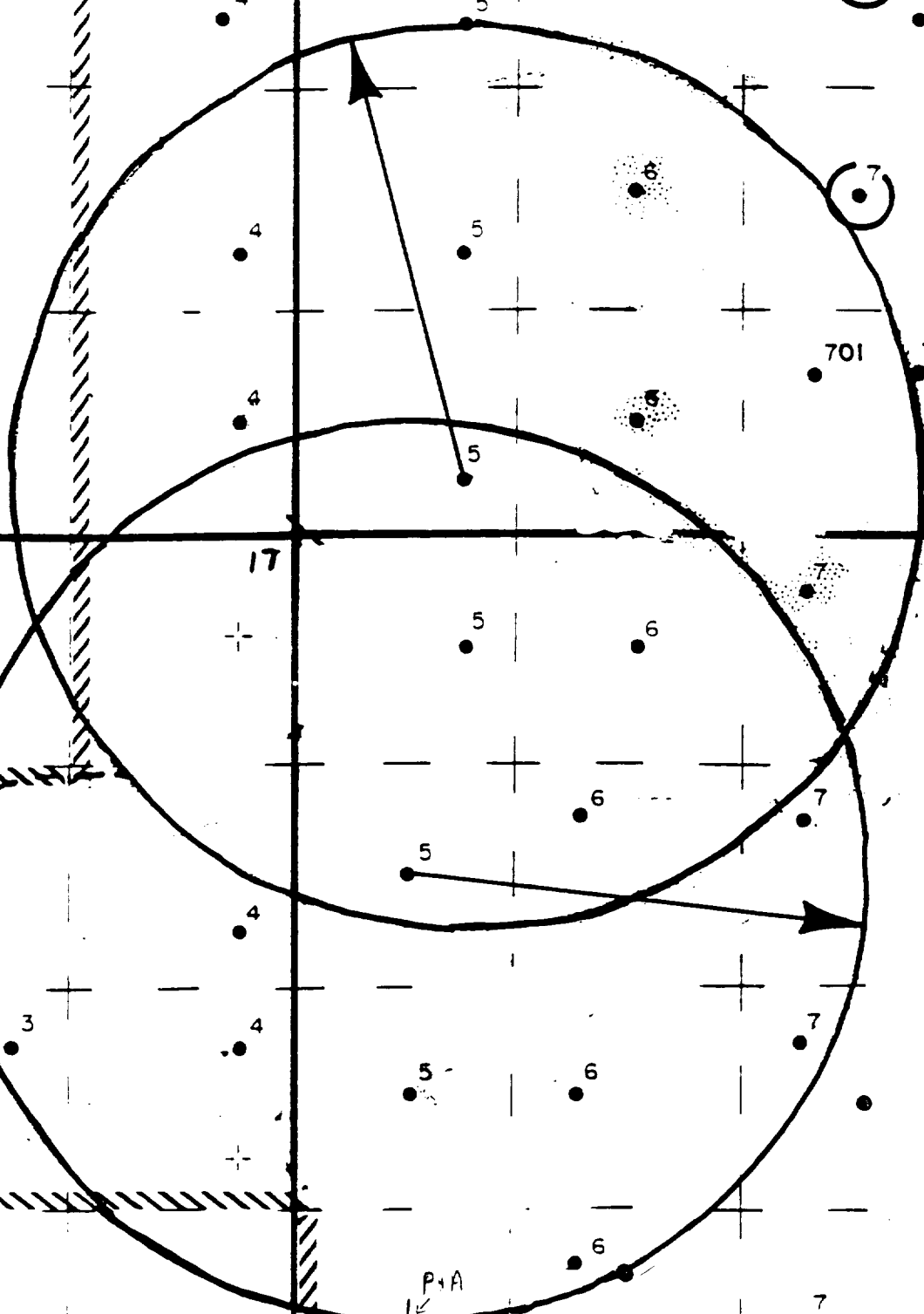
R

S

T

T 18

2



T 18 S

K

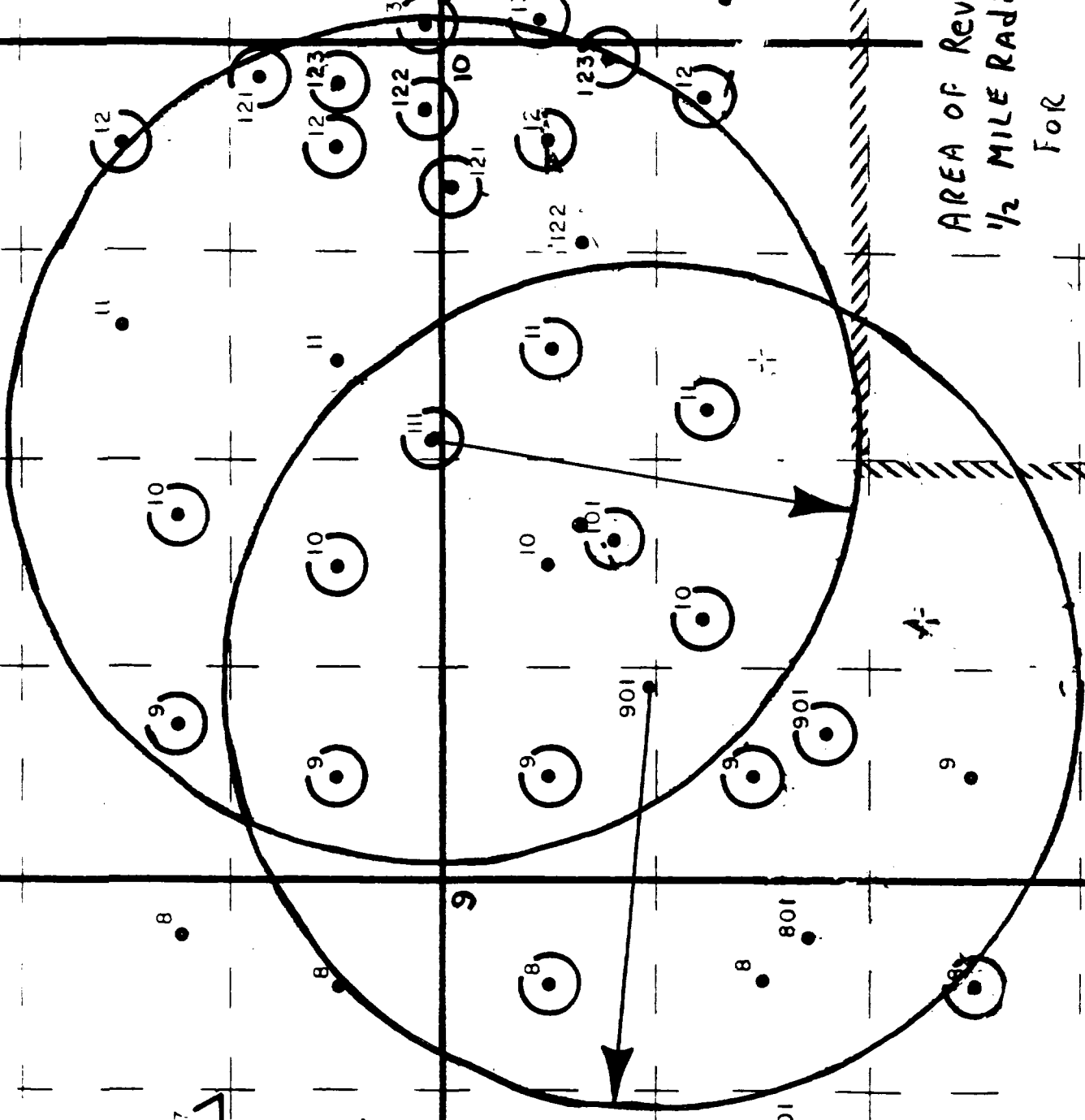
L

M

N

O

P



AREA OF REVIEW
1/2 MILE RADIUS

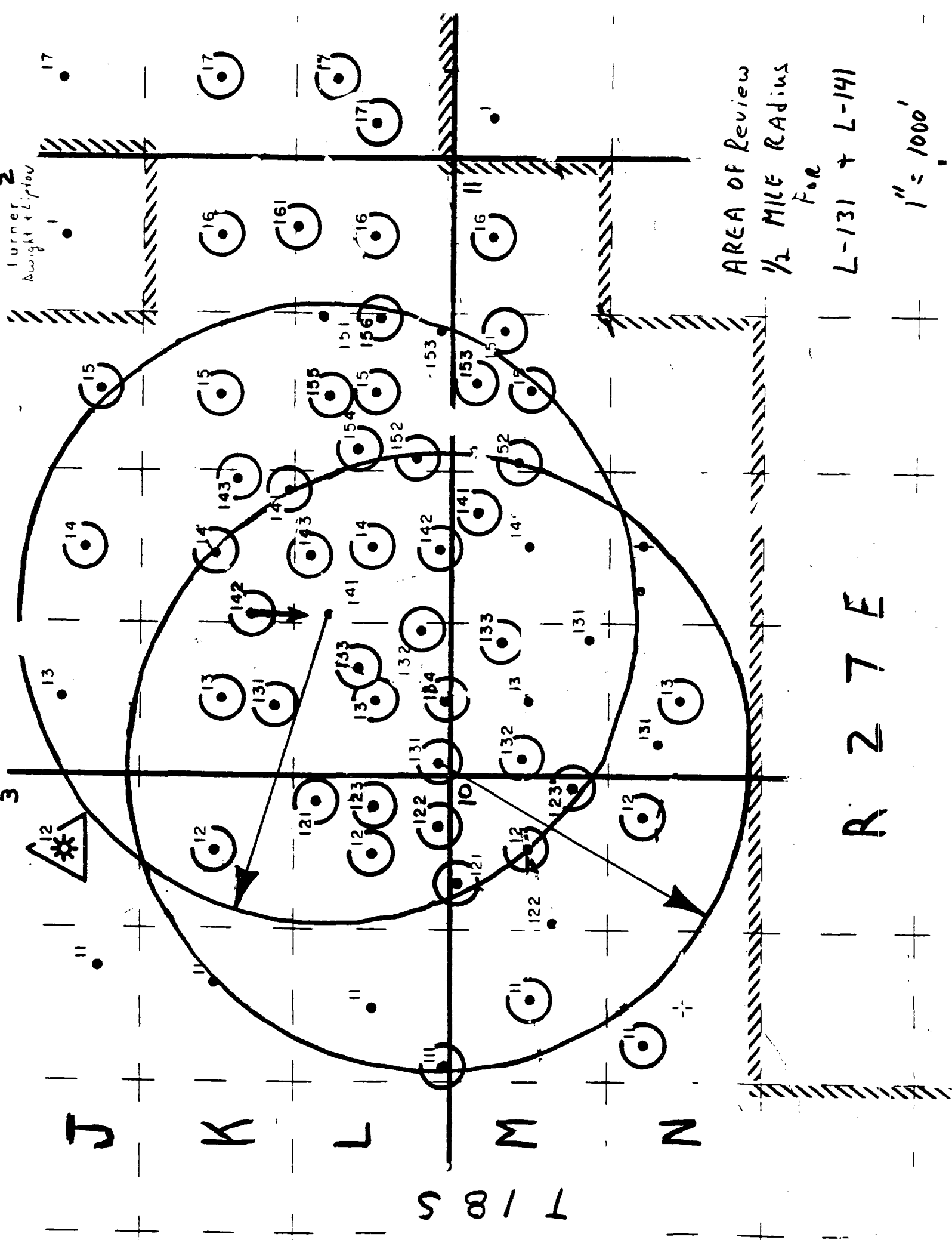
For

M-901 + L-111

R77F

1" = .000' 3'

Turner
2
Awright & Ligon



AREA OF REVIEW
1/2 MILE RADIUS
FOR
L-131 + L-141

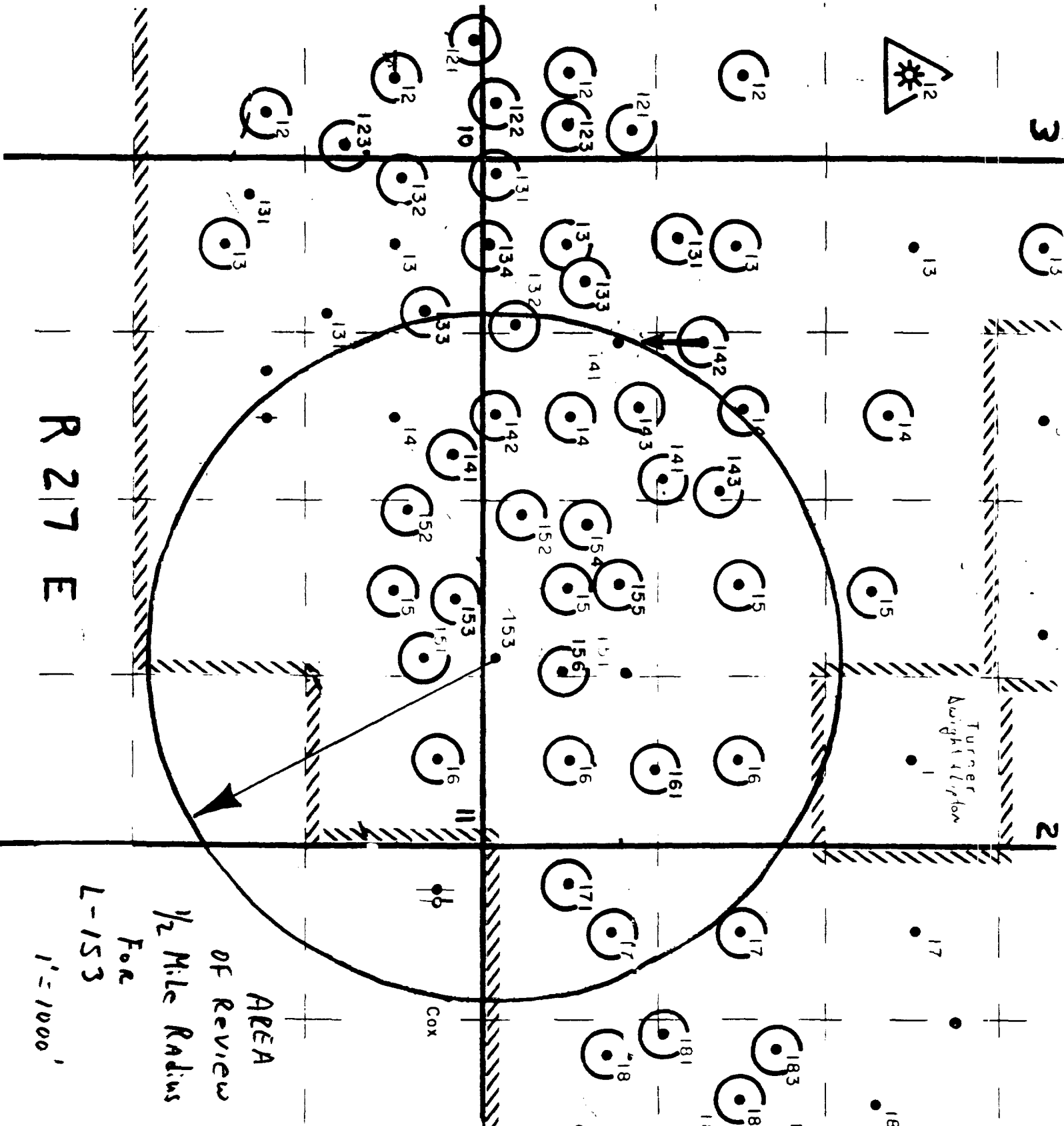
1" = 1000'

R 2 7 E

T 18 S

T 18 S

J K L M N

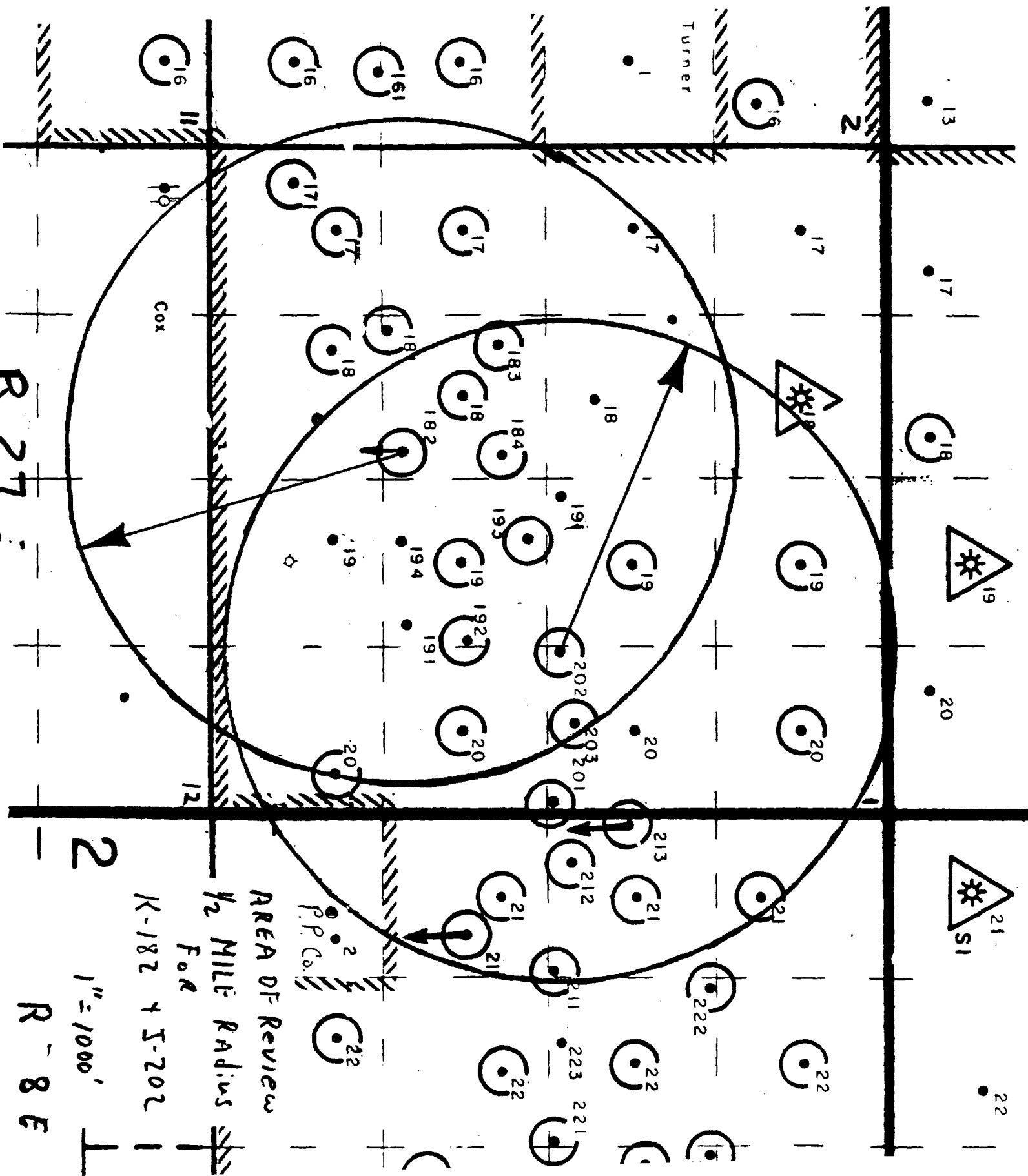


二

4

下

3



T 17 S

T 18 S



H⁹

I

J

K

L

R 27 E

R 28 E

20

20

20

20

202

20

192

191

20

P.P.Co. 2

22

21

203

201

212

213

21

222

22

22

21

211

22

23

231

223

221

23

233

232

23

235

24

241

P.P.Co.

26

261

26

261

26

25

26

25

25

251

6



22

23

23



24

24

231

231

234

23

235

24

241

251

25

26

261

26

26

26

Area of Review
1/2 Mile Radius
For
J-223 + I-23

1" = 1000'

25.L 26

R 28 E

F

G

H

I

J

K

T 17 S

T 18 S

31

32



26

28

29

30

25

26

27

29

30

31

24

25

26

27

28

29

30

31

32

24

25

26

27

28

29

30

31

32

24

25

26

27

28

29

30

31

32

24

25

26

27

28

29

30

31

32

251

283

291

292

301

302

311

312

P.P.Co.

27

272

273

282

281

291

292

301

302

311

312

24

25

26

27

28

29

30

31

32

33

34

35

AREA
OF REVIEW
1/2 MILE RADIUS
FOR

29,K

H-261 + J-283

1" = 1000'

T 18 S

T 17 S

J

I

H

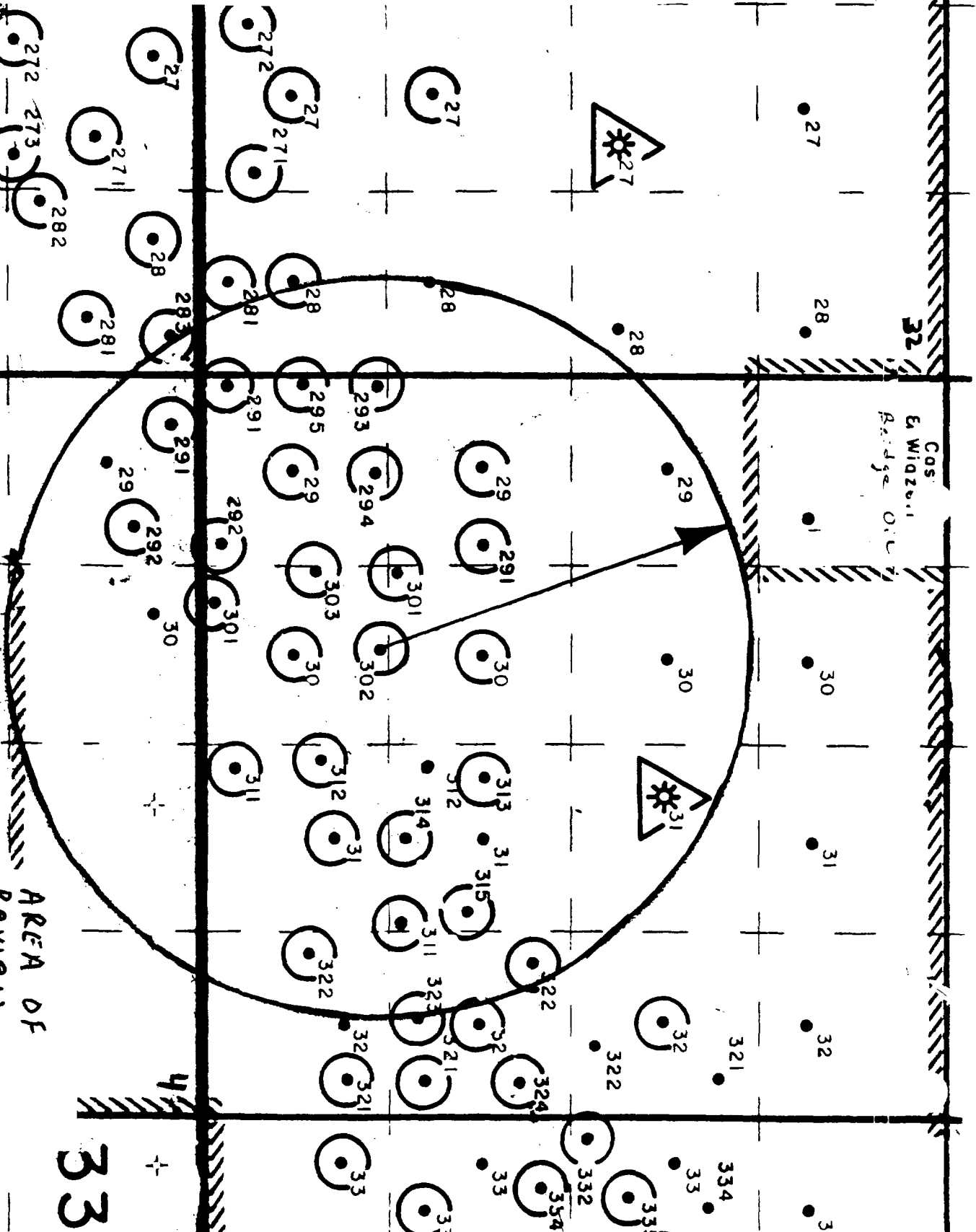
G

F

E

32

Cos.
E. W. D. Z. 11
Ridge Out



R 28 E

AREA OF
REVIEW

1/2 MILE Radius
For

H-302

J

33

Penroc



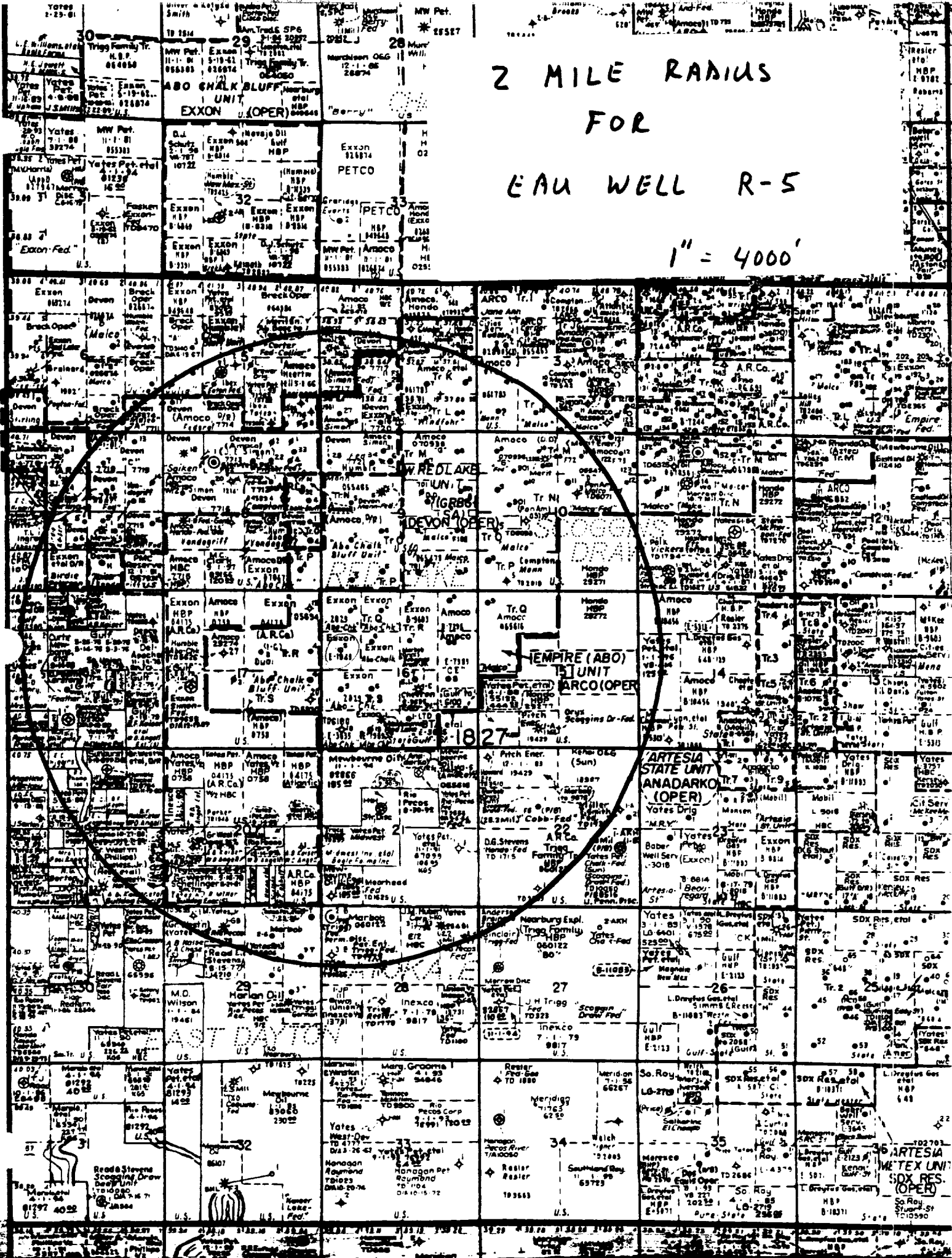
AREA of -
Review
 $\frac{1}{2}$ Mile Radius
For
37.

$$l'' = 1000'$$

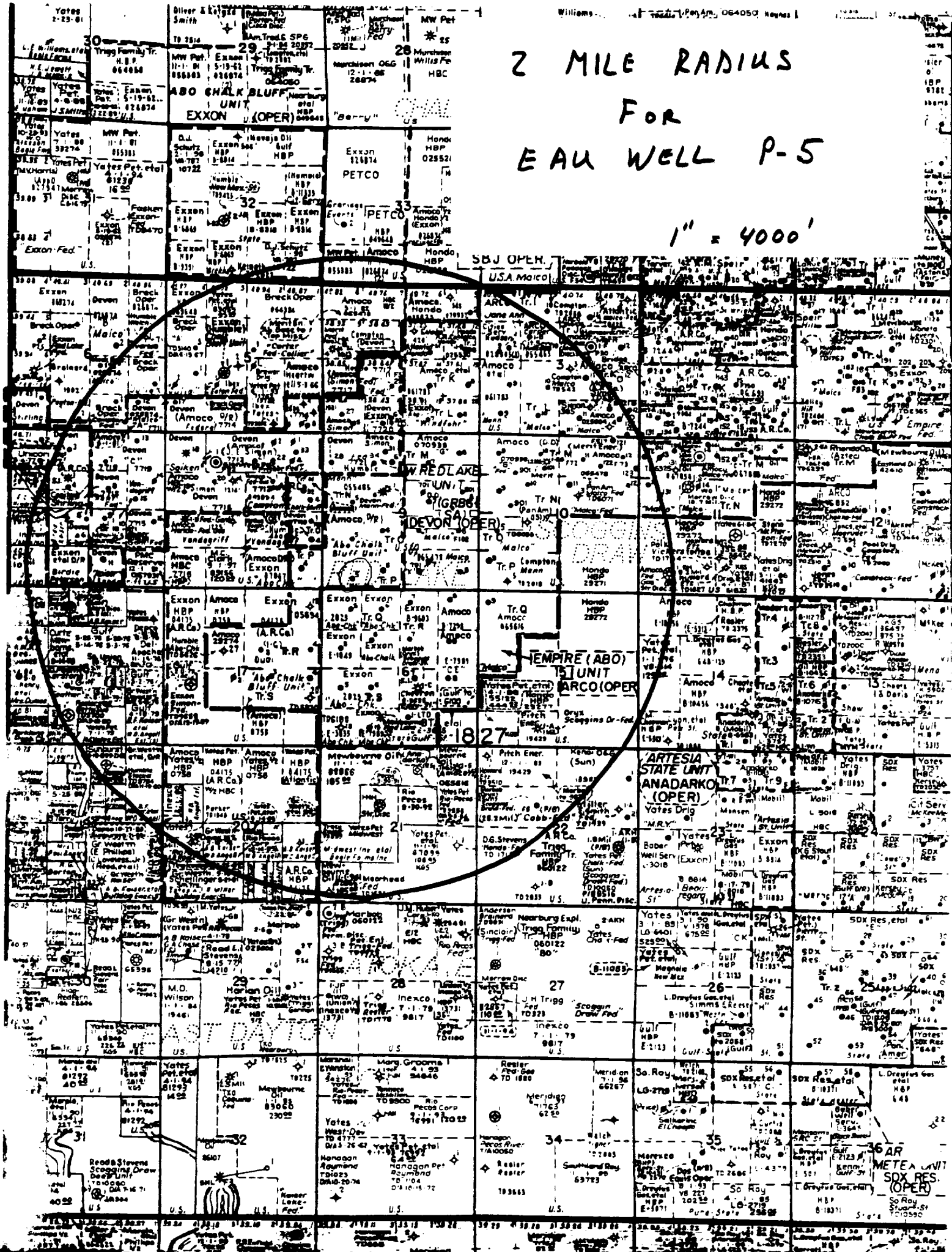
FORM C-108

PART V

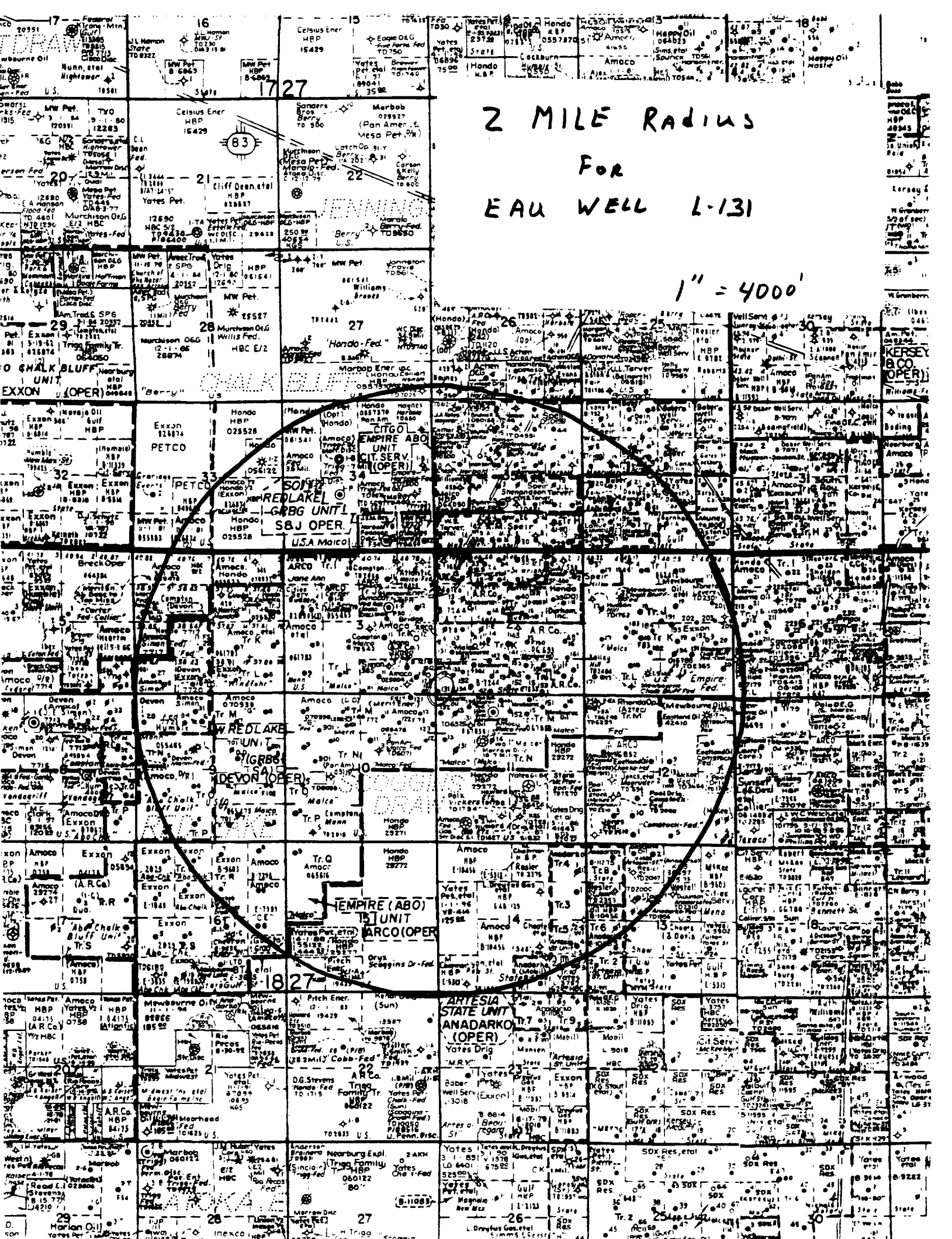
2 MILE RADIUS
FOR
EAU WELL R-5
1" = 4000'



1" = 4000'

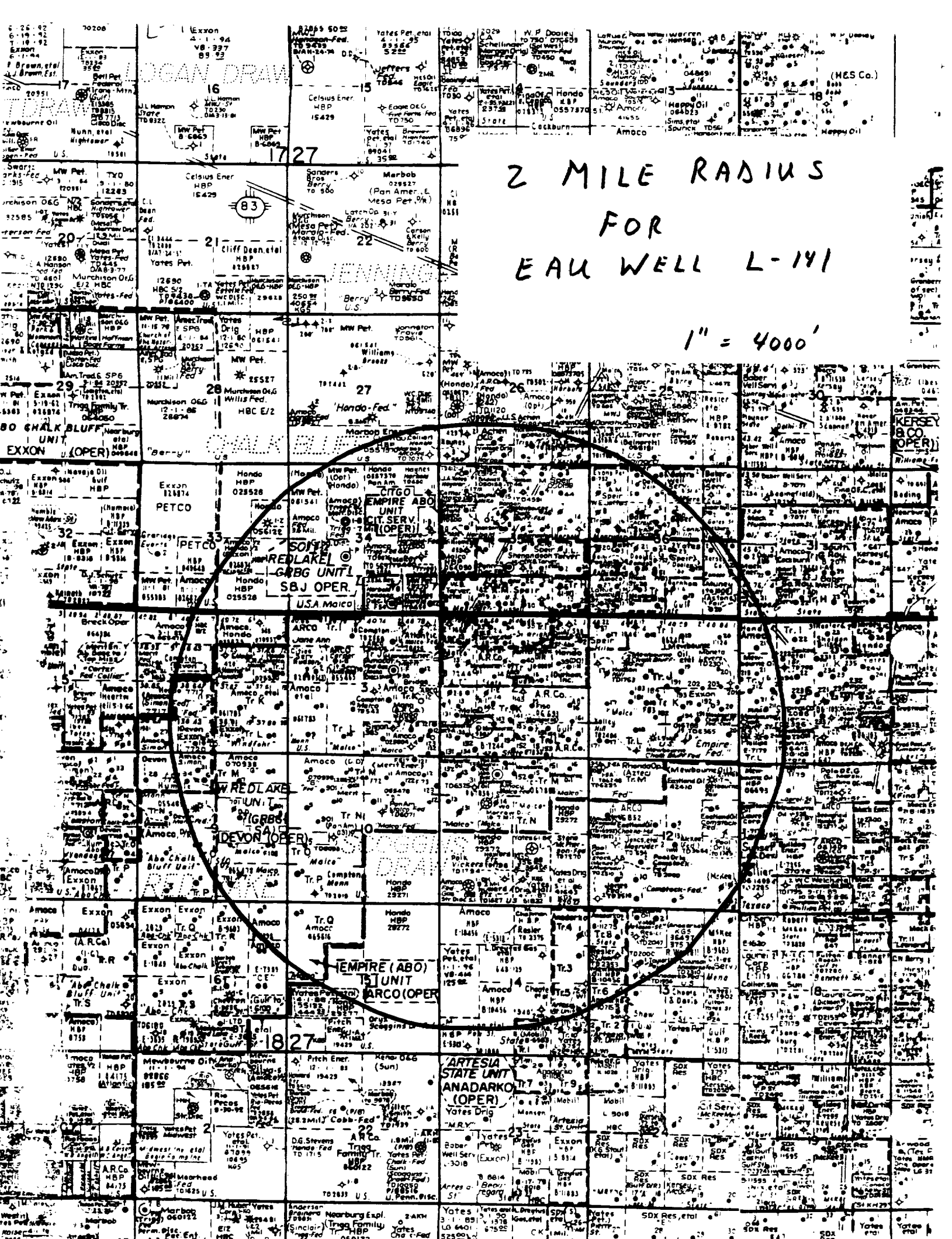


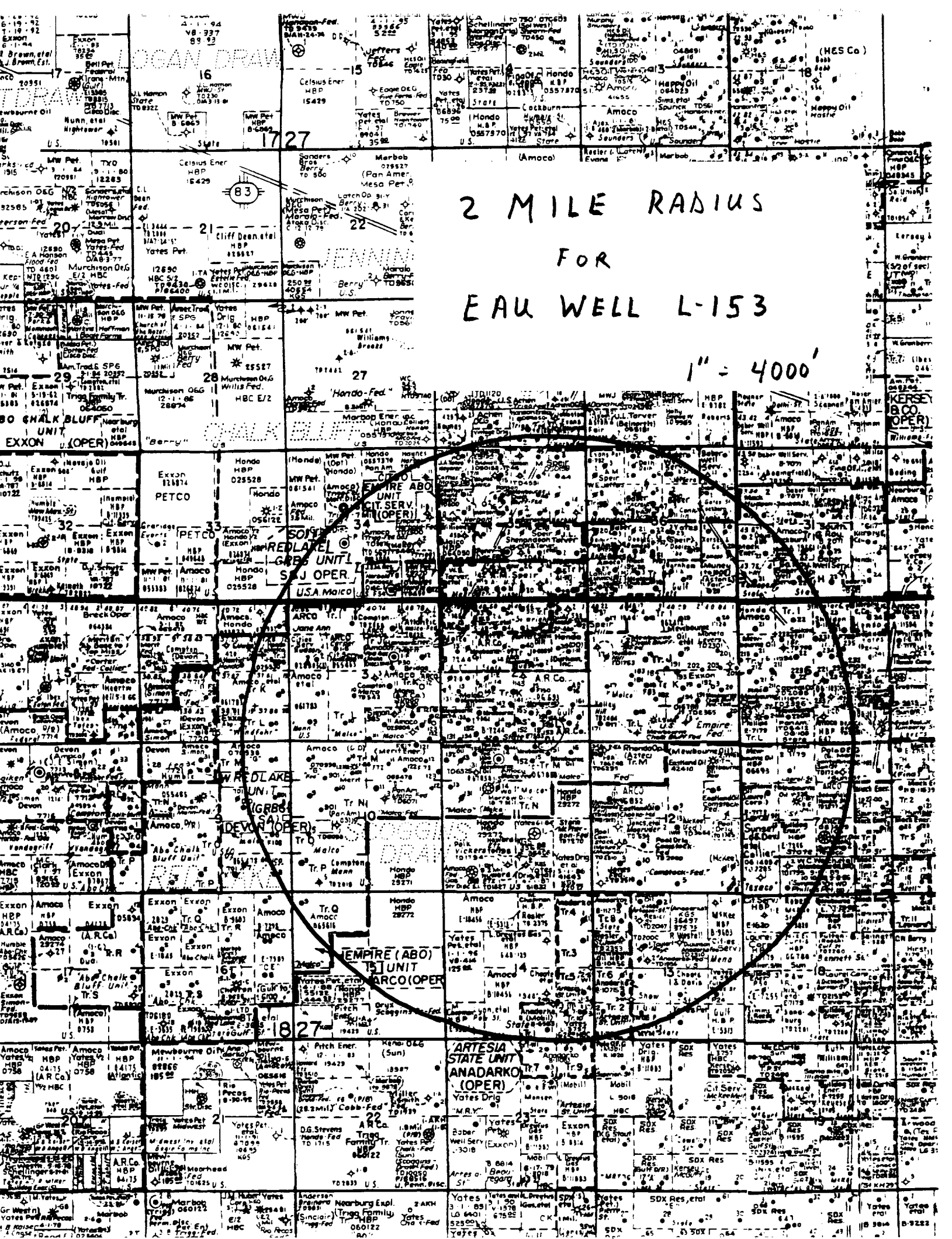
$$1'' = 4000'$$



2 MILE RADIUS
For
EAU WELL L-131

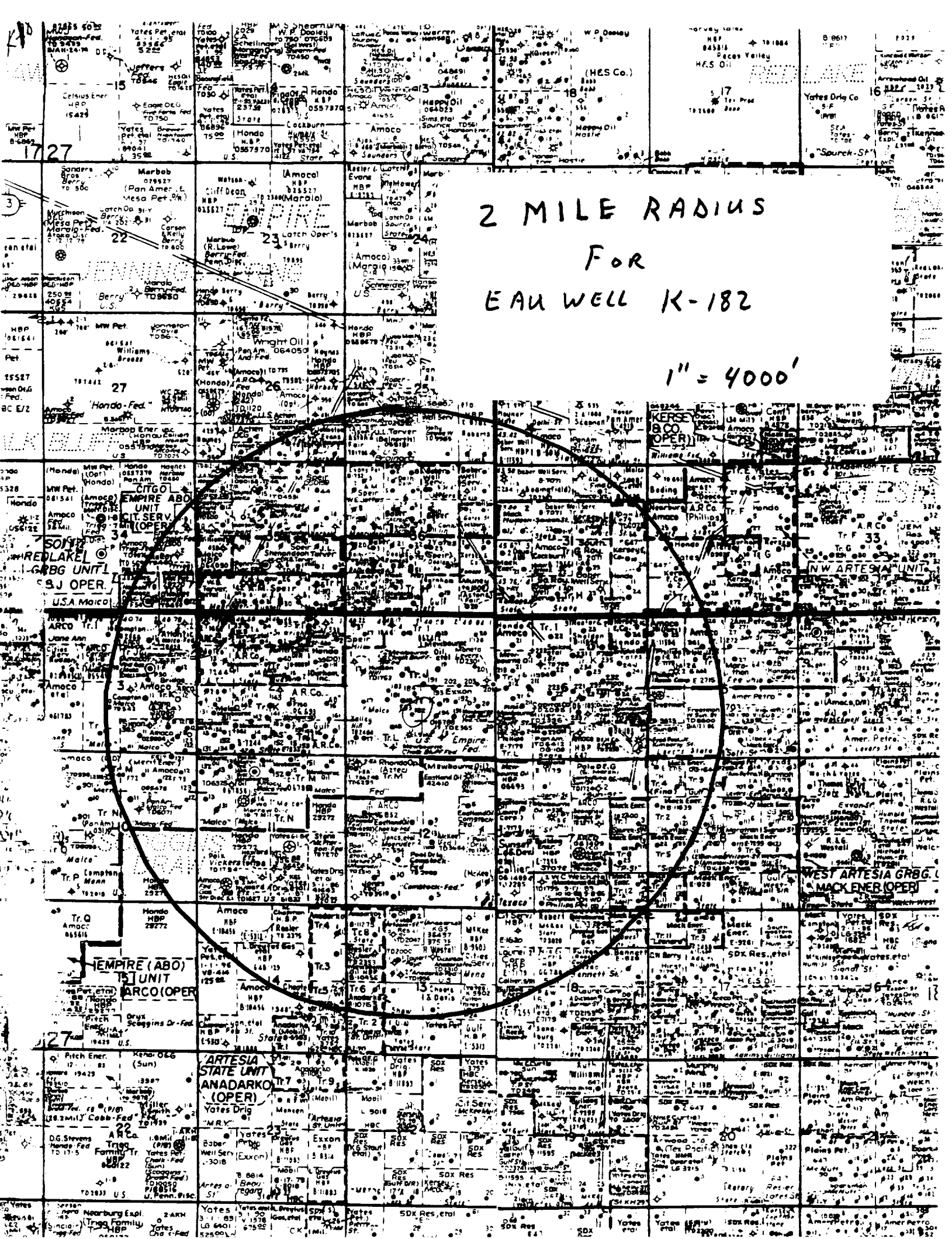
1" = 4000'



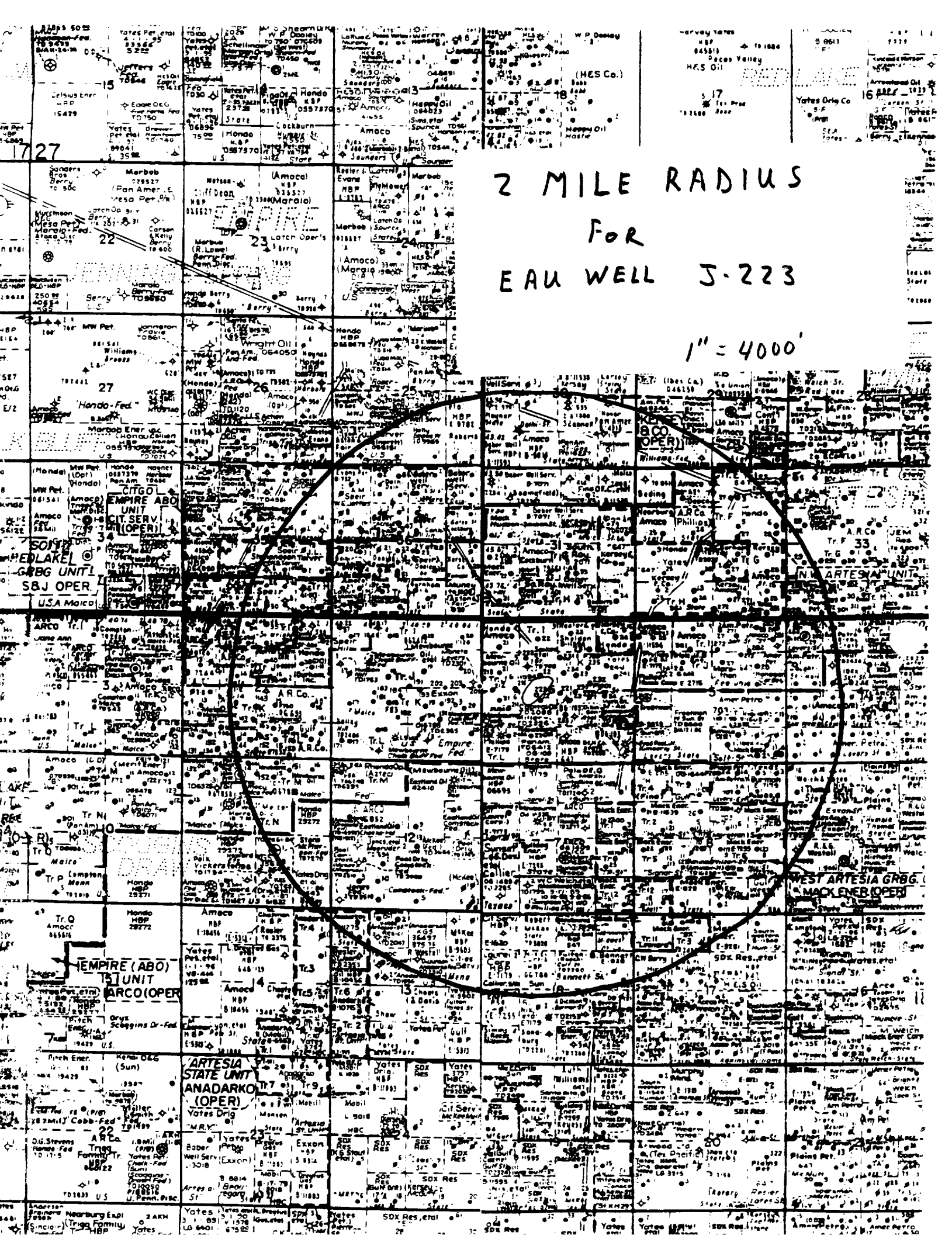


2 MILE RADIUS
FOR
EAU WELL L-153

1" = 4000'



2 MILE Radius
FOR
EAU WELL J-202
1" = 4000'

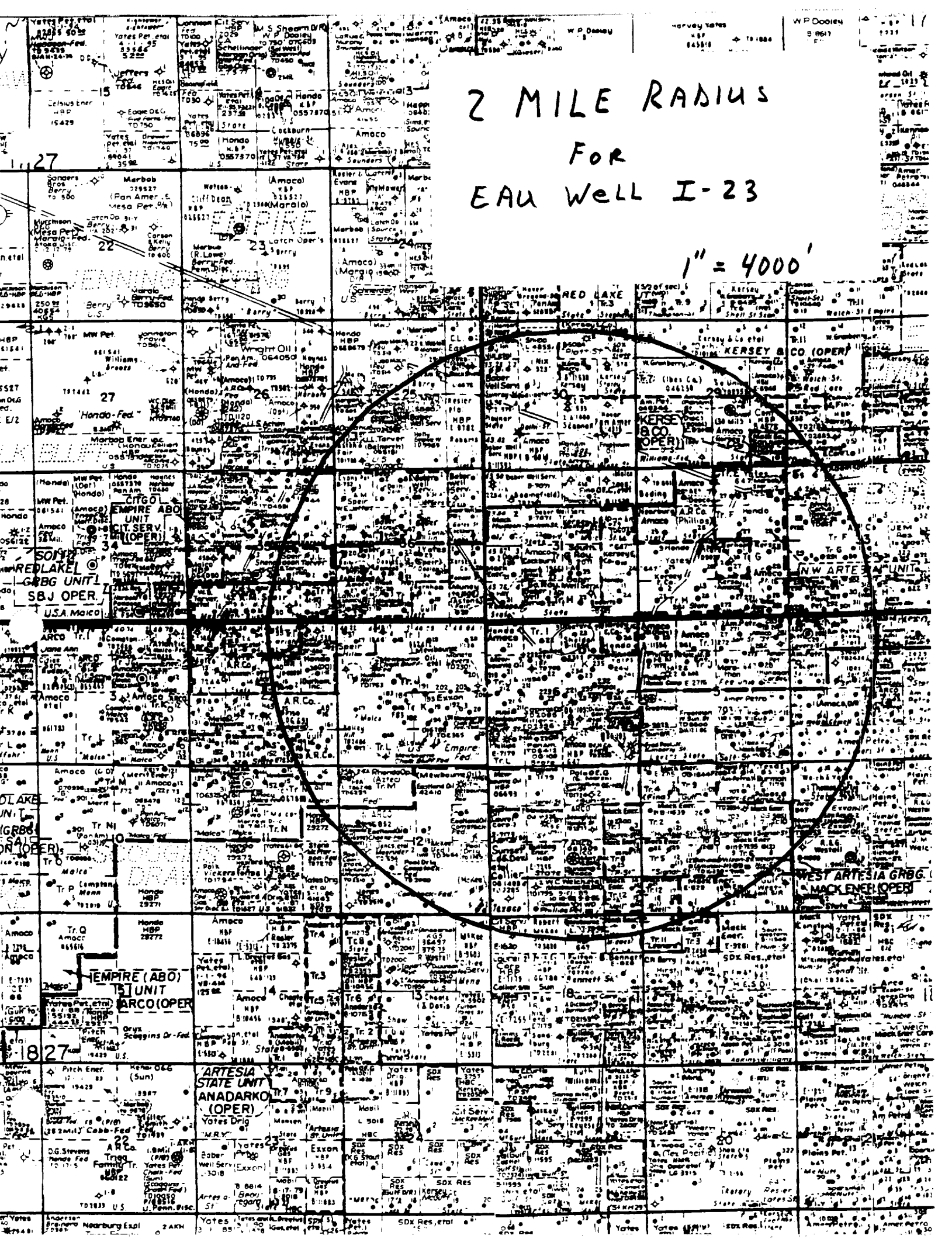


2 MILE RADIUS
For
EAU WELL J-223

1" = 4000'

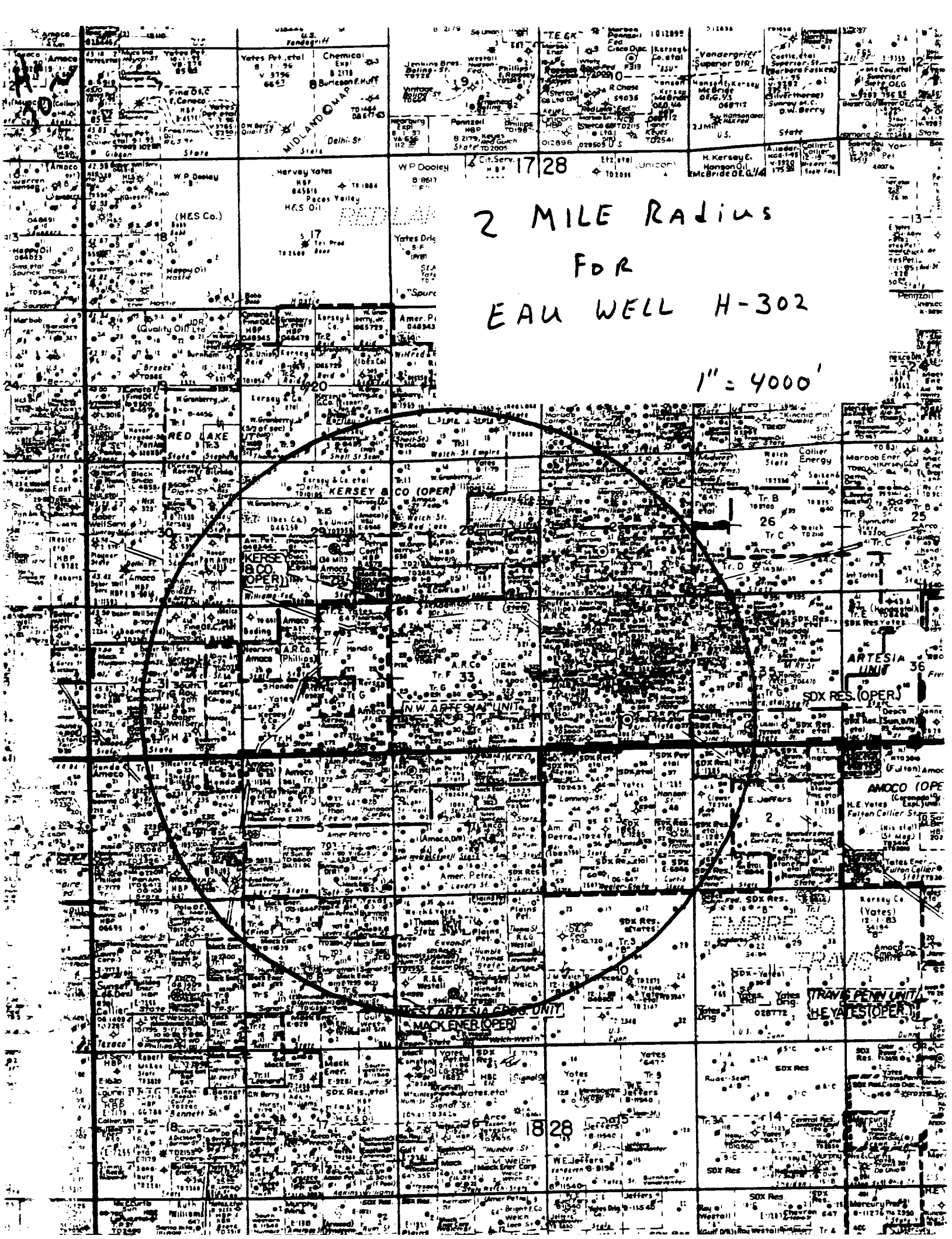
2 MILE RADIUS FOR EAU Well I-23

1" = 4000'



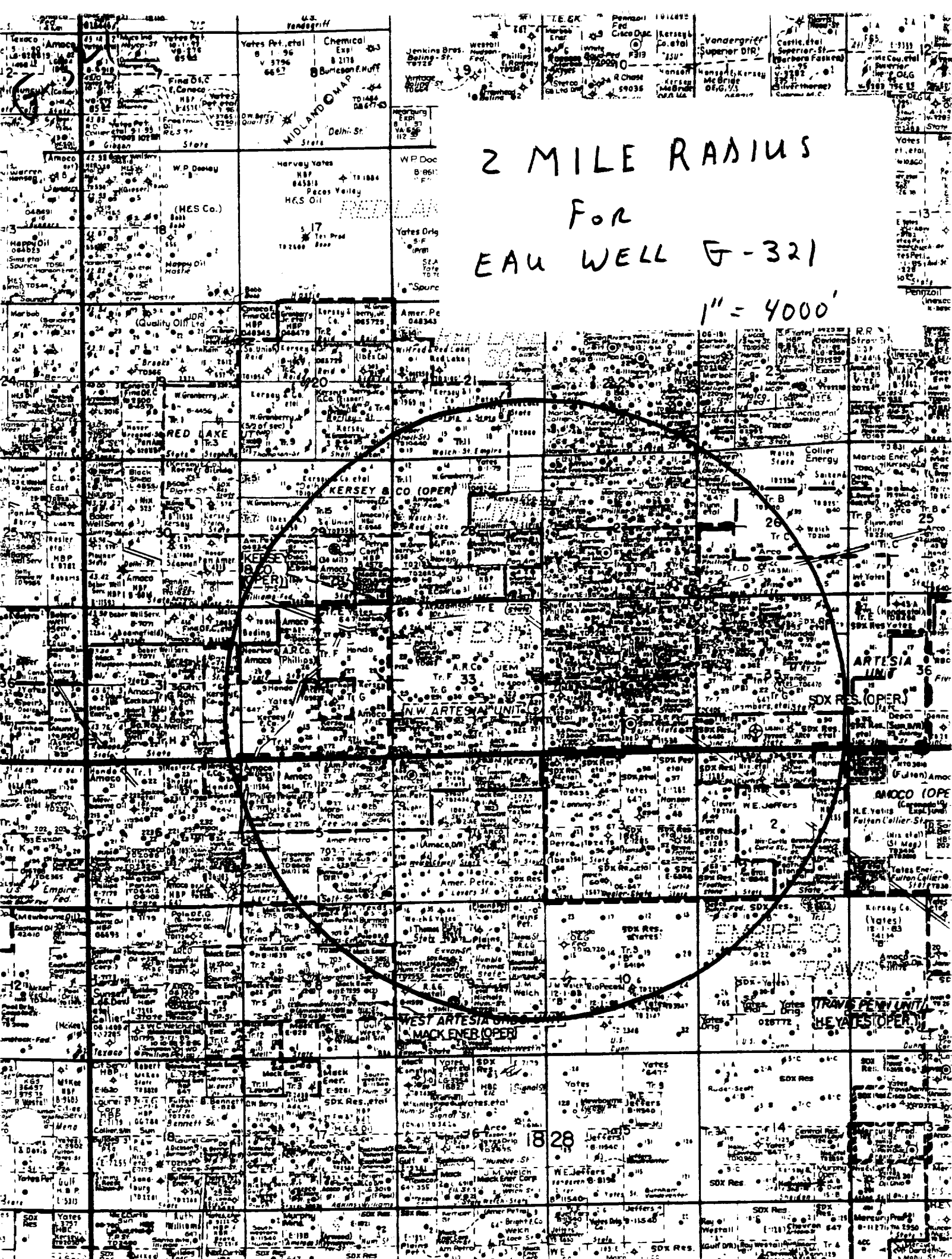
$$1'' = 4000'$$

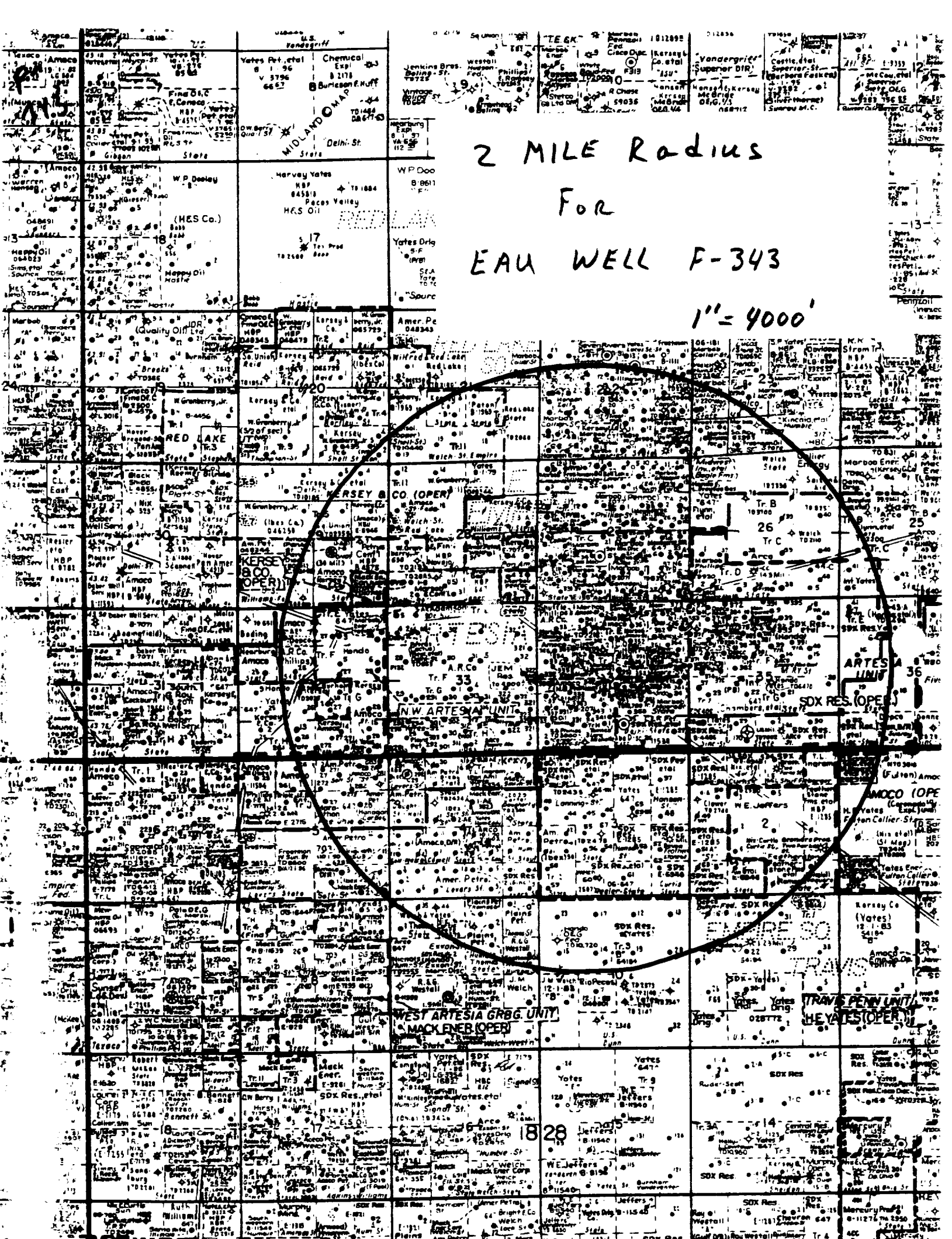
$$1'' = 4000'$$



2 MILE RADIUS
FOR
EAU WELL H-302

1" = 4000'

$$1'' = 4000'$$




2 MILE Radius

For

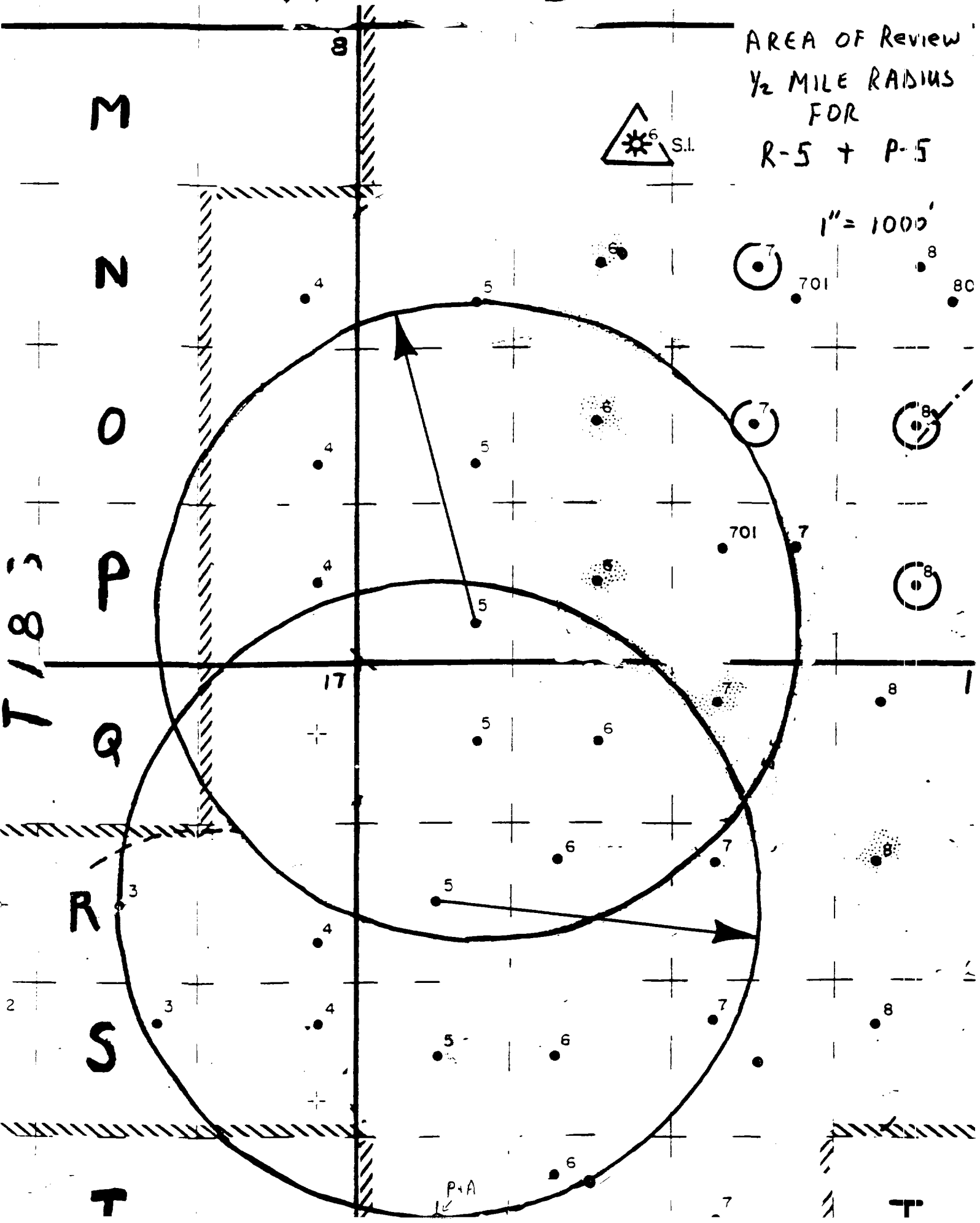
EAU WELL F-343

1" = 4000'

R 2 7 E

AREA OF Review
1/2 MILE RADIUS
FOR
R-5 + P-5

1" = 1000'



T 18 S

K

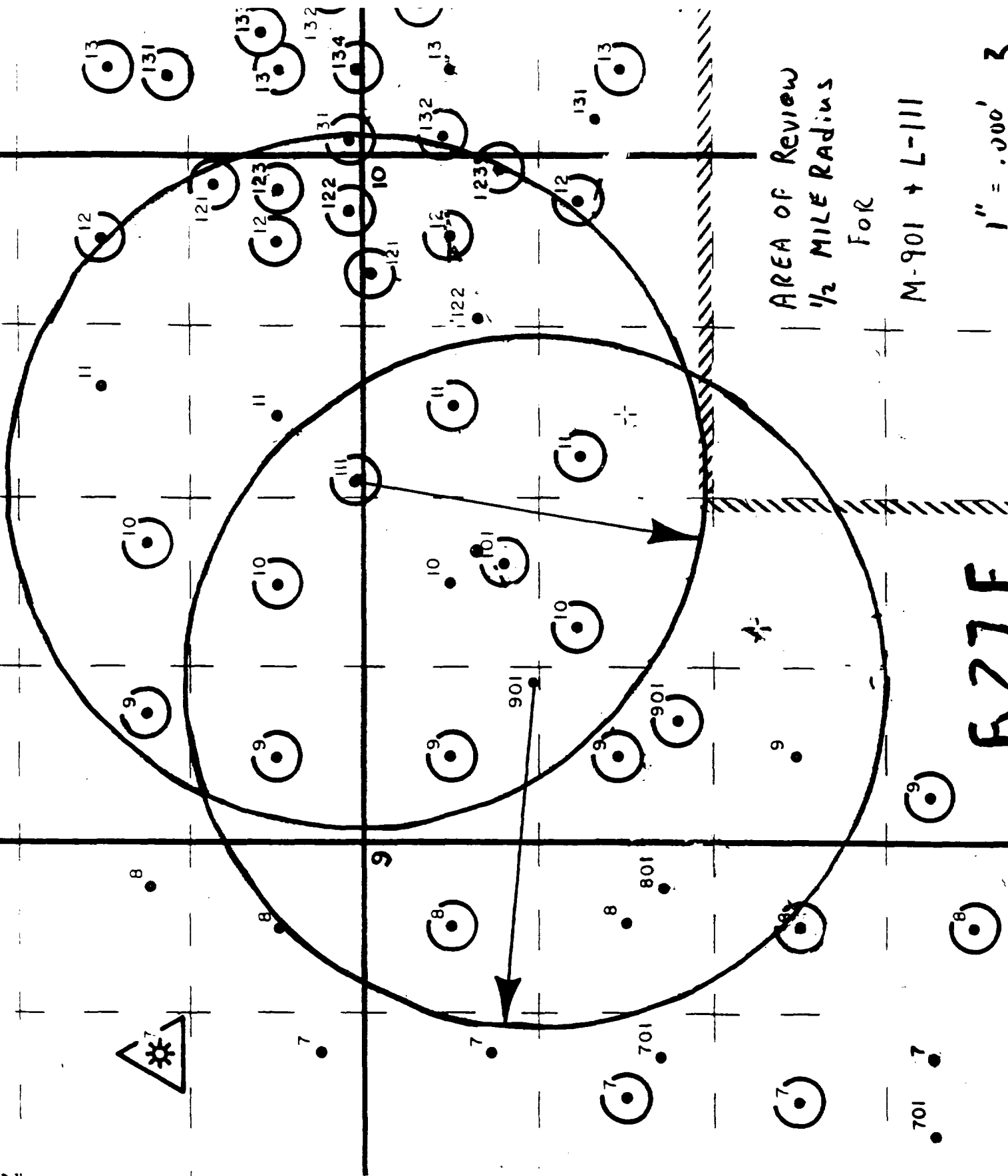
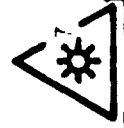
L

M

N

O

P



AREA OF REVIEW
1/2 MILE RADIUS

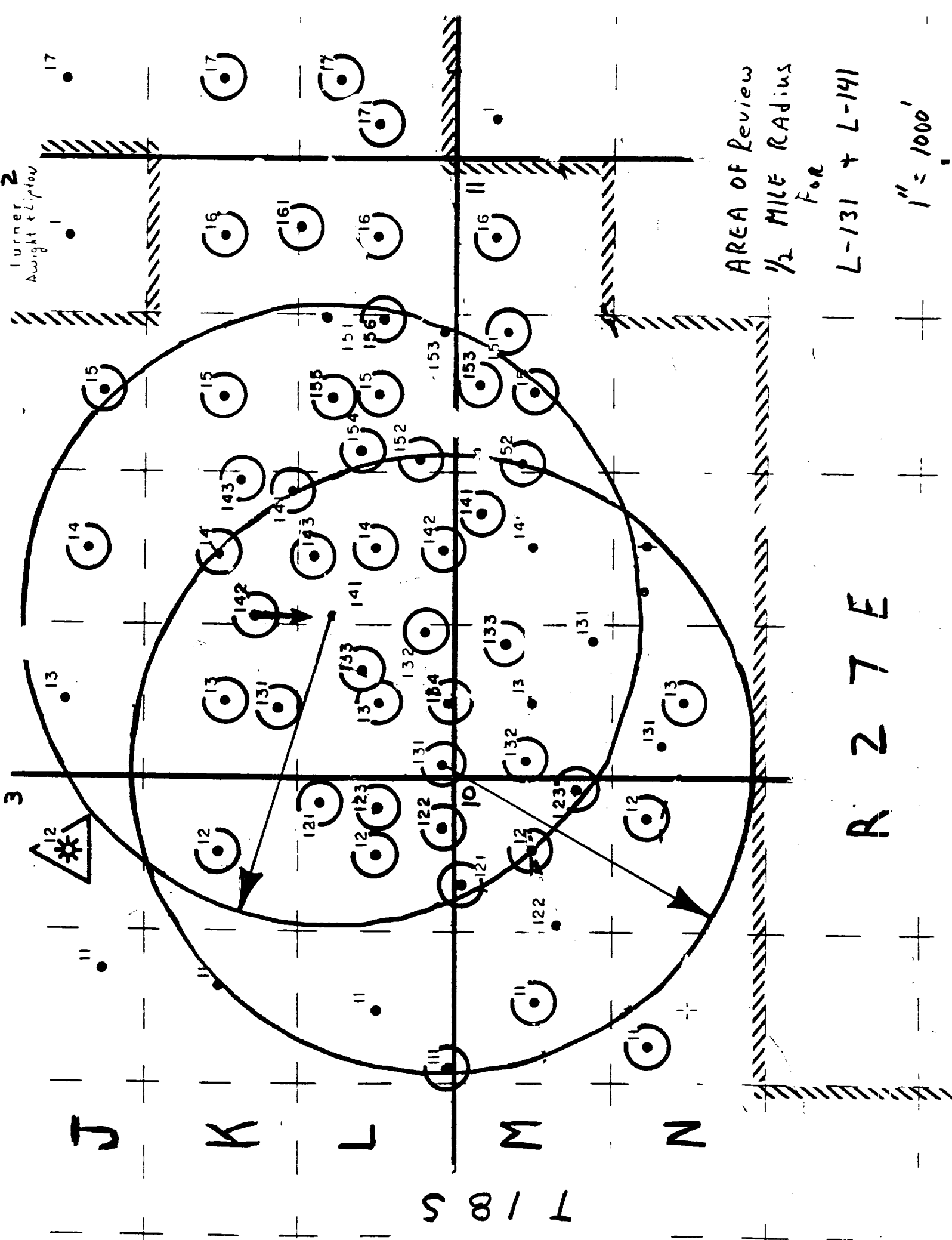
FOR

M-901 + L-111

R 77 F

1" = .000' 3

Turner
2
Awright & Lipton



AREA OF REVIEW
1/2 MILE RADIUS
For
L-131 + L-141

1" = 1000'

R 27 E

T 18 S

T 18 S

J

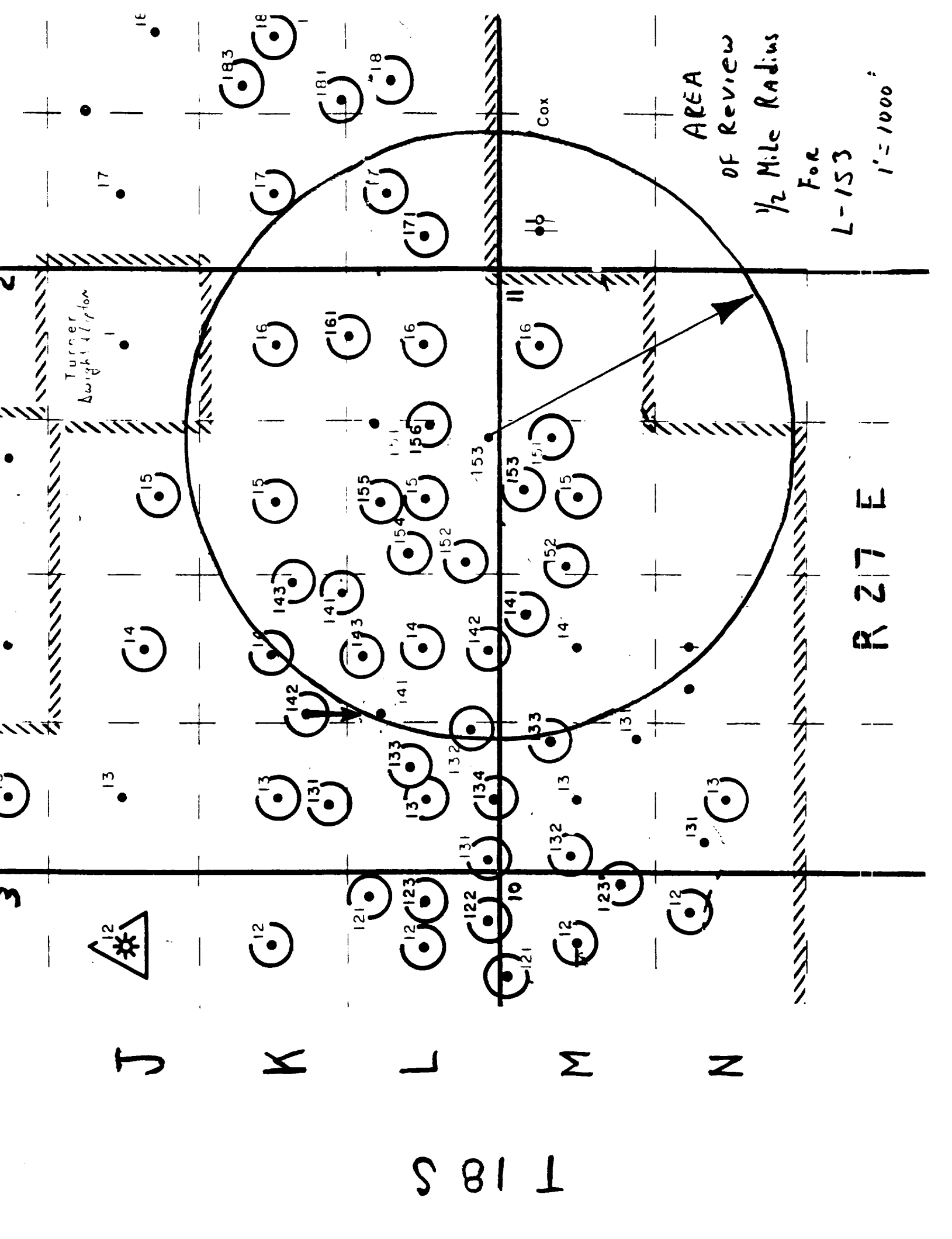
K

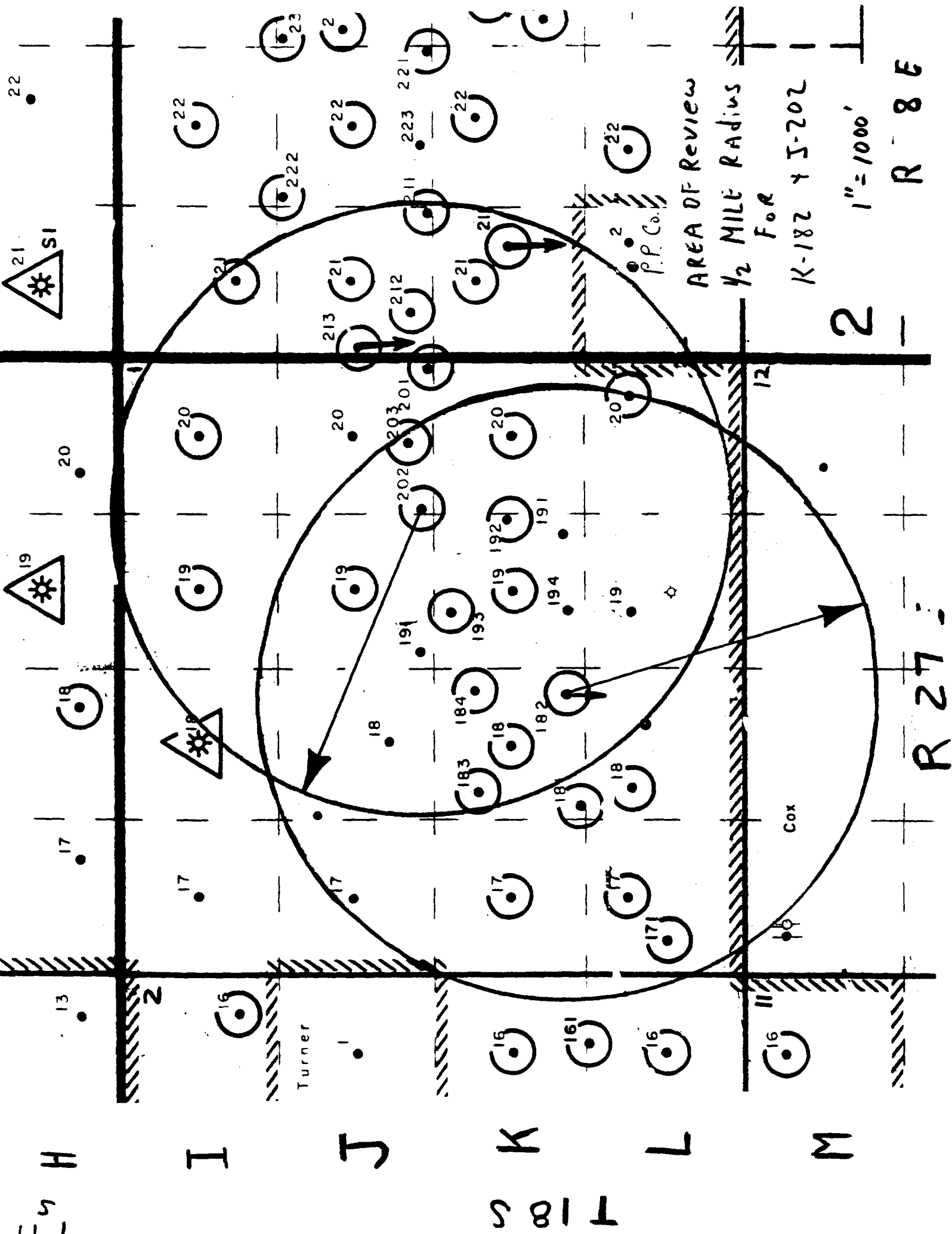
L

M

N

R 27 E





AREA OF REVIEW
1/2 MILE RADIUS
FOR
K-182 YJ-202

1"=1000'

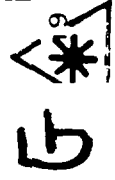
R 8 E

R 27

T 18 S

T 17 S

T 18 S



H⁹

I

J

K

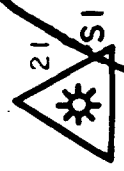
L

20

20



20



21

22



23

23



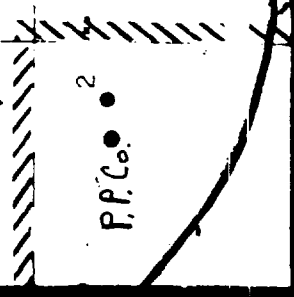
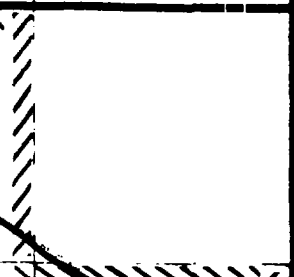
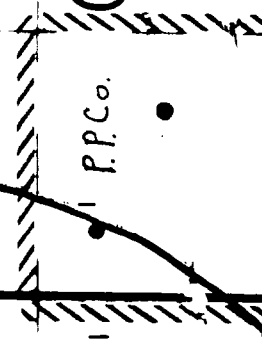
Area of Review
1/2 Mile Radius
For
I-223 + I-23

1" = 1000'

25.1 26

R 28 E

R 27 E



P.P.Co.

P.P.Co.

3

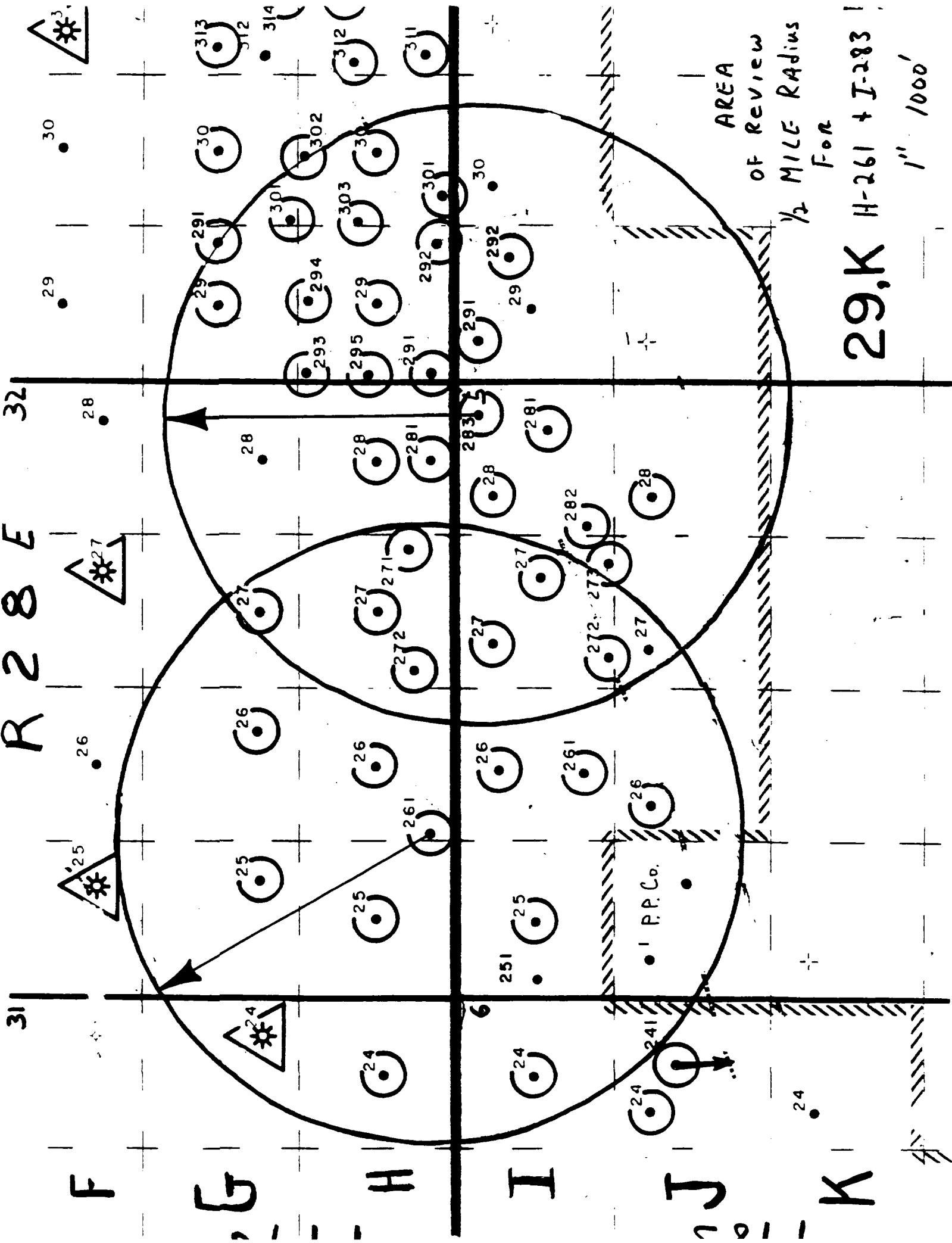
4

פ

二

5

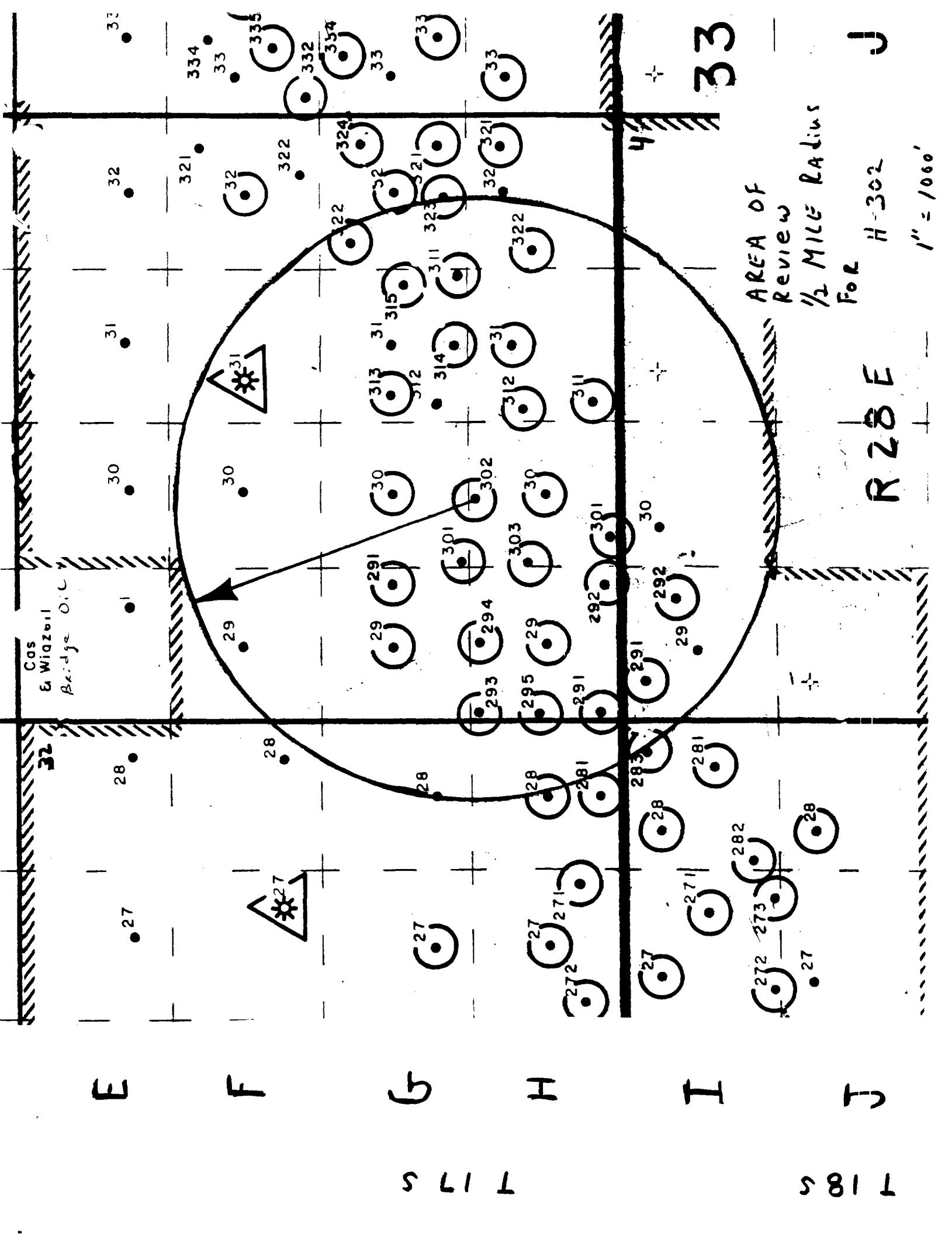
Y



AREA
OF REVIEW
 $\frac{1}{2}$ MILE RADIUS
FOR

29, K H-261 + J-283

1" 1000'



R 28 E

Penroc

E F G

AREA of -
Review
1/2 Mile Radius
For

37, f

G-321 + F-343

1" = 1000'

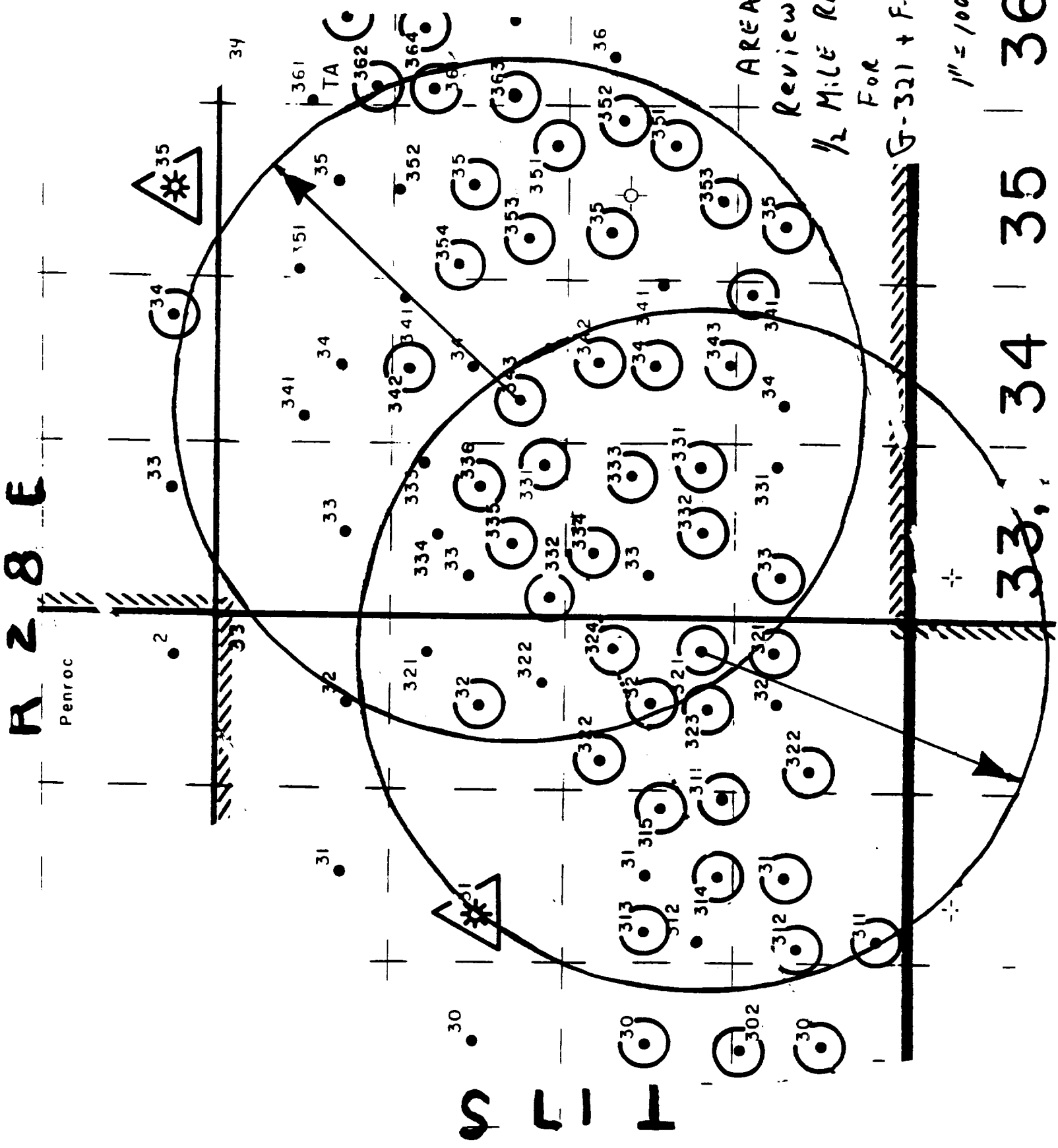
37, f

36

35

34

33, f



FORM C-108

PART VI

WELLBORE SCHEMATIC

Empire Abo Unit D #34

330' FSL & 2310' FWL (N)

Sec 27, T-17S, R-28E, Eddy County, NM

API 30-015-01592

GR-3675'

Spudded 01/26/60

Completed 04/30/60

11" Hole.
8-5/8" casing @ 582'.
Set w/50 sxs cmt.

2-3/8" tbg & pkr @ 6072'.

Perfs @ 6112' to 6130'.

7-7/8" hole.
5-1/2" csg @ 6270' w/900 sxs cmt.

PBD @ 6236'.
TD @ 6279'.

WELLBORE SCHEMATIC

Empire Abo Unit E #32

990' FNL & 660' FEL (A)

Sec 33, T-17S, R-28E, Eddy County, NM

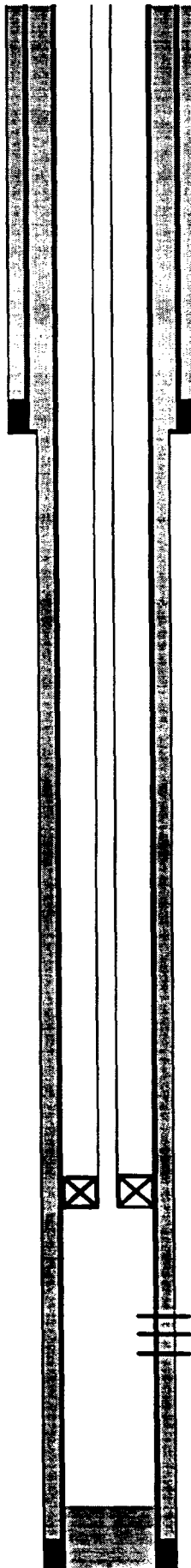
API 30-015-01695

GR-3678'

Spudded 06/10/60

Completed 07/05/60

11" Hole.
8-5/8" casing @ 1000'.
Set w/550 sxs cmt. Circ.



2-3/8" tbg & Lok-set pkr @ 6019'.

Abo Perfs @ 6053' to 6087'.

7-7/8" hole.
4-1/2" csg @ 6170' w/1000 sxs cmt. Circ.

PBD @ 6148'.
TD @ 6170'.

WELLBORE SCHEMATIC

Empire Abo Unit E #33

975.2' FNL & 660' FWL (D)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-01727

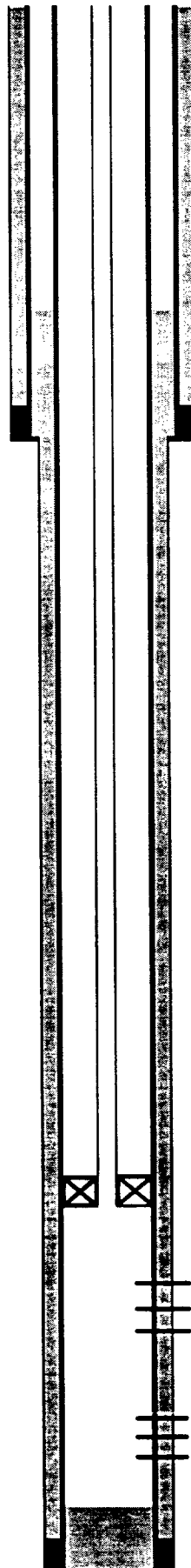
GR-3679'

Spudded 07/15/60

Completed 08/13/60

TOC @ 940' TS.

11" Hole.
8-5/8" casing @ 1000'.
Set w/550 sxs cmt. Circ.



2-3/8' tbg & Lok-set pkr @ 6024'.

Perfs @ 6094' to 6114'.

Perfs @ 6121' to 6131'.

PBD @ 6165'.

TD @ 6205'.

7-7/8" hole.
4-1/2" csg @ 6205' w/1000 sxs cmt.

WELLBORE SCHEMATIC

Cmt Plug Surface to 1000'.

11" Hole.
8-5/8" casing @ 786'.
Set w/450 sxs cmt. Circ.

Empire Abo Unit E #34

971.95' FNL & 1954.48' FWL (C)
Sec 34, T-17S, R-28E, Eddy County, NM
API 30-015-01717
GR-3247'
Spudded 06/20/60
Completed 06/29/60
P&A'd 12/16/88

Cmt Plug 1000' to 1460'.

Cmt Plug 1460' to 2220'.

TOC @ 1620'.

Cmt Plug 3250' to 3535'.

Cmt Plug 5672' to 6100'.

Perfs @ 6107' to 6137'.

Perfs @ 6186' to 6196'.

TD @ 6247'.

7-7/8" hole.
4-1/2" csg @ 6247' w/900 sxs cmt.

WELLBORE SCHEMATIC

TOC @ 35'.

Empire Abo Unit E #341

660' FNL & 1560' FWL (C)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22486

GR-3675.7'

Spudded 05/19/78

Completed 06/08/78

TA 06/06/90

11" Hole.
8-5/8" casing @ 750'.
Set w/4500 sxs cmt.

7-7/8" hole.
5-1/2" csg @ 6102' w/1355 sxs cmt. Circ.

CIBP @ 5995.83'.

Top of Liner @ 6038'.

Sqz'd Perfs @ 6064' to 6067'.

Sqz'd Perfs @ 6102' to 6192'.

Perfs @ 6154' to 6164'.

Bottom of Liner @ 6200' w/25 sxs cmt.

TD @ 6230'.

WELLBORE SCHEMATIC

Empire Abo Unit E #35

860.27' FNL & 1967.24' FEL (B)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-01716

RB-3686'

Spudded 07/18/60

Completed 07/28/60

TA 02/10/90

11" Hole.
8-5/8" casing @ 770'.
Set w/450 sxs cmt. Circ.

TOC @ 1450'.

CIBP @ 6134'.

Perfs @ 6158' to 6192'.

7-7/8" hole.
5-1/2" csg @ 6256' w/850 sxs cmt.

PBD @ 6213'.
TD @ 6256'.

WELLBORE SCHEMATIC

Empire Abo Unit E #351

610' FNL & 2601' FEL (B)
Sec 34, T-17S, R-28E, Eddy County, NM
API 30-015-22523
GR-3673.9'
Spudded 05/04/78
Completed 05/25/78

TOC @ 160' TS.

11" Hole.
8-5/8" casing @ 725'.
Set w/282 sxs cmt. Circ.

Tbg Anchor @ 6121'.

Perfs @ 6170' to 6180'.
2-3/8" tbg @ 6185.25'.

7-7/8" hole.
5-1/2" csg @ 6239' w/1350 sxs cmt.

PBD @ 6199'.
TD @ 6239'.

WELLBORE SCHEMATIC

Empire Abo Unit E #362

1200' FNL & 1200' FEL (A)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22817

GR-3675.9'

Spudded 03/02/79

Completed 04/01/79

TOC @ 120' TS.

11" Hole.
8-5/8" casing @ 750'.
Set w/650 sxs cmt.

2-3/8" tbg & pkr @ 6007'.

Perfs @ 6062' to 6072'.

CIBP @ 6107.67'.

Perfs @ 6124' to 6136'.

CIBP @ 6165'.

Perfs @ 6172' to 6178'.

CIBP @ 6200'.

Perfs @ 6230' to 6240'.

PBD @ 6303'.

TD @ 6350'.

7-7/8" hole.
5-1/2" csg @ 6343' w/1750 sxs cmt. Circ.

WELLBORE SCHEMATIC

Left 1 joint 2-3/8" IPC tubing on W/H flange.

Empire Abo Unit F #29

1980' FNL & 640 FWL (E)
Sec 33, T-17S, R-28E, Eddy County, NM
KB-2687'
Spudded 04/13/60
Completed 05/06/60
TA 05/21/90

11" Hole.
8-5/8" casing @ 1003'.
Set w/450 sxs cmt. Circ.

TOC @ 2020' by TS.

CIBP @ 5930'.

Perfs @ 5956' to 5978'.

Perfs @ 6015' to 6073'.

PBD @ 6108'
TD @ 6872'.

7-7/8" hole.
4-1/2" csg @ 6150' w/800 sxs cmt.

WELLBORE SCHEMATIC

Empire Abo Unit F #30

1980' FNL & 1980 FWL (F)

Sec 33, T-17S, R-28E, Eddy County, NM

GL-3668'

Spudded 05/04/60

Completed 05/26/60

TA 02/09/91

11" Hole.
8-5/8" casing @ 1000'.
Set w/450 sxs cmt. Circ.

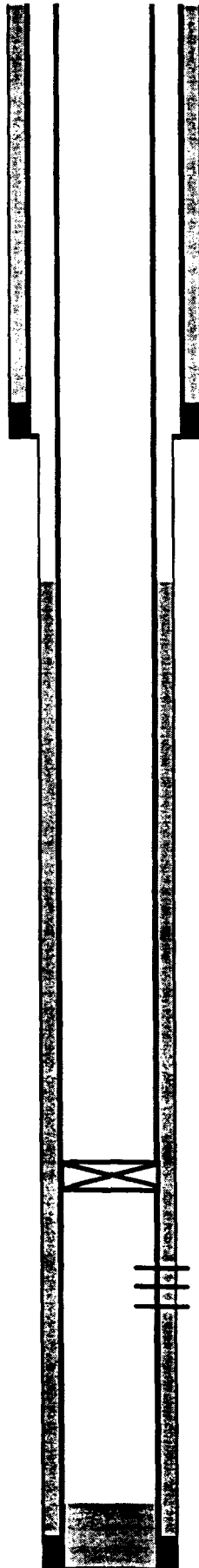
TOC @ 2550' by TS.

CIBP @ 6000'.

Perfs @ 6046' to 6080'.

7-7/8" hole.
4-1/2" csg @ 6155' w/800 sxs cmt.

PBD @ 6116'.
TD @ 6155'.



WELLBORE SCHEMATIC

Empire Abo Unit F #31 (GIW)

1980' FNL & 2130 FEL (G)

Sec 33, T-17S, R-28E, Eddy County, NM

API 30-015-01692

GL-3671'

Spudded 05/19/60

Completed 06/13/60

11" Hole.
8-5/8" casing @ 1000'.
Set w/450 sxs cmt. Circ.

TOC @ 3200' by TS.

Squeeze Abo Perfs @ 5828' to 5887' w/250 sxs cmt.

Abo Perfs @ 6104' to 6134'.

Packer set @ 6074.

7-7/8" hole.
4-1/2" csg @ 6175' w/800 sxs cmt.

PBD @ 6159'.
TD @ 6175'.

WELLBORE SCHEMATIC

Empire Abo Unit F #32

1980' FNL & 660 FEL (H)

Sec 33, T-17S, R-28E, Eddy County, NM

GL-3665

Spudded 06/04/60

Completed 07/01/60

TA 05/08/92

11" Hole.
8-5/8" casing @ 1000'.
Set w/550 sxs cmt. Circ.

TOC @ 1000' by TS.

Packer @ 6075'.
2-3/8" IPC tubing.

Perfs @ 6152' to 6184'.

PBD @ 6263'.
TD @ 6280'.

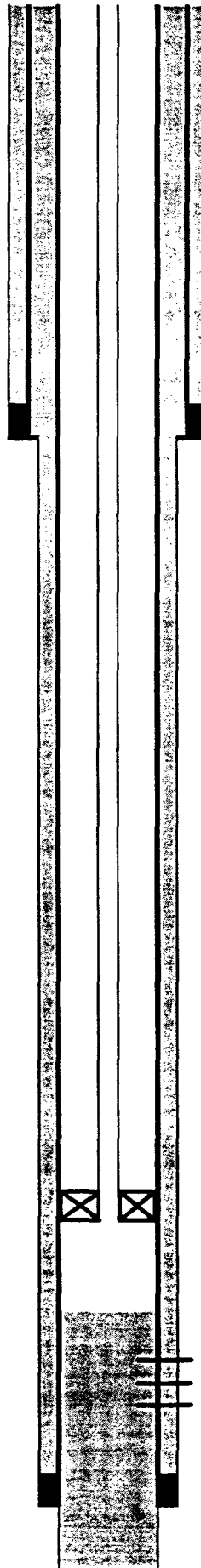
7-7/8" hole.
4-1/2" csg @ 6280' w/800 sxs cmt.

WELLBORE SCHEMATIC

Empire Abo Unit F #321

1610' FNL & 250 FEL (H)
Sec 33, T-17S, R-28E, Eddy County, NM
API 30-015-22524
GR-3674
Spudded 06/01/78
Completed 07/02/78
TA 02/07/91

11" Hole.
8-5/8" casing @ 739'.
Set w/370 sxs cmt. Circ.



Lok-Set Packer @ 6013'.
2-3/8" IPC tubing @ 6013'.

CR @ 6050' w/62' cmt on top.

Squeeze Perfs @ 6060' to 6066'.

7-7/8" hole.
5-1/2" csg @ 6158' w/1230 sxs cmt. Circ.

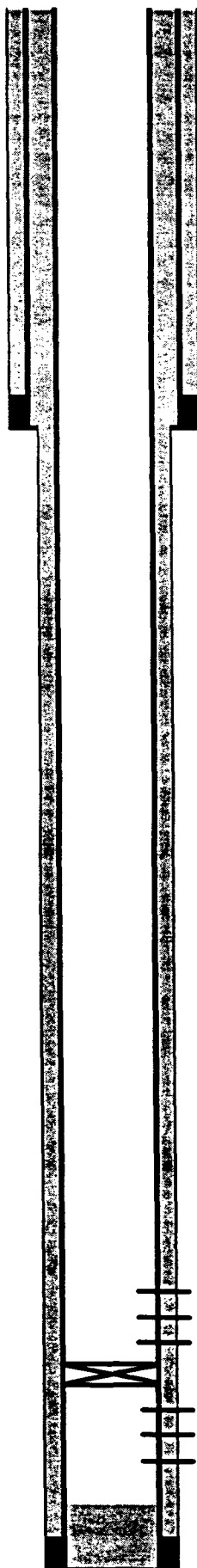
Open Hole 6158' to 6210'.
TD @ 6210'.

WELLBORE SCHEMATIC

Empire Abo Unit F #322

2480' FNL & 500' FEL (H)
Sec 33, T-17S, R-28E, Eddy County, NM
API 30-015-22594
GR-3665'
Spudded 07/05/78
Completed 07/30/78
TA 05/22/90

11" Hole.
8-5/8" casing @ 600'.
Set w/300 sxs cmt. Circ.



Squeeze Perfs @ 6152' to 6164'.

CIBP @ 6211'.

Perfs @ 6250' to 6267'.

PBD @ 6300'.

TD @ 6344'.

7-7/8" hole.
5-1/2" csg @ 6344' w/1455 sxs cmt. Circ.

WELLBORE SCHEMATIC

Left 1 jt tbg on WH Flange.

Empire Abo Unit F #33

1964' FNL & 330' FEL (E)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-01718

KB-3677'

Spudded 05/12/60

Completed 06/03/60

TA 05/21/91

11" Hole.
8-5/8" casing @ 1240'.
Set w/700 sxs cmt. Circ.

TOC @ 1500' TS.

CIBP @ 6155'.

Perfs @ 6184' to 6218'.

Perfs @ 6244' to 6254'.

7-7/8" hole.
4-1/2" csg @ 6307' w/850 sxs cmt.

PBD @ 6272'.
TD @ 6307'.

WELLBORE SCHEMATIC

Left 1 2-3/8" jt tbg on WH Flange.

Empire Abo Unit F #331

2576' FNL & 1250' FWL (E)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-21394

GR-3644'

Spudded 11/22/74

Completed 12/24/74

TA 04/10/92

12-1/2" Hole.
8-5/8" casing @ 1005'.
Set w/425 sxs cmt. Circ.

TOC @ 1010' TS.

CIBP @ 6120'.

Abo Perfs @ 6150' to 6160'.

CIBP @ 6190

Abo Perfs @ 6200' to 6212'.

CIBP @ 6270'.

PBD @ 6270'.

TD @ 6300'.

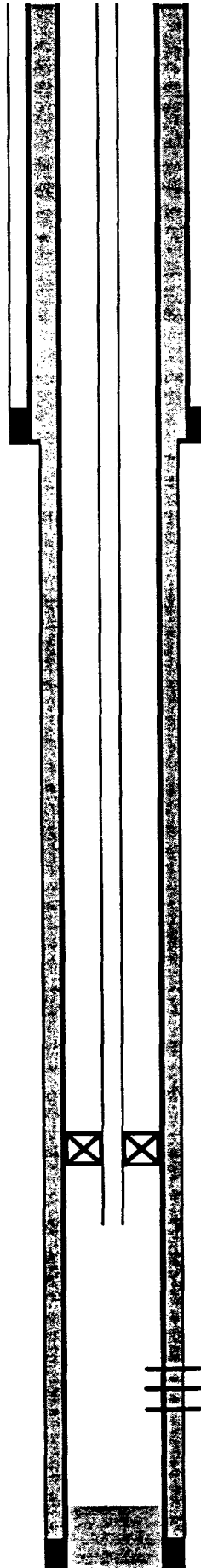
7-7/8" hole.
5-1/2" csg @ 6300' w/1106 sxs cmt.

WELLBORE SCHEMATIC

Empire Abo Unit F #332

2582' FNL & 150' FWL (F)
Sec 34, T-17S, R-28E, Eddy County, NM
API 30-015-21962
KB-3678'
Spudded 12/18/76
Completed 01/22/77

11" Hole.
8-5/8" casing @ 643'.
Set w/225 sxs cmt.



Lok-set pkr @ 6124'.

2-3/8" tbg @ 6159'

Abo Perfs @ 6214' to 6237'.

PBD @ 6313'.
TD @ 6369'.

7-7/8" hole.
5-1/2" csg @ 6368' w/1235 sxs cmt.

WELLBORE SCHEMATIC

Left 1 2-3/8" jt tbg on WH Flange.

11" Hole.
8-5/8" casing @ 750'.
Set w/365 sxs cmt. Circ.

Empire Abo Unit F #333

1602' FNL & 1286' FWL (E)

Sec 34, T-17S, R-28E, Eddy County, NM

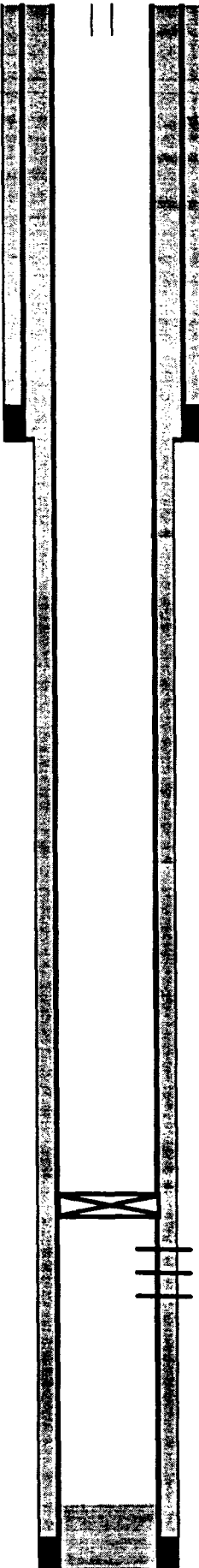
API 30-015-22226

GR-3672'

Spudded 08/16/77

Completed 09/19/77

TA 06/08/91



CIBP @ 6146'.

Abo Perfs @ 6170' to 6190'.

PBD @ 6256'

TD @ 6319'.

7-7/8" hole.
5-1/2" csg @ 6319' w/1290 sxs cmt. Circ.

WELLBORE SCHEMATIC

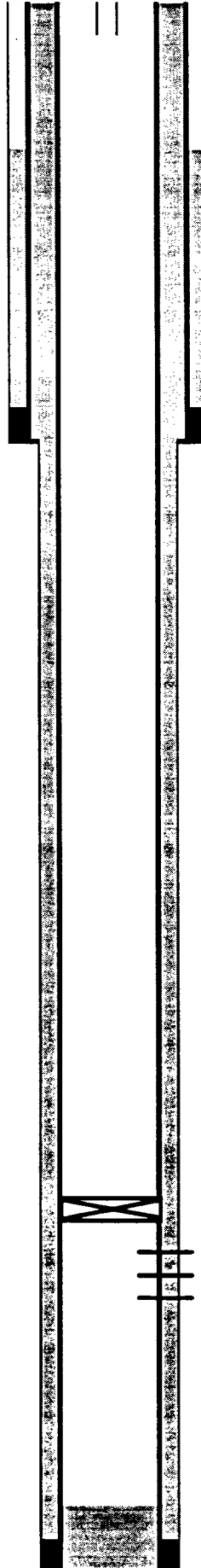
Left 1 2-3/8" jt tbg on WH Flange.

TOC @ 150' TS.

11" Hole.
8-5/8" casing @ 750'.
Set w/650 sxs cmt.

Empire Abo Unit F #334

1700' FNL & 620' FWL (E)
Sec 34, T-17S, R-28E, Eddy County, NM
API 30-015-22910
GR-3674.8'
Spudded 05/10/79
Completed 05/23/79
TA 06/08/91



CIBP @ 6157.99'.

Abo Perfs @ 6166' to 6176'.

7-7/8" hole.
5-1/2" csg @ 6350' w/1700 sxs cmt. Circ.

PBD 6306'.
TD @ 6350'.

WELLBORE SCHEMATIC

Empire Abo Unit F #335

2250' FNL & 570' FWL (E)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22767

GR-3664'

Spudded 01/27/79

Completed 02/22/79

11" Hole.
8-5/8" casing @ 750'.
Set w/450 sxs cmt. Circ.

2-3/8' tbg & pkr @ 5965'.

Abo Perfs @ 6065' to 6075'.

CIBP @ 6085'.

PBD @ 6085'.

Abo Perfs @ 6096' to 6110'.

Abo Perfs @ 6143' to 6140'.

CIBP @ 6170'.

Abo Perfs @ 6210' to 6230'.

TD @ 6350'.

7-7/8" hole.
5-1/2" csg @ 6350' w/1400 sxs cmt. Circ.

WELLBORE SCHEMATIC

Left 1 2-3/8" jt tbg on WH Flange.

Empire Abo Unit F #336

2000' FNL & 1000' FWL (E)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22919

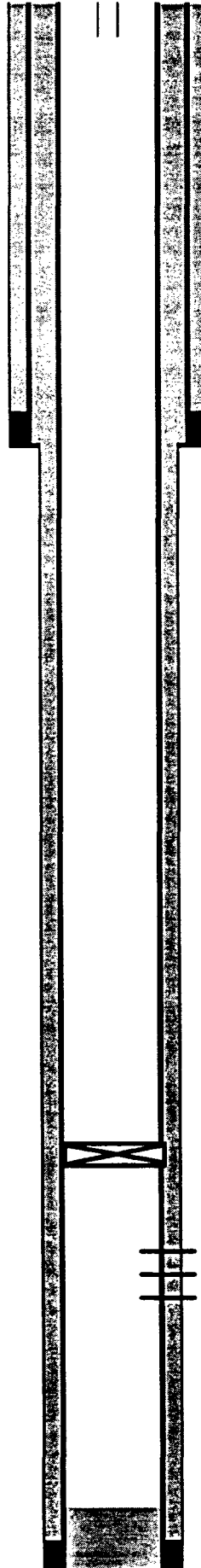
GR-3668'

Spudded 05/24/79

Completed 08/01/79

TA 05/18/91

11" Hole.
8-5/8" casing @ 750'.
Set w/450 sxs cmt. Circ.



CIBP @ 6199'.

Abo Perfs @ 6215' to 6229'.

7-7/8" hole.
5-1/2" csg @ 6350' w/1490 sxs cmt. Circ.

PBD 6316'.
TD @ 6350'.

WELLBORE SCHEMATIC

Left 1 2-3/8" jt tbg on WH Flange.

TOC @ 490' TS.

11" Hole.
8-5/8" casing @ 773'.
Set w/500 sxs cmt. Circ.

Empire Abo Unit F #34

1953' FNL & 1959' FWL (F)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-01714

GR-3667'

Spudded 06/21/60

Completed 07/05/60

TA 02/17/90

CIBP @ 6042'.

CIBP @ 6149'.

Abo Perfs @ 6164' to 6174'.

PBD 6224'.

TD @ 6257'.

7-7/8" hole.

4-1/2" csg @ 6257' w/850 sxs cmt.

WELLBORE SCHEMATIC

Empire Abo Unit F #341

1326' FNL & 2593' FWL (F)

Sec 34, T-17S, R-28E, Eddy County, NM

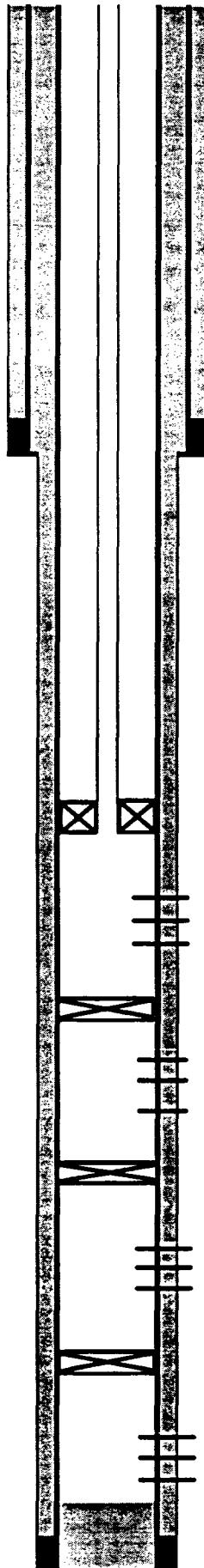
API 30-015-22227

KB-3684'

Spudded 07/22/77

Completed 08/22/77

11" Hole.
8-5/8" casing @ 750'.
Set w/295 sxs cmt. Circ.



2-3/8" tbg & Lok-set pkr @ 5988'.

Abo Perfs @ 6056' to 6066'.

CIBP @ 6078'.

Abo Perfs @ 6090' to 6100'.

CIBP @ 6115'.

Abo Perfs @ 6135' to 6142'.

CIBP @ 6175'.

Abo Perfs @ 6190' to 6210'.

PBD @ 6170'.

TD @ 6352'.

7-7/8" hole.
5-1/2" csg @ 6352' w/1900 sxs cmt. Circ.

WELLBORE SCHEMATIC

Left 1 2-3/8" jt tbg on WH Flange.

Empire Abo Unit F #342

1450' FNL & 1900' FWL (F)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22863

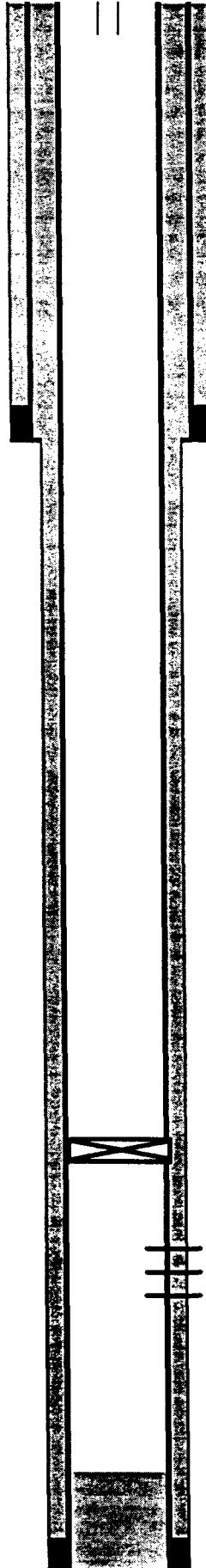
GR-3672'

Spudded 03/31/79

Completed 05/03/79

TA 02/28/90

11" Hole.
8-5/8" casing @ 780'.
Set w/350 sxs cmt. Circ.



CIBP @ 6189'.

Abo Perfs @ 6206' to 6216'.

PBD 6314'.

TD @ 6356'.

7-7/8" hole.
5-1/2" csg @ 6356' w/1845 sxs cmt. Circ.

WELLBORE SCHEMATIC

Empire Abo Unit F #343

2300' FNL & 1675' FWL (F)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22890

GR-3662'

Spudded 04/18/79

Completed 05/29/79

TA 05/12/92

11" Hole.
8-5/8" casing @ 750'.
Set w/453 sxs cmt. Circ.

DV @ 4486'

2-3/8' tbg & Lok-set pkr @ 6024'.

Abo Perfs @ 6110' to 6118'.

CIBP @ 6140'.

PBD @ 6140'.

Abo Perfs @ 6154' to 6168'.

CIBP @ 6200'.

TD @ 6383'.

7-7/8" hole.
5-1/2" csg @ 6382' w/1940 sxs cmt. Circ.

WELLBORE SCHEMATIC

Empire Abo Unit F #35

1939' FNL & 1966' FEL (G)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-01715

GR-3665'

Spudded 06/06/60

Completed 06/30/60

TA 05/12/92

11" Hole.
8-5/8" casing @ 1000'.
Set w/650 sxs cmt. Circ.

TOC @ 1350'.

2-3/8' tbg & pkr @ 5980'.

Abo Perfs @ 6054' to 6064'.

CIBP @ 6100'.

PBD @ 6100'.

Abo Perfs @ 6120' to 6130'.

CIBP @ 6150'.

Abo Perfs @ 6159' to 6170'.

CIBP @ 6210'.

TD @ 6300'.

7-7/8" hole.
4-1/2" csg @ 6336' w/850 sxs cmt.

WELLBORE SCHEMATIC

Left 1 jt 2-3/8" tbg on W/H flange.

Empire Abo Unit F #351

2250' FNL & 1650' FEL (G)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-21537

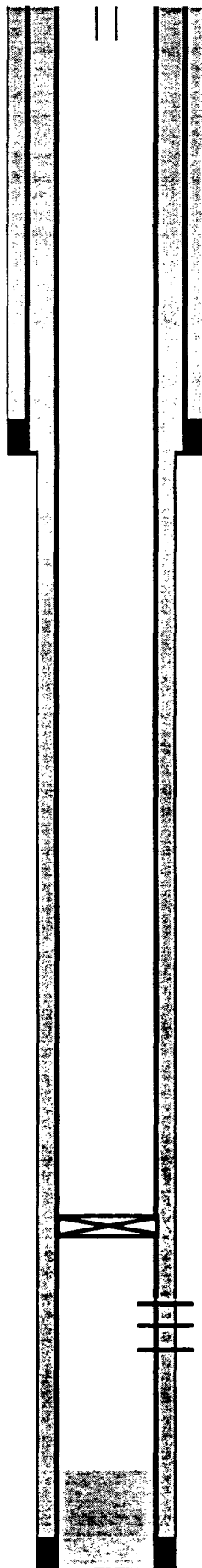
GR-3661'

Spudded 08/18/75

Completed 09/24/75

TA 04/20/88

11" Hole.
8-5/8" casing @ 1012'.
Set w/550 sxs cmt. Circ.



CIBP @ 6165'.

Abo Perfs @ 6215' to 6235'.

PBD @ 6278'.

TD @ 6315'.

7-7/8" hole.
5-1/2" csg @ 6315' w/1246 sxs cmt. Circ.

WELLBORE SCHEMATIC

TOC @ 40'.

Empire Abo Unit F #352

1330' FNL & 1980' FEL (G)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22628

GR-3670.3'

Spudded 10/15/78

Completed 11/06/78

11" Hole.
8-5/8" casing @ 753'.
Set w/550 sxs cmt.



2-3/8" tbg & pkr @ 6037'.

Perfs @ 6096' to 6104'.

CIBP @ 6130'.

Perfs @ 6140' to 6150'.

CIBP @ 6180'.

Perfs @ 6202' to 6222'.

PBD @ 6237'.
TD @ 6283'.

7-7/8" hole.
5-1/2" csg @ 6283' w/1435 sxs cmt. Circ.

WELLBORE SCHEMATIC

Left 1 jt 2-3/8" tbg on W/H flange.

Empire Abo Unit F #353

2400' FNL & 2350' FEL (G)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22629

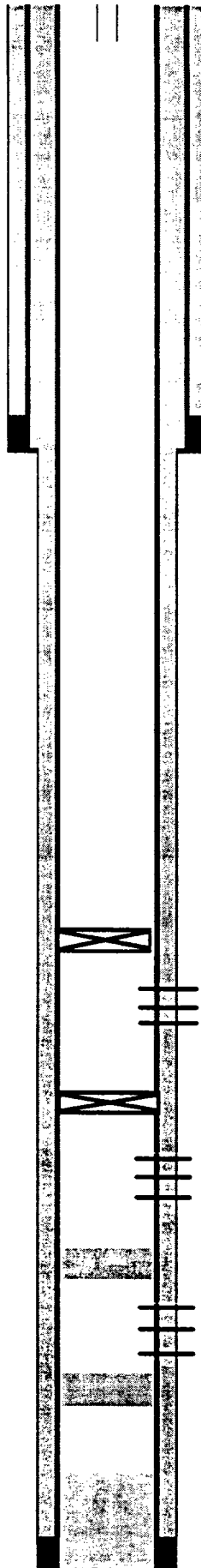
GR-3661'

Spudded 09/29/78

Completed 10/22/78

TA 03/19/91

11" Hole.
8-5/8" casing @ 753'.
Set w/400 sxs cmt. Circ.



CIBP @ 6050'.

Abo Perfs 6076' to 6090'.

CIBP @ 6135'.

Abo Perfs @ 6141' to 6150'.

CR @ 6162'.

Sqz'd Abo Perfs @ 6164' to 6176'.

CR @ 6230'.

PBD @ 6321'.

TD @ 6371'.

7-7/8" hole.
5-1/2" csg @ 6371' w/1225 sxs cmt. Circ.

WELLBORE SCHEMATIC

Empire Abo Unit F #354

1850' FNL & 2550' FEL (G)

Sec 34, T-17S, R-28E, Eddy County, NM

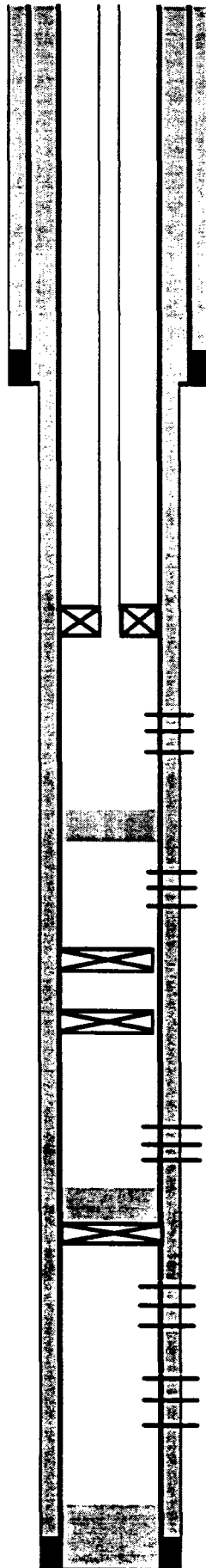
API 30-015-22844

GR-3667'

Spudded 03/16/79

Completed 04/10/79

11" Hole.
8-5/8" casing @ 750'.
Set w/325 sxs cmt. Circ.



2-3/8" tbg & pkr @ 5860'.

Abo Perfs @ 5954' to 5964'.

CR @ 6000'.

Sqz'd Perfs @ 6039' to 6075'.

CIBP @ 6115'.

CIBP @ 6050'.

Abo Perfs 6134' to 6142'.

CIBP @ 6170' w/20' cmt on top.

Abo Perfs @ 6178'.

Abo Perfs @ 6198' to 6208'.

PBD @ 6346'.

TD @ 6350'.

7-7/8" hole.
5-1/2" csg @ 6350' w/1525 sxs cmt. Circ.

WELLBORE SCHEMATIC

Left 1 joint 2-3/8" tubing on W/H flange.

Empire Abo Unit F #361

1765' FNL & 1270' FEL (H)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-21963

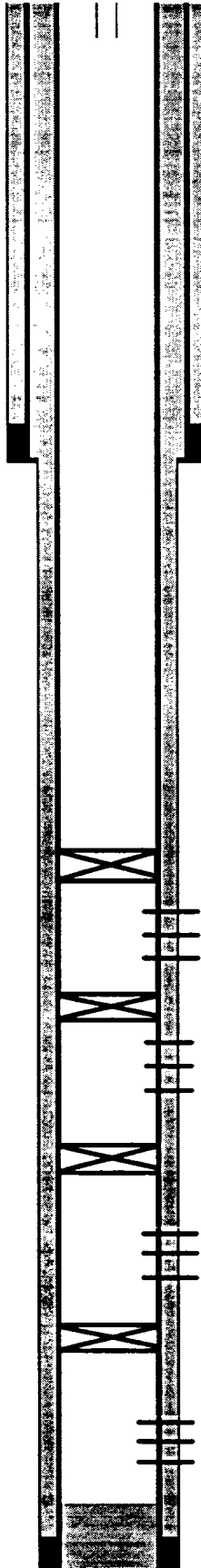
GR-3668.2'

Spudded 01/30/77

Completed 03/07/77

TA 04/22/91

11" Hole.
8-5/8" casing @ 756'.
Set w/275 sxs cmt. Circ.



CIBP @ 6050.05'.

Perfs @ 6068' to 6074'.

CIBP @ 6100'.

Perfs @ 6166' to 6126'.

CIBP @ 6140'.

Perfs @ 6151' to 6160'.

CIBP @ 6200'.

Perfs @ 6233' to 6245'.

PBD @ 6302'.

TD @ 6350'.

7-7/8" hole.
5-1/2" csg @ 6350' w/1403 sxs cmt. Circ.

WELLBORE SCHEMATIC

Left 1 jt 2-3/8" tbg on W/H flange.

Empire Abo Unit F #363

2250' FNL & 1250' FEL (H)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22820

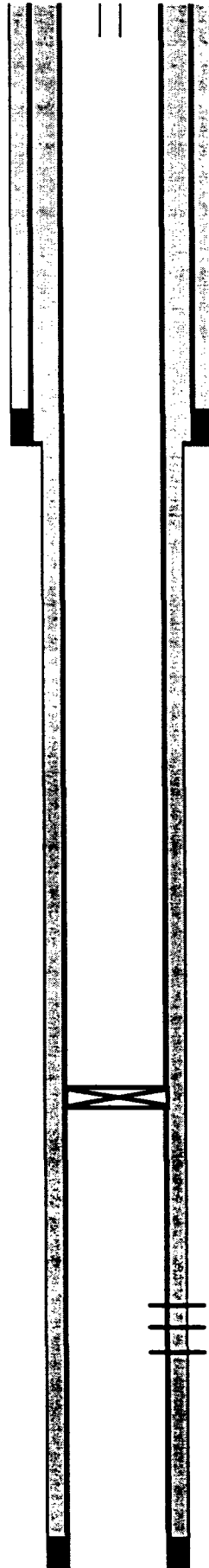
GR-3663'

Spudded 04/05/79

Completed 04/29/79

TA 12/11/90

11" Hole.
8-5/8" casing @ 750'.
Set w/365 sxs cmt. Circ.



CIBP @ 6190'.

Abo Perfs @ 6220' to 6230'.

7-7/8" hole.
5-1/2" csg @ 6348' w/1455 sxs cmt. Circ.

TD @ 6350'.

WELLBORE SCHEMATIC

Empire Abo Unit G #22 (GIW)

1650' FSL & 2387' FWL (K)

Sec 31, T-17S, R-28E, Eddy County, NM

API 30-015-01651

RKB 3687'

Spudded 03/19/60

Completed 04/13/60

11" Hole.
8-5/8" casing @ 1275'.
Set w/750 sxs cmt. Circ.

TOC @ 1280'.

2-3/8" IPC tbg & pkr @ 5470'.

Perfs @ 5800' to 5870'.

CIBP @ 5890'.

PBD @ 5890'.

Sqz'd Perfs @ 5902' to 5934'.

Sqz'd Perfs @ 5992' to 6009'.

Perfs @ 5998' to 6032'.

TD @ 6046'.

7-7/8" hole.
4-1/2" csg @ 6046' w/850 sxs cmt.

WELLBORE SCHEMATIC

Left 1 joint 2-3/8" tubing on W/H flange.

TOC @ 950' TS.

11" Hole.
8-5/8" casing @ 1235'.
Cmt Circ.

Empire Abo Unit G #23

1650' FSL & 1958 FEL (J)

Sec 31, T-17S, R-28E, Eddy County, NM

RDB 3698'

Spudded 02/24/60

Completed 03/18/60

TA 05/04/92

CIBP @ 5810'.

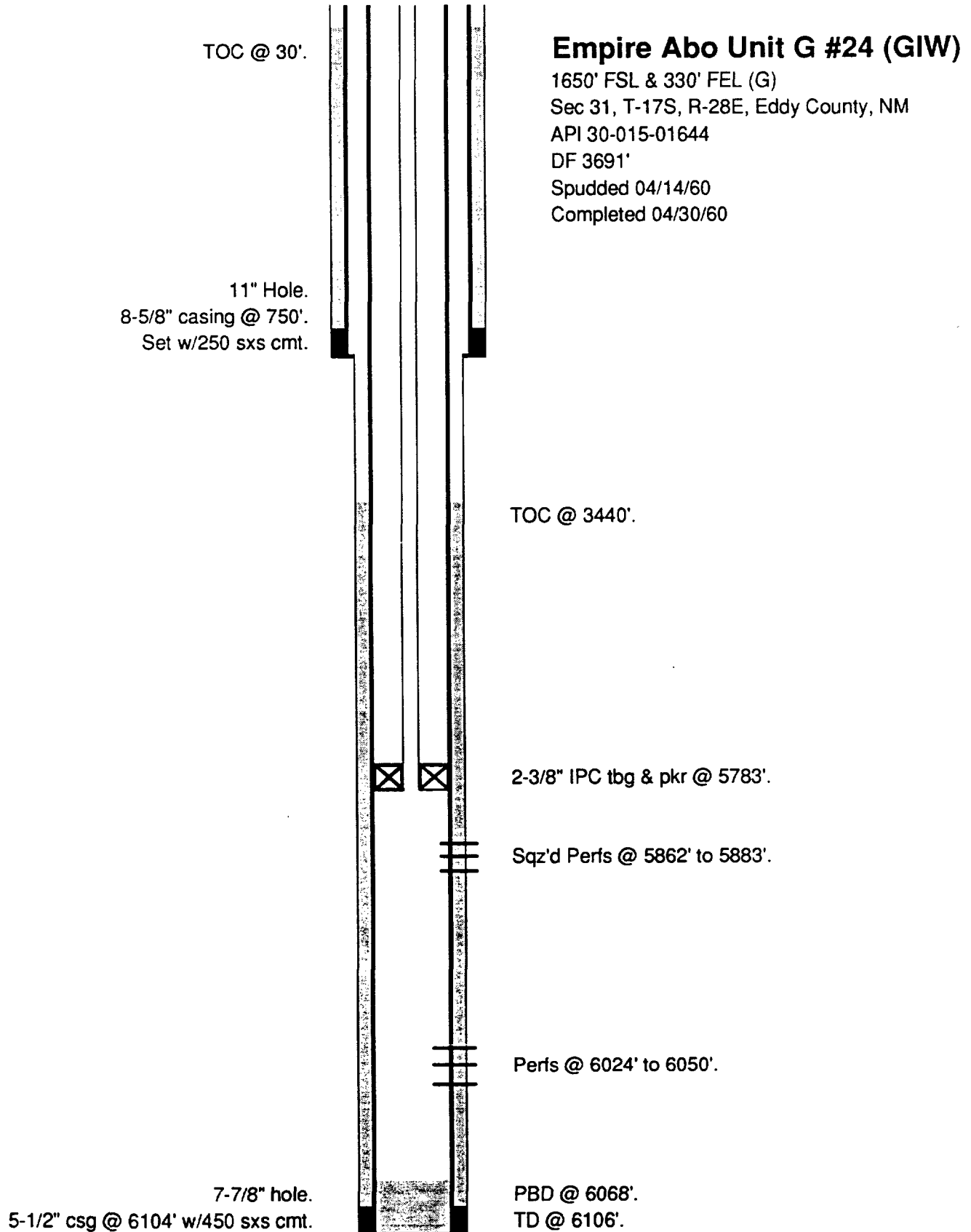
Perfs @ 5834' to 5880'.

Perfs @ 6014' to 6044'.

7-7/8" hole.
5-1/2" csg @ 6094' w/850 sxs cmt.

PBD @ 6063'.
TD @ 6094'.

WELLBORE SCHEMATIC



WELLBORE SCHEMATIC

Empire Abo Unit G #25

1650' FSL & 990' FWL (L)

Sec 32, T-17S, R-28E, Eddy County, NM

API 30-015-01662

DF 3686'

Spudded 03/29/60

Completed 04/14/60

11" Hole.
8-5/8" casing @ 728'.
Set w/225 sxs cmt. Circ.

TOC @ 2460'.

2-3/8" tbg & pkr @ 5772'.

Perfs @ 5996' to 6012'.

7-7/8" hole.
5-1/2" csg @ 6125' w/450 sxs cmt.

PBD @ 6095'.
TD @ 6125'.

WELLBORE SCHEMATIC

Empire Abo Unit G #26

1650' FSL & 2310' FWL (K)

Sec 32, T-17S, R-28E, Eddy County, NM

API 30-015-01661

GR 3671'

Spudded 03/13/60

Completed 03/28/60

11" Hole.
8-5/8" casing @ 760'.
Set w/225 sxs cmt. Circ.

TOC @ 2500'.

Sqz'd Perfs @ 5966' to 5982'.

2-3/8" tbg & Lok-set pkr @ 6000'.

Perfs @ 6054' to 6067'.

7-7/8" hole.
5-1/2" csg @ 6083' w/450 sxs cmt.

PBD @ 6079'.
TD @ 6083'.

WELLBORE SCHEMATIC

Empire Abo Unit G #27

1650' FSL & 1961' FEL (J)

Sec 32, T-17S, R-28E, Eddy County, NM

API 30-015-01670

RDB 3680'

Spudded 06/07/60

Completed 06/21/60

11" Hole.
8-5/8" casing @ 860'.
Set w/450 sxs cmt. Circ.

TOC @ 1800'.

2-3/8" tbg & pkr @ 5690'.

Perfs @ 6036' to 6060'.

Perfs @ 6074' to 6084'.

Perfs @ 6092' to 6112'.

7-7/8" hole.
4-1/2" csg @ 6165' w/850 sxs cmt.

PBD @ 6130'.
TD @ 6165'.

WELLBORE SCHEMATIC

Empire Abo Unit G #28

1650' FSL & 660' FEL (I)

Sec 32, T-17S, R-28E, Eddy County, NM

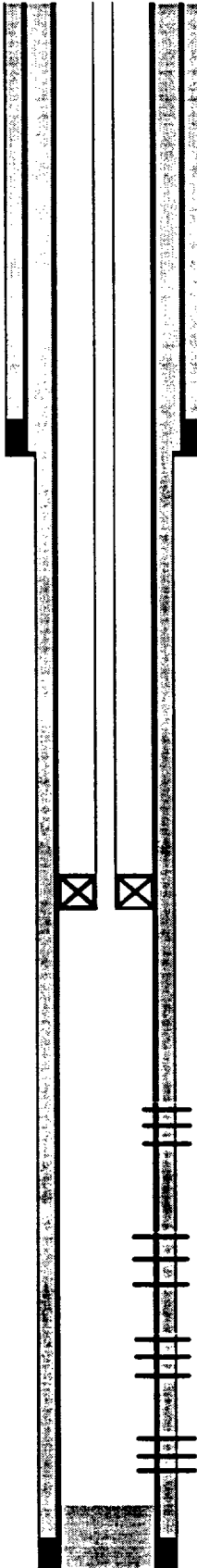
API 30-015-01669

KB-3685'

Spudded 05/20/60

Completed 06/08/60

11" Hole.
8-5/8" casing @ 1304'.
Set w/680 sxs cmt. Circ.



2-3/8" tbg & pkr @ 5732'.

Perfs @ 6012' to 6032'.

Perfs @ 6040' to 6050'.

Perfs @ 6060' to 6066'.

Perfs @ 6072' to 6082'.

PBD @ 6216'.

TD @ 6250'.

7-7/8" hole.
4-1/2" csg @ 6250' w/850 sxs cmt. Circ.

WELLBORE SCHEMATIC

Empire Abo Unit G #29

1980' FSL & 660' FWL (L)

Sec 33, T-17S, R-28E, Eddy County, NM

API 30-015-01688

RF 3680'

Spudded 04/24/60

Completed 05/22/60

11" Hole.
8-5/8" casing @ 1000'.
Set w/550 sxs cmt. Circ.

TOC @ 1510' TS.

Guiberson KVL-30 pkr @ 6060'.

2-3/8" tbg @ 6100'.

Perfs @ 6122' to 6132'.

Perfs @ 6138' to 6154'.

7-7/8" hole.
4-1/2" csg @ 6200' w/800 sxs cmt.

PBD @ 6162'.
TD @ 6200'.

WELLBORE SCHEMATIC

Empire Abo Unit G #291

2000' FSL & 1200' FWL (L)

Sec 33, T-17S, R-28E, Eddy County, NM

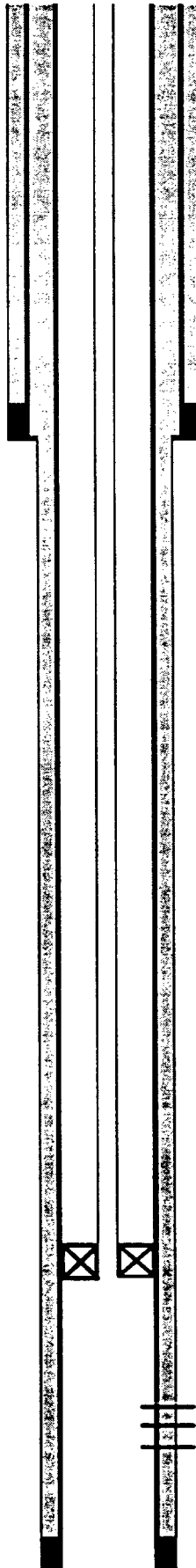
API 30-015-22864

GR 3666'

Spudded 04/21/79

Completed 05/17/79

11" Hole.
8-5/8" casing @ 768'.
Set w/800 sxs cmt. Circ.



2-3/8" tbg & pkr @ 6131'.

Perfs @ 6173' to 6193'.

7-7/8" hole.
5-1/2" csg @ 6250' w/1550 sxs cmt. Circ.

TD @ 6250'.

WELLBORE SCHEMATIC

Empire Abo Unit G #30

1980' FSL & 1980' FWL (K)

Sec 33, T-17S, R-28E, Eddy County, NM

API 30-015-01686

GR-3665'

Spudded 03/27/60

Completed 04/26/60

11" Hole.
8-5/8" casing @ 959'.
Set w/450 sxs cmt. Circ.

TOC @ 2376' by TS.

Set pkr @ 6069.02'.

2-3/8" tbg @ 6109.15'.

Perfs @ 6121' to 6145'.

7-7/8" hole.
4-1/2" csg @ 6210' w/700 sxs cmt.

PBD @ 6177'.
TD @ 6210'.

WELLBORE SCHEMATIC

Empire Abo Unit G-301

1315' FSL & 1315' FWL

Sec. 33, T-17-S, R-28-E

Spudded 9/16/76

Completed 12/29/76

Surface Casing

10 3/4"

Circ w/410 sx

Shoe @ 700'

Tubing

2 3/8" (194 Jts)

w/MA,PN, & TAC

@ 6091'

Production Casing

7 5/8" Cement w/1550 sx

Circ DV @ 3975'

TOC @ Surf.

Drainhole

f/6234-6435'

Shoe @ 6705'

TAC 2 3/8" x 7 5/8" @ 6062'

Pkr & Whipstock @ 6234'

Perfs @ 6250-6270"
(Sqzd)

PBTD @ 6301'

CR @ 6520'

CR @ 7718-7900'

CR @ 9118-9300'

CR @ 10,018-10,200'

TD @ 10,498'

WELLBORE SCHEMATIC

Empire Abo Unit G #31

1980' FSL & 1980' FEL (G)

Sec 33, T-17S, R-28E, Eddy County, NM

API 30-015-01691

GR-3659'

Spudded 05/10/60

Completed 06/06/60

TA 05/08/92

11" Hole.
8-5/8" casing @ 1000'.
Set w/550 sxs cmt. Circ.

TOC @ 2220' by TS.

2-3/8" tbg & pkr @ 6157'.

Perfs @ 6230' to 6266'.

PBD @ 6285'.

TD @ 6336'.

7-7/8" hole.
4-1/2" csg @ 6336' w/800 sxs cmt.

WELLBORE SCHEMATIC

Empire Abo Unit G #311

1350' FSL & 1430' FEL (J)

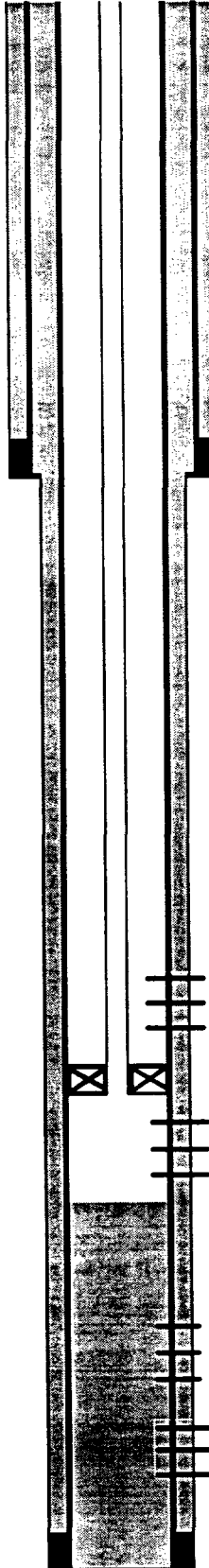
Sec 33, T-17S, R-28E, Eddy County, NM

GR-3665'

Spudded 07/21/75

Completed 09/01/75

11" Hole.
8-5/8" casing @ 1000'.
Set w/390 sxs cmt. Circ.



Sqz'd Perfs @ 6106' to 6118'.

2-3/8" tbg & pkr @ 6143'.

Perfs @ 6164' to 6184'.

PBD @ 6180'.

Sqz'd Perfs @ 6210' to 6223'.

Sqz'd Perfs @ 6250' to 6260'.

TD @ 6360'.

7-7/8" hole.
5-1/2" csg @ 6360' w/1350 sxs cmt. Circ.

WELLBORE SCHEMATIC

Empire Abo Unit G-312

2511' FEL & 1550' FSL
Sec. 32, T-17-S, R-28-E
Eddy County, New Mexico
Spudded 4/5/76
Completed 5/16/76

Surface Casing
8 5/8" 24#
w/200 sx Cmt
Circ to Surf.

Shoe @ 550'

Tubing
2 3/8" (203 Jts)
w/MA,PN,SN, & TAC
@ 6214'

Production Casing
5 1/2" 14# w/1247 sx
TOC @ Surf.
Circ DV @ 3975'

Drainhole
f/6231-6406'

Shoe @ 6404'

DV Tool @ 3975'

Perfs @6074- 88'(Sqzd)

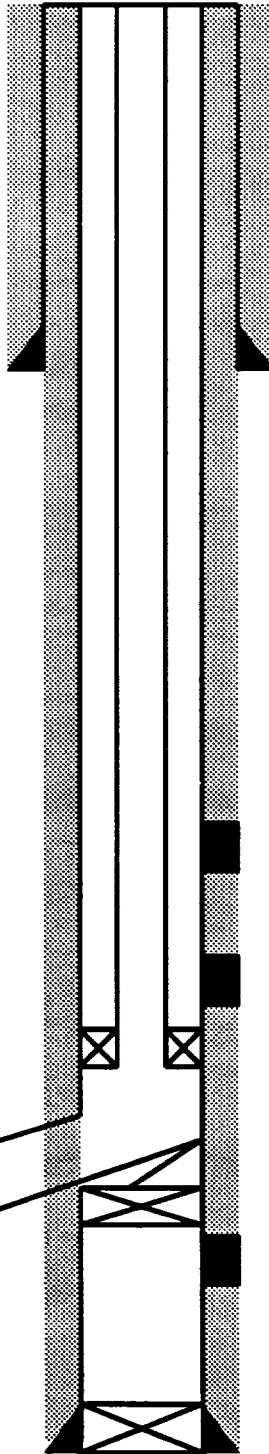
Perfs @ 6190-6210' (Sqzd)

Pkr & Whipstock @ 6238'
CR @ 6262'

Perfs @ 6283-91' (Sqzd)

PBTD @ 6356'

Orig. TD @ 6404'



WELLBORE SCHEMATIC

Empire Abo Unit G #313

2000' FSL & 2450' FEL (J)
Sec 33, T-17S, R-28E, Eddy County, NM
GR-3662.5'
Spudded 07/20/78
Completed 08/23/78

TOC @ 510' by TS.

11" Hole.
8-5/8" casing @ 738'.
Set w/800 sxs cmt.

2-3/8" tbg & pkr @ 6146'.

Perfs @ 6200' to 6220'.

PBD @ 6296'.
TD @ 6360'.

7-7/8" hole.
5-1/2" csg @ 6360' w/1429 sxs cmt. Circ.

WELLBORE SCHEMATIC

Left 1 joint 2-3/8" Itubing on W/H flange.

Empire Abo Unit G #314

1450' FSL & 2000' FEL (J)

Sec 33, T-17S, R-28E, Eddy County, NM

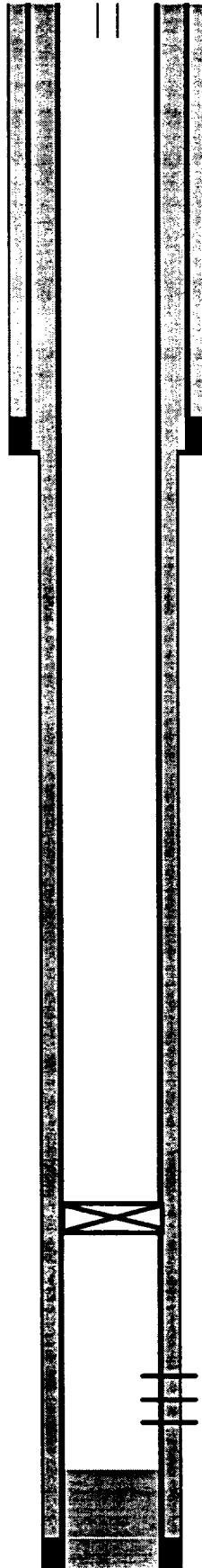
GR-3661.7'

Spudded 04/03/79

Completed 05/10/79

TA 06/10/91

11" Hole.
8-5/8" casing @ 763'.
Set w/850 sxs cmt. Circ.



CIBP @ 6137.15'.

Perfs @ 6158' to 6178'.

PBD @ 6199'.

TD @ 6370'.

7-7/8" hole.
5-1/2" csg @ 6369' w/1545 sxs cmt. Circ.

WELLBORE SCHEMATIC

Empire Abo Unit G #315

1900' FSL & 1450' FEL (J)

Sec 33, T-17S, R-28E, Eddy County, NM

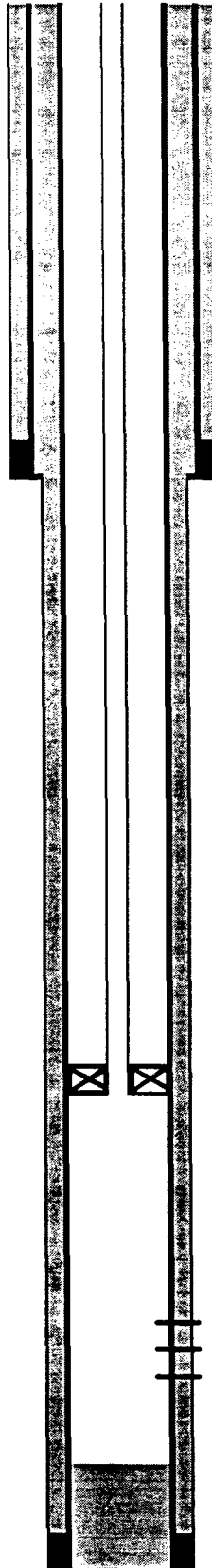
API 30-015-22821

GR-3662.6'

Spudded 03/16/79

Completed 04/27/79

11" Hole.
8-5/8" casing @ 751'.
Set w/325 sxs cmt. Circ.



2-3/8" tbg & pkr @ 6183'.

Perfs @ 6220' to 6230'.

PBD @ 6240'.

TD @ 6370'.

7-7/8" hole.
5-1/2" csg @ 6370' w/14560 sxs cmt. Circ.

WELLBORE SCHEMATIC

Empire Abo Unit G #32

1980' FSL & 660' FEL (I)

Sec 33, T-17S, R-28E, Eddy County, NM

API 30-015-01693

GR-3659'

Spudded 05/29/60

Completed 07/08/60

11" Hole.
8-5/8" casing @ 1000'.
Set w/650 sxs cmt. Circ.

TOC @ 2600' by TS.

Sqz'd Perfs @ 6144' to 6180'.

2-3/8" tbg & pkr @ 6248.61'.

Perfs @ 6257' to 6277'.

CIBP @ 6285'.

PBD @ 6285'.

Sqz'd Perfs @ 6295' to 6324'.

TD @ 6366'.

7-7/8" hole.
4-1/2" csg @ 6366' w/1000 sxs cmt.

WELLBORE SCHEMATIC

Left 1 joint 2-3/8" tubing on W/H flange.

11" Hole.
8-5/8" casing @ 550'.
Set w/200 sxs cmt. Circ.

Empire Abo Unit G #321

1520' FSL & 250' FEL (I)

Sec 33, T-17S, R-28E, Eddy County, NM

API 30-015-21769

GR-3663.8'

Spudded 04/23/76

Completed 05/21/76

TA 06/12/91

DV @ 3988'.

CIBP @ 6170.07'.

Abo Perfs @ 6183' to 6218'.

PBD @ 6353'.

TD @ 6401'.

7-7/8" hole.
5-1/2" csg @ 6401' w/1400 sxs cmt. Circ.

WELLBORE SCHEMATIC

Empire Abo Unit G #322

2350' FSL & 1100' FEL (I)

Sec 33, T-17S, R-28E, Eddy County, NM

API 30-015-22525

GR-3665.6'

Spudded 06/17/78

Completed 07/09/78

11" Hole.
8-5/8" casing @ 772'.
Set w/350 sxs cmt. Circ.

7-7/8" hole.
5-1/2" csg @ 6170' w/1283 sxs cmt. Circ.

2-3/8" tbg & pkr @ 6171.67'.
Perfs @ 6170' to 6250' OH.

TD @ 6250'.

WELLBORE SCHEMATIC

Empire Abo Unit G #323

1500' FSL & 700' FEL (I)

Sec 33, T-17S, R-28E, Eddy County, NM

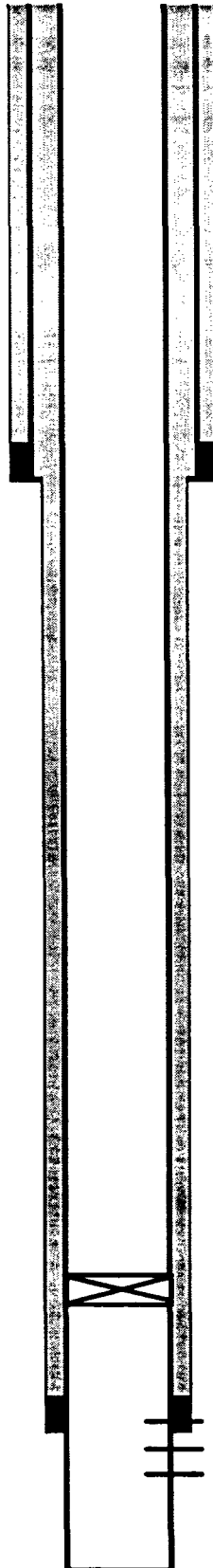
GR-3663.9'

Spudded 03/12/78

Completed 04/01/78

TA 06/14/91

11" Hole.
8-5/8" casing @ 600'.
Set w/345 sxs cmt. Circ.



CIBP @ 6181.67'.

7-7/8" hole.
5-1/2" csg @ 6197' w/1245 sxs cmt. Circ.

Perfs @ 6197' to 6219' OH.

TD @ 6210'.

WELLBORE SCHEMATIC

Empire Abo Unit G #324

2250' FSL & 235' FEL (I)

Sec 33, T-17S, R-28E, Eddy County, NM

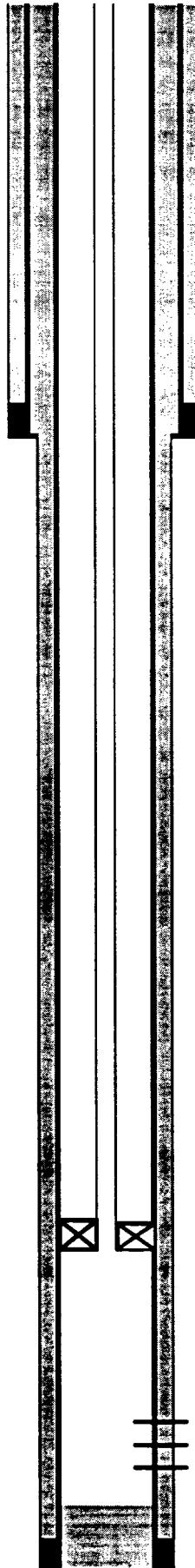
API 30-015-22822

GR-3662.3'

Spudded 03/01/79

Completed 04/01/79

11" Hole.
8-5/8" casing @ 775'.
Set w/700 sxs cmt. Circ.



2-3/8" tbg & pkr @ 6165'.

Perfs @ 6252' to 6262'.

PBD @ 6331'.

TD @ 6370'.

7-7/8" hole.
5-1/2" csg @ 6370' w/1270 sxs cmt. Circ.

WELLBORE SCHEMATIC

Empire Abo Unit G #33

1965.6' FSL & 330' FWL (L)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-01711

GR-3662'

Spudded 04/24/60

Completed 05/20/60

TA 09/01/92

TOC @ 390'.

11" Hole.
8-5/8" casing @ 1298'.
Set w/550 sxs cmt. Circ.

2-3/8" tbg & Guiberson KVL-30 pkr @ 5892'.

Abo Perfs @ 6246' to 6286'.

7-7/8" hole.
4-1/2" csg @ 6340' w/900 sxs cmt.

PBD @ 6303'.
TD @ 6340'.

WELLBORE SCHEMATIC

Empire Abo Unit G #331

1580' FSL & 1140' FWL (L)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-21784

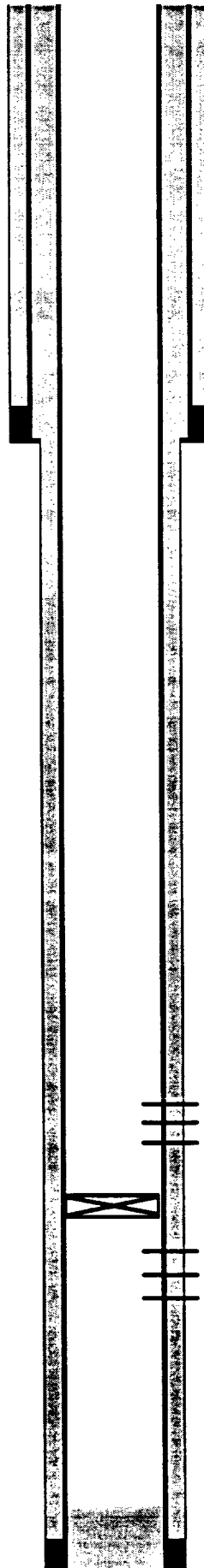
GR-3667.3'

Spudded 05/15/76

Completed 06/06/76

TA 08/27/92

11" Hole.
8-5/8" casing @ 600'.
Set w/350 sxs cmt. Circ.



Sqz'd Perfs @ 6166' to 6184'.

CIBP @ 6236'.

Abo Perfs @ 6260' to 6270'.

PBD @ 6370'.

TD @ 6400'.

7-7/8" hole.
5-1/2" csg @ 6399' w/1180 sxs cmt. Circ.

WELLBORE SCHEMATIC

Empire Abo Unit G #332

1575' FSL & 660' FWL (L)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22416

GR-3658.4'

Spudded 03/12/78

Completed 04/05/78

11" Hole.
8-5/8" casing @ 750'.
Set w/455 sxs cmt. Circ.

Top of Liner @ 6109'.

2-3/8" tbg & pkr @ 6153'.

Sqz'd Perfs @ 6170' to 6186'.

Perfs @ 6238' to 6248'.

TD @ 6316'.

7-7/8" hole.
5-1/2" csg @ 6216' w/1225 sxs cmt. Circ.

Bottom of Liner @ 6316' w/34 sxs cmt.

WELLBORE SCHEMATIC

Empire Abo Unit G #333

2100' FSL & 1100' FWL (L)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22631

GR 3660.2'

Spudded 09/08/78

Completed 11/18/78

TA 05/12/92

11" Hole.
8-5/8" casing @ 749'.
Set w/350 sxs cmt. Circ.

2-3/8" tbg & pkr @ 6139'.

Abo Perfs @ 6234 to 6244'.

PBD @ 6254'.

Sqz'd Abo Perfs @ 6271' to 6334'.

TD @ 6350'.

7-7/8" hole.
5-1/2" csg @ 6350' w/1375 sxs cmt. Circ.
EEG EAUG333.XLS

WELLBORE SCHEMATIC

Cmt Plug Surface to 200'.

Empire Abo Unit G #334

2400' FSL & 500' FWL (L)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22787

GR-3661.4'

Spudded 02/13/79

Completed 04/04/79

P&A'd 01/09/92

11" Hole.

8-5/8" casing @ 750'.

Set w/435 sxs cmt. Circ.

Cmt Plug 625' to 875'.

Cmt Plug 1200' to 1450'.

Cmt Plug 1950' to 2200'.

Cmt Plug 2850' to 3100'.

Cmt Plug 3600' to 3850'.

Cmt Plug 5640' to 6140'.

CIBP @ 6140'.

Perfs @ 6230' to 6242'.

PBD @ 6319'.

TD @ 6350'.

7-7/8" hole.

5-1/2" csg @ 6350' w/1420 sxs cmt. Circ.

WELLBORE SCHEMATIC

Cmt Plug from surface to 310'.

Empire Abo Unit G #34

1943.9' FSL & 1947.25' FWL (K)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-01710

GR 3666'

Spudded 04/09/60

Completed 05/07/60

P&A 12/19/88

11" Hole.
8-5/8" casing @ 1280'.
Set w/550 sxs cmt. Circ.

Cmt Plug from 1195' to 1850'.

CIBP @ 1850'.

Cmt Plug from 1872' to 2190'.

Cmt Plug from 3062' to 3380'.

CIBP @ 6130'.

Abo Perfs @ 6180' to 6188'.

Abo Perfs @ 6224' to 6244'.

PBD @ 6457'.

TD @ 6491'.

7-7/8" hole.
4-1/2" csg @ 6491' w/850 sxs cmt.

WELLBORE SCHEMATIC

Empire Abo Unit G #341

1850' FSL & 2591' FWL (K)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-21797

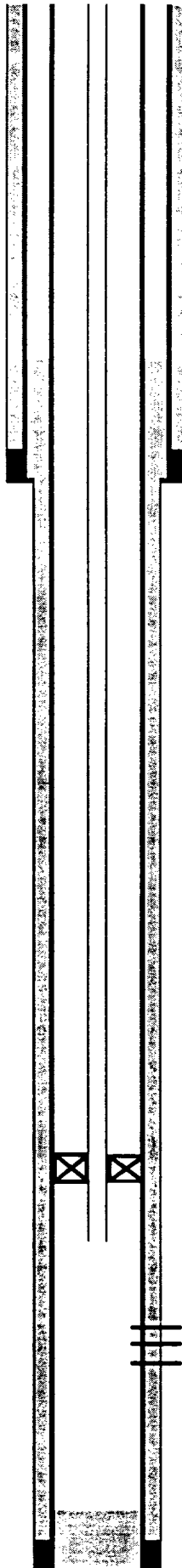
GR 3661.2'

Spudded 06/03/76

Completed 07/01/76

TA 05/12/92

TOC @ 540' CBL.
11" Hole.
8-5/8" casing @ 600'.
Set w/380 sxs cmt. Circ.



Pkr @ 6099'.

2-3/8" tbg @ 6113'.

Abo Perfs @ 6168' to 6196'.

PBD @ 6366'.

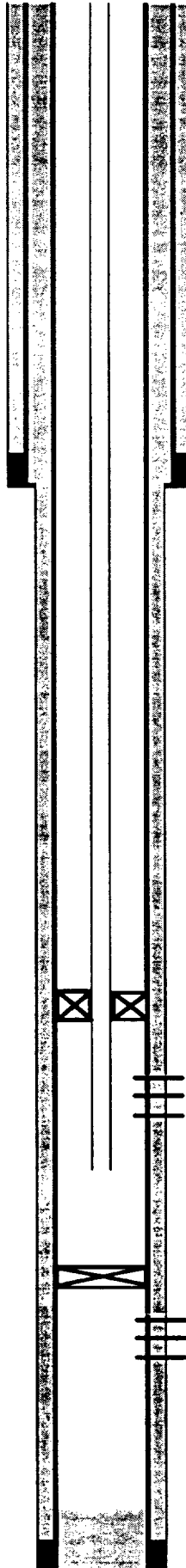
TD @ 6400'.

WELLBORE SCHEMATIC

Empire Abo Unit G #342

2400' FSL & 2080' FWL (K)
Sec 34, T-17S, R-28E, Eddy County, NM
API 30-015-21964
GR 3667.6'
Spudded 01/11/77
Completed 02/02/77

11" Hole.
8-5/8" casing @ 600'.
Set w/250 sxs cmt. Circ.



Pkr @ 6047'.

Abo Perfs @ 6140' to 6150'.

2-3/8" tbg @ 6189'.

CIBP @ 6200'.

Abo Perfs @ 6240' to 6260'.

PBD @ 6325'.
TD @ 6376'.

7-7/8" hole.
5-1/2" csg @ 6376' w/1565 sxs cmt. Circ.

WELLBORE SCHEMATIC

Left 1 joint 2-3/8" tubing on W/H flange.

Empire Abo Unit G #343

1330' FSL & 1970 FWL (K)

Sec 34, T-17S, R-28E, Eddy County, NM

GL 3659.5'

Spudded 11/16/78

Completed 12/27/78

TA 07/21/89

11" Hole.
8-5/8" casing @ 750'.
Set w/365 sxs cmt. Circ.

7-7/8" hole.
5-1/2" csg @ 6353' w/1590 sxs cmt. Circ.

CIBP @ 6100'.

Perfs @ 6186' to 6196'.

PBD @ 6226'.

TD @ 6370'.

WELLBORE SCHEMATIC

Left 1 joint 2-3/8" tubing on W/H flange.

Empire Abo Unit G #35

2310' FSL & 2310' FEL (J)

Sec 34, T-17S, R-28E, Eddy County, NM

KB-3672'

Spudded 03/26/60

Completed 04/16/60

TA 04/12/88

11" Hole.
8-5/8" casing @ 701'.
Set w/250 sxs cmt. Circ.

TOC @ 2950'.

CIBP @ 6190'.

Perfs @ 6215' to 6235'.

7-7/8" hole.
5-1/2" csg @ 6380' w/450 sxs cmt.

PBD @ 6376'.
TD @ 6380'.

WELLBORE SCHEMATIC

Left 1 joint 2-3/8" tubing on W/H flange.

Empire Abo Unit G #351

1850' FSL & 1650' FEL (J)

Sec 34, T-17S, R-28E, Eddy County, NM

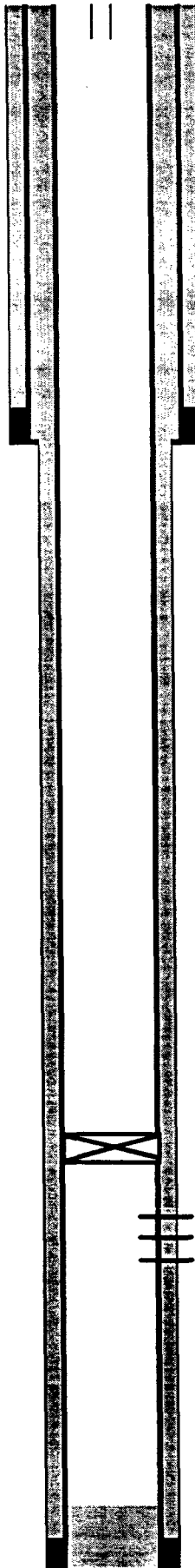
GR-3663.2'

Spudded 05/13/77

Completed 06/13/77

TA 07/20/89

11" Hole.
8-5/8" casing @ 600'.
Set w/240 sxs cmt. Circ.



CIBP @ 6120'.

Perfs @ 6190' to 6200'.

PBD @ 6311'.
TD @ 6365'.

7-7/8" hole.
5-1/2" csg @ 6365' w/1949 sxs cmt. Circ.

WELLBORE SCHEMATIC

Left 1 joint 2-3/8" tubing on W/H flange.

Empire Abo Unit G #352

2200' FSL & 1450' FEL (J)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22846

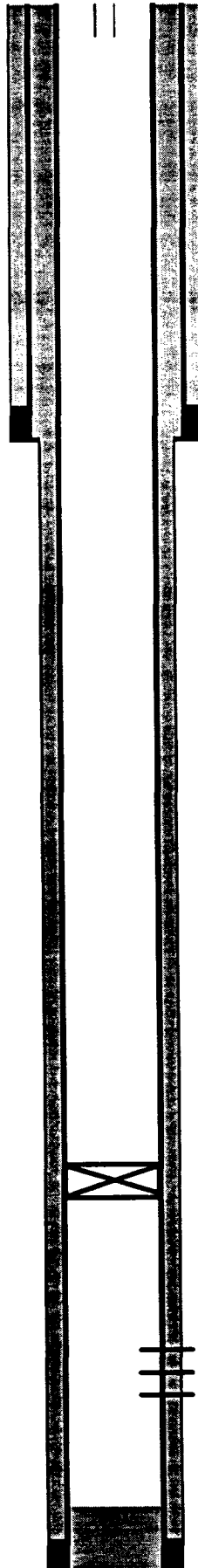
GR-3662.2'

Spudded 04/21/79

Completed 05/23/79

TA 04/15/88

11" Hole.
8-5/8" casing @ 750'.
Set w/450 sxs cmt. Circ.



CIBP @ 6190'.

Perfs @ 6214' to 6234'.

PBD @ 6308'.

TD @ 6351'.

7-7/8" hole.
5-1/2" csg @ 6351' w/1509 sxs cmt. Circ.

WELLBORE SCHEMATIC

Left 1 joint 2-3/8" tubing on W/H flange.

Empire Abo Unit G #353

1420' FSL & 2050' FEL (J)

Sec 34, T-17S, R-28E, Eddy County, NM

API 30-015-22865

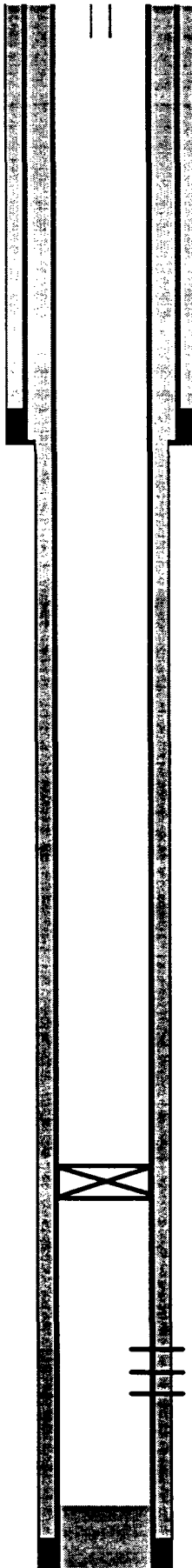
GR-3663.8'

Spudded 05/06/79

Completed 06/05/79

TA 05/15/91

11" Hole.
8-5/8" casing @ 752'.
Set w/400 sxs cmt. Circ.



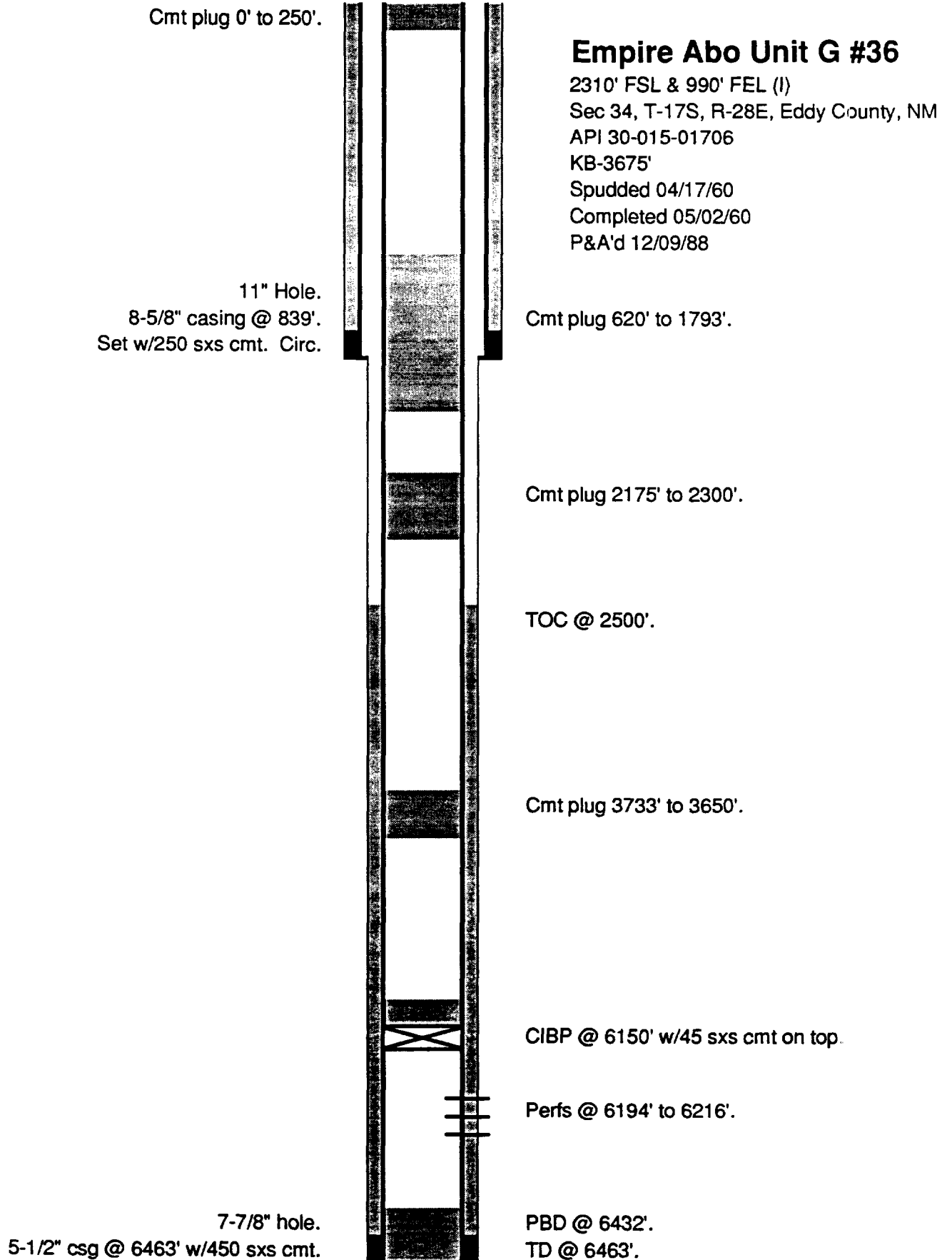
CIBP @ 6187.48'.

Perfs @ 6218' to 6238'.

PBD @ 6306'
TD @ 6350'.

7-7/8" hole.
5-1/2" csg @ 6350' w/1555 sxs cmt. Circ.

WELLBORE SCHEMATIC



WELLBORE SCHEMATIC

Empire Abo Unit H #22

660' FSL & 2,082' FEL

Sec. 31, T-17S, R-28E, Eddy County, NM

Spudded 12/31/59

Completed 01/22/60

TA 05/4/92

Surface Casing

8 5/8"

Cmt to Surface 500 sx

Shoe @ 1000'

Tubing

2 3/8"

Production Casing

5 1/2" 14#

Cement 850 sx

Shoe @ 6,050'

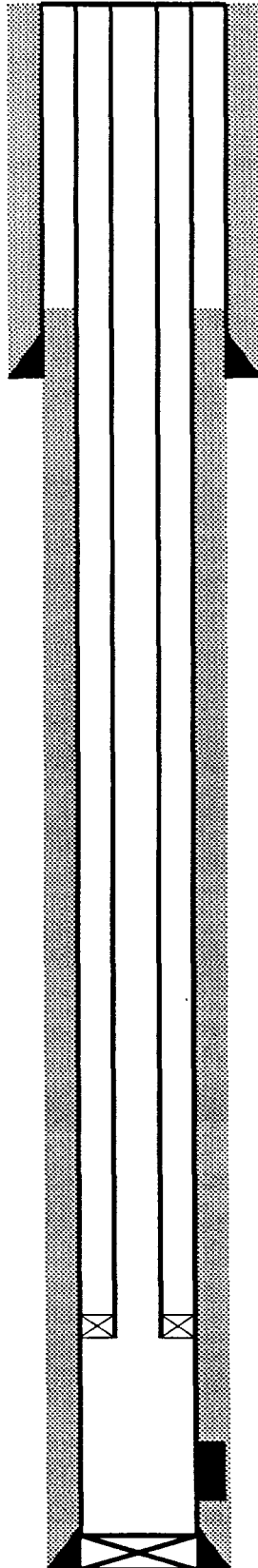
TOC @ 600' by calc

Packerw/ SN@ 5902'

Perfs @ 5950'-6000'

PBTD @ 6,021'

7 7/8" hole TD @ 6050'



WELLBORE SCHEMATIC

Empire Abo Unit H #23

1938' FEL & 660' FSL

Sec. 31, T-17S, R-28E, Lea County, NM

Spudded 1/30/60

Completed 2/24/60

Surface Casing
8 5/8" 22.7#
Cmt to Surface 550 sx

Shoe @ 1200'

TOC @ Surf., Circ. 2150' w/500 sx

Tubing
2 3/8"

Production Casing
5 1/2" 14#
Cement 550 sx

Shoe @ 6094'

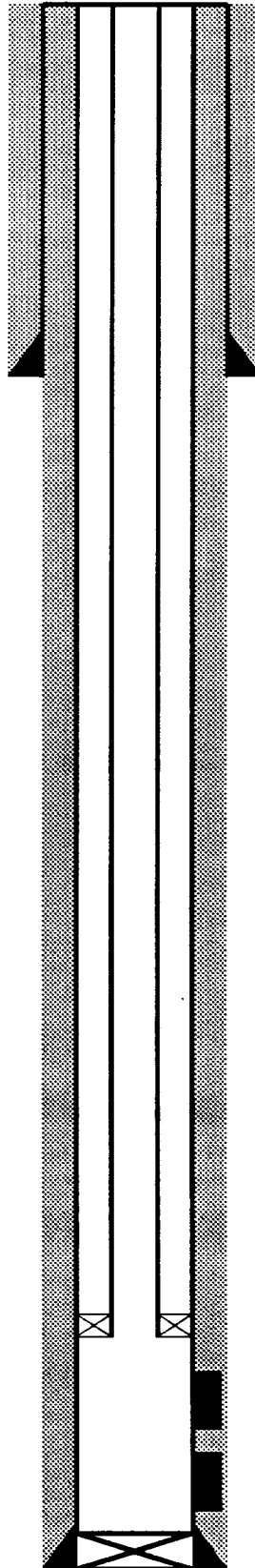
Packer @ 5809'

Perfs @ 5910-60'

Perfs @ 6023-60'

PBTD @ 6,076"

7 7/8" hole TD @ 6094'



WELLBORE SCHEMATIC

Empire Abo Unit H #24

660' FEL & 660' FSL

Sec. 31, T-17S, R-28E, Eddy County, NM

Spudded 2/26/60

Completed 3/13/60

Surface Casing

8 5/8" 24#

Cmt to Surface 250 sx

Shoe @ 777'

Tubing

2 3/8"

@5703'

Production Casing

5 1/2" 14#

Cement 550 sx

Shoe @ 6122'

Perfs @ 2450-51'

(Squeezed w/750 sx)

TOC @ 2500' by calc

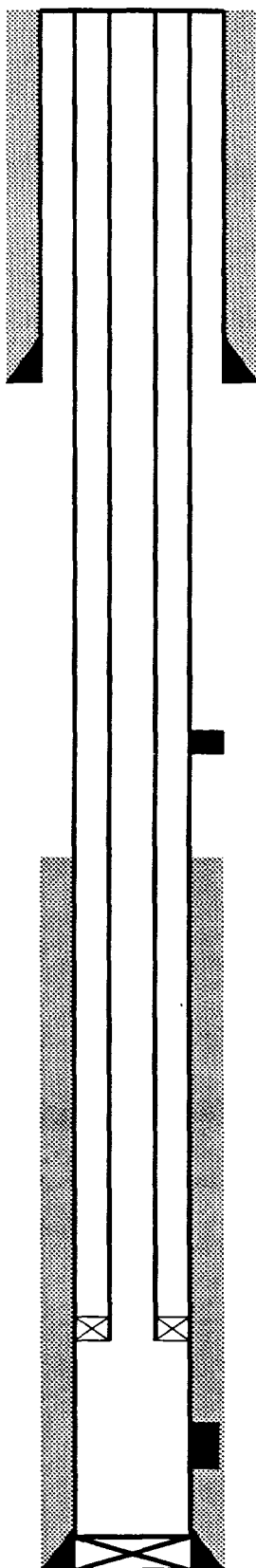
SN @ 5699'

Packer @5710"

Perfs @ 6026-40"

PBTD @ 6087"

7 7/8" hole TD @ 6122'



WELLBORE SCHEMATIC

Empire Abo Unit H #25

660' FSL & 660' FWL
Sec. 32, T-17S, R-28-E, Eddy County, N
Spudded 2/16/60
Completed 3/10/60

Surface Casing
8 5/8"
Cmt to Surface 350 sx

Shoe @ 769'

193 Jts
Tubing
2 3/8"

TOC @ 2590' (by calc.)

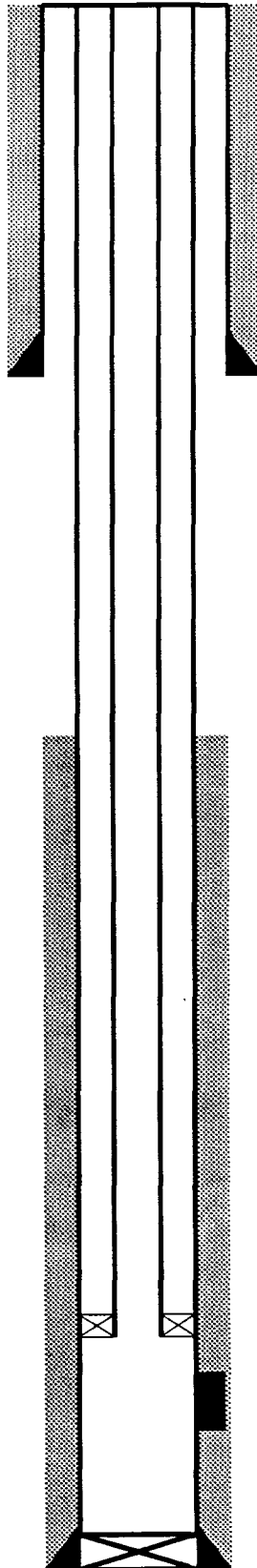
Production Casing
5 1/2" 14#
Cement 250 sx

Packer w/ SN @ 5990'

Perfs @ 6087-6097'

Shoe @ 6187'

PBTD @ 6,143"
7 7/8" hole TD @ 6187'



WELLBORE SCHEMATIC

Empire Abo Unit H #26

660' FSL & 1980' FWL

Sec. 32, T-17S, R-28-E, Eddy County, N

Spudded 1/26/60

Completed 2/15/60

Surface Casing

8 5/8" 24#

Cmt to Surface w/ 280 sx

Shoe @ 779'

Tubing

2 3/8"

@ 6071'

TOC @ 2645' (by calc.)

Production Casing

5 1/2" 14#

Cement 400 sx

Perfs @ 5972-98' (Sqzd)

Perfs @ 6112-23"

Shoe @ 6172'

PBTD @ 6137'

7 7/8" hole TD @ 6172'

WELLBORE SCHEMATIC

Empire Abo Unit H #261

150' FSL & 1400' FWL

Sec. 32, T-17S, R-28-E, Eddy County, N

Spudded 6\24\75

Completed 7\31\75

Surface Casing

8 5/8" 24#

Circ to Surf. w/ 400 sx

Shoe @ 1000'

Tubing

2 3/8"

@ 5600'

Shoe @ 4018'

Baker Lok-Set w/

On-Off Tool @ 6095'

Production Casing

5 1/2" 14# & 15.5#

Cement 1375 sx

TOC @ 2645' (by calc.)

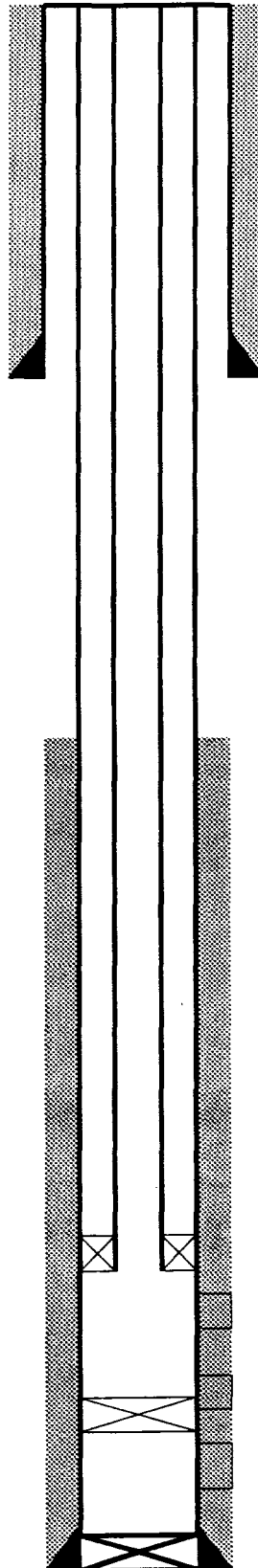
Perfs 6024-30' (Sqzd)

Perfs 6112-26'

CIBP @ 6154'

Perfs @ 6154-64'

7 7/8" hole TD @ 6222'



WELLBORE SCHEMATIC

Empire Abo Unit H #27

650' FSL & 1950.8' FWL

Sec. 32, T-17S, R-28-E, Eddy County, N

Spudded 12/30/59

Completed 1/27/60

TOC @ 75' (calc)

Surface Casing

8 5/8" 24#

Circ to Surf. w/ 600 sx

Shoe @ 985'

Tubing

2 3/8"

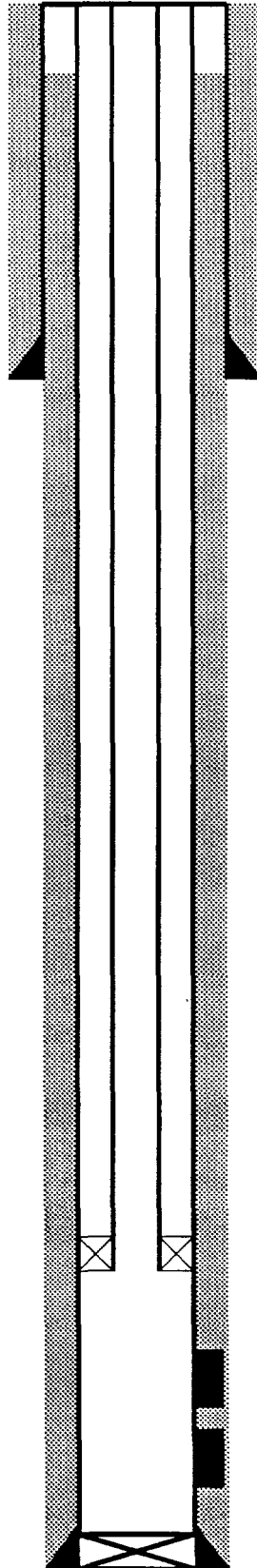
@ 5881'

Production Casing

4 1/2" 9.5#

Cement 850 sx

Shoe @ 6215'



Pkr w/ SN @ 5891'

Perfs 6010-70' (Sqzd)

Perfs 6134-56"

PBTD @ 6180'

7 7/8" hole TD @ 6215'

WELLBORE SCHEMATIC

Empire Abo Unit H #271

1450' FEL & 330' FWL

Sec. 32, T-17S, R-28-E, Eddy County, N

Spudded 5/31/75

Completed 6/17/75

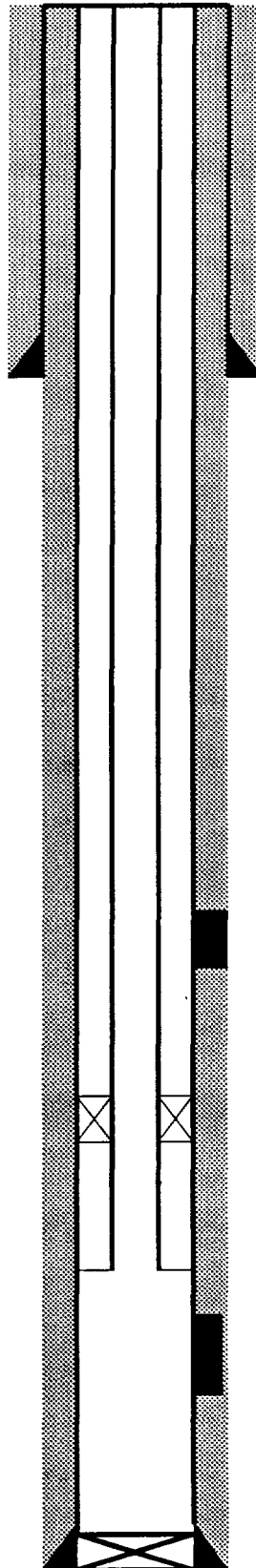
Surface Casing
8 5/8" 24#
Circ to Surf. w/ 600 sx

Shoe @ 1007'

Tubing
2 3/8" w/TP
@6133'

Production Casing
5 1/2" 14#
Cement w/1050 sx

Shoe @6255'



DV Tool @ 4050'

Perfs 6025-50' (Sqzd)

Pkr @6098'

Perfs 6140-58"

PBTD @ 6221'

7 7/8" hole TD @ 6255'

WELLBORE SCHEMATIC

Empire Abo Unit H #272

2481' FEL & 330' FSL
Sec. 32, T-17-S, R-28-E, Eddy County, N
Spudded 2/8/77
Completed 7/21/77

Surface Casing
8 5/8" 24#
w/275 sx

Shoe @ 600'

Tubing
2 3/8" w/Pkr
@6118'

Production Casing
5 1/2" 14# & 15.5#
Cement w/1650 sx

Shoe @6370'

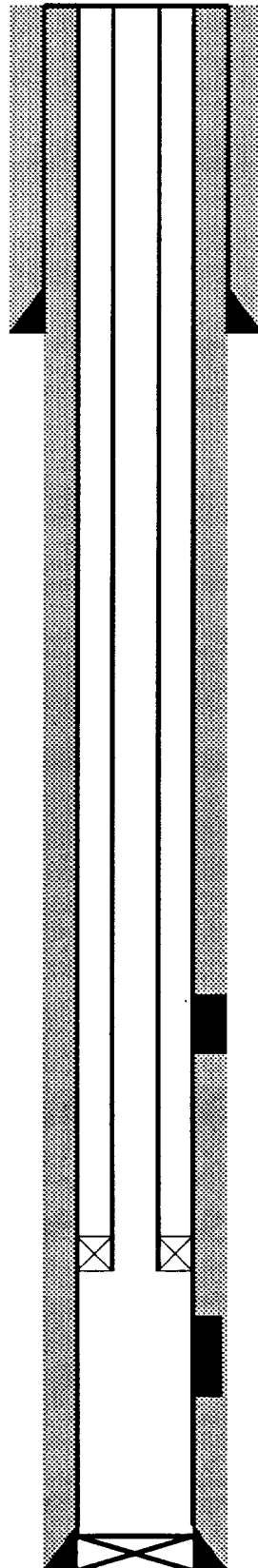
DV Tool @ 4382'

Perfs 6032-46' (Sqzd)

Perfs 6139-66'

PBTD @ 6261'

7 7/8" hole TD @ 6370'



WELLBORE SCHEMATIC

Empire Abo Unit H-28

660' FEL & 660' FSL

Sec. 32, T-17-S, R-29-S, Eddy County, N

Spudded 5/16/60

Completed 6/7/60

TOC @ 150' by TS

Surface Casing

8 5/8" 22.7#

w/550 sx

Shoe @ 1247'

Tubing & Pkr

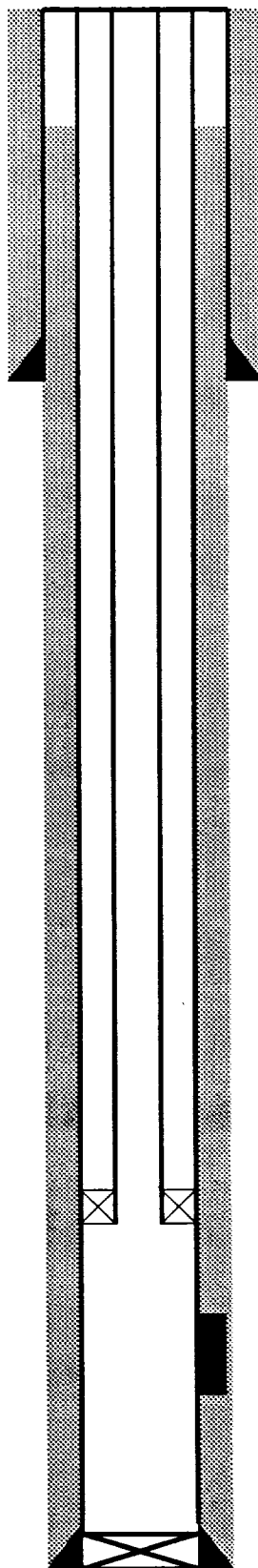
2 3/8" @ 5870'

w/Pkr @ 5870'

Production Casing

4 1/2" w/850 sx

Shoe @ 6319'



Pkr @ 5870'

Perfs 6234-68'

PBTD @ 6285'

7 7/8" hole TD @ 6319'

WELLBORE SCHEMATIC

Empire Abo Unit H-281

200' FSL & 660' FEL

Sec. 32, T-17S, R-28E, Eddy County, NM

Spudded 8/24/78

Completed 9/20/78

Surface Casing

8 5/8" 24#

Cmt to /Surf. w/ 330 sx

Shoe @ 600'

DV @ 2988'

Tubing

2 3/8" (203 Jts) w/TAC,

SN, PN, & MA @ 6292'

Perfs @ 6169-6189' (Sqzd)

TAC @ 7,000'

Perfs @ 6252-6262'

Production Casing

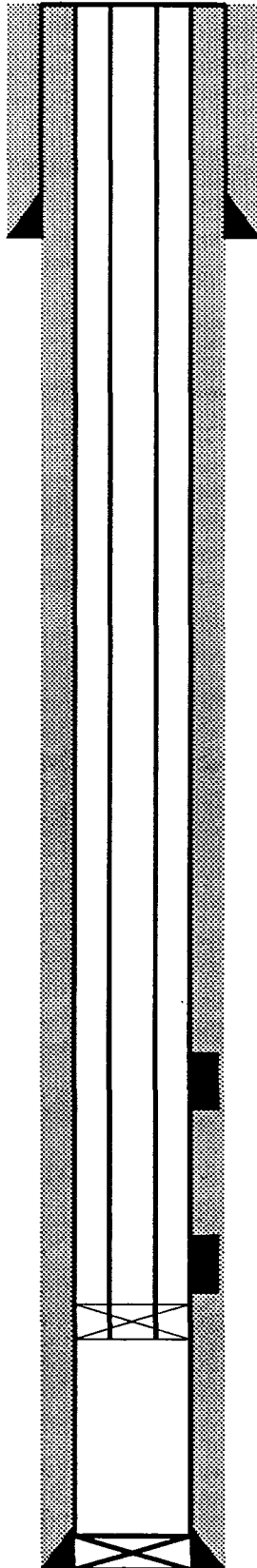
5 1/2" 15.5#

Cement 1215 sx

Shoe @ 6,330'

PBTD n/a

TD @ 6,330'



WELLBORE SCHEMATIC

Empire Abo Unit H-29

660' FSL & 660' FWL

Sec. 33, T-17S, R-20E, Eddy County, NM

Spudded 1/21/60

Completed 3/7/60

Surface Casing

8 5/8" 24#

Cmt to /Surf. w/ 450 sx

Shoe @ 991'

Tubing

2 3/8" w/PKR & Sub

@ 6135'

Production Casing

4 1/2" 9.5#

Cement 1050sx

(Sqzd 4 1/2" f/1791'-Surf.)

w/ 550 sx

Shoe @ 6,250'

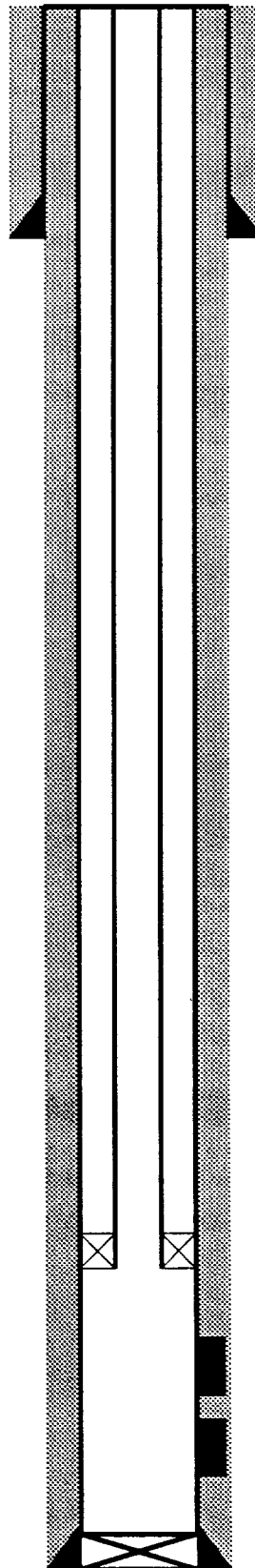
Pkr @ 6135'

Perfs @ 6205-6221'

Perfs @ 6227-41'

PBTD 6249'

TD @ 6250'



WELLBORE SCHEMATIC

Empire Abo Unit H-29-1

200' FSL & 50' FWL

Sec. 33, T-17S, R-28E, Eddy County, NM

Spudded 07/16/75

Completed 08/26/75

Surface Casing
8 5/8" 24# w/FS & FC
Cmt to Surface 350 sx

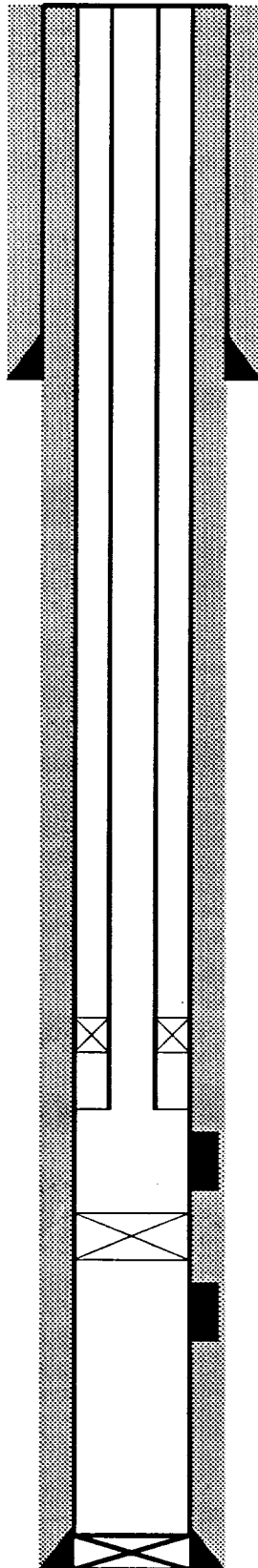
FC @ 950'

Shoe @ 1014'

Tubing
2 3/8" N-80
w/ SN @6,146'

Production Casing
5 1/2"
Cement 650 sx

Shoe @ 6,350'



Pkr @ 6,063'

Perfs @ 6,152'-76' (sqzd)

CIBP @ 6,200'

Perfs @ 6'230'-47'

PBTD @ 6,254'

FC @ 6,303'

TD @ 6,350'

WELLBORE SCHEMATIC

Empire Abo Unit H-292

1225' FWL & 180' FSL

Sec. 33, T-17S, R-28E, Eddy County, NM

Spudded 04/05/77

Completed 05/04/77

T&A'd 07/89

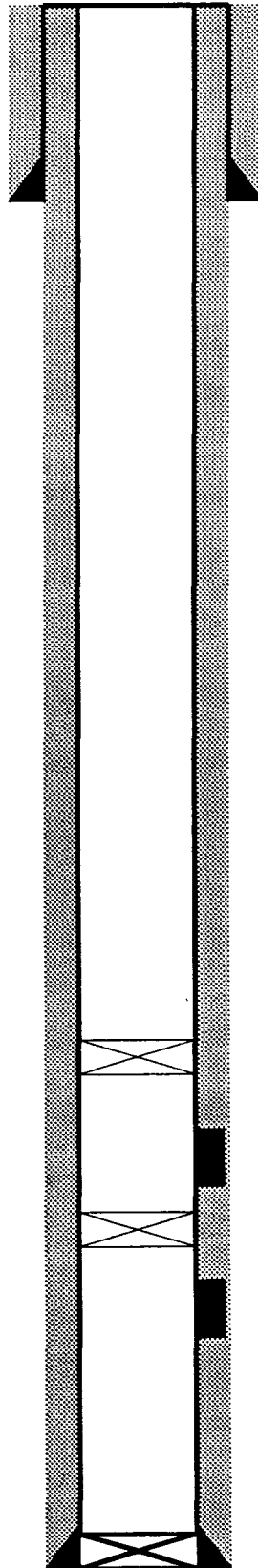
Surface Casing
8 5/8" 24# w/FS & FC
Cmt to Surface 200 sx

Shoe @ 550'

Tubing T&A'd

Production Casing
5 1/2" 15.5#
Cement 1,160 sx

Shoe @ 6,370'



DV Tool @ 5,004'

CIBP @ 6,060'

Perfs @ 6,083'-98" (sqzd)

CIBP @ 6,210'

Perfs @ 6,230-50"

PBTD @ 6,320'

FC @ 6,323'

TD @ 6,370'

WELLBORE SCHEMATIC

Empire Abo Unit H-293

1249' FSL & 50' FWL
Sec. 33, T-17S, R-28E,
Eddy County, NM
Spudded 3/16/77
Completed 4/12/77

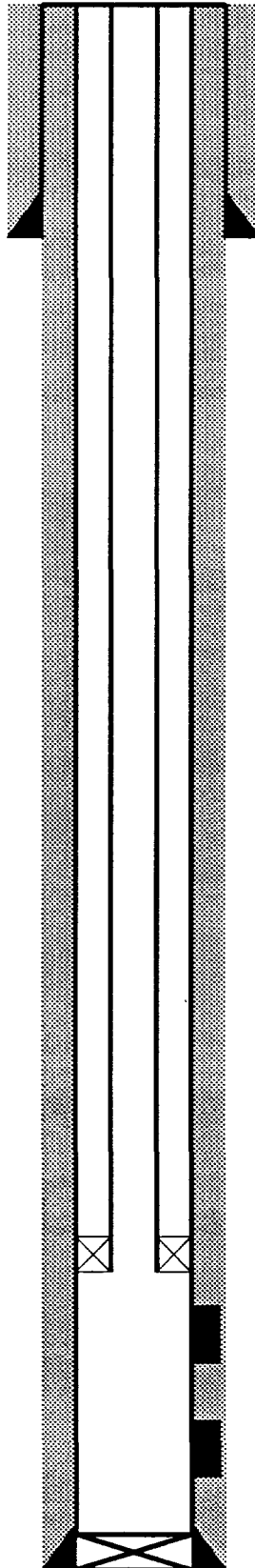
Surface Casing
8 5/8" 24#
w/FS & FC
Circ w/ 342 sx

FC @ 475'
Shoe @ 550'

Tubing
2 3/8" w/PKR
@ 6110'

Production Casing
5 1/2" 15.5#
Cement w/1241sx
(Circ cmt)

Shoe @ 6378'



DV Tool @ 5007'

Pkr @ 6110'

Perfs @ 6132'-42' (sqzd)

Perfs @ 6200'-10'

PBTB 6344'

TD @ 6379'

WELLBORE SCHEMATIC

Empire Abo Unit H-294

1200' FSL & 700' FWL

Sec. 33, T-17S, R-28E, Eddy County, NM

Spudded 10/30/78

Completed 12/03/78

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 450 sx

Shoe @ 600'

SC @ 3,005'

Tubing 2 3/8" (193jts)
w/ PKR @ 6,090'

PKR @ 6,090'

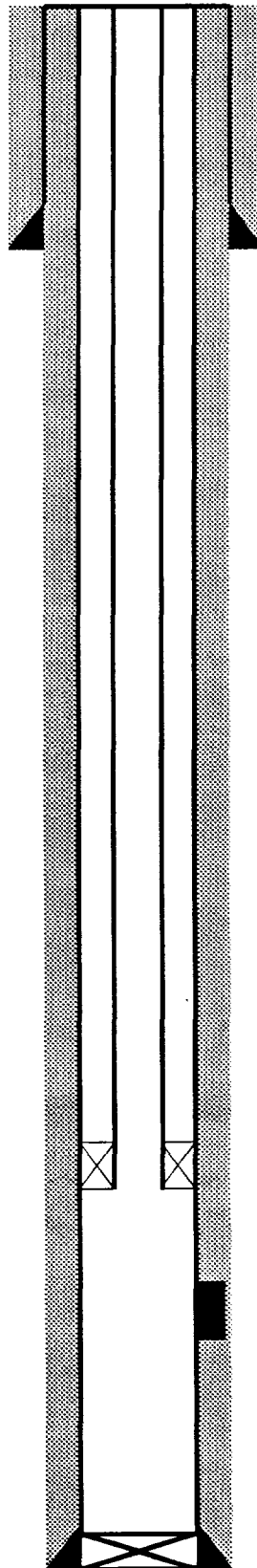
Production Casing
5 1/2" 15.5#
Cement 1,365 sx

Perfs @ 6,216-6,238'

PBTD @ 6,250'

TD @ 6,300'

Shoe @ 6,300'



WELLBORE SCHEMATIC

Empire Abo Unit H-295

700' FSL & 10' FWL

Sec. 33, T-17S, R-28E, Eddy County, NM

Spudded 10/14/78

Completed 11/19/78

Surface Casing

8 5/8" 24#

Circ Cmt to Surf 450 sx

Shoe @ 600'

Tubing 2 3/8" (200jts)

w/ PKR @ 6,171'

Production Casing

5 1/2" 15.5#

Cement 1,630 sx

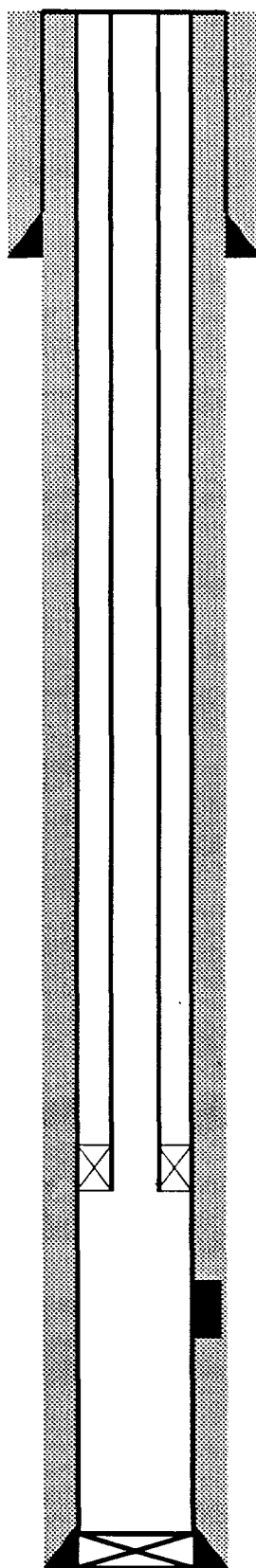
Shoe @ 6,300'

SC @ 3,009'

PKR @ 6,171'

Perfs @ 6,250-70'

TD @ 6,300'



WELLBORE SCHEMATIC

Empire Abo Unit H-30

660' FSL & 1980' FWL

Sec. 33, T-17S, R-28E, Eddy County, NM

Spudded 05/08/60

Completed 06/15/60

T&A'd 06/14/91

Surface Casing
8 5/8" 22.74#
Circ Cmt to Surf 650 sx

TOC @ 840' by TS

Shoe @ 1,000'

Tubing T&A'd

CIBP @ 6,116'

Perfs @ 6,128'-36'

Perfs @ 6,169'-82' (sqzd)

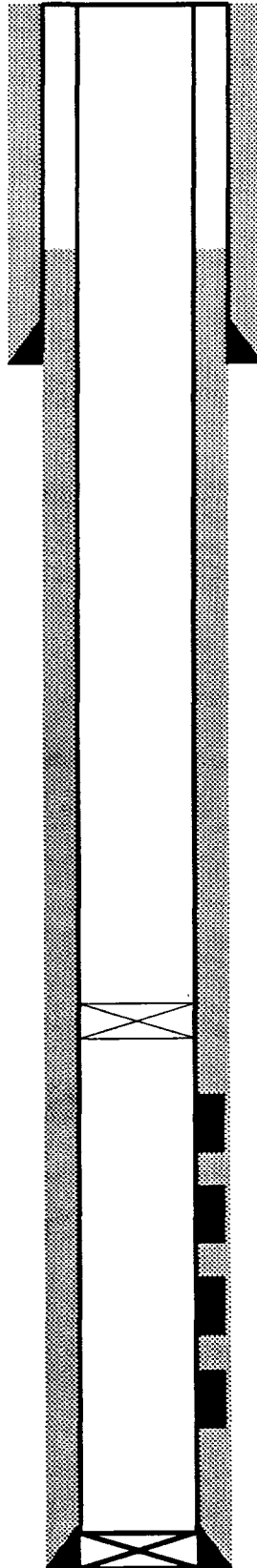
Perfs @ 6,202'-22'

Perfs @ 6,233'-72' (sqzd)

TD @ 6,335'

Production Casing
4 1/2" 9.5# & 11.6#
Cement 1,000 sx

Shoe @ 6,355'



WELLBORE SCHEMATIC

Empire Abo Unit H-301

Surface Casing
8 5/8" 24#
w/FS & FC
Circ w/ 350 sx

FC @ 503'
Shoe @ 595'

Tubing
2 3/8" w/PKR
to 5962' to T&A
Well

Production Casing
5 1/2" 15.5#
Cement w/1125sx
(Circ cmt)
FS @ 6368'
FC @ 6318'
w/DV Tool

Shoe @ 6368'

150' FSL & 1650' FWL
Sec. 33, T-17S, R-28E,
Eddy County, NM
Spudded 4/15/78
Completed 5/13/78
T&A'd 4/17/92 w/Tbg
in Hole

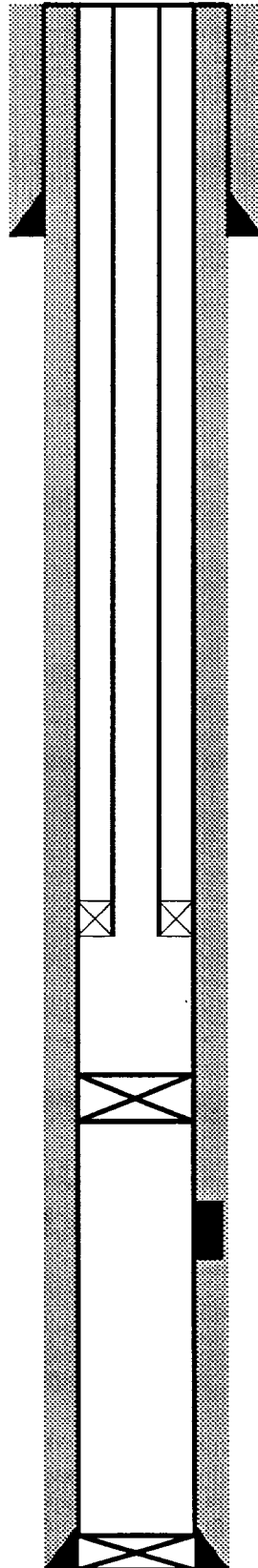
DV Tool @ 3013'

CIBP @ 6025'

Perfs @ 6162-76' (T&A'd)

PBTD 6282'

TD @ 6378'



WELLBORE SCHEMATIC

Empire Abo Unit H-302

1250' FSL & 1925' FWL
Sec. 33, T-17S, R-28E,
Eddy County, NM
Spudded 8/7/78
Completed 9/2/78
T&A'd 5/27/92

Surface Casing
8 5/8"
Circ w/450 sx cmt

Shoe @ 750'

DV Tool @ 3023'

Tubing
2 3/8" @ 6078'
Baker Lok-Set
Pkr @ 6082'

Production Casing
5 1/2" 15.5# @
Cement w/1365sx
(Circ cmt)

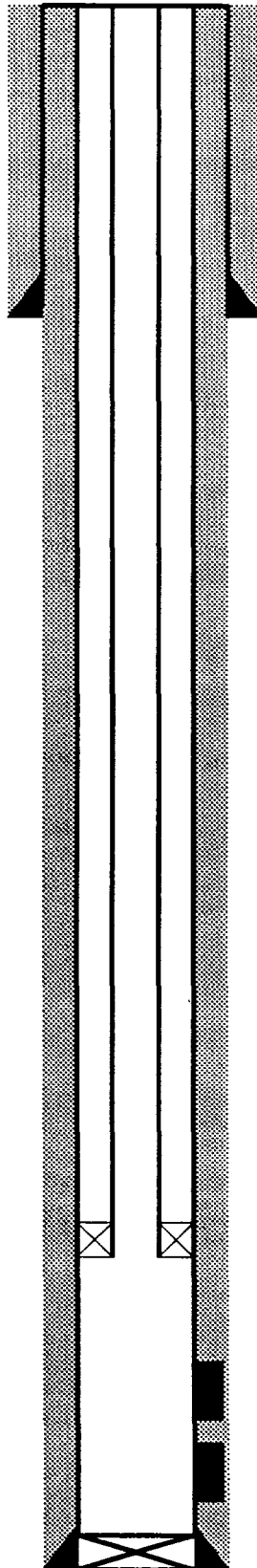
Shoe @ 6283'

Perfs @ 6120-33'

Perfs @ 6170-90' (Sqzd)

PBTD 6150'

TD @ 6283'



WELLBORE SCHEMATIC

Empire Abo Unit H-303

800' FSL & 1340' FWL
Sec. 33, T-17S, R-28E,
Eddy County, NM
Spudded 11/17/78
Completed 3/10/79
T&A'd 6/25/91

Surface Casing
8 5/8" 24# @600'
Circ w/400sx cmt

Shoe @ 600'

Tubing (Pulled due to
T&A)

SC @ 3025'

CIBP @ 6180'

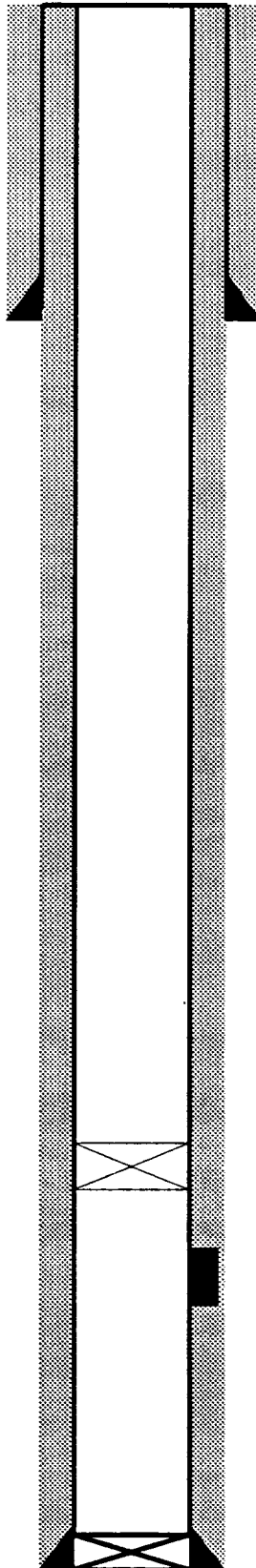
Perfs @ 6195'-Pengo Sleeve

Production Casing
5 1/2" 15.5#
Cement w/1275sx
(Circ cmt w/SC @3025')

PBTD 6271'

Shoe @ 6325

TD @ 6325'



WELLBORE SCHEMATIC

Empire Abo Unit H-31

973.31' FSL & 1980' FEL

Sec. 33, T-17S, R-28E, Eddy County, NM

Spudded 07/04/60

Completed 07/23/60

T&A'd 05/31/91

P&A'd Approved 10/91 (no record of
P&A procedures)

Surface Casing
8 5/8" 22.7#
Circ Cmt to Surf 500 sx

Shoe @ 1,000'

TOC @ 1,040' by TS

Tubing T&A'd

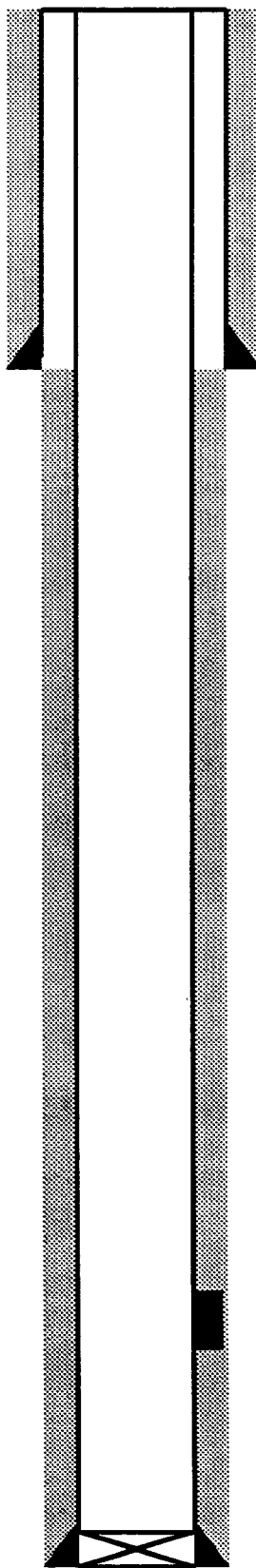
Production Casing
4 1/2" 9.5# & 11.6#
Cement 1,000 sx

Perfs @ 6,233'-6,257'

PBTD @ 6,308'

Shoe @ 6,338'

TD @ 6,338'



WELLBORE SCHEMATIC

Empire Abo Unit H-311

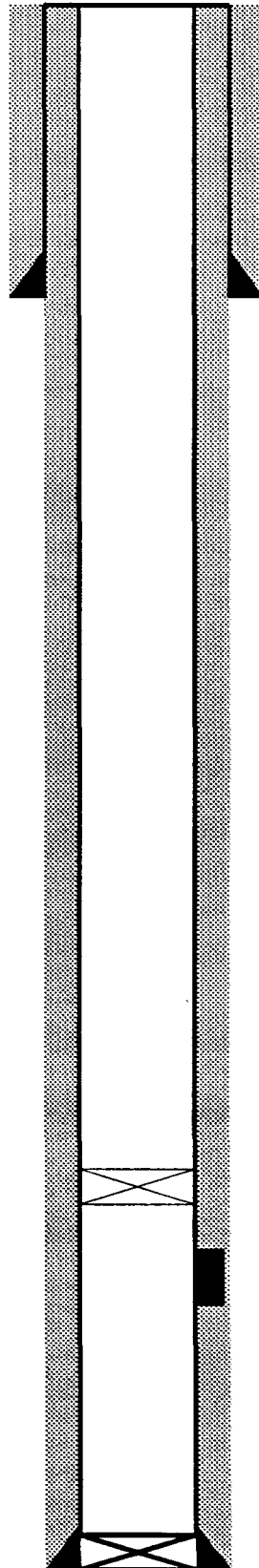
2490' FEL & 313' FSL
Sec. 33, T-17S, R-28E, Eddy County, NM
Spudded 04/26/77
T&A'd 07/19/89

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 25 sx
FC @ 465'
Shoe @ 550'

Tubing T&A'd

Production Casing
5 1/2" 15.5#
w/ ECP @ 5,045'
Cement 1,325 sx

Shoe @ 6,362'



DV Tool @ 5003'

CIBP @ 5,880'

Perfs @ 6,044'-54'

TD @ 6,362'

WELLBORE SCHEMATIC

Empire Abo Unit H-312

**815' FSL & 2525' FWL
Sec. 33, T-17S, R-28E,
Eddy County, NM
Spudded 8/22/78
Completed N/A
T&A'd 6/20/91**

Surface Casing
8 5/8" 24# @ 600'
Circ w/400sx cmt

Shoe @ 778' & ECP
@ 465' w/600 sx

2 3/8" w/TS @ 6036.21'

Production Casing
5 1/2" 15.5#
Circ Cmt w/SC @ 3978'
w/1455 sx

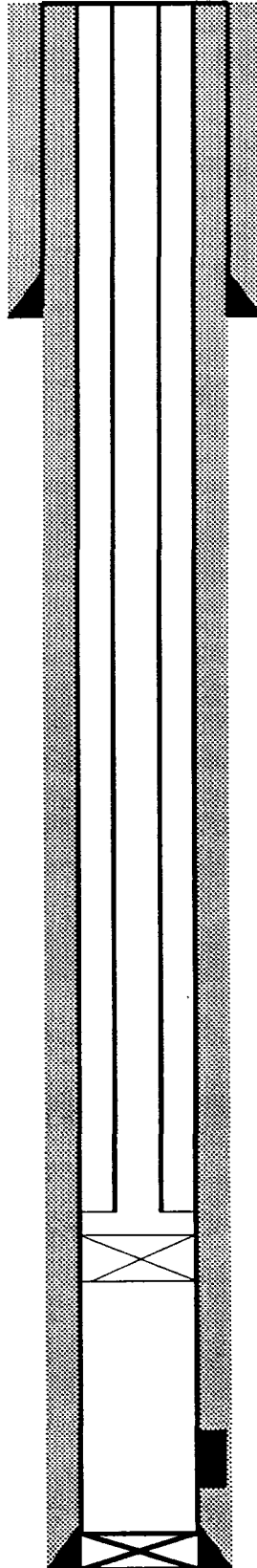
Shoe @ 6405'

CIBP @ 6042.31'

Perfs @ 6058-6072'

PBTD 6110'

TD @ 6405'



WELLBORE SCHEMATIC

Empire Abo Unit H-32

990' FSL & 660' FEL
Sec. 33, T-17S, R-28E, Eddy County, NM
Spudded 06/15/60
Completed 07/11/60
T&A'd 08/19/79

Surface Casing
8 5/8"
Circ Cmt to Surf 550 sx

Shoe @ 1,000'

TOC @ 1,520' by TS

Tubing T&A'd

Production Casing
4 1/2"
Cement 1,000 sx

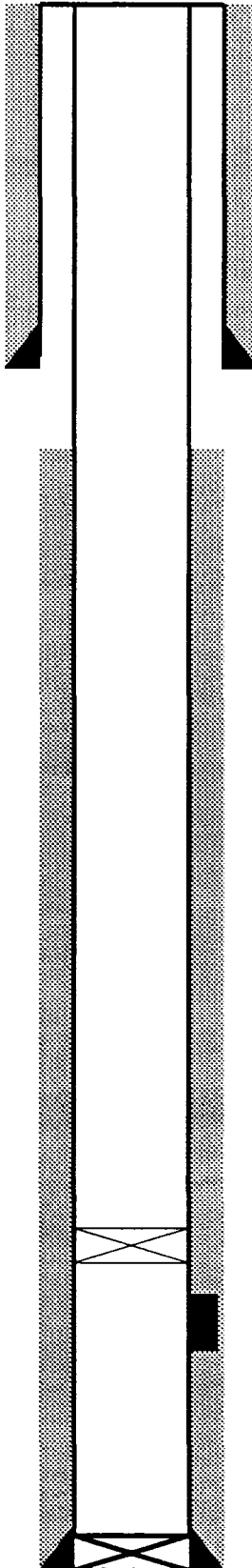
Shoe @ 6,345'

CR @ 6,200'

Perfs @ 6,212'-24' (sqzd)

PBTD @ 6,323'

TD @ 6,345'



WELLBORE SCHEMATIC

Empire Abo Unit H-321

1050' FSL & 250' FEL
Sec. 33, T-17S, R-28E,
Eddy County, NM
Spudded 2/22/78
Completed 3/18/78

Surface Casing
8 5/8" 24#
Circ w/290 sx cmt

Shoe @ 612'

2 3/8" Tbg @ 6163'
w/BP, PN, SN @ 6126',
TAC @ 6123'

DV Tool @ 3,002'

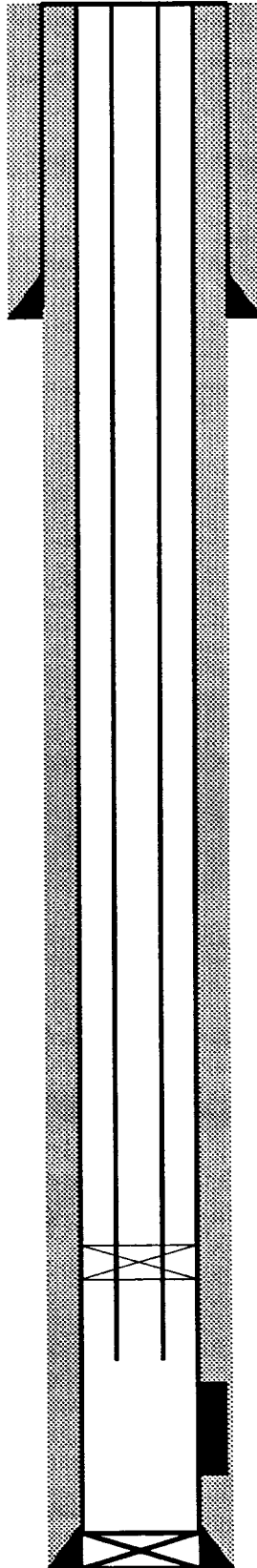
Production Casing
5 1/2" 15.5#
Circ Cmt w/1455 sx

Shoe @ 6317'

Perfs @ 6174-6184'

PBTD 6221'

TD @ 6378'



WELLBORE SCHEMATIC

Empire Abo Unit H-322

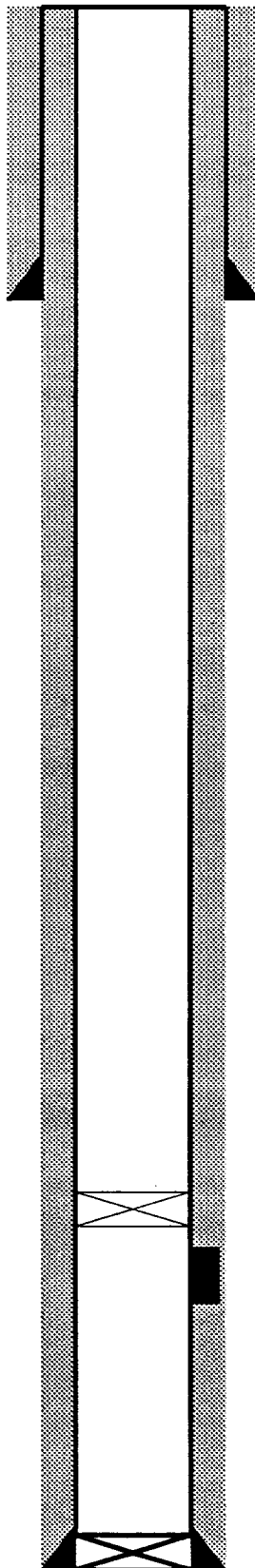
750' FSL & 1150' FEL
Sec. 33, T-17S, R-28E, Eddy County, NM
Spudded 03/28/78
Completed 01/04/79
T&A'd 06/19/91

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 300 sx
FC @ 504'
Shoe @ 600'

Tubing T&A'd

Production Casing
5 1/2" 15.5#
Cement 1,275 sx

Shoe @ 6,262'



CIBP @ 6,147'

Perfs @ 6,150'-6160'

PBTD @ 6,190'

TD @ 6,290'

WELLBORE SCHEMATIC

Empire Abo Unit H-33

330' FWL & 975.3' FSL

Sec. 34, T-17S, R-28E, Eddy County, NM

Spudded 05/19/60

Completed 06/16/60

Surface Casing
8 5/8" 22.7#
Circ Cmt to Surf 500 sx

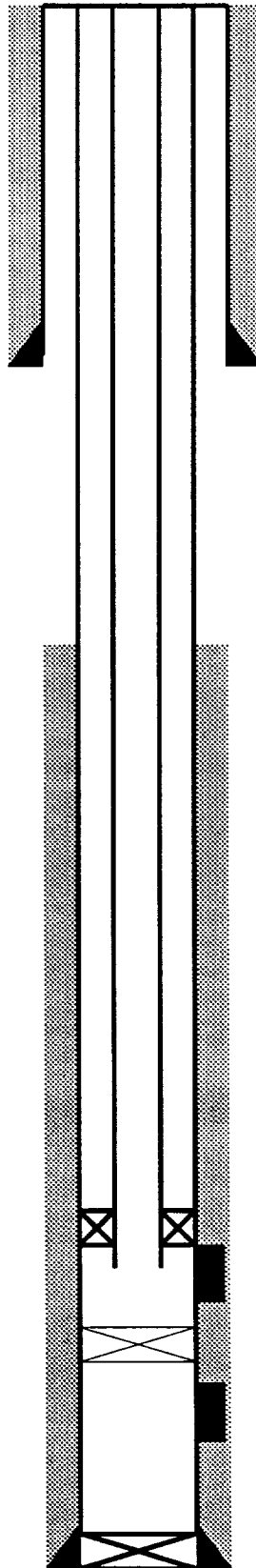
Shoe @ 1,228'

2 3/8" TBG @ 6,138'
w/SN & PKR (196jts)

TOC @ 2,780' (calc)

Production Casing
4 1/2" 9.5#
Cement 850 sx

Shoe @ 6,337'



Perfs @ 6,133'-6,158'

PBTD/WL CIBP @ 6,165'

Perfs @ 6,172'-6,190'

TD @ 6,337'

WELLBORE SCHEMATIC

Empire Abo Unit H-331

1000' FSL & 1,200' FWL

Sec. 34, T-17S, R-28E, Eddy County, NM

Spudded 02/23/78

T&A'd 05/24/91

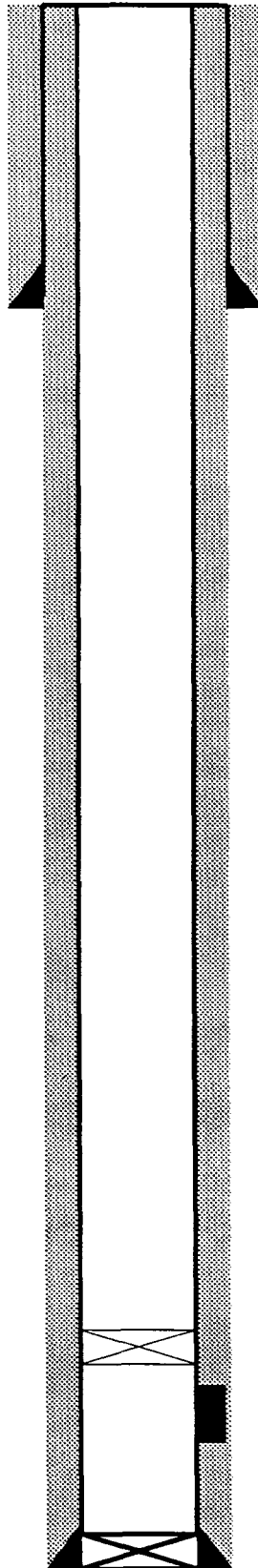
Surface Casing

8 5/8" 24#

Circ Cmt to Surf 300 sx

FC @ 510'

Shoe @ 600'



DV Tool @ 3003'

Production Casing

5 1/2" 15.5#

Cement 1,725 sx

CIBP @ 6,213.86'

Perfs @ 6,236'-6246'

PBTD @ 6,258'

Shoe @ 6,370'

TD @ 6,370'

WELLBORE SCHEMATIC

Empire Abo Unit H-34

1650' FWL & 973' FWL

Sec. 34, T-17S, R-28E,

Eddy County, NM

Spudded 6/16/60

Completed 7/2/60

T&A'd 5/12/92

Surface Casing

8 5/8" 22.7#

Circ w/500 sx cmt

Shoe @ 790'

TOC @ 1,850 (TS)

Tbg

2 3/8" w/Pkr @ 6190'

Production Casing

4 1/2" 9.5#

Circ Cmt w/770 sx

TOC @ 1850' by TS

Perfs @ 6136-6149' (sqz'd)

Baker Model R @ 6190'

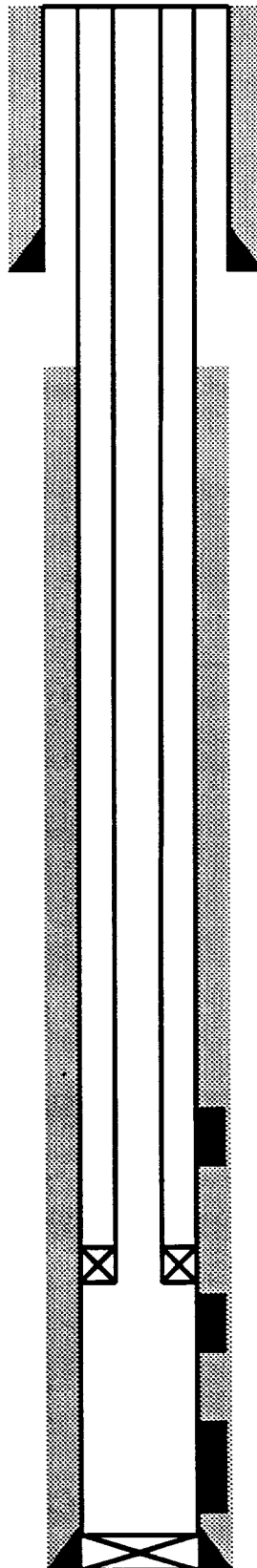
Perfs @ 6228-6242' (sqz'd)

Perfs @ 6280-6290'

PBTD 6299'

TD @ 6335'

Shoe @ 6335'



WELLBORE SCHEMATIC

Empire Abo Unit H-341

1200' FSL & 2500' FWL

Sec. 34, T-17S, R-28E,

Eddy County, NM

Spudded 6/7/79

Completed 7/7/79

Surface Casing

8 5/8" 24#

Circ w/500 sx cmt

Shoe @ 744'

DV Tool @ 3034'

2 3/8" Tbg (196 Jts)

w/Pkr & Jet Pmp

@ 6148'

Production Casing

5 1/2" 15.5#

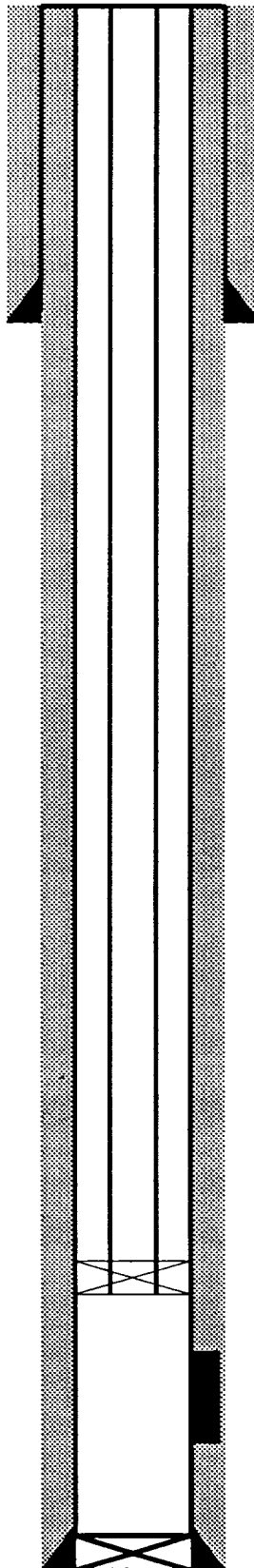
Circ Cmt w/1224 sx

Perfs @ 6205-6225'

Shoe @ 6360'

PBTD 6314'

TD @ 6360'



WELLBORE SCHEMATIC

Empire Abo Unit H-35

969.94' FSL & 2,274.16' FEL
Sec. 34, T-17S, R-28E, Eddy County, NM
Spudded 02/23/60
P&A'd 05/11/90 (as per NM OCD
Regulations)

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 350 sx

Shoe @ 806'

730 sx from 856' to surf.

60 sx from 1,392'-1,530'

25 sx from 2,237'-2,469'

25 sx from 3,700'-3,946'

25 sx from 4,765'-5,011'

40 sx from 5,720'-6,114'

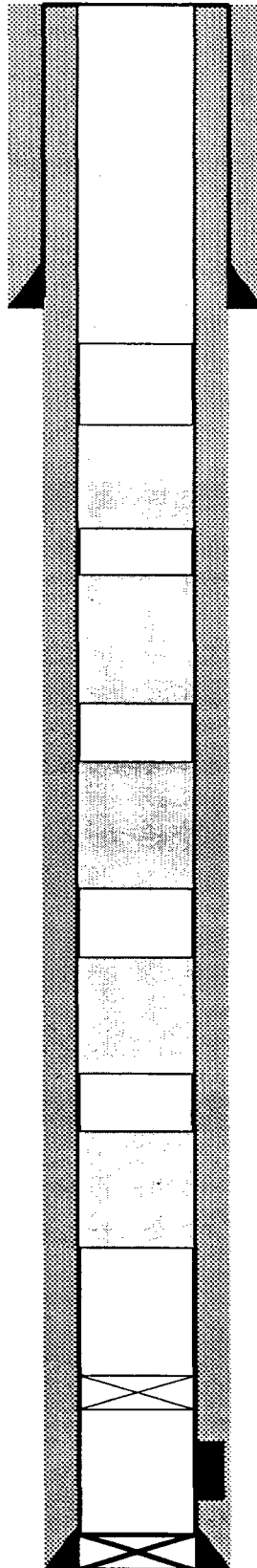
Production Casing
5 1/2" 15.5# & 14#
Cement 200 sx

Shoe @ 6,289'

CIBP @ 6,114'

Perfs @ 6,289'-6299'

TD/PBTD @ 6,299'



WELLBORE SCHEMATIC

Empire Abo Unit I-18

660' FNL & 1980' FWL

Sec. 1, T-18S, R-27E, Eddy County, NM

Spudded 07/14/59

Completed 09/08/59

Surface Casing

8 5/8"

Cmt to Surface 600 sx

Shoe @ 1515'

Tubing

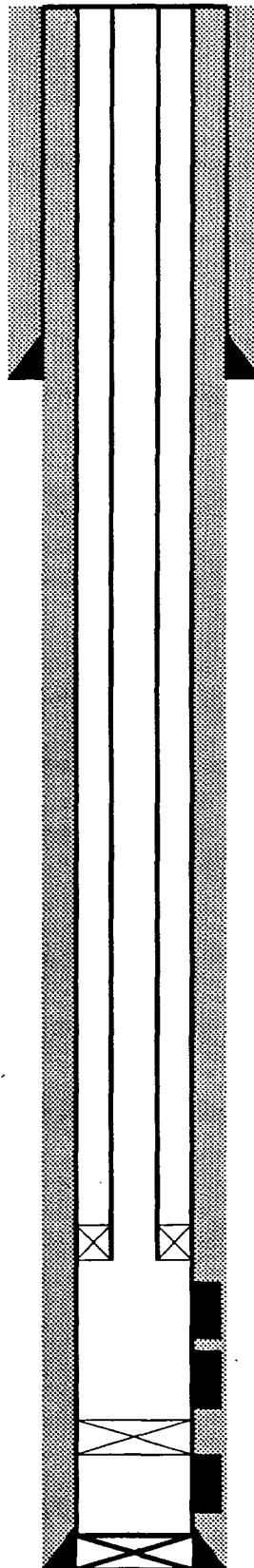
2 3/8"

Production Casing

4 1/2"

Cement 650 sx

Shoe @ 6,190'



TOC @ 2325' by TS, sqz'd 4 1/2" csg
2300' to surf w/ 600 sx (3/76)

Junked original well w/ 4 1/2" csg
failure during cmt job. Sidetracked
well fr/ 2,979' back to TD.

Packer @ 5,535'

Perfs @ 5,630'-5,635'

Perfs @ 5,696'-5,703'

PBTD @ 5,832'

Perfs @ 5,872'-5,892'

7 7/8" hole TD @ 6,190'

WELLBORE SCHEMATIC

Empire Abo Unit I-19

660' FNL & 1980' FEL

Sec. 1, T-18S, R-27E, Eddy County, NM

Spudded 06/03/59

Completed 07/07/59

Surface Casing
8 5/8"
Cmt to Surface 750 sx

Shoe @ 1,490'

TOC @ 1,385' by TS

Tubing:
No record since 1959

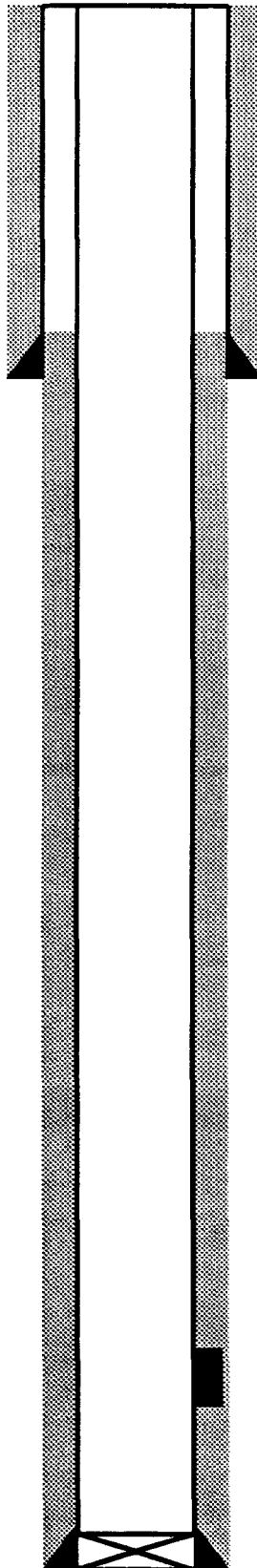
Production Casing
4 1/2"
Cement 700 sx

Perfs @ 5,954'-6,028'

Shoe @ 6,068'

PBTD @6,039'

7 7/8" hole TD @ 6,078'



WELLBORE SCHEMATIC

Empire Abo Unit I-20

667.12' FNL & 666.05' FEL
Sec. 1, T-18S, R-27E, Eddy County, NM
Spudded 10/07/59
Completed 11/05/59

Surface Casing
8 5/8"
Cmt to Surface 700 sx

Shoe @ 1,483'

TOC @ 1,425' by calc

Tubing 2 3/8" w/ SN

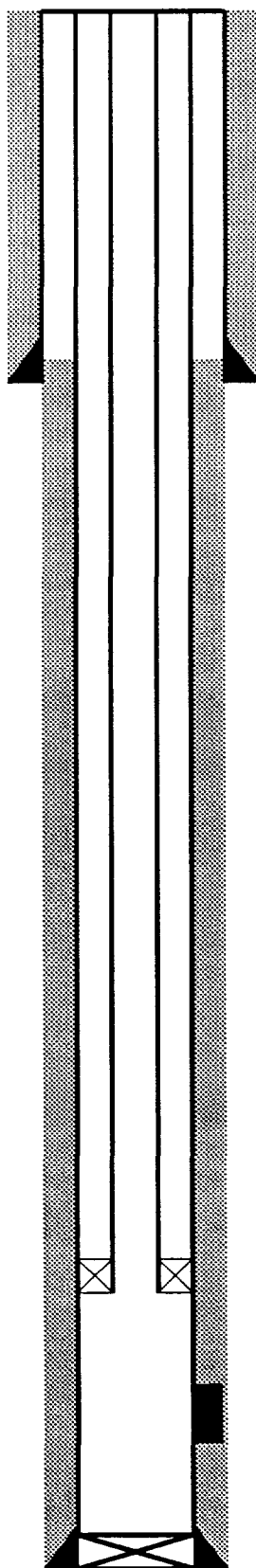
Production Casing
4 1/2"
Cement 850 sx

Packer Guiberson KVL-30
@ 5,974' (02/92)

Perfs @ 6,026'-6,064'

Shoe @ 6,118'

PBTD @ 6,081'
7 7/8" hole TD @ 6,118'



WELLBORE SCHEMATIC

Empire Abo Unit I-21

990' FNL & 660' FWL
Sec. 6, T-18S, R-28E, Eddy County, NM
Spudded 12/08/59
Completed 01/01/60

Surface Casing
8 5/8"
Cmt to Surface 350 sx

Shoe @ 971'

TOC @ 1,548' by calc

Tubing 2 3/8"

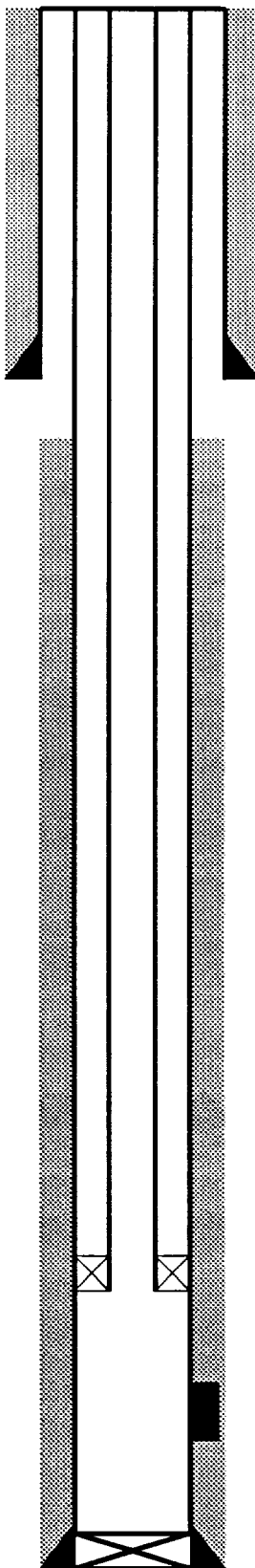
Production Casing
5 1/2"
Cement 850 sx

Shoe @ 6,119'

Packer @ 5,992'

Perfs @ 6,020'-6,070'

PBTD @ 6,084'
7 7/8" hole TD @ 6,119'



WELLBORE SCHEMATIC

Empire Abo Unit I-22

660' FNL & 1,980' FWL

Sec. 6, T-18S, R-28E, Eddy County, NM

Spudded 11/29/59

Completed 01/01/60

Surface Casing

8 5/8"

Cmt to Surface 600 sx

Shoe @ 998'

TOC @ 1,062' by TS

Tubing 2 3/8" (181 jts)

Production Casing

5 1/2"

Cement 850 sx

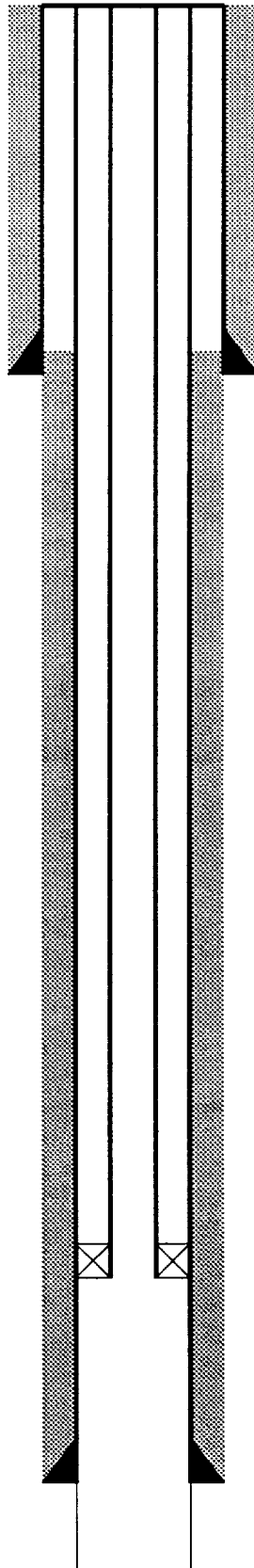
Packer @ 5,616' (04/91)

Shoe @ 5,968'

Open Hole Completion

PBTD - Open Hole

7 7/8" hole TD @ 6,033'



WELLBORE SCHEMATIC

Empire Abo Unit I-23

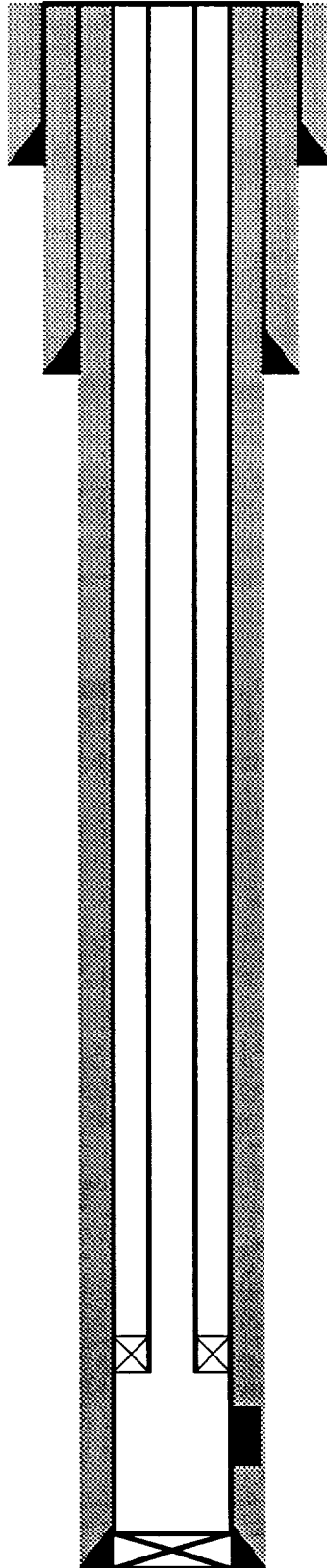
Surface Casing
10 3/4"
Cmt to Surface NA
Shoe @ 390'

Intermediate Casing
8 5/8"
Cmt to Surface NA
Shoe @ 975'

Tubing 2 3/8" (193 jts)

Production Casing
5 1/2"
Cement 350 sx
TOC 4270 by CBL

Shoe @ 6,194'



470' FNL & 2,170' FEL
Sec. 6, T-18S, R-28E, Eddy County, NM
Spudded 10/12/59
Completed 12/26/59

TOC @ surf.

4,175'-sqz'd holes w/ 1200 sx,
circ cmt to surf.

Packer Mod "R" @ 6,025' (04/92)

Perfs @ 6,070'-6,120'

PBTD 6,182'

7 7/8" hole TD @ 6,194'

WELLBORE SCHEMATIC

Empire Abo Unit I-23-1

1,260' FNL & 1,580' FEL
Sec. 6, T-18S, R-28E, Eddy County, NM
Spudded 09/01/75
Completed 11/01/75

Surface Casing
8 5/8"
Cmt to Surface 450 sx

Shoe @ 1,002'

TOC @ surf.

Tubing 2 3/8" w/ SN (198 jts)

DV tool. @ 4,242'

Production Casing
5 1/2"
Cement 1175 sx

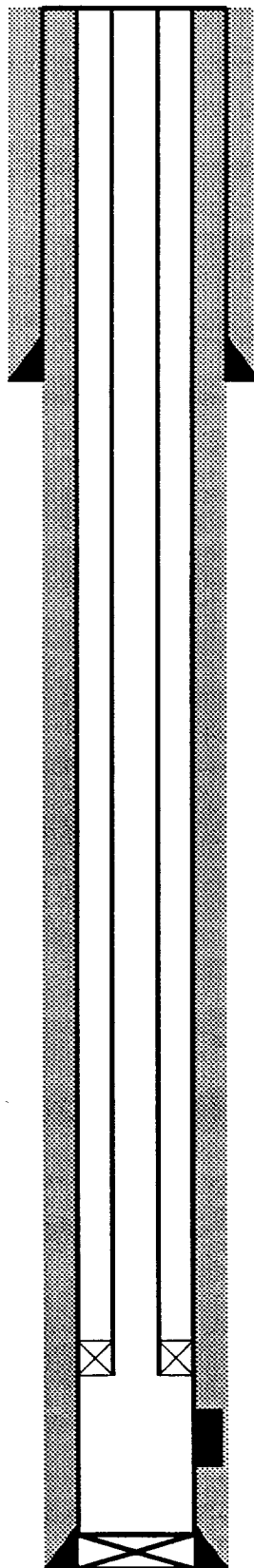
5,995'-5,996' Blk sqz'd w/ 225 sx

Packer Lok-set @ 6,088' (01/81)

Perfs @ 6,109'-6,145'

Shoe @ 6,261'

PBTD 6,222'
7 7/8" hole TD @ 6,261'



WELLBORE SCHEMATIC

Empire Abo Unit I-24

660' FNL & 660' FEL
Sec. 6, T-18S, R-28E, Eddy County, NM
Spudded 01/28/60
Completed 03/02/60

Surface Casing
8 5/8"
Cmt to Surface 250 sx

Shoe @ 633'

TOC @ surf. Circ. via perfs @
2,522' w/ 830 sx cmt.

Tubing 2 3/8" w/ SN (193 jts)

TOC @ 3,365' by CBL

Production Casing
5 1/2"
Cement 450 sx

Packer Lok-set @ 6,083' (10/90)

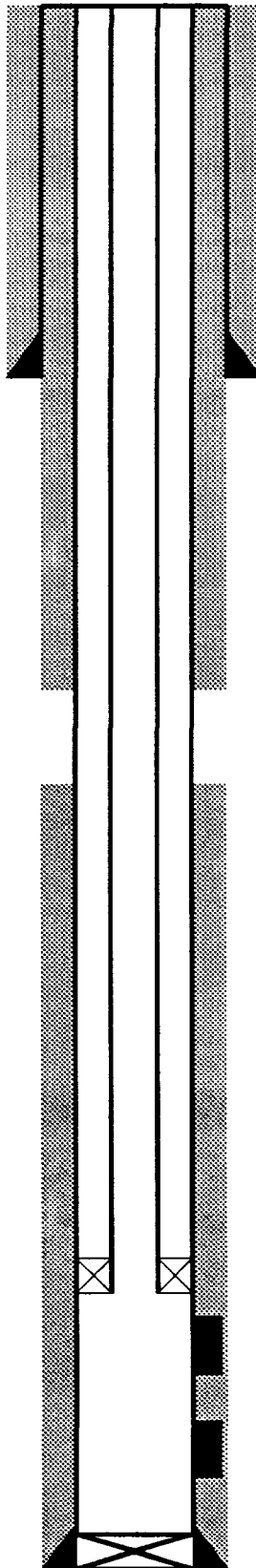
Perfs @ 6,103'-6,118' (sqz'd)

Perfs @ 6,186'-6,196'

Shoe @ 6,241'

PBTD 6,205'

7 7/8" hole TD @ 6,241'



WELLBORE SCHEMATIC

Empire Abo Unit I-25

660' FNL & 660' FWL

Sec. 5, T-18S, R-28E, Eddy County, NM

Spudded 02/28/60

Completed 03/30/60

Surface Casing

8 5/8"

Cmt to Surface

Shoe @ 1,186'

Tubing:

No Record

Production Casing

5 1/2"

Cement 850 sx

Shoe @ 6,273'

TOC @ 1,275' by T.S.

Packer @ 6,071

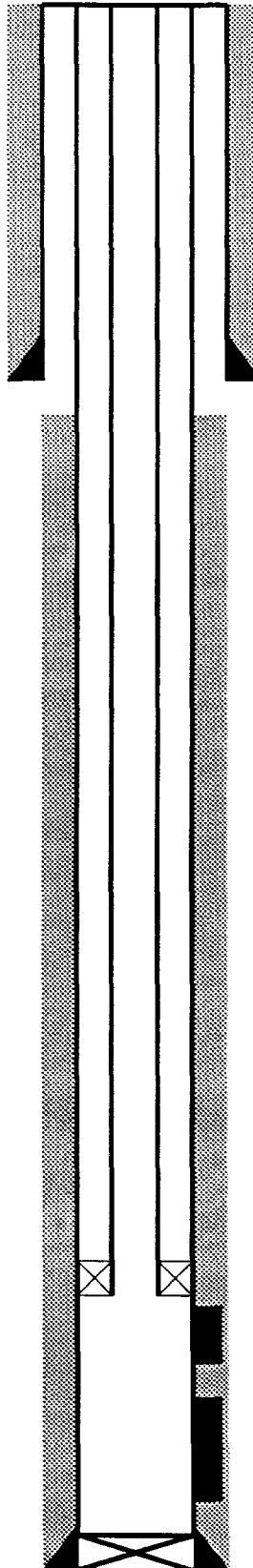
Perfs @ 6,058'-6,062' (sqz'd)

Perfs @ 6,122'-6,168' (sqz'd)

Perfs @ 6,150'-6,158'

PBTD 6,238'

7 7/8" hole TD @ 6,273'



WELLBORE SCHEMATIC

Empire Abo Unit I-25-1

660' FNL & 150' FWL
Sec. 5, T-18S, R-28E, Eddy County, NM
Spudded 12/22/78
Completed 01/12/79
T&A'd 05/12/92

Surface Casing
8 5/8"
Cmt to Surface
400 sx

Shoe @ 745'

TOC @ surf.

Tubing 2 3/8"

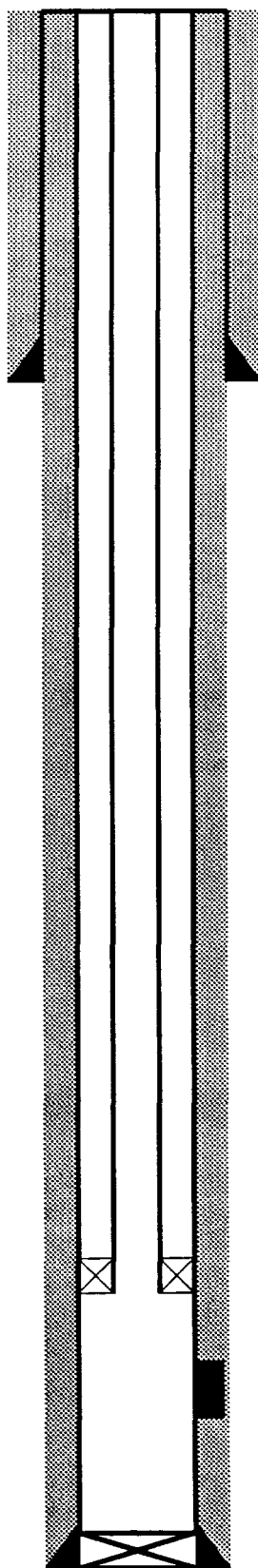
Production Casing
5 1/2"
Cement 1,350 sx
in 2 stages

Shoe @ 6,245'

Packer @ 5,943'

Perfs @ 6,012'-6,034'

PBTD 6,185'
7 7/8" hole TD @ 6,240'



WELLBORE SCHEMATIC

Empire Abo Unit I-26

330' FNL & 1,941.06' FWL

Sec. 5, T-18S, R-28E, Eddy County, NM

Spudded 07/06/60

Completed 07/21/60

Surface Casing
8 5/8"
Cmt to Surface

Shoe @ 755'

TOC @ 895' by T.S.

Tubing 2 3/8" (192 jts)

Production Casing
5 1/2"
Cement 850 sx

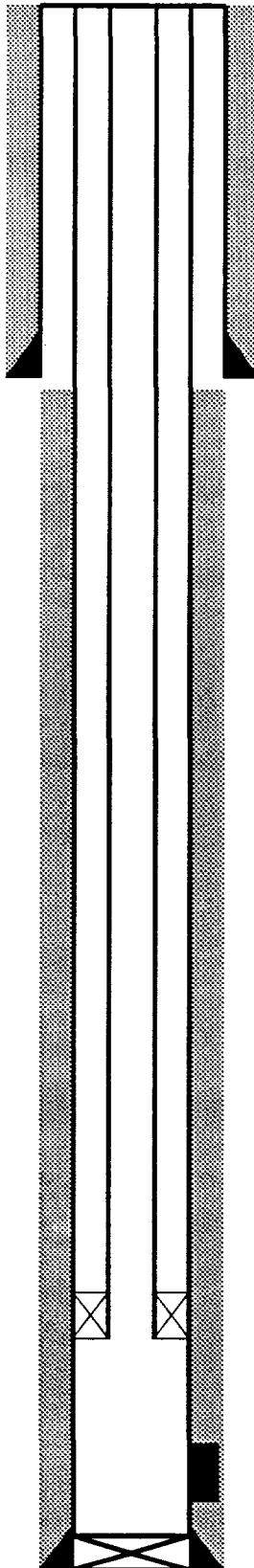
Baker Lok-set Packer @ 6,017'

Perfs @ 6,060-6,096'

PBTD @ 6,218'

7 7/8" hole TD @ 6,254'

Shoe @ 6,254'



WELLBORE SCHEMATIC

Empire Abo Unit I-261

1,080' FNL & 1,914' FWL
Sec. 5, T-18S, R-28E, Eddy County, NM
Spudded 12/03/78
Completed 01/04/79

Surface Casing
8 5/8"
Cmt to Surface 400 sx

Shoe @ 550'

Tubing 2 3/8" (196 jts)
@ 6,102'

DV Tool @ 3,007'

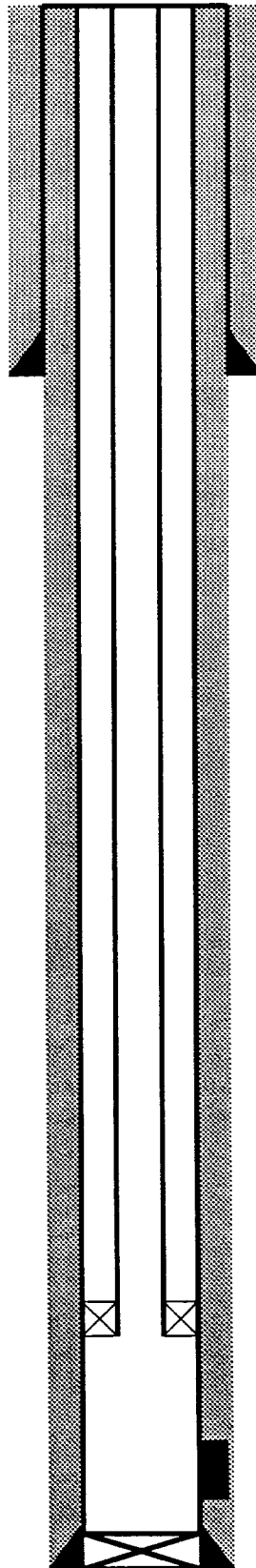
Baker Mod 'R' Packer
w/ SN @ 6,102'

Production Casing
5 1/2"
Cement 1,325 sx

Perfs @ 6,174-6,204'

Shoe @ 6,345'

7 7/8" hole TD @ 6,350'



WELLBORE SCHEMATIC

Empire Abo Unit I-27

330' FNL & 2,271.06' FEL

Sec. 5, T-18S, R-28E, Eddy County, NM

Spudded 03/08/60

Completed 04/02/60

TOC @ 90' by T.S.

Surface Casing

8 5/8"

Cmt to Surface

Shoe @ 1,255'

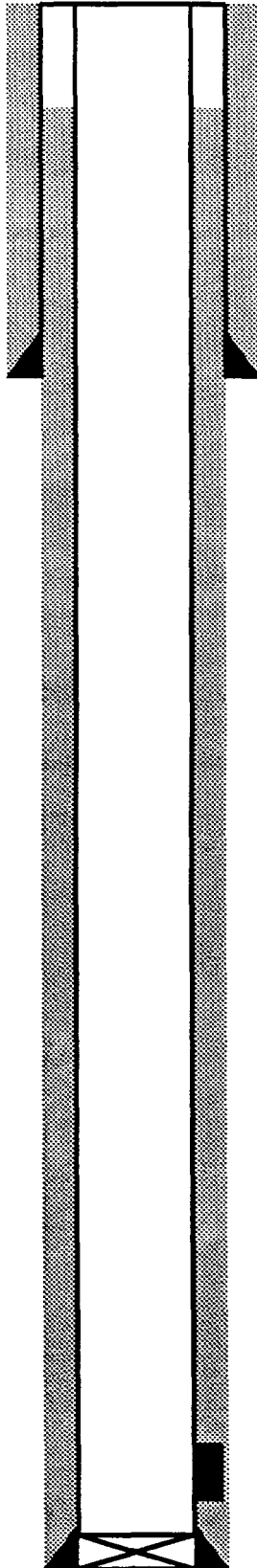
Tbg. NA

Production Casing

4 1/2"

Cement 900 sx

Shoe @ 6,261'



Perfs @ 6,140-6,197"

PBTD @ 6,228'

7 7/8" hole TD @ 6,261'

WELLBORE SCHEMATIC

Empire Abo Unit I-271

670' FNL & 1,700' FEL

Sec. 5, T-18S, R-28E, Eddy County, NM

Spudded 03/17/76

Completed 04/12/76

Surface Casing
8 5/8"
Cmt to Surface 700 sx

Shoe @ 535'

Tubing 2 3/8" (201 jts)
w/ TAC, SN, PN & MA
@ 6,238'

TAC @ 6,238'

Production Casing
5 1/2"
Cement 1,230 sx

Shoe @ 6,350'

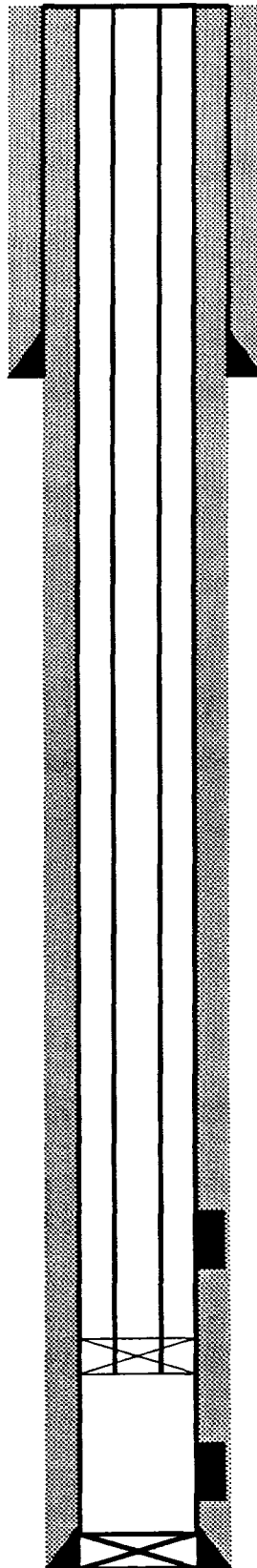
DV Tool @ 4,012'

Perfs @ 6,174 - 6,184' (sqz'd)

Perfs @ 6,250-6,260"

PBTD @ 6,287'

7 7/8" hole TD @ 6,400'



WELLBORE SCHEMATIC

Empire Abo Unit I-272

1,300' FNL & 2,345' FEL

Sec. 5, T-18S, R-28E, Eddy County, NM

Spudded 06/09/78

Completed 07/25/78

Surface Casing

8 5/8"

Cmt to Surface 332 sx

Shoe @ 550'

Tubing 2 3/8" (201 jts)

w/ SN, PN & MA @ 6,233'

DV Tool @ 3,060'

Production Casing

5 1/2"

Cement 1,655 sx

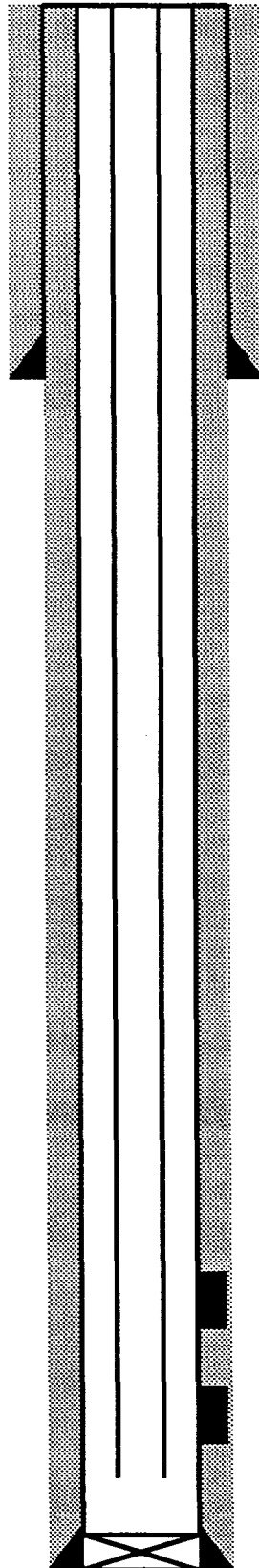
Perfs @ 6,076 - 6,090' (sqz'd)

Perfs @ 6,190-6,210'

PBTD @ 6,283'

7 7/8" hole TD @ 6,350'

Shoe @ 6,350'



WELLBORE SCHEMATIC

Empire Abo Unit I-273

1,300' FNL & 1,595' FEL
Sec. 5, T-18S, R-28E, Eddy County, NM
Spudded 05/24/78
Completed 06/19/78

Surface Casing
8 5/8"
Cmt to Surface 310 sx

Shoe @ 550'

DV Tool @ 3,034'

Tubing 2 3/8" (198 jts)
w/ TAC, SN, PN & MA
@ 6,176'

Production Casing
5 1/2"
Cement 1,307 sx

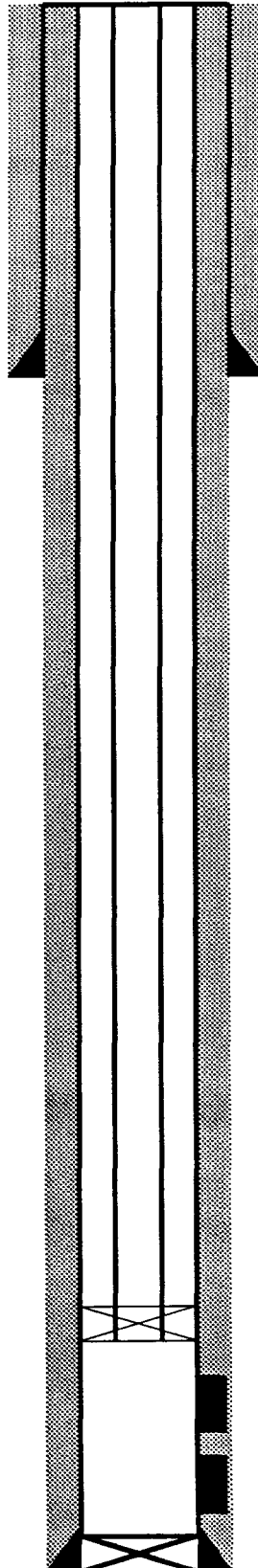
Shoe @ 6,351'

Perfs @ 6,200 - 6,210'

Perfs @ 6,249-6,259' (sqz'd)

PBTD @ 6,230'

7 7/8" hole TD @ 6,357'



WELLBORE SCHEMATIC

Empire Abo Unit I-28

660' FNL & 660' FEL
Sec. 5, T-18S, R-28E, Eddy County, NM
Spudded 01/28/60
Completed 02/21/60

Surface Casing
8 5/8"
Cmt to Surface 500 sx

Shoe @ 1,190'

Tubing 2 3/8"

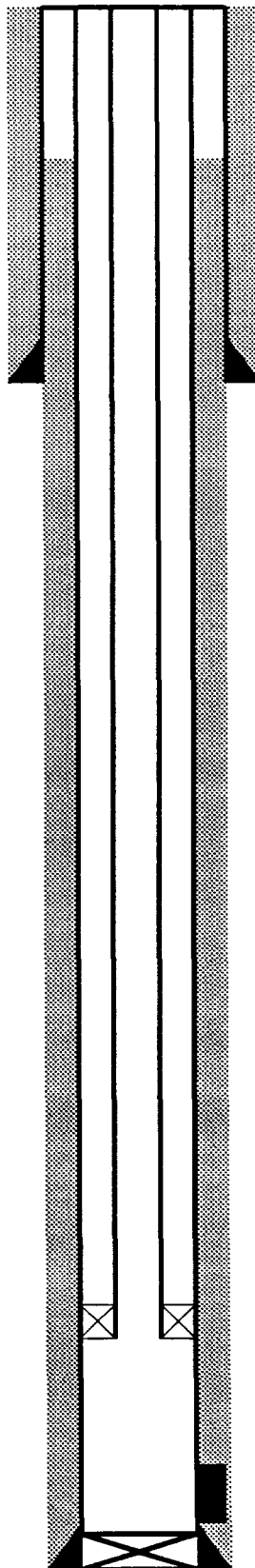
PKR w/ SN @ 6,129'

Production Casing
4 1/2"
Cement 750 sx

Shoe @ 6,315'

TOC @ 400' by T.S.

Perfs @ 6,230-6,285'
PBD @ 6,285'
7 7/8" hole TD @ 6,290'



WELLBORE SCHEMATIC

Empire Abo Unit I-281

450' FEL & 700' FNL

Sec. 5, T-18S, R-28E, Eddy County, NM

Spudded 02/27/77

Completed 03/18/77

Surface Casing
8 5/8"
Cmt to Surface 225 sx

Shoe @ 550'

TOC @ 600' (calc)

Tubing 2 3/8"
w/ PN, BP & SN @ 6,149'

PKR @ 6,113'
TAC @ 6,149'

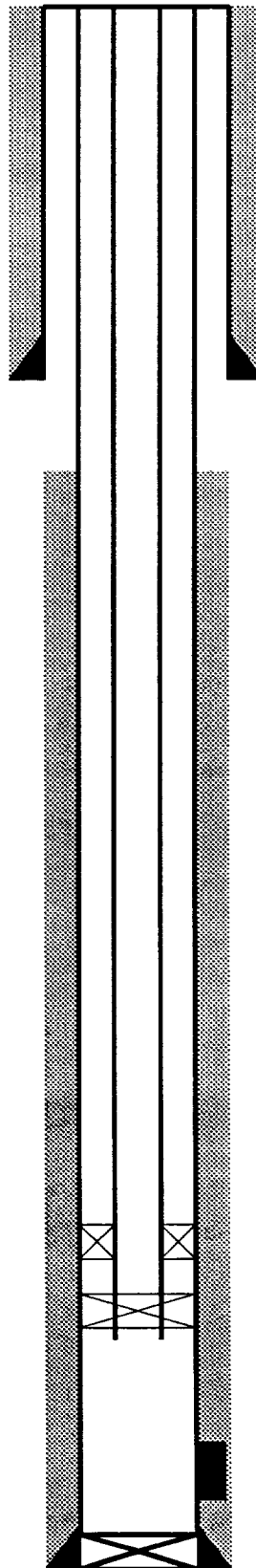
Production Casing
5 1/2"
Cement 1,725 sx

Shoe @ 6,362'

Perfs @ 6,208-6,224"

PBTD @ 6,258' (CR)

7 7/8" hole TD @ 6,362'



WELLBORE SCHEMATIC

Empire Abo Unit I-282

1,150' FNL & 1,270' FEL

Sec. 5, T-18S, R-28E, Eddy County, NM

Spudded 05/04/78

Completed 09/26/78

Surface Casing

8 5/8"

Cmt to Surface 200 sx

Shoe @ 550'

TOC @ 3,500' (calc)

Tubing 2 3/8"

w/ SN @ 6,055'

PKR @ 6,092'

Production Casing

5 1/2"

Cement 1,175 sx

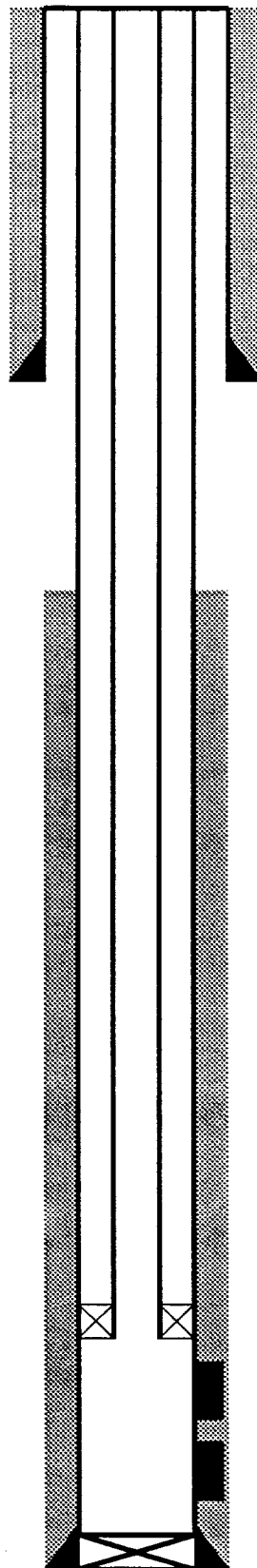
Perfs @ 6,170-6,180'

Perfs @ 6,220-6,240'

PBTD @ 6,200'

7 7/8" hole TD @ 6,370'

Shoe @ 6,370'



WELLBORE SCHEMATIC

Empire Abo Unit I-283

175' NL & 300' FEL
Sec. 5, T-18S, R-28E,
Eddy County, NM
Spudded 9/9/78
Completed 10/15/78

Surface Casing
8 5/8" 24#
Circ cmt w/350 sx

Shoe @ 580'

Perf 1095'
Circ 335 sx to Surf.

2 3/8" Tbg (197 Jts)
w/MA,SN,&PN
@ 6121'

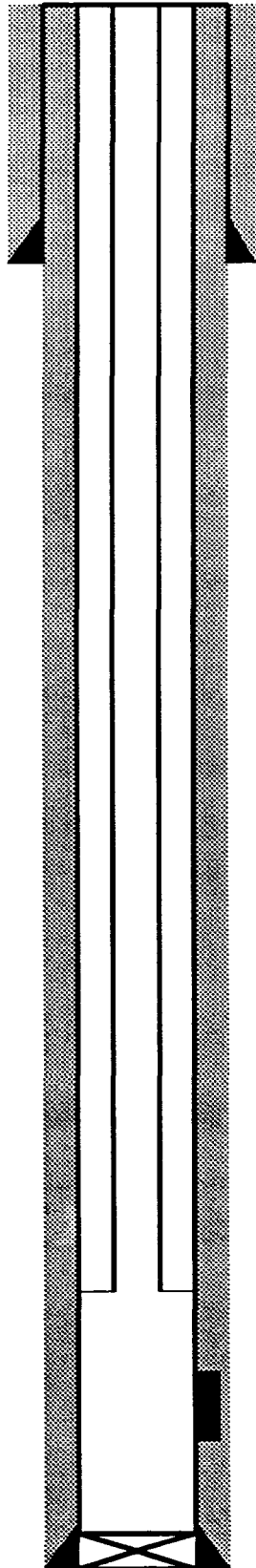
SC @ 3989', Circ w/1125 sx
TOC @ 1200', CBL

Production Csg
5 1/2" 15.5#
Circ w/425 sx
w/SC @ 3989'

Perfs @ 6174-6184'
PBTD 6229'

Shoe @ 6266'

TD @ 6266'



WELLBORE SCHEMATIC

Empire Abo Unit I-29

663.5' FNL & 550.3' FWL
Sec. 4, T-18S, R-28E, Eddy County, NM
Spudded 11/22/59
Completed 12/30/59
T&A'd 01/03/80

Surface Casing
8 5/8"
Cmt to Surface 500 sx

Shoe @ 980'

TOC @ surface

Production Casing
4 1/2"
Cement 900 sx

Shoe @ 6,367'

RBP @ 6,075'

CR @ 6,090'

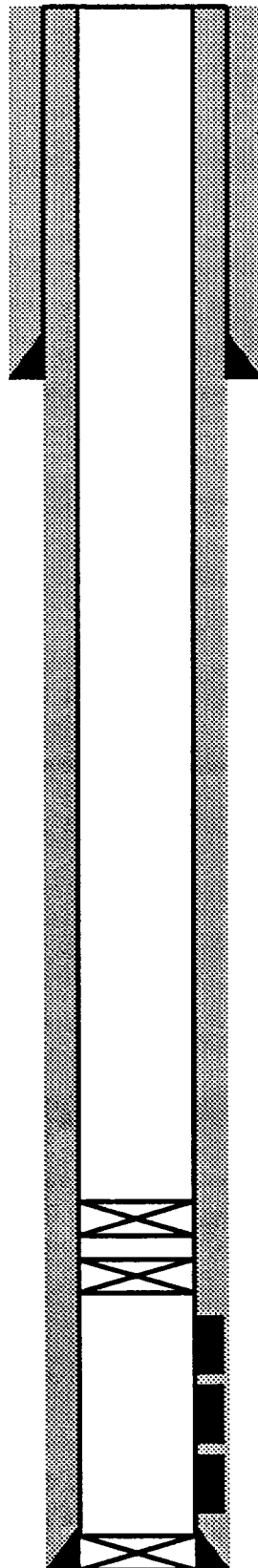
Perfs @ 6,124-6,152' (sqz'd)

Perfs @ 6,172-6,180' (sqz'd)

Perfs @ 6,216-6,226' (sqz'd)

PBTD @ 6,090'

7 7/8" hole TD @ 6,367'



WELLBORE SCHEMATIC

Empire Abo Unit I-291

200' FNL & 350' FWL

Sec. 4, T-18S, R-28E, Eddy County, NM

Spudded 09/28/78

Completed 10/23/78

Surface Casing
8 5/8"
Cmt to Surface 450 sx

Shoe @ 600'

TOC @ surface

Tubing 2 3/8" (202 jts)
w/ SN @ 6,223'

DV Tool @ 3,995'

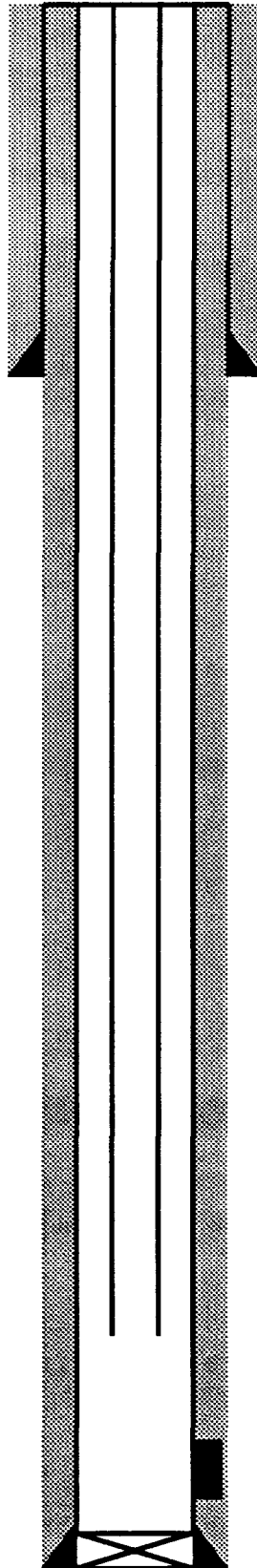
Production Casing
5 1/2"
Cement 1,450 sx

Shoe @ 6,350'

Perfs @ 6,175-6,185'

PBTD @ 6,285'

7 7/8" hole TD @ 6,355'



WELLBORE SCHEMATIC

Empire Abo Unit I-30

330' FNL & 1,675' FWL
Sec. 4, T-18S, R-20E, Eddy County, NM
Spudded 07/13/60
Completed 08/13/60
T&A'd 06/17/91

Surface Casing
8 5/8"
Cmt to Surface 913 sx

Shoe @ 2,239'

TOC @ 4,500 (calc)

CIBP @ 6,128'

Perfs @ 6,139-6,173' (sqz'd)

Perfs @ 6,198-6,225' (sqz'd)

Perfs @ 6,240-6,250'

Perfs @ 6,265-6,274' (sqz'd)

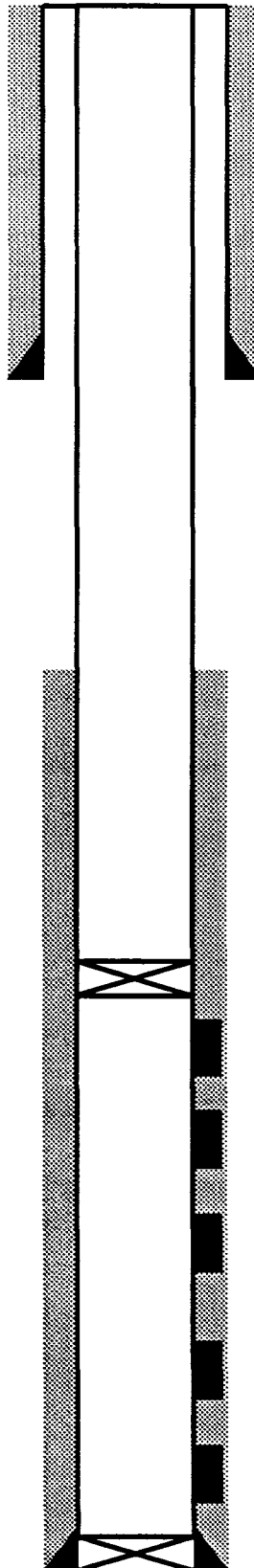
Perfs @ 6,282-6,291' (sqz'd)

PBTD @ 6,292'

7 7/8" hole TD @ 6,300'

Production Casing
4 1/2"
Cement 200 sx

Shoe @ 6,284'



WELLBORE SCHEMATIC

Empire Abo Unit I-292

485' FNL & 1,070' FWL

Sec. 4, T-18S, R-20E, Eddy County, NM

Spudded 05/08/79

Completed 06/12/79

Surface Casing

8 5/8"

Cmt to Surface 550 sx

Shoe @ 749'

TOC @ surface

Tubing 2 3/8" (197 jts)

w/ MA, SN & PN

@ 6,230'

DV Tool @ 2,996'

Production Casing

5 1/2"

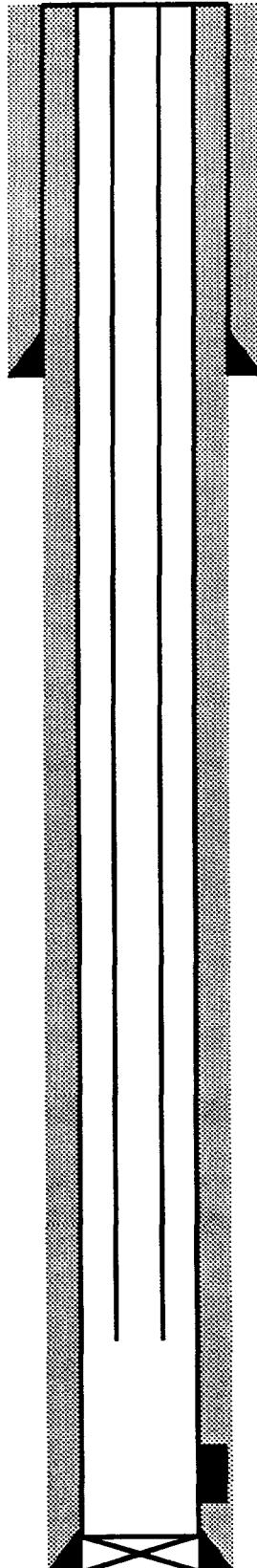
Cement 2,350 sx

Shoe @ 6,350'

Perfs @ 6,200-6,220'

PBTD @ 6,288'

7 7/8" hole TD @ 6,350'



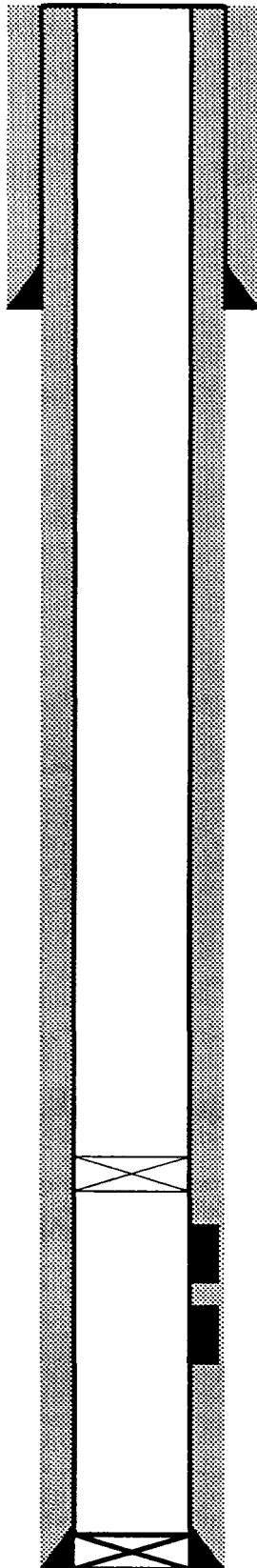
WELLBORE SCHEMATIC

Empire Abo Unit J-13

1,980' FNL & 660' FWL
Sec. 2, T-18S, R-27E, Eddy County, NM
Spudded 11/24/58
Completed 12/19/58
T&A'd 02/04/80
Records show proposal to convert to gas
injection 03/01/90. No records in file to
indicate work completed.

Surface Casing
8 5/8"
Circ Cmt to Surf 675 sx

Shoe @ 1,004'



Production Casing
5 1/2" 14#
Cement 225 sx
01/16/80-275 sx thru perfs
@ 5,021; 325 sx thru perfs
@ 2,300 cmt to surf.

Shoe @ 6,131'

CIBP @ 5,300

Perfs @ 5,364'-5,390' (sqzd)

Perfs @ 5,754'-5,784'

PBTB @ 6,090'

TD @ 6,131'

WELLBORE SCHEMATIC

Empire Abo Unit J-14

2,180' FNL & 1,905' FWL

Sec. 2, T-18S, R-27E, Eddy County, NM

Spudded 01/23/59

Completed 02/18/59

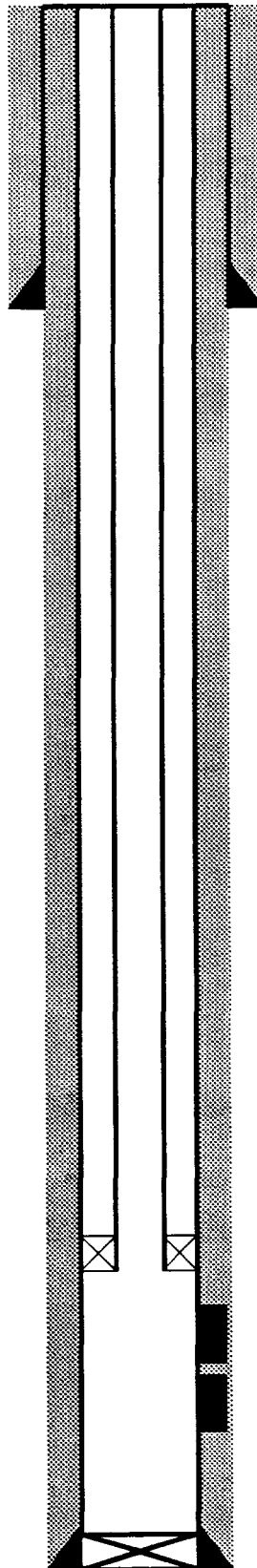
Surface Casing
8 5/8" 24#
Circ Cmt to Surf 600 sx

Shoe @ 967'

TBG 2 3/8" (177jts)
w/ SN & PKR @ 5,536'

Production Casing
5 1/2" 14#
Cement 850 sx
circ to surf

Shoe @ 6,133'



Baker Mod 'R' PKR @ 5,536

Perfs @ 5,620'-5,640' (sqzd)

Perfs @ 5,748'-5,776'

PBTD @ 6,097'

TD @ 6,133'

WELLBORE SCHEMATIC

Empire Abo Unit J-15

2310' FNL & 1980' FEL
Sec. 2, T-18-S, R-27-E,
Eddy County, NM
Spudded 4/29/59
Completed 6/6/59
T&A'd 9/19/76

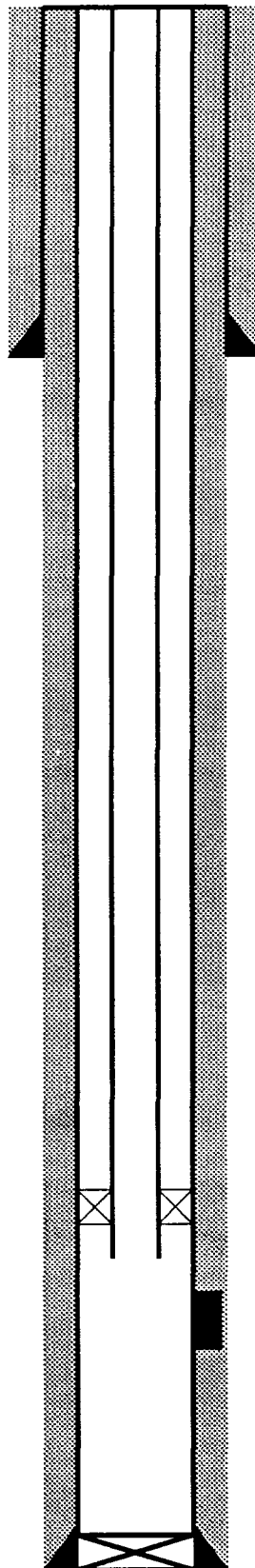
Surface Casing
8 5/8" 24#
Circ w/ 650 sx

Shoe @ 1216'

Tubing
2 3/8" (185 Jts)
w/SN & Pkr @ 5757'
w/ 4 jts tail pipe

Production Casing
5 1/2" 17#
Cement w/254 sx to Surf.
(4/13/69) 625 sx thru Perfs
@ 4010' to Surf.

Shoe @ 5884'



Guiberson KVL-30 2 3/8" x 5 1/2"

Perfs @ 5773-5873'

TD @ 5920'

WELLBORE SCHEMATIC

Empire Abo Unit J-17

1980' FNL & 660' FWL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 3/26/59
Completed 4/18/59
P&A'd 1/23/87

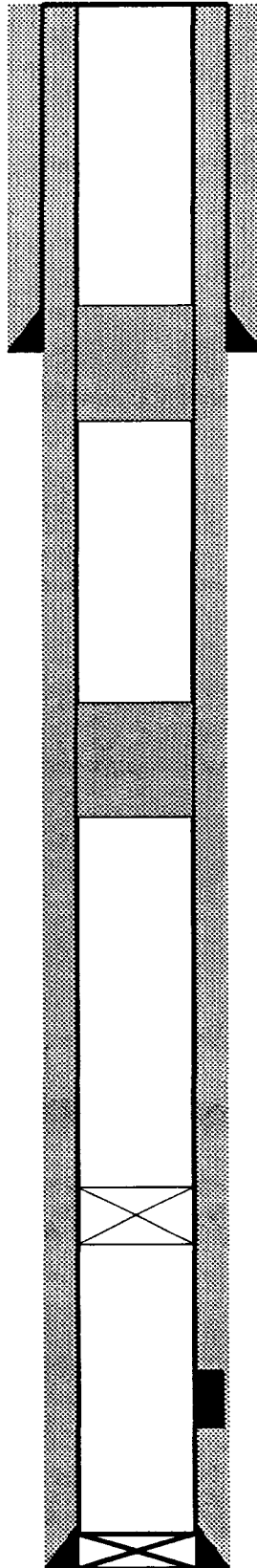
Surface Casing
8 5/8" 24#
Circ w/ 100 sx

Shoe @ 1473'

Tubing

Production Casing
5 1/2" 14#
Cement w/750 sx to Surf.

Shoe @ 5990'



1410-1530' - 20 sx

3775-3900' - 20 sx

CR @ 5773'

Perfs @ 5875-5910'

TD @ 5990'

WELLBORE SCHEMATIC

Empire Abo Unit J-18

2,130' FNL & 1,980' FWL

Sec. 1, T-18S, R-27E, Eddy County, NM

Spudded 04/24/59

Completed 05/30/59

T&A'd 07/10/92

Records do not indicate tubing
pulled or CIBP set

Surface Casing

8 5/8" 24#

Circ Cmt to Surf 650 sx

Shoe @ 1,453'

TBG 2 3/8" (191jts)

w/ SN & PKR @ 5,993'

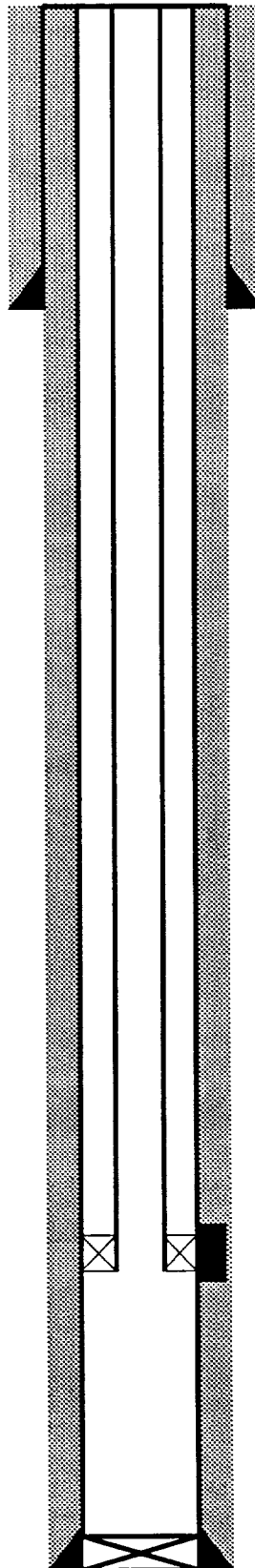
Production Casing

4 1/2" 9.5#

Cement 850 sx

TOC NA

Shoe @ 6,087'



PKR Guiberson KVL-30 @ 5,993'
Perfs @ 5,990'-6,030'

PBTD @ 6,051'

TD @ 6,087'

WELLBORE SCHEMATIC

Empire Abo Unit J-19

2500' FNL & 2500' FEL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 7/6/59
Completed 8/2/59

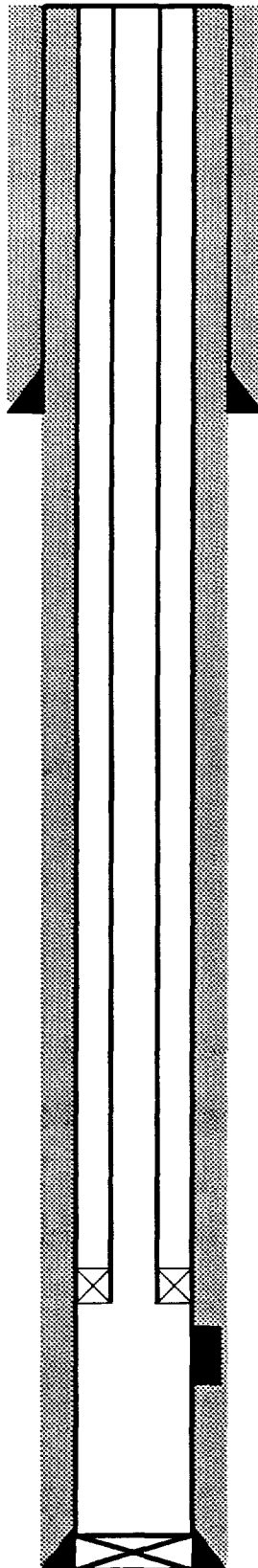
Surface Casing
8 5/8" 24#
Circ w/ 800 sx

Shoe @ 1475'

Tubing
2 3/8" (194 Jts)
w/PN, SN, & Pkr
@ 6023'

Production Casing
4 1/2" 9.5#
Cement w/600 sx
TOC N/A

Shoe @ 6205



2 3/8" x 4 1/2" Guiberson KVL-30 Pkr

Perfs @ 6055-90'

PBTD 6171'

TD @ 6205

WELLBORE SCHEMATIC

Empire Abo Unit J-191

2,500' FEL & 2,500' FNL
Sec. 1, T-18S, R-27E, Eddy County, NM
Spudded 08/05/75
Completed 09/02/75
T&A'd 03/30/92
Records do not indicate tubing
pulled or CIBP

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 550 sx

Shoe @ 1,001'

TBG 2 3/8" (197jts)
w/ SN & PKR @ 6,023'

DV Tool @ 4,261'

Production Casing
5 1/2" 14#
Cement 1,095 sx
Circ. Cmt w/ DV Tool
@ 4,261'

PKR @ 6,023'
Baker Lok-set w/on/off Tool

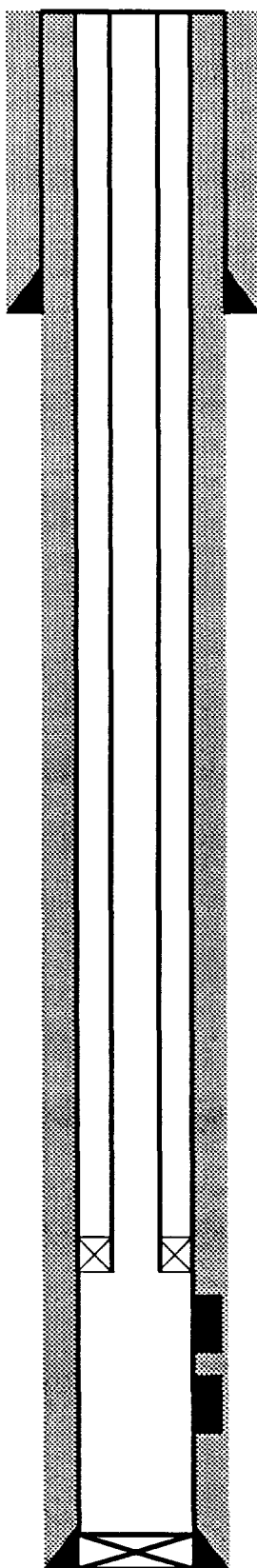
Perfs @ 6,055'-6,070'

Perfs @ 6,075'-6,090'

PBTD @ 6,222'

TD @ 6,259'

Shoe @ 6,259'



WELLBORE SCHEMATIC

Empire Abo Unit J-20

1980" FNL & 660' FEL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 9/15/59
Completed 10/15/59

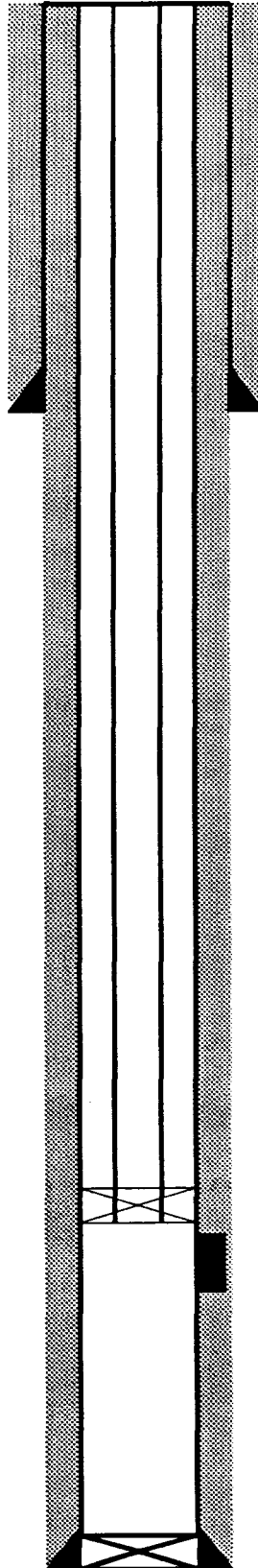
Surface Casing
8 5/8" 24#
Circ w/ 700 sx

Shoe @ 1500'

Tubing
2 3/8" (194 Jts)
w/MA,SN,TAC,&PN
@6103'

Production Casing
4 1/2" 9.5#
Cement w/850sx to Surf.
TOC N/A

Shoe @ 6218



Perfs @ 6104-58'

PBTD 6187'

TD @ 6218'

WELLBORE SCHEMATIC

Empire Abo Unit J-201

2501' FNL & 20 FEL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 6/28/75
Completed 7/19/75

Surface Casing
8 5/8" 24#
Circ w/ 525 sx

Shoe @ 1012'

Tubing
2 3/8" (196 Jts)
w/MA & Pkr @ 6040'

DV tool @ 3,975'

Production Casing
5 1/2" 15.5#
Cement w/930sx to Surf.
Circ DV @ 3975'

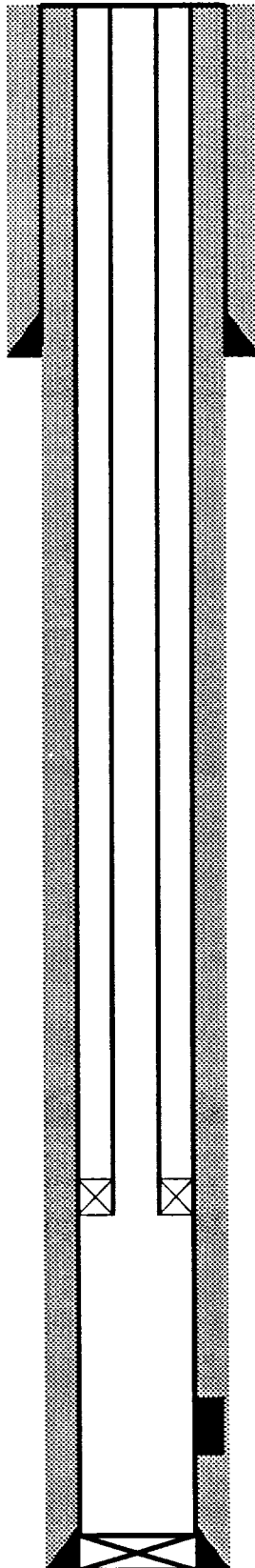
2 3/8" x 5 1/2" Baker Lockset
w/ on/off tool

Perfs @ 6108-6136"

Shoe @ 6225

PBTD 6175'

TD @6225



WELLBORE SCHEMATIC

Empire Abo Unit J-202

2490' FNL & 1299' FEL
Sec. 1, T-18-S, R-27E
Eddy County, New Mexico
Spudded 4/17/76
Completed 5/13/76

Surface Casing
8 5/8" 24#
Circ 350 sx to Surf.

Shoe @ 1000'

Tubing
2 3/8" (199 Jts)
w/MA,PN, SN & TAC
@ 6150'

Production Casing
5 1/2", 14# & 15/5#
Circ w/1475 sx to Surf.
Circ DV @4009'

DV Tool @ 4009'

TAC @ 6115'

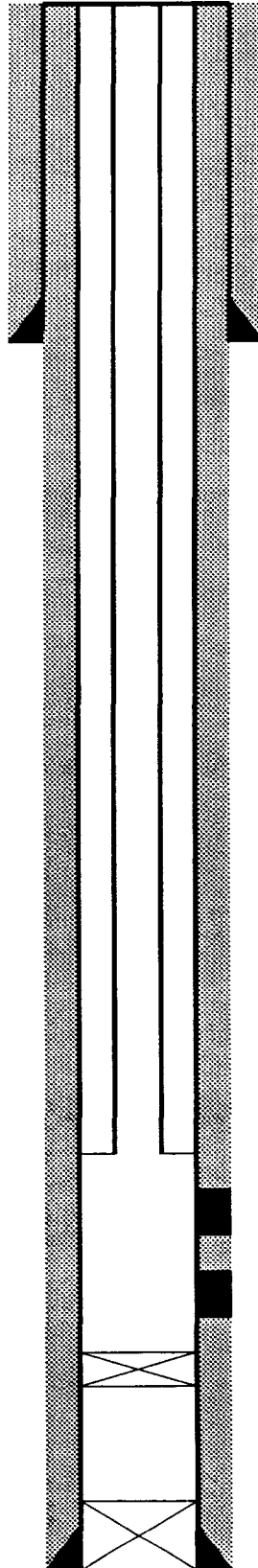
Perfs @ 6176-6206' (Sqzd)

Perfs @ 6250-6260'

BP @ 6270'

PBTD @ 6270'

TD @ 6296'



WELLBORE SCHEMATIC

Empire Abo Unit J-203

2400' FNL & 700' FEL
Sec. 1, T-18-S, R-27E
Eddy County, New Mexico
Spudded 9/13/78
Completed 9/27/78

Surface Casing
8 5/8" 24#
Circ 700 sx to Surf.

Shoe @ 1004'

Tubing
2 3/8" (191 Jts)
w/SN & Pkr
@ 5911'

Production Casing
5 1/2", 15/5#
Circ w/1160 sx to Surf.
Circ DV @ 4014'

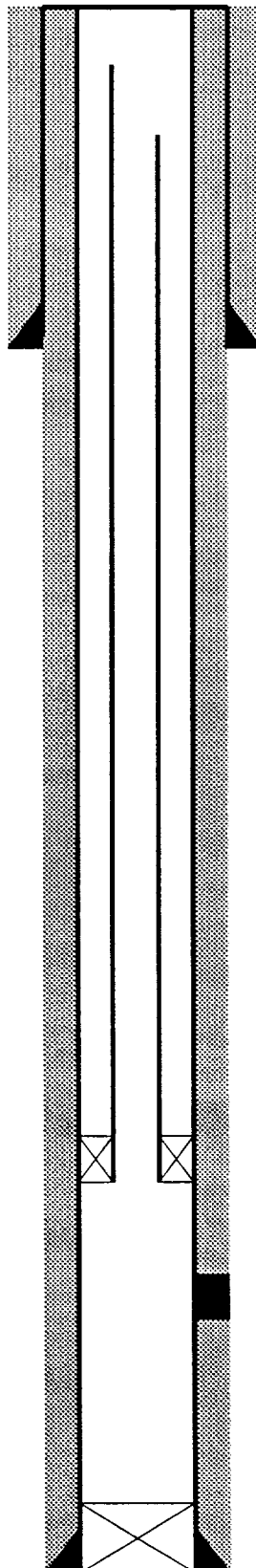
DV Tool @ 4014'

Baker Lok Set-2 3/8" x 5 1/2"
@ 5911'

Perfs @ 6100-6120'

TD @ 6222'

PBTD @ 6120'



WELLBORE SCHEMATIC

Empire Abo Unit J-21

1990' FNL & 660' FWL
Sec. 6, T-18-S, R-28E
Eddy County, New Mexico
Spudded 10/8/59
Completed 11/1/59

Surface Casing
8 5/8" 24#
Circ 700 sx to Surf.

Shoe @ 1493'

Tubing
2 3/8" (198 Jts)
w/Pkr, & SN
@ 6057'

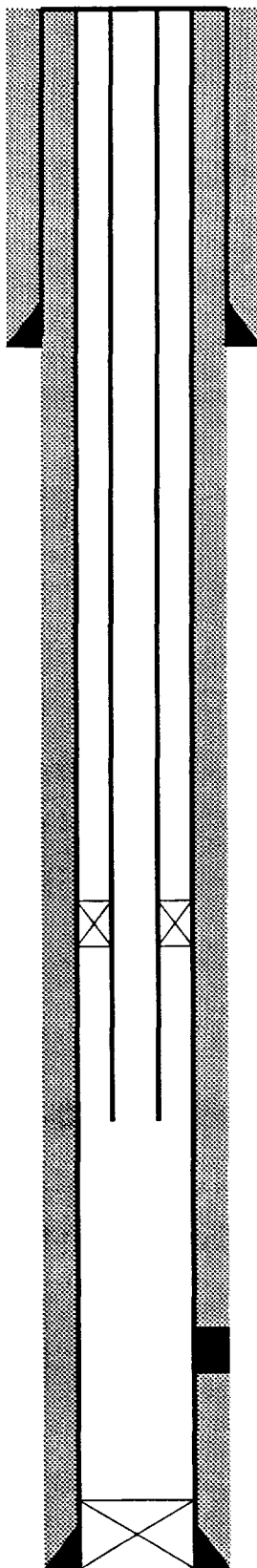
Production Casing
5 1/2" 14# & 15/5#
Circ w/850 sx
TOC N/A

2 3/8" x 5 1/2" Pkr @ 6057' (Btm)

Perfs @ 6102-6168'

PBTD @ 6180'

TD @ 6202'



WELLBORE SCHEMATIC

Empire Abo Unit J-211

2630' FNL & 1300' FWL
Sec. 6, T-18-S, R-28E
Eddy County, New Mexico
Spudded 12/12/74
Completed 1/29/75

Surface Casing
8 5/8" 24#
Circ 700cmt to Surf.

Shoe @ 990'

Tubing
2 3/8" (191 Jts)
w/PN, Pkr, & SN
@ 5931'

Production Casing
5 1/2" 14#
Circ w/1150 sx to Surf.
Circ DV @ 4500'

DV Tool @ 4500'

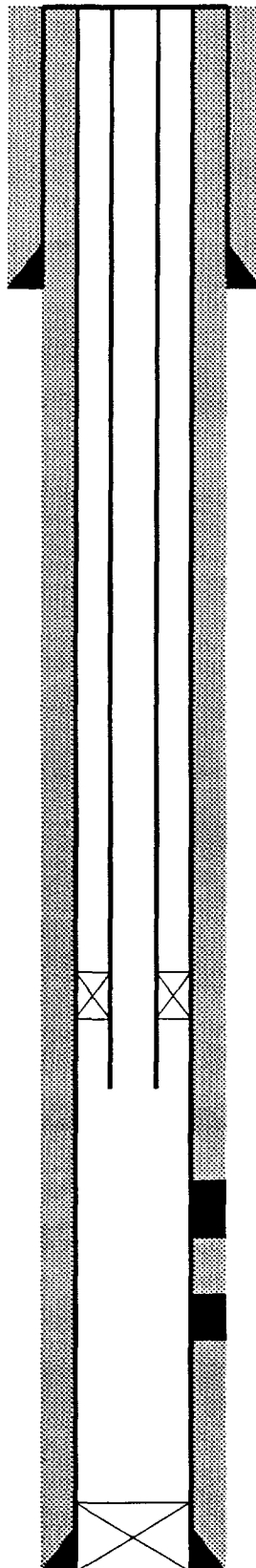
Guiberson KVL-30-
2 3/8" x 5 1/2"

Perfs @ 6020-6040' (Sqzd)

Perfs @ 6158-6177'

TD @ 6200'

PBTD @ 6191'



WELLBORE SCHEMATIC

Empire Abo Unit J-212

2450' FNL & 400' FWL

Sec. 6, T-18S, R-28E, Eddy County, NM

Spudded 12/04/78

Completed 12/30/78

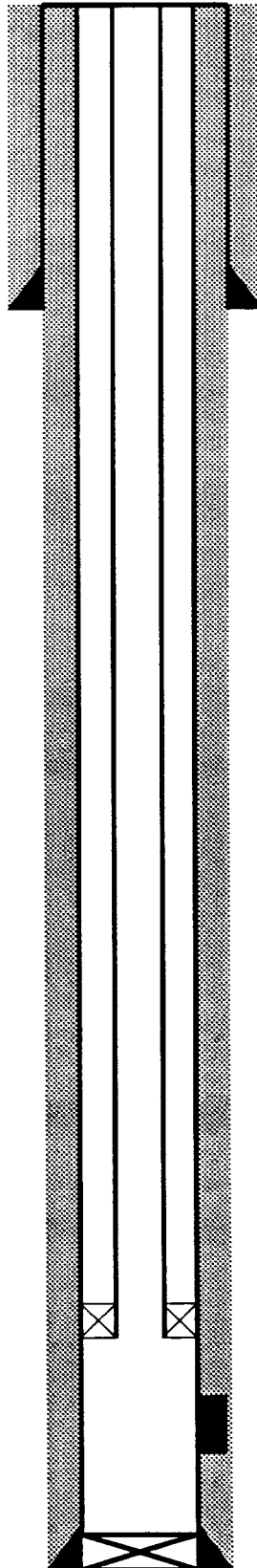
Surface Casing
8 5/8" 24#
Circ Cmt to Surf 600 sx

Shoe @ 553'

TBG 2 3/8" (191jts)
w/ PKR @ 6,007'

Production Casing
5 1/2" 15.5#
Cement 1,585 sx
circ cmt w/ DV Tool
@ 4,008'

Shoe @ 6,250'



DV Tool @ 4,008'

PKR @ 6,007'

Perfs @ 6,104'-25'

PBTD @ 6,203'

TD @ 6,267'

WELLBORE SCHEMATIC

Empire Abo Unit J-213

2050' FNL & 100' FWL
Sec. 6, T-18-S, R-28-E,
Eddy County, NM
Spudded 3/10/80
Completed 6/2/80

Surface Casing
9 5/8" 36#
Circ w/ 500 sx

Shoe @ 1000'

Tubing
2 3/8" w/SN (193 Jts)
@ 5982'

DV Tool @ 4089'

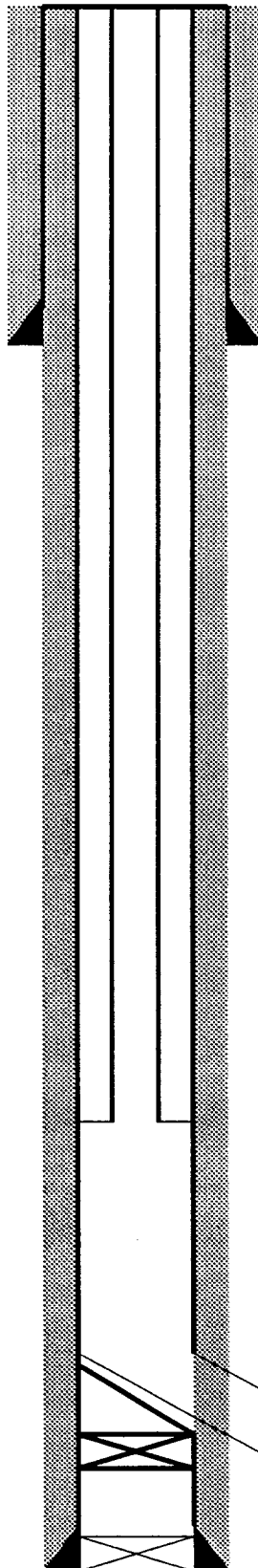
Production Casing
7" 23# w/1350 sx Cmt
Circ w/DV Tool @ 4089'

Pkr w/Whipstock @ 6026'

Shoe @ 6115'

TD @ 6242'

Drain hole
f/6026-6242'



WELLBORE SCHEMATIC

Empire Abo Unit J-22

1990.38' FNL & 2082.96' FWL
Sec. 6, T-18S, R-28E,
Eddy County, NM
Spudded 11/3/59
Completed 11/28/59

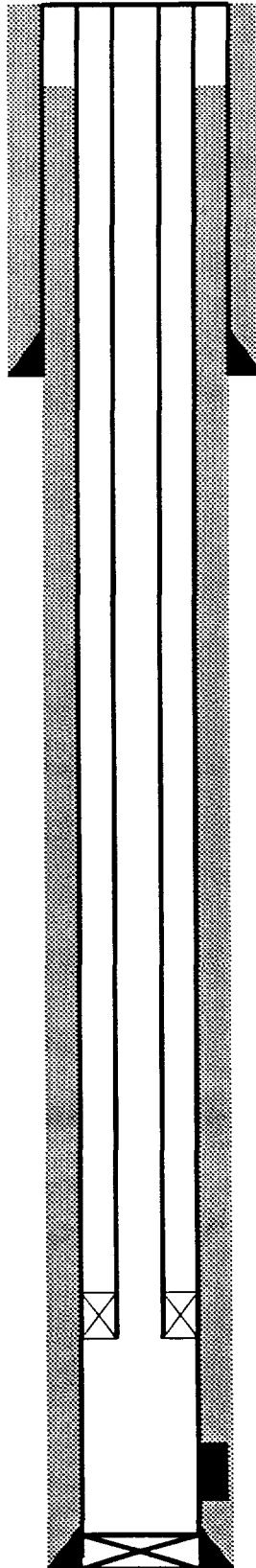
Surface Casing
8 5/8"
Cmt to Surface
w/800sx

Shoe @ 1501"

Tubing
Flowing Oil Well
(No records since 11/59)

Production Casing
5 1/2"
Cement 800 sx
TOC @ 250' by TS

Shoe @ 6200'



Perfs @6062-6110'
PBSD @ 6171'
TD @ 6206'

WELLBORE SCHEMATIC

Empire Abo Unit J-221

2,713' FWL & 2,610' FNL

Sec. 6, T-18S, R-28E, Eddy County, NM

Spudded 03/29/76

Completed 04/23/76

Surface Casing

8 5/8" 24#

Circ Cmt to Surf 400 sx

Shoe @ 553'

TBG 2 3/8" (195jts)

w/ PKR @ 6,079'

DV Tool @ 4,019'

Production Casing

5 1/2" 14# & 15.5#

Cement 1,485 sx

Circ Cmt w/ DV Tool

@ 4,019 sx

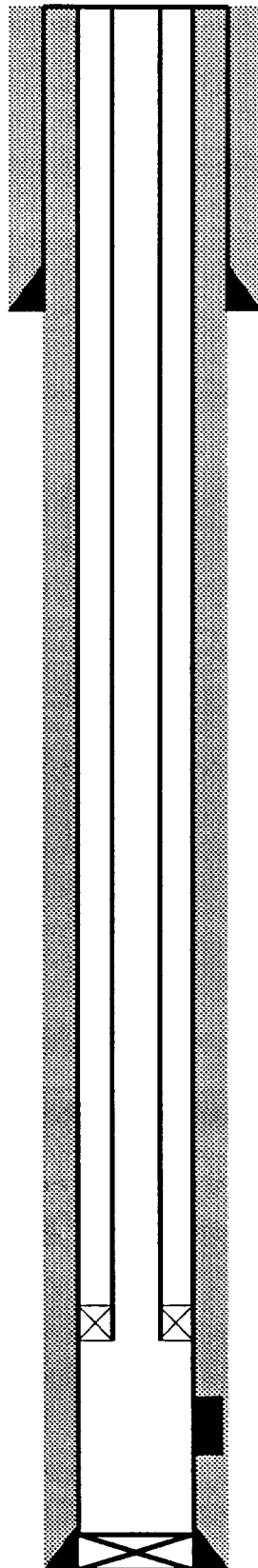
PKR @ 6,079'

Perfs @ 6,146'-74'

PBTD @ 6,234'

TD @ 6,305'

Shoe @ 6,300'



WELLBORE SCHEMATIC

Empire Abo Unit J-222

1,350' FNL & 1,572' FWL

Sec. 6, T-18S, R-28E, Eddy County, NM

Spudded 02/17/77

Completed 03/13/77

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 275 sx

Shoe @ 555'

TBG 2 3/8"(196jts)
w/ PKR @ 6,105'

DV Tool @ 4,291

Production Casing
5 1/2" 14# & 15.5#
Cement 1,540 sx
Circ Cmt w/ DV Tool
@ 4,291 sx

Perfs @ 6,094'-6,106'

Perfs @ 6,097'-6,117' (sqzd)

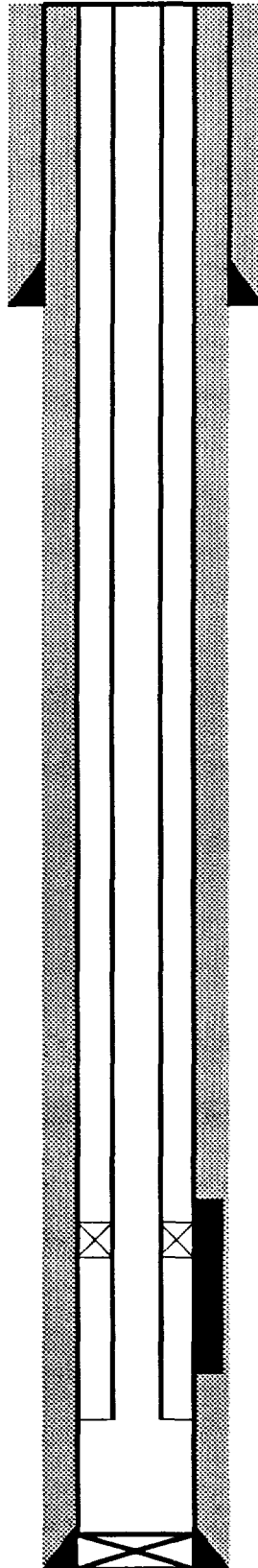
Perfs @ 6,036'-52' (sqzd)

PKR @ 6,105'

PBTD @ 6,210'

TD @ 6,303'

Shoe @ 6,293'



WELLBORE SCHEMATIC

Empire Abo Unit J-223

2,630' FNL & 1,930' FWL

Sec. 6, T-18S, R-28E, Eddy County, NM

Spudded 04/22/78

Completed 05/19/78

T&A'd 05/12/92

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 237 sx

Shoe @ 585'

TBG 2 3/8"
@ 6,132'

Production Casing
5 1/2" 15.5#
Cement 985 sx
Circ. Cmt w/
DV Tool @ 3,017'

Shoe @ 6,250'

DV Tool @ 3,017'

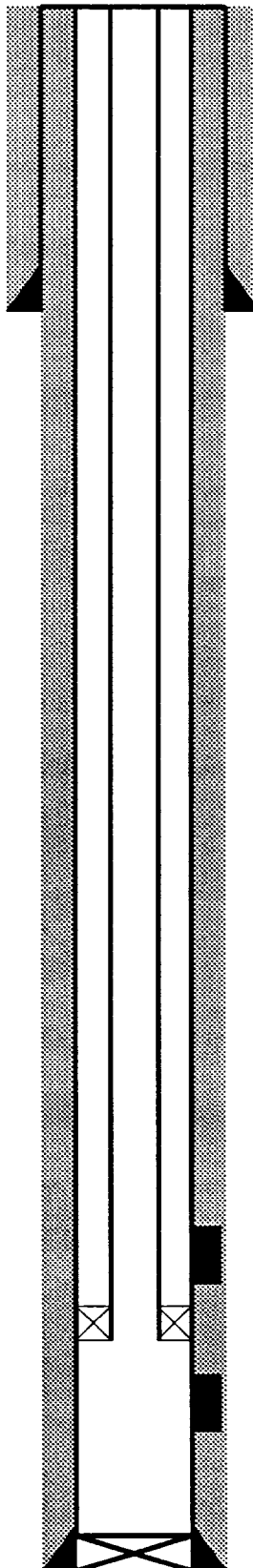
Perfs @ 6,080'-96'(sqzd)

PKR @ 6,132'

Perfs @ 6,177'-97'

PBTD @ 6,200'

TD @ 6,250'



WELLBORE SCHEMATIC

Empire Abo Unit J-23

1,980' FNL & 1,980' FEL
Sec. 6, T-18S, R-28E, Eddy County, NM
Spudded 12/28/59
Completed 01/27/60

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 250 sx

Shoe @ 544'

TOC @ 960' (calc)

TBG 2 3/8"
w/ PKR @ 6,163'

Production Casing
5 1/2" 14#
Cement 850 sx
Orig. TOC N/A
Perf. @ 3,500' & Cmt.w/
600 sx. TOC @ 960'

Shoe @ 6,241'

Perfs @ 6,131'-47' (sqzd)

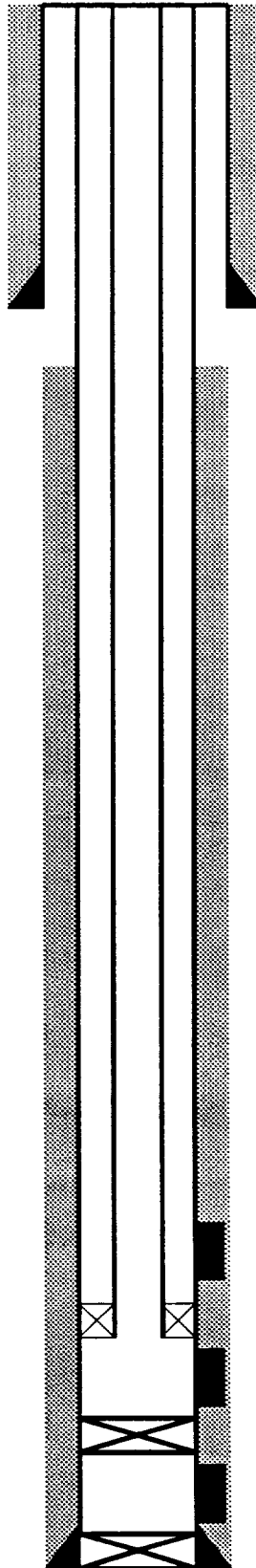
PKR @ 6,163'

Perfs @ 6,184'-94'

CIBP @ 6,225'

Perfs @ 6,225'-35' (sqzd)

TD @ 6,242'



WELLBORE SCHEMATIC

Empire Abo Unit J-231

1,361' FNL & 2,531' FEL

Sec. 6, T-18S, R-28E, Eddy County, NM

Spudded 09/24/75

Completed 10/22/75

Surface Casing

8 5/8" 24#

Circ Cmt to Surf 600 sx

Shoe @ 1001'

TBG 2 3/8" (192jts)

w/ PKR @ 6,044'

DV Tool @ 4,404'

Production Casing

5 1/2" 14#

Cement 1,075 sx

Circ. Cmt to surf. w/

DV Tool @ 4,404'

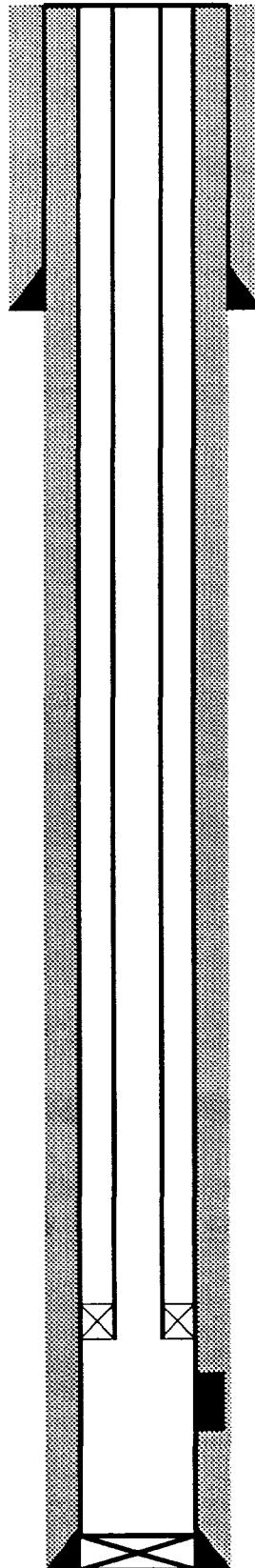
PKR @ 6,044'

Perfs @ 6,123'-39'

PBTD @ 6,356'

TD @ 6,390'

Shoe @ 6,390'



WELLBORE SCHEMATIC

Empire Abo Unit J-232

1,576' FEL & 2,253' FNL

Sec. 6, T-18S, R-28E, Eddy County, NM

Spudded 03/05/76

Completed 04/13/76

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 200 sx

Shoe @ 560'

TBG 2 3/8" (194jts)
w/ PKR @ 6,088'

DV Tool @ 5,007'

Production Casing
5 1/2" 14# & 15.5#
Cement 2000 sx
Circ. Cmt w/ DV Tool
@ 5,007' & Squeeze Perfs
@ 1,754'

PKR @ 6,088'

Perfs @ 6,184'-97'

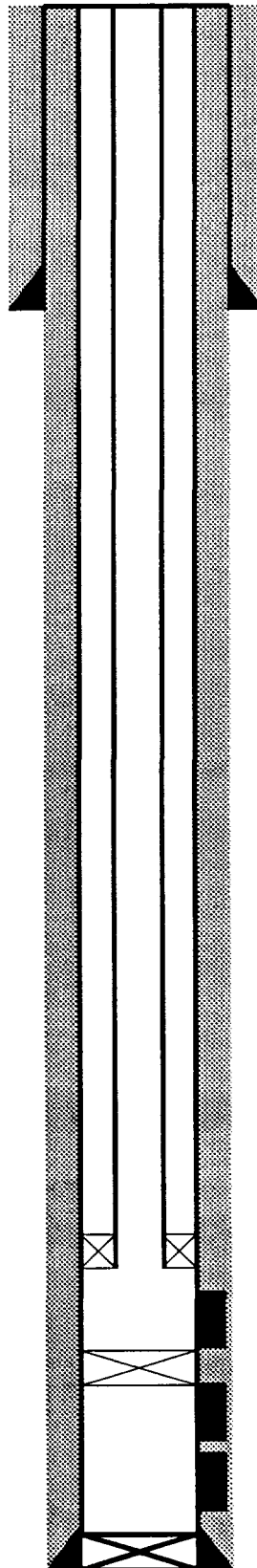
PBTD/CIBP @ 6,230'

Perfs @ 6,268'-83' (sqzd)

Perfs @ 6,319'-24' (sqzd)

TD @ 6,345'

Shoe @ 6,345'



Empire Abo Unit J-233

2550' FWL & 2050' FEL
Sec. 6, T-18-S, R-28-E,
Eddy County, NM
Spudded 5/10/78
Completed 6/5/78

Surface Casing
8 5/8" 24#
Circ 590sxs cmt to Surf.

Shoe @ 590'

DV Tool @ 2998'

Tubing (212 Jts)
2 3/8" w/Pkr @ 6126'

Perfs @ 6080-96' (Sqzd)

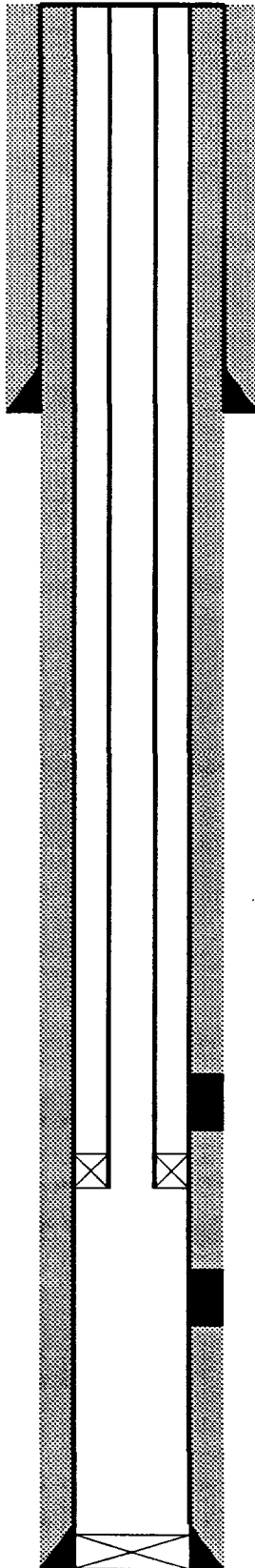
Production Casing
5 1/2" 14# w/1525 sx Cmt
Circ Cmt w/DV Tool @
2998'

Perfs @ 6166-86'

PBTD @ 6253

TD @ 6300'

Shoe @ 6300'



WELLBORE SCHEMATIC

Empire Abo Unit J-234

1900' FNL & 2441' FEL
Sec. 6, T-18-S, R-28-E,
Eddy County, NM
Spudded 8/4/78
Completed 8/27/78

Surface Casing
8 5/8" 24#
Circ 425 sxs cmt to Surf.

Shoe @ 556'

Tubing
2 3/8" w/Pkr @ 5977'
(196 Jts)'

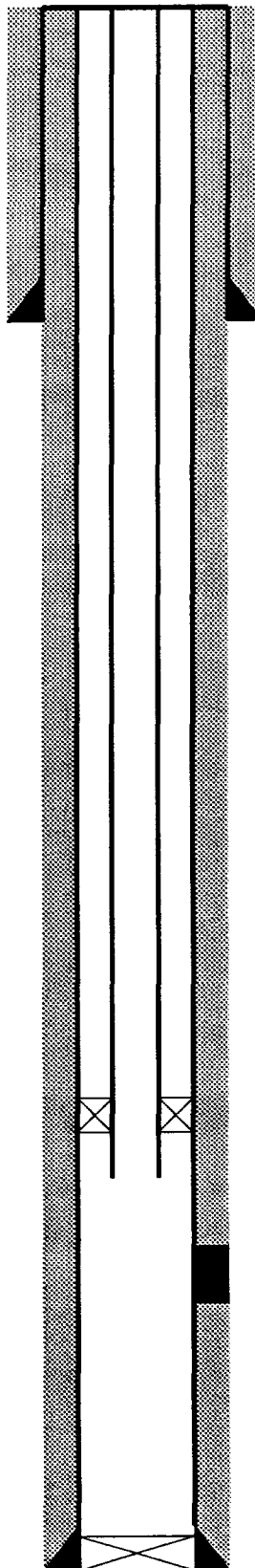
DV Tool @ 4008'

Production Casing
5 1/2" 15.5# w/860 sx Cmt
Circ Cmt w/DV Tool @
4008'

Perfs @ 6124-44'

PBTD @ 6179
TD @ 6260'

Shoe @ 6260'



WELLBORE SCHEMATIC

Empire Abo Unit J-235

1750' FNL & 1600' FEL
Sec. 6, T-18-S, R-28-E,
Eddy County, NM
Spudded 5/31/79
Completed 7/8/79

Surface Casing
8 5/8" 24#
Circ 800 sxs cmt to Surf.

Shoe @ 750

Tubing
2 3/8" w/Pkr @ 6142'

DV Tool @ 4008'

Production Casing
5 1/2" 15.5# w/1580 sx Cmt
Circ w/DV Tool @
3023'

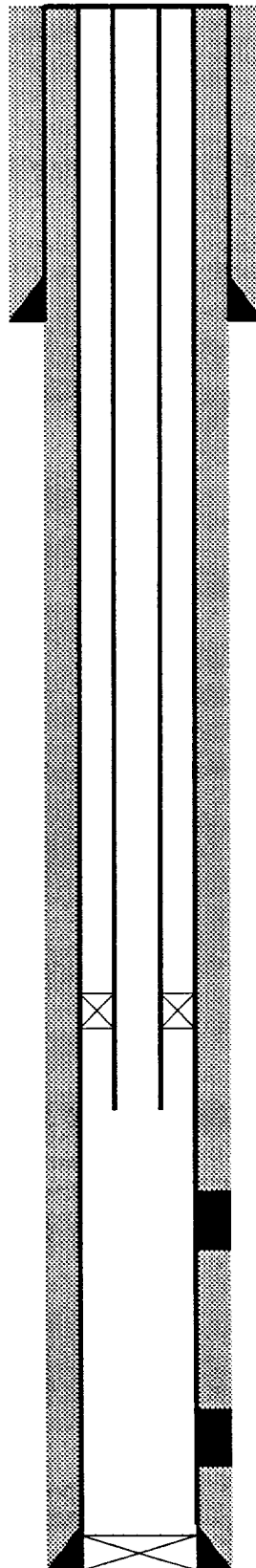
Perfs @ 6190-6207'

PBTD @ 6179

Perfs @ 6264-84' (Sqzd)

Shoe @ 6352'

TD @ 6352'



WELLBORE SCHEMATIC

Empire Abo Unit J-24

1650' FNL & 990' FEL
Sec. 6, T-18-S, R-28-E,
Eddy County, NM
Spudded 3/7/60
Completed 3/25/60

Surface Casing
8 5/8" 24#
Circ 250 sxs cmt to Surf.

Shoe @ 750'

Tubing
2 3/8" w/Pkr @ 6159'

Production Casing
5 1/2" 14 & 15.5#
w/900 sx Cmt
Org TOC @ 1185'
Circ Cmt w/255 sx
f/perfs @ 1130'

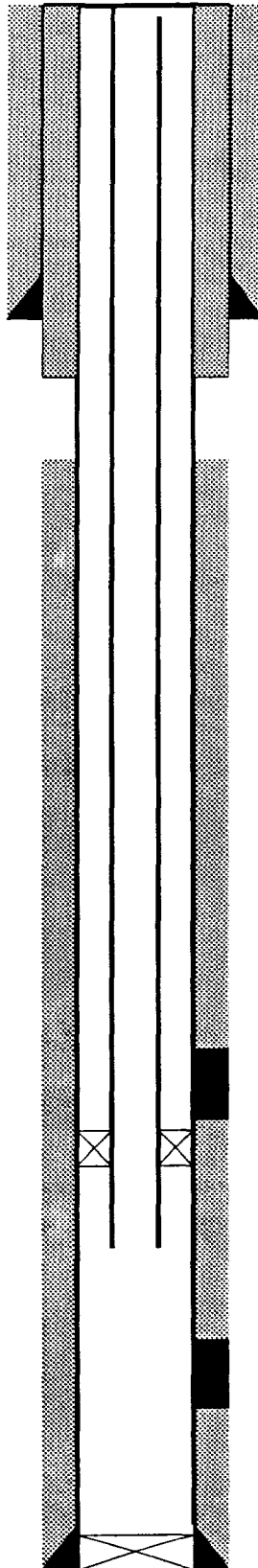
Perfs @ 6088-96' &
6101-09' (Sqzd)

Perfs @ 6226-46'

PBTD @ 6253'

TD @ 6253'

Shoe @ 6253'



WELLBORE SCHEMATIC

Empire Abo Unit J-241

1950' FNL & 660' FeL
Sec. 6, T-18S, R-28E,
Eddy County, NM
Spudded 1/3/81
Completed 4/12/81

Surface Casing
9 5/8" 36#
Cmt to Surface
w/450sx

Shoe @ 981'

DV Tool @ 4009'

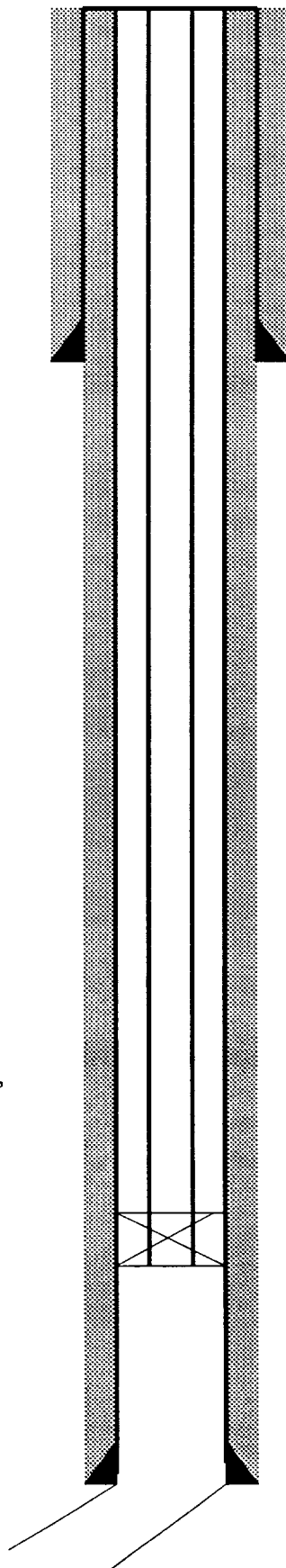
Tubing
197 Jts 2 3/8" w/TAC, SN,
PN, & MA @ 6127'

Production Casing
7" 23#
Cement 1475 sx
Circ w/DV @ 4009'

Org. Hole
TD @ 6325

Shoe @ 6228'

Drain hole f/6228-6386'



WELLBORE SCHEMATIC

Empire Abo Unit J-26

1,650' FNL & 1,650' FWL
Sec. 5, T-18S, R-28E, Eddy County, NM
Spudded 11/28/59
Completed 12/27/59

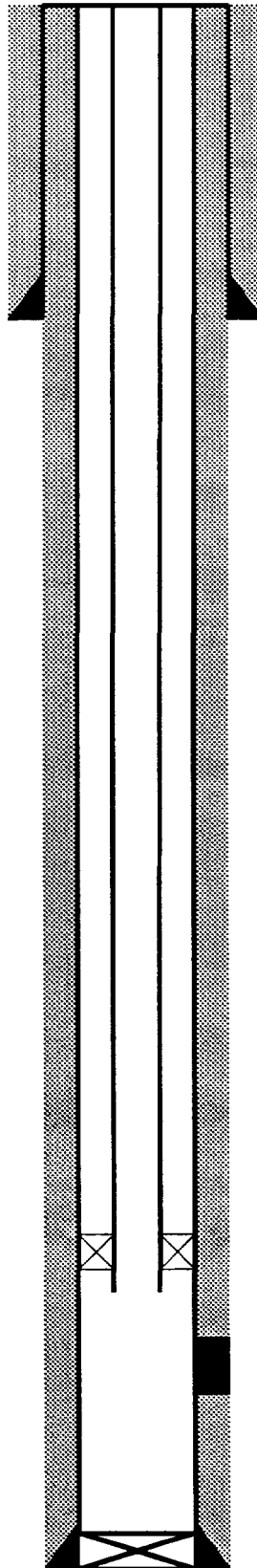
Surface Casing
8 5/8" 24#
Circ Cmt to Surf 370 sx

Shoe @ 959'

TBG 2 3/8" (200jts)
w/ SN & PKR @ 6,181'

Production Casing
5 1/2" 15.5#
Cement 150 sx *

Shoe @ 6,265'



PKR @ 6,162'
Baker Model R 2-3/8 x 5-1/2

Perfs @ 6,220'-6,245'

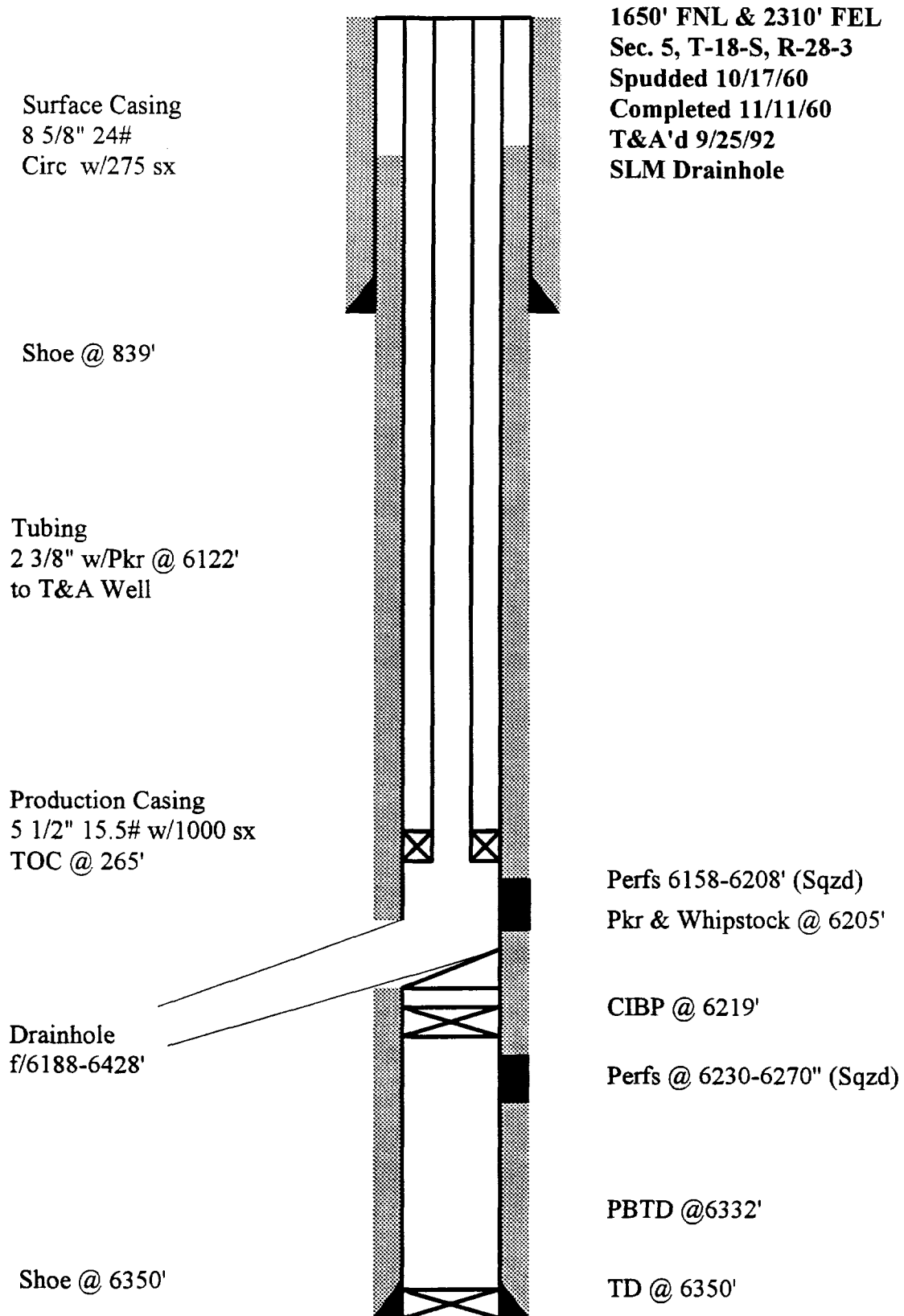
PBTD @ 6,260'

TD @ 6,265'

* 07/10/79 perf 5150-51-Pumped 1500 sx CBL indicated several bridges in 8 5/8 CSS 959' to surface

WELLBORE SCHEMATIC

Empire Abo Unit J-27



WELLBORE SCHEMATIC

Empire Abo Unit J-28

1,650' FNL & 990' FEL
Sec. 5, T-18S, R-28E, Eddy County, NM
Spudded 11/14/60
Completed 12/07/60

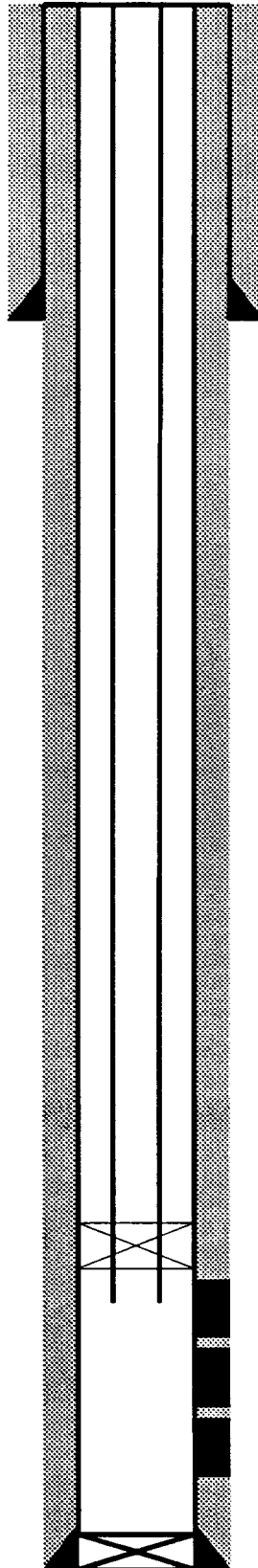
Surface Casing
8 5/8"
Circ Cmt to Surf 300 sx

Shoe @ 844'

TBG 2 3/8" (198jts)
w/ SN, PN & TAC @ 6,256'

Production Casing
5 1/2"
Cement 1,000 sx
Records do not indicate TOC

Shoe @ 6,351'



TAC @ 6,165'
Perfs @ 6,192'-6,218'
Perfs @ 6,210'-6,220' (sqzd)
Perfs @ 6,242'-6,288' (sqzd)
PBTD @ 6,280'
TD @ 6,351'

WELLBORE SCHEMATIC

Empire Abo Unit K-9

1,650' FSL & 990' FWL

Sec. 3, T-18S, R-27E, Eddy County, NM

Spudded 07/20/59

Completed 08/08/59

Surface Casing

8 5/8"

Circ Cmt to Surf 700 sx

Shoe @ 1,505'

TBG 2 3/8" (186jts)

w/ SN & PKR @ 5,403' *

*Paraffin cutting tools lost
in hole 02/11/85

Production Casing

4 1/2" 9.5#

Cement 800 sx

Records do not indicate TOC

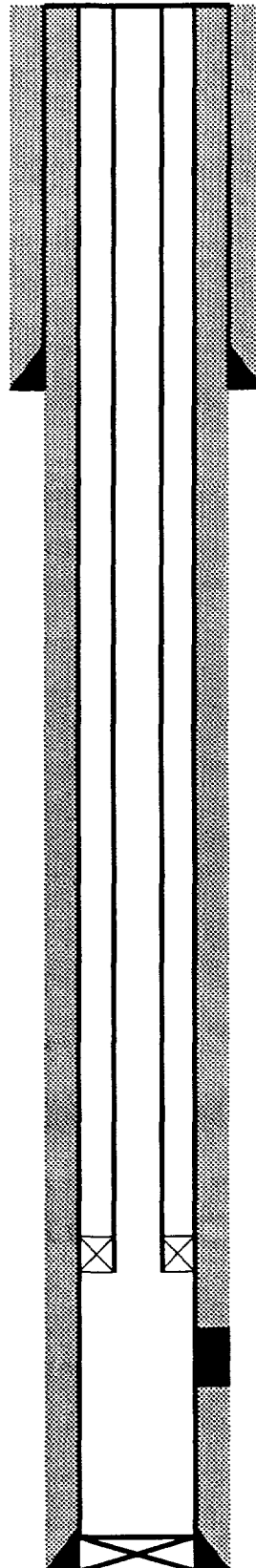
Shoe @ 5,711'

Guiberson KVL-30 PKR @ 5,403'

Perfs @ 5,620'-5,660'

PBTD @ 5,670'

TD @ 5,711'



WELLBORE SCHEMATIC

Empire Abo Unit K-10

1,650' FSL & 2,310' FWL

Sec. 3, T-18S, R-27E, Eddy County, NM

Spudded 05/23/59

Completed 06/15/59

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 700 sx

Shoe @ 1,465'

TOC 1,020'

TBG 2 3/8" (182jts)
w/ SN & PKR @ 5,584'

Production Casing
4 1/2" 9.5#
Cement 950 sx
TOC 1,020'

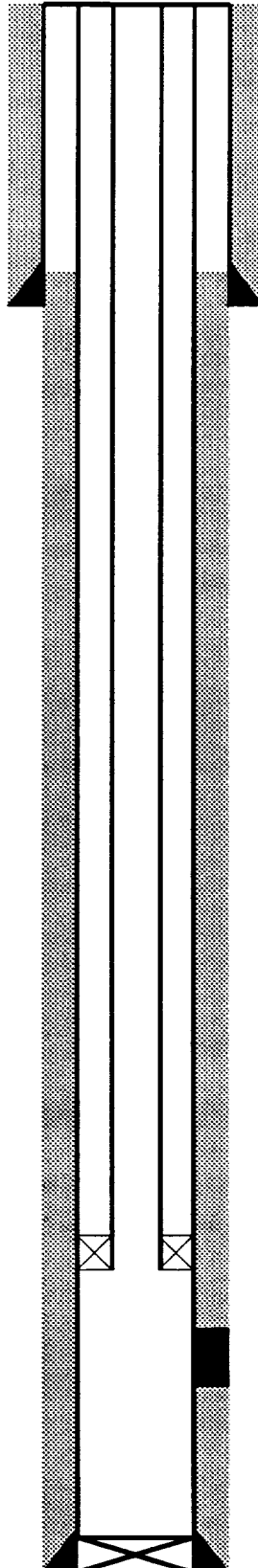
PKR @ 5,595'

Perfs @ 5,660'-5,700'

PBTD @ 5,723'

Shoe @ 5,760'

TD @ 5,760'



WELLBORE SCHEMATIC

Empire Abo Unit K-11

1,980' FSL & 1,780' FEL
Sec. 3, T-18S, R-27E, Eddy County, NM
Spudded 02/25/59
Completed 03/21/59
Well returned to production 03/30/92

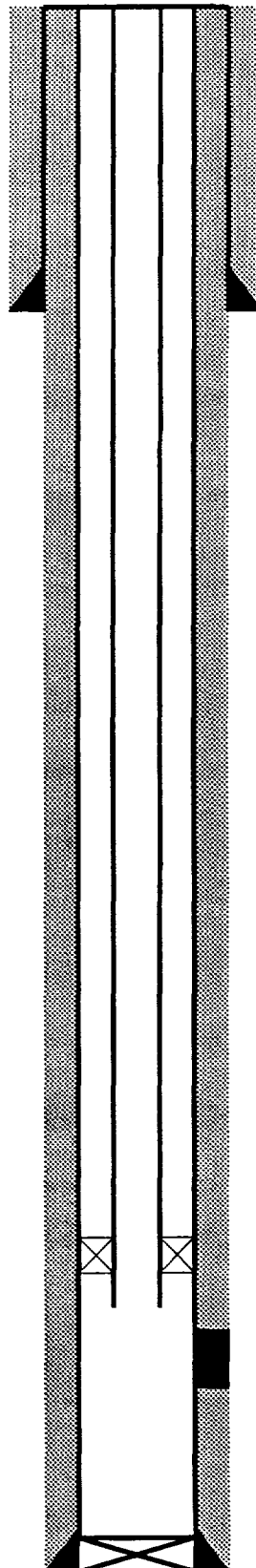
Surface Casing
8 5/8"
Circ Cmt to Surf 750 sx

Shoe @ 1,493'

TBG 2 3/8" (181jts)
w/ SN,MA & PKR @ 5,640'

Production Casing
5 1/2"
Cement 250 sx
TOC N/A

Shoe @ 5,881'



PKR @ 5,558'

Perfs @ 5,650'-5,670'

PBTD @ 5,844'

TD @ 5,881'

WELLBORE SCHEMATIC

Empire Abo Unit K-12

1,980' FSL & 660' FEL

Sec. 3, T-18S, R-27E, Eddy County, NM

Spudded 12/30/58

Completed 01/23/59

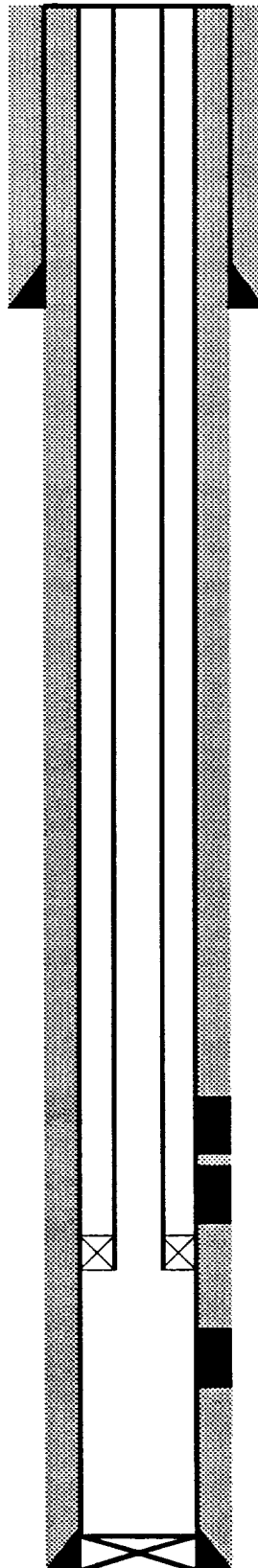
Surface Casing
8 5/8"
Circ Cmt to Surf 700 sx

Shoe @ 1000'

TBG 2 3/8" (184jts)
w/ SN & PKR @ 5,709'

Production Casing
5 1/2"
Cement 435 sx
Records do not
indicate TOC

Shoe @ 6,105'



Perfs @ 5,314'-5,332\'(sqzd)

Perfs @ 5,656'-5,686\'(sqzd)

PKR @ 5,709'

Perfs @ 5,766'-5,804'

PBTD @ 6,067'

TD @ 6,105'

WELLBORE SCHEMATIC

Empire Abo Unit K-13

1,880' FSL & 660' FWL
Sec. 2, T-18S, R-27E, Eddy County, NM
Spudded 10/09/58
Completed 11/18/58

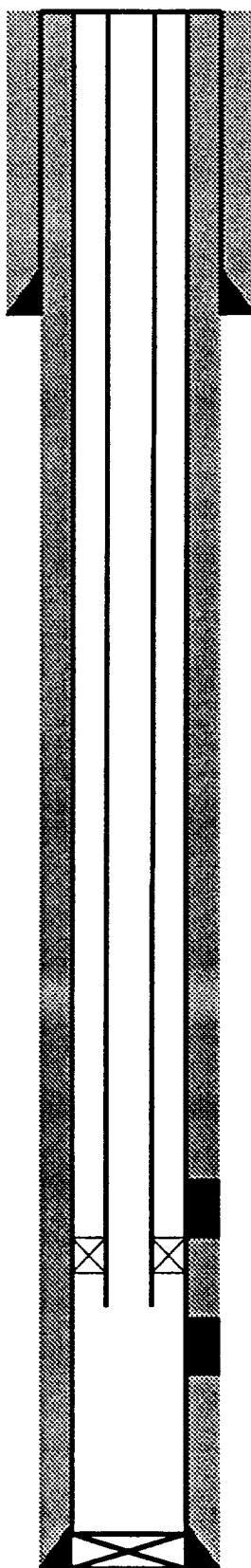
Surface Casing
8 5/8" 24#
Circ Cmt to Surf 600 sx

Shoe @ 993'

TBG 2 3/8" (191jts)
w/ SN,MA @ 6,031'

Production Casing
5 1/2" 14#
Cement 250 sx
Records do not
indicate TOC

Shoe @ 6,094'



Perfs @ 5,360'-5,386' (sqzd)

PKR @ 5,939'

Perfs @ 6,006'-6,024'

PBTD @ 6,038'

TD @ 6,094'

WELLBORE SCHEMATIC

Empire Abo Unit K-131

1,500' FSL & 600' FWL

Sec. 2, T-18S, R-27E, Eddy County, NM

Spudded 02/21/79

Completed 03/14/79

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 800 sx

Shoe @ 1,000'

TBG 2 3/8" (189jts)
w/ SN & PKR @ 5,895'

DV Tool @ 4,027'

Production Casing
5 1/2" 15.5#
Cement 1,365 sx
Circ. DV Tool @ 4,027'

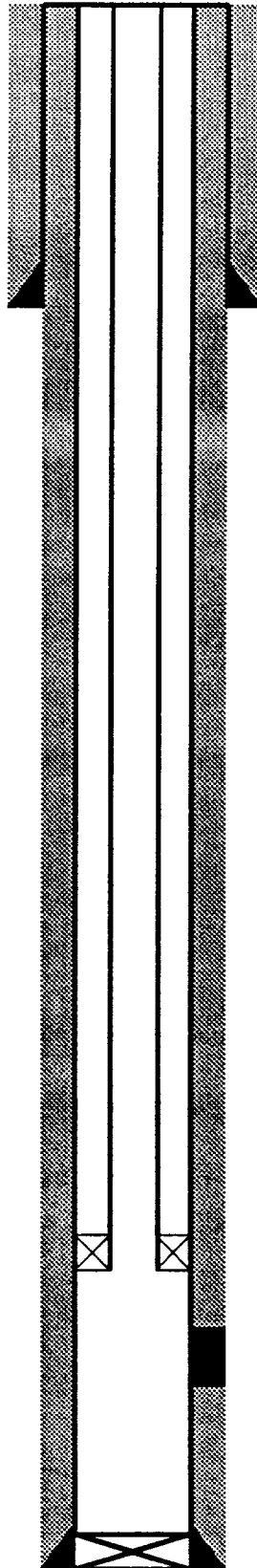
PKR @ 5,889' (Guiberson L-30)

Perfs @ 6,014'-6,034'

PBTD @ 6,138'

Shoe @ 6,145'

TD @ 6,145'



WELLBORE SCHEMATIC

Empire Abo Unit K-14

1980' FSL & 1830' FWL
Sec. 2, T-18-S, R-27-E
Eddy County, New Mexico
Spudded 11/13/58
Completed 12/25/58

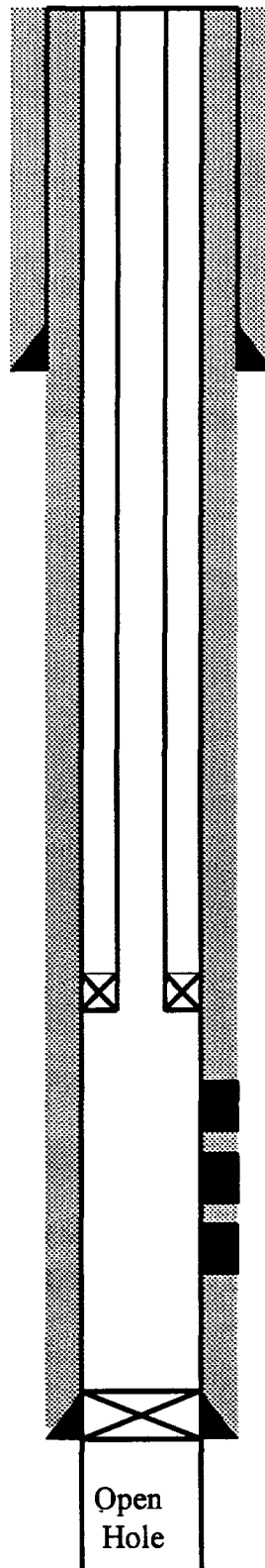
Surface Casing
8 5/8" 24#
w/675 sx cmt
Circ to Surf.

Shoe @ 987'

Tubing
2 3/8" (189 Jts)
w/SN & Pkr @ 5902'

Production Casing
5 1/2" 14# w/175 sx
Circ To Surf.

Shoe @ 6176'



Guiberson KVL-30

Perfs @ 6029-6048' (Sqzd)

Perfs @ 6074-6084'

Perfs @ 6100-6110'

PBTD @ 6172'

TD @ 6676'

WELLBORE SCHEMATIC

Empire Abo Unit K-141

1,370' FSL & 2445' FWL

Sec. 2, T-18S, R-27E, Eddy County, NM

Spudded 04/07/77

Completed 04/27/77

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 400 sx

Shoe @ 1,006'

TOC @ 1,130' (by Calc)

TBG 2 3/8" (190jts)
w/ SN & PKR @ 5,911'

DV Tool @ 4,979'

Production Casing
5 1/2" 14#
Cement 1,277 sx
Circ. DV Tool @ 4,979'

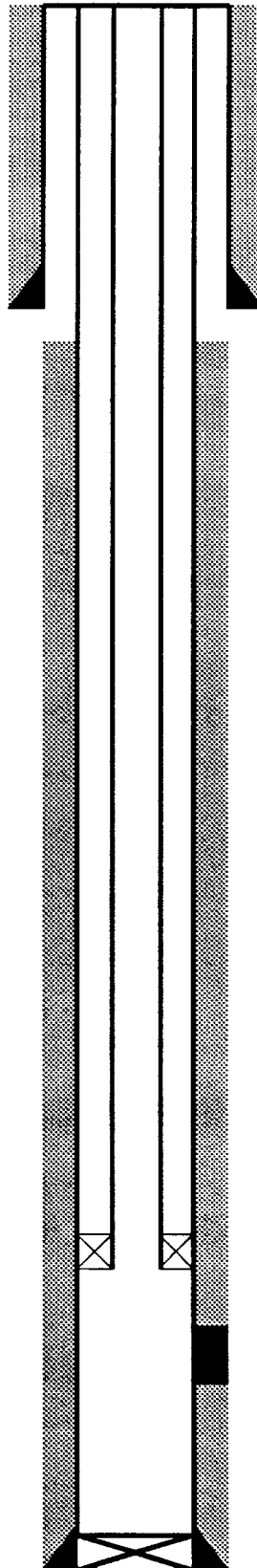
PKR @ 5,911' (Guiberson KVL-30)

Perfs @ 5,990'-6,024'

PBTD @ 6,155'

Shoe @ 6,203'

TD @ 6,203'



WELLBORE SCHEMATIC

Empire Abo Unit K-142

1700' FSL & 1400' FWL
Sec. 2, T-18-S, R-27-E
Eddy County, New Mexico
Spudded 7/31/79
Completed 8/25/79

Surface Casing
10 3/4" 40.5#
w/400 sx Cmt
Circ to surf.

Shoe @ 953"

Tubing
2 3/8" (193 Jts)
w/MA, PN
& SN @ 5945'

Production Casing
7" 23# w/1275 sx
DV Tool @ 3974'
Circ Cmt

Shoe @ 6027'

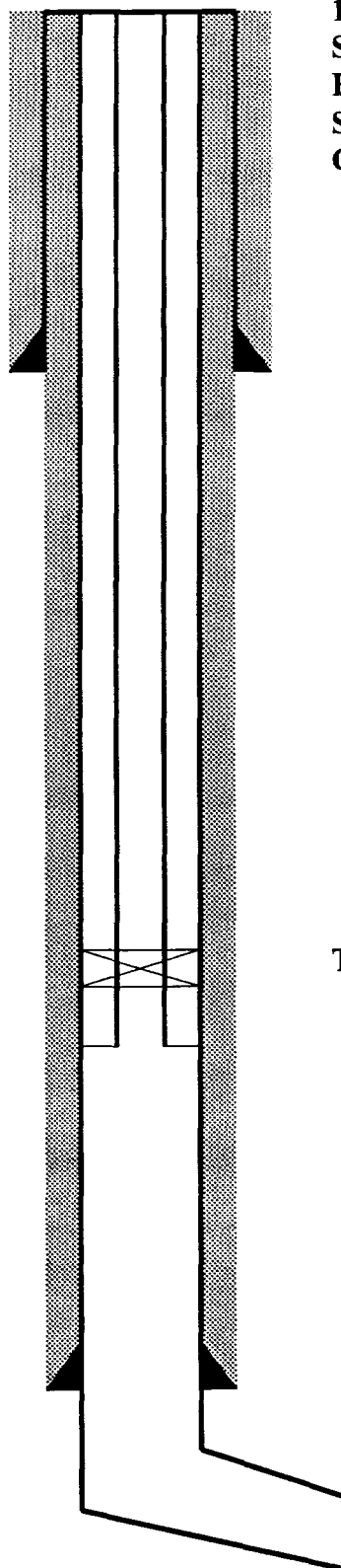
DV Tool @ 3974'

TAC 5917'

TD @ 6027'

Drainhole
6027-6143'

TD Drainhole @ 6143' MD



WELLBORE SCHEMATIC

Empire Abo Unit K-143

1,820' FSL & 2550' FWL
Sec. 2, T-18S, R-27E, Eddy County, NM
Spudded 04/16/79
Completed 05/13/79

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 450 sx

Shoe @ 1,000'

TBG 2 3/8" (193jts)
w/ SN & PKR @ 6,008'

DV Tool @ 3,975'

Production Casing
5 1/2" 15.5#
Cement 1,275 sx
Circ. DV Tool @ 3,975'
Records do not indicate TOC

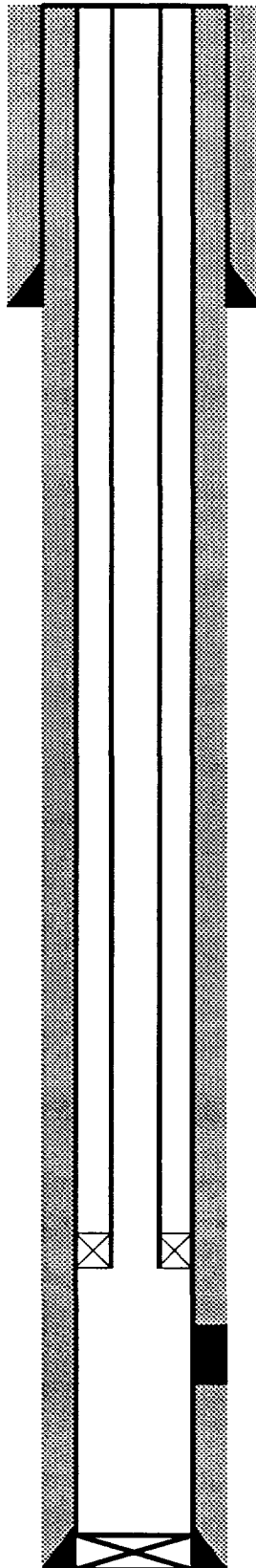
PKR @ 6,008' *

Perfs @ 6,070'-6,090'

PBTD @ 6,097'

Shoe @ 6,107'

TD @ 6,107'



* Texas Ironworks - 2 3/8x5 1/2 No model for this packer. Pkr sets w/3-5 turns-right hand rotation while lowering Tbg. Unseats & latches into run position w/ straight up pull approx. 15" Mandrel Travel

WELLBORE SCHEMATIC

Empire Abo Unit K-15

1980' FSL & 1980' FEL
Sec. 2, T-18-S, R-27-E,
Eddy County, NM
Spudded 2/11/59
Completed 3/23

Surface Casing
8 5/8"
Circ 550 sx cmt to Surf.

Shoe @ 1048'

Tubing
2 3/8" (196 Jts) w/Pkr
& SN @ 5933'

Production Casing
5 1/2" w/885 sx
TOC Surf

Drainhole
@ 6023-6183'

TD @ 6100'

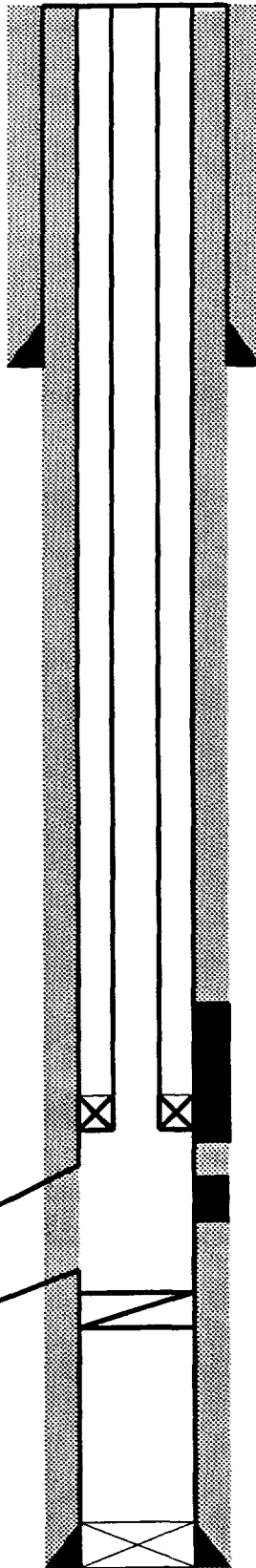
Perfs @ 5970-6000' (Sqzd)

Guiberson KVL 30 2 3/8 x 5 1/2
@ 5993'

Perfs @ 6040-50' (Sqzd)

Whipstock & Pkr @ 6022'
PBTD @ 6023'

Shoe @ 6100'



WELLBORE SCHEMATIC

Empire Abo Unit K-16

1,988' FSL & 660' FEL

Sec. 2, T-18S, R-27E, Eddy County, NM

Spudded 03/30/59

Completed 05/02/59

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 750 sx

Shoe @ 1,386'

TBG 2 3/8" (191jts) @ 6,070'
w/ MA,PN,SN @ 6,034

Production Casing
5 1/2" 14#
Cement 400' sx
TOC 2,700' *

Shoe @ 6,101'

Perfs @ 6,072'-6,086'

PBTD @ 6,099'

TD @ 6,101'

* 12/11/68 perf 2,600 300 sx TOC 1,239
12/11/68 perf 1,239 225 sx TOC Surface
Junk(unknown) @ 6,090'

WELLBORE SCHEMATIC

Empire Abo Unit K-17

1980' FSL & 660' FWL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 3/26/59
Completed 4/21/59

Surface Casing
8 5/8" 24#
Circ w/ 750sx

Shoe @ 1500'

Tubing
2 3/8" w/Pkr @ 5971'

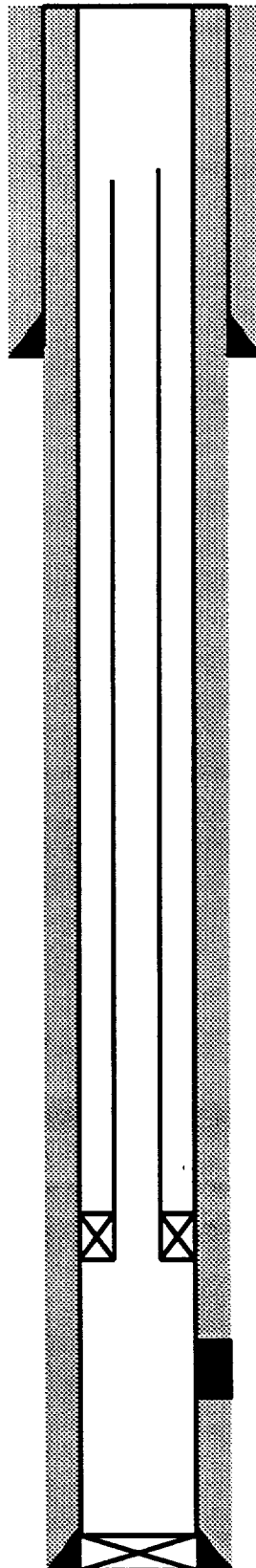
Production Casing
5 1/2"
w/1000 sx Cmt
Circ Cmt to Surf.

Shoe @ 6137'

Perfs @ 6040-80'

PBTD @ 6101'

TD @ 6137'



WELLBORE SCHEMATIC

Empire Abo Unit K-18

1980' FSL & 1980' FWL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 4/23/59
Completed 5/23/59

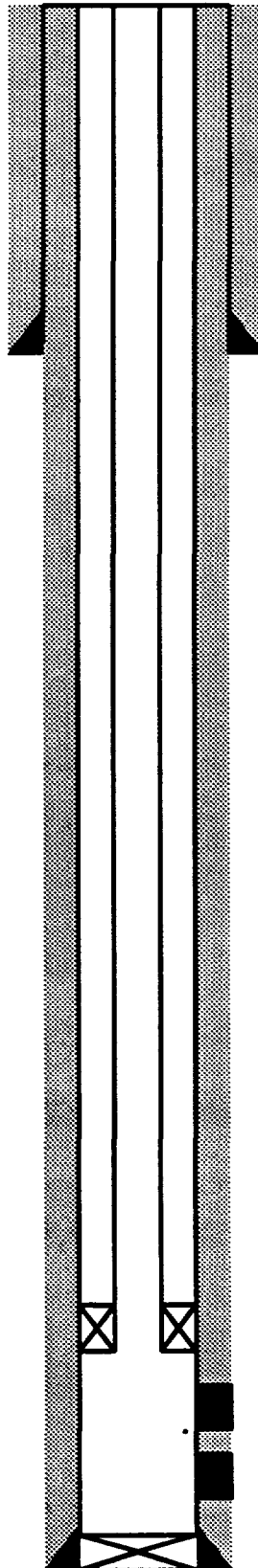
Surface Casing
8 5/8" 24#
Circ w/600sx

Shoe @ 1507'

Tubing
2 3/8" (190 Jts)
w/ Packer @ 6022'

Production Casing
4 1/2"
Circ w/750 sx Cmt

Shoe @ 6163'



Perfs @ 6040-80' (Sqzd)

Perfs @ 6140-56'

PBTD @ 6160'

TD @ 6163'

WELLBORE SCHEMATIC

Empire Abo Unit K #181

2050' FSL & 1440' FWL (K)
Sec 1, T-18S, R-27E, Eddy County, NM
API 30-015-21554
GL-3587'
Spudded 09/17/75
Completed 11/10/75

11" Hole.
8-5/8" casing @ 1000'.
Set w/600 sxs cmt.

2-3/8" tbg & pkr @ 5967'.

Perfs @ 6082' to 6110'.

Perfs @ 6170' to 6190'.

TD @ 6203'.

7-7/8" hole.
5-1/2" csg @ 6203' w/1150 sxs cmt.

WELLBORE SCHEMATIC

Empire Abo Unit K-182

2370" FWL & 1533' FSL
Sec. 1, T-18-S, R-28-E,
Eddy County, NM
Spudded 5/6/76
Completed 5/31/76
.

Surface Casing
8 5/8" 24#
Circ 540 sx cmt to Surf.

Shoe @ 1003'

Tubing
2 3/8" (188 Jts)
w/TAC,SN,&MA @ 6172'.

DV Tool @ 4343'

Production Casing
5 1/2" 14# w/1275 sx
Circ w/DV Tool @ 4343'

Perfs @ 6111-36' (Sqzd)

Perfs @ 6203-13' (Sqzd)

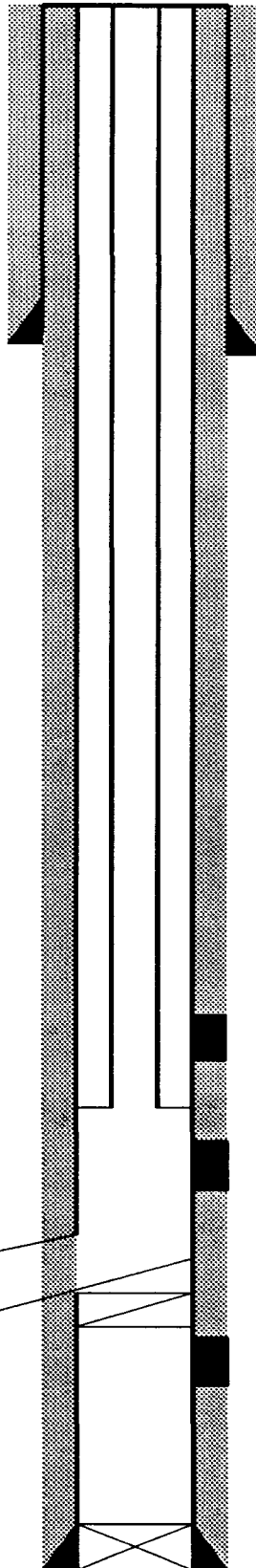
Drainhole
f/6232-6540'

Pkr & Whipstock @ 6232'
Perfs 6240-60' (Sqzd)

PBTD @ 6287'

Org. TD @ 6389'

Shoe @ 6369'



WELLBORE SCHEMATIC

Empire Abo Unit K-183

2370' FSL & 1510' FWL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 6/23/77
Completed 7/24/77

Surface Casing
8 5/8" 24#
Circ w/426 sx
to Surf

Shoe @ 1000'

Tubing
2 3/8" (209 Jts)
w/MA & SN @ 6047'

DV Tool @ 4189'

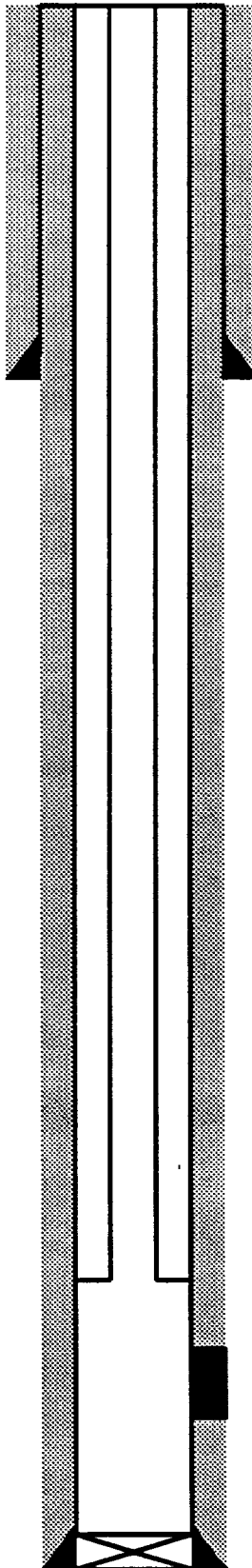
Production Casing
5 1/2" 15.5#
Circ w/1441 sx Cmt
W/DV Tool @ 4189'

Perfs @ 6104-26'

PBTD @ 6164'

Shoe @ 6210'

TD @ 6210'



WELLBORE SCHEMATIC

Empire Abo Unit K-184

2290' FSL & 2445' FWL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 6/20/78
Completed 7/25/78

Surface Casing
8 5/8" 24#
Circ w/475 sx
to Surf

Shoe @ 1010'

Tubing
2 3/8" (195 Jts)
w/Pkr @ 6181'

DV Tool @ 3996'

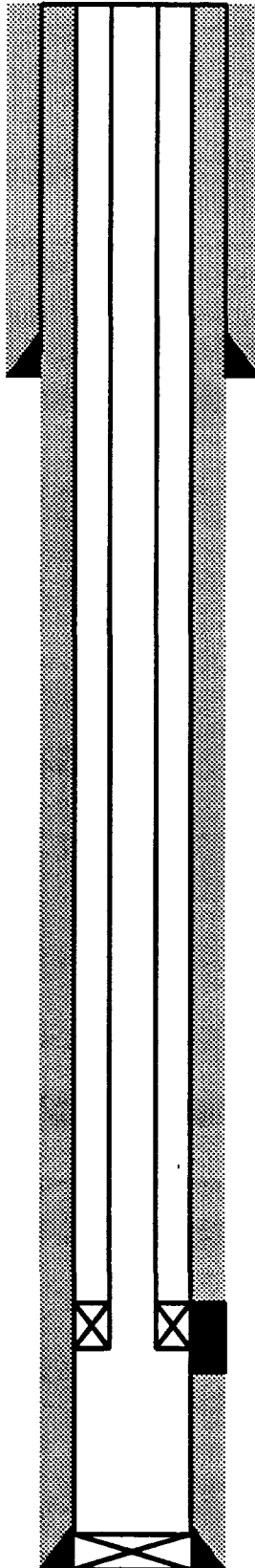
Production Casing
5 1/2" 15.5#
Circ w/905 sx Cmt
W/DV Tool @ 3996'

Perfs @ 6172-86'

PBTD @ 6190'

Shoe @ 6200'

TD @ 6200'



WELLBORE SCHEMATIC

Empire Abo Unit K-19

1980' FSL & 1980' FEL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 7/14/59
Completed 8/26/59

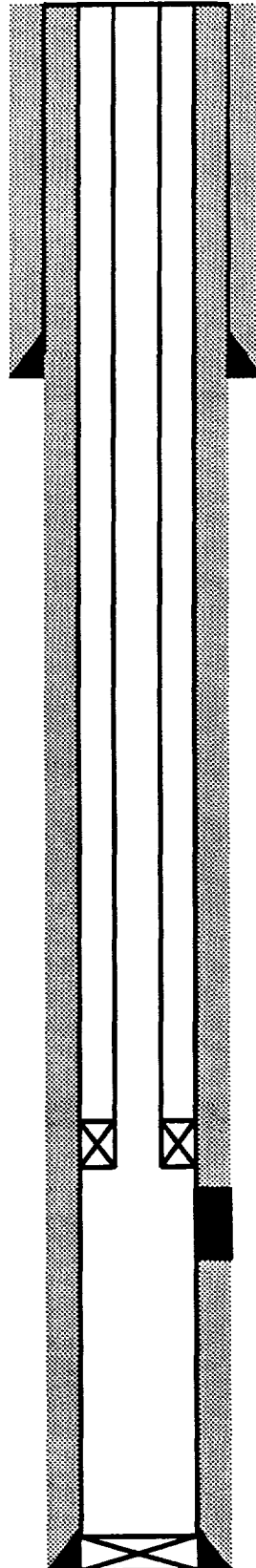
Surface Casing
8 5/8" 24#
Circ w/850 sx
to Surf

Shoe @ 1503'

Tubing
2 3/8" (196 Jts)
w/Pkr @ 6093'

Production Casing
4 1/2" 9.5#
Circ w/2305 sx Cmt
Cmt to Surf.

Shoe @ 6180'



Perfs @ 6144-70'

PBTD @ 6178'
(Junk Pkr)

TD @ 6180'

WELLBORE SCHEMATIC

Empire Abo Unit K-191

1526' FSL & 1470' FEL
Sec. 1, T-18S, R-27E,
Eddy County, NM
Spudded 8/27/76
Completed 9/23/76

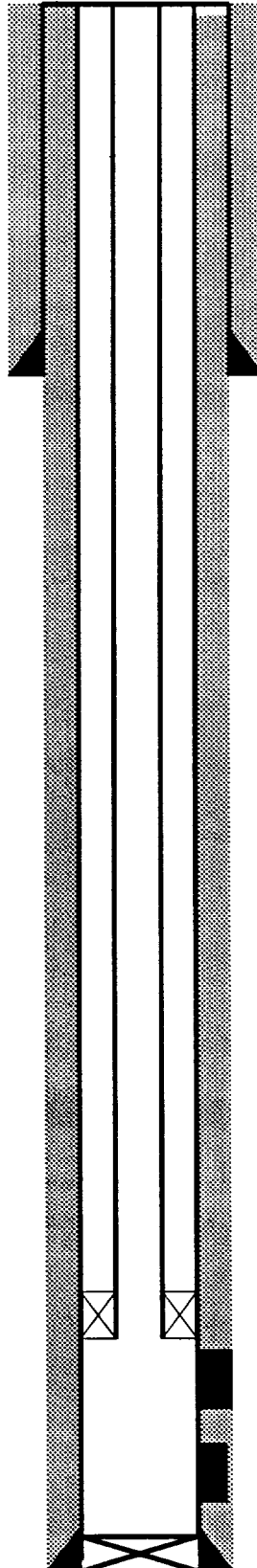
Surface Casing
8 5/8"
Cmt to Surface
w/400sx

Shoe @ 1000"

Tubing
2 3/8" w/Pkr @
5956'

Production Casing
5 1/2" 14 & 15.5#
Cement 1350 sx
Circ w/DV @ 4011'

Shoe @ 6350'



Perfs @ 5984-98' & 6056-66' (Sqzd)

Perfs @ 6154-72'

PBTD @ 6298'

TD @ 6350'

WELLBORE SCHEMATIC

Empire Abo Unit K-192

2020' FSL & 1390' FSL
Sec. 1, T-18-S, R-28-E,
Eddy County, NM
Spudded 5/30/78
Completed 6/25/78

Surface Casing
8 5/8" 24#
Circ 600 sx cmt to Surf.

Shoe @ 1005'

Tubing
2 3/8" (193 Jts)
w/Pkr @ 5984'

Production Casing
5 1/2" 15.5# w/1115 sx
Circ w/DV Tool @ 3980'

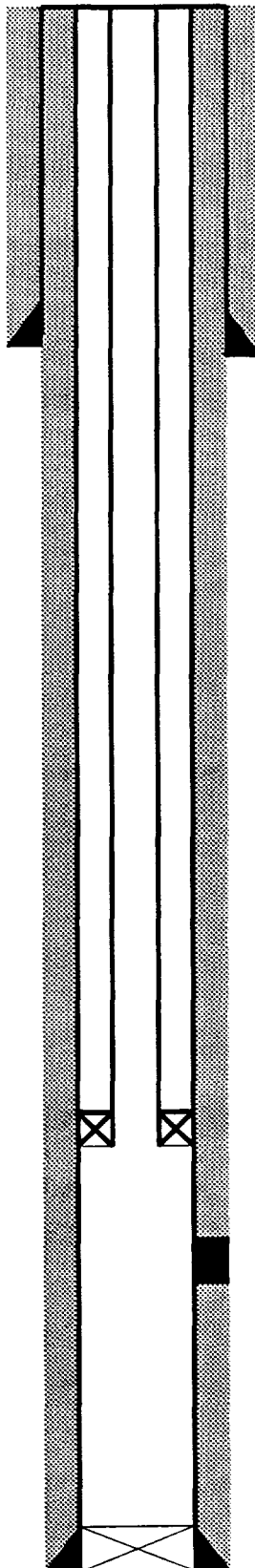
DV Tool @ 3980'

Perfs @ 6100-20'

PBTD @ 6287'

Org. TD @ 6250'

Shoe @ 6369'



WELLBORE SCHEMATIC

Empire Abo Unit K-193

2490' FSL & 2200' FEL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 9/29/78
Completed 10/26/78

Surface Casing
8 5/8" 24#
Circ w/325 sx
to Surf

Shoe @ 1006'

Tubing
2 3/8" (199 Jts)
w/Pkr @ 6047'

DV Tool @ 4014'

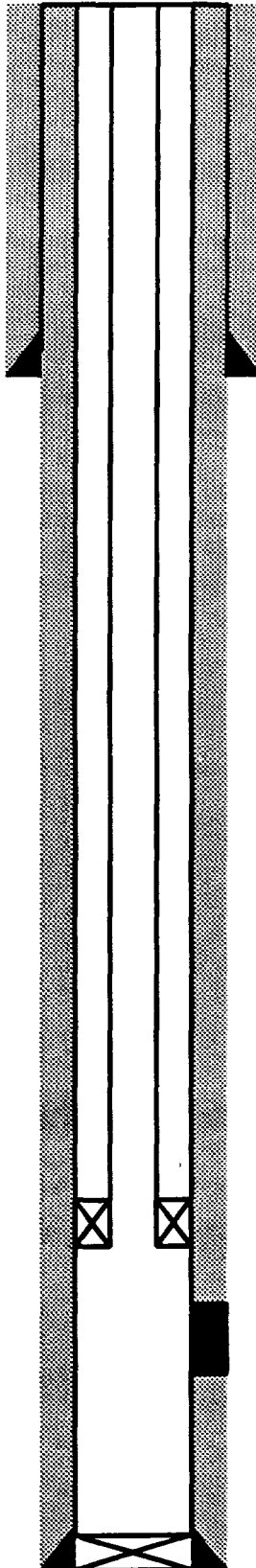
Production Casing
5 1/2" 15.5#
Circ w/1170 sx Cmt
Circ w/DV @ 4014'

Perfs @ 6150-60'

PBTD @ 6200'

Shoe @ 6225'

TD @ 6225'



WELLBORE SCHEMATIC

Empire Abo Unit K-194

1500' FSL & 2130' FEL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 10/18/78
Completed 11/14/78

T& A'd 5/28/92 w/Tbg & Pkr

Surface Casing
8 5/8" 24#
Circ 750 sx cmt to Surf.

Shoe @ 998'

Tubing
Infor. N/A

DV Tool @ 4015'

Production Casing
5 1/2" 15.5#
w/1171sx
Circ w/DV @ 4015'

Perfs @ 6147-67' (Sqzd)

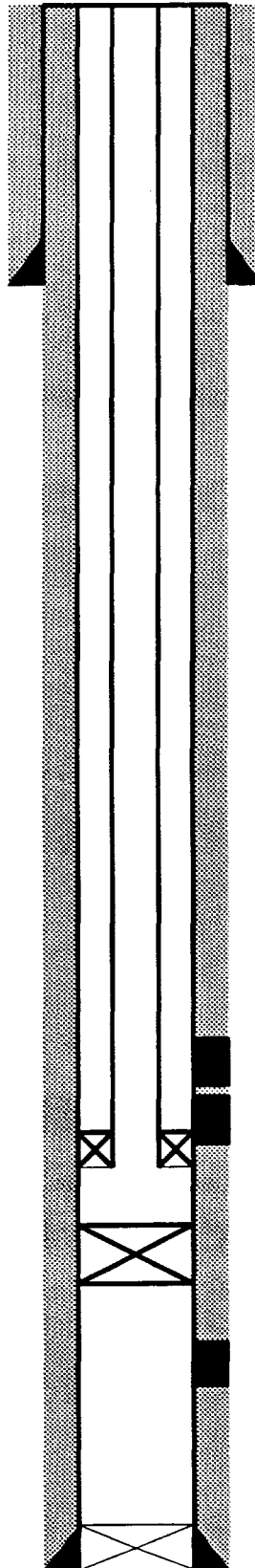
Perfs @ 6150-60'

CIBP/PBTD @ 6178'

Perfs @ 6197-6209' (Sqzd)

TD @ 6325'

Shoe @ 6325'



WELLBORE SCHEMATIC

Empire Abo Unit K-20

1980' FNL & 660' FWL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 8/31/59
Completed 10/1/59

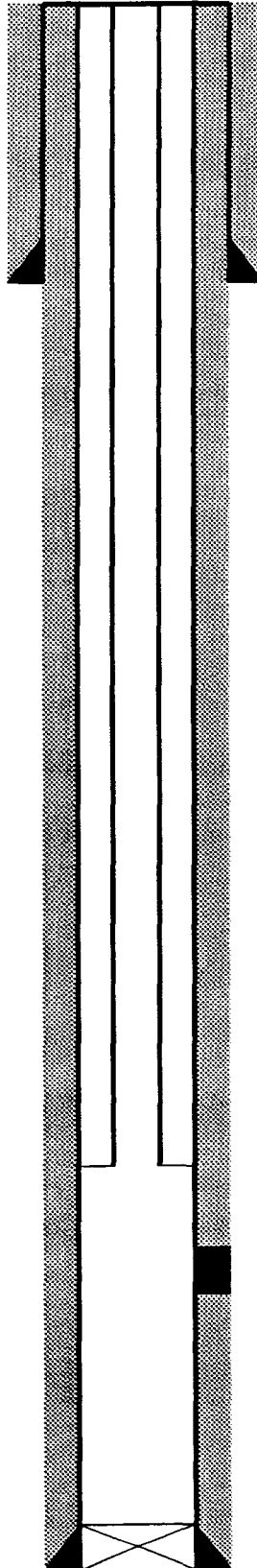
Surface Casing
8 5/8" 24#
Circ 850 sx cmt to Surf.

Shoe @ 1522'

Tubing
2 3/8" (195 Jts)
w/MA @ 6098' .

Production Casing
4 1/2" 11.6#
w/200 sx
TOC N/A

TD @ 6185'



Perfs @ 6159-75'

PBTD @ 6180'

Shoe @ 6185'

WELLBORE SCHEMATIC

Empire Abo Unit K-21

660' FWL & 2219' FSL
Sec. 6, T-18-S, R-28-E,
Eddy County, NM
Spudded 12/27/59
Completed 1/13/60

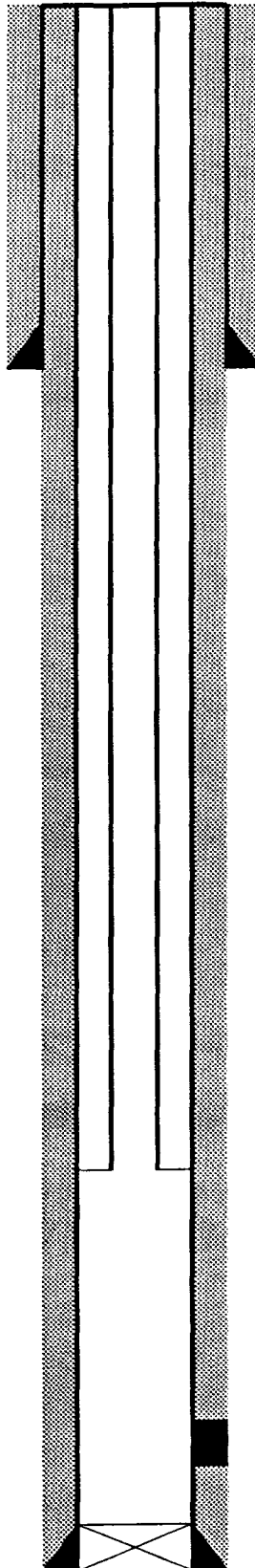
Surface Casing
8 5/8" 24#
Circ 850 sx cmt to Surf.

Shoe @ 1522'

Tubing
2 3/8" @ 5751'

Production Casing
5 1/2" w/850 sx
TOC 125'

TD @ 6194'



Perfs @ 6130-70'

Shoe @ 6194'

WELLBORE SCHEMATIC

Empire Abo Unit K-211

1950' FSL & 1000' FWL
Sec. 6, T-18S, R-28E,
Eddy County, NM
Spudded 2/11/81
Completed 7/17/81

Surface Casing
9 5/8"
Circ w/ 425 sx

Shoe @ 980'

Tubing (194 Jts)
2 3/8" w/PN & SN
@ 6029'

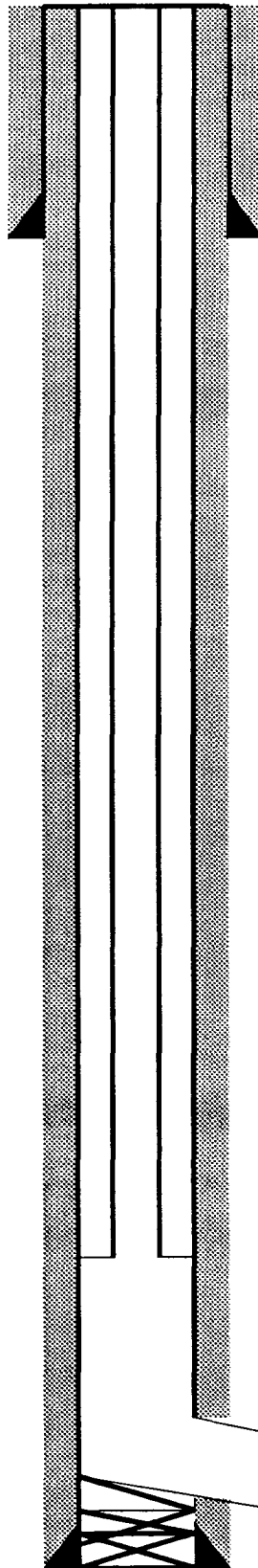
Production Casing
7" 23#
Cement w/1325sx
(Circ cmt to Surf)

Shoe @ 6250'

DV Tool @ 4012' (Circ)

Pkr & Whipstock
@ 6134'

Org. TD @ 6250'
Drainhole f/6134-6311'



WELLBORE SCHEMATIC

Empire Abo Unit K-22

2248.16' FSL & 2075.2' FWL

Sec. 6, T-18-S, R-28-E,

Eddy County, NM

Spudded 1/28/60

Completed 2/25/60

Surface Casing

8 5/8" 22.7#

Circ w/ 425 sx

Shoe @ 1267'

Tubing

2 3/8" w/SN& Pkr

@ 6063.77'

Production Casing

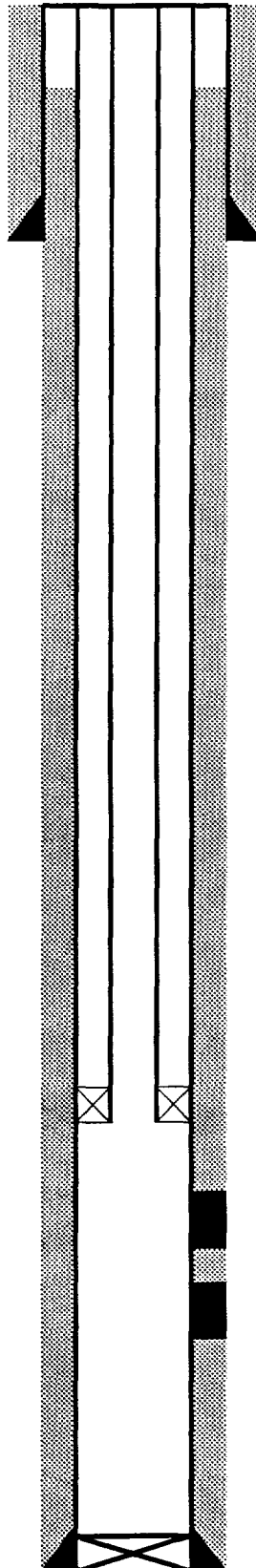
5 1/2" 15.5#

Cmt w850sx

(Circ cmt) TOC

@ 425' by TS

Shoe @ 6210'



Perfs @ 6090-6120' (Sqzd)

Perfs @ 6168-6182'

PBTD @ 6200'

TD @ 6210'

WELLBORE SCHEMATIC

Empire Abo Unit K-23

2310' FSL & 2310' FEL
Sec. 6, T-18-S, R-28-E,
Eddy County, NM
Spudded 3/31/60
Completed 5/2/60

Surface Casing
8 5/8" 24#
Circ w/ 500 sx

Shoe @ 1030'

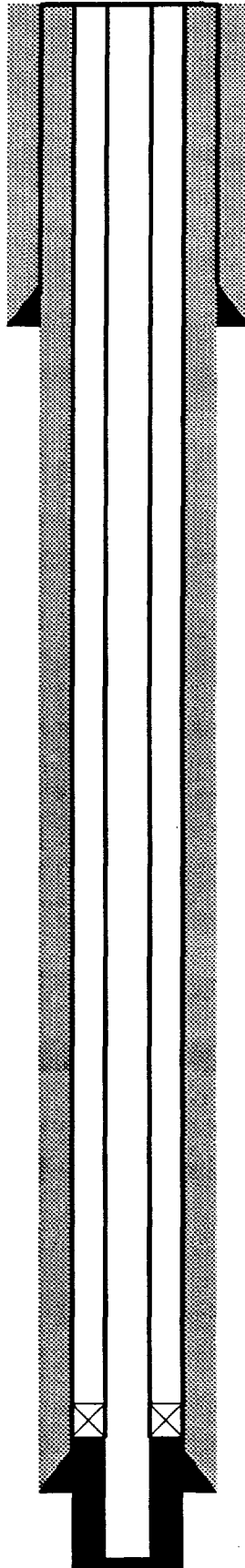
Tubing
2 3/8" in TOL @
6074'

Production Casing
5 1/2" 14# & 15.5#
Cmt w/150sx @ 6195'
(Circ to surf. w/2000 sx
thru holes @ 5130', 1400',
& 1080')

TD @ 6195'
3 1/2" Liner f/6074-6310'
w/35 sx (Circ cmt)

Perfs @ 6280-92'

PBTD @ 6300'



WELLBORE SCHEMATIC

Empire Abo Unit K-231

1700' FSL & 2350' FEL
Sec. 6, T-18-S, R-28-E,
Eddy County, NM
Spudded 7/18/78
Completed 8/14/78

Surface Casing
8 5/8" 24#
Circ w/ 350 sx

Shoe @ 550'

Tubing (196 Jts)
2 3/8" w/SN & Pkr
@ 6086'

Production Casing
5 1/2" 15.5#
Circ w/1401 sx Cmt

Shoe @ 6350'

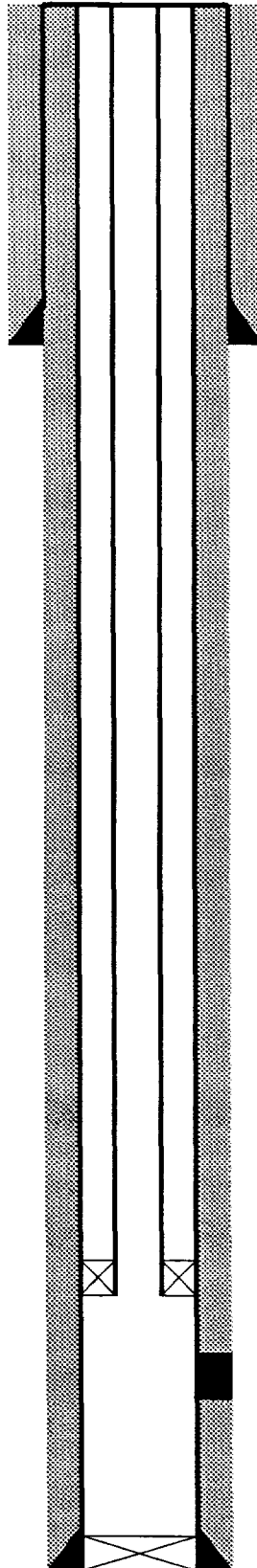
DV Tool @ 3987'

Pkr @ 6086'

Perfs 6210-30'

PBTD @ 6268'

TD @ 6350'

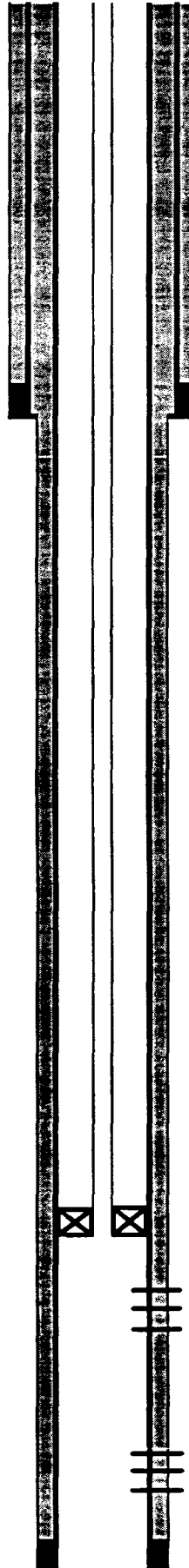


WELLBORE SCHEMATIC

Empire Abo Unit K #232

2300' FSL & 1570' FEL (J)
Sec 6, T-18S, R-28E, Eddy County, NM
API 30-015-22528
GL-3651'
Spudded 06/27/78
Completed 10/19/79
TA 05/27/92

11" Hole.
8-5/8" casing @ 558'.
Set w/400 sxs cmt.



2-3/8" tbg & pkr @ 6174'.

Perfs @ 6272' to 6284'.

Perfs @ 6304' to 6310'.

TD @ 6350'.

7-7/8" hole.
5-1/2" csg @ 6350' w/1785 sxs cmt.

WELLBORE SCHEMATIC

Empire Abo Unit L-9

660' FSL & 660' FWL

Sec. 3, T-18S, R-27E, Eddy County, NM

Spudded 12/28/58

Completed 02/20/59

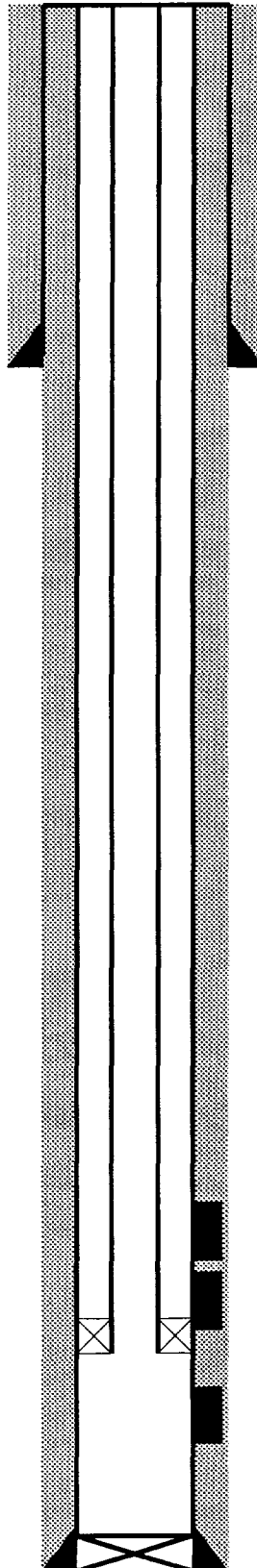
Surface Casing
8 5/8" 24#
Circ Cmt to Surf 700 sx

Shoe @ 1,000'

2 3/8" TBG (180jts)
w/ PKR @ 5621'

Production Casing
5 1/2" 14# & 15.5#
Cement 320 sx w/ 1060 sx
thru perfs @ 4,060'
to Surf.

Shoe @ 6,431'



Perfs @ 5,232-58' (sqzd)'

Perfs @ 5,560'-90' (sqzd)

PKR @ 5,621

Perfs @ 5,655'-73'

PBTD @ 6,386'

TD @ 6,431'

WELLBORE SCHEMATIC

Empire Abo Unit L-10

660' FSL & 1980' FWL

Sec. 3, T-18S, R-27E, Eddy County, NM

Spudded 02/20/59

Completed 04/07/59

Surface Casing

8 5/8"

Circ Cmt to Surf 750 sx

Shoe @ 1,500'

2 3/8" TBG

w/ PKR @ 5,633'

Production Casing

5 1/2" 14#

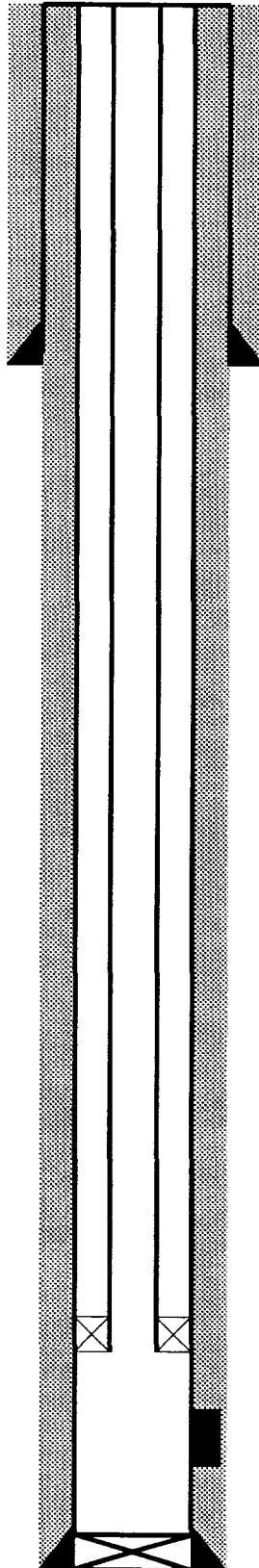
Circ w/ Cement 300 & 750 sx
thru perfs @ 3,500'

Shoe @ 5,830'

Perfs @ 5,718'-40'

PBTD @ 5,799'

TD @ 5,834'



WELLBORE SCHEMATIC

Empire Abo Unit L-11

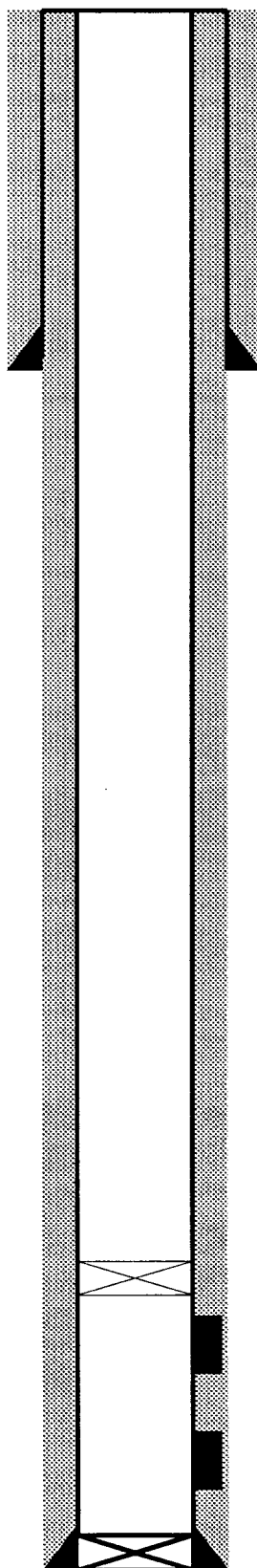
610' FSL & 1980' FEL
Sec. 3, T-18S, R-27E, Eddy County, NM
Spudded 11/30/58
Completed 01/11/59
T&A'd w/ RBP @ 5,288' (11/88)
Bad Pipe from 1,465'-1,554'

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 700 sx

Shoe @ 983'

Production Casing
5 1/2" 14#
Cement 175 sx
Original TOC @ 5000'
circ cmt w/ 1150 sx
thru hole @ 3,015'

Shoe @ 6,043'



PBTB/RBP @ 5,288'

Perfs @ 5,345'-80' (sqzd)

Perfs @ 5,847'-92'

TD @ 6,045'

WELLBORE SCHEMATIC

Empire Abo Unit L-111

2485' FEL & 20' FSL

Sec. 3, T-18S, R-27E, Eddy County, NM

Spudded 08/09/76

Completed 09/06/76

Surface Casing

8 5/8" 24#

Circ Cmt to Surf 400 sx

Shoe @ 1000'

TBG 2 3/8" (197jts)

w/ PKR @ 5,875'

Production Casing

5 1/2" 14# & 15.5#

Cement 1613 sx
circ cmt w/ DV Tool
@ 4,021'

Shoe @ 6,021'

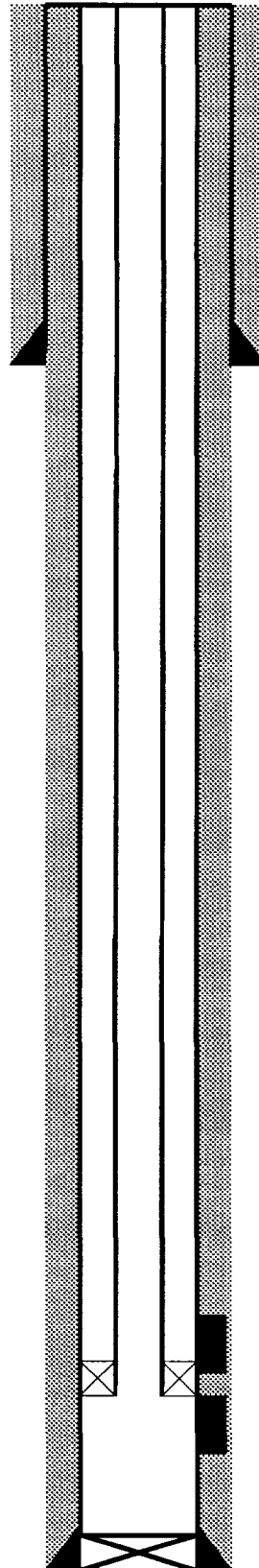
DV Tool @ 4,021'

Perfs @ 5,699'-5,714' (sqzd)

Perfs @ 5,952'-70'

PBTD @ 5,984'

TD @ 6,021'



WELLBORE SCHEMATIC

Empire Abo Unit L-12

660' FSL & 400' FEL

Sec. 3, T-18S, R-27E, Eddy County, NM

Spudded 09/08/58

Completed 10/06/58

Surface Casing

8 5/8" 24#

Circ Cmt to Surf 600 sx

Shoe @ 993'

TBG 2 3/8"

w/ PKR @ 5,780'

Production Casing

5 1/2" 14#

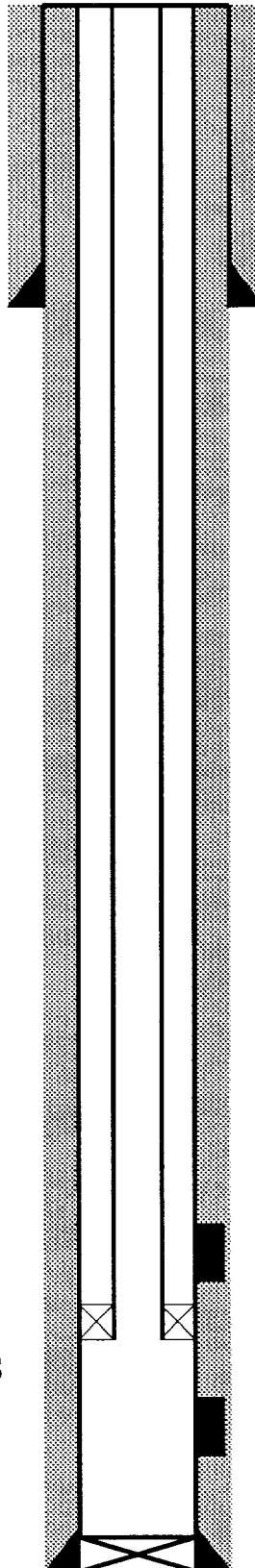
Cement 225 sx

Original TOC @ 4,780' by TS

Circ Cmt w/ 1,170 sx

thru perfs @ 4,740' & 920'

Shoe @ 6,108'



Perfs @ 5,330-70' (sqzd)

PKR @ 5,780'

Perfs @ 5,950'-80'

PBTB @ 6,070'

TD @ 6,108'

WELLBORE SCHEMATIC

Empire Abo Unit L-121

1,186' FSL & 200' FEL
Sec. 3, T-18S, R-27E, Eddy County, NM
Spudded 04/27/77
Completed 05/23/77

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 400 sx

Shoe @ 1,000'

TBG 2 3/8" (189jts)
w/ SN,PN,MA @ 5,855'

DV Tool @ 4,506'

Production Casing
5 1/2" 15.5#
Cement 1,595 sx
Circ. DV Tool @ 4,506'

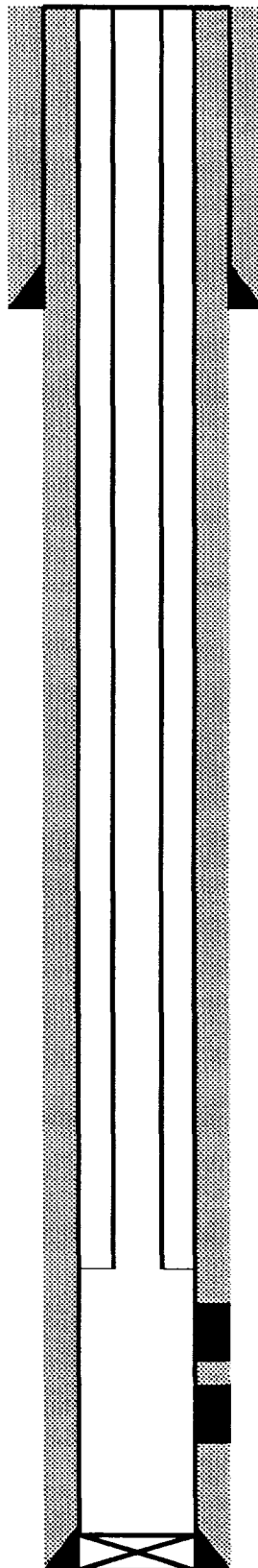
Perfs @ 5,936'-5,956' (sqzd)

Perfs @ 6,010'-6,028'

PBTD @ 6,106'

TD @ 6,150'

Shoe @ 6,150'



WELLBORE SCHEMATIC

Empire Abo Unit L-122

100' FSL & 430' FEL

Sec. 3, T-18S, R-27E, Eddy County, NM

Spudded 04/20/79

Completed 06/07/79

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 400 sx

Shoe @ 1,000'

TBG 2 3/8" (187jts)
w/ SN & PKR @ 5,848'

DV Tool @ 4,012'

Production Casing
5 1/2" 15.5#
Cement 1,425 sx
Circ Cmt DV @ 4,012'
to Surf.

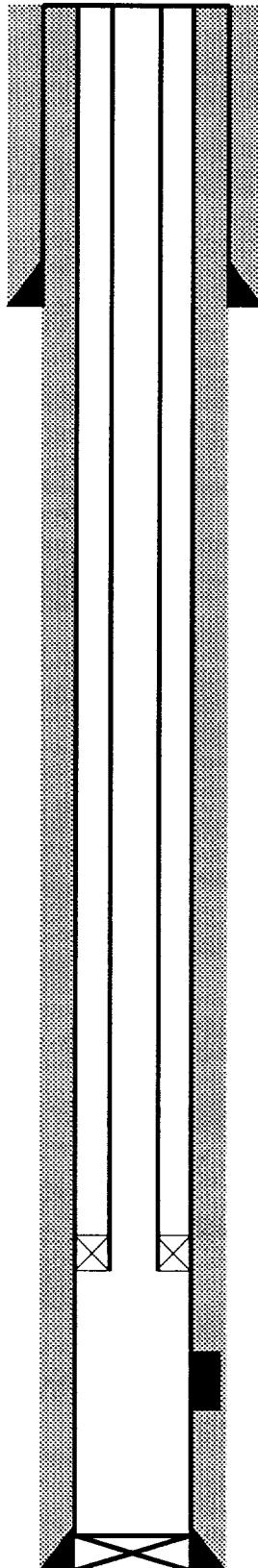
PKR @ 5,848'
Baker Model R

Perfs @ 5,966'-5,976'

PBTD @ 5,983'

Shoe @ 6,150'

TD @ 6,159'



WELLBORE SCHEMATIC

Empire Abo Unit L-123

660' FSL & 250' FEL

Sec. 3, T-18S, R-27E, Eddy County, NM

Spudded 04/04/79

Completed 05/01/79

Surface Casing

8 5/8"

Circ Cmt to Surf 260 sx

Shoe @ 1,000'

TBG 2 3/8" (189jts)

@ 5,906' &

MA,PN,SN,TAC

DV Tool @ 4,001'

Production Casing

5 1/2" 15.5#

Cement 1,232 sx

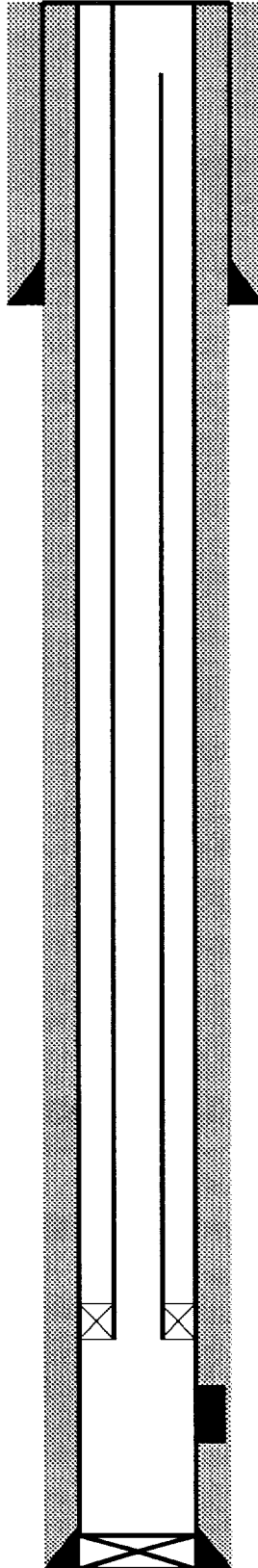
Circ Cmt DV @ 4,001'
to Surf.

Perfs @ 5,942'-5,952'

PBTD @ 5,965'

TD @ 6,100'

Shoe @ 6,100'



WELLBORE SCHEMATIC

Empire Abo Unit L-13

1,980' FNL & 660' FWL

Sec. 2, T-18S, R-27E, Eddy County, NM

Spudded 11/24/58

Completed 12/19/58

T&A'd 02/02/80

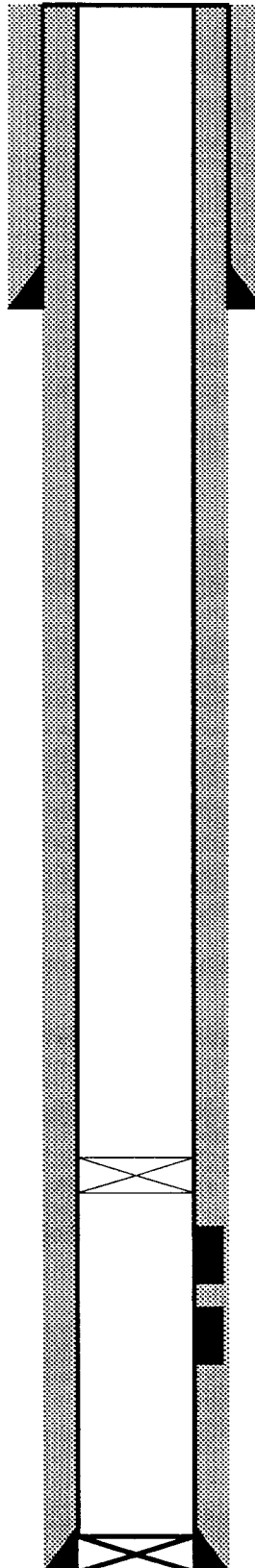
Records show proposal to convert to gas injection 03/01/90. No records in file to indicate work completed.

Surface Casing

8 5/8"

Circ Cmt to Surf 675 sx

Shoe @ 1,004'



Production Casing

5 1/2" 14#

Cement 225 sx

01/16/80-275 sx thru perfs

@ 5,021; 325 sx thru perfs

@ 2,300

Shoe @ 6,131'

CIBP @ 5,300

Perfs @ 5,364'-5,390' (sqzd)

Perfs @ 5,754'-5,784'

PBTD @ 6,090'

TD @ 6,131'

WELLBORE SCHEMATIC

Empire Abo Unit L-131

100' FSL & 100' FWL
Sec. 2, T-18S, R-27E,
Eddy County, NM
Spudded 6/26/76
Completed 7/12/76

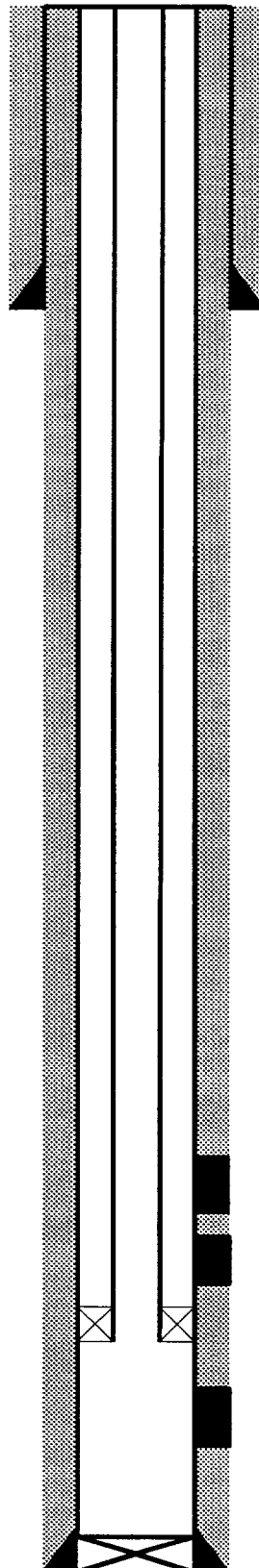
Surface Casing
8 5/8" 24#
Circ Cmt to Surf 325 sx

Shoe @ 1,000'

TBG 2 3/8" (190 jts)
w/ SN & Baker Model R
@ 5914'

Production Casing
5 1/2" 14 & 15.5#
Cement circ to surface
w/ 1,449 sx

Shoe @ 6,200



Perfs @ 5786-5806 (Sqzd)

Perfs @ 5926-5946' (Sqzd)

BAKER MODEL R
PKR @ 5,943'

Perfs @ 5998-6012'

PBTD @ 6113'

TD @ 6,187'

WELLBORE SCHEMATIC

Empire Abo Unit L-132

1243' FWL & 275' FSL
Sec. 2, T-18-S, R-27-E,
Eddy County, NM
Spudded 6/10/76
Completed 7/1/76

Surface Casing
8 5/8" 24#
Circ w/ 600 sx

Shoe @ 1000'

Tubing
2 3/8" (194 Jts)
w/SN,PN, & Pkr
@ 6120'

Production Casing
5 1/2" 14# & 15#
Cement w/1090 sx
Circ DV @ 4189'

Perfs @ 5867-77' (Sqzd)

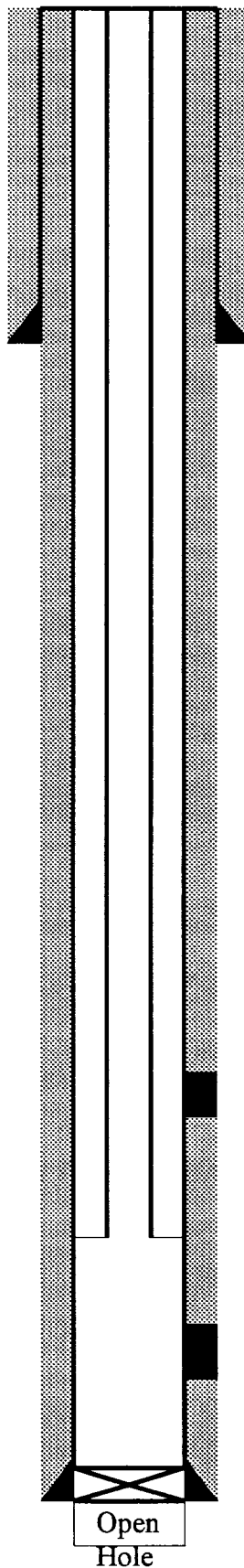
TAC @ 6007' 2 3/8 x 5 1/2

Perfs @ 6056-6070'

PBTD @ 6154'

Shoe @ 6187'

TD @ 6200'



WELLBORE SCHEMATIC

Empire Abo Unit L-133

800' FSL & 950' FWL
Sec. 2, T-18-S, R-27-E,
Eddy County, NM
Spudded 3/17/79
Completed 4/18/79

Surface Casing
8 5/8" 24#
Circ w/ 520 sx

Shoe @ 1000'

Tubing
2 3/8" (194 Jts)
w/SN & Pkr
@ 5992'

Production Casing
5 1/2" Cement w/1190 sx
Circ DV @ 3999'

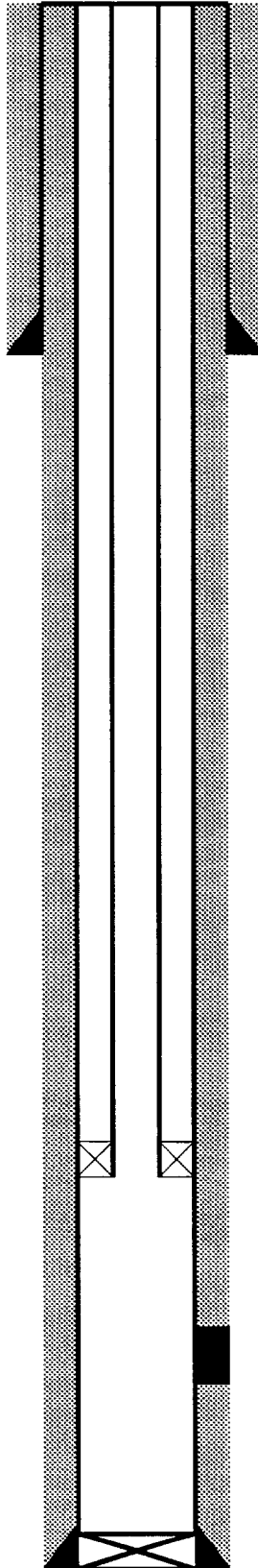
Halliburton R-4
2 3/8" x 5 1/2"

Perfs @ 6072-92"

PBTD @ 6107'

Shoe @ 6135'

TD @ 6135'



WELLBORE SCHEMATIC

Empire Abo Unit L-134

10' FSL & 640' FWL
Sec. 2, T-18S, R-27E, Eddy County, NM
Spudded 01/17/79
Completed 02/11/79

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 375 sx

Shoe @ 1,000'

TBG 2 3/8" (189jts)
w/ SN & PKR @ 5,943'

DV Tool @ 4,012

Production Casing
5 1/2" 15.5#
Cement 1,325 sx
Circ. DV Tool @ 4,012

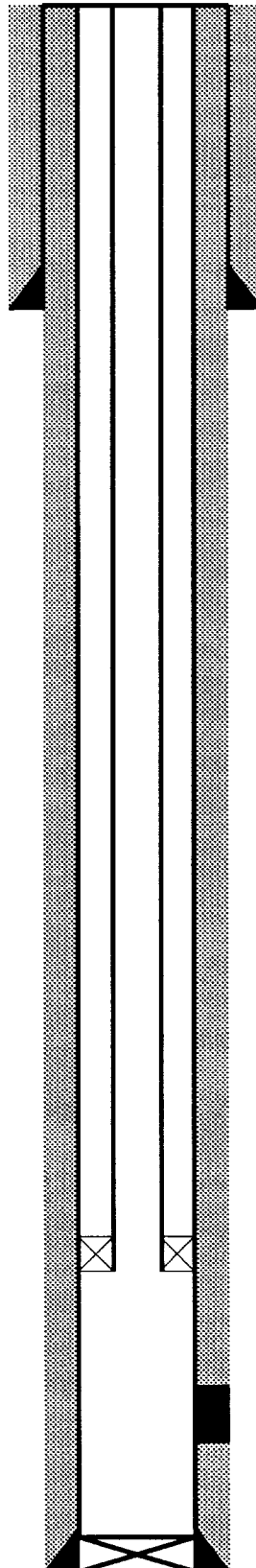
Baker Mod 'R' PKR @ 5,943'

Perfs @ 6,052'-6,068'

PBTD @ 6,097'

Shoe @ 6,150'

TD @ 6,150'



WELLBORE SCHEMATIC

Empire Abo Unit L-14

660' FSL & 1980' FWL

Sec. 2, T-18-S, R-27-E,

Eddy County, NM

Spudded 9/22/58

Completed 10/19/58

T&A'd 5/12/92

(Records do not show tubing pulled
or CIBP set)

Surface Casing

8 5/8" 24#

Circ w/ 900 sx

Shoe @ 988'

Tubing

2 3/8" (196 Jts)

w/SN & Pkr

@ 6001'

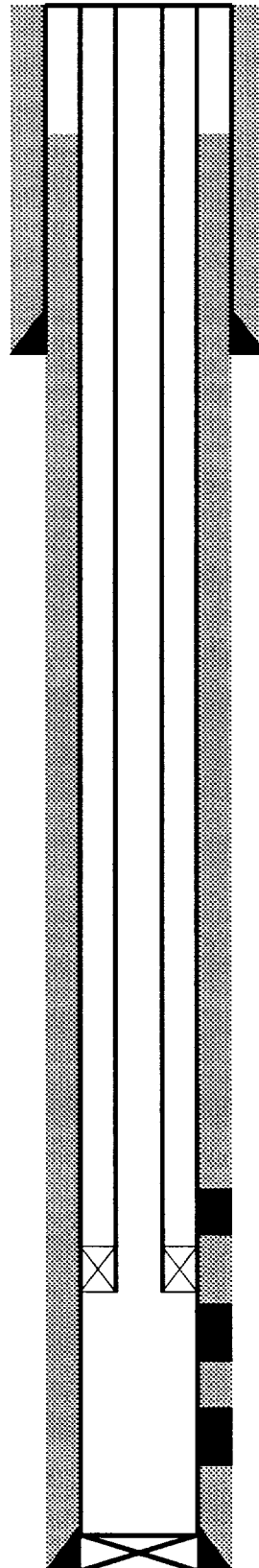
Production Casing

5 1/2" 14#

Cement w/350 sx

TOC @ 225' by TS

Shoe @ 6112'



Perfs 5810-45' (Sqzd)

Baker Model R PKR @ 6,001'

Perfs 6010-34' (Sqzd)

Perfs @ 6112-52'

TD @ 6152'

WELLBORE SCHEMATIC

Empire Abo Unit L-141

1,360' FWL & 1,050' FSL

Sec. 2, T-18S, R-27E, Eddy County, NM

Spudded 06/13/75

Completed 07/08/75

T&A'd 05/12/92

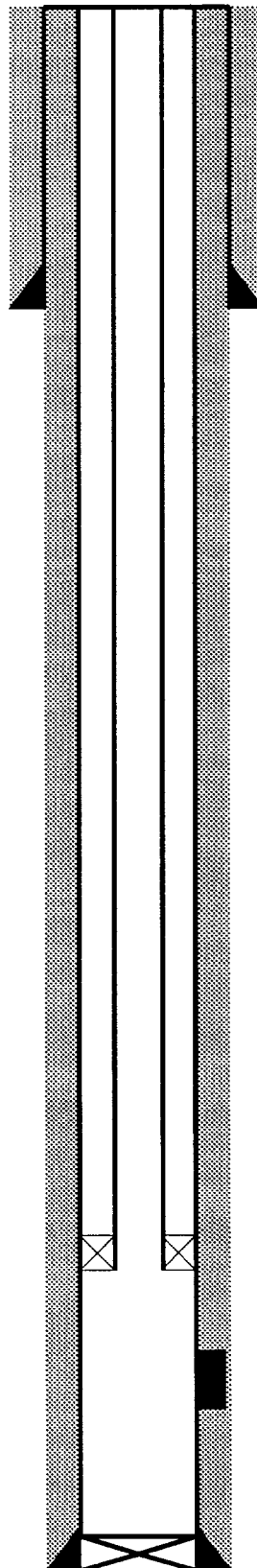
Surface Casing
8 5/8" 24#
Circ Cmt to Surf 350 sx

Shoe @ 1,000'

TBG 2 3/8" (192jts)
& Baker Model R
@ 5,942'

Production Casing
5 1/2" 14#
Cement 1,050 sx
TOC, SURF, CIRC

Shoe @ 6,158'



DV Tool @ 4,142'

PKR @ 5,942'

Perfs @ 6,005'-6,017'

PBTD @ 6,118'

TD @ 6,127'

WELLBORE SCHEMATIC

Empire Abo Unit L-142

100' FSL & 1,950' FWL

Sec. 2, T-18S, R-27E, Eddy County, NM

Spudded 12/13/78

Completed 01/12/79

Surface Casing

8 5/8"

Circ Cmt to Surf 945 sx

Shoe @ 1,000'

TBG 2 3/8" (193jts)

w/ SN & PKR @ 6,010'

DV Tool @ 4,005'

Production Casing

5 1/2" 15.5#

Cement 1,175 sx

Circ Cmt DV @ 4,005'
to Surf.

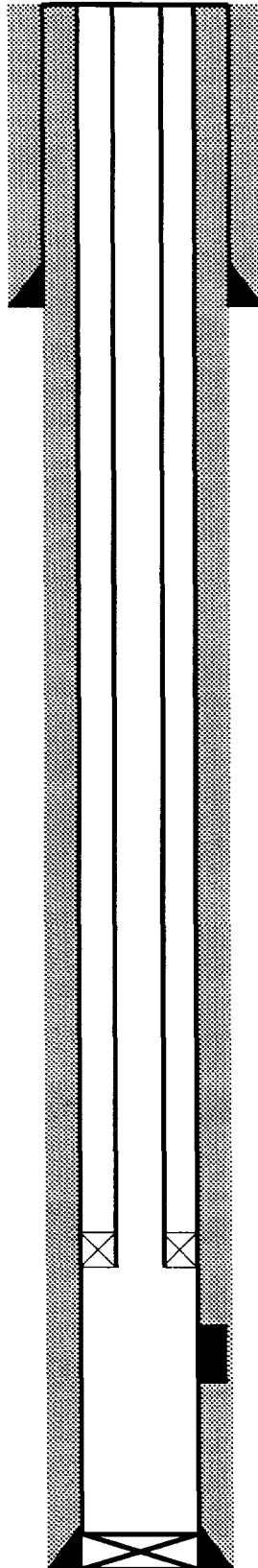
Baker Mod 'R' PKR @ 6,010'

Perfs @ 6,089'-6,111'

PBTD @ 6,193'

Shoe @ 6,193'

TD @ 6,200'



WELLBORE SCHEMATIC

Empire Abo Unit L-143

1200' FSL & 1,900' FWL

Sec. 2, T-18S, R-27E, Eddy County, NM

Spudded 11/26/78

Completed 12/20/78

Surface Casing

8 5/8"

Circ Cmt to Surf 625 sx

Shoe @ 1,000'

TBG 2 3/8" (192jts)

w/ SN & PKR @ 6,022'

DV Tool @ 4,009'

Production Casing

5 1/2" 15.5#

Cement 1,025 sx

Circ Cmt DV @ 4,009'
to Surf.

Perfs @ 5,982'-6,003' (sqzd)

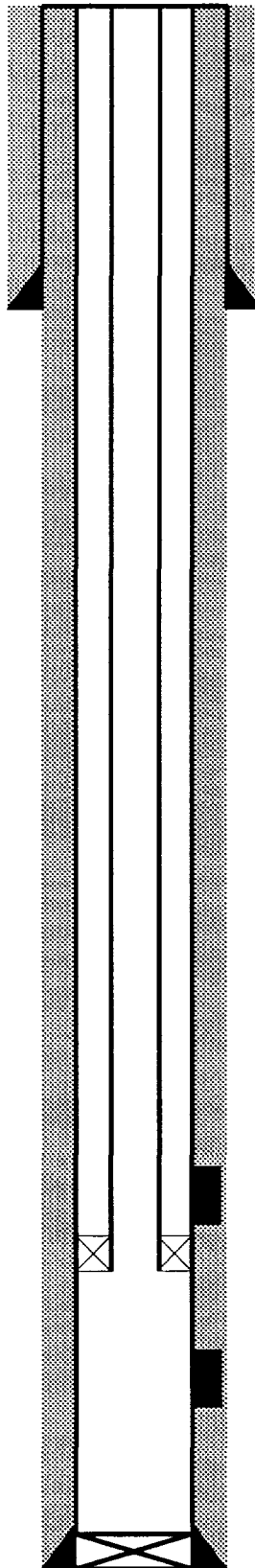
Guiberson KVL-30 PKR @ 6,022'

Perfs @ 6,072'-6,092'

PBTD @ 6,093'

Shoe @ 6,100'

TD @ 6,100'



WELLBORE SCHEMATIC

Empire Abo Unit L-15

660' FSL & 1980' FEL
Sec. 2, T-18-S, R-27-E,
Eddy County, NM
Spudded 10/9/58
Completed 11/16/58

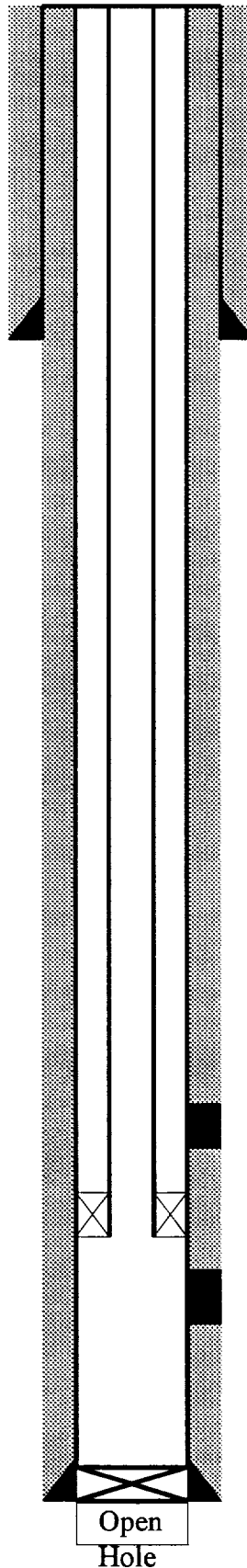
Surface Casing
8 5/8" 24#
Circ w/ 600 sx

Shoe @ 972'

Tubing
2 3/8" (193 Jts)
w/SN & Pkr
@ 6003'

Production Casing
5 1/2" 14#
Cement w/150 sx
TOC N/A

Shoe @ 6112'



Perfs @ 5867-77' (Sqzd)

Baker Model R 2 3/8 x 5 1/2

Perfs @ 6042-6064"

TD @ 6135'

WELLBORE SCHEMATIC

Empire Abo Unit L-151

1,110' FSL & 1,332' FEL

Sec. 2, T-18S, R-27E, Eddy County, NM

Spudded 09/22/75

Completed 11/04/75

Surface Casing

8 5/8" 24#

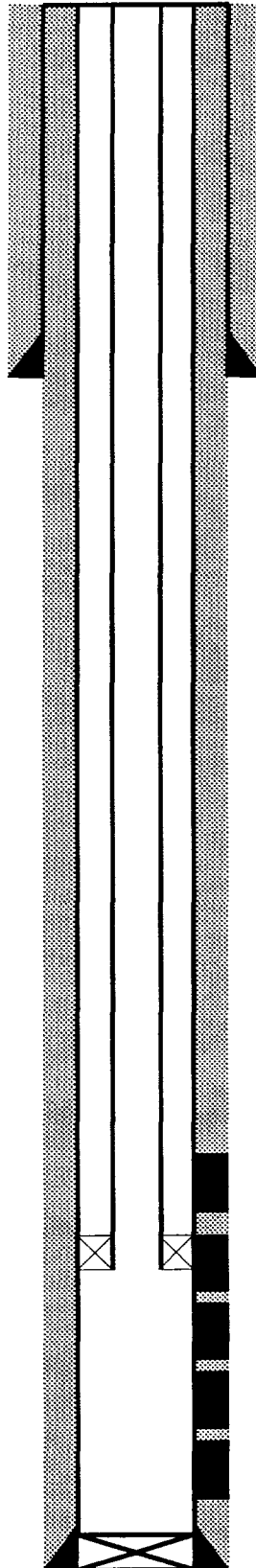
Circ Cmt to Surf 600 sx

Shoe @ 1,016'

TBG 2 3/8" (196jts)' @ 6,128'
w/ SN,MA & PKR

Production Casing
5 1/2" 14# & 15.5#
Cement 1,045' sx
DV Tool @ 4,006'
TOC Surface

Shoe @ 6,285'



DV Tool @ 4,006'

Perfs @ 5,873'-5,884' (sqzd)

Baker Lok-set PKR @ 6,020'
Perfs @ 6,037'-6,052' (sqzd)

Perfs @ 6,102'-6,118' (sqzd)

Perfs @ 6,156'-6,166'

Perfs @ 6,160'-6,170' (sqzd)

PBTD @ 6,222'

TD @ 6,285'

WELLBORE SCHEMATIC

Empire Abo Unit L-152

2,602' FEL & 320' FSL

Sec. 2, T-18S, R-27E, Eddy County, NM

Spudded 05/24/76

Completed 06/08/76

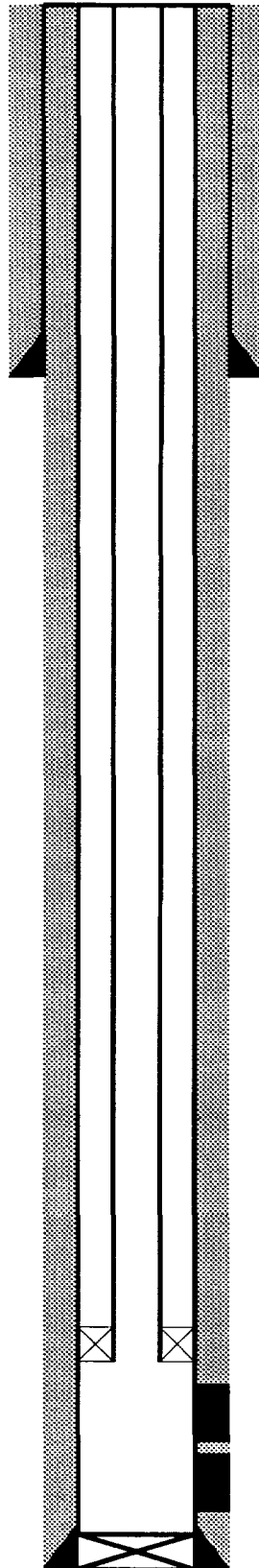
Surface Casing
8 5/8" 24#
Circ Cmt to Surf 310 sx

Shoe @ 1,003'

TBG 2 3/8" (192jts) @ 6,030'
w/ SN & PKR

Production Casing
5 1/2" 14# & 15.5#
Cement 1,590' sx
TOC Surface

Shoe @ 6,335'



Baker Lok-set PKR @ 6,020'

Perfs @ 6,037'-6,050' (sqzd)

Perfs @ 6,130'-6,150'

PBTD @ 6,211'

TD @ 6,335'

WELLBORE SCHEMATIC

Empire Abo Unit L-153

90' FSL & 1,456' FEL

Sec. 2, T-18S, R-27E, Eddy County, NM

Spudded 03/17/77

Completed 04/20/77

T&A'd 05/14/92

Surface Casing

8 5/8" 24#

Circ Cmt to Surf 395 sx

Shoe @ 1,000'

TBG 2 3/8" (206jts)

w/ SN & PKR @ 6,099'

DV Tool @ 4,989'

Production Casing

5 1/2" 15.5#

Cement 1,150' sx

Circ DV Tool @ 4,989'

Perfs @ 6,056'-6,076' (sqzd)

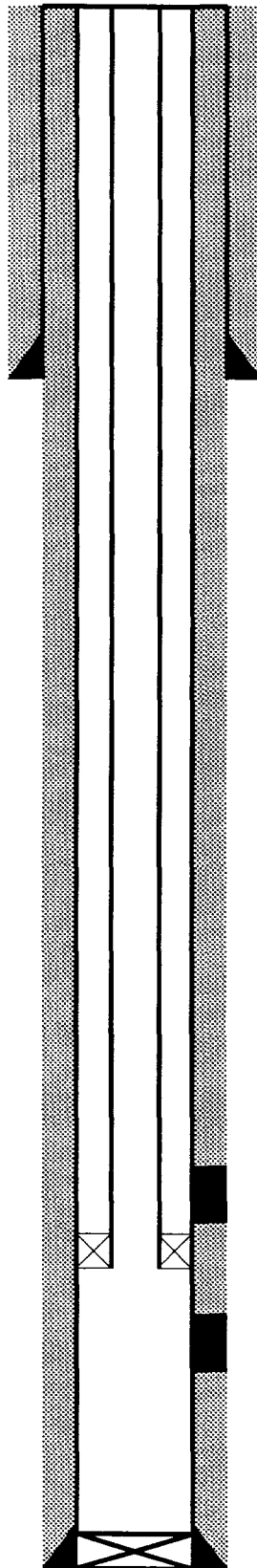
PKR Baker Lok-set @ 6,099'

Perfs @ 6,104'-6,112'

PBTD @ 6,279'

Shoe @ 6,303'

TD @ 6,303'



WELLBORE SCHEMATIC

Empire Abo Unit L-154

800' FSL & 2500' FEL
Sec. 2, T-18-S, R-27-E,
Eddy County, NM
Spudded 11/7/78
Completed 12/4/78
T&A'd 3/14/92

Records do not indicate Tbg pulled
or CIBP set.

Surface Casing
8 5/8" 24#
Circ w/875 sx

Shoe @ 990'

Tubing
2 3/8" (196 Jts)
w/Pkr& SN
@ 6000'

DV Tool @ 3999'

Production Casing
5 1/2"
Circ w/1183 sx Cmt
DV @ 3999'
TOC @ Surf

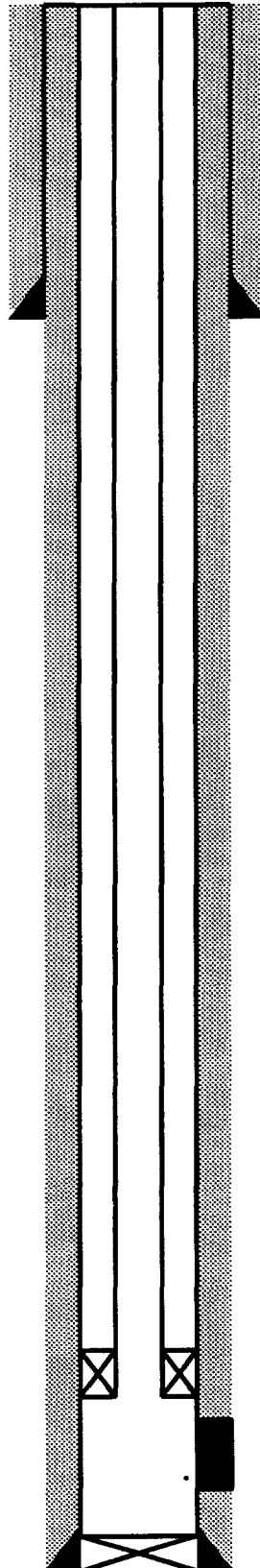
Shoe @ 6200'

Baker Model R 2 3/8" x 5 1/2"

Perfs @ 6110-6130'

PBTD @ 6155'

TD @ 6200'



WELLBORE SCHEMATIC

Empire Abo Unit L-155

1040' FSL & 2025' FWL

Sec. 2, T-18-S, R-27-E,

Eddy County, NM

Spudded 3/30/79

Completed 5/1/79

Surface Casing

8 5/8" 24#

Circ w/700 sx
to Surf

Shoe @ 1000'

Tubing

2 3/8" (196 Jts)

w/Pkr& SN

@ 6074'

Production Casing

5 1/2"

Circ w/1200 sx Cmt

DV @ 3987'

TOC @ Surf

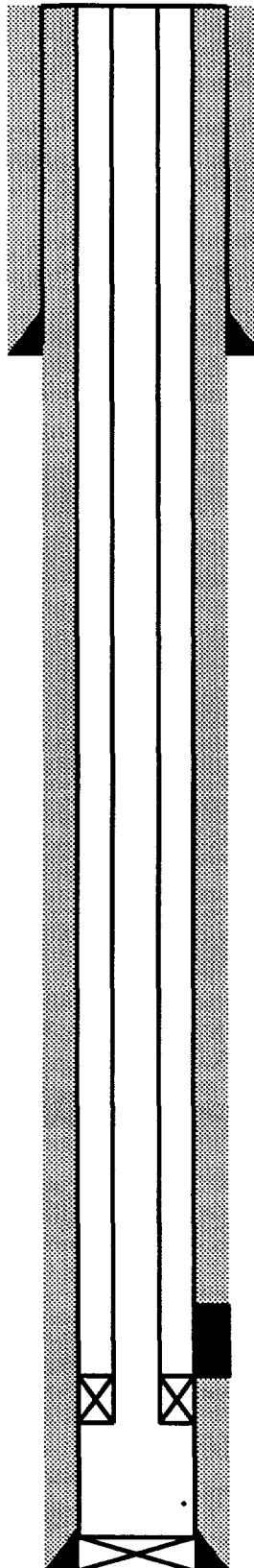
Shoe @ 6202'

Perfs @ 6064-6074'

Baker Model R 2 3/8" x 5 1/2" @ 6074'

PBTD @ 6147'

TD @ 6202'



WELLBORE SCHEMATIC

Empire Abo Unit L-16

660' FSL & 660' FEL
Sec. 2, T-18-S, R-27-E,
Eddy County, NM
Spudded 12/21/58
Completed 1/20/59

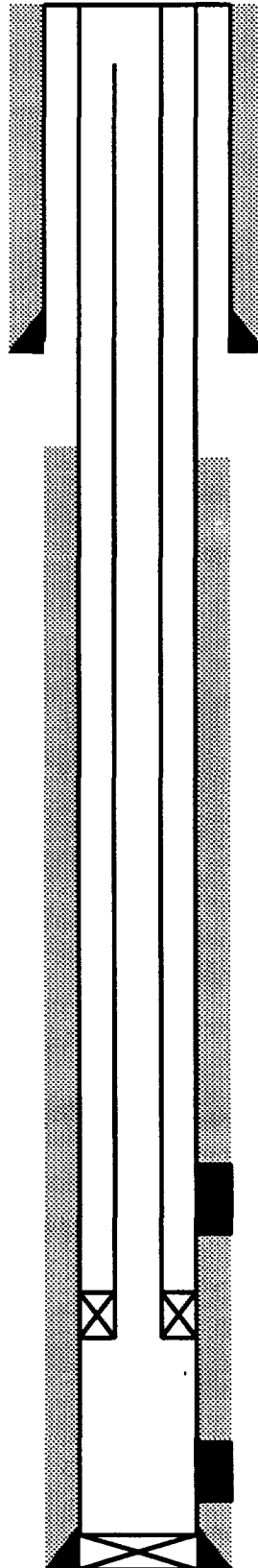
Surface Casing
8 5/8" 24#
Circ w/750 sx

Shoe @ 1013'

Tubing
2 3/8" (195 Jts)
w/Pkr & SN
@ 6003'

Production Casing
5 1/2"
Circ w/1000 sx Cmt
TOC @ 1400' by TS

Shoe @ 6115'



Perfs @ 5980-6020' (Sqzd)

Guiberson KVL-30 @ 6,003'

Perfs @ 6094-6104'

PBTD @ 6111'

TD @ 6115'

WELLBORE SCHEMATIC

Empire Abo Unit L-161

400' FSL & 330' FWL
Sec. 2, T-18-S, R-27-E,
Eddy County, NM
Spudded
Completed

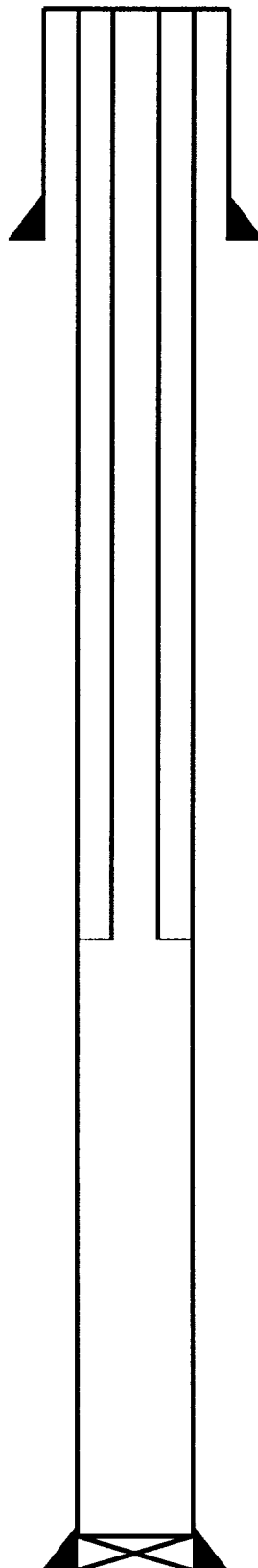
* Well not drilled AFE cancelled
8/10/82.

Surface Casing

Tubing

Production Casing

Shoe



Perfs

PBTD 6282'

TD

WELLBORE SCHEMATIC

Empire Abo Unit L-17

990' FSL & 660' FWL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 6/25/59
Completed 7/17/59

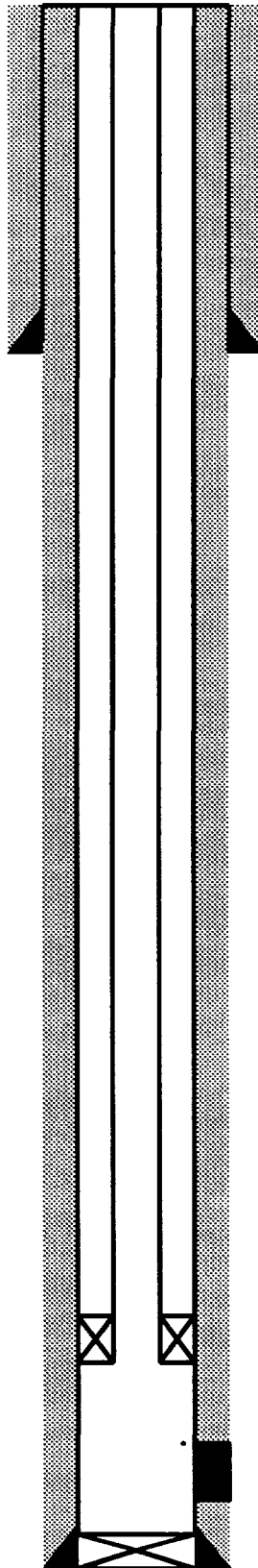
Surface Casing
8 5/8" 24#
Circ w/750 sx

Shoe @ 1493'

Tubing
2 3/8" (197 Jts)
w,PN, Pkr, & SN
@ 6061'

Production Casing
4 1/2" 9.5#
Circ w/ 1275 sx Cmt
TOC @ Surf

Shoe @ 6150'



Guiberson KVL 30 2 3/8 x 4 1/2

Perfs @ 6110-6135'

PBTD @ 6140'

TD @ 6150'

WELLBORE SCHEMATIC

Empire Abo Unit L-171

670' FSL & 300' FWL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 5/22/79
Completed 6/25/79

Surface Casing
8 5/8" 24#
Circ w/425sx

Shoe @ 1000'

Tubing
2 3/8" (195 Jts)
w/TS,PN, & Sn
@ 6162'

DV Tool @ 3996'

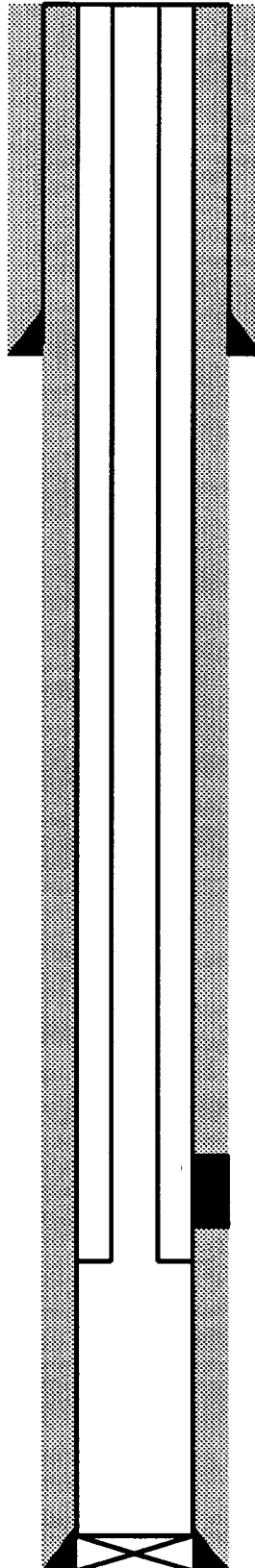
Production Casing
5 1/2"
Circ w/1520 sx Cmt
DV @ 3996'
TOC @ Surf

Perfs @ 6126-36'

PBTD @ 6180'

Shoe @ 6300'

TD @ 6300'



WELLBORE SCHEMATIC

Empire Abo Unit L-18

959' FSL & 1644' FWL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 11/8/59
Completed 12/5/89

T&A'd 5/6/92

* Note: Packoff rubber and core f/
Baker ADI Pkr left in hole on top
of CIBP.

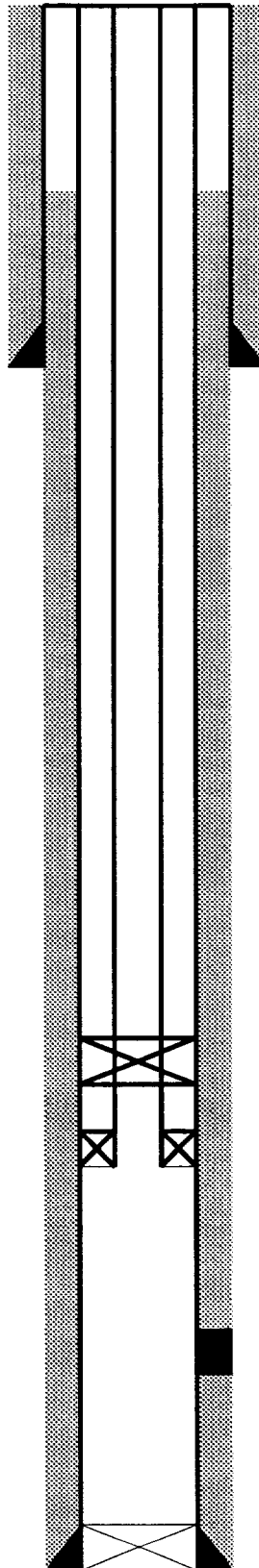
Surface Casing
8 5/8" 24#
Circ 700 sx cmt to Surf.

Shoe @ 1470'

Tubing
2 3/8" (192 Jts) w/Pkr
& SN @ 5930"

Production Casing
4 1/2" w/850 sx
TOC 850"

TD @ 6174'



CIBP @ 5924' (Leaking)

Guiberson KVL 30 2 3/8 x 4 1/2

Perfs @ 6042-56'

PBTD @ 6080'

Shoe @ 6174'

WELLBORE SCHEMATIC

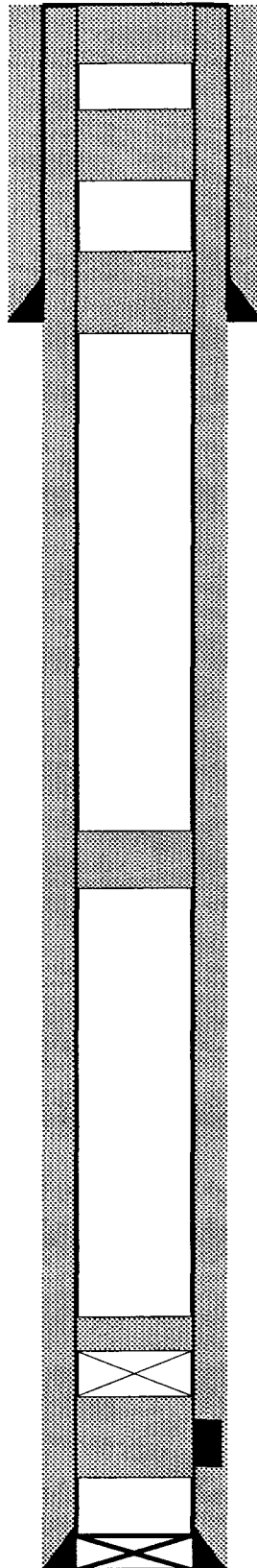
Empire Abo Unit L-19

Surface Casing
8 5/8" 24#
Cmt 900sx to Surface

Shoe @ 1531'

Production Casing
4 1/2" w/1450 Cmt

Shoe @ 6300'



953' FEL & 2197' FSL
Sec. 1, T-18S, R-27E,
Eddy County, NM
Spudded 3/16/71
Completed 4/9/71
P&A'd 1/2/92

10 sx f/0-100'
20 sx f/640-900'
70 sx f/1300-2200'

35 sx f/3450-3900'

35' Cmt on top of
CR @ 6080'

Perfs @ 6206-16' (Sqzd
w/100 sx Cmt)

PBTD @ 6237'

TD @ 6300'

WELLBORE SCHEMATIC

Cmt Plug Surface to 100'.

Cmt Plug 575' to 900'.

11" Hole.
8-5/8" casing @ 1522'.
Set w/800 sxs cmt. Circ.

Empire Abo Unit L #191 SWD

660' FSL & 1980' FEL (O)
Sec 1, T-18S, R-27E, Eddy County, NM
API 30-015-00282
DF-3640'
Spudded 10/07/59
Completed 11/08/59
P&A'd 12/09/89

Cmt Plug 1150' to 1580'.
Top of Liner @ 1415'.

Cmt Plug 1650' to 1960'.

Bottom of Liner @ 2042' w/200 sxs cmt.
Cmt Plug 2000' to 5400'.

Cmt Plug 6265' to 6365'.

TD @ 6365'.

WELLBORE SCHEMATIC

Empire Abo Unit L-20

940' FSL & 330' FEL
Sec. 1, T-18-S, R-27-E,
Eddy County, NM
Spudded 11/16/61
Completed 12/11/61

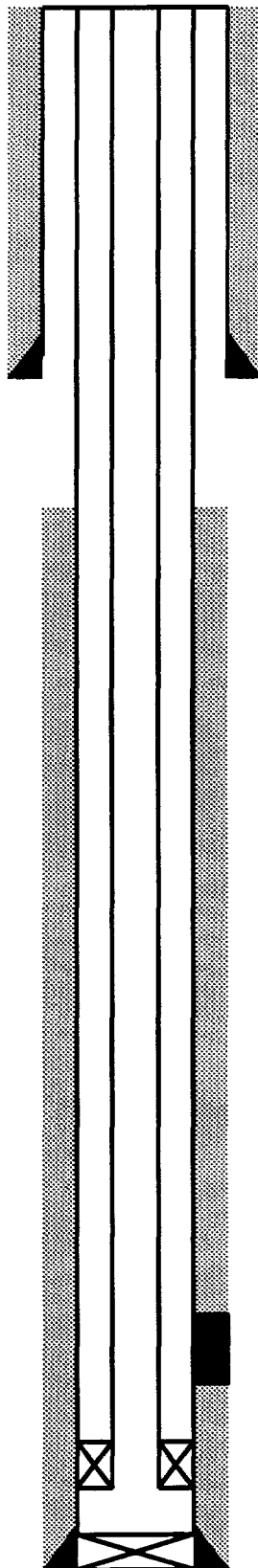
Surface Casing
8 5/8" 24#
Circ w/800 sx
to Surf

Shoe @ 1494'

Tubing
2 3/8" (199 Jts)
w/SN, PN, & TS
@ 6,230'

Production Casing
4 1/2" 9.5# & 11.6#
Circ w/850 sx Cmt
TOC @ 2500 by TS

Shoe @ 6250'



TOC @ 2500' by TS

Perfs @ 6218'6226'

PBSD @ 6242'

TD @ 6250'

WELLBORE SCHEMATIC

Empire Abo Unit L-22

1750' FEL & 956' FSL
Sec. 6, T-18-S, R-28-E,
Eddy County, NM
Spudded 7/30/60
Completed 8/5/60

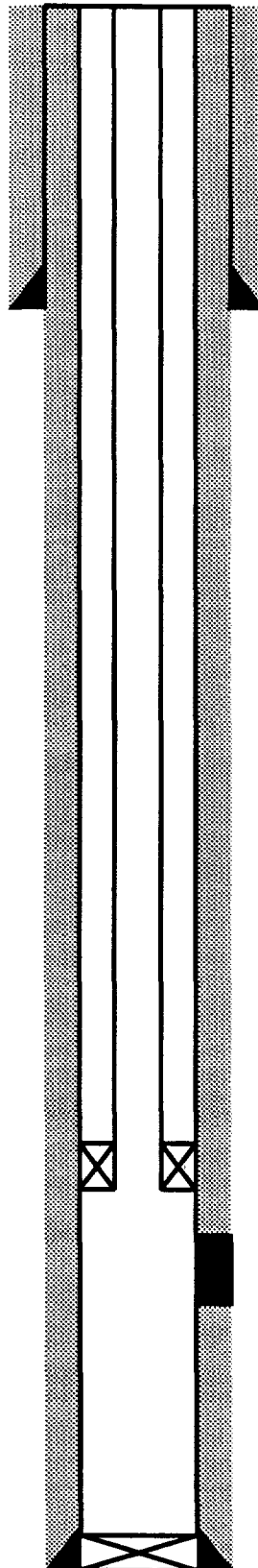
Surface Casing
8 5/8"
Circ w/250 sx
to Surf

Shoe @ 800'

Tubing
2 3/8" (193 Jts)
w/SN & Pkr @ 6089'

Production Casing
5 1/2" 14#
Circ w/1209 sx Cmt
TOC @ Surf

Shoe @ 6343'



Baker Model R @ 6089'

Perfs @ 6130-6149'

PBTD @ 6243'

TD @ 6343'

WELLBORE SCHEMATIC

Empire Abo Unit M-8

660' FNL & 660' FEL
Sec. 9, T-18-S, R-27-E,
Eddy County, NM
Spudded 3/29/59
Completed 4/25/59

Surface Casing
8 5/8" 24#
Circ w/750 sx

Shoe @ 1491'
TOC to Surf

Tubing
2 3/8" (162 Jts)
w/SN,MA,Pkr @ 5078'

Production Casing
5 1/2" 14#
Circ w/700 sx Cmt
Records do not indicate
TOC @ Surf

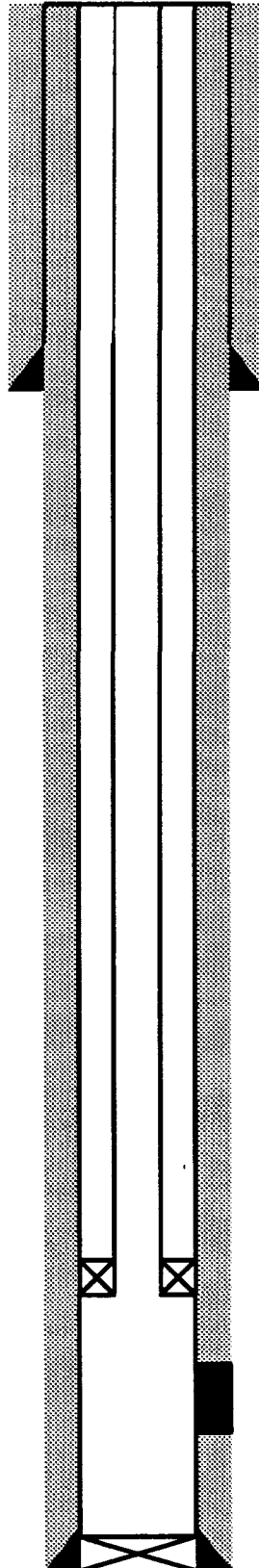
Shoe @ 5797'

Guiberson L30 2 3/8 x 5 1/2
@ 5078'

Perfs @ 5652-5688'

PBTD @ 5761'

TD @ 5797



WELLBORE SCHEMATIC

Empire Abo Unit M-9

660' FNL & 660' FWL
Sec. 10, T-18-S, R-27-E,
Eddy County, NM
Spudded 2/27/59
Completed 3/25/59

Surface Casing
8 5/8" 24#
Circ w/750 sx

Shoe @ 1494'

Tubing
2 3/8" w/SN & Pkr
@ 5634'

DV Tool @ 4185'

Production Casing
5 1/2" 14#
Circ w/250 sx Cmt
SC @ 4189'
TOC @ Surf

Baker Lokset 2 3/8 x 5 1/2

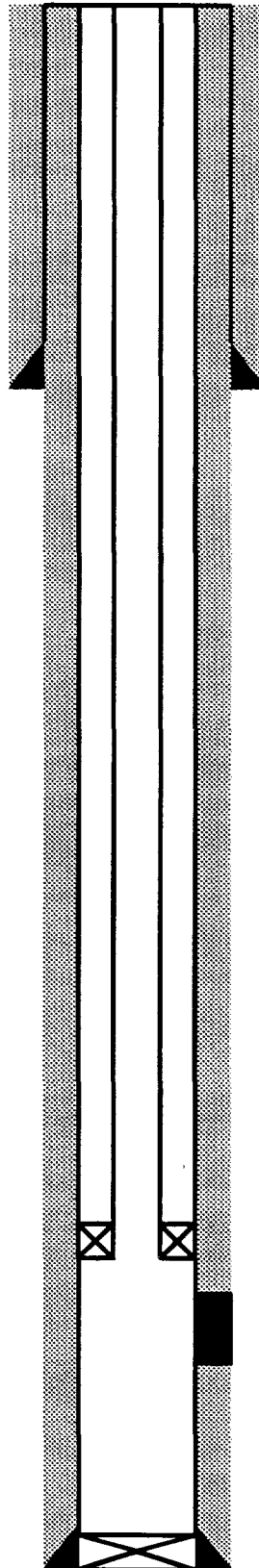
(9/31/80 Leak @ 3250'
Sqzd w/800sx
Sqzd w/200 sx)

Perfs @ 5700-5720'

PBTD @ 5842'

Shoe @ 5870'

TD @ 5870'



WELLBORE SCHEMATIC

Empire Abo Unit M-901

Surface Casing
8 5/8" 24#
Circ w/400 sx

1300' FNL & 1220' FWL
Sec. 11, T-18-S, R-27-E,
Eddy County, NM
Spudded 7/17/77
Completed 9/18/77
T&A'd 3/31/92

Shoe @ 1000'

Tubing

Production Casing
5 1/2"
Circ w/1295 sx Cmt
SC @ 4189'
TOC @ Surf, Circ.

Perfs @ 5766-5784' (Sqzd)

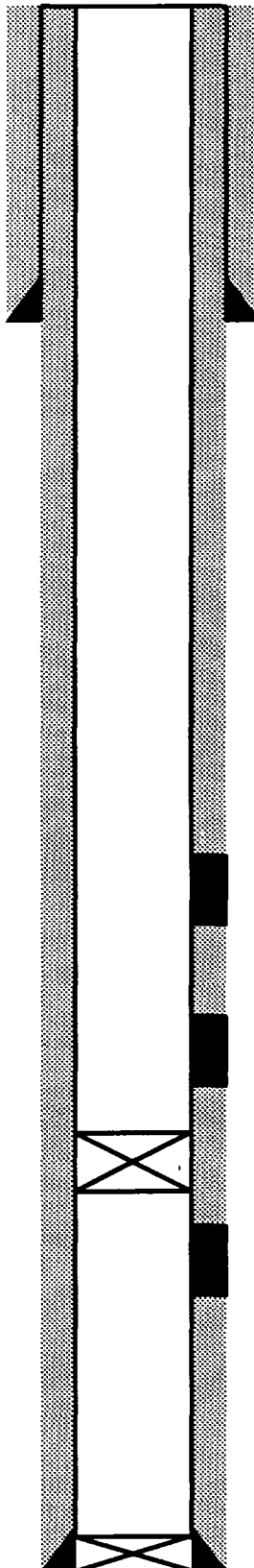
Perfs @ 5874-5884' (Sqzd)

RBP @ 5915'

Perfs @ 5928-5940' (Sqzd)

Shoe @ 6106'

TD @ 6106'



WELLBORE SCHEMATIC

Empire Abo Unit M-10

660' FSL & 1980' FEL
Sec. 10, T-18-S, R-27-E
Eddy County, New Mexico
Spudded 11/27/58
Completed 12/29/58

Surface Casing
8 5/8" 24#
w/675 sx cmt
Circ to Surf.

Shoe @ 1002'

Tubing
2 3/8" w/Pkr @ 5548'

Production Casing
5 1/2" 14# w/150 sx
TOC @ 5300' by TS.

Perfs @ 5524-50' (Sqzd)

CIBP @ 5933'

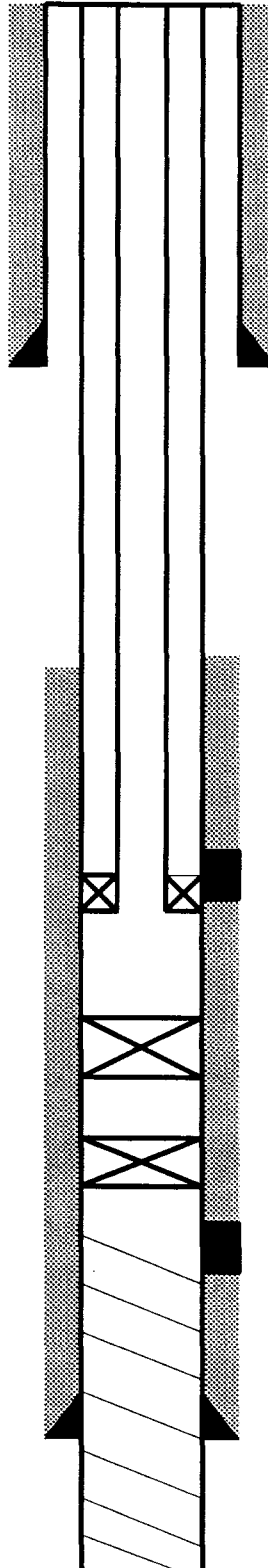
Model D Pkr & DR Plug
@ 5950'

Perfs @ 5982-6008' (Sqzd)

Shoe @ 6079'

Open Hole f/6079-6485'
Sqzd w/100 sx

TD @ 6485'



WELLBORE SCHEMATIC

Empire Abo Unit M-101

1,100' FNL & 2,170' FWL

Sec. 10, T-18S, R-27E, Eddy County, NM

Spudded 06/05/77

Completed 07/17/77

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 300 sx

Shoe @ 928'

TBG 2 3/8" (194jts)
w/ PKR @ 5,718

DV Tool @ 4,187'

Production Casing
5 1/2" 14#
Cement 1,750' sx
Circ DV Tool @ 4,187'
TOC N/A on #2 Stage

PKR @ 5,718'

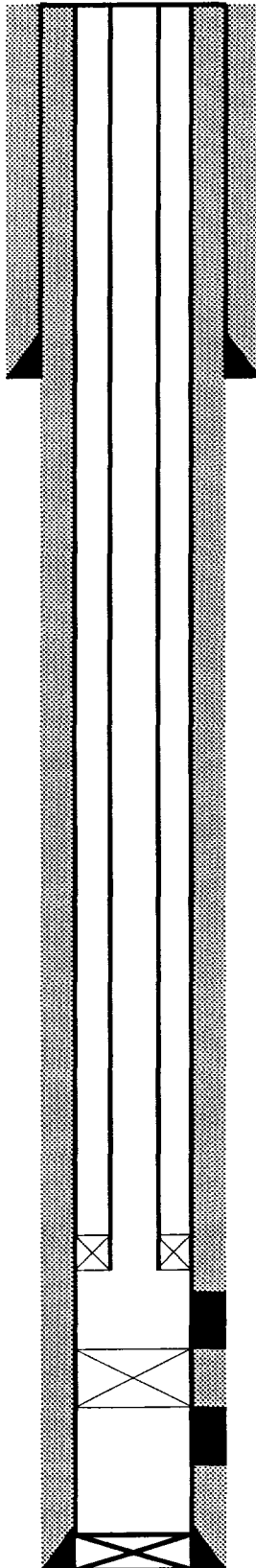
Perfs @ 5,816'-28'

PBTD @ 5,881' (CR)

Perfs @ 5,926'-40' (sqzd)'

Shoe @ 6,050'

TD @ 6,050'



WELLBORE SCHEMATIC

Empire Abo Unit M-11

710' FNL & 1830 FEL
Sec. 10, T-18-S, R-27-E,
Eddy County, NM
Spudded 8/1/58
Completed 9/7/58

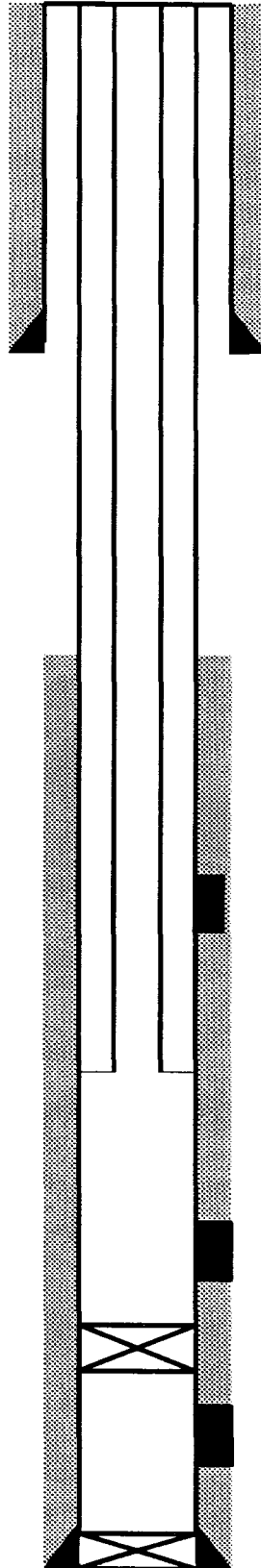
Surface Casing
8 5/8" 32#
Circ w/ 936 sx

Shoe @ 1014'

Tubing (187 Jts)
2 3/8" @ 5831'

Production Casing
5 1/2" 14#
Cement w/150 sx to Surf.
TOC @ 5090' by TS

Shoe @ 6030'



Perfs @ 5650-85' (Sqzd)

Perfs @ 5863-92'

RBP @ 5908'

Perfs @ 5923-66'

PBTD 5990'

TD @ 6030'

WELLBORE SCHEMATIC

Empire Abo Unit M-12

660' FNL & 560' FEL
Sec. 10, T-18-S, R-27-E,
Eddy County, NM
Spudded 6/23/58
Completed 7/29/58
T&A'd 4/2/93 w/Tbg & Pkr.

Surface Casing
8 5/8" 32#
Circ w/ 1050 sx

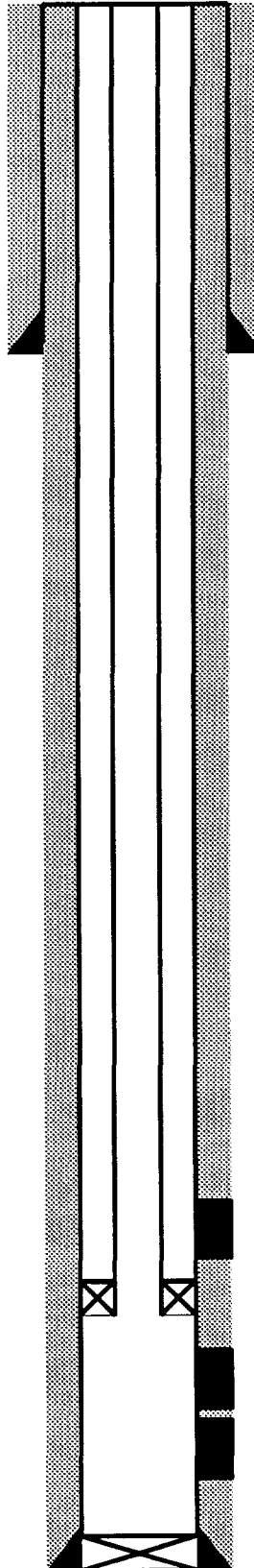
Shoe @ 1008'

Tubing
2 3/8" (188 Jts)
w/Pkr @ 5892'

*TOC @
5358' ^{km}
cable*

Production Casing
5 1/2" w/150 sx Cmt
TOC N/A

Shoe @ 6073



Perfs @ 5820-40' (Sqzd)

Perfs @ 5902-14' (Sqzd)

Perfs @ 5970-90'

PBTD 6030'

TD @ 6074

WELLBORE SCHEMATIC

Empire Abo Unit M-121

900' FEL & 10' FNL
Sec. 10, T-18-S, R-27-E,
Eddy County, NM
Spudded 8/19/75
Completed 9/28/75

Surface Casing
8 5/8"
Circ w/ 390 sx

Shoe @ 1010'

Tubing
2 3/8" (184 Jts)
w/Pkr @ 5822'

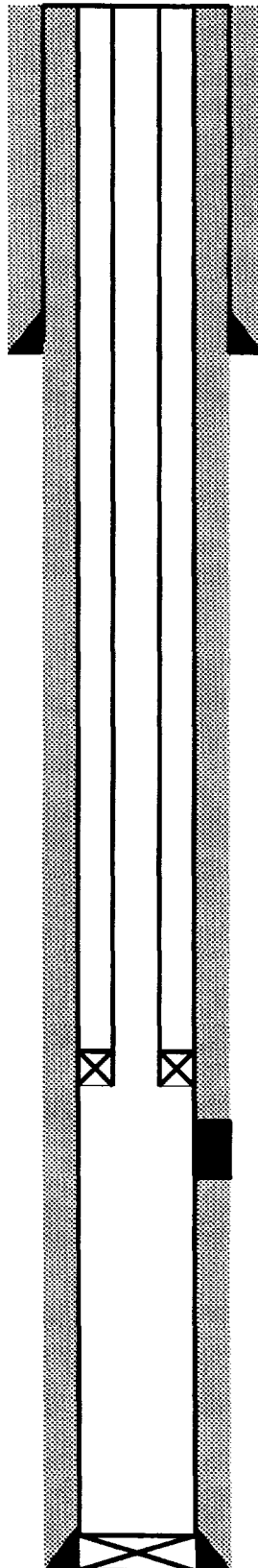
Production Casing
5 1/2" 14#
w/1040 sx Cmt
Circ w/DV Tool @ 4198'

Perfs @ 5964-5991'

PBTD 6151'

Shoe @ 6200'

TD @ 6200'



WELLBORE SCHEMATIC

Empire Abo Unit M-122

990' FNL & 1,300' FEL

Sec. 10, T-18S, R-27E, Eddy County, NM

Spudded 05/17/77

Completed 06/23/77

T&A'd 03/31/92

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 425 sx

Shoe @ 1,000'

TBG 2 3/8" (182jts)
w/ PKR @ 5,797'

DV Tool @ 4,200'

Production Casing
5 1/2" 14#
Cement 2,570' sx
Circ DV Tool @ 4,200'

PKR @ 5,797'

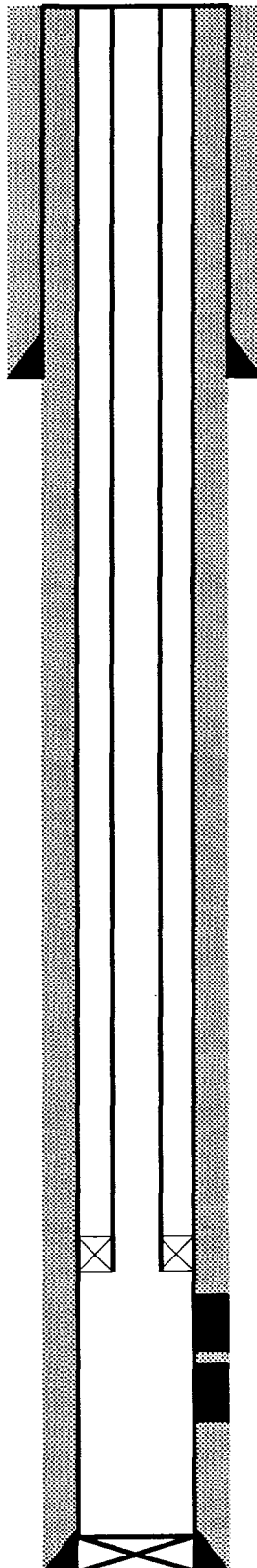
Perfs @ 5,918'-28'

Perfs @ 5,962'-66' (sqzd)

PBTD @ 5,948'

Shoe @ 6,198'

TD @ 6,200'



WELLBORE SCHEMATIC

Empire Abo Unit M-123

1,050' FNL & 100' FEL

Sec. 10, T-18S, R-27E, Eddy County, NM

Spudded 05/08/79

Completed 06/05/79

T&A'd 05/14/92 w/ PKR @ 6,019'

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 234 sx

Shoe @ 985'

TBG 2 3/8" (190jts)
w/ PKR @ 6,019'

DV Tool @ 4,010'

Production Casing
5 1/2" 15.5#
Cement 1,150' sx
TOC @ 500'
Circ DV Tool @ 4,010'

Perfs @ 6,015'-30' (sqzd)

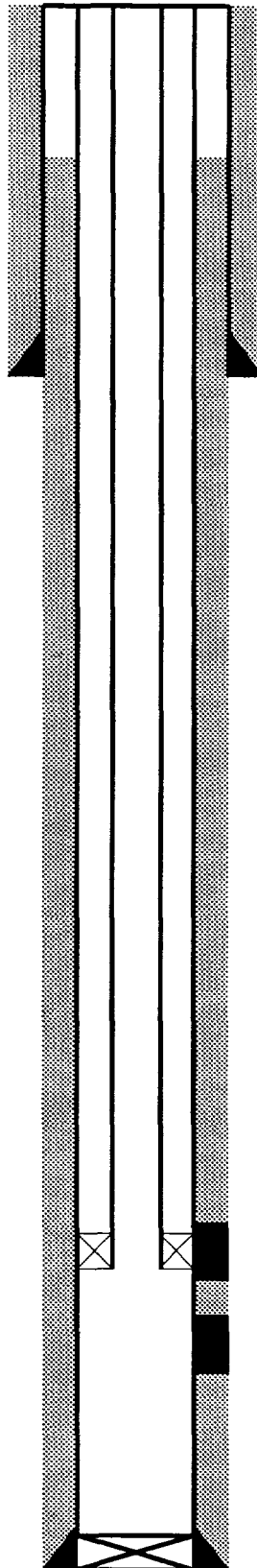
PKR @ 6,019'

Perfs @ 6,050-70'

PBTD @ 6,170'

Shoe @ 6,224'

TD @ 6,225'



WELLBORE SCHEMATIC

Empire Abo Unit M-13

660' FNL & 660' FWL
Sec. 11, T-18-S, R-27-E,
Eddy County, NM
Spudded 4/26/58
Completed 6/17/58
T&A'd 7/29/87
P&A'd 12/3/88

Circ Cmt w/700 sx
f/1458'-surface

Surface Casing
8 5/8"32#
Circ w/ 525 sx

Shoe @ 950'

Tubing
None

Production Casing
5 1/2" 14#
w/150 sx Cmt
Org. TOC @ 5575'

Shoe @ 6114'

CIBP @ 5920 w/ 35 sx Cmt

Perfs @ 5966-86' (Sqzd)

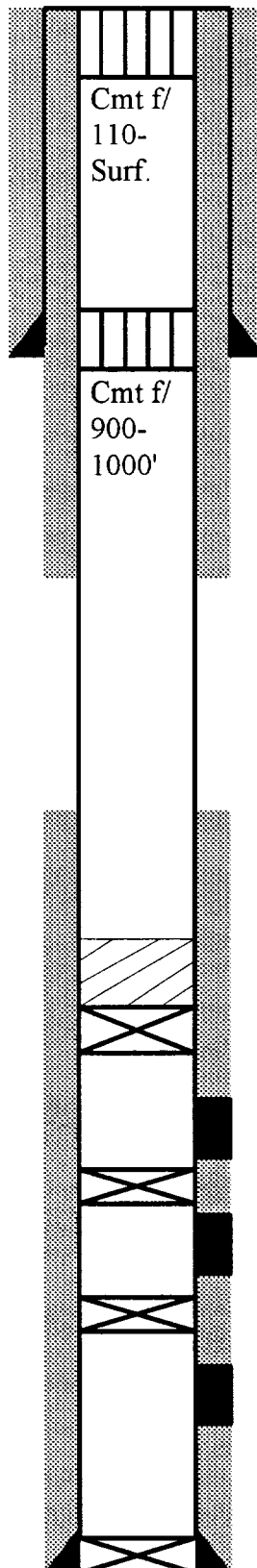
CIBP @ 6000'

Perfs @ 6006-12'

CIBP @ 6050'

Perfs @ 6070-80'

TD @ 6114'



WELLBORE SCHEMATIC

Empire Abo Unit M131

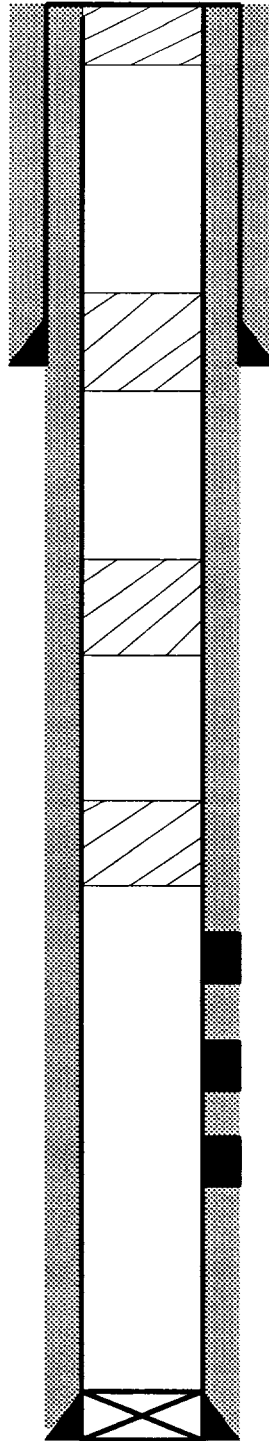
Surface Casing
8 5/8" 24#
w/400 sx Cmt
Circ to Surf.

Shoe @ 970'

Tubing
None

Production Casing
5 1/2" 14# w/1540 sx
Circ w/DV @ 3947'

Shoe @ 6325'



1100' FNL & 1200' FWL
Sec. 11, T-18-S, R-27-E
Eddy County, New Mexico
Spudded 7/10/78
Completed 9/4/78
T&A'd 5/17/79

P&A'd 5/11/85 as follows:
10 sx f/5750-5850'
11 sx f/3350-3455'
11 sx f/910-1027'
10 sx f/70'-Surf.

DV Tool @ 3947'

Perfs @ 6035-49' (Sqzd)

Perfs @ 6102-18' (Sqzd)

Perfs @ 6128-48' (Sqzd)

PBTD @ Surf.

Orig. TD @ 6325'

WELLBORE SCHEMATIC

Empire Abo Unit M-132

Surface Casing
8 5/8" 24#
Circ w/ 625sx

625' FNL & 175' FWL
Sec. 11, T-18-S, R-27-E,
Eddy County, NM
Spudded 12/18/78
Completed 1/13/79
T&A'd 3/31/92

Shoe @ 1000'

Tubing
None

DV Tool @ 4006'

Production Casing
5 1/2" 15.5#
w/1300 sx Cmt
Circ Cmt w/DV @ 4006'

CIBP @ 6030'

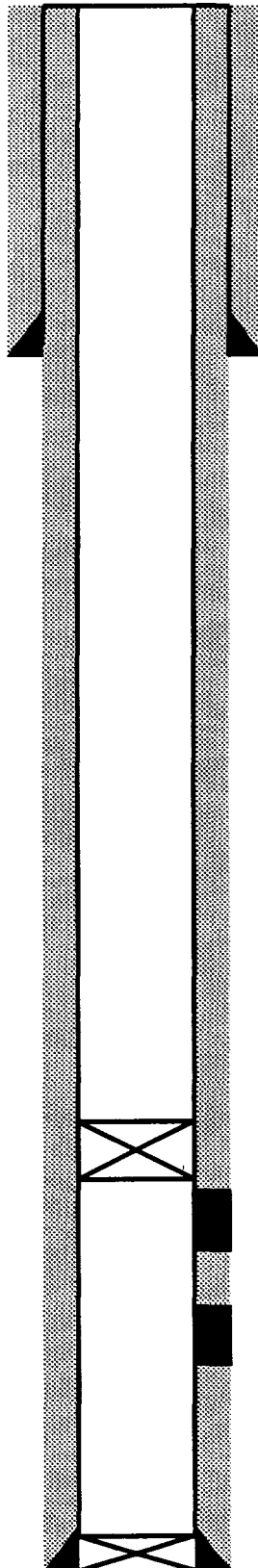
Perfs @ 6030-40' (Sqzd)

Perfs @ 6090-6100'

PBTD @ 6030'

Shoe @ 6190'

TD @ 6200'



WELLBORE SCHEMATIC

Empire Abo Unit M-133

450' FNL & 1175' FWL
Sec. 11, T-18-S, R-27-E,
Eddy County, NM
Spudded 5/23/79
Completed 6/16/79

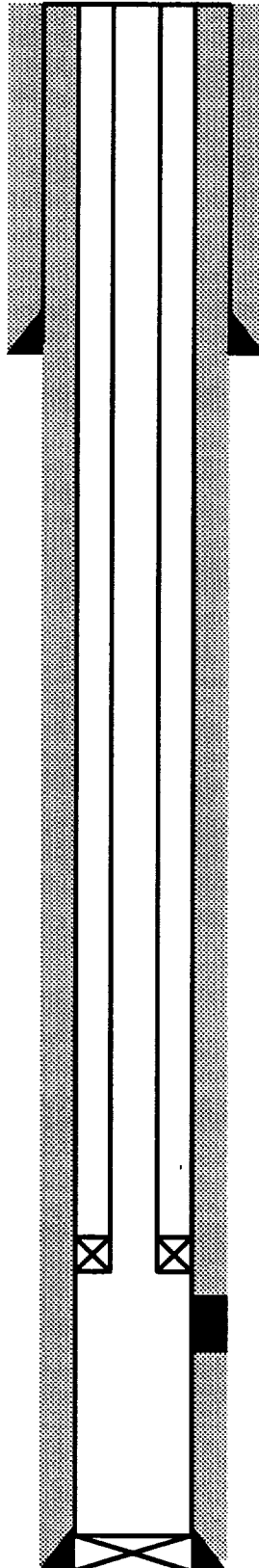
Surface Casing
8 5/8" 24#
Circ w/ 365sx

Shoe @ 1000'

Tubing
2 3/8" (199 Jts) w/Pkr
@ 5943'

Production Casing
5 1/2" 15.5#
w/1183 sx Cmt
Circ w/DV Tool @ 3995'

Shoe @ 6225'



Perfs @ 6044-64'

PBTD @ 6180

TD @ 6225

WELLBORE SCHEMATIC

Empire Abo Unit M-14

660' FNL & 1980' FWL
Sec. 11, T-18-S, R-27-E,
Eddy County, New Mexico
Spudded 9/5/57
Completed 10/25/57
Well P&A'd 8/11/80

Surface Casing
8 5/8"
Circ 382 sx cmt to Surf.

Shoe @ 903'

Spot 100' Plug
@ 950'

Tubing
None

CIBP @ 3851'
(100' Plug)

Production Casing
5 1/2" w/150 sx
(5/79) Sqzd hole in 5 1/2"
@ 5075' w/150 sx
(8/79) Circ f/3506' to Surf.
Csg. Collapsed @ 4083'

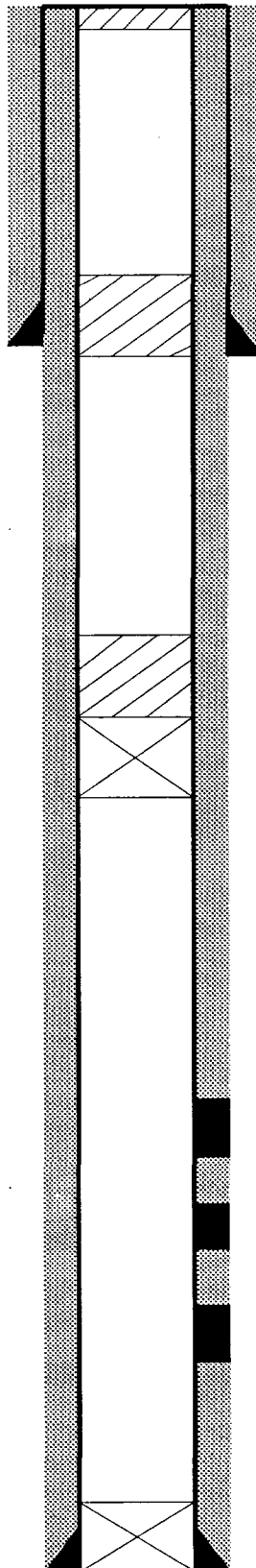
Perfs @ 6014-6030' (Sqzd)

Perfs @ 6070-6080'

Perfs @ 6100-6110 (Sqzd)

TD @ 6315'

PBTD @ 6223'



WELLBORE SCHEMATIC

Empire Abo Unit M-141

225' FNL & 2280' FWL
Sec. 11, T-18-S, R-27-E,
Eddy County, NM
Spudded 5/21/79
Completed 8/1/79

Surface Casing
8 5/8" 24#
Circ 725 sx cmt to Surf.

Shoe @ 997'

Tubing (193 Jts)
2 3/8" w/SN & Pkr
@ 6079'

DV Tool @ 3968'

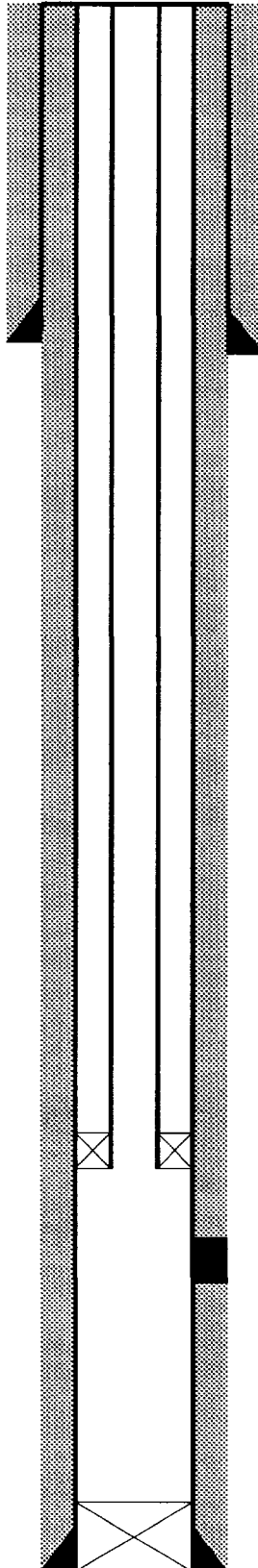
TOC @ 4724' by/CBL

Production Casing
5 1/2" 15.5# w/1375 sx
Circ DV @ 3968'
TOC @ 4724' by CBL

Perfs @ 6112-6132'

PBTD @ 6171'

TD @ 6225'



WELLBORE SCHEMATIC

Empire Abo Unit M-15

660' FNL & 1980' FEL
Sec. 11, T-18-S, R-27-E,
Eddy County, NM
Spudded 4/6/58
Completed 6/5/58
T&A'd 12/4/92

Surface Casing
8 5/8" 24#
Circ 400 sx cmt to Surf.

Shoe @ 950'

Tubing .
2 3/8".

*TOC @ 5545 by
cite*

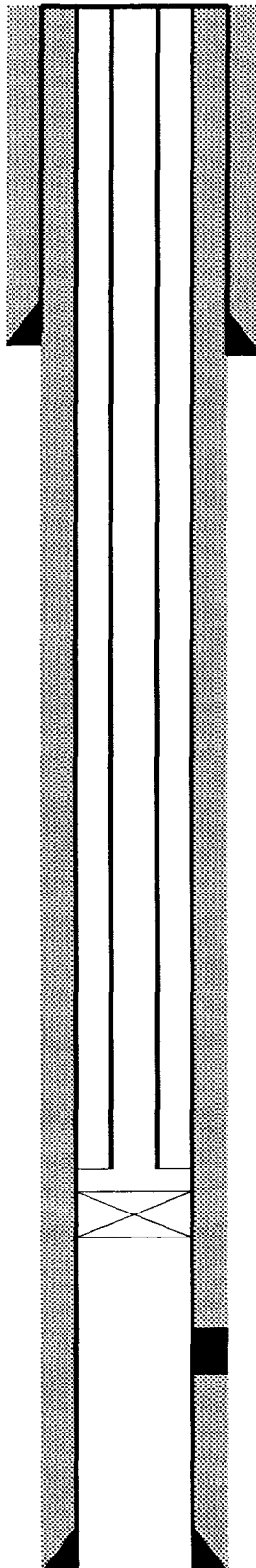
Production Casing
5 1/2" 14# w/150 sx and

CIBP @ 6120'

Perfs @ 6138-6158'

PBTD @ 6208'

Shoe @ 6260'



WELLBORE SCHEMATIC

Empire Abo Unit M-151

400' FNL & 1450' FEL
Sec. 11, T-18-S, R-27-E,
Eddy County, NM
Spudded 8/1/78
Completed 8/19/78

Surface Casing
8 5/8" 24#
Circ 350 sxs cmt to Surf.

Shoe @ 1000'

Tubing (198 Jts)
2 3/8" w/,SN,PN,
@ 6193'

DV Tool @ 4200'

Production Casing
5 1/2" 15.5# w/1320 sx and
w/DV Tool @ 4200'

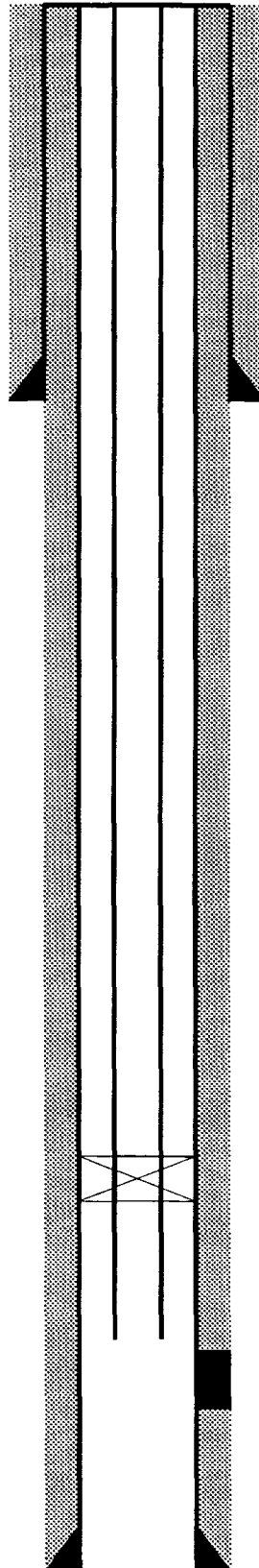
TAC @ 5,996'

Perfs 6150-65'

PBTD @ 6231'

Shoe @ 6228'

TD @ 6310'



WELLBORE SCHEMATIC

Empire Abo Unit M-152

560' FNL & 2,588' FEL

Sec. 11, T-18S, R-27E, Eddy County, NM

Spudded 08/23/78

Completed 09/19/78

Surface Casing

8 5/8" 24#

Circ Cmt to Surf 450 sx

Shoe @ 1,000'

TBG 2 3/8" (196jts) @ 6,006'

w/ SN

DV Tool @ 3,992'

Production Casing

5 1/2" 15.5#

Cement 1,250' sx

Circ DV Tool @ 3,992'

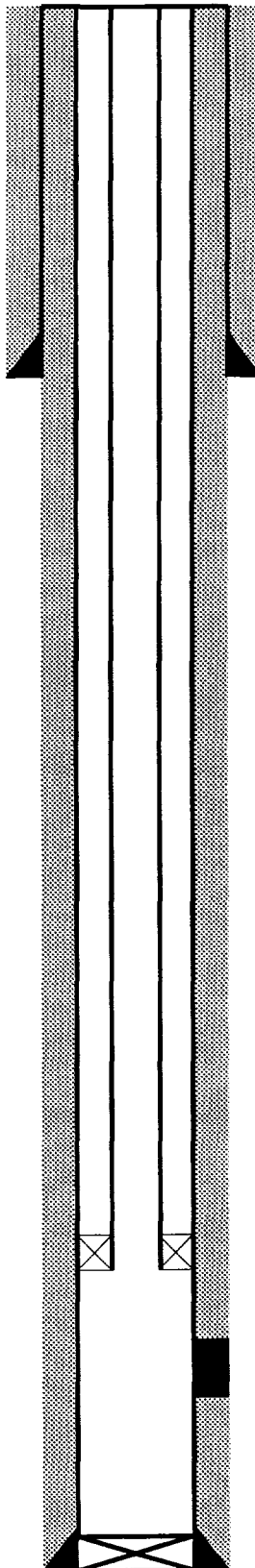
PKR @ 6,006' (Baker Lok-set)

Perfs @ 6,102'-6'114'

PBTD @ 6,263'

Shoe @ 6,300'

TD @ 6,300'



WELLBORE SCHEMATIC

Empire Abo Unit M-153

200' FNL & 1,925' FEL

Sec. 11, T-18S, R-27E, Eddy County, NM

Spudded 05/06/79

Completed 06/06/79

Surface Casing
8 5/8" 24#
Circ Cmt to Surf 500 sx

Shoe @ 995'

TBG 2 3/8" (194jts) @ 6,024'
w/ SN& PKR

DV Tool @ 4,034'

Production Casing
5 1/2"
Cement 1,700 sx
Circ DV Tool @ 4,034' *

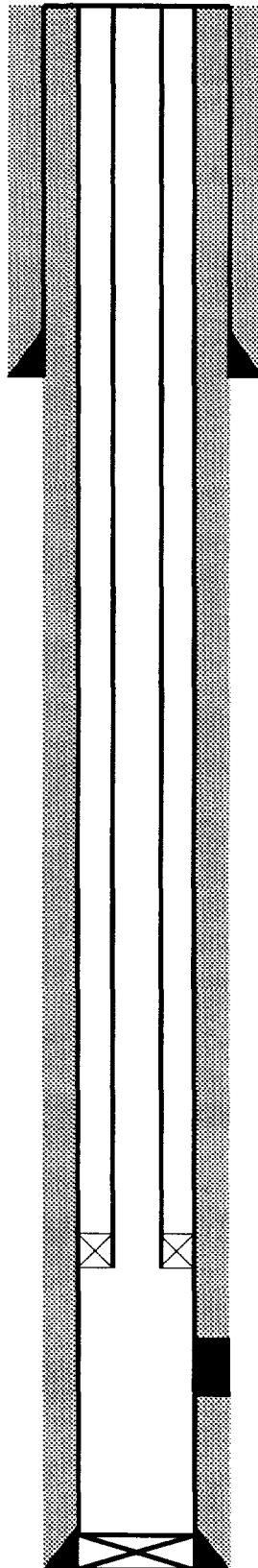
PKR @ 6,024' (Baker Model R

Perfs @ 6,124'-6,142'

PBTD @ 6,202'

Shoe @ 6,252'

TD @ 6,252'



*1st Stage 500 sx opened DV Tool-circ 100 sx to pit.
2nd Stage 1200 sx no return to surface
From records 05/22/79 "TOC probably in surface CSG"

WELLBORE SCHEMATIC

Empire Abo Unit M-16

330' FSL & 653' FEL

Sec. 11, T-18S, R-27E, Eddy County, NM

Spudded 07/01/59

Completed 08/01/59

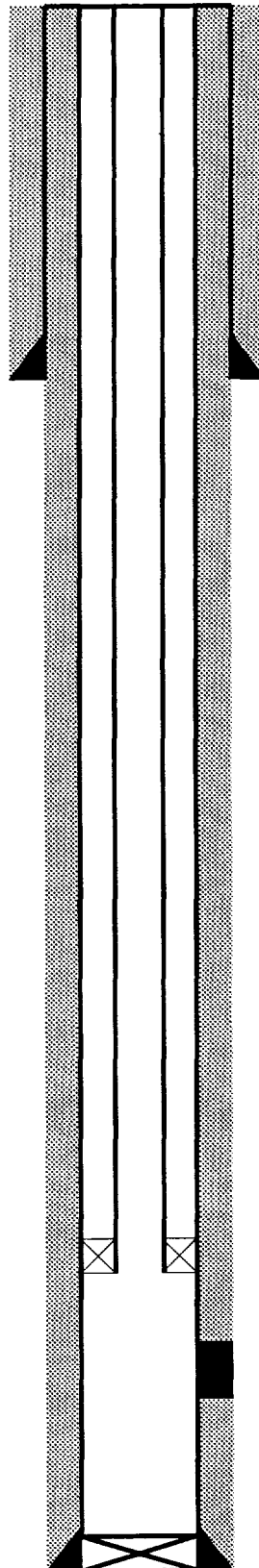
Surface Casing
8 5/8" 24#
Circ Cmt to Surf 825 sx

Shoe @ 1,487'

TBG 2 3/8" (194jts) @ 6,073'
w/ SN,PN,MA & PKR

Production Casing
4 1/2" 9.5#
Cement 145 sx *

Shoe @ 6,211'



PKR @ 6,073'

Perfs @ 6,161'-6,166

PBTD @ 6,173'

TD @ 6,211'

* 08/21/86 perf 4 holes @ 5400' pumped 800 sx (TOC @ 1775)
08/25/86 perf 4 1/2 w/ 4 holes @ 750' pumped 160 sx (TOC 813')

WELLBORE SCHEMATIC

Empire Abo Unit K-24

2310' FSL & 990' FEL
Sec. 6, T-18-S, R-28-E,
Eddy County, NM
Spudded 8/11/60
Completed 8/26/60

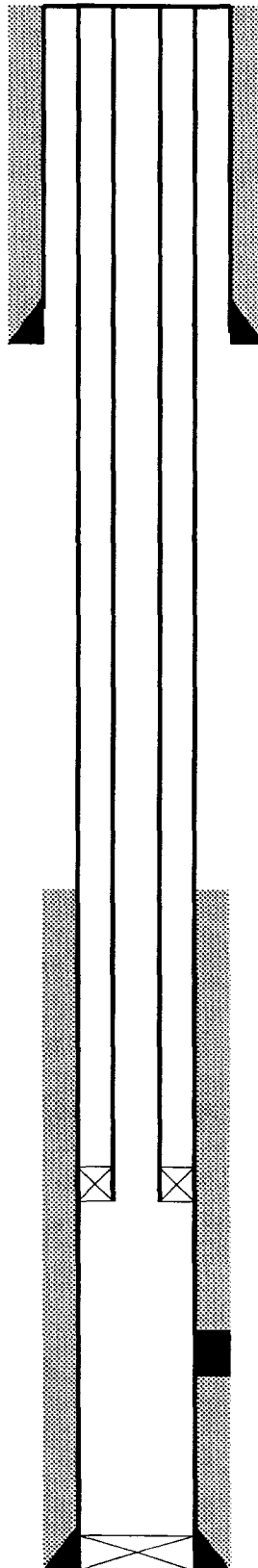
Surface Casing
8 5/8" 28#
Circ w/ 350 sx

Shoe @ 721'

Tubing
2 3/8" w/Pkr
@ 6167'

Production Casing
5 1/2" 15.5#
Circ w/320 sx Cmt
(TOC @ 4730' by TS)

Shoe @ 6350'



TOC @ 4730'

Pkr @ 6167'

Perfs 6298-6304'

PBTD @ 6332

TD @ 6350'

WELLBORE SCHEMATIC

Empire Abo Unit N-5

2,310' FNL & 990' FWL

Sec. 9, T-18S, R-27E, Eddy County, NM

Spudded 04/14/60

Completed 05/07/60

Surface Casing
8 5/8"
Cmt to Surface 750sx

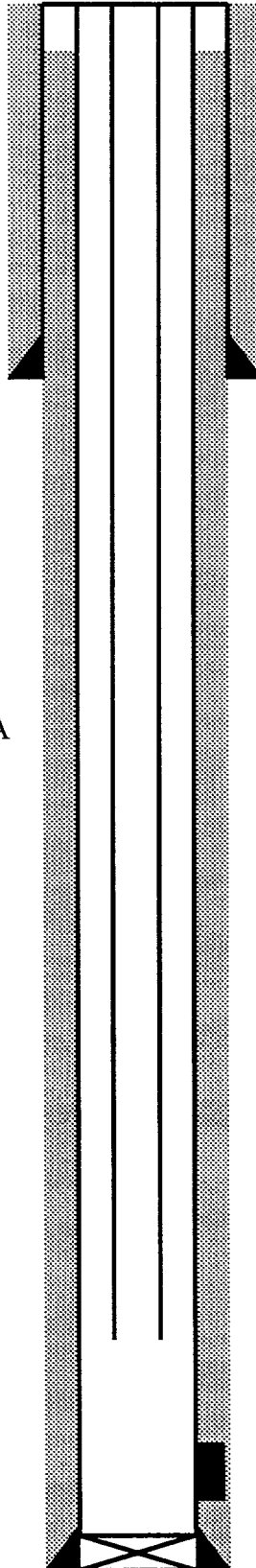
Shoe @ 1,518'

Tubing
2 3/8" w/ TAC, SN, PN & MA
@ 5,510'

TAC @ 5,510'

Production Casing
4 1/2"
Cement 800 sx

Shoe @ 5,665'



TOC @ 95' by T.S.

Perfs @ 5,548-5,572'

PBTD @ 5,639'

7 7/8" hole TD @ 5,666'

WELLBORE SCHEMATIC

Empire Abo Unit N-8

2,301' FNL & 330' FEL

Sec. 9, T-18S, R-27E, Eddy County, NM

Spudded 10/27/71

Completed 11/20/71

Surface Casing

8 5/8"

Cmt to Surface 450 sx

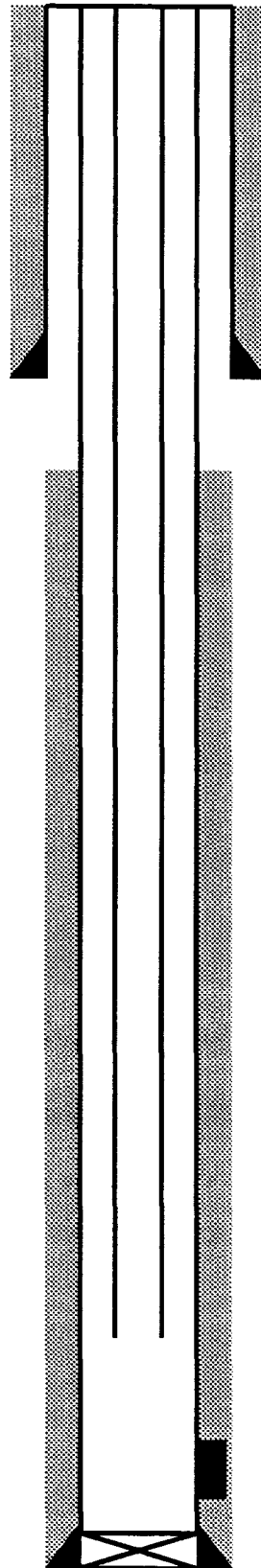
Shoe @ 995'

Production Casing

4 1/2"

Cement 300 sx

Shoe @ 5,776'



Perfs @ 5,627-5,674'

PBTD @ 5,725'

7 7/8" hole TD @ 5,776'

WELLBORE SCHEMATIC

Empire Abo Unit N-801

1,980' FNL & 560' FEL

Sec. 9, T-18S, R-27E, Eddy County, NM

Spudded 05/11/59

Completed 06/15/59

Surface Casing
8 5/8"
Cmt to Surface 750 sx

Shoe @ 1,481'

TOC @ 245' by T.S.

Production Casing
4 1/2"
Cement 800 sx

Shoe @ 5,700'

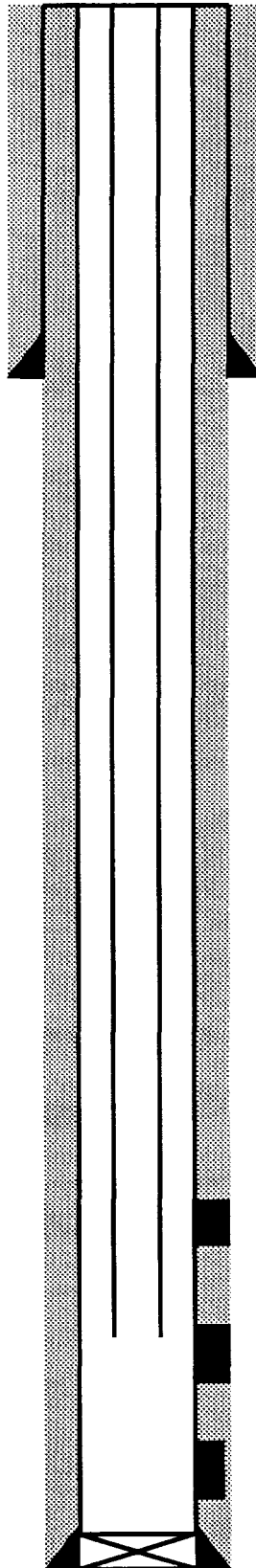
Perfs @ 5,546-5,550'

Perfs @ 5,600-5,632'

Perfs @ 5,627-5,674'

PBTD @ 5,669'

7 7/8" hole TD @ 5,700'



WELLBORE SCHEMATIC

Empire Abo Unit N-9

1,880' FNL & 660' FWL
Sec. 10, T-18S, R-27E, Eddy County, NM
Spudded 04/08/59
Completed 05/10/59

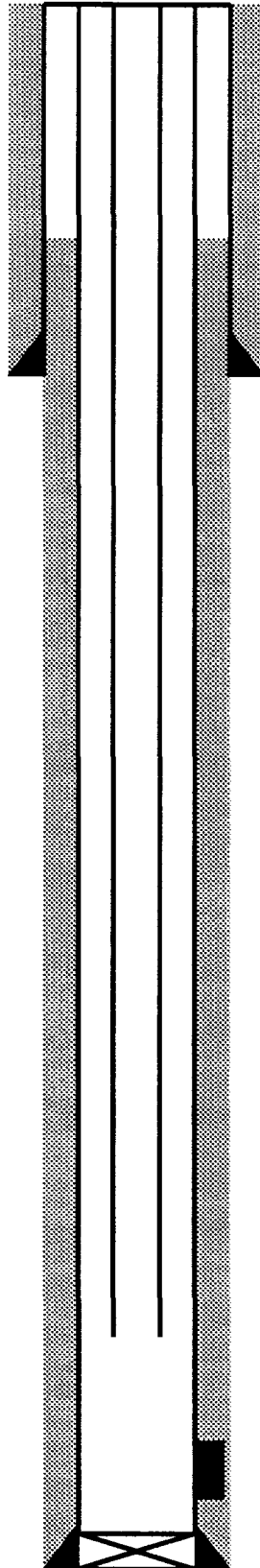
Surface Casing
8 5/8"
Cmt to Surface 800 sx

Shoe @ 1,493'

Tubing 2 3/8"
@ 5,936'

Production Casing
5 1/2"
Cement 715 sx

Shoe @ 6,000'



TOC @ 902' by T.S.

Perfs @ 5,900-5,950'

PBTD @ 5,959'

7 7/8" hole TD @ 6,000'

WELLBORE SCHEMATIC

Empire Abo Unit N-901

2,390' FNL & 940' FWL

Sec. 10, T-18S, R-27E, Eddy County, NM

Spudded 08/04/77

Completed 11/02/77

Surface Casing
8 5/8"
Cmt to Surface 450 sx

Shoe @ 1,000'

TOC @ 29' by T.S.

DV Tool @ 4,113'

Tubing 2 3/8" (200 Jts)
w/TAC,SN,PN, PS &
MA @ 5895'

Perfs @ 5,882-5,892'

Production Casing
5 1/2"
Cement 1,670 sx

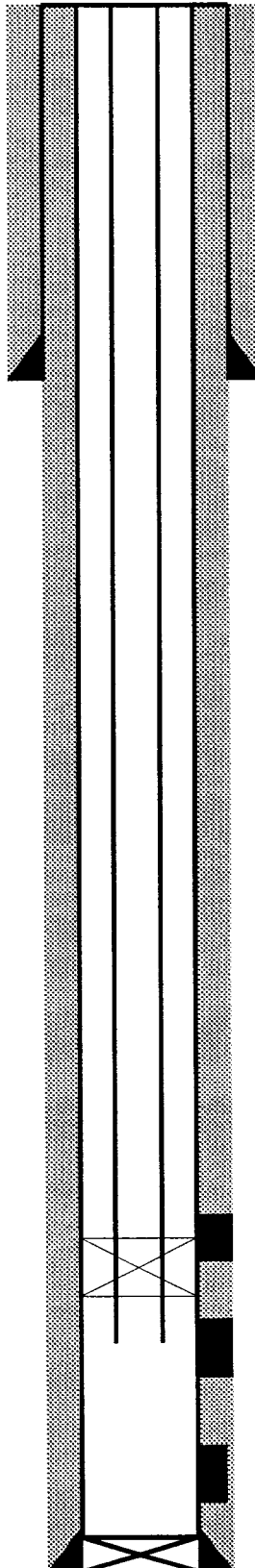
Perfs @ 5-938-5,972' (abandoned)

Perfs @ 6,148-6,158' (abandoned)

PBTD @ 5,919'

7 7/8" hole TD @ 6,259'

Shoe @ 6,259'



WELLBORE SCHEMATIC

Empire Abo Unit N-10

1,650' FNL & 1,650' FWL
Sec. 10, T-18S, R-27E, Eddy County, NM
Spudded 06/17/59
Completed 07/03/59

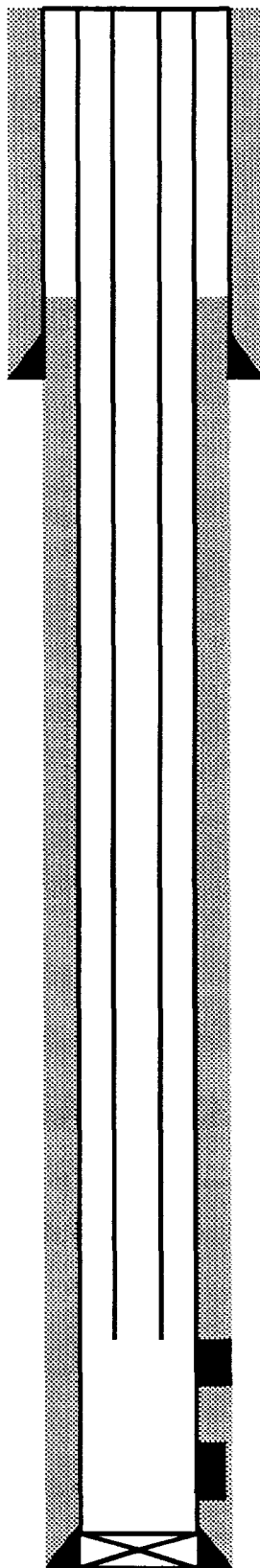
Surface Casing
8 5/8"
Cmt to Surface 700 sx

Shoe @ 1,490'

Tubing
N/A

Production Casing
4 1/2"
Cement 750 sx

Shoe @ 6,051'



TOC @ 1,100' by T.S.

Perfs @ 5-830-5,870'

Perfs @ 5,965-6,005'(plugged)
PBTB @ 5,950'
7 7/8" hole TD @ 6,051'

WELLBORE SCHEMATIC

Empire Abo Unit N-11

1650' FNL & 2310" FEL (E)

Sec. 10, T-18S, R-27E, Eddy County, NM

Spudded 02/04/60

Completed 03/07/60

Surface Casing
8 5/8"
Cmt to Surface 700sx

Shoe @ 1,505'

TOC 4 1/2 @ surface

Tubing (190 Jts)
2 3/8"

PKR @ 5,860'
Guiberson KVL-30

Perfs @ 5,925-5944'

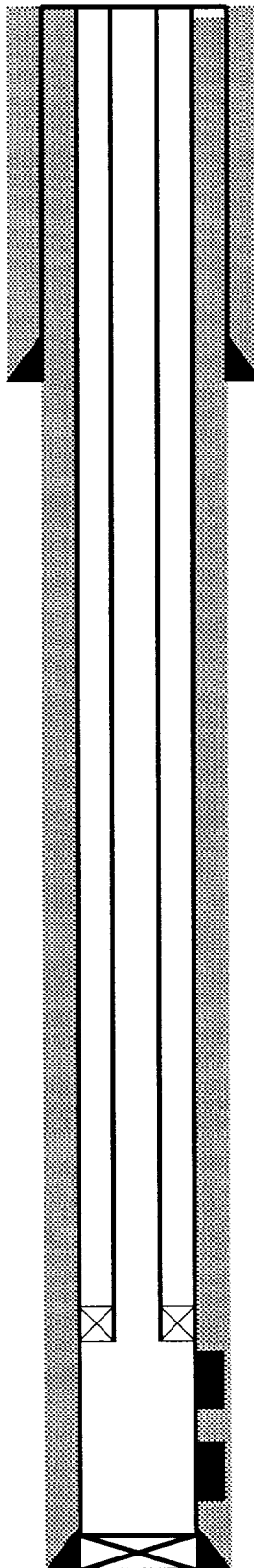
Production Casing
4 1/2"
Cement 270 sx

Perfs @ 5,972-5,994'

PBTD @ 5,899'

Shoe @ 6,172'

7 7/8" hole TD @ 6,173'



WELLBORE SCHEMATIC

Empire Abo Unit N-12

330' FNL & 330' FEL (E)

Sec. 10, T-18S, R-27E, Eddy County, NM

Spudded 11/26/59

Completed 01/04/60

Surface Casing

8 5/8"

Cmt to Surface 30sx

Shoe @ 1,470'

TOC @ 5400' by T.S.

Tubing

2 3/8" w/TAC, SN,
PN, & MA @ 6093'

TAC @ 6,093'

Production Casing

4 1/2"

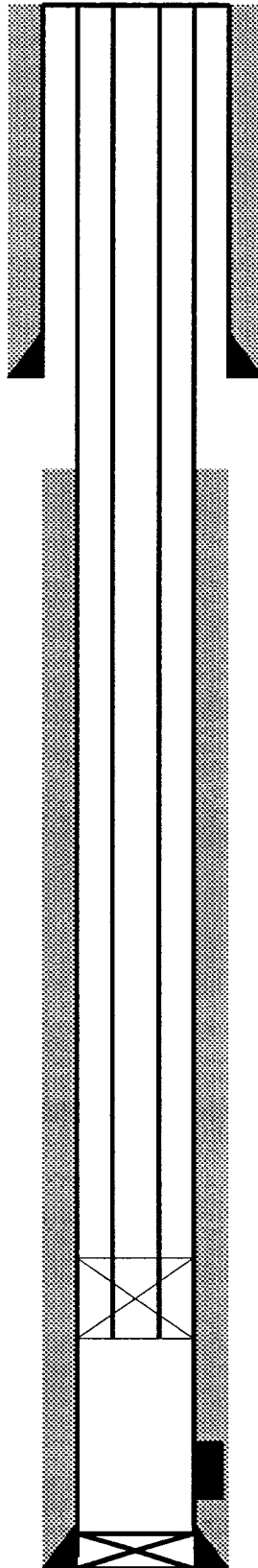
Cement 270 sx

Shoe @ 6,143'

Perfs @ 6,043-6,080'

PBTD @ 6,115'

7 7/8" hole TD @ 6,143'



WELLBORE SCHEMATIC

Empire Abo Unit N-13

1618' FNL & 330' FWL

Sec. 11, T-18S, R-27E, Eddy County, NM

Spudded 06/15/72

Completed 07/07/72

Surface Casing
8 5/8"
Cmt to Surface 525 sx

Shoe @ 1,001'

Cmt to surface
290 sx Sqz 577'

TOC @ 4,350' by T.S.

2960' & 450 sx Sqz.

4490' 550 sx Sqz.

Tubing
2 3/8"

PKR 6,003'
Baker Mod 'R'

Production Casing
5 1/2"
Cement 300 sx

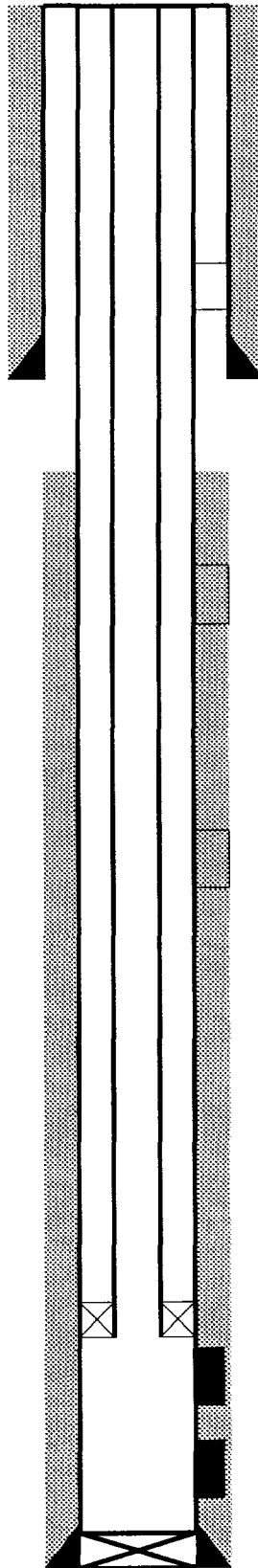
Shoe @ 6,105'

Perfs @ 6,018-6,032'

Perfs @ 6,038-6,064' (Sqzd)

PBTD @ 6,075'

7 7/8" hole TD @ 6,105'



WELLBORE SCHEMATIC

Empire Abo Unit N-131

Surface Casing
13 5/8"
Cmt to Surface 480 sx

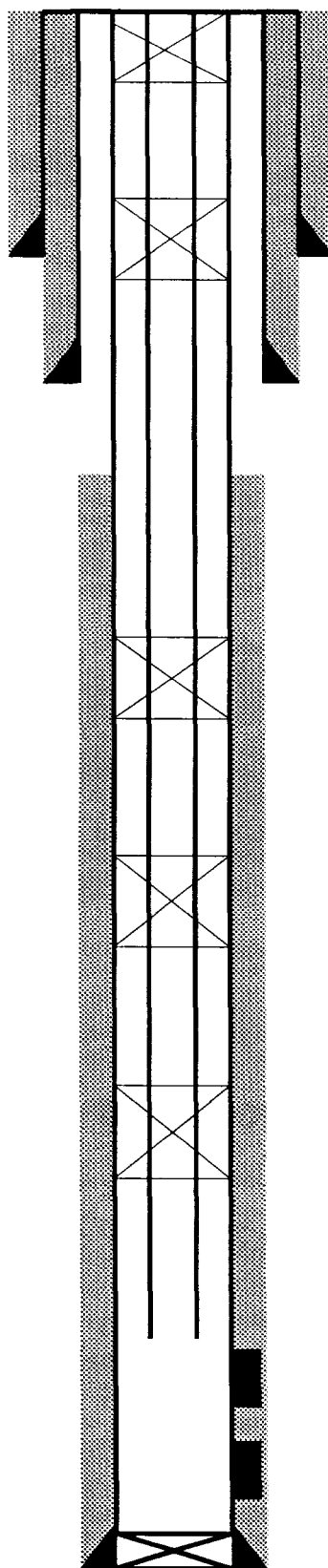
Shoe @ 315'

Int. 8 5/8" Cmt to
Surface 851 sx

Shoe @ 2000'

Production Casing
5 1/2"
Cement 150 sx

Shoe @ 6,116'



1980' FNL & 660' FWL (E)
Sec. 11, T-18S, R-27E, Eddy County, NM
KB Elev. 2,687'
Spudded 01/03/58
Completed 03/26/58
P&A'd 12/3/88

850-1150 30 sx

1700-2103 40 sx

3400-3263 80 sx

5463-5800 30 sx

Perfs @ 6,104' - 6013'

Perfs @ 6,013' - 6120'

PBTB

7 7/8" hole TD @ 6,120'

WELLBORE SCHEMATIC

Cmt Plug Surface to 944'.

Empire Abo Unit N #14

1650' FNL & 1980' FWL (F)

Sec 11, T-18S, R-27E, Eddy County, NM

API 30-015-00865

RDB-3589'

Spudded 10/22/58

Completed 07/25/61

P&A'd 06/12/90

Cmt Plug 944' to 1054'.

12-1/4" Hole.
8-5/8" casing @ 1004'.
Set w/650 sxs cmt. Circ.

Cmt Plug 1100' to 1852'.

Cmt Plug 1852' to 1960'.

CIBP @ 5265' w/35' cmt on top.

Perfs @ 6160' to 6165.

TD @ 6208'.

7-7/8" hole.
4-1/2" csg @ 6206' w/250 sxs cmt.

WELLBORE SCHEMATIC

Empire Abo Unit O-4

1650' FSL & 330' FEL
Sec. 8, T-18S, R-27E, Eddy County, NM
Spudded 12/30/60
Completed 01/21/61

Surface Casing
8 5/8"
Cmt to Surface 800sx

Shoe @ 1,534'

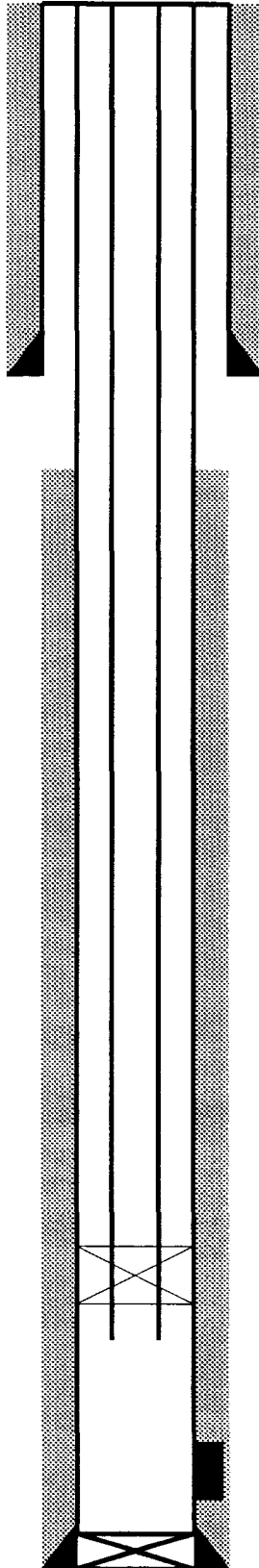
Tubing
2 3/8" w/TAC, SN, PN,
& MA @ 5473'

TOC @ 400' by T.S.

Production Casing
4 1/2"
Cement 850 sx

Shoe @ 5,576'

Perfs @ 5,370-5,400'
PBTD @ 5,545'
7 7/8" hole TD @ 5,576'



WELLBORE SCHEMATIC

Empire Abo Unit O-5

1650' FSL & 990' FWL
Sec. 9, T-18S, R-27E, Eddy County, NM
Spudded 05/15/60
Completed 06/09/60

Surface Casing
8 5/8"
Cmt to Surface 800sx

Shoe @ 1,501'

Tubing
2 3/8" w/TAC,SN,PN,
& MA @ 5593'

Production Casing
4 1/2"
Cement 800 sx

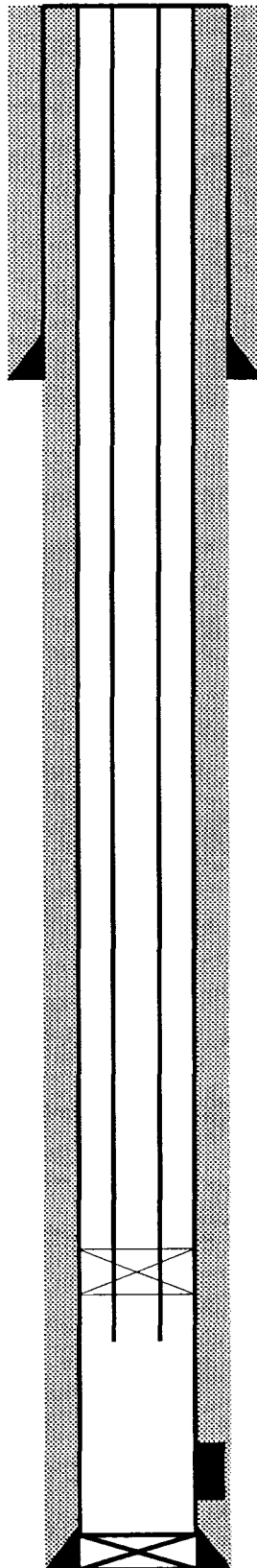
Shoe @ 5,700'

TOC @ surface

Perfs @ 5,569-5597'

PBTD @ 5,677'

7 7/8" hole TD @ 5,700'



WELLBORE SCHEMATIC

Empire Abo Unit O-6

1980' FSL & 1,980' FWL
Sec. 9, T-18S, R-27E, Eddy County, NM
Spudded 01/10/60
Completed 02/04/60

Surface Casing
8 5/8"
Cmt to Surface 750sx

Shoe @ 1,476'

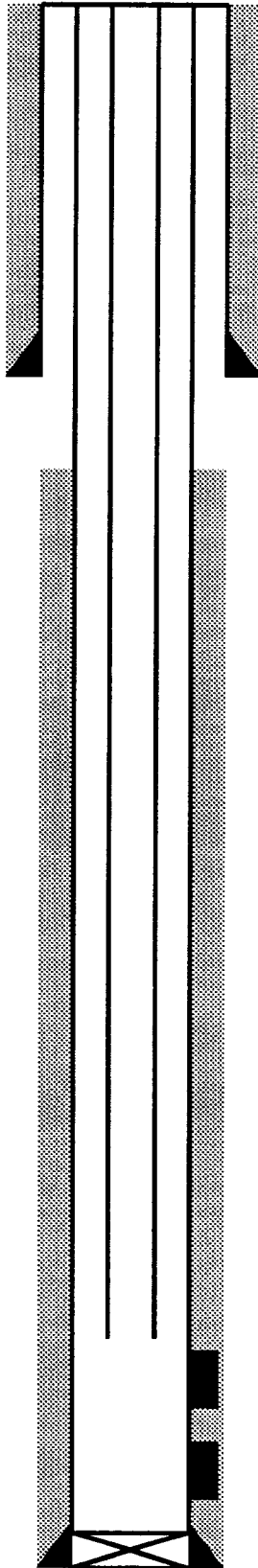
Tubing
2 3/8"@ 5581'

TOC @ 3,730 by T.S.

Production Casing
4 1/2"
Cement 350 sx

Shoe @ 5,717'

Perfs @ 5,600-5,628'
PBD @ 5,686'
7 7/8" hole TD @ 5,717'



WELLBORE SCHEMATIC

Empire Abo Unit O-7

1980' FSL & 1,980' FWL

Sec. 9, T-18S, R-27E, Eddy County, NM

Spudded 07/19/59

Completed 08/13/59

TOC @ 980 by T.S.

Surface Casing
8 5/8"
Cmt to Surface 700sx

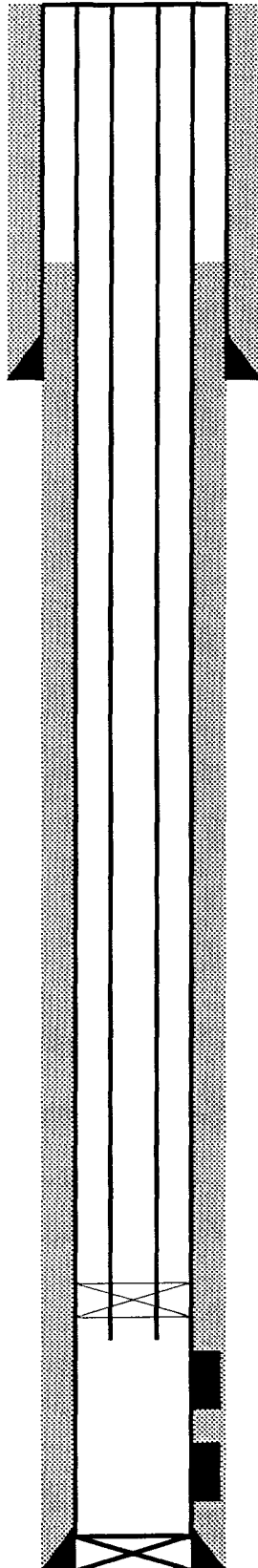
Shoe @ 1,484'

Tubing
2 3/8" (181 jts)
w/ TAC, SN, PN, MA
@5,682'

TAC @ 5,682'

Production Casing
4 1/2"
Cement 700 sx

Shoe @ 5,800'



Perfs @ 5,710-5,750'

PBTD @ 5,765'

7 7/8" hole TD @ 5,800'

WELLBORE SCHEMATIC

Empire Abo Unit O-8

1980' FSL & 660' FEL
Sec. 9, T-18S, R-27E, Eddy County, NM
Spudded 06/17/59
Completed 07/16/59

TOC @ 970 by T.S.

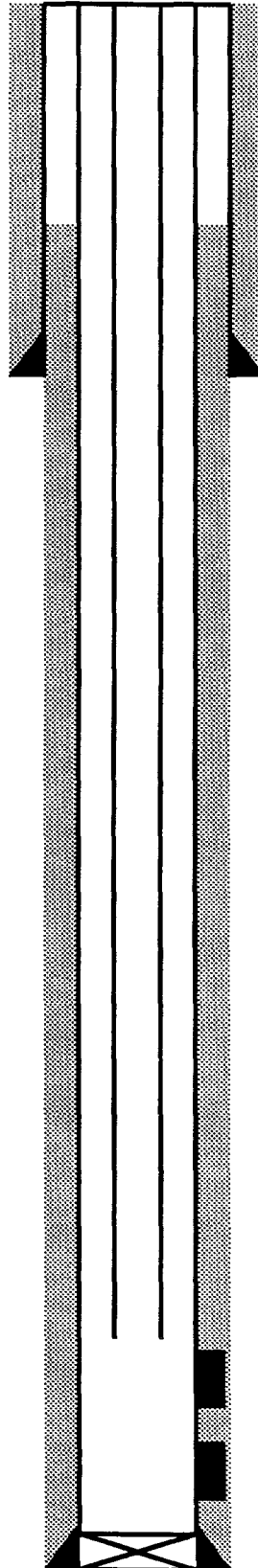
Surface Casing
8 5/8"
Cmt to Surface 750 sx

Shoe @ 1,490'

Tubing
2 3/8"

Production Casing
4 1/2"
Cement 750 sx

Shoe @ 5,817'



Perfs @ 5,722-5,756'
PBTd @ 5,782'
7 7/8" hole TD @ 5,817'

WELLBORE SCHEMATIC

Empire Abo Unit O-9

1980' FSL & 660' FWL

Sec. 10, T-18S, R-27E, Eddy County, NM

Spudded 08/05/59

Completed 11/01/59

TOC @ est. 1000'

Surface Casing
8 5/8"
Cmt to Surface 800 sx

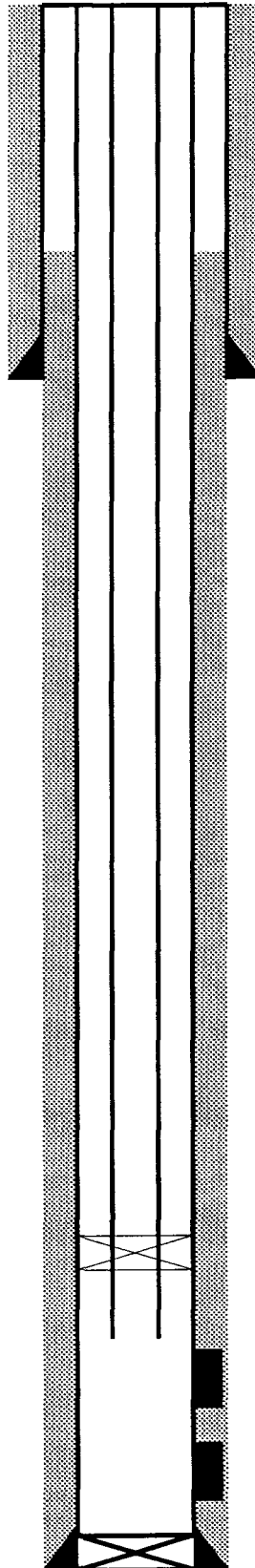
Shoe @ 1,492'

Tubing
2 3/8"

TAC @ 5,793' (186 jts)
w/ SN, PN, MA & TAC
@ 5,793'

Production Casing
4 1/2"
Cement 850 sx

Shoe @ 6,024'



Perfs @ 5,795-5,837'

PBTD @ 5,840'

7 7/8" hole TD @ 6,024'

WELLBORE SCHEMATIC

Empire Abo Unit P-4

660' FSL & 330' FEL

Sec. 8, T-18S, R-27E, Eddy County, NM

Spudded 10/11/60

Completed 11/07/60

Surface Casing

8 5/8"

Cmt to Surface 800 sx

Shoe @ 1,529'

Tubing

2 3/8" w/TAC,
SN, PN, & MA

@ 5498'

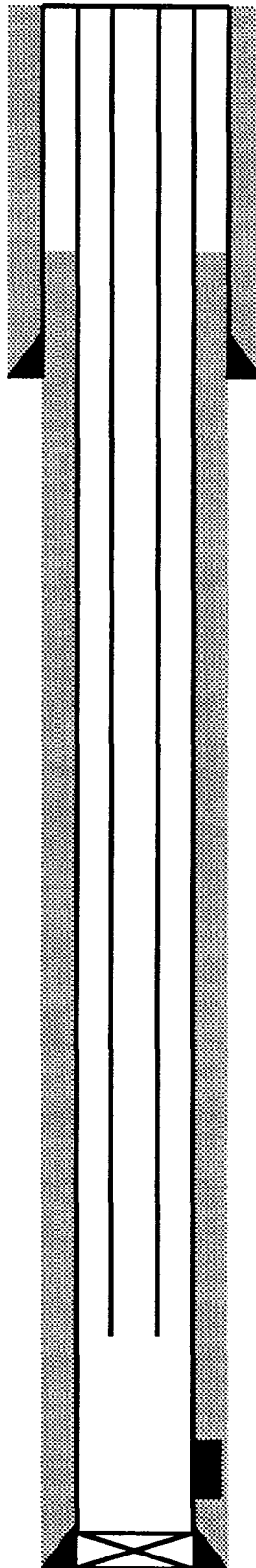
TAC @ 5,498'

Production Casing

4 1/2"

Cement 800 sx

Shoe @ 5,579'



TOC @ est. 1000'

Perfs @ 5,346-5,480'

PBTD @ 5,555'

7 7/8" hole TD @ 5,591'

WELLBORE SCHEMATIC

Empire Abo Unit P-5

330' FSL & 990' FWL
Sec. 9, T-18S, R-27E, Eddy County, NM
Spudded 04/18/60
Completed 05/15/60

TOC @ 900' by T.S.'

Surface Casing
8 5/8"
Cmt to Surface 850 sx

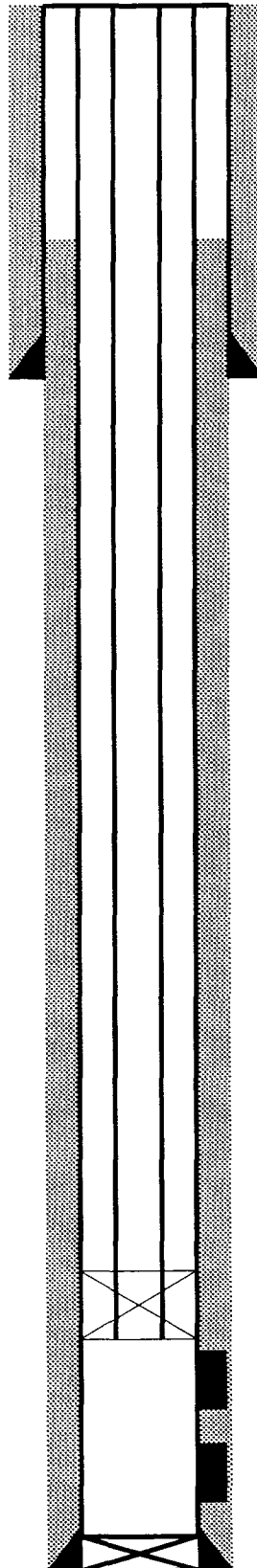
Shoe @ 1,519'

Tubing 2 3/8" (183 jts)
w/MA, PN, SN, TAC
@ 5691'

TAC @ 5,691'

Production Casing
4 1/2"
Cement 1,050 sx

Shoe @ 5,768'



Perfs @ 5630-5656'
PBD @ 5740'
7 7/8" hole TD @ 5,768'

WELLBORE SCHEMATIC

Empire Abo Unit P-6

660' FSL & 1980' FWL
Sec. 9, T-18S, R-27E, Eddy County, NM
Spudded 02/13/60
Completed 03/17/60

Surface Casing
8 5/8"
Cmt to Surface 915 sx

Shoe @ 1,497'

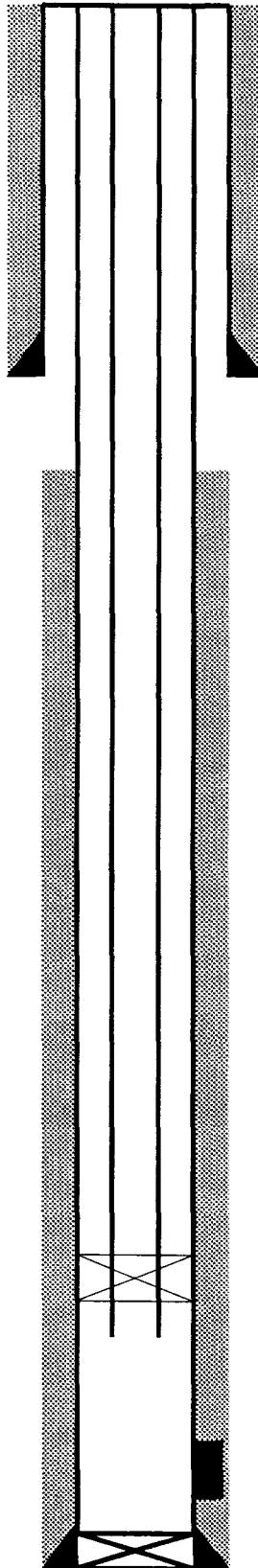
Tubing
2 3/8" w/TAC, SN, PN,
& MA @ 5698'

TOC @ 1,900' by T.S.

Production Casing
4 1/2"
Cement 350 sx

Shoe @ 5,776'

Perfs @ 5,650-5,682'
PBTD @ 5,740'
7 7/8" hole TD @ 5,790'



WELLBORE SCHEMATIC

Empire Abo Unit P-7

1,643' FEL & 985.25' FSL
Sec. 9, T-18S, R-27E, Eddy County, NM
Spudded 06/12/70
Completed 07/05/70

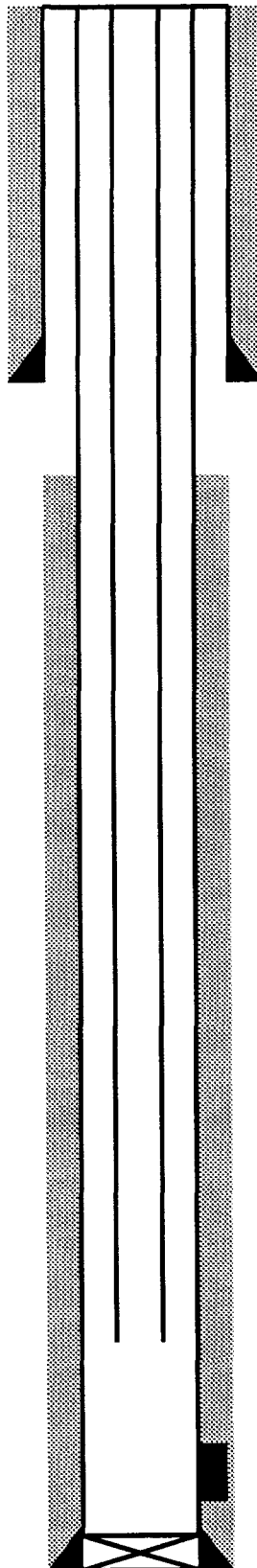
Surface Casing
8 5/8"
Cmt to Surface 750 sx

Shoe @ 1,495'

Tubing
2 3/8" w/TAC,SN,PN,
& MA @ 5790'

Production Casing
4 1/2"
Cement 300 sx

Shoe @ 5,950'



Perfs @ 5,826-5,884'
PBTD @ 5,896'(hard obstruction)
7 7/8" hole TD @ 5,950'

WELLBORE SCHEMATIC

Empire Abo Unit P-701

985.25' FSL & 2,297.02' FEL
Sec. 9, T-18S, R-27E, Eddy County, NM
Spudded 10/30/59
Completed 11/25/59
P&A'd 12-23-88

Surface Casing
8 5/8"
Cmt to Surface 700 sx

Shoe @ 1,494'

316'-surf w/ 25 sx

983'-653' w/ 25 sx

1596'-1230' w/ 35 sx

2954'-1838' w/ 87 sx

3085'-1968' w/ 87 sx

4090'-2974' w/ 87 sx

4199'-3084' w/ 87 sx

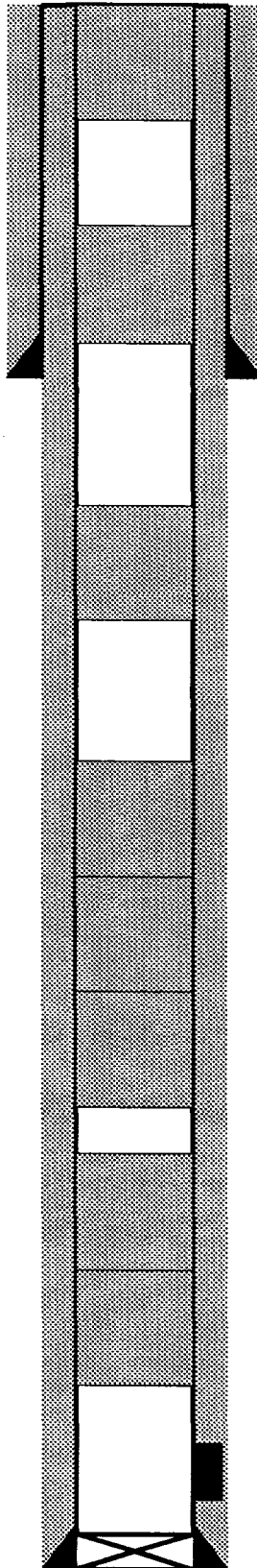
4534'-3508' w/ 80 sx

Production Casing
4 1/2"
Cement 850 sx

Perfs @ 5,610-5,640'

Shoe @ 5,835'

7 7/8" hole TD @ 5,835'



WELLBORE SCHEMATIC

Empire Abo Unit Q-5

660' FNL & 990' FWL
Sec. 16, T-18S, R-27E, Eddy County, NM
Spudded 05/29/60
Completed 06/23/60

Surface Casing
8 5/8"
Cmt to Surface 800 sx

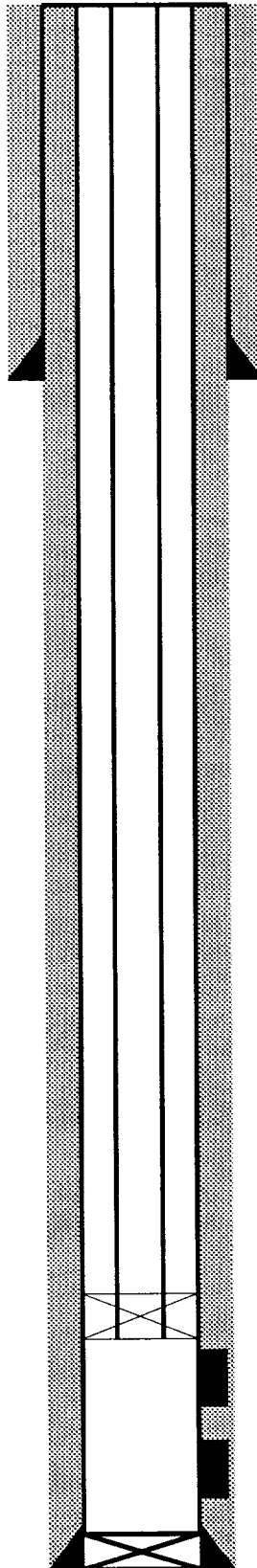
Shoe @ 1,527'

Tubing
2 3/8" (185 Jts)
@ 5586' w/SN,PS, & MA

TAC @ 5,586'

Production Casing
4 1/2"
Cement 700 sx
to Surf.

Shoe @ 5,700'



Perfs @ 5,590-5,610'

PBTD @ 5,668'

7 7/8" hole TD @ 5,700'

WELLBORE SCHEMATIC

Empire Abo Unit Q-6

660' FNL & 1.980' FWL
Sec. 16, T-18S, R-27E, Eddy County, NM
Spudded 03/14/60
Completed N/A

Surface Casing
8 5/8"
Cmt to Surface 700 sx

Shoe @ 1,508'

Tubing
2 3/8" @ 5557'
w/BP, PN, & SN

TOC @ 800'

TAC @ 5,518'

Production Casing
4 1/2"
Cement 800 sx

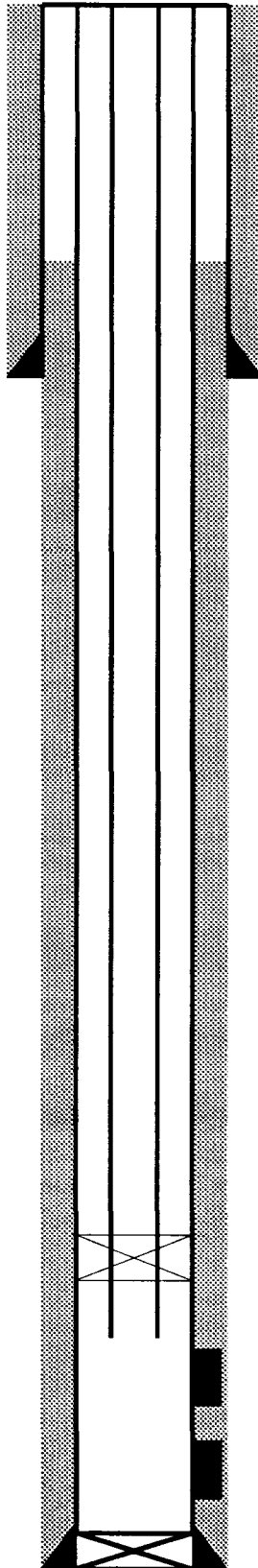
Perfs @ 5,570-5,584'

Perfs @ 5,602-5,616'

PBTD @ 5,640'

7 7/8" hole TD @ 5,681'

Shoe @ 5,669'



WELLBORE SCHEMATIC

Empire Abo Unit Q #7

330' FNL & 2310' FEL (B)

Sec 16, T-18S, R-27E, Eddy County, NM

API 30-015-00908

KB-3481'

Spudded 05/07/60

Completed 05/27/60

11" Hole.
8-5/8" casing @ 1514'.
Set w/800 sxs cmt. Circ.

TOC @ 1765' by TS.

2-3/8" tbg & pkr @ 5644'.

Perfs @ 5640' to 5710'.

7-7/8" hole.
4-1/2" csg @ 5825' w/800 sxs cmt.

PBD @ 5795'.
TD @ 5810'.

WELLBORE SCHEMATIC

Empire Abo Unit Q-8

330' FNL & 969' FEL

Sec. 16, T-18S, R-27E, Eddy County, NM

Spudded 04/04/60

Completed N/A

Surface Casing
8 5/8"

Shoe @ 1,487'

Tubing
2 3/8" @ 5805'
w/MA, PN, & SN

TAC @ 5,769'

Production Casing
4 1/2"
Cement 850 sx

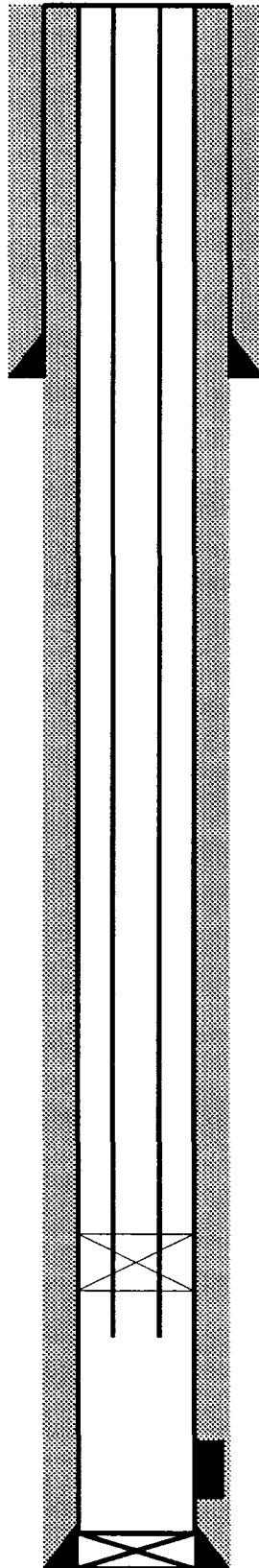
Shoe @ 6,018'

TOC @ 575'

Perfs @ 5,823-5,950'

PBTD @ 5,986'

7 7/8" hole TD @ 6,018'



WELLBORE SCHEMATIC

Empire Abo Unit R-3

1,980' FNL & 1,980' FEL

Sec. 17, T-18S, R-27E, Eddy County, NM

Spudded 04/06/59

Completed 07/23/59

Surface Casing

8 5/8"

Cmt to Surface 600 sx

Shoe @ 1,500'

Tubing 2 3/8" (173 jts)

w/ SN, PN, TAC, MA

@ 5,528'

TOC @ 4,501' (calc)

TAC @ 5,528'

Production Casing

5 1/2"

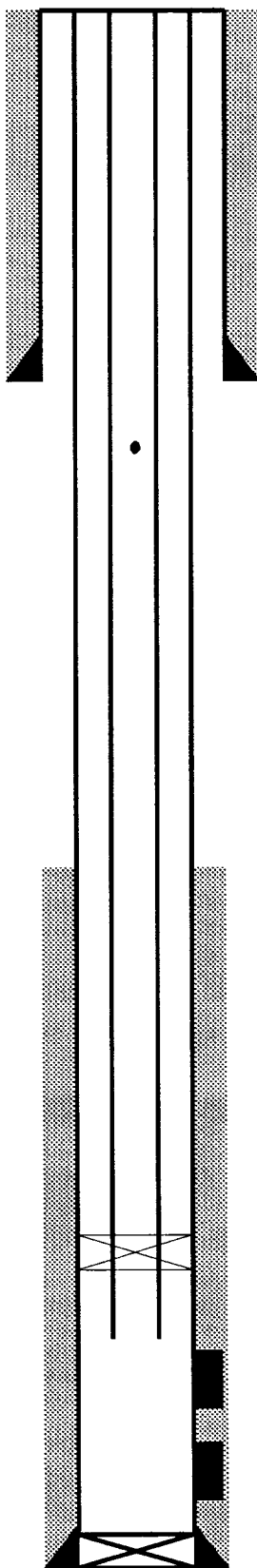
Cement 1,470 sx

Shoe @ 9,621'

Perfs @ 5,320-5,454 (ABO)'

PBTD @ 5,750'

7 7/8" hole TD @ 9,850'



WELLBORE SCHEMATIC

Empire Abo Unit R-4

1,980' FNL & 1,650' FEL

Sec. 17, T-18S, R-27E, Eddy County, NM

Spudded 12/23/60

Completed 01/20/61

Surface Casing
8 5/8"
Cmt to Surface 800 sx

Shoe @ 1,517'

Tubing
2 3/8" @ 5413'
w/MA, PN, & SN

TAC @ 5,316'

Production Casing
4 1/2"
Cement 850 sx

Shoe @ 5,626'

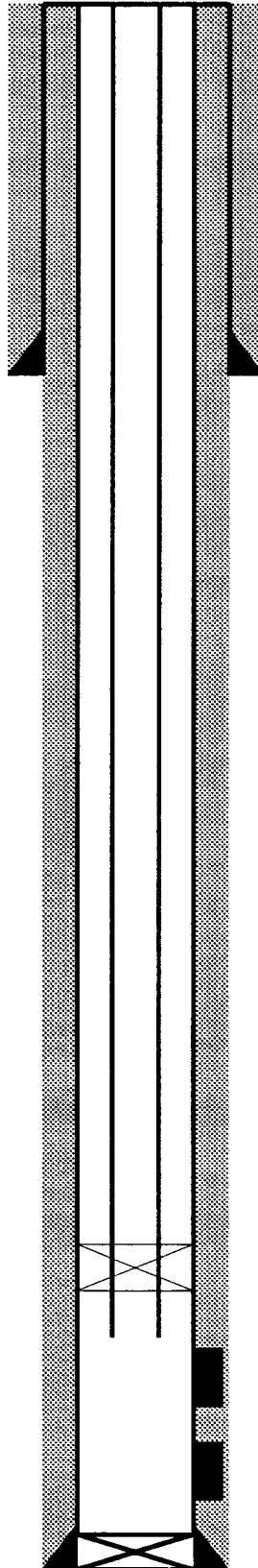
TOC N/A

Perfs @ 5,369-5,433'

Perfs @ 5,400-5,470'

PBTD @ 5,609'

7 7/8" hole TD @ 5,638'



WELLBORE SCHEMATIC

Empire Abo Unit R-5

1,980' FNL & 660' FWL

Sec. 16, T-18S, R-27E, Eddy County, NM

Spudded 08/14/60

Completed 09/13/60

Surface Casing

8 5/8"

Cmt to Surface 800 sx

Shoe @ 1,518'

Tubing 2 7/8"

w/ MA, PN, SN, TAC

@ 5,541'

TAC @ 5,541'

Production Casing

4 1/2"

Cement 800 sx

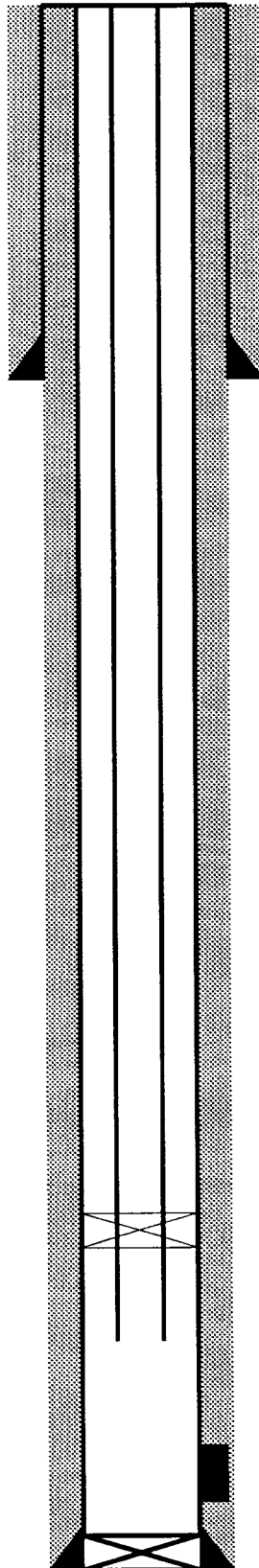
Shoe @ 5,708'

TOC @ surface, Circ.

Perfs @ 5,555-5,579'

PBTD @ 5,694'

7 7/8" hole TD @ 5,708'



WELLBORE SCHEMATIC

Empire Abo Unit R #6

1650' FNL & 1650' FWL (F)

Sec 16, T-18S, R-27E, Eddy County, NM

API 30-015-00903

DF-3498'

Spudded 07/01/60

Completed 07/23/60

TA 09/30/82

11" Hole.
8-5/8" casing @ 1493'.
Set w/800 sxs cmt. Circ.

100' cmt plug 1460' to 1560'.

100' cmt plug 4118' to 4218'.

100' cmt plug 5088' to 5188'.

Cmt retr. @ 5400' w/60' cmt on retr.

Sqz'd Perfs @ 5461' to 5542'.

CIBP @ 5562'.

Sqz'd Perfs @ 5582' to 5600'.

PBD @ 5673'.

TD @ 5700'.

7-7/8" hole.
4-1/2" csg @ 5699' w/800 sxs cmt. Circ.

WELLBORE SCHEMATIC

Empire Abo Unit R-7

1,650' FNL & 2,310' FEL
Sec. 16, T-18S, R-27E, Eddy County, NM
Spudded 08/07/60
Completed N/A

Surface Casing
8 5/8"
Cmt to Surface 800 sx

Shoe @ 1,521'

Tubing
2 3/8" @ 5733'
w/PN, BP, & SN

TOC @ 1110' (by Calc)

TAC @ 5,733'

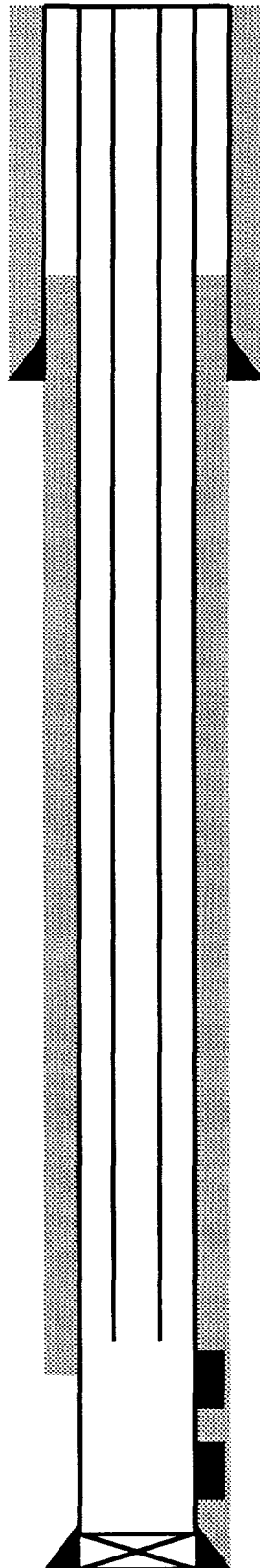
Production Casing
4 1/2"
Cement 800 sx

Shoe @ 5,838'

Perfs @ 5,742-5,766"

PBTD @ 5,812'

7 7/8" hole TD @ 5,835'



WELLBORE SCHEMATIC

Empire Abo Unit S-2

2,310' FSL & 2,310' FWL

Sec. 17, T-18S, R-27E, Eddy County, NM

Spudded 07/17/61

Completed 09/04/61

Surface Casing

8 5/8"

Cmt to Surface 1,200 sx

Shoe @ 1,487'

Tubing

2 5/8" @ 5427'

w/SN,PN, & MJ

TAC @ 5,399'

Production Casing

4 1/2"

Cement 800 sx

Shoe @ 5,555'

TOC @ 1,100' by T.S.

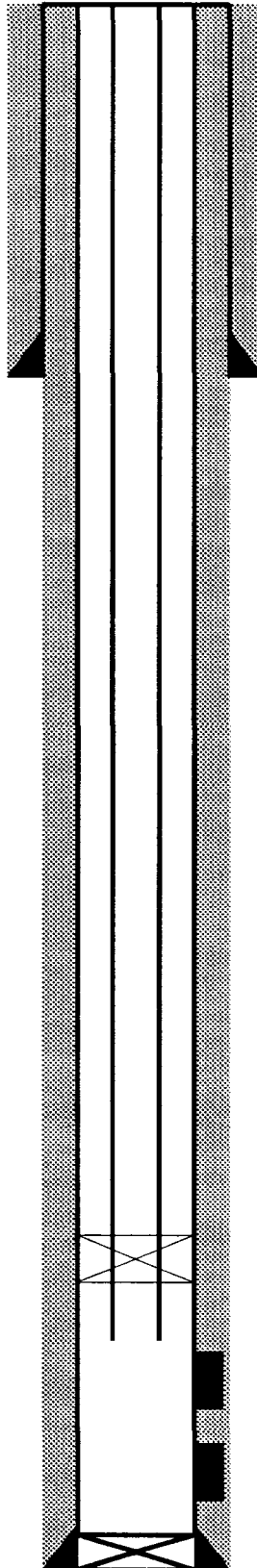
Perfs 5,468-5,473'

Perfs 5,486 - 5,500'

Perfs @ 5,518-5,522'

PBTD @ 5,538'

7 7/8" hole TD @ 5,556'



WELLBORE SCHEMATIC

Empire Abo Unit S-3

2,310' FSL & 1,650' FEL

Sec. 17, T-18S, R-27E, Eddy County, NM

Spudded 06/03/61

Completed 07/01/61

Surface Casing
8 5/8"
Cmt to Surface 550 sx

Shoe @ 1,502'

TOC N/A

Tubing
165 jts. w/TAC

Production Casing
4 1/2"
Cement 800 sx

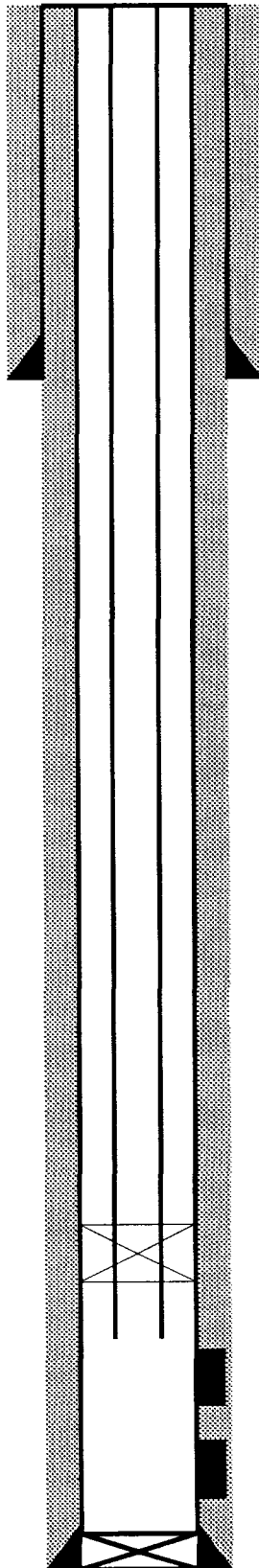
Perfs 5,478 - 5,490'

Perfs @ 5,514-5,524'

PBTD @ 5,578'

7 7/8" hole TD @ 5,600'

Shoe @ 5,584'



WELLBORE SCHEMATIC

Empire Abo Unit S-4

330' FEL & 2,314' FSL

Sec. 17, T-18S, R-27E, Eddy County, NM

Spudded 04/29/61

Completed 06/21/61

Surface Casing
8 5/8"
Cmt to Surface 800 sx

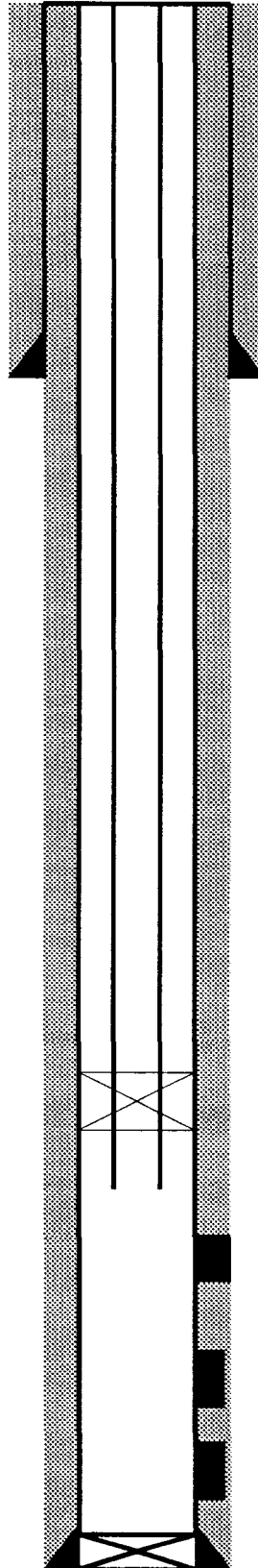
Shoe @ 1,525'

Tubing
2 3/8" @ 5260'
W/SN

TAC @ 5,258'

Production Casing
4 1/2"
Cement 650 sx

Shoe @ 5,600'



TOC @ surface

Perfs 5,316-5,322'

Perfs 5,382 - 5,402'

Perfs @ 5,446-5,448'

PBTD @ 5,500'

7 7/8" hole TD @ 5,602'

WELLBORE SCHEMATIC

Empire Abo Unit S-5

1,980' FSL & 660' FWL

Sec. 16, T-18S, R-27E, Eddy County, NM

Spudded 09/09/60

Completed N/A

Surface Casing

8 5/8"

Cmt to Surface 800 sx

Shoe @ 1,519'

TOC @ 300'

Tubing

2 7/8" (169 Jts)

@ 5287'

w/2-7/8" x 2-3/8" XO

TAC @ 5,290'

w/SN,PS, & MA @ 5517'

Production Casing

4 1/2"

Cement 800 sx

Shoe @ 5,797'

Perfs @ 5,338-5,350'

Perfs @ 5,366-5,391'

Perfs @ 5,414-5,422'

Perfs @ 5,434-5,456'

PBTD @ 5,797'

7 7/8" hole TD 5797

WELLBORE SCHEMATIC

Empire Abo Unit S-6

1,980' FSL & 1,650' FWL
Sec. 16, T-18S, R-27E, Eddy County, NM
Spudded 08/31/60
Completed 11/16/60

Surface Casing
8 5/8"
Cmt to Surface 800 sx

Shoe @ 1,515'

TOC @ 110' by T.S.

Tubing
2 3/8" (169 Jts)
@ 5199' w/SN, PS, & MA

TAC @ 5,199'

Production Casing
4 1/2"
Cement 800 sx

Shoe @ 5,955'

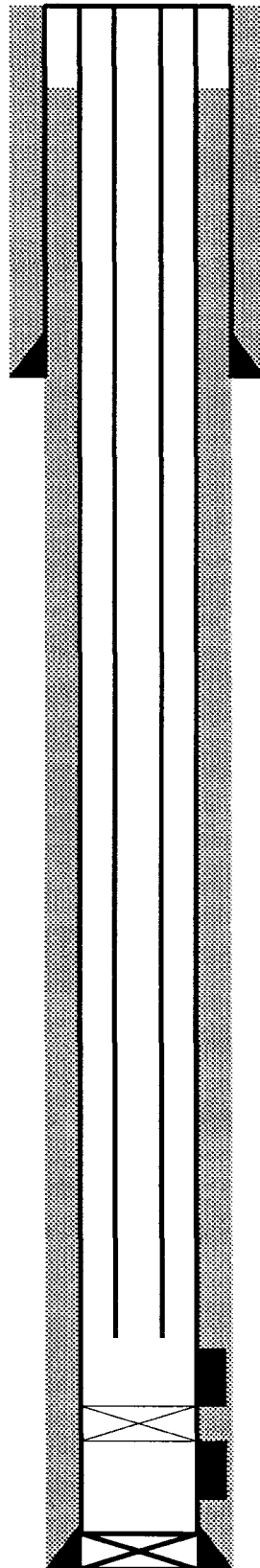
Perfs @ 5,261-5,295'

CIBP @ 5536'

Perfs @ 5,547-5,750 Sqzd)

PBTD @ 5,325'

7 7/8" hole TD 5,963'



WELLBORE SCHEMATIC

Empire Abo Unit S-7

2,304' FSL & 2,310' FEL
Sec. 16, T-18S, R-27E, Eddy County, NM
Spudded 11/25/61
Completed 01/01/62

Surface Casing
8 5/8"
Cmt to Surface 700 sx

Shoe @ 1,498'

Tubing 2 3/8"

TOC @ 2,305'

Production Casing
4 1/2"
Cement 700 sx

Shoe @ 6,007'

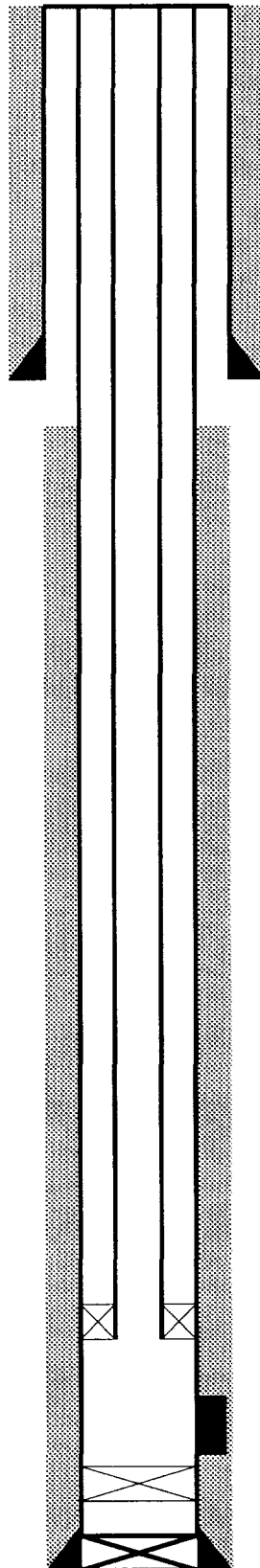
Pkr @ 5504'

Perfs @ 5,646-5,656'

CIBP @ 5690'

PBTD @ 5,952'

7 7/8" hole TD @ 6,007'



WELLBORE SCHEMATIC

Empire Abo Unit T-6

990' FSL & 1,650' FWL

Sec. 16, T-18S, R-27E, Eddy County, NM

Spudded 11/07/60

Completed 01/21/61

P&A'd 5/1965

Re-entered 10/1968

T&A'd 1/13/88

Surface Casing
8 5/8"
Cmt to Surface 800 sx

Shoe @ 1,534'

TOC N/A

Tubing 2 3/8"
(1 Jt)

CIBP @ 2981'

Perfs @ 3276-3340'

CIBP @ 3560'

Perfs @ 3610-3710'

Production Casing
4 1/2"
Cement 800 sx

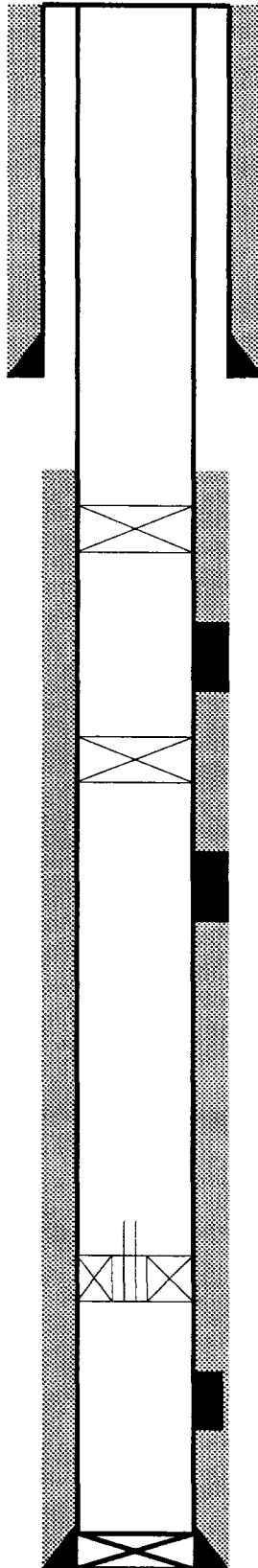
Baker ADI @ 5650' w/5 Jts
2 3/8" Tbg TOF @ 5476'

Perfs @ 5,670-5,966'

Shoe @ 5,983'

PBTD @ 2,981'

7 7/8" hole TD @ 5,985'



WELLBORE SCHEMATIC

Chalk Bluff Federal #1

Mewbourne Oil - Operator
790' FSL & 2250' FWL (N)
Sec 1, T-18S, R-27E, Eddy Co., NM
API 30-015-26575
KB 3625'
Spudded 12/22/90
Completed 03/15/91

TOC @ 12' (Calculated).

17-1/2" Hole.
13-3/8" casing @ 400'.
Set w/625 sxs cmt. Circ.

12-1/4" Hole.
9-5/8" casing @ 2604'.
Set w/1025 sxs cmt.

Top of Liner @ 9051'.

8-3/4" Hole.
7" casing @ 9450' w/1350 sxs cmt. Circ.

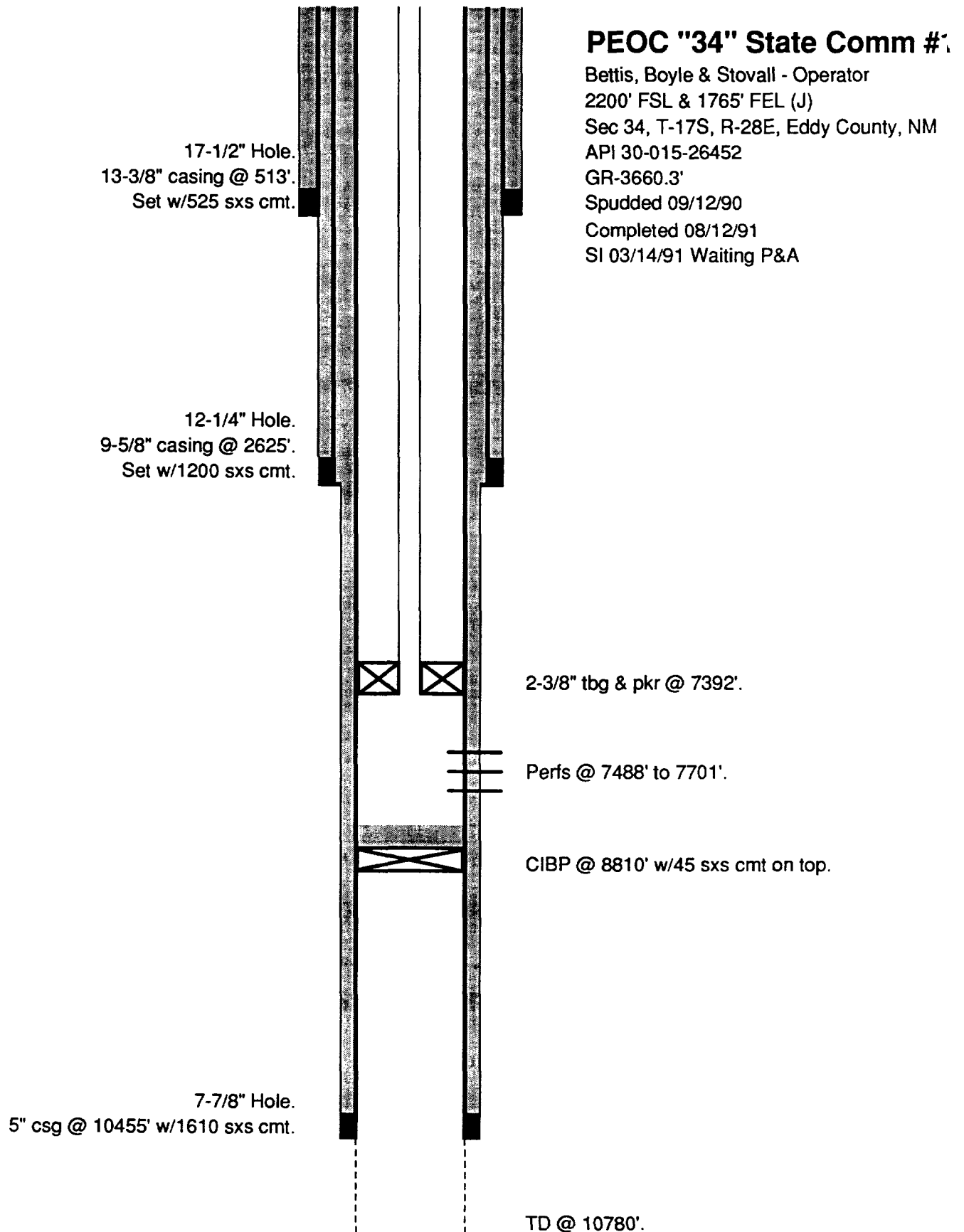
2-3/8" tbg @ 9805'.

Morrow Perfs 9936' to 9967'.

PBD @ 10079'.
TD @ 10120'.

4-1/2" Liner @ 10119' w/175 sxs cmt.

WELLBORE SCHEMATIC



WELLBORE SCHEMATIC

Chalk Bluff Federal #2

Mewbourne Oil - Operator
1650' FNL & 1350' FWL (F)
Sec 1, T-18S, R-27E, Eddy Co., NM
API 30-015-26741
KB 3615'
Spudded 05/13/91
Completed 02/25/92

TOC @ 18' (Calculated).

17-1/2" hole.
13 3/8" casing @ 416'.
Set w/550 sxs cmt. Circ.

12-1/4" Hole.
9-5/8" casing @ 2610'.
Set w/1025 sxs cmt.

TOC @ 3933' (Calculated).

2-3/8" tbg @ 9939'.

Morrow Lower Perfs 9999' to 10024'.

PBD @ 10125'.
TD @ 10148'.

7-7/8" Hole.
5-1/2" csg @ 10148' w/1020 sxs cmt.

WELLBORE SCHEMATIC

Federal EA #1

Rhonda Operating Co - Operator

330' FNL & 330' FWL (D)

Sec 12, T-18S, R-27E, Eddy County, NM

API 30-015-00871

DR-3620'

Spudded 05/17/59

Completed 06/27/59

12-1/4" Hole.
8-5/8" casing @ 1492'.
Set w/920 sxs cmt.

TOC @ 5304 by etc.

7-7/8" Hole.
5-1/2" csg @ 6219' w/150 sxs cmt.

Sqz'd Perfs @ 6128' to 6150'.

Perfs @ 6162' to 6180'.

PBD @ 6219'.

TD @ 6253'.

WELLBORE SCHEMATIC

TOC @ 73' (Calculated).

17-1/2" Hole.
13 3/8" casing @ 398'.
Set w/450 sxs cmt. Circ.

12-1/4" Hole.
8-5/8" casing @ 1800'.
Set w/900 sxs cmt.

Red Lake State #1

Mewbourne Oil - Operator
990' FSL & 1980' FWL (N)
Sec 16, T-18S, R-27E, Eddy Co., NM
KB 3665'
Spudded 01/05/92
Completed 04/17/92

7-7/8" Hole.
5-1/2" csg @ 9810' w/2150 sxs cmt. Circ.

2-3/8" tbg @ 9479'.

Morrow Lower Perfs 9631' to 9650'.

PBD @ 9748'.
TD @ 9810'.

WELLBORE SCHEMATIC

Cmt Plug @ Surface w/10 sxs cmt.

State BL #1

Pan American - Operator
330' FNL & 2272' FEL (B)
Sec 4, T-18S, R-28E, Eddy County, NM
API 30-015-02588
DF-3669'
Spudded 02/26/60
Completed & P&A'd 03/22/60

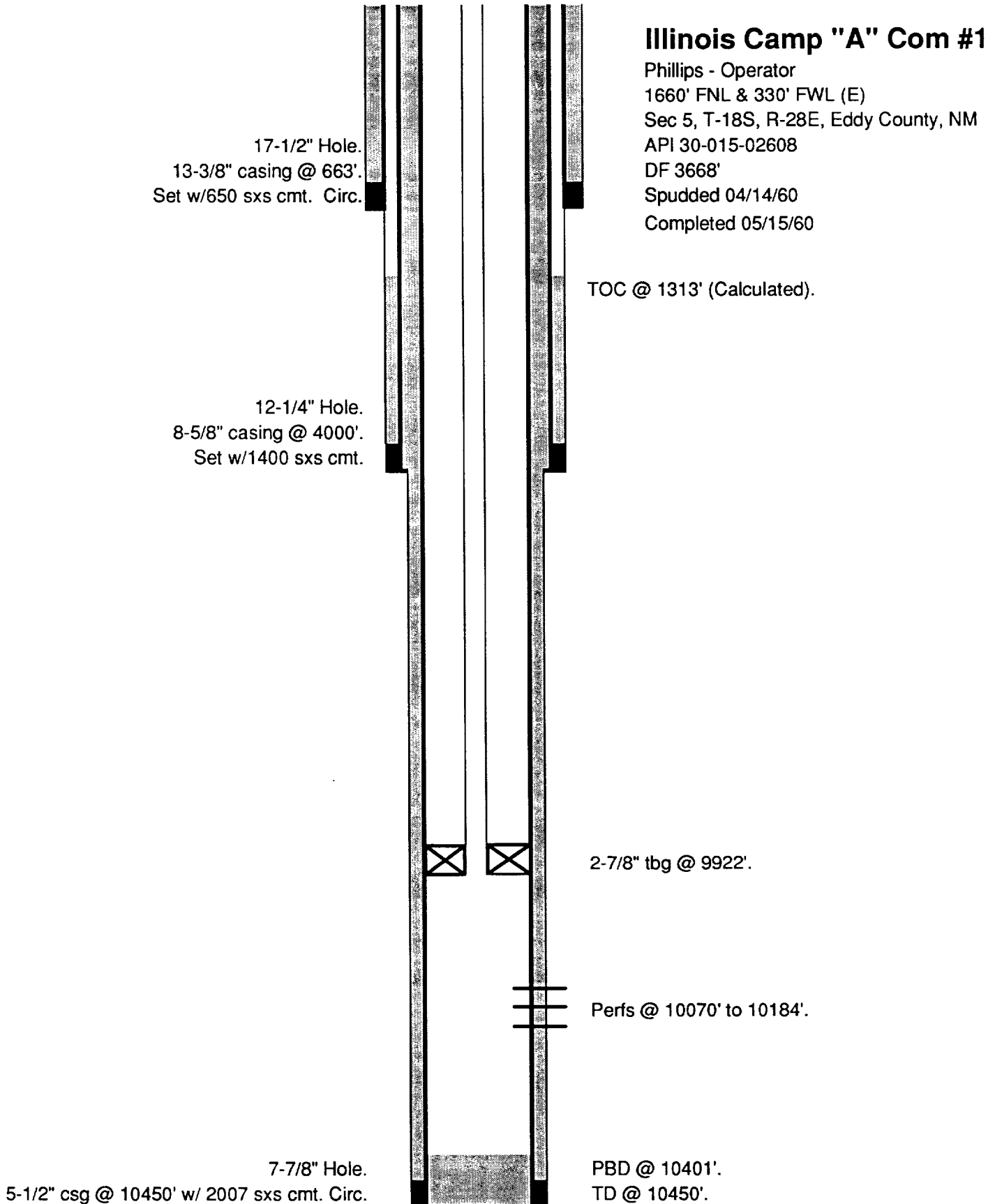
Cmt Plug 1187' to 1235'.
11" Hole.
8-5/8" casing @ 1233'.
Set w/700 sxs cmt. Circ.

Cmt Plug 2263' to 2425'.

Cmt plug 6152' to 6334'.

TD @ 6334'.

WELLBORE SCHEMATIC



WELLBORE SCHEMATIC

State E AI #1

Phillips - Operator

1660' FNL & 330' FWL (E)

Sec 5, T-18S, R-28E, Eddy County, NM

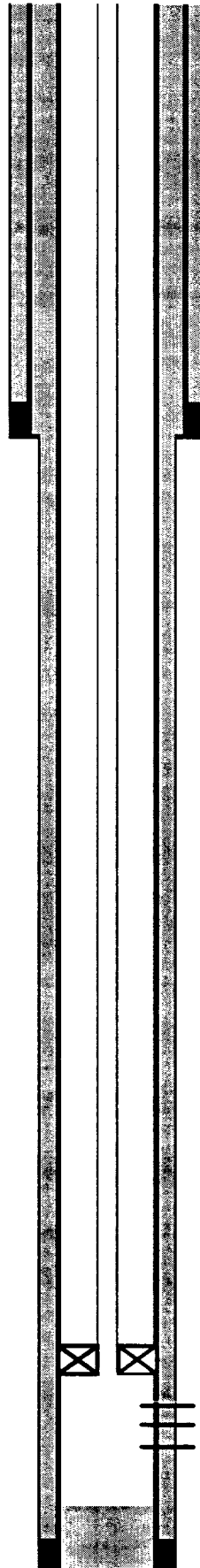
API 30-015-02608

DF 3668'

Spudded 04/14/60

Completed 05/15/60

12-1/4" Hole.
9-5/8" casing @ 1149'.
Set w/550 sxs cmt. Circ.



7-7/8" Hole.
5-1/2" csg @ 6265' w/2500 sxs cmt. Circ.

Perfs @ 6165' to 6195'.

PBD @ 6219'.
TD @ 6265'.

WELLBORE SCHEMATIC

State M-AI #2

Phillips - Operator

949' FSL & 990' FWL (M)

Sec.6, T-18S, R-28E, Eddy County, NM

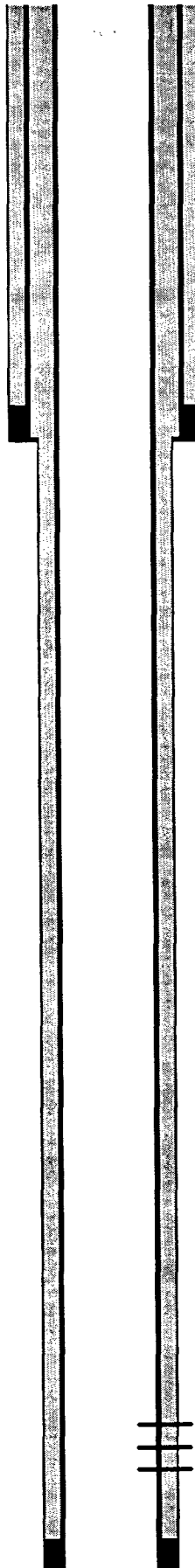
API 30-015-02627

DF-3640'

Spudded 10/04/60

Completed 10/26/60

12-1/4" Hole.
9-5/8" casing @ 1004'.
Set w/350 sxs cmt. Circ.



Perfs @ 6174' to 6192'.

TD @ 6225'.

7-7/8" Hole.
5-1/2" csg @ 6225' w/550 sxs cmt. Circ.

WELLBORE SCHEMATIC

Chalk Bluff "6" State #1

Mewbourne Oil - Operator

990' FSL & 730' FWL (M)

Sec. 6, T-18S, R-28E, Eddy Co., NM

API 30-015-26843

DF-3639'

Spudded 02/17/92

Completed 04/24/92

17-1/2" Hole.
13-3/8" casing @ 400'.
Set w/500 sxs cmt. Circ.

12-1/4" Hole.
9-5/8" casing @ 2600'.
Set w/1100 sxs cmt. Circ.

Top of Liner @ 9077'.

8-3/4" Hole.
7" casing @ 9445' w/1895 sxs cmt. Circ.

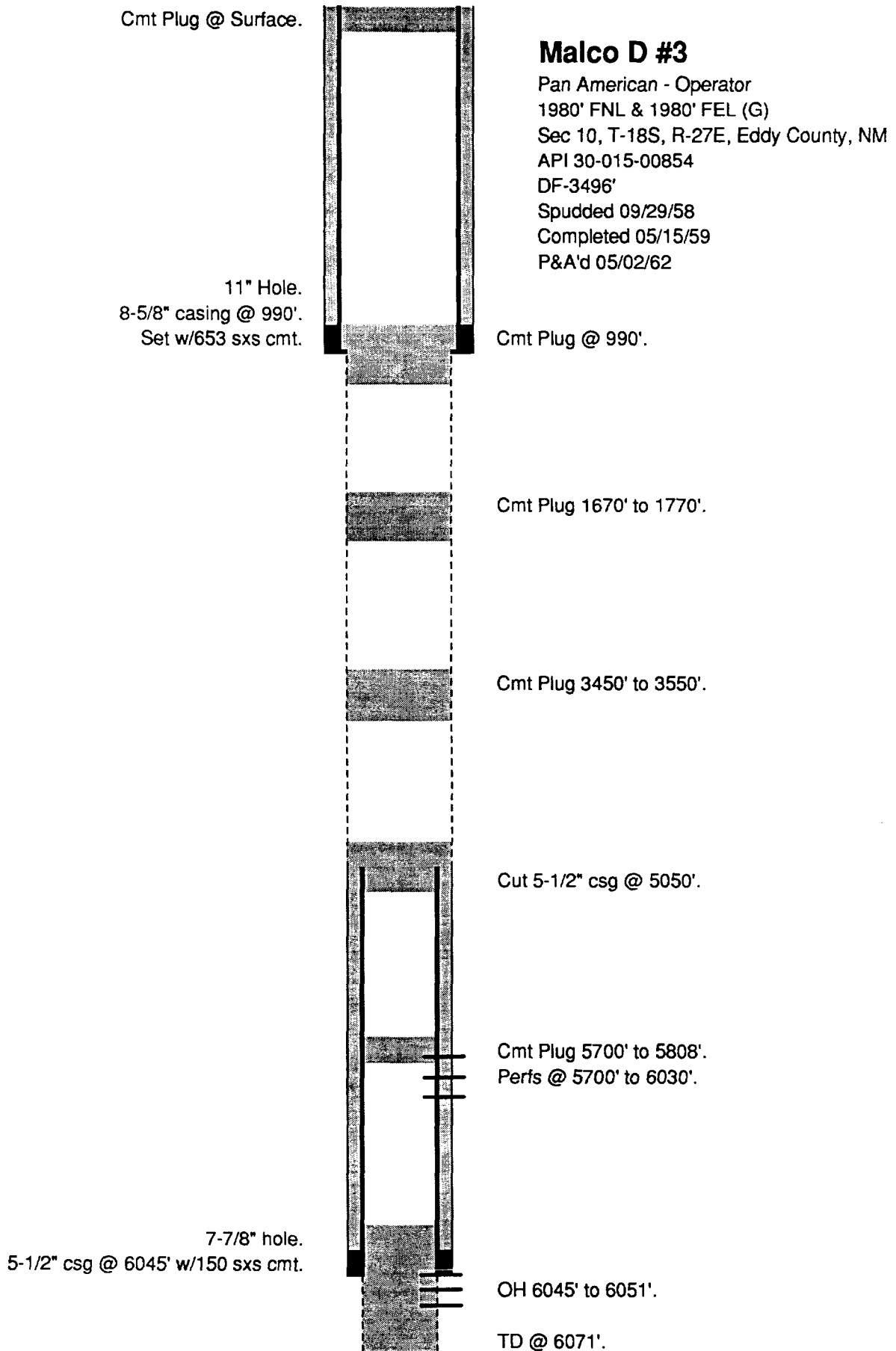
2-3/8" tbg @ 9990'.

Perfs @ 10084' to 10092'.

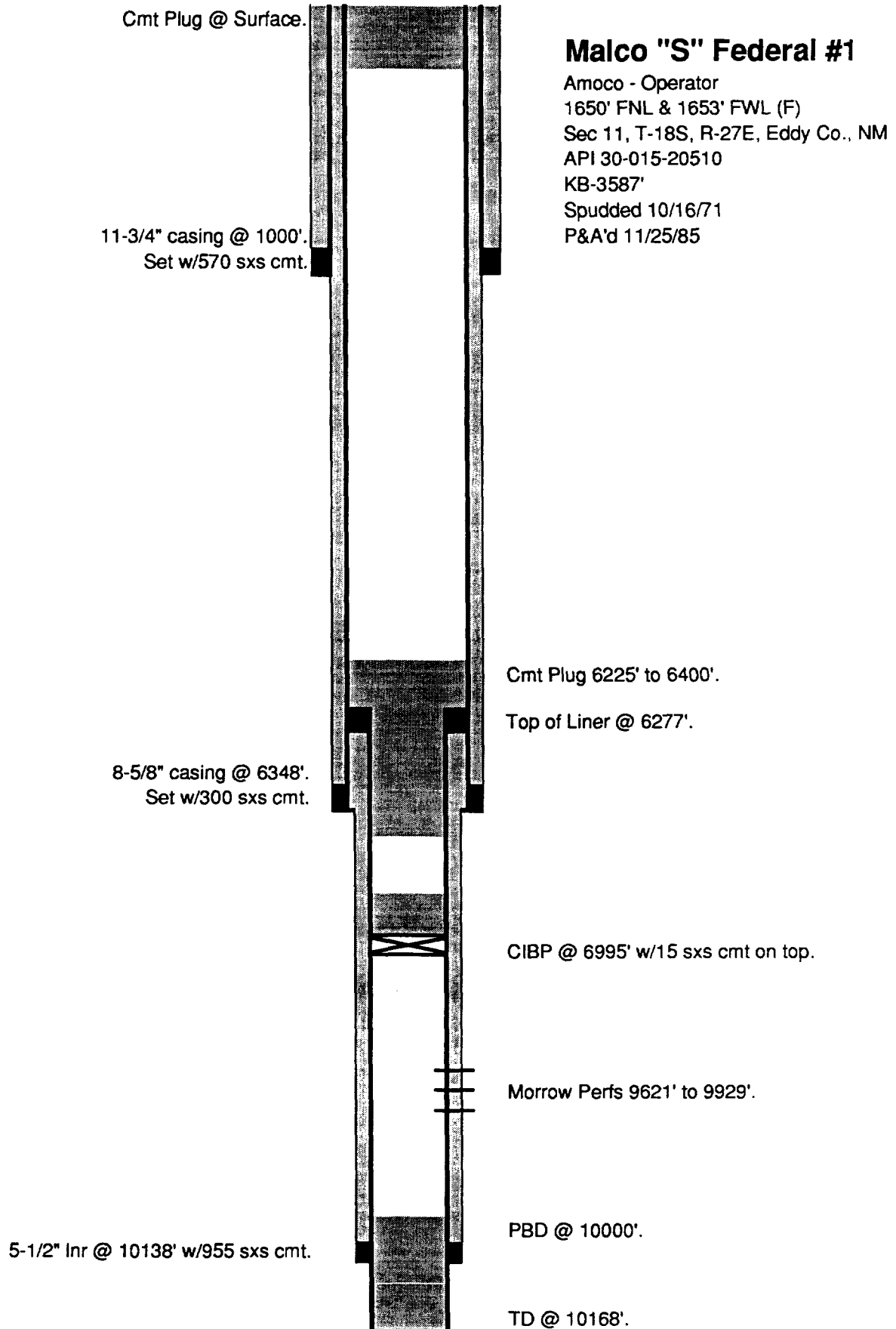
4-1/2" Liner @ 10198' w/175 sxs cmt.

PBD @ 10151'.
TD @ 10200'.

WELLBORE SCHEMATIC



WELLBORE SCHEMATIC



WELLBORE SCHEMATIC

Cmt Plug @ Surface to 10'.

Cmt Plug 1350' to 1465'.

11" Hole.
8-5/8" casing @ 1605'.
Set w/525 sxs cmt.

Federal "EA" #3

Rhonda Operating Company - Operator
330' FNL & 380' FWL (D)
Sec 12, T-18S, R-27E, Eddy County, NM
API 30-015-23115
KB-3620'
Spudded 03/16/80
Completed 08/25/80
P&A'd 12/10/82

Cmt Plug 1600' to 1710'.

Cmt Plug 3050' to 3150'.

Cmt Plug 3762' to 3860'.
Cut 5-1/2" csg @ 3810'.

Cmt Plug 6146' to 6405'.

CIBP @ 6000' w/55 sxs cmt on top.

Set 5-1/2" csg @ 6250'.

TD @ 6250'.

WELLBORE SCHEMATIC

Cmt Plug Surface to 55'.

Federal EA #2

Robert G. Cox - Operator

330' FNL & 445' FWL (D)

Sec 12, T-18S, R-27E, Eddy County, NM

GR-3609'

Spudded 11/27/71

Completed 09/10/72

P + A

12-1/4" Hole.
8-5/8" casing @ 1470'.
Set w/250 sxs cmt.

Cmt Plug 1400' to 1500'.

Cmt Plug 2700' to 2800'.

Cmt Plug 4165' to 4279'.

Cut csg of 4230'.

Cmt Plug 5995' to 6150'.

PBD @ 6195'.

Perfs @ 6170' to 6184'.

Sqz'd Perfs @ 6202' to 6208'.

Sqz'd Perfs @ 6242' to 6245'.

TD @ 6248'.

7-7/8" Hole.
5-1/2" csg @ 6248' w/400 sxs cmt.

WELLBORE SCHEMATIC

Cmt Plug @ Surface to 20'.

Abo Chalk Bluff Draw Unit #18

Exxon - Operator

660' FSL & 660' FWL (M)

Sec 16, T-18S, R-27E, Eddy County, NM

API 30-015-00906

DF-3447'

Spudded 10/16/60

Completed 12/26/60

P&A'd 12/27/60

11" Hole.
8-5/8" casing @ 1531'.
Set w/800 sxs cmt.

Cmt Plug 1475' to 1575'.

Cut 4-1/2" csg @ 4950'.
Cmt Plug 4900' to 5000'.

Perfs @ 5760' to 6088'.

7-7/8" hole.
4-1/2" csg @ 6150' w/175 sxs cmt.

TD @ 6150'.

WELLBORE SCHEMATIC

Cmt Plug surface to 29'.

Abo Chalk Bluff Draw Unit #12

Exxon - Operator

550' FNL & 350' FEL (A)

Sec 17, T-18S, R-27E, Eddy County, NM

KB-3843'

Spudded 06/08/60

Completed & P&A 'd 09/12/60

11" Hole.
8-5/8" casing @ 1513'.
Set w/800 sxs cmt.

Cmt Plug 1543' to 1643'.

Sqz'd Perfs @ 5470' to 5482'.

Sqz'd Perfs @ 5486' to 5500'.

Sqz'd Perfs @ 5506' to 5522'.

Sqz'd Perfs @ 5535' to 5557'.

7-7/8" hole.
4-1/2" csg @ 5694' w/100 sxs cmt.

PBD 5600'.
TD @ 5694'.

WELLBORE SCHEMATIC

Cmt Plug surface to 30'.

Cmt Plug 1250' to 1350'.

11" Hole.
8-5/8" casing @ 1516'.
Set w/800 sxs cmt.

Abo Chalk Bluff Draw Unit #20

Exxon - Operator

330' FSL & 1650' FWL (I)

Sec 17, T-18S, R-27E, Eddy County, NM

KB-3437'

Spudded 11/17/60

Completed 01/14/61

P&A'd 12/07/79

7-7/8" hole.
4-1/2" csg @ 5954' w/800 sxs cmt.

Sqz'd Perfs @ 5526' to 5534'.

Sqz'd Perfs @ 5548' to 5562'.

PBD 5600'.

Sqz'd Perfs @ 5672' to 5716'.

TD @ 5970'.

WELLBORE SCHEMATIC

Cmt Plug @ Surface.

State #1

James P. Dunigan - Operator

330' FNL & 345' FWL (D)

Sec 3, T-18S, R-28E, Eddy County, NM

API 30-015-05889

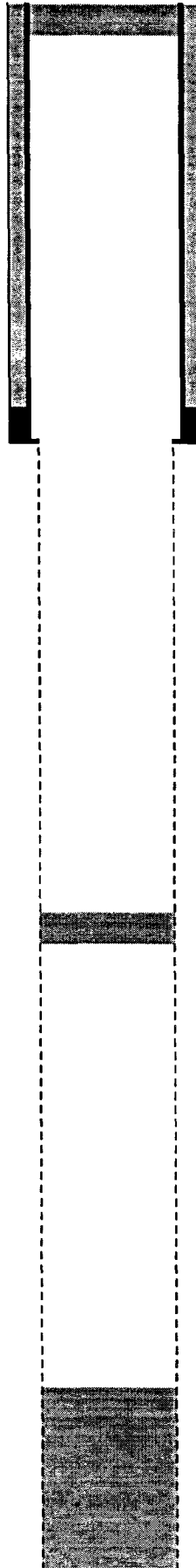
DF-3664'

Spudded 06/30/60

Completed 07/16/60

P&A'd 07/19/60

11" Hole.
8-5/8" casing @ 610'.
Set w/350 sxs cmt.

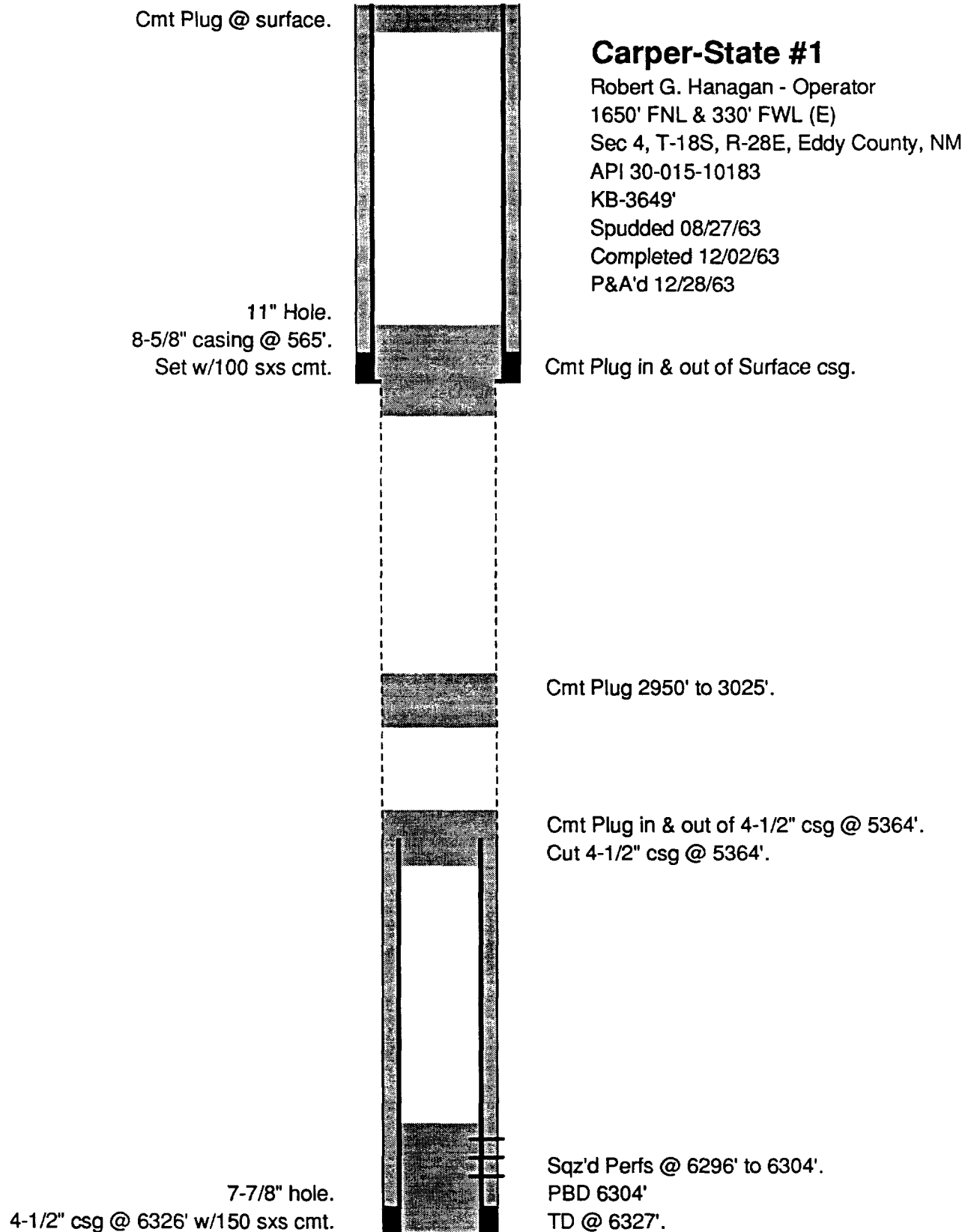


Cmt Plug 2300' to 2350'.

Cmt Plug 6146' to 6405'.

TD @ 6405'.

WELLBORE SCHEMATIC



WELLBORE SCHEMATIC

Cmt Plug @ Surface.

11" Hole.
8-5/8" casing @ 877'.

State CD #1

Pan American - Operator
1980' FSL & 2270' FEL (O)
Sec 6, T-18S, R-28E, Eddy County, NM
API 30-015-02624
KB-3638'
Spudded 04/14/61
Completed 06/07/61
P&A'd 07/07/61

Cmt Plug 2205' to 2305'.

Cmt Plug 3870' to 3970'.

Spotted 25 sxs cmt.
Cut 4-1/2" csg @ 5335'.

7-7/8" hole.
4-1/2" csg @ 6408'.

TD @ 6412'.

**FORM C-108
PART VII**

- 1. Average daily injection rate 12 MMCFPD each
Maximum daily injection rate 12 MMCFPD each**
- 2. Closed system**
- 3. Average and maximum injection pressure 2000 psig**
- 4. Gas analysis attached. Dry residue gas injection has
occurred in Empire Abo Unit since 1974**
- 5. Injection is not for disposal**



Laboratory Services

1331 Tasker Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

Cutlet

FOR: Arco Oil & Gas Company
Attention: Owen Crausby
P. O. Box 129
Artesia, New Mexico 88210

SAMPLE Sta. # 633010
IDENTIFICATION: E. A. U. Gas Plant
COMPANY: Amoco
LEASE:
PLANT:

SAMPLE DATA:	DATE SAMPLED:	03-18-92	GAS (XX)	LIQUID ()
	ANALYSIS DATE:	03-19-92	SAMPLED BY:	Owen Crausby
	PRESSURE - PSIG	710.00	ANALYSIS BY:	Rolland Perry
	SAMPLE TEMP. °F	87.00		
	ATMOS. TEMP. °F	75.80		

REMARKS:

COMPONENT ANALYSIS

COMPONENT		MOL PERCENT	GPM	
Oxygen	(O2)			
Hydrogen Sulfide	(H2S)			
Nitrogen	(N2)	2.26		
Carbon Dioxide	(CO2)	0.21		
Methane	(C1)	95.29		
Ethane	(C2)	2.21	0.590	
Propane	(C3)	0.03	0.008	
I-Butane	(IC4)	0.00	0.000	
N-Butane	(NC4)	0.00	0.000	
I-Pentane	(IC5)	0.00	0.000	
N-Pentane	(NC5)	0.00	0.000	
Hexane	(C6+)	0.00	0.000	
Heptanes Plus	(C7)	0.00	0.000	
		100.00	0.598	
BTU/CU.FT. - DRY		1002	MOLECULAR WT	16.6884
AT 14.650 DRY		999		
AT 14.650 WET		982	26# GASOLINE -	0.000
AT 15.025 DRY		1025		
AT 15.025 WET		1007		
SPECIFIC GRAVITY -				
CALCULATED		0.576		
MEASURED		0.000		

FORM C-108
PART VIII
GEOLOGICAL DATA

The Empire Abo field produces from a transgressive, carbonate, barrier reef buildup of lower Leonardian (Permian) age. This reef is one of several in a long trend flanking the northern edge of the Delaware Basin. The reef grew from southwest to northeast. It is approximately 12.5 miles long and 1.5 miles wide. Parallel to the reef trend, the reef dips 1 degree from southwest to northeast. Perpendicular to this trend the reef dips sharply at 10 to 20 degrees from crest to fore-reef, or north to south. The average depth of the reef is 5800 feet and the thickness average 300 feet.

The trapping mechanism at Empire Abo is both stratigraphic and structural. The reef dips below the oil water contact to the south and east. Permeability pinch outs to the north and west occur as a result of carbonate muds, green shales and anhydrite inclusions.

Porosity development is erratic and cannot be correlated between wells. Development is the result of leaching of abundant detrital fossil fragments, dolomitization and recrystallization. The most prolific porosity development is found in the reef core. There is no apparent intercrystalline porosity.

Vertical fracturing, which contributes to the gravity drainage mechanism of the reservoir, is apparently due to local slumping as well as large scale setting and some tectonic activity. Fracture orientation is generally 0 to 45 degrees from vertical and is parallel to the reef trend. *"These fractures apparently link up the erratic porosity development and provide excellent pressure communication in the reservoir".*

There are no known fresh water aquifers overlying the proposed zone or immediately underlying the injection interval.

FORM C-108
PART IX
PROPOSED STIMULATION

It is proposed to selectively perforate the Abo Reef from approximately $\pm 5100'$ to $\pm 5700'$ and open this interval by acidizing with approximately 20,000 gallons of 15% HCl acid. Depending on injectivity of the wells, fracture treatments may be used to further stimulate the formation.

PART X
LOGGING DATA

Well logs were filed upon initial completion.

PART XI
FRESH WATER ANALYSIS

No known fresh water wells within one mile of proposed injection well.

PART XII
DISPOSAL WELLS

Not applicable. Application is not for a disposal well.