Initial Application Part I

Received: **08/15/2019**

This application is placed in file for record. It MAY or MAY NOT have been reviewed to be determined Administratively Complete

Revised March 23, 2017

RECEIVED: 08/15/2019	REVIEWER:	TYPE: WFX	APP NO: pMAM1922744427

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Geological & Engineering Bureau –
1220 South St. Francis Drive, Santa Fe, NM 87505

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Applicant: Seely Oil Co. **OGRID Number:** 20497
Well Name: E-K Queen Unit 618 **API:** 30-025-29437
Pool: E-K; Yates-Seven Rivers-Queen **Pool Code:** 19950

SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED BELOW

WFX-1039

1) **TYPE OF APPLICATION:** Check those which apply for [A]
A. Location – Spacing Unit – Simultaneous Dedication
☐ NSL ☐ NSP (PROJECT AREA) ☐ NSP (PRORATION UNIT) ☐ SD

B. Check one only for [I] or [II]
[I] Commingling – Storage – Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
[II] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery
☒ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

FOR OCD ONLY
☐ Notice Complete
☐ Application Content Complete

2) **NOTIFICATION REQUIRED TO:** Check those which apply.
A. ☒ Offset operators or lease holders
B. ☐ Royalty, overriding royalty owners, revenue owners
C. ☒ Application requires published notice
D. ☒ Notification and/or concurrent approval by SLO
E. ☒ Notification and/or concurrent approval by BLM
F. ☒ Surface owner
G. ☒ For all of the above, proof of notification or publication is attached, and/or,
H. ☐ No notice required

3) **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Brian Wood
Print or Type Name

Signature

8-8-19
Date

505-466-8120
Phone Number

brian@permitswest.com
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: XXX Secondary Recovery _____ Pressure Maintenance _____ Disposal _____ Storage
Application qualifies for administrative approval? XXX Yes _____ No

II. OPERATOR: SEELY OIL CO.

ADDRESS: 815 WEST 10TH ST., FT. WORTH, TX 76102

CONTACT PARTY: BRIAN WOOD (PERMITS WEST, INC.) PHONE: 505 466-8120

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 XXX No
If yes, give the Division order number authorizing the project: R-2913 & R-2914

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

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

E-K QUEEN UNIT 618
30-025-29437

VII. Attach data on the proposed operation, including:

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

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

IX. Describe the proposed stimulation program, if any.

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

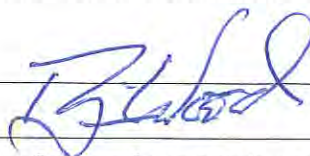
*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

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

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

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

NAME: BRIAN WOOD TITLE: CONSULTANT

SIGNATURE:  DATE: AUG. 7, 2019

E-MAIL ADDRESS: brian@permitswest.com

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

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

III. WELL DATA

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

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

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

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

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the 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, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, 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.

Side 1

INJECTION WELL DATA SHEET

OPERATOR: SEELY OIL CO.

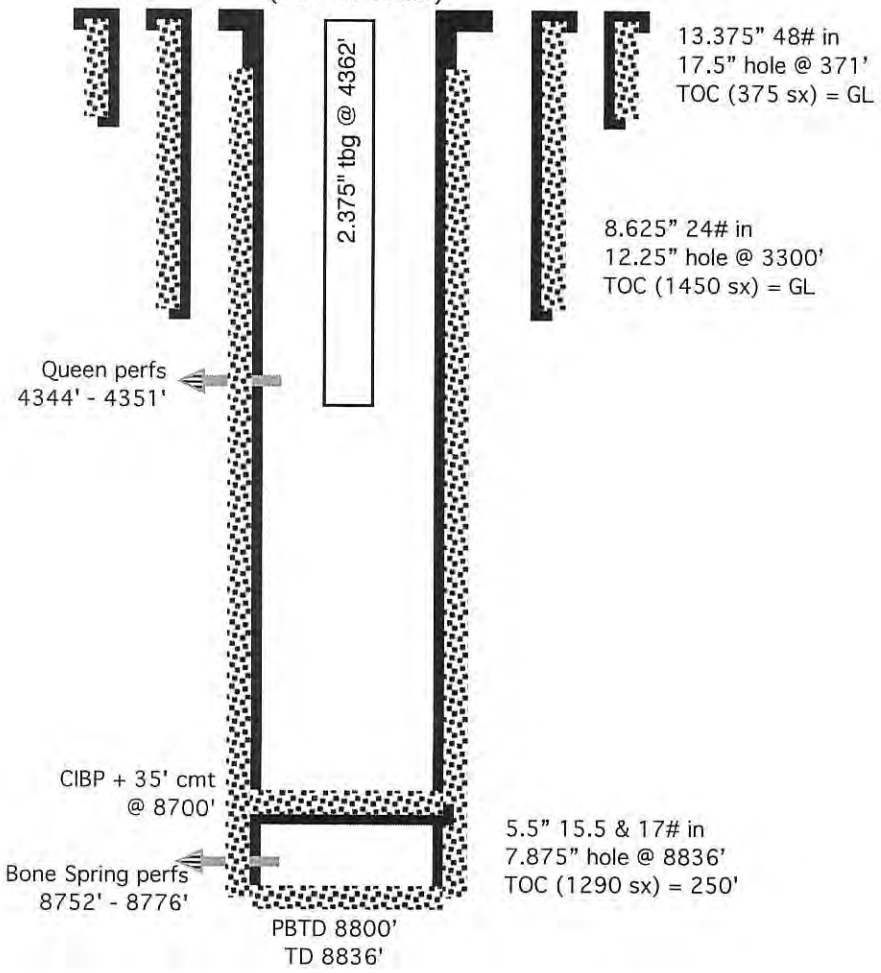
WELL NAME & NUMBER: E-K QUEEN UNIT 618

WELL LOCATION:	330' FNL & 900' FWL	D	13	18 S	33 E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

"As Is"

(not to scale)



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17.5" Casing Size: 13.375"

Cemented with: 375 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: CIRC. 75 SX

Intermediate Casing

Hole Size: 12.25" Casing Size: 8.625"

Cemented with: 1450 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: CIRC. 6 SX

Production Casing

Hole Size: 7.875" Casing Size: 5.5"

Cemented with: 860 sx. *or* _____ ft³

Top of Cement: 250' Method Determined: TEMP. SURV.

Total Depth: 8836'

Injection Interval

4344 feet to 4351'

(Perforated ~~or Open Hole~~; indicate which)

Side 1

INJECTION WELL DATA SHEET

OPERATOR: SEELY OIL CO.

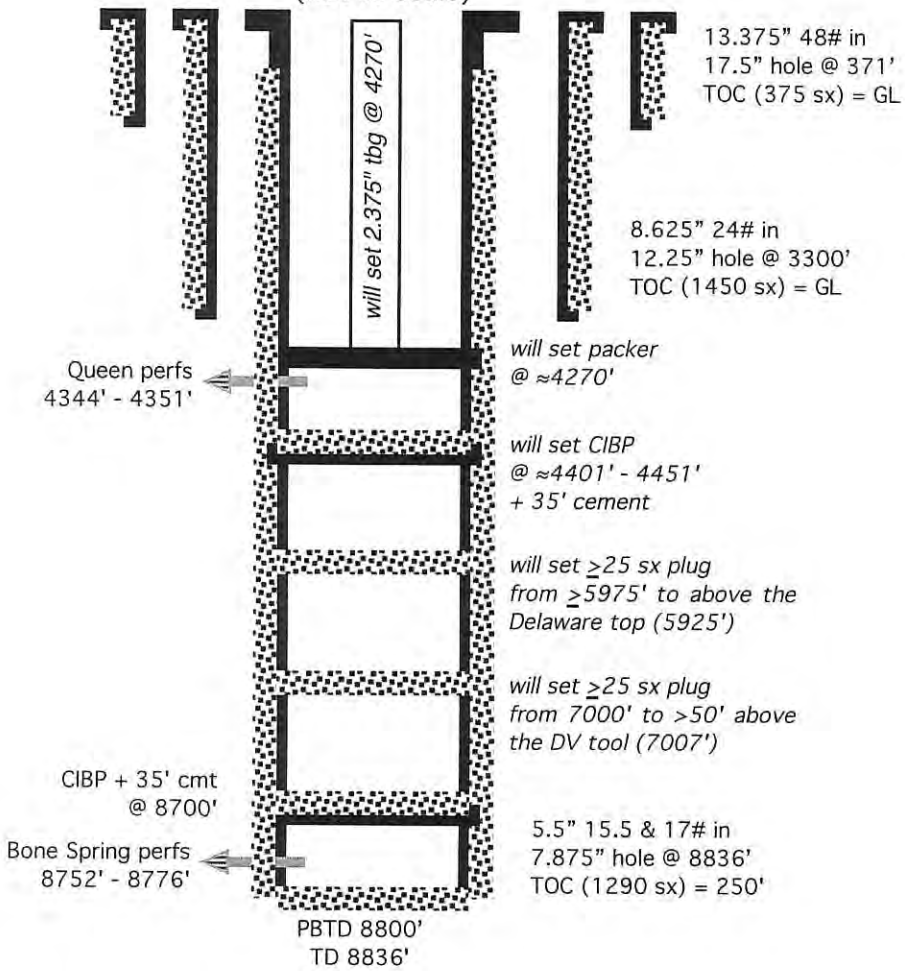
WELL NAME & NUMBER: E-K QUEEN UNIT 618

WELL LOCATION:	330' FNL & 900' FWL	D	13	18 S	33 E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE

WELLBORE SCHEMATIC

"Planned"

(not to scale)



WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17.5" Casing Size: 13.375"

Cemented with: 375 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: CIRC. 75 SX

Intermediate Casing

Hole Size: 12.25" Casing Size: 8.625"

Cemented with: 1450 sx. *or* _____ ft³

Top of Cement: SURFACE Method Determined: CIRC. 6 SX

Production Casing

Hole Size: 7.875" Casing Size: 5.5"

Cemented with: 860 sx. *or* _____ ft³

Top of Cement: 250' Method Determined: TEMP. SURV.

Total Depth: 8836'

Injection Interval

4344 feet to 4351'

(Perforated ~~or Open Hole~~; indicate which)

INJECTION WELL DATA SHEET

Tubing Size: 2-3/8" J-55 4.7# Lining Material: INTERNAL PLASTIC COAT

Type of Packer: PLASTIC LINED AD-I

Packer Setting Depth: 4270'

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? _____ Yes XXX No

   If no, for what purpose was the well originally drilled? BONE SPRING OIL WELL

2. Name of the Injection Formation: QUEEN

3. Name of Field or Pool (if applicable): E-K; YATES-SEVEN RIVERS-QUEEN (POOL CODE 19950)

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used.

   YES - BONE SPRING PERFS (8752' - 8776')

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

   OVER: YATES (3148') & SEVEN RIVERS (3550')

   UNDER: DELAWARE (5925') & BONE SPRING (7070')

SEELY OIL CO.
E-K QUEEN UNIT 618
330' FNL & 900' FWL
SEC. 13, T. 18 S., R. 33 E.
LEA COUNTY, NM

30-025-29437

I. Plan is to convert an oil well to a water injection well to increase oil recovery. The well will inject through existing perforations (4344' - 4351') into the Queen, which is in the E-K; Yates-Seven Rivers-Queen Pool (pool code 19950). The well and zone are in the E-K Queen Unit. Unit and waterflood were established in 1965 by Socony Mobil in 1965 via Orders R-2913 and R-2914. There have been subsequent WFX approvals (-474, -807, -900, and -988). This is an active water flood. Nine water injectors are in the Unit.

II. Operator: Seely Oil Co. (OGRID 20497)
Operator phone number: (817) 332-1377
Operator address: 815 West 10th St., Ft. Worth TX 76102
Contact for Application: Brian Wood (Permits West, Inc.)
Phone: (505) 466-8120

III. A. (1) Lease: BLM NMNM-004591
Lease Size: 1,483.52 acres (see Exhibit A for maps and C-102)
Closest Lease Line: 330'
Lease Area: NW4 of Section 13, T. 18 S., R. 33 E. et al
Unit Number: 300120
Unit Size: 2,895.36 acres
Closest Unit Line: 330'
Unit Area:

T. 18 S., R. 33 E.
Sections 13 & 14: all
Section 23: N2 & N2SE4
Section 24: N2, N2SW4, SESW, & SE4
T. 18 S., R. 34 E.
Section 18: NWNW, S2NW4, SW4, & W2SE4
Section 19: NW4, N2SW4, & SWSW

A. (2) Surface casing (13.375", 48#) was set at 371' in a 17.5" hole with 375 sacks. Circulated 75 sacks to GL.

Intermediate casing (8.625", 24#) was set at 3300' in a 12.25" hole and cemented with 1450 sacks. Circulated 6 sacks to GL.

Production casing (5.5", 15.5# & 17#) was set at 8836' (TD) in a 7.875" hole and cemented with 1290 sacks to 250' (temperature).

Mechanical integrity of the casing will be assured by hydraulically pressure testing to a minimum of 500 psi for 30 minutes or to 300 psi for 60 minutes.

A. (3) Tubing will be 2.375" IPC. Setting depth will be ≈4270'. (Injection interval will be 4344' to 4351'.)

A. (4) A plastic lined AD-I packer will be set at ≈4270', or no more than 100' above highest perforation (4344').

B. (1) Injection zone will be the Queen sandstone, part of the E-K; Yates - Seven Rivers - Queen Pool. Reservoir is a stratigraphic trap. Average porosity = 13.3%. Average permeability = 30 mD. Average fracture gradient = 0.94 psi/foot. Water saturation was estimated as 40% before the waterflood started.

B. (2) Injection interval will be 4344' to 4351'. The well is a cased hole.

B. (3) Well was drilled and completed in 1986 as an 8836' deep Bone Spring oil well. Bone Spring was isolated (with a CIBP at 8700' topped with 35' of cement) in 2002 and converted to a Queen oil well. This plug will be verified and reset if needed as required by BLM. A second cement plug will be set from 7000' to ≥50' above the DV Tool (7007'). A third cement plug will be set from 5975' or below to cover

the top of the Delaware (5925'). See BLM's conditions of approval for more details on the Delaware and deeper plugs. A CIBP will be set 50' to 100' below deepest Queen perforation (4351') and topped with 35' of cement.

B. (4) Well was perforated in 2002 from 4344' to 4351' with two 0.33" shots per foot for a total of 15 shots. This same interval will be used for injection. Well is also perforated in the Bone Spring from 8752' to 8776'. Bone Spring is now isolated, and will be further isolated, as described in the previous paragraph.

B. (5) Next higher oil or gas zone in the area of review is the Seven Rivers. Its bottom is at 4309'. Highest Queen perforation will be 4344'.

Next lower oil or gas zone in the area of review is the Delaware. Delaware top is at 5925'. Deepest perforation will be 4351'.

IV. This is not a horizontal or vertical expansion of an existing injection project (R-2913 and R-2914). There have been subsequent water flood expansions (WFX-474, -807, -900, & -988). A vertical contraction (R-2913-A) of the Unit deleted the Penrose.

V. Exhibit B shows 16 existing wells (7 oil wells + 4 P&A wells + 5 water wells) within a half-mile radius, regardless of depth. Exhibit C shows 242 existing wells (92 oil or gas wells + 115 P & A wells + 12 injection or disposal wells + 23 water wells) within a two-mile radius.

Exhibit D shows and details all leases (BLM, State, and fee) within a half-mile radius. The one fee lease (K-13-18s-33e) is part of the Unit. Exhibit E shows all lessors (BLM, fee, and state) within a 2-mile radius.

VI. Sixteen wells are within a half-mile radius. Eleven of the wells penetrated the Queen. The penetrators include 7 oil wells and 4 P&A wells. A table abstracting the well construction details and histories of the penetrators is in Exhibit F. Diagrams of the P&A penetrators are in Exhibit G, sequenced by API number.

VII. 1. Average injection rate will be ≈100 bwpd.
Maximum injection rate will be 150 bwpd.

2. System will be closed. Well will tie into the existing Unit pipeline system. The system consists of a branched injection system with Triplex injection pumps.

3. Average injection pressure will be ≈800 psi. Maximum injection pressure will be 868 psi (= 0.2 psi/foot x 4344' (top perforation)).

4. Water source will be produced water from Seely wells. No compatibility problems have reported from the >34,485,275 barrels that have been injected in the Unit since 1965.

5. Queen produces from 8 oil wells in the Unit. Goal is to recover more oil.

VIII. The Queen in the Unit is a sandstone stratigraphic trap with an average porosity of 13.3%. Average permeability is 30 millidarcies. Four hundred-forty Queen injection wells are in the state. E-K Queen Unit shares its northeast border with Seely's Central EK Unit which has a similar water flood.

Formation depths are:

Quaternary = 0'
Rustler = 1652'
Salado = 1712'
Yates = 3148'
Seven Rivers = 3550'
Queen = 4310'
Proposed injection interval = 4344' - 4351'
Grayburg = 4755'
San Andres = 5110'
Delaware = 5925'
Bone Spring = 7070'
PBTD = 8800'
TD = 8836'

State Engineer (Exhibit H) records indicate eleven water wells are within a mile. Deepest water well within a mile (1610 meter) radius is 220'. No existing underground drinking water source is below the injection interval within a mile radius. The well is 0.5 mile southwest of the Ogallala aquifer.

There will be 2658' of vertical separation and 1496' of salt and anhydrite between the bottom of the only likely underground fresh water source (red beds) and the top of the Queen.

Produced water is currently being injected (9 wells) or disposed (2 wells) into the Bone Spring, Delaware, Penrose, Queen, Seven Rivers, or Yates in T. 18 S., R. 33 E.

IX. The well will be stimulated with gelled KCL and sand.

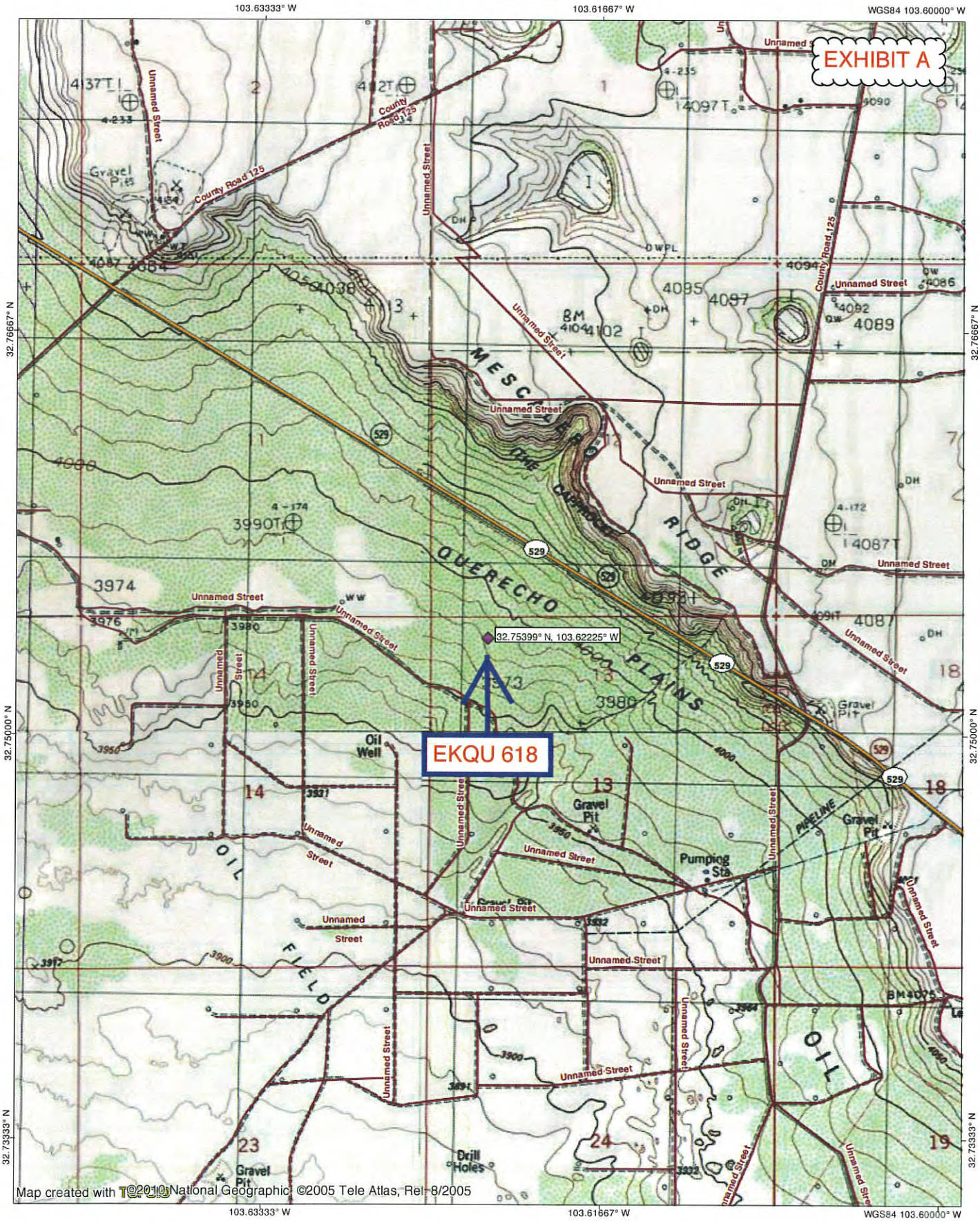
X. DLL Micro-SFL, Compensated Neutron Litho-Density, and BHC Sonic logs are on file with NMOCD.

XI. One active fresh water well is within a mile. Analyses from that windmill (3/4 mile northeast) and a stock tank (1-3/4 miles north) are attached (Exhibit I).

XII. Seely Oil Co. is not aware of any geologic or engineering data that may indicate the injection interval is in hydrologic connection with any underground source of water (Exhibit I). There are 440 Queen injectors and 24 Queen SWD wells in New Mexico. Previously approved water flood expansions in the Unit include WFX-474, -807, -900, and -988. Exhibit J addresses the potential for hydrologic connections.

XIII. A legal ad (see Exhibit K) was published on August 6, 2019. Notice (this application) has been sent (Exhibit L) to the surface owner (BLM), government lessors (BLM, NMSLO), offset operators (only OXY USA WTP) regardless of depth, lessees of record (BTA, Chevron Midcontinent, OXY USA WTP), and operating rights holders (Apache Corp., Bellwether Exploration, Black Shale Minerals, Boswell Interests, P D Boswell Trust, Burnett Oil, CEB Oil, Lynn Charuk, Mitchel Cheney, Chevron Midcontinent, Chisos Ltd., COG Operating, Concho Oil & Gas, Amy Dahlin Trust, Merlyn Dahlin, Ruth Dahlin, Devon Energy, EAB Oil, Express Air Drilling, Kathleen & Michael Havel, Dawn & David Henderson, Hill Houston Trust, John P Oil, Magnum Hunter, Marbob Energy, Mobil Producing TX & NM, J C Pace Oil & Gas, Petrohawk, PVB Oil, PXP Gulf Coast, Ridge Runner, Santa Fe Exploration, Santa Fe Snyder, C. W. Seely, Ina Seely, SSV & H Associates, Thompson & Thompson, Wes-Tex Drilling, Wright Family Trust, XTO Holdings).

TOPO! map printed on 07/20/18 from "Untitled.tpo"



NATIONAL GEOGRAPHIC

0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 miles
0.0 0.5 1.0 km

TN MN 7°

07/20/18

N MEXICO OIL CONSERVATION COMMISS

WELL LOCATION AND ACREAGE DEDICATION PLAT

EXHIBIT A

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
SUN EXPLORATION & PRODUCTION CO.	MESCALERO RIDGE "B" FEDERAL	2

Unit Letter	Section	Township	Range	County
D	13	18 SOUTH	33 EAST	LEA

Actual Footage Location of Well:
330 feet from the NORTH line and 900 feet from the WEST line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
4091.7'	BONE SPRINGS	MESCALERO ESCARPE BONE SPRINGS	40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

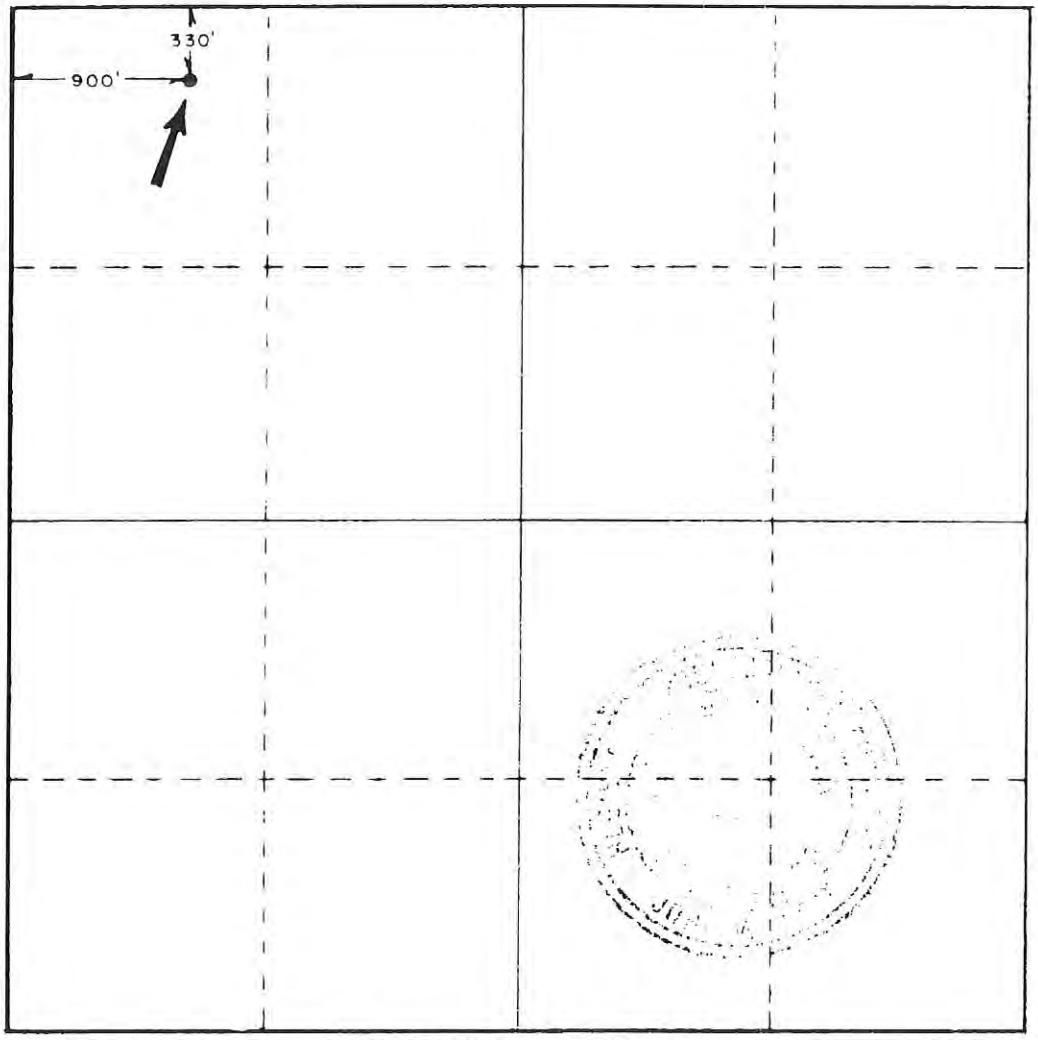
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

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

Velma Reyes

Name: Velma Reyes

Position: Sr. Accounting Assistant

Company: Sun Expl. & Prod. Co.

Date: 10/01/85

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed: SEPTEMBER 25, 1985

Registered Professional Engineer and/or Land Surveyor

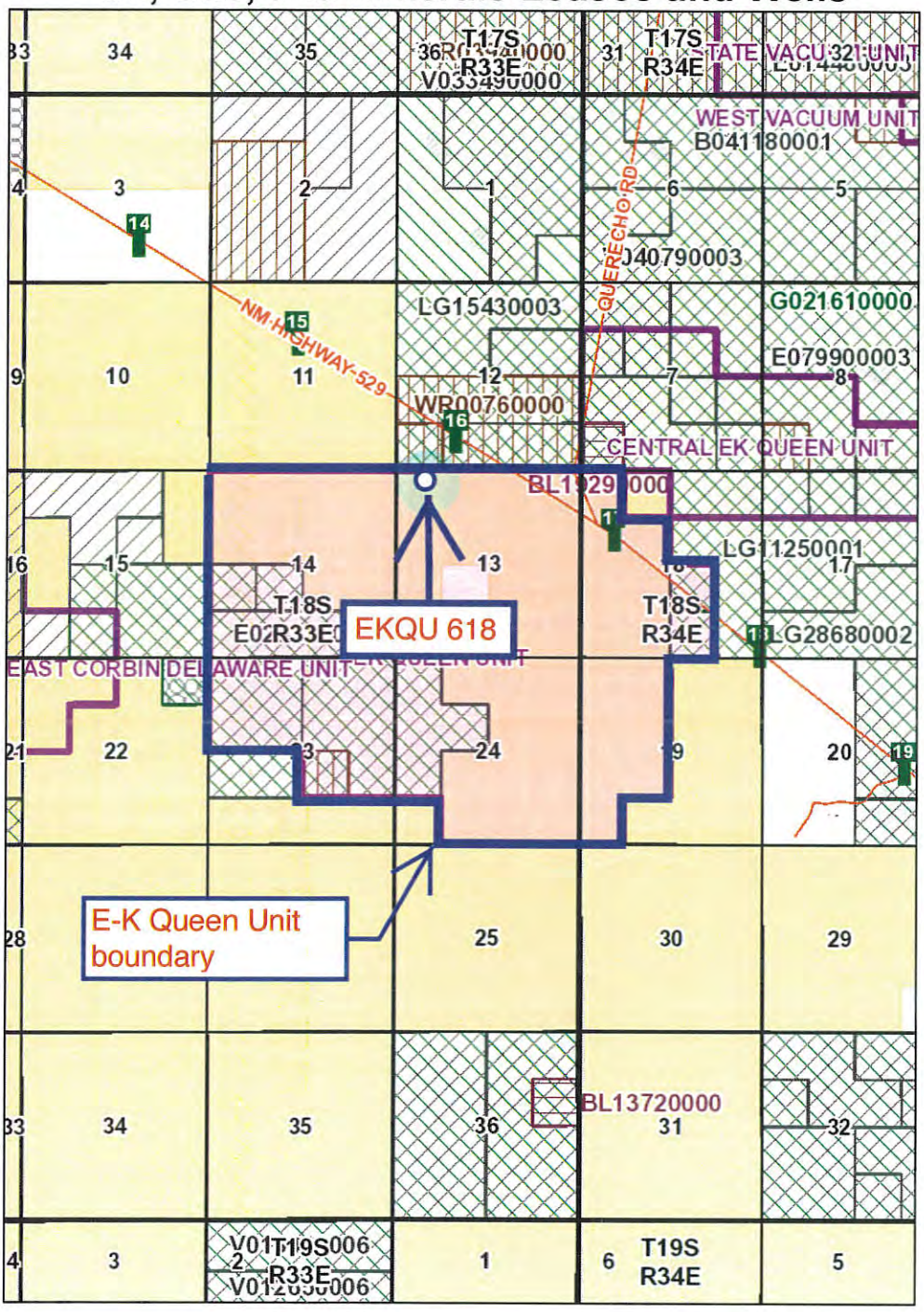
John W West

Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239

New Mexico State Land Office

EXHIBIT A

Oil, Gas, and Minerals Leases and Wells

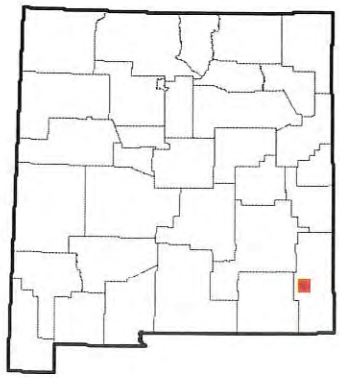


0 0.5 1 2 mi

0 0.75 1.5 3 km

Legend

- Override 1
- Override 1
- Override 1
- Villages
- Smaller Towns
- Larger Towns
- Cities
- State Boundary
- Continental Divide
- County Boundaries
- Townships
- Sections
- Highway Mileposts
- Detailed Roads
- Unit Agreement Boundaries
- Participating Areas in Units
- Commercial Leases
- Minerals Leases
- Oil and Gas Leases
- Agricultural Leases
- Energy Leases
- Potash District
- All Minerals
- Coal Only
- Oil and Gas Only
- Oil, Gas and Coal Only
- Other Minerals



Map Created: 7/20/2018

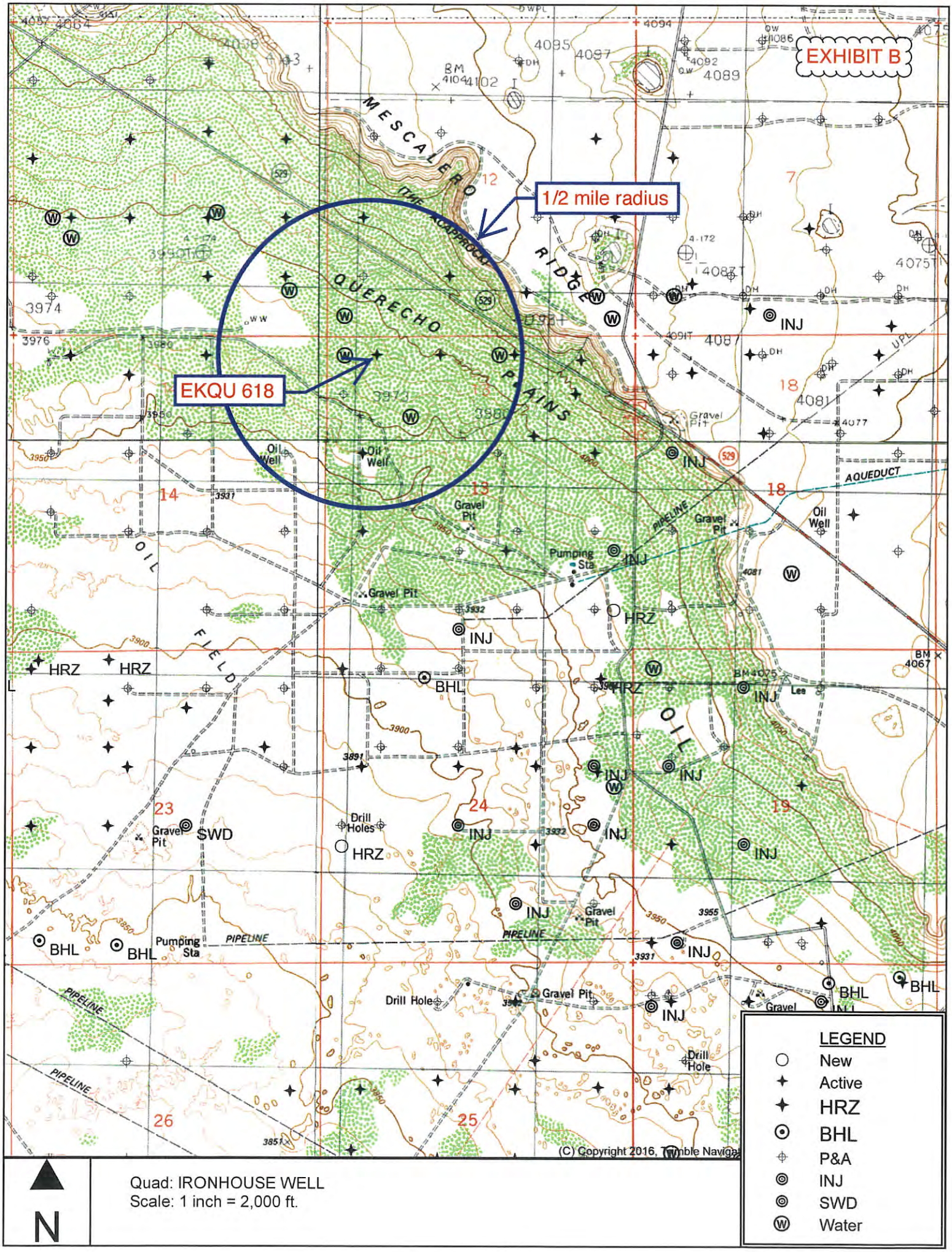


EXHIBIT B
1/2 mile radius
EKQU 618
MESCALERO
THE ESCARPMENT
QUERECHO PLAINS
RIDGE
OIL FIELD
AQUEDUCT
PIPELINE
Oil Well
Gravel Pit
Pumping Sta
Drill Holes
Drill Hole
INJ
HRZ
BHL
SWD
P&A
Water
LEGEND
New
Active
N
Quad: IRONHOUSE WELL
Scale: 1 inch = 2,000 ft.
(C) Copyright 2016, Terrible Navigat

SORTED BY DISTANCE FROM EKQU 618

API	WHO	UNIT-SECTION-T18S-R33E	TVD	WELL	WELL STATUS	ZONE @ TD	FEET FROM EKQU 618
3002501611	Trigg	D-13	4342	Fed. T 15-13	P&A	Queen	872
3002529315	Seely	C-13	9220	Mescalero Ridge B 1	O	Bone Spring	1080
3002529279	Seely	B-13	9300	Mescalero Ridge 1	O	Bone Spring	1130
3002529133	Oxy USA WTP	M-12	9050	State DW 11	P&A	Bone Spring	1341
3020501610	Seely	E-13	4343	Fed. T 14	O	Queen	1667
3002529023	Oxy USA WTP	N-12	9097	State DW 10	O	Bone Spring	1804
3002529531	Oxy USA WTP	P-11	8875	Fed. AB 4	O	Bone Spring	2043
3002501606	Seely	G-13	4369	Sivley 5-13	P&A	Queen	2170
3002501615	Mobil	H-14	4335	Sivley A Fed. 8	P&A	Queen	2270
3002528932	Oxy USA WTP	L-12	9050	State DW 9	O	Bone Spring	2322
3002528700	Oxy USA WTP	K-12	9050	State DW 2	O	Bone Spring	2509
3002528895	Oxy USA WTP	O-12	9080	State DW 8	O	Bone Spring	2753

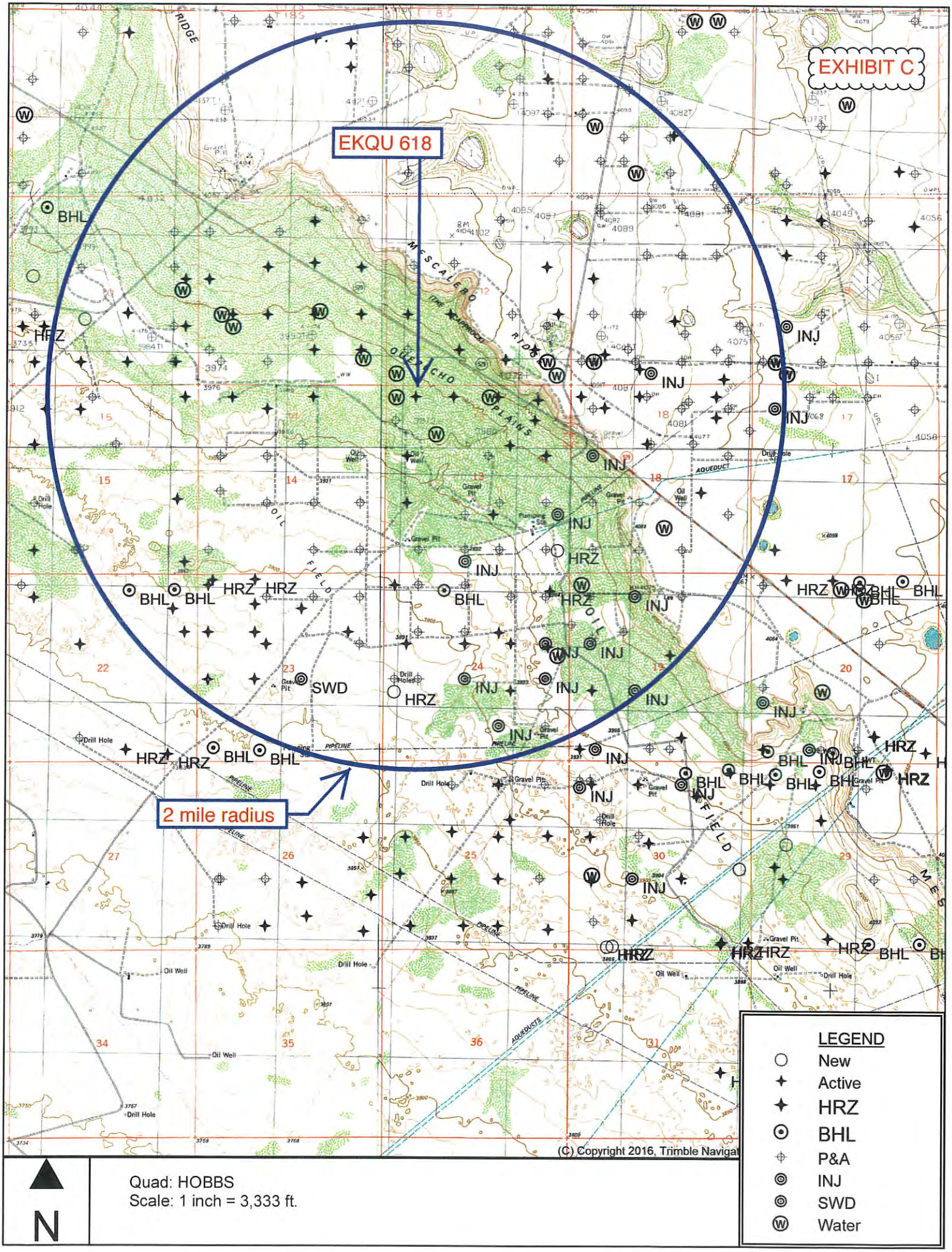
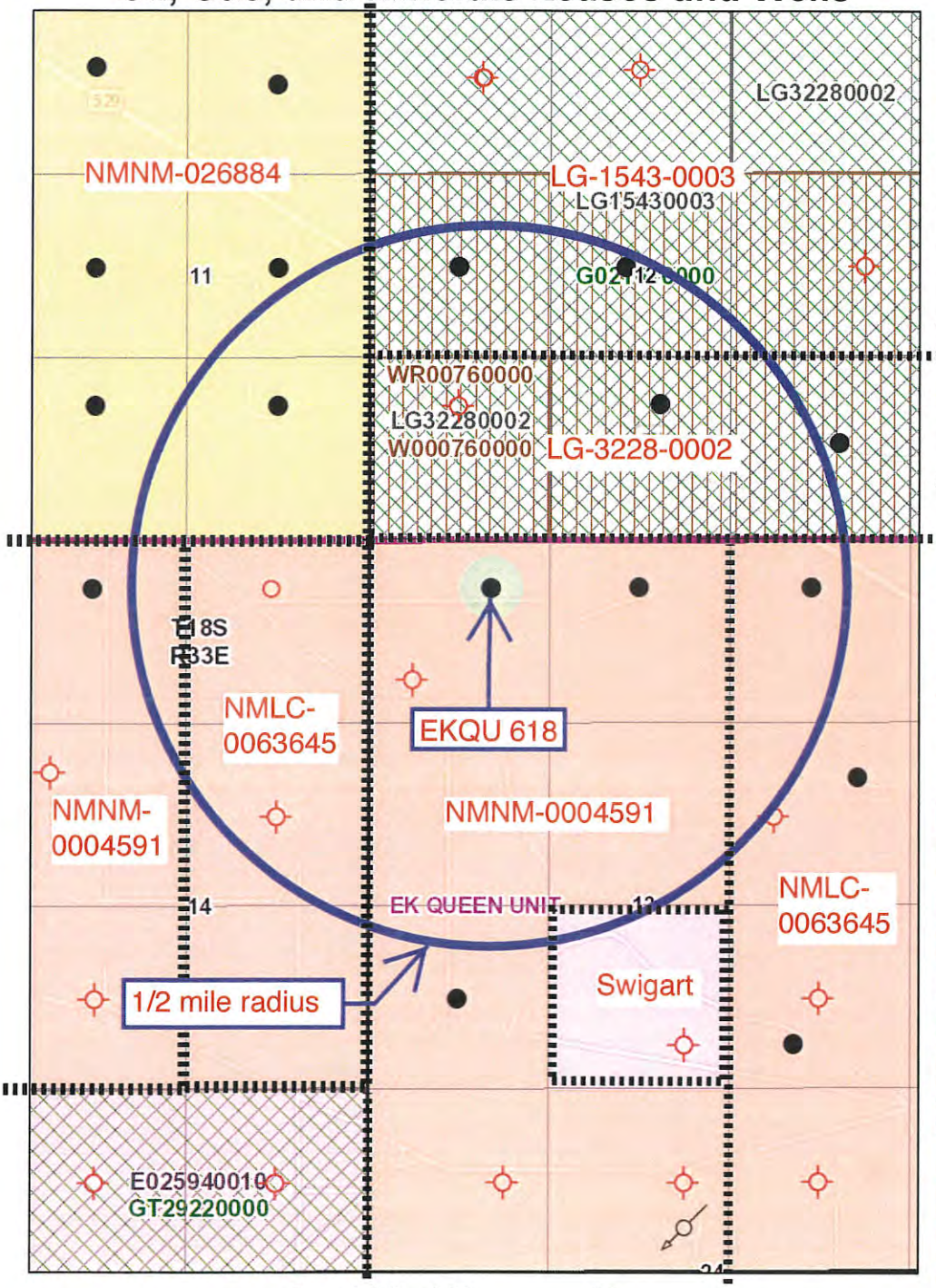


EXHIBIT C
EKQU 618
2 mile radius
LEGEND
New
Active
HRZ
BHL
P&A
INJ
SWD
Water
Quad: HOBBS
Scale: 1 inch = 3,333 ft.
N
(C) Copyright 2016, Trimble Navigat

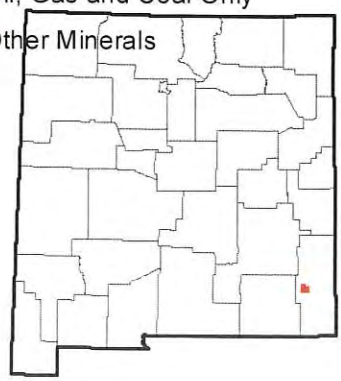
EXHIBIT D

New Mexico State Land Office

Oil, Gas, and Minerals Leases and Wells



- Villages
- Smaller Towns
- Larger Towns
- Cities
- State Boundary
- Continental Divide
- County Boundaries
- Townships
- Sections
- Subdivisions
- Carbon Dioxide
- Gas
- Injection
- Oil
- Salt Water Disposal
- Water Storage
- Miscellaneous
- Plugged / Dry / Abandoned
- Cancelled / Not Drilled
- Unit Agreement Boundaries
- Participating Areas in Units
- Commercial Leases
- Minerals Leases
- Oil and Gas Leases
- Agricultural Leases
- Energy Leases
- Potash District
- All Minerals
- Coal Only
- Oil and Gas Only
- Oil, Gas and Coal Only
- Other Minerals



Map Created: 7/21/2018

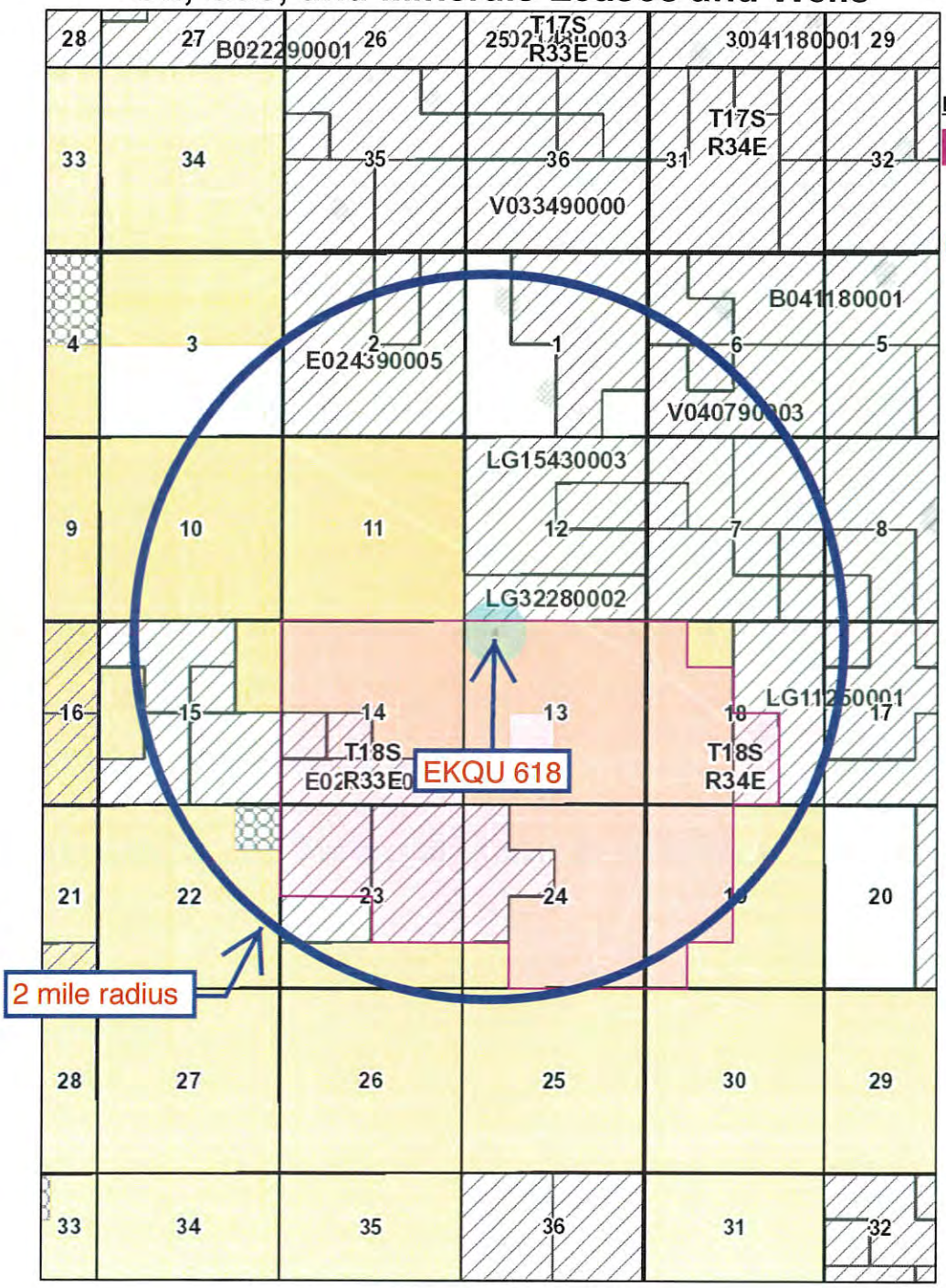
EKQU 618 AREA OF REVIEW LEASES

Aliquot Parts in Area of Review (T18S, R33E)	Lessor	Lease	Lessee of Record	Well Operator
outside EKQU				
NESE & S2SE4 Sec. 11	BLM	NMNM-026884	Chevron Mid.	Oxy USA WTP
NWSE & N2SW4 Sec. 12	NMSLO	LG-1543-0003	Oxy USA WTP	Oxy USA WTP
S2SW4 & SWSE Sec. 12	NMSLO	LG-3228-0002	BTA	Oxy USA WTP
inside EKQU				
W2NE4 Sec. 13	BLM	NMLC-0063645	Seely	Seely
NW4 & NWSW Sec. 13	BLM	NMNM-0004591	Seely	Seely
NESW Sec. 13	fee	Swigart	Seely	Seely
E2NE4 & NESE Sec. 14	BLM	NMLC-0063645	Seely	Seely
W2NE4 Sec. 14	BLM	NMNM-0004591	Seely	Seely

New Mexico State Land Office

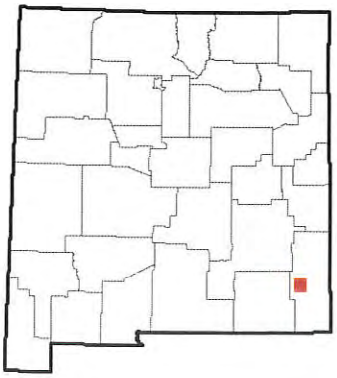
EXHIBIT E

Oil, Gas, and Minerals Leases and Wells



Legend

- Override 1
- Override 1
- Override 1
- Villages
- Smaller Towns
- Larger Towns
- Cities
- State Boundary
- Continental Divide
- County Boundaries
- Townships
- Sections
- Oil and Gas Leases
- All Minerals
- Coal Only
- Oil and Gas Only
- Oil, Gas and Coal Only
- Other Minerals



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Map Created: 7/21/2018

Sorted by distance from EKQU 618

WELL	SPUD	TVD	POOL	WELL STATUS	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
Fed. T 15 13	2/13/59	4342	Queen	P&A	no report	13.375	120	75 sx	no report	no report
30-025-01611					no report	8.625	1624	50 sx	no report	no report
D-13-18s-33e										
Mescalero Ridge B 1	8/18/85	9220	Bone Spring	O	17.5	13.375	355	375 sx	GL	circ. 130 sx
30-025-29315					12.25	8.625	3300	1100 sx	GL	circ. 325 sx
C-13-18s-33e					7.875	5.5	9220	1400 sx	no report	no report
Mescalero Ridge 1	6/1/85	9300	Bone Spring	O	17.5	13.375	360	75 sx	GL	circ. 130 sx
30-025-29279					11	8.625	3300	1300 sx	GL	circ. 530 sx
B-13-18s-33e					7.875	5.5	9300	1600 sx	no report	no report
State DW 11	2/23/85	9050	Bone Spring	P&A	17.5	13.375	375	500 sx	GL	circ. 150 sx
30-025-29133					11	8.625	3160	1250 sx	GL	circ. 233 sx
M-12-18s-33e					7.875	5.5	9050	1315 sx	3550	Temp. Surv.

EXHIBIT F

Sorted by distance from EKQU 618

WELL	SPUD	TVD	POOL	WELL STATUS	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
Fed. T 14	5/15/57	4348	Queen	O	17.5	13.375	250	200 sx	GL	circ.
30-025-01610					12.25	8.625	1643	50 sx	1530	no report
E-13-18s-33e					7.875	5.5	4287	100 sx	3700	estimated
					no report	open hole	4348	N/A	N/A	N/A
State DW 10	11/12/84	9097	Bone Spring	O	17.5	13.375	350	500 sx	GL	circ. 50 sx
30-025-29023					11	8.625	3150	1300 sx	GL	circ. 300 sx
N-12-18s-33e					7.875	5.5	9097	1245 sx	3450	Temp. Surv.
Fed. AB 4	12/6/85	8875	Bone Spring	O	17.5	13.375	373	500 sx	GL	circ. 223 sx
30-025-29531					11	8.625	3149	1000 sx	GL	circ. 10 sx
P-11-18s-33e					7.875	5.5	8875	1515 sx	900	Temp. Surv.

EXHIBIT F

Sorted by distance from EKQU 618

WELL	SPUD	TVD	POOL	WELL STATUS	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
Sivley 5 13	11/25/57	4369	Queen	P&A	no report	8.625	335	175 sx	GL	no report
30-025-01606										
G-13-18s-33e										
Sivley A Fed. 8	4/23/84	4335	Queen	P&A	no report	8.625	295	200 sx	no report	no report
30-025-01615					no report	5.5	4299	200 sx	no report	no report
H-14-18s-33e										
State DW 9	10/14/84	9050	Bone Spring	O	17.5	13.375	344	500 sx	GL	circ. 100 sx
30-025-28932					11	8.625	3141	1300 sx	GL	circ. 150 sx
L-12-18s-33e					7.875	5.5	9048	1615 sx	3100	Temp. Surv.
State DW 2	5/2/84	9050	Bone Spring	O	17.5	13.375	362	375 sx	GL	circ. 90 sx
30-025-28700					11	8.625	3255	850 sx	1510	Temp. Surv.
K-12-18s-33e					7.875	5.5	9050	2000 sx	2870	Temp. Surv.

EXHIBIT F

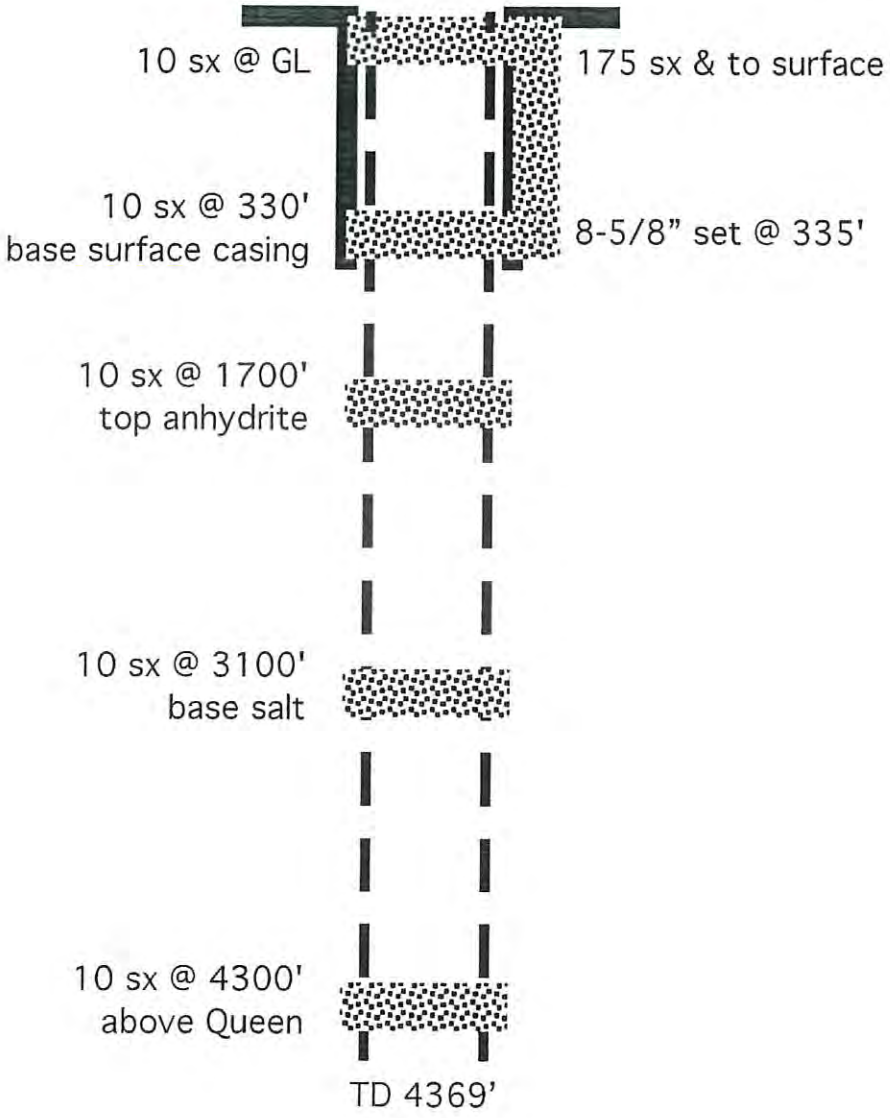
Sorted by distance from EKQU 618

WELL	SPUD	TVD	POOL	WELL STATUS	HOLE O.D.	CASING O.D.	SET @	CEMENT	TOC	HOW TOC DETERMINED
State DW 8	9/11/84	9080	Bone Spring	O	17.5	13.375	350	500 sx	GL	circ.
30-025-28895					11	8.625	3140	1300 sx	GL	circ. 150 sx
O-12-18s-33e					7.875	5.5	9072	2550 sx	3100	Temp. Surv.

EXHIBIT F

EXHIBIT G

Sively Federal 5 13
API 30-025-01606
Spud: 11-25-57 and Plug: 12-8-57



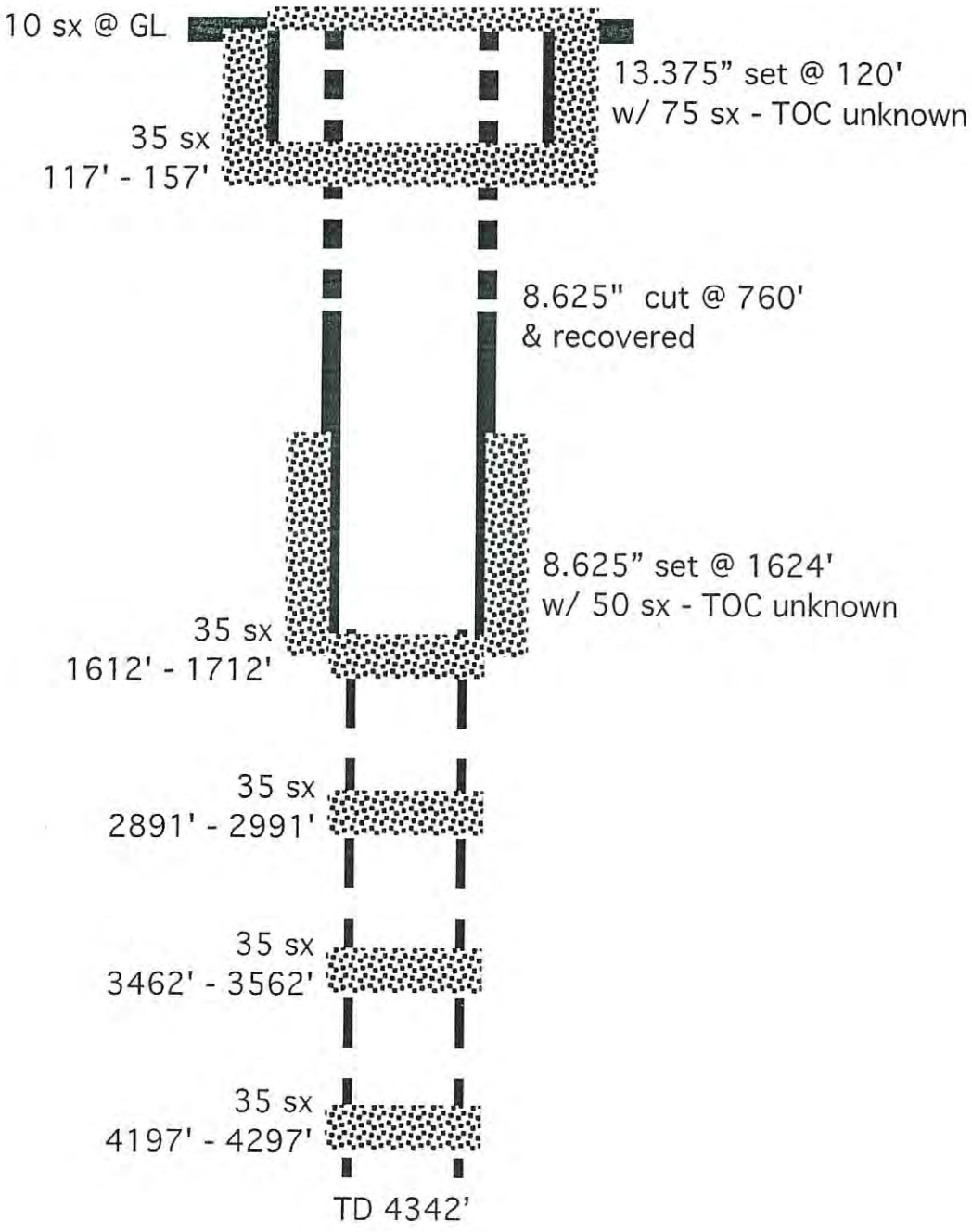
(not to scale)

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

Trigg's Federal T 15 13
D-13-18s-33e
API 30-025-01611
Spud: 2-13-59 and Plug: 6-24-64

EXHIBIT G

Filled hole w/ good
mud before plugging

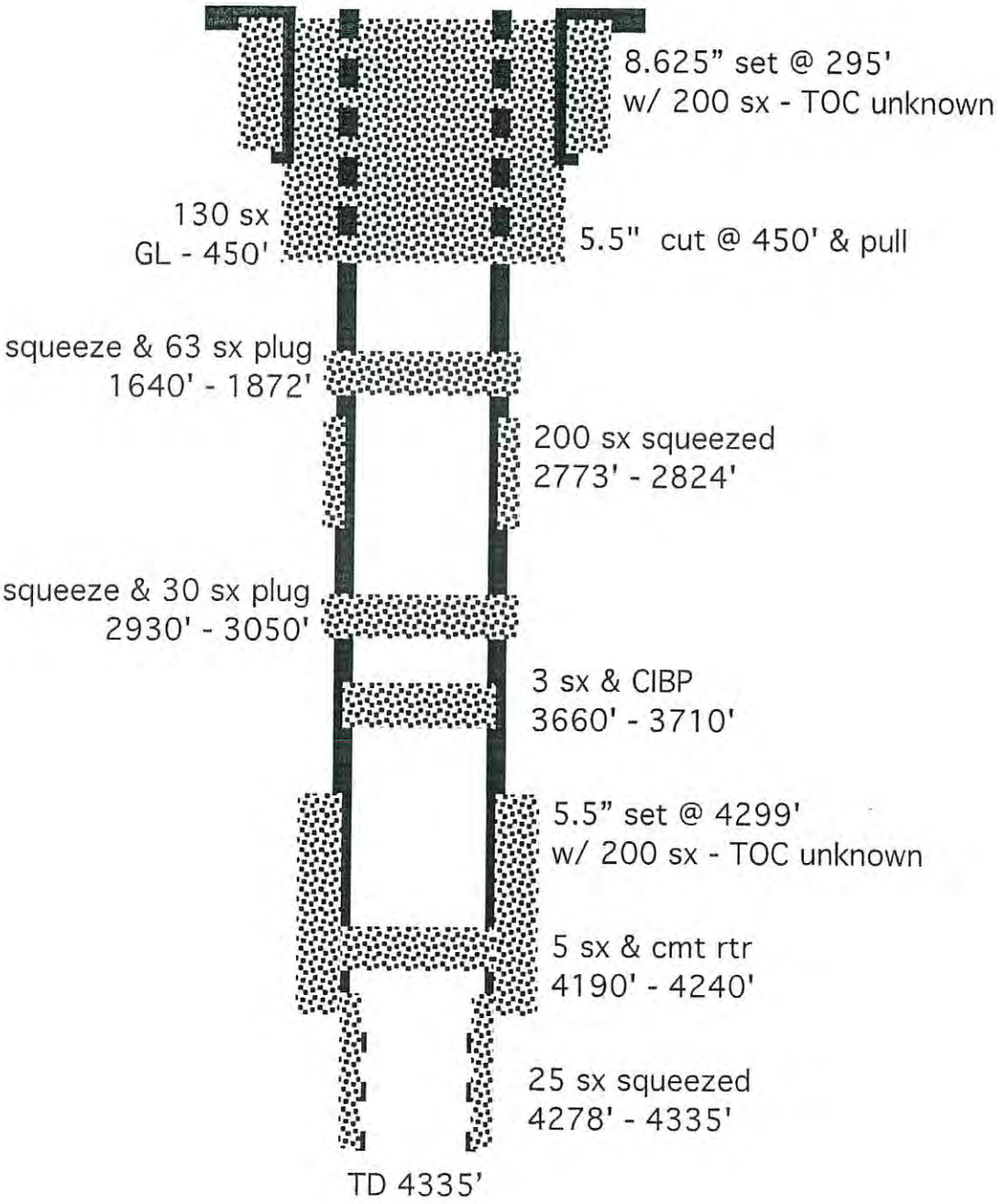


(not to scale)

PERMITS WEST, INC.
PROVIDING PERMITS for LAND USERS

EXHIBIT G

Mobil's Sivley A Federal 8
H-14-18s-33e
API 30-025-01615
Spud: 12-10-56 and Plug: 11-28-84



(not to scale)

PERMITS WEST, INC
PROVIDING PERMITS for LAND USERS

OXY USA Inc
State DW #11
API No. 30-025-29133

EXHIBIT G

M-12-18s-33e
spud: 2-23-85
P&A: 10-18-11

50 sx
GL - 437'

17-1/2" hole @ 380'
13-3/8" csg @ 375'
w/ 500sx-TOC-Surf-Circ

25 sx
1112' - 1343'

50 sx
2375' - 3208'
CIBP @ 3208'

11" hole @ 3160'
8-5/8" csg @ 3160'
w/ 1250sx-TOC-Surf-Circ
*Perf @ 3200'sqz w/ 425sx cmt, circ to surf
Perfs @ 3278-3290'

6/04-CIBP @ 4275' w/ 25sx cmt to 4025' Tag

6/04-25sx @ 4562-4309' Tag

Perfs @ 4336-4358'

6/04-25sx @ 5079-4826' Tag

6/04-25sx @ 5813-5587' Tag

6/04-25sx @ 6552-6326' Tag

7-7/8" hole @ 9050'
5-1/2" csg @ 9050'
w/ 1315sx-*TOC-3227'-CBL

6/04-CIBP @ 8595' w/ 18sx to 8454' Tag

Perfs @ 8695-8741'

9008'

TD-9050'