

ABOVE THIS LINE FOR DIVISION USE ONLY

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



**RECEIVED**  
2008 JAN 23 AM 9 09

*Apache*  
*Dirie Luean #1*

**ADMINISTRATIVE APPLICATION CHECKLIST**

5780

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

**Application Acronyms:**

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]  
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]  
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]  
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]  
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]  
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication  
☒ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement  
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify \_\_\_\_\_

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply

- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
- [B] ☐ Offset Operators, Leaseholders or Surface Owner
- [C] ☐ Application is One Which Requires Published Legal Notice
- [D] ☐ Notification and/or Concurrent Approval by BLM or SLO  
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] ☐ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **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.

Bret Pearcy  
Print or Type Name

Signature

Date

Permian Geologist  
Title

Bret.Pearcy@usa.apachecorp.com  
E-Mail Address



Telephone (918) 491-4900  
WWW.APACHECORP.COM

January 15, 2008

Hand Delivered

New Mexico Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, New Mexico 87505

Attention: Mr. Mark E. Fesmire, P.E.  
Director

Re: Unorthodox Well Location  
Dixie Queen No. 2  
1060' FSL & 330' FEL, Unit P,  
Section 11, T-20 South, R-38 East, NMPM,  
Lea County, New Mexico

Dear Mr. Fesmire:

Pursuant to Division Rule 104.F(2), Apache Corporation applies for administrative approval of an unorthodox oil well location for its proposed Dixie Queen No. 2. This well will test the Blinebry, Tubb and Drinkard formations, House-Blinebry (33230), House-Tubb (78760) and House-Drinkard (33250) Pools. The SE/4 SE/4 of Section 11 is to be dedicated to the well in each of the subject pools thereby forming a standard 40-acre spacing and proration unit.

The well had to be moved 70' north of a standard location due to the presence of a Southern Union pipeline that runs east-west through the SE/4 SE/4 of Section 11. This pipeline is shown on the enclosed land plat.

Also included in this application is a geologic and engineering discussion. Well drainage data demonstrates that wells completed in the Blinebry, Tubb, and Drinkard formations in this area generally drain considerably less than 40 acres.

There is only one additional well within the SE/4 SE/4 of Section 11 that is completed in any of the target formations. Apache Corporation currently operates the Dixie Queen No. 1 (API No. 30-025-36421) which is completed in the House-Tubb Pool.

The affected offset acreage is the NE/4 SE/4 of Section 11. Apache Corporation is the operator of that unit, and the working interest ownership between the NE/4 SE/4 and the proposed unit is common. Consequently, notice of this application is not required.

In summary, approval of the application will provide Apache Corporation the opportunity to recover additional Blinbry, Tubb and Drinkard oil and gas reserves underlying the SE/4 SE/4 of Section 11, that may otherwise not be recovered, thereby preventing waste, and will not violate correlative rights.

If you should have any questions, please call me at (918) 491-4949.

Sincerely,

A handwritten signature in black ink, reading "Bret Percy". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Bret Percy  
Permian Geologist  
Apache Corporation

**Application of Apache Corporation  
for administrative approval of an unorthodox well location**

40 acres – 1060' FSL & 330' FEL  
Section 11, Township 20 South, Range 38 East, NMPM  
Lea County, New Mexico

PRIMARY OBJECTIVES:                      Blinebry, Tubb, and Drinkard Formations

In support:

1. Apache Corporation (Apache) is the operator of the proposed **Dixie Queen #2** well (**Exhibit 1**).
2. Pool rules that apply to the proposed location are the House-Blinebry, House-Tubb and House-Drinkard Pools. All three pools are governed by Division Rule 19.15.3.104(B). The proposed unorthodox location encroaches on spacing unit 11-I to the north which currently has one existing shallow well that is producing from the San Andres and has the same working and royalty owners in the Blinebry, Tubb and Drinkard (B-T-D) interval as the spacing unit of the proposed well. (**Exhibit 2**). The proposed unorthodox location also encroaches very slightly on spacing unit 12-L. Apache owns 100% of the working interest in that unit. All the wells displayed in **Exhibit 2** penetrate at least part of B-T-D interval. B-T-D production exists in all offset units except for one, Unit 11-I. Units where there is B-T-D production include 11O, 11J, 12L, 12M, 14A & 14B. The production values displayed on **Exhibit 2** represent cumulative commingled Blinebry, Tubb, and Drinkard. Included on this exhibit is the operator's working interest both in the proposed proration unit as well as the affected offset units.

API					Cum thru 12/2007	Daily
30025	Op.	Well	Loc	Pool	O/G/W	O/G/W
07763	Apache	Howse #01-A	I-11	House; San Andres	138/657/62	7/22/19
07764	Apache	Howse #01-B	P-11	House; San Andres House; Tubb	51/12/3 9.8/118/0	1/8/6 0/0/0
36421	Apache	Dixie Queen #01	P-11	House; Tubb	5.3/404/0	3/160/1
07769	Apache	Blankenship #01-A	L-12	House; San Andres	55/100/142	19/45/162
07767	Apache	Blankenship #02	L-12	House; Blinebry South House; Tubb House; Drinkard	2.5/2.6/0  134/1178/37	3/17/45
07768	Apache	Blankenship #03	M-12	House; Blinebry South House; Tubb House; Drinkard	1.5/11/0 8.2/40/13 39.6/2435/22	5/40/20
38397	Apache	Blankenship #04	L-12	House; Blinebry South House; Tubb House; Drinkard	3.1/8.9/0	15/65/60
38399	Apache	Blankenship #05	M-12	House; Blinebry South House; Tubb House; Drinkard	5.7/40.8/0	32/525/48
38400	Apache	Blankenship #06	L-12	House; Blinebry South House; Tubb House; Drinkard	4/10.5/0	20/108/35
					MBO MMCFG MBW	BOPD MCFGPD BWPD

3. The proposed **Dixie Queen #2** location is necessitated by a surface obstruction, in this case an east - west running pipeline and should cause no damage to the reservoir.

**a. Geology**

The Blinebry, Tubb, and Drinkard Formations are members of the Yeso Group, Permian Leonardian in age. All three formations are shallow marine carbonates, consisting primarily of dolomite. The Tubb has appreciable clastic content and the Drinkard can become limey toward its base. Anhydrite can occur throughout the interval. Pay zones are thin, erratically distributed, and separated by thick impermeable intervals. Porosity and permeability are low. Wells are not generally capable of draining a full 40 Acre spacing unit.

Apache routinely fracture stimulates perforations in each of the three formations then produces them commingled and allocates production based upon well tests. At this stage in the history of all three pools, economics do not generally permit development of individual reservoirs. Thus, pay from all three reservoirs must be considered for well proposals. A combined Blinebry, Tubb, Drinkard hydrocarbon pore volume (SoPhiH) map is, therefore, presented (**Exhibit 3**).

The reservoir was analyzed using **Exhibit 3**. SoPhiH is the product of feet of net pay (H) times average porosity (PhiA) times oil saturation (So). The values were obtained as follows:

1. Net Pay was read from modern neutron-density logs which have contractor calculated cross-plotted porosity (XPhi) using a minimum of 5% and a maximum of 30%. Additionally, gamma ray (40 APIU in the Blinebry and Drinkard and 50 APIU in the Tubb) and water saturation (10% - 50%, using a standard equation with a=1 and m=n=2) cutoffs were also employed.
2. Average Porosity was calculated for intervals meeting those criteria.
3. Oil Saturation is the additive inverse of water saturation.

This analysis requires modern neutron-density and resistivity logs. Although water saturations can be adequately estimated from offsetting modern wells, many wells had to be excluded from analysis because of the vintage or type of porosity logs. SoPhiH isopach lines were modeled after cumulative production isopach lines where new well control is lacking. This procedure has proved successful for Apache in recent drilling in the area.

#### b. Drainage

The following table provides drainage areas calculated from the SoPhiH map and reserves of the offsetting wells. SoPhiH values are either from modern logs, or estimated from the grid. Wells with values determined from modern logs will be in bold.

				SoPhiH	Area	EUR	EUR
Op.	Well	Loc	Reservoir	FT	A	MBO	MMCFG
Apache	Howse #01-B	11P	BTD	16.0	2	10	119
<b>Apache</b>	<b>Dixie Queen #1</b>	<b>11P</b>	<b>BTD</b>	<b>17</b>	<b>6</b>	<b>9</b>	<b>585</b>
Apache	Blankenship #2	12L	BTD	8.5	33	137	1180
Apache	Blankenship #3	12M	BTD	18	21	50	2486
<b>Apache</b>	<b>Blankenship #4</b>	<b>12L</b>	<b>BTD</b>	<b>8</b>	<b>10</b>	<b>30</b>	<b>457</b>
<b>Apache</b>	<b>Blankenship #5</b>	<b>12M</b>	<b>BTD</b>	<b>10</b>	<b>20</b>	<b>63</b>	<b>1000</b>
<b>Apache</b>	<b>Blankenship #6</b>	<b>12L</b>	<b>BTD</b>	<b>9</b>	<b>15</b>	<b>50</b>	<b>770</b>

Reserves for the proposed location are calculated using SoPhiH centered on the proposed location and the direct offset drainage areas. Any competitive drainage is shared between the proposed well and the existing offset wells. The results are as follows:

				SoPhiH	Area	EUR	EUR
Op.	Well	Loc	Reservoir	Ft	A	MBO	MMCFG
<b>Apache</b>	<b>Dixie Queen #2</b>	<b>11P</b>	<b>BTD</b>	<b>12</b>	<b>15</b>	<b>116</b>	<b>576</b>

**4. Notice**

**The Dixie Queen #2** only encroaches toward Apache-operated proration units in which Apache owns 100% of the working interest. Apache Corporation operates all surrounding B-T-D wells.

- 5.** *Approval of this application will afford the interest owners in these spacing units an opportunity to recover oil and gas which would not otherwise be recovered and to do so without violating correlative rights.*

DISTRICT I  
1625 N. FRENCH DR., HOBBS, NM 80240

State of New Mexico  
Energy, Minerals and Natural Resources Department

DISTRICT II  
1301 W. GRAND AVENUE, ARTESIA, NM 80210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION  
1220 SOUTH ST. FRANCIS DR.  
Santa Fe, New Mexico 87505

Form C-102  
Revised October 12, 2006  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

DISTRICT IV  
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number <b>30-025-38661</b>	Pool Code	Pool Name
Property Code	Property Name <b>DIXIE QUEEN</b>	Well Number <b>2</b>
OGRID No.	Operator Name <b>APACHE CORPORATION</b>	Elevation <b>3561'</b>

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	11	20-S	38-E		1060	SOUTH	330	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

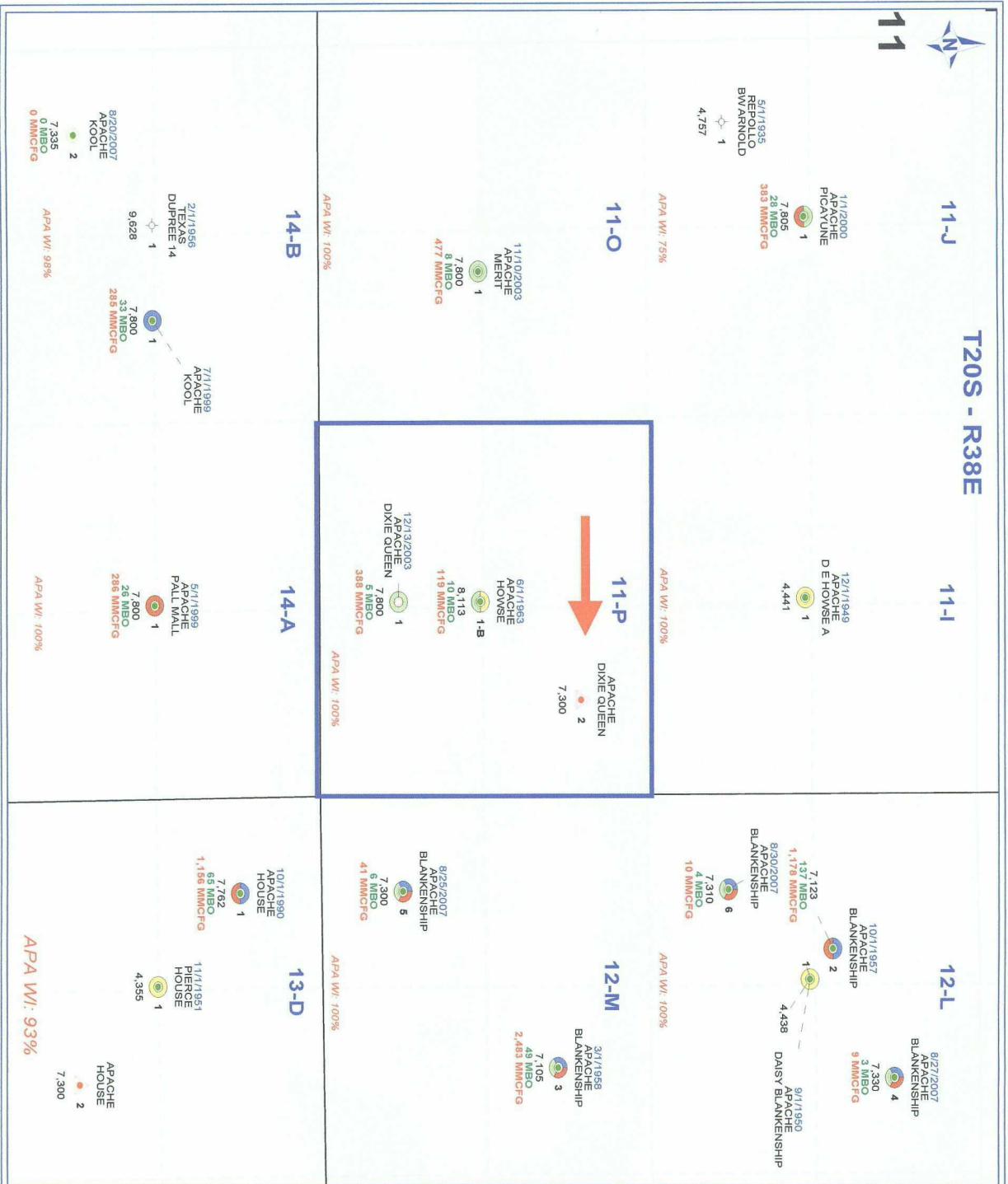
<p>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=578041.2 N X=876413.9 E</p> <p>LAT.=32.583198° N LONG.=103.111315° W</p> <p>LAT.=32°34'59.51" N LONG.=103°06'40.73" W</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>SURVEYOR CERTIFICATION</p> <p>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 belief.</p> <p>DECEMBER 11 2007</p> <p>Date Surveyed _____</p> <p>Signature &amp; Seal of Professional Surveyor <i>Ronald J. Eidson</i> 3239</p> <p>Certificate No. GARY EIDSON 12041 RONALD J. EIDSON 3239</p>
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Exhibit 1

## NEW MEXICO



PROVIDING SURVEYING SERVICES  
SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
412 N. DAL PASO  
HOBBS, N.M. 88240  
(505) 393-3117



DETAILED MAPING 3.41.08.04

Exhibit 2

**40 Acre Spacing Unit**

**Exhibit 2**

Dixie Queen #2 NSL

ETD Cumulative Production

North New Mexico Overlay OVL

**0 500 FEET**

**POSTED WELL DATA**

WELL - COMP - DATE

Well Name

Well Number

**ATTRIBUTE MAP**

San Andres Producer

Binary Producer

Drifted Producer

**WELL SYMBOLS**

Oil Well

Gas Well

Active Producer

Plugged and Abandoned

Dry Hole

Proposed Drilling Location

By: Bret Pearey

January 9, 2008

**40 Acre Spacing Unit**

**Exhibit 2**

Dixie Queen #2 NSL

ETD Cumulative Production

North New Mexico Overlay OVL

**0 500 FEET**

**POSTED WELL DATA**

WELL - COMP - DATE

Well Name

Well Number

**ATTRIBUTE MAP**

San Andres Producer

Binary Producer

Drifted Producer

**WELL SYMBOLS**

Oil Well

Gas Well

Active Producer

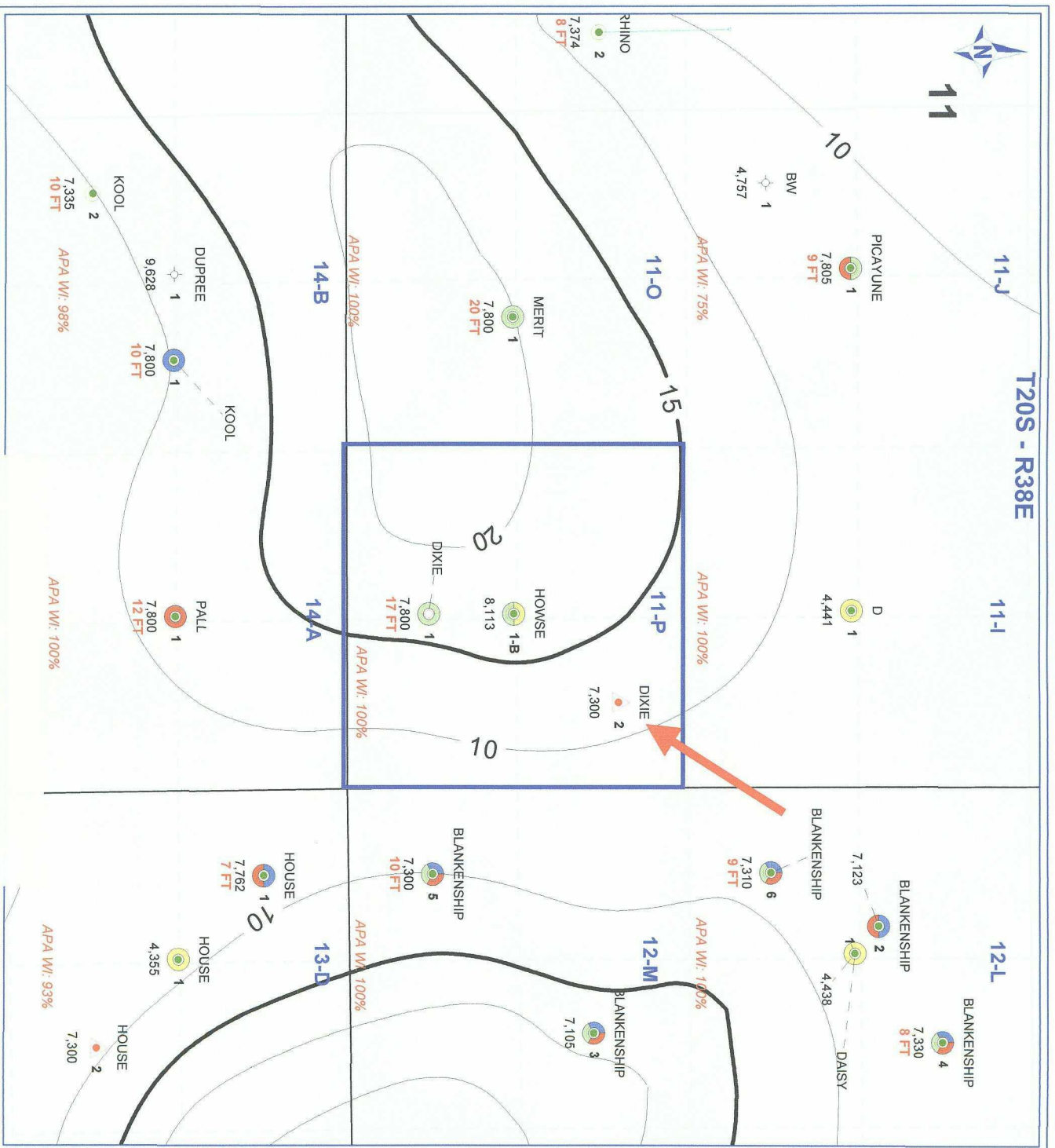
Plugged and Abandoned

Dry Hole

Proposed Drilling Location

By: Bret Pearey

January 9, 2008



40 Acre  
Spacing Unit

**Exhibit 3**

Dixie Queen #2 NSL  
BTD SOPH-H Map CI: S'  
North New Mexico Overlay OVL



**POSTED WELL DATA**

- Well Number
- Oil Well
- San Andres Producer
- Binery Producer
- Tubb Producer
- Drimkard Producer

- WELL SYMBOLS**
- Oil Well
- Gas Well
- Active Producer
- Plugged and Abandoned
- Dry Hole
- Proposed Drilling Location

By: Bret Pearcy  
January 9, 2008

Exhibit 3

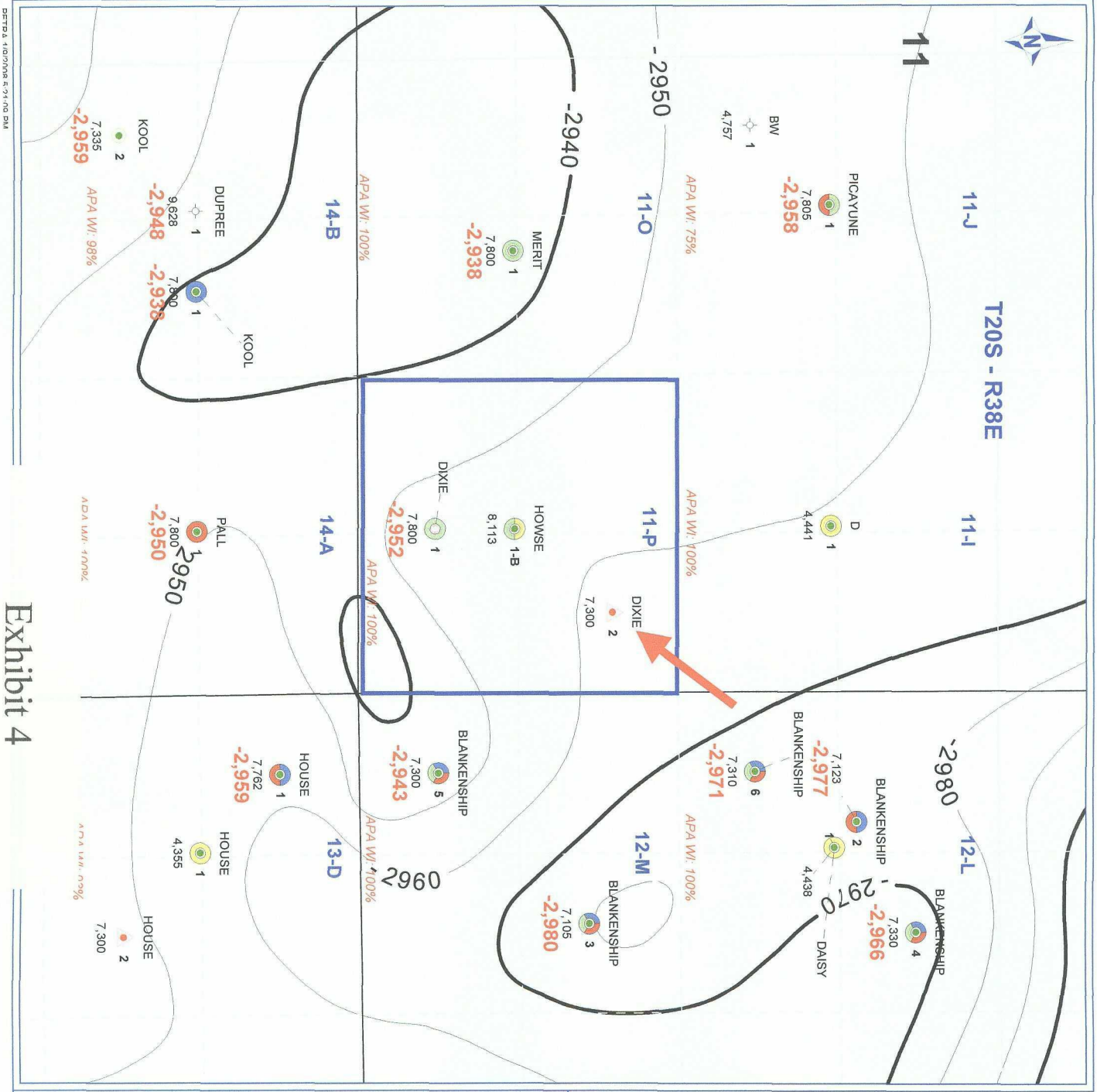


Exhibit 4

40 Acre  
Spacing Unit

**Apache**  
CORPORATION

Exhibit 4

Dixie Queen #2 NSL  
Structure - Top Tubb CI: 10'  
North New Mexico Overlay, OVL



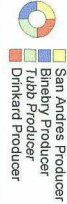
POSTED WELL DATA

Well Name

Well Number

TD  
FRTOPS - TUBB (FEET)

ATTRIBUTE MAP



WELL SYMBOLS

- Oil Well
- Gas Well
- Active Producer
- Plugged and Abandoned
- Dry Hole
- Proposed Drilling Location

By: Bret Paroy  
January 9, 2008

**Well File Search - Select API Number to View**

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected.

The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links.

4 Records Found

Displaying Screen 1 of 1

API Number	ULSTR	Footages
<input type="radio"/> 3002507764	P -11-20S-38E	660 FSL & 660 FEL
Well Name & Number: HOWSE B No. 001		
Operator: APACHE CORP		
<input type="radio"/> 3002534389	P -11-20S-38E	330 FSL & 330 FEL
Well Name & Number: MONTE CRISTO No. 001		
Operator: APACHE CORP		
<input type="radio"/> 3002536421	P -11-20S-38E	330 FSL & 660 FEL
Well Name & Number: DIXIE QUEEN No. 001		
Operator: APACHE CORP		
<input type="radio"/> 3002538661	P -11-20S-38E	1060 FSL & 330 FEL
Well Name & Number: DIXIE QUEEN No. 002		
Operator: APACHE CORP		

4 Records Found

Displaying Screen 1 of 1

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