



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

October 28, 2005

**Mark E. Fesmire, P.E.**

Director

Oil Conservation Division

Apache Corporation  
c/o James Bruce  
P. O. Box 1056  
Santa Fe, New Mexico 87504

*Re: Administrative applications filed August 15, 2005 on behalf of Apache Corporation for the following two unorthodox Blinebry, Tubb, Drinkard, and Wantz-Abo oil well locations in the NW/4 SE/4 (Unit J) of Section 9, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico: (i) Hawk "B-1" Well No. 47 to be drilled 1330' FSL & 2400' FEL of Section 9 (administrative application reference No. pSEM0-522746044); and Hawk "B-1" Well No. 48 to be drilled 1440' FSL & 1332' FEL of Section 9 (administrative application reference No. pSEM0-522746168).*

Dear Mr. Bruce:

On Monday afternoon, September 19, 2005, I sent you an e-mail, see copy attached, requesting an explanation and additional information concerning conflicting data within your application and the current development of the Tubb Oil and Gas Pool within the SE/4 of Section 9. To date I have not heard from you nor received anything further concerning this matter.

Approximately four years ago this agency enacted a policy whereby any incomplete administrative filing older than 30 days is to be withdrawn and returned. The Division on administrative filings, as I understand, adopted this policy, to better serve our customers and help assure a quicker turn around time. With no response, these applications are deemed to be incomplete and in order to fully comply with this policy, are hereby **denied** and being returned to you at this time.

I will also take this opportunity to voice the Division's concerns about the recent activity initiated by Apache Corporation in the Blinebry and Tubb pools being very similar to what happened in the Jalmat and Eumont Gas Pools about 8 years ago and how the total disregard to the prorationing scheme and special rules at that time lead to the adoption of Division Order No. R-8170-P. Would the Tubb and Blinebry pools best be served if the Division took similar action to dissolve prorationing and place more restrictive measures on well locations and well density within both the Blinebry and Tubb pools?

Sincerely,

Michael E. Stogner  
Engineer

cc: New Mexico Oil Conservation Division - Hobbs

**Stogner, Michael, EMNRD**

**From:** Stogner, Michael, EMNRD  
**To:** Jim Bruce  
**Cc:**  
**Subject:** RE: Hawk "B-1" Wells No. 47 and 48  
**Attachments:**

**Sent:** Mon 9/19/2005 1:34 PM

Mr. Bruce:

With respect to the Tubb interval, my initial review of your applications for these two wells in the NW/4 SE/4 (J) of Section 9, T21S, R37E indicate that the SE/4 of Section 9 is currently dedicated to Apache Corp.'s Hawk "B-1" Well No. 7 (API No. 30-025-06439), located 660 feet from the South and East lines of Section 9, which according to the Division well and production records is classified a gas well. You stated on the third page of Exhibit "A" under the "Tubb" discussion paragraph that the No. 7 well is classified "oil" well. There appears to be some degree of contradiction here. I will hold this application until such time as Apache Corp. can provide a reasonable explanation with the necessary supporting data, or until an amended application is submitted that adequately addresses the Tubb interval underlying the SE/4 of Section 9. Thank you.

---

**From:** Stogner, Michael, EMNRD  
**Sent:** Mon 9/19/2005 8:53 AM  
**To:** Thomas Kellahin  
**Cc:** steffanie.hayes@usa.apachecorp.com  
**Subject:** RE: Status of NSL's- Section 16-21S-37E, Lea County, NM

In reviewing your Apache Corp. application for the proposed State Land "15" Wells No. 9 and 10 (I reviewed the application for the Well No. 11 first and missed the following facts) I find that further explanation is needed concerning Apache's claim that the existing John H. Hendrix Corp. State Land "15" Well No. 4 (API No. 30-025-06633), located 660 feet from the South and East lines (Unit P) of Section 16 is classified as an oil well (see page 4 of your exhibit 1-C). The Division's production records between January, 2004 to July, 2005 shows gas production only, no oil. I also show that a non-standard 160-acre gas spacing and proration unit comprising the S/2 S/2 of Section 16 was approved for this well in April 1954 (see Division Order No. R-454 attached above). The well Division's well file does have a C-102 filed in late June, 2005 showing the Tubb with 40-acre dedication (see attachment). Was this showing it to be a standard 40-acre oil unit or a rededicated 40-acre GPU? Rule 2 (a) 3 of the "special Rules and Regulations for the Tubb Oil and Gas Pool", as promulgated by Division Order No. R-8170, as amended, prohibits the simultaneous dedication Tubb oil acreage and Tubb gas acreage. As it stands now I cannot approve any of these three applications.

As an observation, the recent activity that Apache has initiated in the Blinebry and Tubb pools is very similar to what happened in the Jalmat and Eumont Gas Pools about 8 years ago. That particular disregard to the prorationing scheme and special rules lead to the adoption of Division Order No. R-8170-P. Would the Tubb and Blinebry pools best be served if the Division took similar action?

I am sending a copy of this e-mail to Jim Bruce because I have several pending administrative applications from him on behalf of Apache Corporation.

---

**From:** Thomas Kellahin [mailto:kellahin@earthlink.net]  
**Sent:** Wed 9/14/2005 9:59 AM  
**To:** Stogner, Michael, EMNRD  
**Cc:** Steffanie Hayes  
**Subject:** Fw: Status of NSL's- Section 16-21S-37E, Lea County, NM

Mike:

Apache has request a status report for the following:

DATE IN 8:15:05	SUSPENSE	ENGINEER Stogner	LOGGED IN 8:15:05	TYPE NSL	APP NO. PSEMOS22746044
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ABOVE THIS LINE FOR DIVISION USE ONLY

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



Hawk B-1 #47  
J-9-215-37E

**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

**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]

RECEIVED  
DEC 20 2005  
OIL CONSERVATION DIVISION

[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.

James Bruce  
Print or Type Name

*James Bruce*  
Signature

Attorney for applicant  
Title

*12/15/05*  
Date

jamesbruc@aol.com  
e-mail Address

2005 NOV 15 PM 9 21

**JAMES BRUCE**  
ATTORNEY AT LAW

POST OFFICE BOX 1056  
SANTA FE, NEW MEXICO 87504

369 MONTEZUMA, NO. 213  
SANTA FE, NEW MEXICO 87501

(505) 982-2043 (Phone)  
(505) 660-6612 (Cell)  
(5050) 982-2151 (Fax)

[jamesbruc@aol.com](mailto:jamesbruc@aol.com)

August 15, 2005

Hand Delivered

Michael E. Stogner  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

Dear Mr. Stogner:

Pursuant to Division Rule 104.F(2), Apache Corporation applies for administrative approval of an unorthodox oil well location for the following well:

<u>Well Name:</u>	Hawk B-1 Well No. 47
<u>Well Location:</u>	1330 feet FSL & 2400 feet FEL
<u>Well Unit:</u>	NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 9, Township 21 South, Range 37 East, N.M.P.M., Lea County, New Mexico

The well will test the Blinebry (Blinebry Oil and Gas Pool), Tubb (Tubb Oil and Gas Pool), Drinkard (Drinkard Pool), and Abo (Wantz Abo Pool) formations, and applicant requests unorthodox location approval in all of four zones.

The application is based on geological and engineering reasons in the Blinebry, Tubb, and Drinkard formations. A complete discussion, with exhibits, is attached as Exhibit A. The well is located in the approximate center of Blinebry, Tubb, and/or Drinkard wells in Unit Letters J, K, N, and O of Section 9, and the proposed location will drain additional undrained reserves. The Blinebry and Tubb zones are expected to be oil productive.

The Tubb will be tested as applicant drills to total depth, and the Abo is a secondary objective which will be inexpensive to test with the drilling of this well.

Unit J will be simultaneously dedicated, in the Blinebry and Drinkard formations, to the proposed well and the existing Hawk B-1 Well No. 2, and applicant requests simultaneous dedication approval.

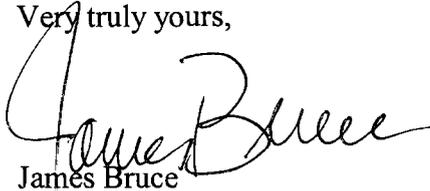
Exhibit B is a land plat, highlighting the proposed well's location. The E $\frac{1}{2}$ SW $\frac{1}{4}$  and SE $\frac{1}{4}$  of Section 8, and the S $\frac{1}{2}$  and E $\frac{1}{2}$ NW $\frac{1}{4}$  of Section 9, are covered by U.S. Lease NM 90161. The operating rights owners in the lease are as follows:

Apache Corporation  
Chevron Texaco Inc.  
BP America Production Company

Also, royalty and overriding royalty interests in the lease are common. As a result, notice of this application was not given to any offset interest owner.

Please call me if you need any further information on this matter.

Very truly yours,

A handwritten signature in cursive script that reads "James Bruce". The signature is written in black ink and is positioned above the printed name.

James Bruce

Attorney for Apache Corporation

Hawk B-1 Well No. 47  
 1330' FSL & 2400' FEL  
 Section 9, Township 21 South, Range 37 East, NMPM  
 Lea County, New Mexico

PRIMARY OBJECTIVES: Blinebry, Tubb, and Drinkard

SECONDARY OBJECTIVE: Abo

In support:

1. Apache Corporation (Apache) is the operator of the proposed **Hawk B-1 #47** well (**Exhibit 1**).
2. The proposed unorthodox location is offset by the following wells which are, or have been productive from various reservoirs which will be penetrated. (**Exhibit 2**)

OPER	WELL	LOC	RESERVOIR	CUM O/GW	DAILY O/GW	POOL
Apache	Hawk B-1 #25	9-J	GRBG	27/205/34	10/83/7	Penrose Skelly Grayburg
Apache	Hawk B-1 #2	9-J	BLBY	96/5077/29	3/48/0	Blinebry Oil and Gas
Apache	Hawk B-1 #2	9-J	DRKD	346/1192/29	1/2/0	Drinkard
Apache	Hawk B-1 #41	9-K	GRBG	10/49/10	36/194/13	Penrose Skelly Grayburg
Apache	Hawk B-1 #5	9-K	BLBY	2/16/1	1/5/0	Blinebry Oil and Gas
Apache	Hawk B-1 #5	9-K	DRKD	232/2434/11	1/31/0	Drinkard
Apache	Hawk B-1 #5	9-K	TUBB	37/731/6	1/12/0	Tubb Oil and Gas
Apache	Hawk B-1 #26	9-K	GRBG	23/94/38	10/59/52	Penrose Skelly Grayburg
Apache	Hawk B-1 #34	9-N	TUBB	11/235/8	12/325/1	Tubb Oil and Gas
Apache	Hawk B-1 #31	9-N	GRBG	7/34/13	7/32/26	Penrose Skelly Grayburg
Apache	Hawk B-1 #6	9-N	BLBY	80/1841/0	0/0/0	Blinebry Oil and Gas
Apache	Hawk B-1 #6	9-N	DRKD	171/390/0	0/0/0	Drinkard
Apache	Hawk B-1 #6	9-N	ABO	0/1/0	0/0/0	Wantz; Abo
Apache	Hawk B-1 #38	9-O	GRBG	13/37/15	26/110/14	Penrose Skelly Grayburg
Apache	Hawk B-1 #8	9-O	BLBY	29/616/5	1/13/0	Blinebry Oil and Gas
Apache	Hawk B-1 #8	9-O	DRKD	247/3830/32	10/140/1	Drinkard
Apache	Hawk B-1 #28	9-O	GRBG	56/145/38	18/152/39	Penrose Skelly Grayburg

MBO  
 MMCFG  
 MBW

BOPD  
 MCFGPD  
 BWPD



3. The proposed **Hawk B-1 # 47** unorthodox location of 1330' from south line and 2400' from east line is predicated by geological, location, and drainage considerations:

- a. **Geology**

The Blinebry, Tubb, and Drinkard Formations are members of the Yeso Group, Permian Leonardian in age. Fluid contacts, specifically Blinebry GOC at -2255 and Drinkard OWC at -3225, employed by Shell in the unitization hearing for the NorthEast Drinkard Unit, just to the east, have been used here. Production from the three reservoirs is assigned to individual Blinebry Oil and Gas, Tubb Oil and Gas, and Drinkard Pools but downhole commingling is pre-approved pending submission of allocations to the Hobbs District Office.

All three formations are shallow marine carbonates, consisting primarily of dolomite. The Tubb has appreciable clastic content and the Drinkard becomes 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. In fact, Apache's calculations indicate drainage area usually approximates 20 Acres.

Structure is significant in that it controls the fluid distribution and amount of pay above and below the Blinebry gas-oil contact and above the Drinkard oil-water contact.

Apache approached its evaluation by mapping log derived SoPhiH for each of four major reservoirs: Blinebry Gas Cap, Blinebry Oil Leg, Tubb, and Drinkard. This analysis required modern neutron-density and resistivity logs for any well to be used. Many wells thus had to be excluded from analysis because of the vintage of downhole logs or lack of a full logging suite. Sufficient new well control exists near the proposed location to feel comfortable with this interpretation.

1. **Blinebry Gas Cap (Exhibit 3)**

Thickness of the Blinebry Gas Cap is partially related to the subsea top of the Blinebry. The higher the top, the thicker the gas cap can be. Using a 5% threshold, porosity averages 9.8% and water saturation averages 29.5% in 138 nearby wells selected for analysis. SoPhiH at this location is expected to be 2.6'.

2. **Blinebry Oil Leg (Exhibit 4)**

Thickness of the Blinebry Oil Leg is partially related to the subsea top of the Blinebry, the higher the top, the thinner the oil leg might be. Using a 5% threshold, porosity averages 8.5% and water saturation averages 31.6% in 171 nearby wells selected for analysis. SoPhiH at this location is expected to be 5.0'.

### 3. Tubb (Exhibit 5)

The Tubb is generally considered to be a gas reservoir, although no gas-oil or gas-water contact has been suggested and oil completions are common. Using a 5% porosity threshold and a 50 APIU Gamma Ray threshold because of the greater amount of clastic material, porosity averages 8.0% and water saturation averages 31.1% in 208 nearby wells selected for analysis. SoPhiH at this location is expected to be 4.2'. Only 1 well (Hawk B-1 #34) in the four affected spacing units has ever produced the Tubb and it is classified as an oil well.

### 4. Drinkard (Exhibit 6)

The thickness of the Drinkard pay is also related to its subsea position, the higher the top, the thicker the interval can be. Using a 5% threshold, porosity averages 9.1% and water saturation averages 25.6% in 191 nearby wells selected for analysis. SoPhiH at this location is expected to be 8.9'.

### 5. Abo

The Abo is immediately sub adjacent to the Drinkard. This location is included in Wantz; Abo Pool. It is a secondary objective that will cost less than \$50,000 to drill and complete in this wellbore but it cannot be drilled as a primary target. Only Hawk B-1 #6 has penetrated or produced the Abo. It produced 1,457 MCFG in June 1983, before being plugged

### 6. Uphole Reservoirs

If potentially commercial reservoirs are encountered in the Grayburg and San Andres, a separate wellbore will be proposed to exploit those reservoirs.

#### b. Location

Apache's intent was to place the well equidistant from the productive Blinbry, Tubb, and Drinkard wells, in the northeast of Unit N, where only the Tubb is currently producing, but surface conditions prevented that.

#### c. Drainage

The proposed **Hawk B-1 #47** is a nearly "true" 20 Acre infill location between existing Blinbry, Tubb, and Drinkard producers. It is approximately equidistant from those wells and should encounter an undrained reservoir volume.

Reservoir engineering used the SoPhiH maps to estimate drainage of each offsetting well in each reservoir. Recoverable reserves for this

location are calculated as the volume under a 20 A radius (less if the direct offsets were not capable of draining 20 A) with reduced reservoir pressure where drainage has occurred. Drainage offsetting this location is as follows:

SEC	LEASE NAME	WELL	PROD ZONE NAME	EUR			DRAINED ACRES
				OIL	WATER	GAS	
9	Hawk B-1	2	BLINEBRY GAS CAP	50,820	28,860	5,082	178
8	Hawk B-1	5	BLINEBRY GAS CAP				
9	Hawk B-1	34	BLINEBRY GAS CAP				
9	Hawk B-1	6	BLINEBRY GAS CAP	14,150	0	1,415	109
9	Hawk B-1	8	BLINEBRY GAS CAP	4,120	2500	412	17
9	Hawk B-1	2	BLINEBRY OIL LEG	59,073	0	360	13
9	Hawk B-1	5	BLINEBRY OIL LEG	1,867	856	16	1
9	Hawk B-1	34	BLINEBRY OIL LEG				
9	Hawk B-1	6	BLINEBRY OIL LEG	65,622	0	426	22
9	Hawk B-1	8	BLINEBRY OIL LEG	24,530	2419	204	7
9	Hawk B-1	2	TUBB				
9	Hawk B-1	5	TUBB	37,297	5,867	731	25
9	Hawk B-1	34	TUBB	82,688	7,554	804	37
9	Hawk B-1	6	TUBB				
9	Hawk B-1	8	TUBB				
9	Hawk B-1	2	DRINKARD	345,866	29,488	1,192	55
9	Hawk B-1	5	DRINKARD	232,116	10,613	2,434	41
9	Hawk B-1	34	DRINKARD				
9	Hawk B-1	6	DRINKARD	171,296	392	290	23
9	Hawk B-1	8	DRINKARD	289,894	31,193	4,518	48

Volumetrics for the proposed location are as follows:

		PROD ZONE NAME	RESERVOIR	DRAINAGE	EUR	
			PRESSURE	ACRES	OIL (BO)	GAS (BCFG)
<b>HAWK B-1</b>	<b>47</b>	BLINEBRY GAS CAP	500	0	0	0
		BLINEBRY OIL LEG	2500	11	41,734	271
		TUBB	2500	20	6,550	655
		DRINKARD	1100	20	51,649	775
		<b>TOTAL</b>			<b>99,933</b>	<b>1,701</b>

**4. Notice**

Apache is the operator of the Blinebry, Tubb, and Drinkard wells toward which the proposed well will encroach and would also operate any Abo wells. All four reservoirs are contained within one oil and gas lease (Hawk Federal which includes, among other acreage, all of S1/2 §9) with common working and revenue interest owners. Therefore, there are no adversely affected parties and no one was notified of the application.

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

DISTRICT I  
1025 N. VERMILION DR., BOBBS, NM 86240

DISTRICT II  
1301 W. GRAND AVENUE, ARTESIA, NM 86210

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

DISTRICT IV  
1220 S. ST. FRANCIS DR., SANTA FE, NM 87503

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-102  
Revised JUNE 10, 2003  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

AMENDED REPORT

API Number	Pool Code	Pool Name
Property Code	Property Name HAWK B-1	Well Number 47
OGRID No.	Operator Name APACHE CORPORATION	Elevation 3490'

Surface Location

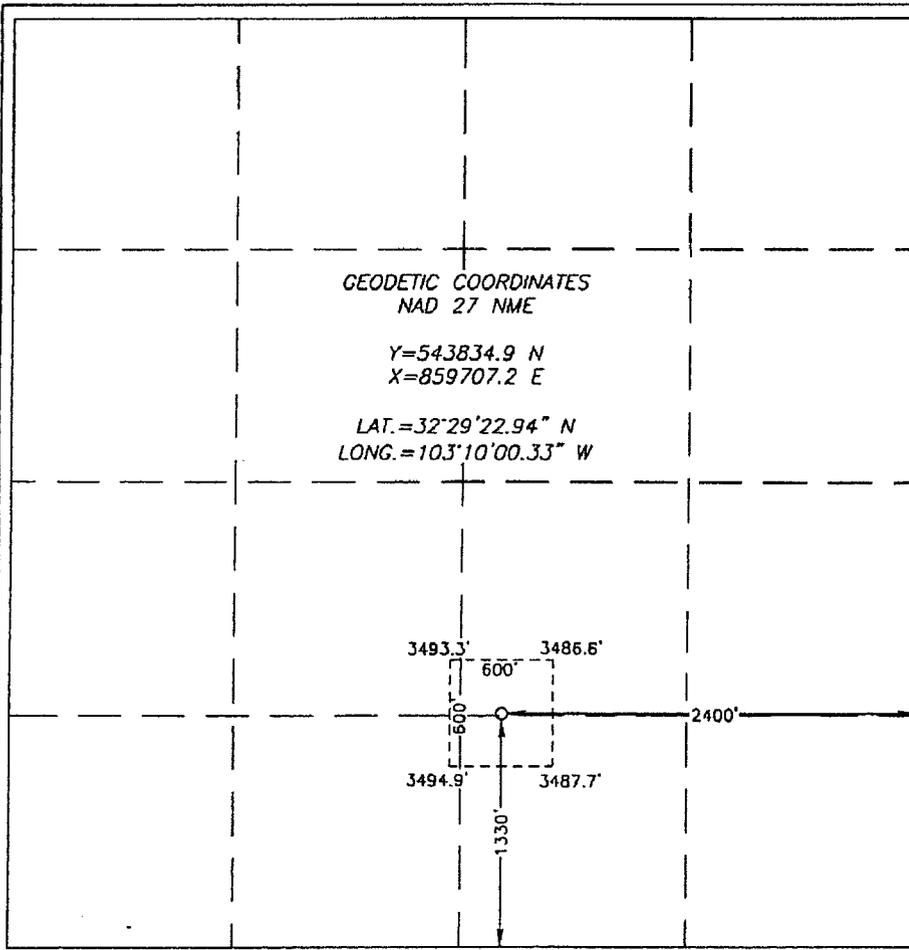
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	9	21-S	37-E		1330	SOUTH	2400	EAST	LEA

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



**OPERATOR CERTIFICATION**

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

Signature \_\_\_\_\_

Printed Name \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

**SURVEYOR CERTIFICATION**

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.

JUNE 13, 2005

Date Surveyed \_\_\_\_\_ JR

Signature & Seal of Professional Surveyor

Certificate No. GARY EDSON 12641



GAMMA RAY LTE 40 APIU  
 XPHI GTE 5%  
 SW LTE 50%

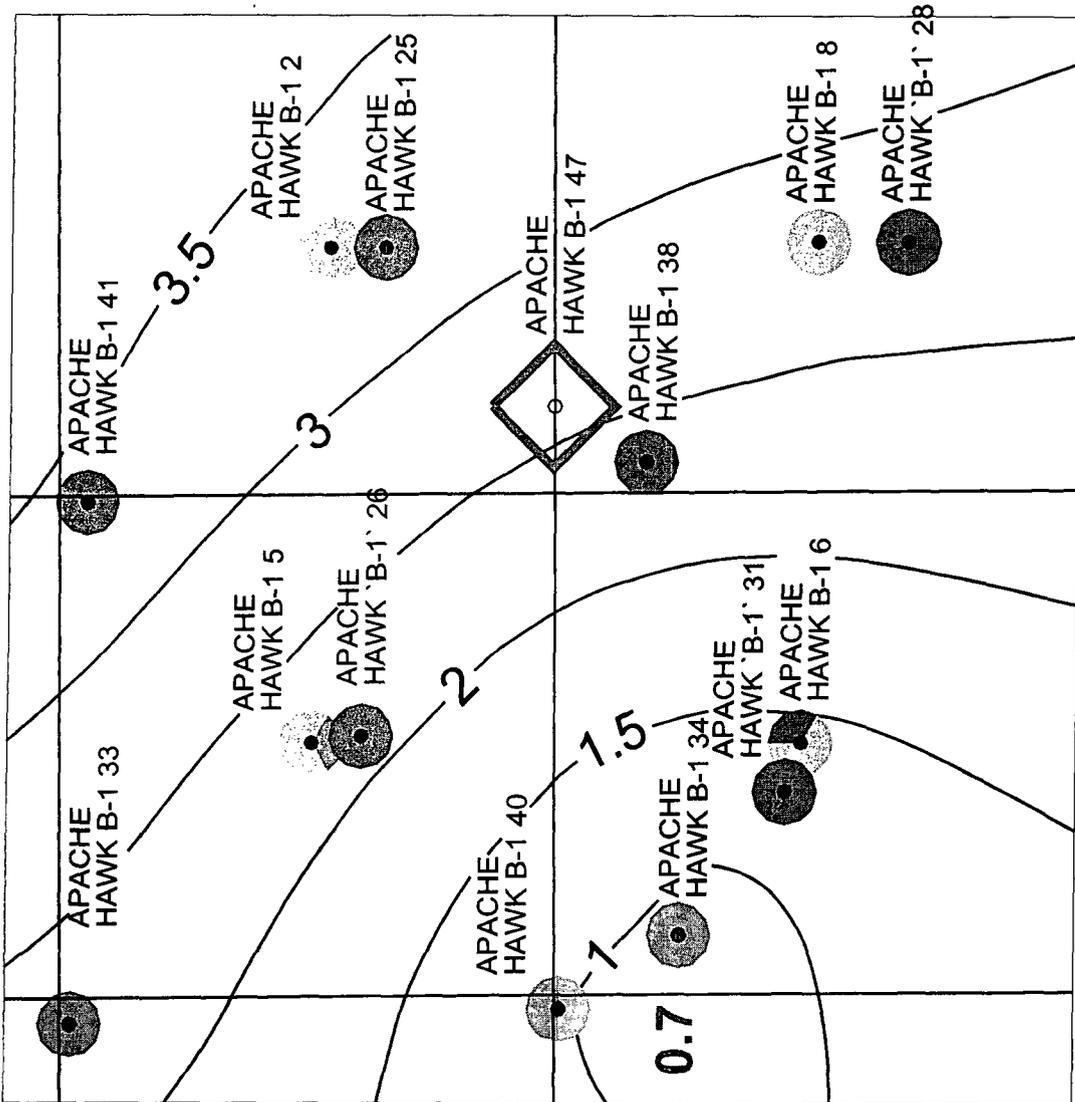
WELL SYMBOLS

- Location Only
- Oil Well
- ☀ Gas Well
- ⊙ Dry

POSTED WELL DATA

**BLBY GAS CAP SOPHIH** ● OPERATOR WELL LABEL

 APACHE CORPORATION CENTRAL REGION	TWO WARREN PLACE, SUITE 1500 6120 SOUTH YALE TULSA, OKLAHOMA 74136-4224
	<b>HAWK B-1 #47</b>
SEC 9-T21S-R37E LEA COUNTY, NEW MEXICO	
<b>EXHIBIT 3</b>	
<b>BLBY GAS CAP SOPHIH</b>	
DATE: 6/30/05	DWG: CURTIS/OCD-NM/2005HAWK B-1/EX 3



- YATES-SEVEN RIVERS-QUEEN
- GRAYBURG
- SAN ANDRES
- PADDOCK
- BLINEBRY
- TUBB
- DRINKARD
- ABO
- FUSSELMAN



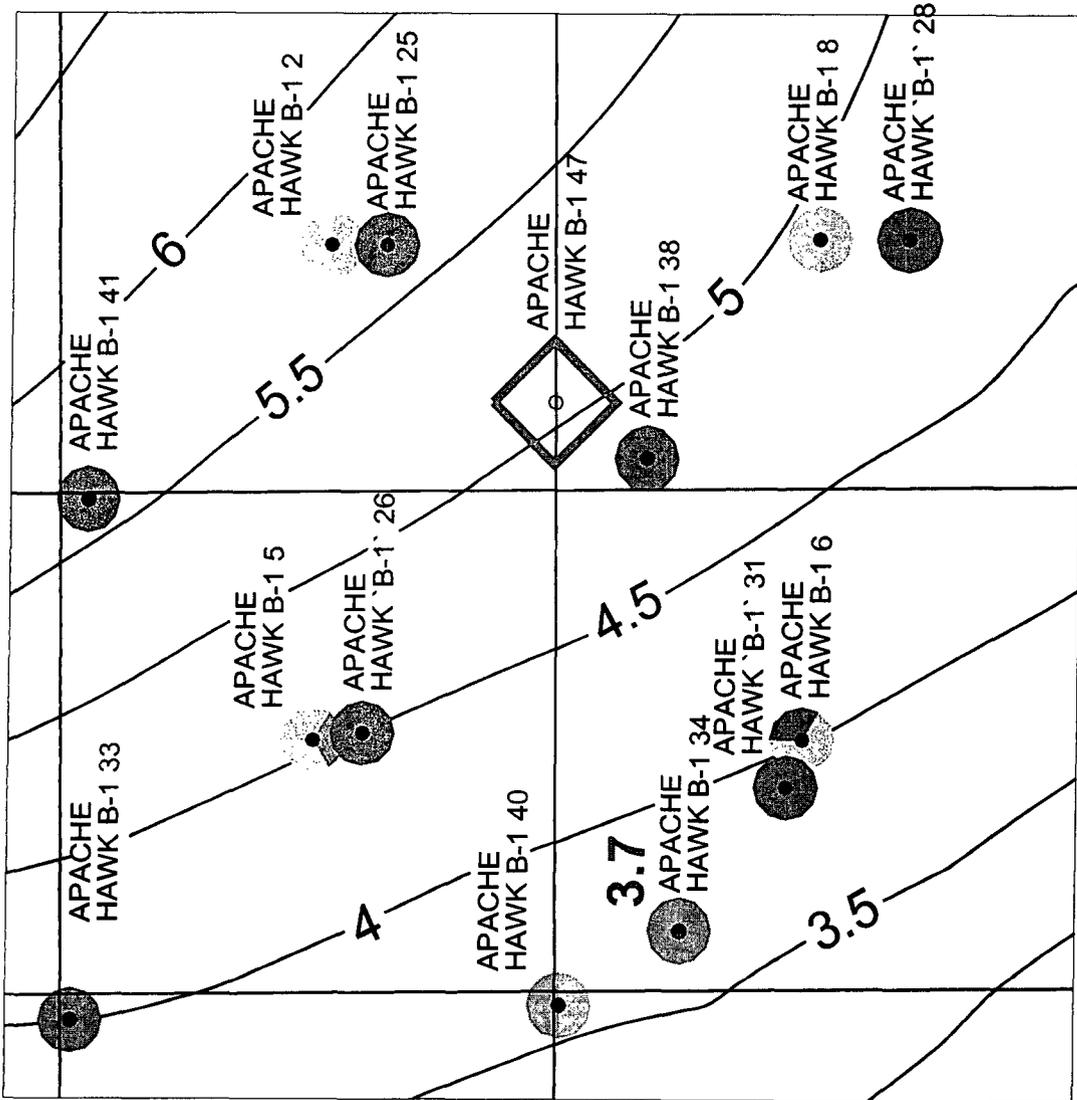
GAMMA RAY LTE 40 APIU  
 XPHI GTE 5%  
 SW LTE 50%

**WELL SYMBOLS**

- Location Only
- Oil Well
- ☀ Gas Well
- ⊙ Dry

**POSTED WELL DATA**

**BLBY OIL LEG SOPHIH** ● OPERATOR WELL LABEL



- YATES-SEVEN RIVERS-QUEEN
- GRAYBURG
- SAN ANDRES
- PADDOCK
- BLINEBRY
- TUBB
- DRINKARD
- ABO
- FUSSELMAN



 APACHE CORPORATION CENTRAL REGION	TWO WARREN PLACE, SUITE 1500 6120 SOUTH YALE TULSA, OKLAHOMA 74136-4224
	<b>HAWK B-1 #47</b>
SEC 9-T21 S-R37E LEA COUNTY, NEW MEXICO	
<b>EXHIBIT 4</b>	
BLBY OIL LEG SOPHIH	
DATE: 6/30/05	DWG: CURTIS/OCD-NM/2005HAWK B-1EX 4

GAMMA RAY LTE 50 APIU  
 XPHI GTE 5%  
 SW LTE 50%

**WELL SYMBOLS**

- Location Only
- Oil Well
- ☀ Gas Well
- ⊙ Dry

**POSTED WELL DATA**

**TUBB** ● OPERATOR  
**SOPHIH** ● WELL LABEL

**Apache**  
 CORPORATION  
 CENTRAL REGION

TWO WARREN PLACE, SUITE 1500  
 6120 SOUTH YALE  
 TULSA, OKLAHOMA 74136-4224

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**HAWK B-1 #47**

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SEC 9-T21 S-R37E  
 LEA COUNTY, NEW MEXICO

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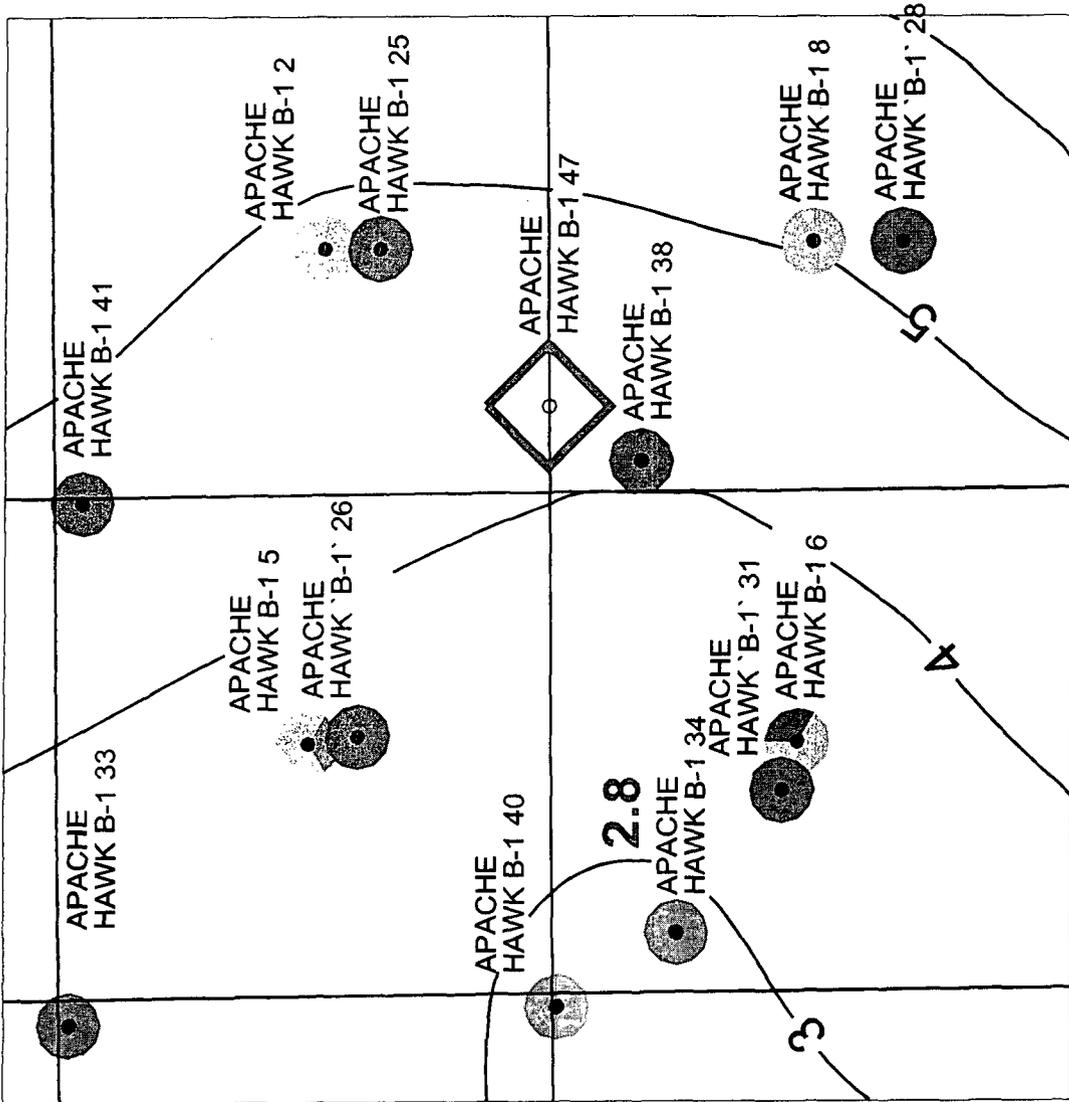
**EXHIBIT 5**

---

**TUBB SOPHIH**

---

DATE: 6/30/05 DWG: CURTIS\OCD-NM\2005\HAWK B-1\EX 5



- YATES-SEVEN RIVERS-QUEEN
- GRAYBURG
- SAN ANDRES
- PADDOCK
- BLINEBRY
- TUBB
- DRINKARD
- ABO
- FUSSELMAN



GAMMA RAY LTE 40 APIU  
 XPHI GTE 5%  
 SW LTE 50%

**WELL SYMBOLS**

- Location Only
- Oil Well
- ☀ Gas Well
- ⊙ Dry

**POSTED WELL DATA**

**DRKD** ● OPERATOR  
**SOPHIH** ● WELL LABEL

**Apache**  
CORPORATION  
 CENTRAL REGION

TWO WARREN PLACE, SUITE 1500  
 6120 SOUTH YALE  
 TULSA, OKLAHOMA 74136-4224

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**HAWK B-1 #47**

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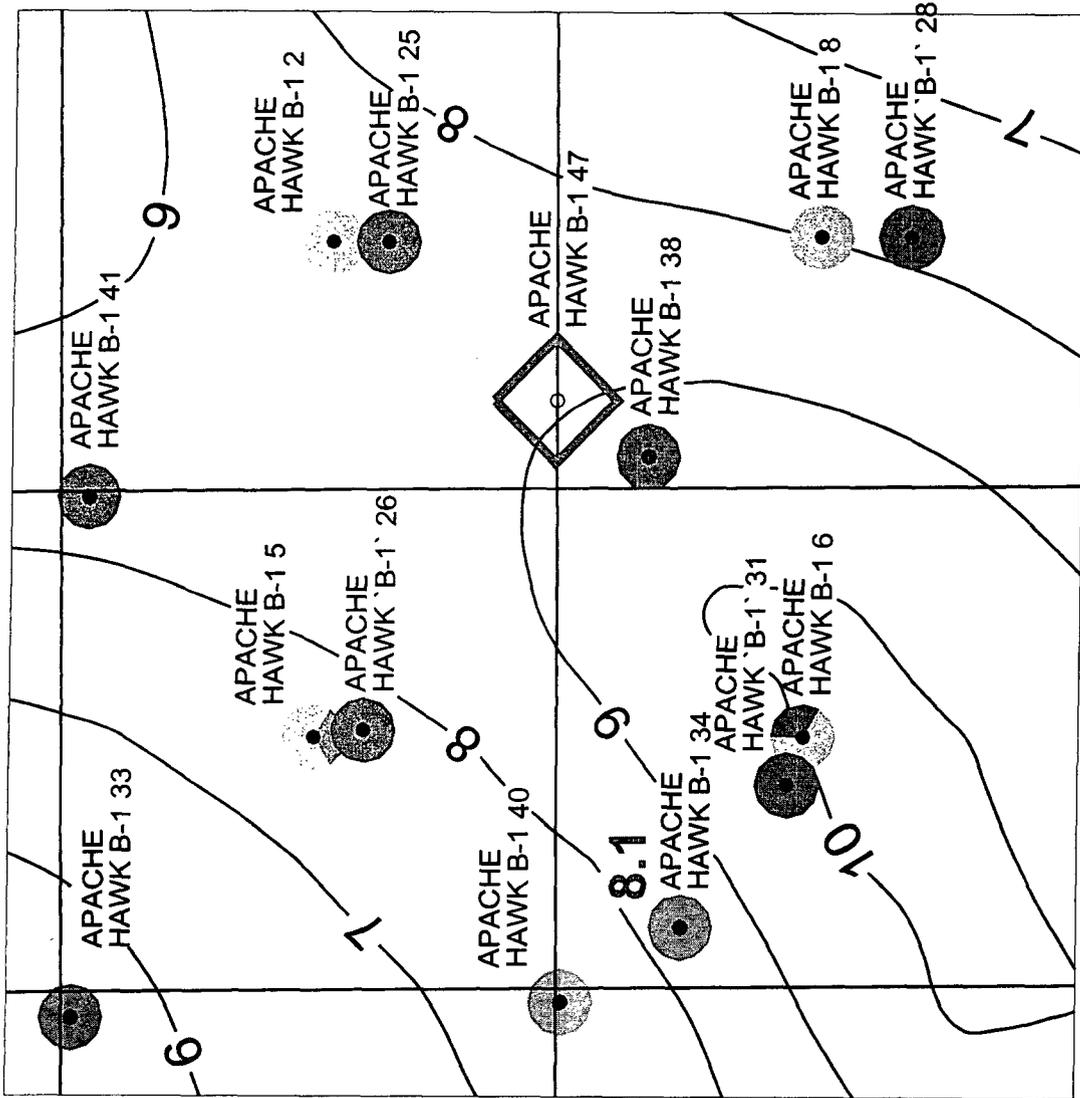
SEC 9-T21S-R37E  
 LEA COUNTY, NEW MEXICO

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**EXHIBIT 6**

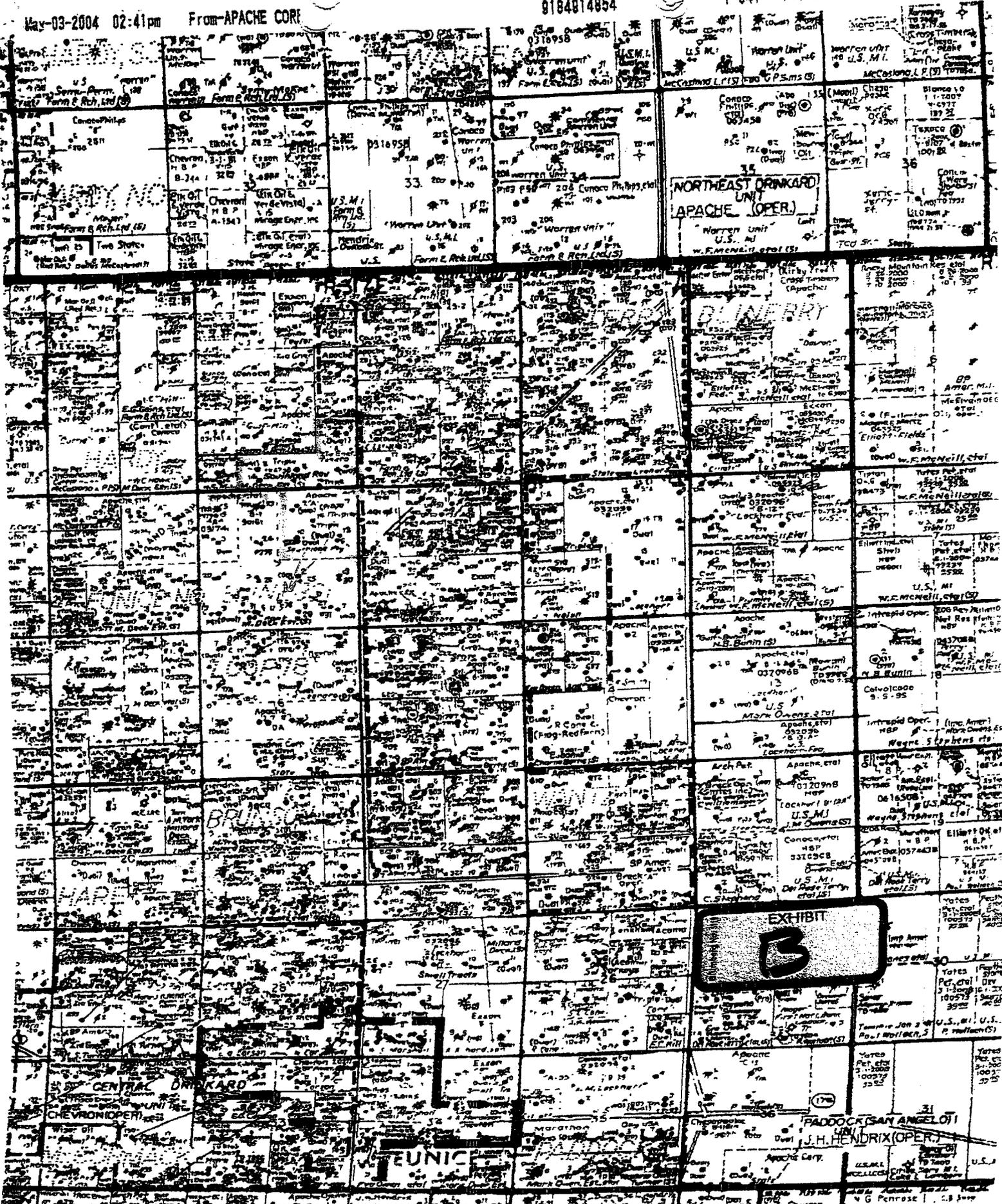
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DRKD SOPHIH



- YATES-SEVEN RIVERS-QUEEN
- GRAYBURG
- SAN ANDRES
- PADDOCK
- BLINEBRY
- TUBB
- DRINKARD
- ABO
- FUSSELMAN





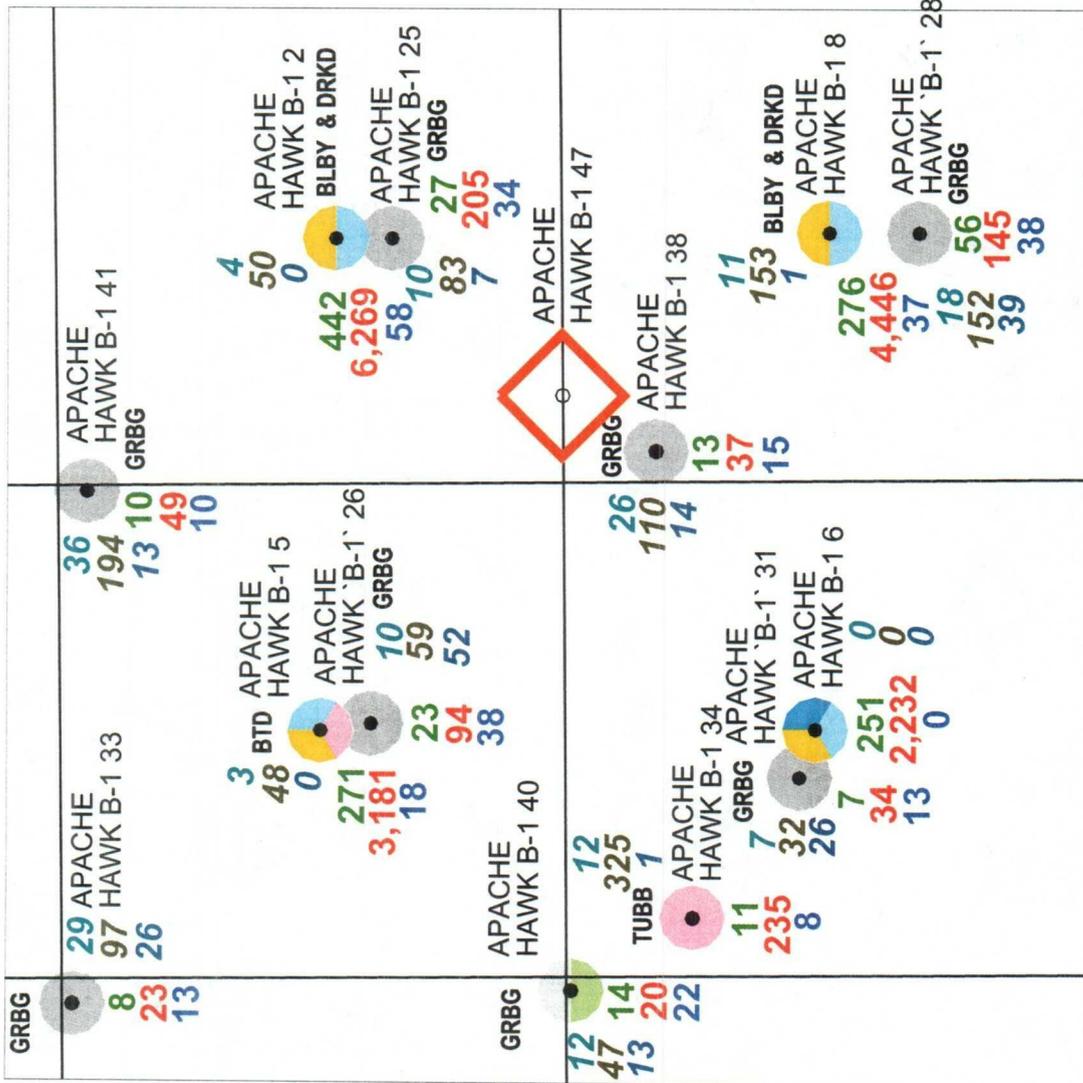
 Attachments can contain viruses that may harm your computer. Attachments may not display correctly.

**Stogner, Michael, EMNRD**

**From:** JamesBruc@aol.com [JamesBruc@aol.com] **Sent:** Mon 8/15/2005 7:59 AM  
**To:** Stogner, Michael, EMNRD  
**Cc:**  
**Subject:** Apache unorthodox locations  
**Attachments:**  [HAWKB-146.ppt\(889KB\)](#)  [GULFHILL8.ppt\(882KB\)](#)  [HAWKB-147.ppt\(965KB\)](#)  [HAWKB-148.ppt\(805KB\)](#)

Mike: I am filing four applications today. Attached are color copies of the geological exhibits.

Jim



**Apache**  
CORPORATION  
CENTRAL REGION

TWO WARREN PLACE, SUITE 1500  
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TULSA, OKLAHOMA 74136-4224

**HAWK B-1 # 47**

SEC 9-T21S-R37E  
LEA COUNTY, NEW MEXICO

**EXHIBIT 2**  
WELL INFORMATION

DATE: 6/30/05      DWG: CURTIS/OCD-NM2005HAWK B-1/EX 2

GAMMA RAY LTE 40 APIU  
 XPHI GTE 5%  
 SW LTE 50%

WELL SYMBOLS

- Location Only
- Oil Well
- ☀ Gas Well
- ☹ Dry

POSTED WELL DATA

**BLBY GAS CAP SOPHIH** ● OPERATOR WELL LABEL



TWO WARREN PLACE, SUITE 1500  
 6120 SOUTH YALE  
 TULSA, OKLAHOMA 74136-4224

**HAWK B-1 # 47**

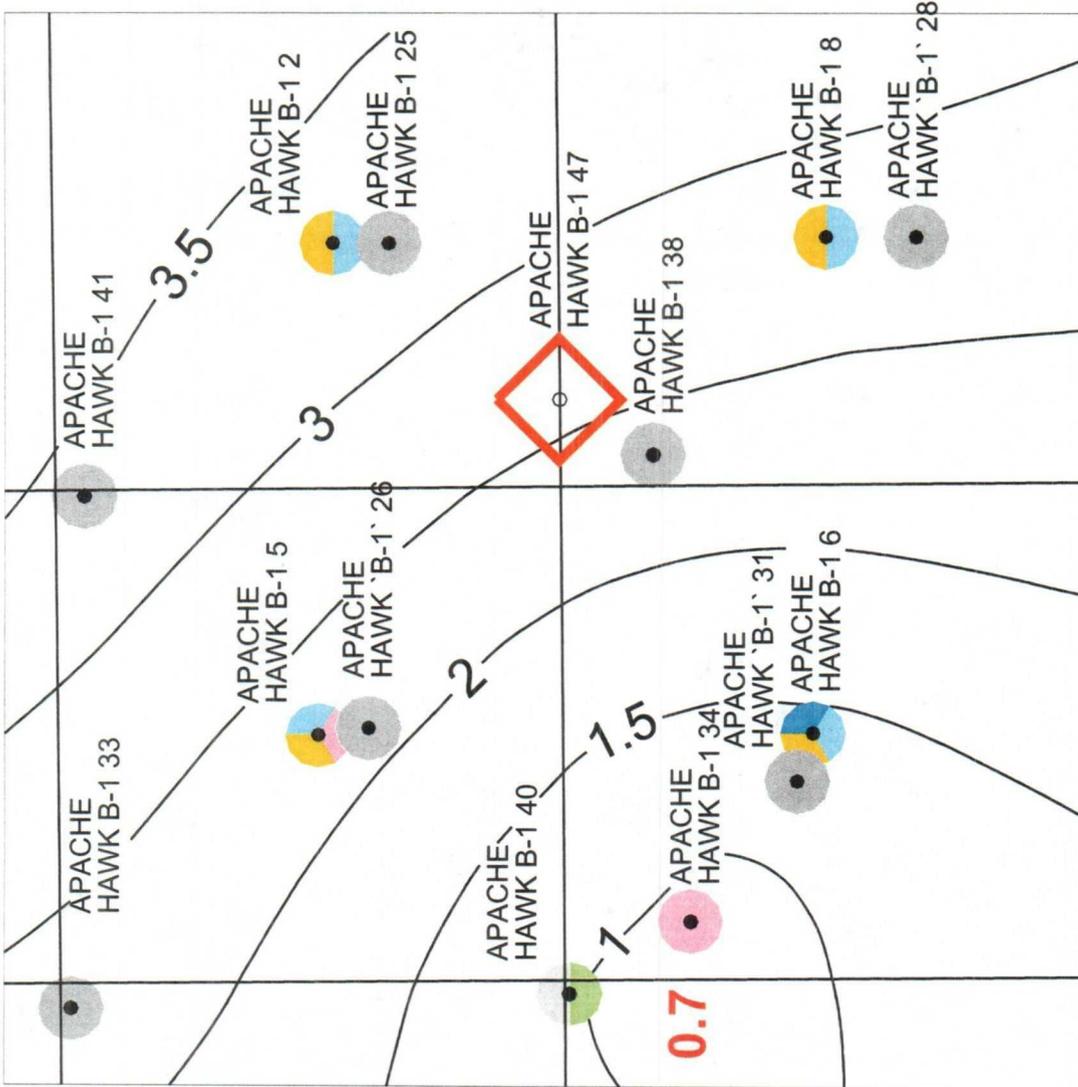
SEC 9-T21S-R37E  
 LEA COUNTY, NEW MEXICO

**EXHIBIT 3**

**BLBY GAS CAP SOPHIH**

DATE: 6/30/05

DWG: CURTIS/OCD-NM/2005HAWK B-1EX 3



- YATES-SEVEN RIVERS-QUEEN
- GRAYBURG
- SAN ANDRES
- PADDOCK
- BLINEBRY
- TUBB
- DRINKARD
- ABO
- FUSSELMAN



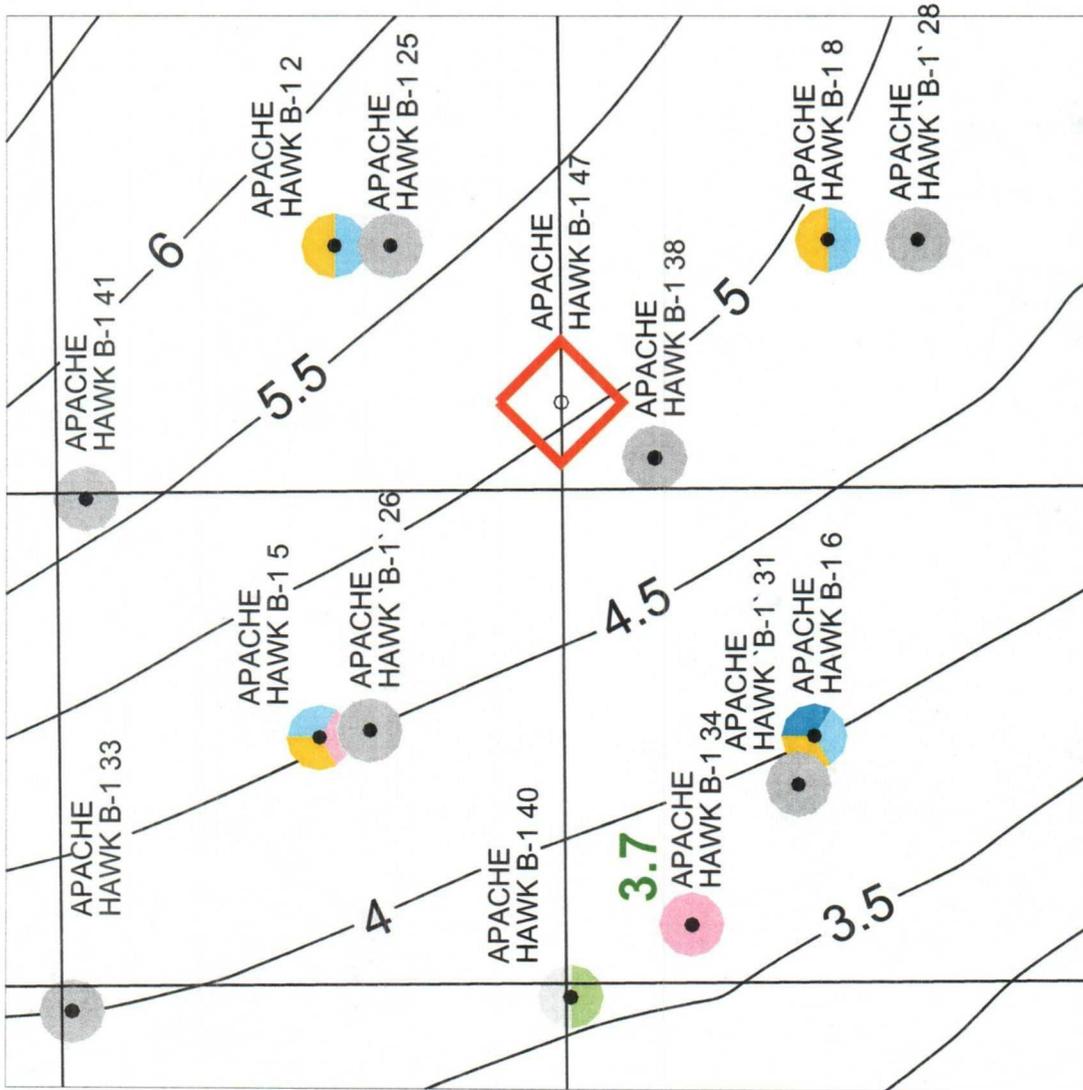
GAMMA RAY LTE 40 APIU  
 XPHI GTE 5%  
 SW LTE 50%

- WELL SYMBOLS**
- Location Only
  - Oil Well
  - ☀ Gas Well
  - ☹ Dry

**POSTED WELL DATA**

**BLBY OIL LEG SOPHIH** ● OPERATOR WELL LABEL

 TWO WARREN PLACE, SUITE 1500 6120 SOUTH YALE TULSA, OKLAHOMA 74136-4224	<b>HAWK B-1 # 47</b>
	SEC 9-T21S-R37E LEA COUNTY, NEW MEXICO
<b>EXHIBIT 4</b>	
<b>BLBY OIL LEG SOPHIH</b>	
DATE: 6/30/05	DWG: CURTIS\OCD-NM\2005HAWK B-1\EX 4



- TUBB
- DRINKARD
- ABO
- FUSSELMAN
- YATES-SEVEN RIVERS-QUEEN
- GRAYBURG
- SAN ANDRES
- PADDOCK
- BLINEBRY



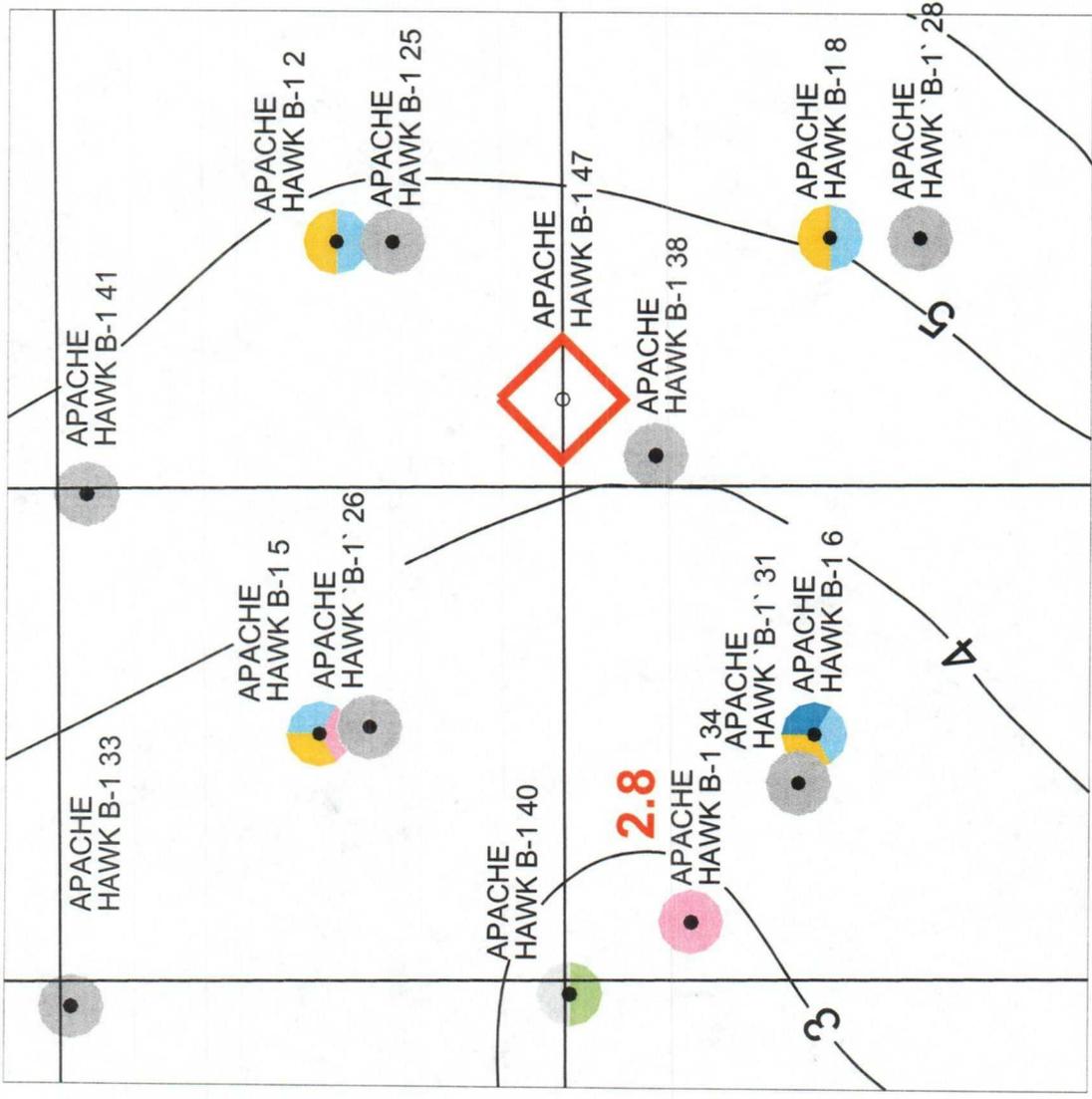
GAMMA RAY LTE 50 APIU  
 XPHI GTE 5%  
 SW LTE 50%

**WELL SYMBOLS**

- Location Only
- Oil Well
- ☀ Gas Well
- Dry

**POSTED WELL DATA**

**TUBB SOPHIH** ● OPERATOR WELL LABEL



- YATES-SEVEN RIVERS-QUEEN
- GRAYBURG
- SAN ANDRES
- PADDOCK
- BLINEBRY
- TUBB
- DRINKARD
- ABO
- FUSSELMAN



**Apache** CORPORATION CENTRAL REGION  
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**HAWK B-1 # 47**

SEC 9-T21S-R37E  
 LEA COUNTY, NEW MEXICO

**EXHIBIT 5**

**TUBB SOPHIH**

DATE: 6/30/05 DWG: CURTIS\OCD-NM\2005\HAWK B-1\EX 5

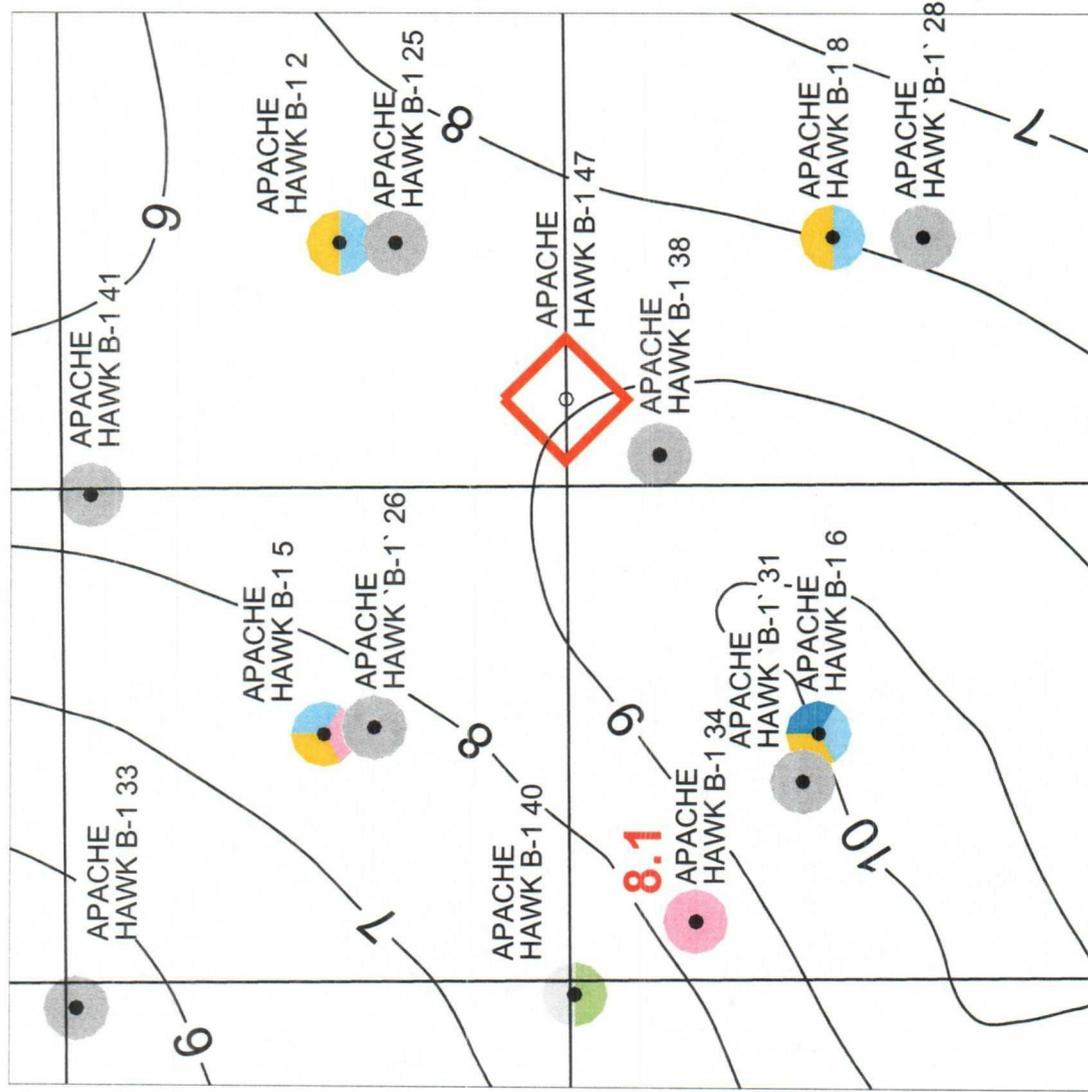
GAMMA RAY LTE 40 APIU  
 XPHI GTE 5%  
 SW LTE 50%

WELL SYMBOLS

- Location Only
- Oil Well
- ☀ Gas Well
- ⊖ Dry

POSTED WELL DATA

**DRKD** ● OPERATOR  
**SOPHIH** ● WELL LABEL



- YATES-SEVEN RIVERS-QUEEN
- GRAYBURG
- SAN ANDRES
- PADDOCK
- BLINEBRY
- TUBB
- DRINKARD
- ABO
- FUSSELMAN



**Apache** CORPORATION  
 CENTRAL REGION  
 TWO WARREN PLACE, SUITE 1500  
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 TULSA, OKLAHOMA 74136-4224

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**HAWK B-1 # 47**

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SEC 9-T21S-R37E  
 LEA COUNTY, NEW MEXICO

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**EXHIBIT 6**

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**DRKD SOPHIH**