DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
8.15.05		Stogner	8.15.05	NSL	pSEM0522745880

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 #46
I-8-21S-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]

[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

2005 AUG 15 AM 9 21

[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	James Bruce	Attorney for applicant	8/15/05
Print or Type Name	Signature	Title	Date

jamesbruc@aol.com
e-mail Address

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

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:

Well Name:	Hawk B-1 Well No. 46
Well Location:	1475 feet FSL & 80 feet FEL
Well Unit:	NE¼SE¼ of Section 8, 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 and Drinkard formations. A complete discussion, with exhibits, is attached as Exhibit A. As to the Blinebry and Drinkard, the well is located in the approximate center of Blinebry and/or Drinkard wells in Unit Letters I and P of Section 8, and Unit Letters L and M 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 I will be simultaneously dedicated, in the Blinebry and Drinkard formations, to the proposed well and the existing Hawk B-1 Well No. 11, and applicant requests simultaneous dedication approval.

Exhibit B is a land plat, highlighting the proposed well's location. The E½SW¼ and SE¼ of Section 8, and the S½ and E½NW¼ 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,

James Bruce

Attorney for Apache Corporation

Hawk B-1 Well No. 46
1475' FSL & 80' FEL
Section 8, 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 #46** 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)**

				CUM	DAILY	
OPER	WELL	LOC	RESERVOIR	O/G/W	O/G/W	POOL
Apache	Hawk B-1 #11	8-I	BLBY	12/428/4	1/12/0	Blinebry Oil and Gas
Apache	Hawk B-1 #11	8-I	DRKD	214/1384/7	3/39/0	Drinkard
Apache	Hawk B-1 #21	8-I	GRBG	16/98/77	12/64/15	Penrose Skelly Grayburg
Apache	Hawk B-1 #32	8-I	GRBG	17/77/99	14/77/23	Penrose Skelly Grayburg
Apache	Hawk B-1 #39	8-P	GRBG	2/8/3	21/84/29	Penrose Skelly Grayburg
Apache	Hawk B-1 #18	8-P	GRBG	15/194/131	7/77/31	Penrose Skelly Grayburg
Apache	Hawk B-1 #10	8-P	DRKD	357/2134/36	4/54/1	Drinkard
Apache	Hawk B-1 #33	9-L	GRBG	8/23/13	29/9726	Penrose Skelly Grayburg
Apache	Hawk B-1 #20	9-L	GRBG	10/46/29	7/26/7	Penrose Skelly Grayburg
Apache	Hawk B-1 #4	9-L	BLBY	87/2062/18	4/33/0	Blinebry Oil and Gas
Apache	Hawk B-1 #4	9-L	DRKD	236/1779/3	1/19/0	Drinkard
Apache	Hawk B-1 #40	9-M	GRBG	9/16/14	12/47/13	Penrose Skelly Grayburg
Apache	Hawk B-1 #40	9-M	SADR	5/4/8	0/0/0	East Hare San Andres
Apache	Hawk B-1 #9	9-M	BLBY	33/1134/5	1/24/0	Blinebry Oil and Gas
Apache	Hawk B-1 #9	9-M	DRKD	218/1916/10	3/48/1	Drinkard
Apache	Hawk B-1 #9	9-M	TUBB	2/92/1	1/53/0	Tubb Oil and Gas
Apache	Hawk B-1 #19	9-M	GRBG	24/89/69	8/60/51	Penrose Skelly Grayburg

MBO BOPD
MMCFG MCFGPD
MBW BWPD

3. The proposed **Hawk B-1 # 46** unorthodox location of 1475' from south line and 80' 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 1.2'.

      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 2.6'.

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 3.1'. Only 1 well (Hawk B-1 #9) in the four affected spacing units has ever produced the Tubb and it is and has been a low rate producer.

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 5.9'.

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. No well in the four affected spacing units has penetrated the Abo.

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

All of the affected Blinebry, Tubb, and Drinkard wells are producing at low rates. Apache's intent was to place the well equidistant from all producers, but surface conditions prevented that.

c. Drainage

The proposed **Hawk B-1 #46** is a "true" 20 Acre infill location between existing Blinebry, 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:

				EUR			DRAINED
SEC	LEASE NAME	WELL	PROD ZONE NAME	OIL	WATER	GAS	ACRES
8	Hawk B-1	11	BLINEBRY GAS CAP	3880	3801	388	32
8	Hawk B-1	10	BLINEBRY GAS CAP				
9	Hawk B-1	4	BLINEBRY GAS CAP	15570	17865	1577	120
9	Hawk B-1	9	BLINEBRY GAS CAP	10380	5103	1038	120
8	Hawk B-1	11	BLINEBRY OIL LEG	8161	0	40	5
8	Hawk B-1	10	BLINEBRY OIL LEG				
9	Hawk B-1	4	BLINEBRY OIL LEG	87465	0	580	35
9	Hawk B-1	9	BLINEBRY OIL LEG	22156	0	96	11
8	Hawk B-1	11	TUBB				
8	Hawk B-1	10	TUBB				
9	Hawk B-1	4	TUBB				
9	Hawk B-1	9	TUBB	6839	1393	310622	13
8	Hawk B-1	11	DRINKARD	225030	6965	1559827	69
8	Hawk B-1	10	DRINKARD	383869	36358	2505258	79
9	Hawk B-1	4	DRINKARD	235568	2978	1779483	52
9	Hawk B-1	9	DRINKARD	225682	10079	2076493	38

Volumetrics for the proposed location are as follows:

			RESERVOIR	DRAINAGE	EUR	
		PROD ZONE NAME	PRESSURE	ACRES	OIL (BO)	GAS (MCFG)
HAWK B-1	46	BLINEBRY GAS CAP	500	0	0	0
		BLINEBRY OIL LEG	2000	17	26829	288
		TUBB	2500	13	3220	322
		DRINKARD	500	0	0	0
		TOTAL			**30049**	**550**

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 SE1/4 §8 and 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.

EXHIBIT 1

State of New Mexico
Energy, Minerals and Natural Resources Department

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, ARTESIA, NM 88210

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

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

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	Well Number
	HAWK B-1	46
OGRID No.	Operator Name	Elevation
	APACHE CORPORATION	3517'

Surface Location

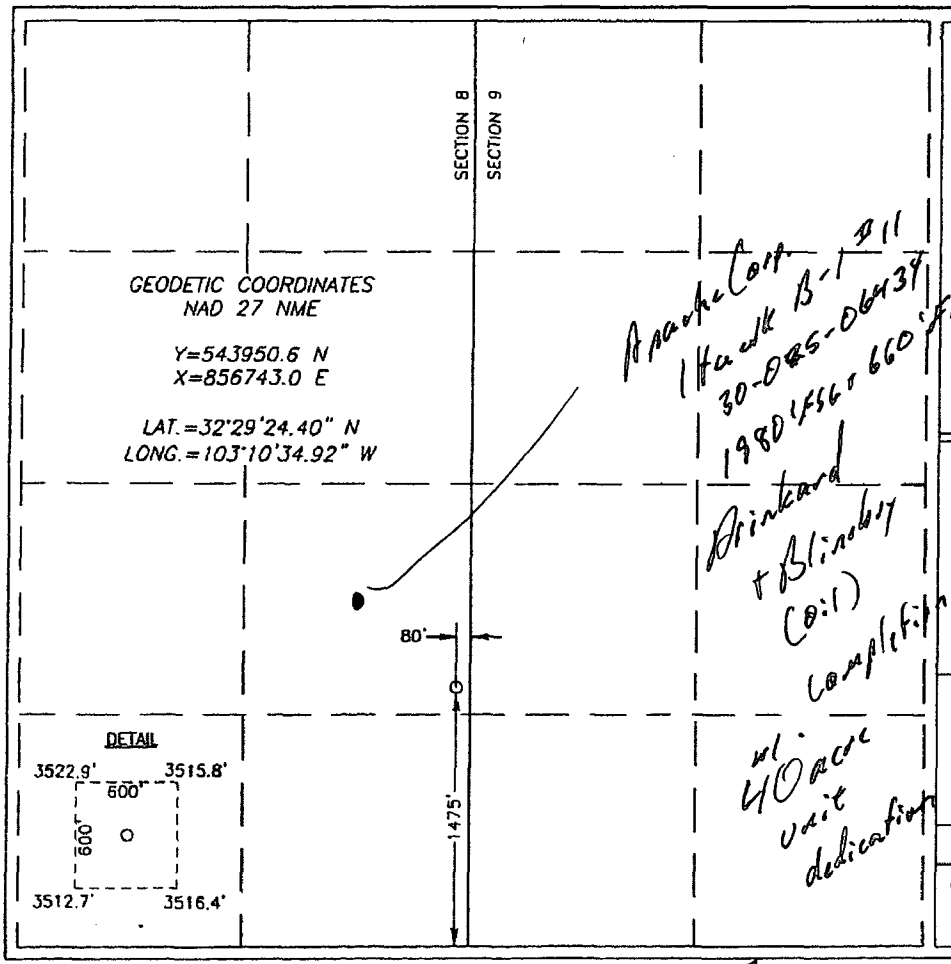
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	8	21-S	37-E		1475	SOUTH	80	EAST	LEA

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 the 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 supervison, 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

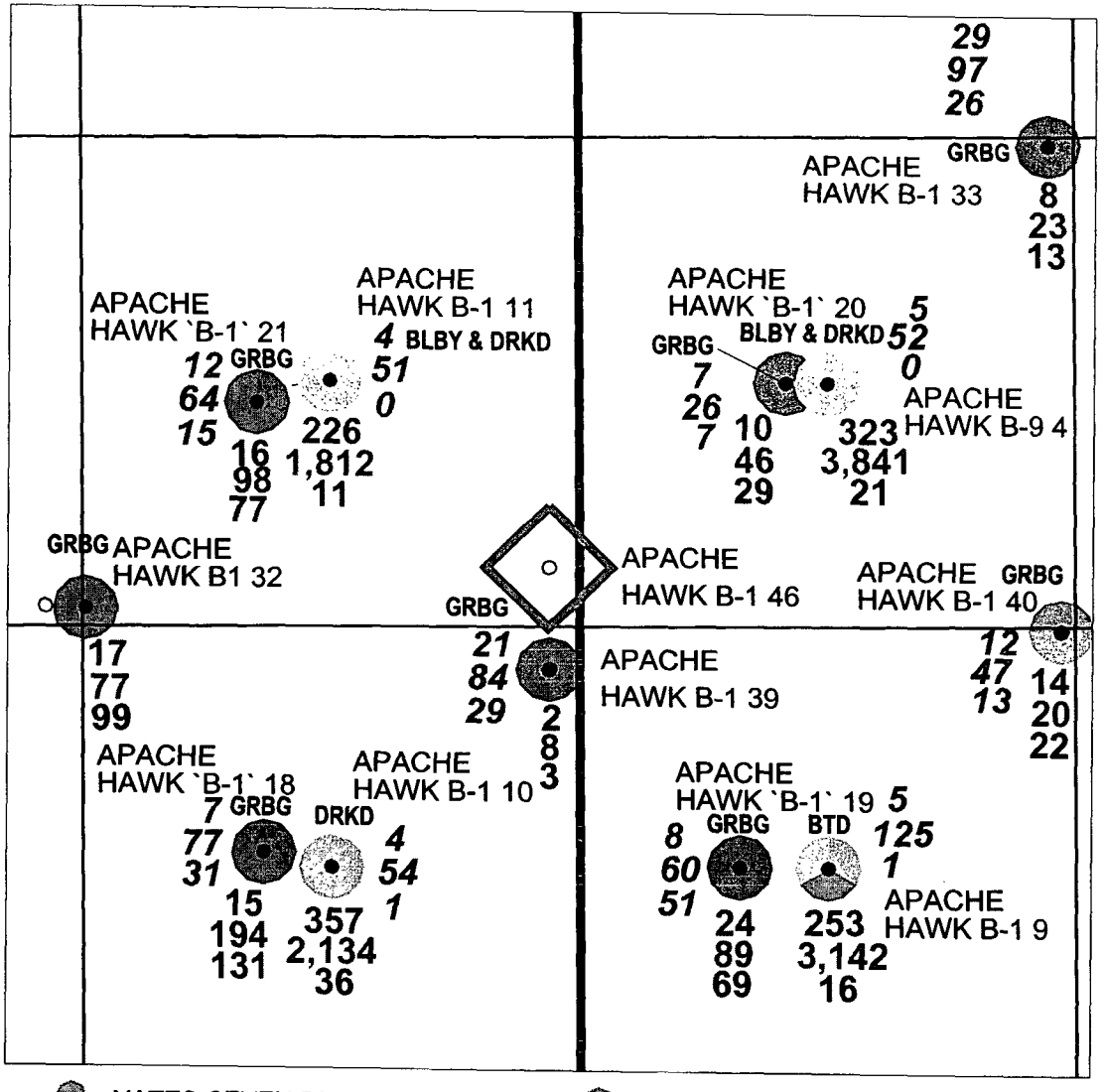
GARY L. EIDSON
NEW MEXICO
12641
PROFESSIONAL

6/23/05

05.11.0869

Certificate No. GARY EIDSON 12641

Standard 640-acre Section



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

0 500 1,000 1,500

WELL SYMBOLS

- Location Only
- Oil Well
- Gas Well
- Dry

POSTED WELL DATA

PRODUCING FORMATION

CURRENT BOPD
CURRENT MCFD
CURRENT BWPD

OPERATOR WELL LABEL

MBO
MMCFG
MBW

Apache CORPORATION CENTRAL REGION

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

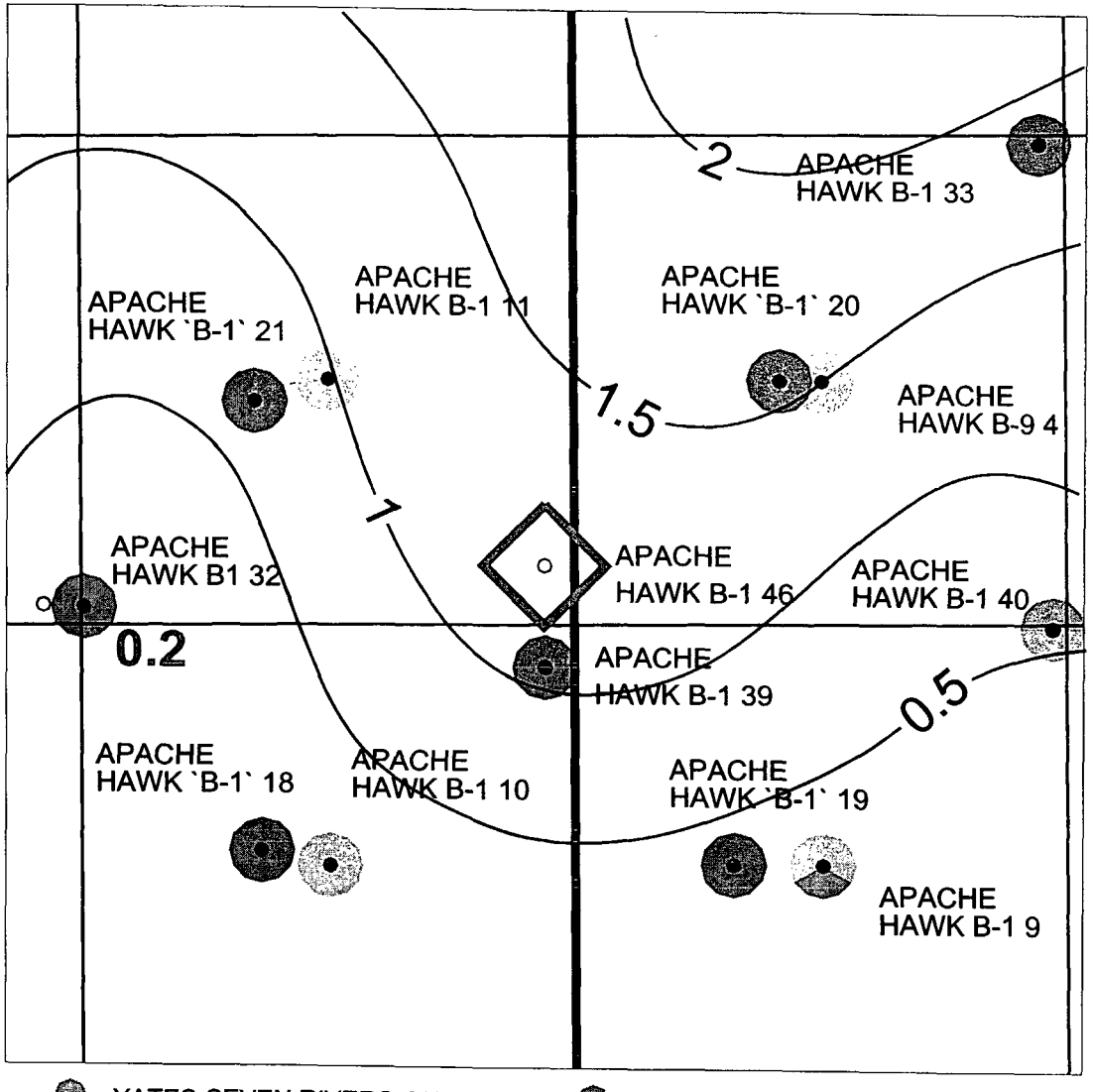
HAWK B-1 #46

SEC 8-T21S-R37E
LEA COUNTY, NEW MEXICO

EXHIBIT 2

WELL INFORMATION

DATE: 6/30/05 DWG:CURTIS\OCD-NM\2005\HAWK B-1 46\EX 2



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

0 500 1,000 1,500

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

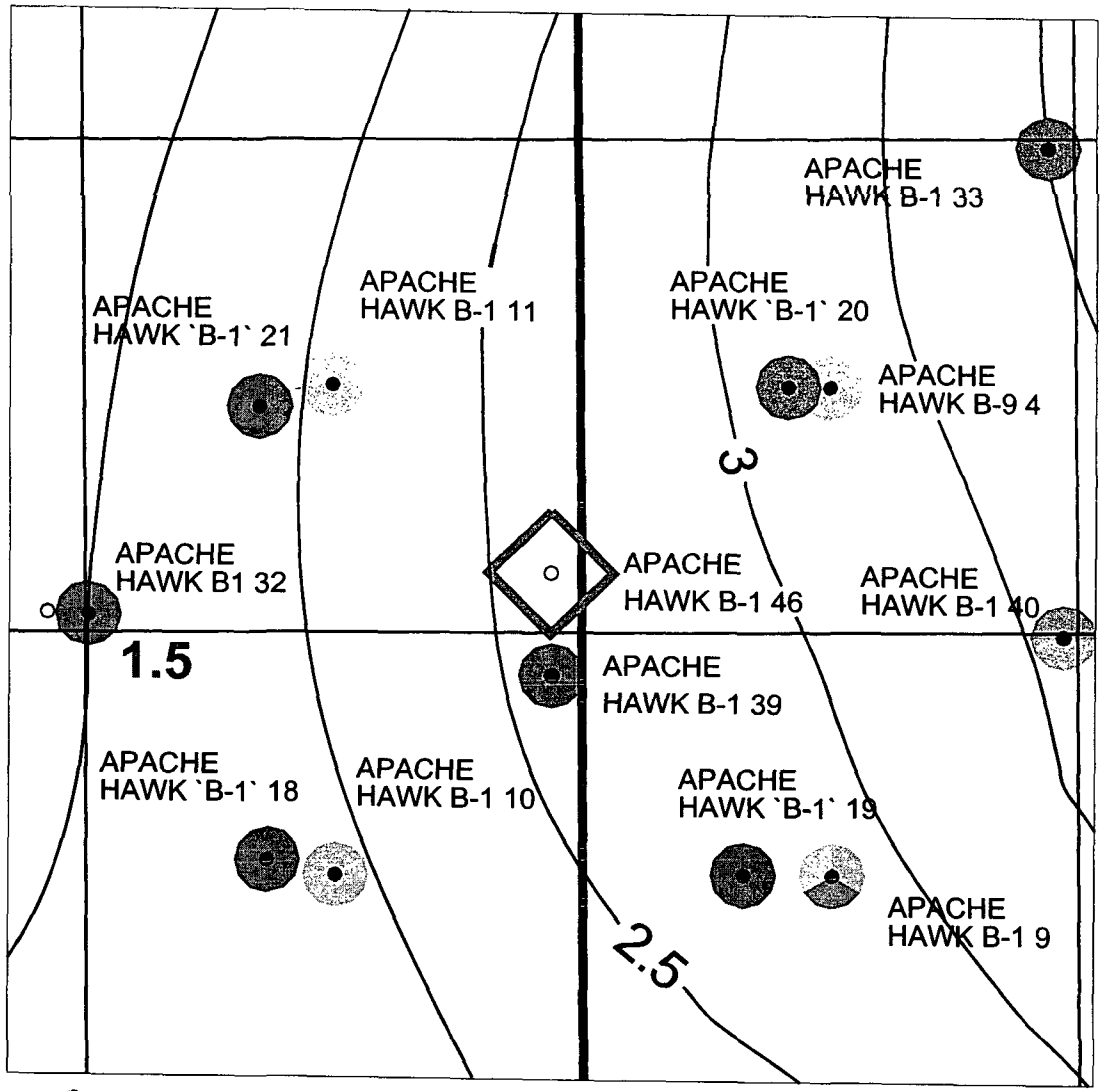
HAWK B-1 #46

SEC 8-T21S-R37E
LEA COUNTY, NEW MEXICO

EXHIBIT 3

BLBY GAS CAP SOPHIH

DATE: 6/30/05 DWG:CURTIS\OCD-NM\2005\HAWK B-1 46 EX 3



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

0 500 1,000 1,500

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

Apache CORPORATION CENTRAL REGION
TWO WARREN PLACE, SUITE 1500
6120 SOUTH YALE
TULSA, OKLAHOMA 74136-4224

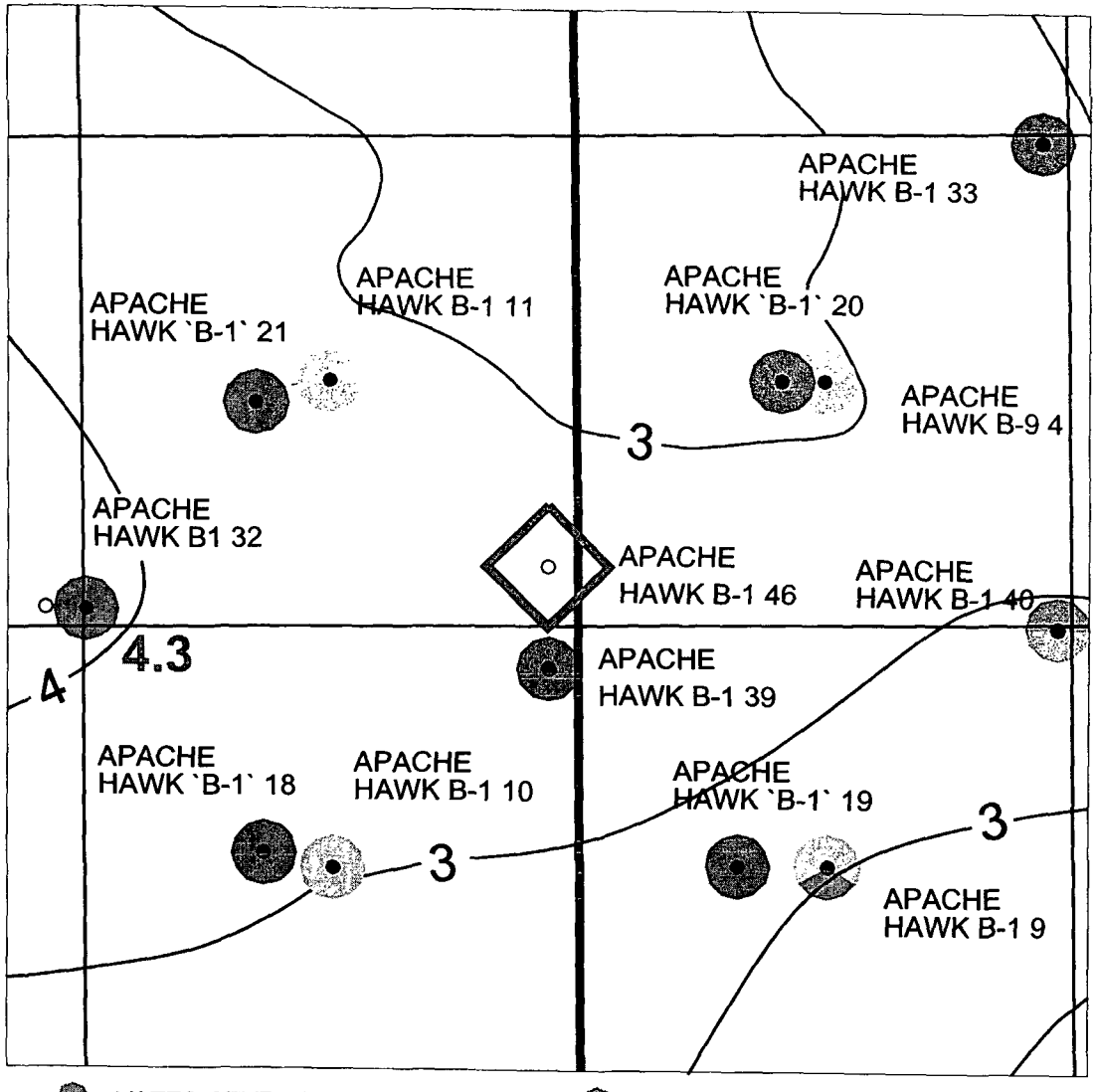
HAWK B-1 #46

SEC 8-T21S-R37E
LEA COUNTY, NEW MEXICO

EXHIBIT 4

BLBY OIL LEG SOPHIH

DATE: 6/30/05 DWG:CURTIS\OCD-NM\2005\HAWK B-1 46 EX 4



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

0 500 1,000 1,500

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

Apache CORPORATION
CENTRAL REGION
TWO WARREN PLACE, SUITE 1500
6120 SOUTH YALE
TULSA, OKLAHOMA 74136-4224

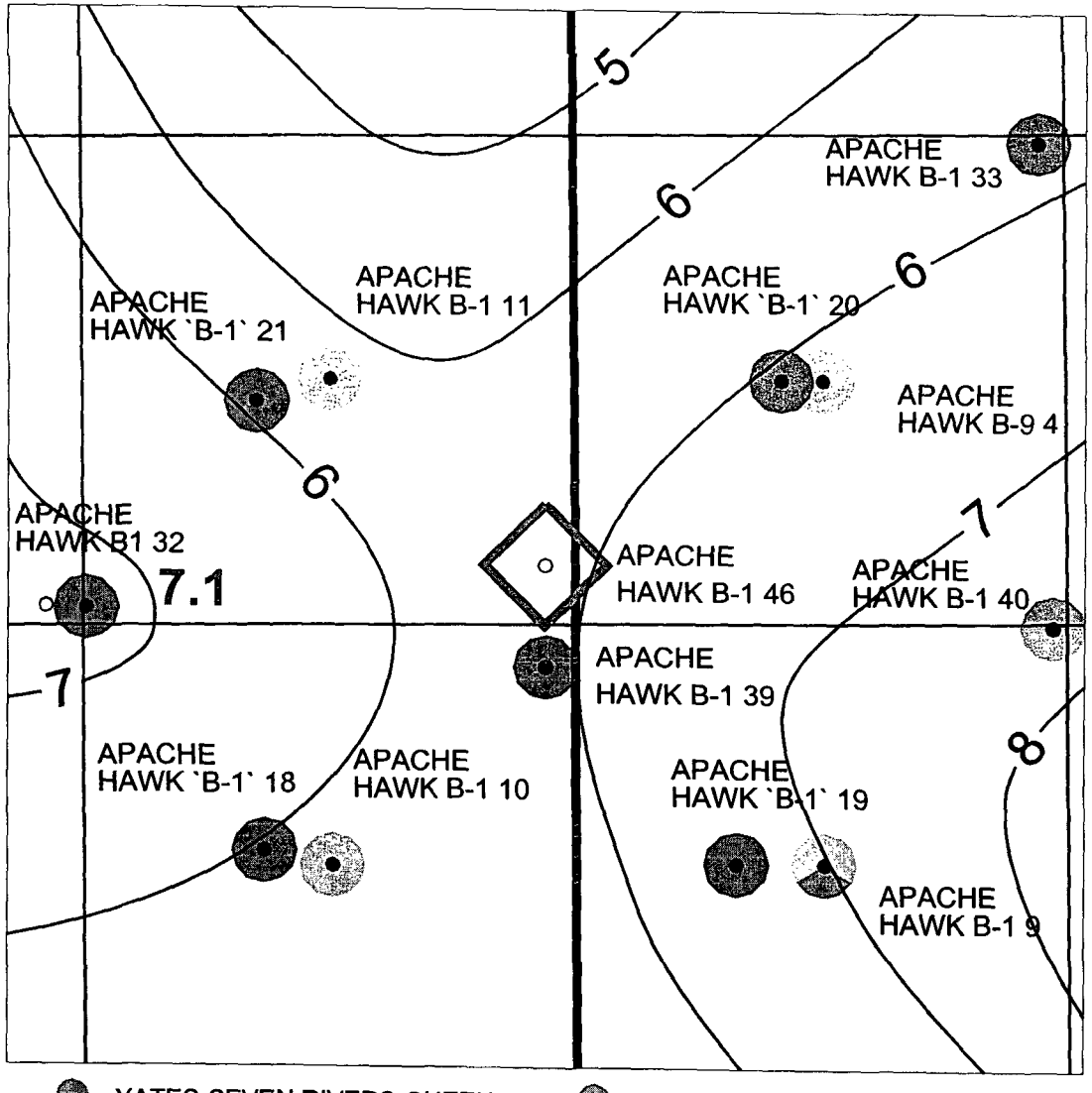
HAWK B-1 #46

SEC 8-T21S-R37E
LEA COUNTY, NEW MEXICO

EXHIBIT 5

TUBB SOPHIH

DATE: 6/30/05 DWG:CURTIS\OCD-NM\2005\HAWK B-1 46 EX 5



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

0 500 1,000 1,500

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

WELL SYMBOLS

- Location Only
- Oil Well
- Gas Well
- Dry

POSTED WELL DATA

DRKD
SOPHIH — OPERATOR WELL LABEL

Apache Corporation
Central Region

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

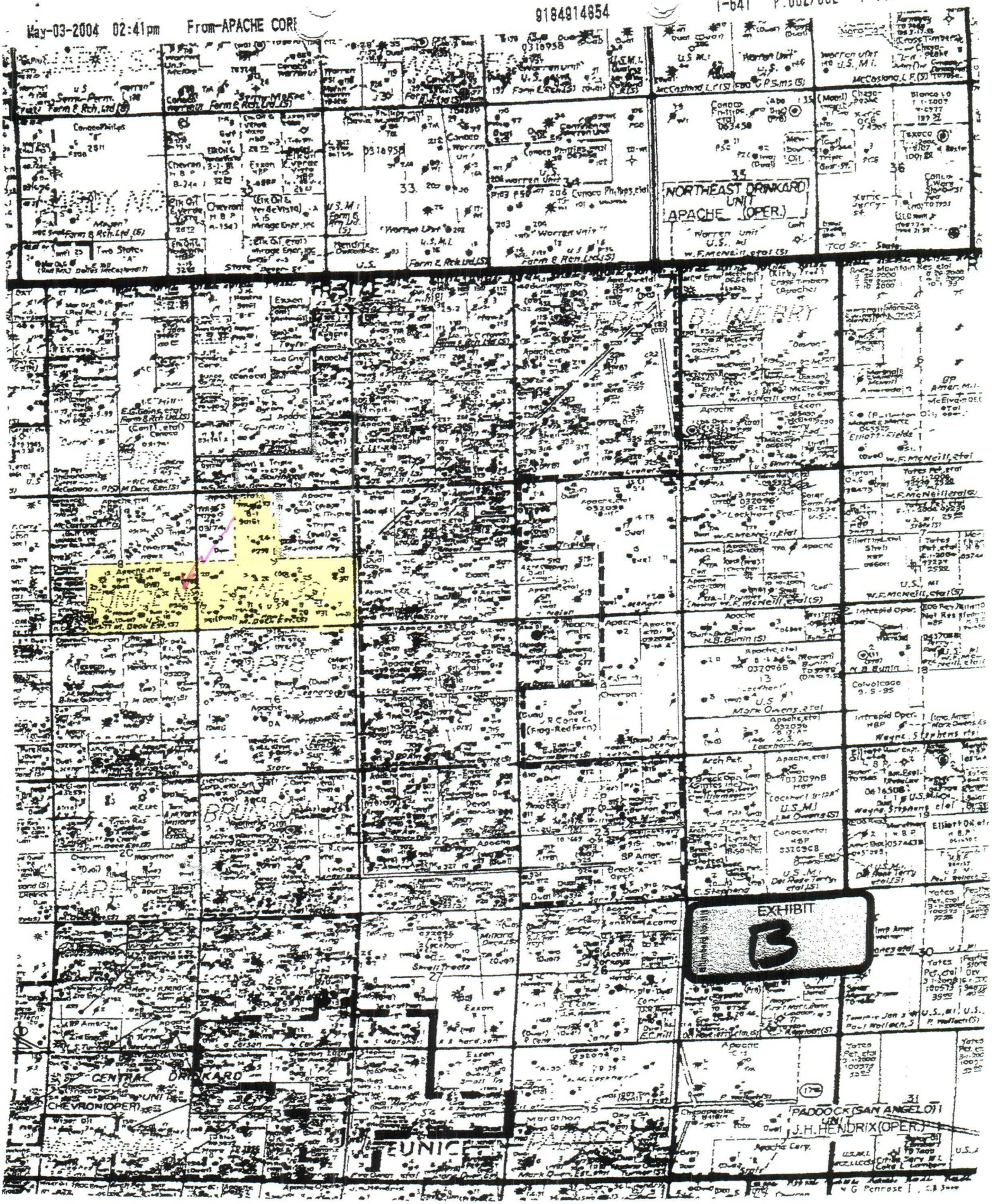
HAWK B-1 #46

SEC 8-T21S-R37E
LEA COUNTY, NEW MEXICO

EXHIBIT 6

DRKD SOPHIH

DATE: 6/30/05 DWG:CURTIS\OCD-NM\2005\HAWK B-1 46 EX 6


NORTHEAST DRINKARD UNIT
APACHE (OPER.)
EXHIBIT
B
CENTRAL DRINKARD UNIT
CHEVRON (OPER.)
PADDOCK (SAN ANGELO) UNIT
J.H. HENDRIX (OPER.)