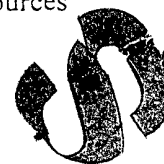


District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-101
May 27, 2004

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



Submit to appropriate District Office

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

Operator Name and Address LCX ENERGY, LLC. 110 NORTH MARIENFELD SUITE 200 MIDLAND, TEXAS 79701		OGRID Number 218885	
AUG 27 2007 OCD-ARTESIA		API Number 30- 015-35775	
Property Code 36802	Property Name BIG DOG STATE UNIT	Well No. 162	
Proposed Pool 1 UNDES FOUR MILE DRAW-WOLFCAMP		Proposed Pool 2	

7 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	16	18S	23E		660'	NORTH	760'	EAST	EDDY CO.

8 Proposed 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
A	16	18S	23E		660'	SOUTH	760'	EAST	EDDY CO.

Additional Well Information

Work Type Code N	Well Type Code G	Cable/Rotary ROTARY	Lease Type Code S VA-2622	Ground Level Elevation 3961
Multiple NO	Proposed Depth	Formation WOLFCAMP	Contractor BIG DOG DRILLING	Spud Date WHEN APPROVED
Depth to Groundwater 200+		Distance from nearest fresh water well .7 miles		Distance from nearest surface water None
Pit: Liner: Synthetic ☒ 12 mils thick Clay ☐ Pit Volume: 18M bbls Drilling Method: Closed-Loop System ☐ Fresh Water ☒ Brine ☒ Diesel/Oil-based ☐ Gas/Air ☐				

21 Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	NA	40'	Redi-mix	Surface
17 1/2"	13 3/8"	48#	350'	395	Surface
12 1/2"	5/8"	24#	1200'	450 Sx.	Surface
8 3/4 - 7 7/8"	5 1/2"	15.5#	MD-8714'	1100 Sx.	Est. TOC 1000'FS
			TVD 4960'		

22 Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

SEE ATTACHED SHEET FOR DETAIL

NOTIFY OCD OF SPUD & TIME
TO WITNESS CEMENTING OF
SURFACE CASING

IN TESTER DATE

23 I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines ☒ a general permit ☐ or an (attached) alternative OCD-approved plan ☐ .		OIL CONSERVATION DIVISION	
Printed name: Joe T. Janica		Approved by: BRYAN G. ARRANT	
Title: Agent		DISTRICT II GEOLOGIST	
E-mail Address: joejanica@valornet.com		Approval Date: AUG 28 2007 Expiration Date: AUG 28 2008	
Date: 08/24/07	Phone: 505-391-8503	Conditions of Approval Attached ☐	

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

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised October 12, 2005

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Submit to Appropriate District Office
State Lease 24 Copies
Fee Lease 3 Copies

AUG 27 2007

OCD-ARTESIA

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 97415	Pool Name UNDES. FOUR MILE DRAW-WOLFCAMP
Property Code 36709	Property Name BIG DOG STATE UNIT	Well Number 162
OGRID No. 218885	Operator Name LCX ENERGY	Elevation 3961'

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	16	18 S	23 E		660	SOUTH	760	EAST	EDDY

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
A	16	18 S	23 E		660	NORTH	760	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Joe T. Janica</i> Signature Date Joe T. Janica 08/24/07 Printed Name Agent 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. JULY 05, 2007 Date Surveyed Signature & Seal of Professional Surveyor W.C. No. 18158 Certified No. Gary L. Jones 7977
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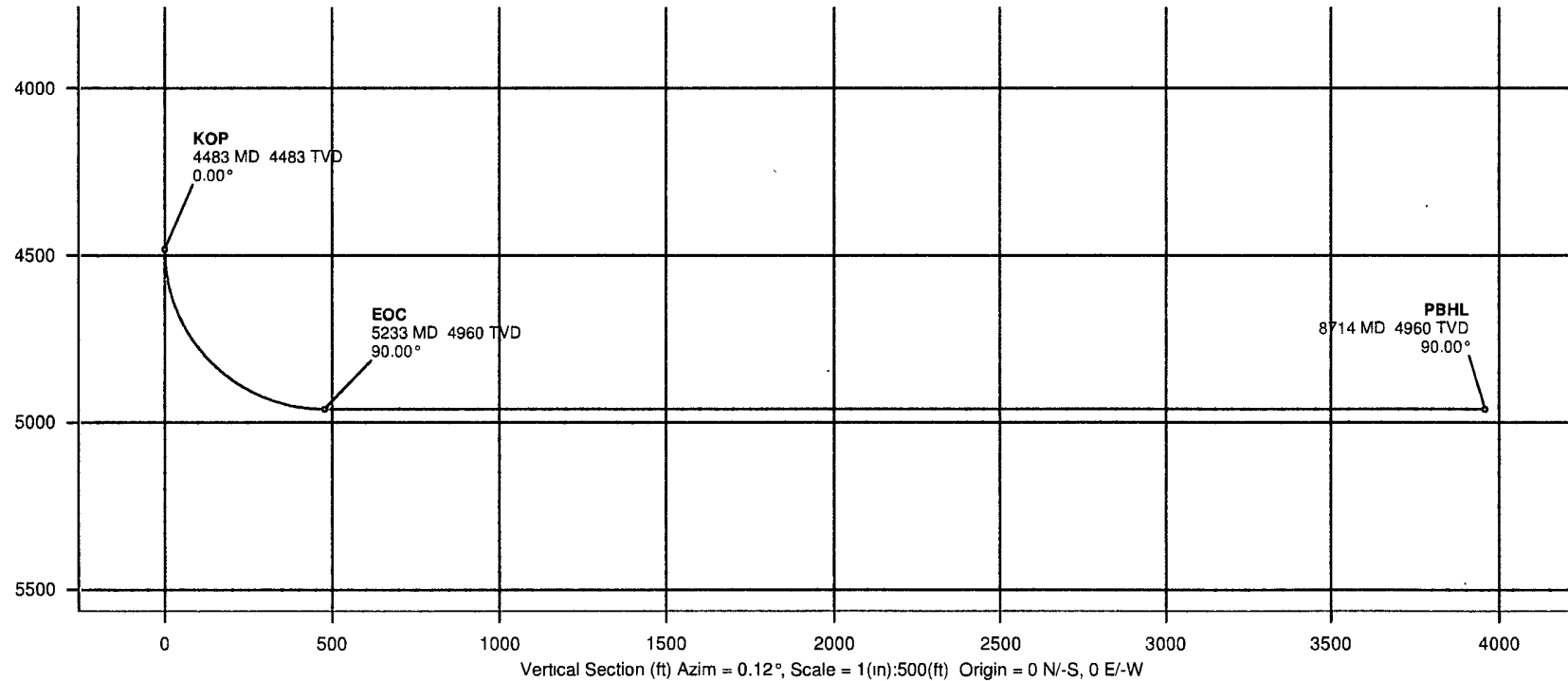
LCX ENERGY, LLC
110 N. Marienfeld St., Suite 200
Midland, TX 79701
Aug. 15, 2007

**Horizontal Drilling Procedure
Abo Wildcat Horizontals
(Eddy Co., NM)**

1. Drill 26" hole to 40'. Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
 2. Drill 17-1/2" hole to 350'.
 3. Drill 12-1/4 hole to 1200'.
 4. Run and set 1200' of 8-5/8" 24# J55 casing. Cement to surface with Lead: 250 sx 35/65 Poz/C + 6% gel + 2% CaCl₂ (12.7 ppg, 1.94 cu ft/sk) and Tail: 200 sx. of Class "C" cement + 2% CaCl₂ (14.8 ppg, 1.34 cu ft/sk). Circulate cement to surface. CASING SF: COLLAPSE 2.4 YIELD 5.3 JOINT 8.4 BODY 13.2
Note: if losses occur, additional light weight and thixotropic slurries may be added to increase the overall volume. These slurries are:
PVL + 12% gel + 3% BWOW salt + bridging agents (1.0 ppg, 2.75 cu ft/sk)
10-2 RFC (10% D53, 2% CaCl₂) + bridging agents (14.2 ppg, 1.62 cu ft/sk)
 5. Drill 7-7/8" hole. Drill 7-7/8" curve and land lateral in pay zone (approx. 4700-4900 ft TVD). Pickup lateral drilling assembly with a 7-7/8" bit and drill a +/-4000' lateral to 660' from lease line (approx. 4000 ft vertical section).
 6. Run and set 5-1/2" 17# N80 production casing. Cement 5-1/2" with Lead: 750 sx 50/50 Poz/C (11.9 ppg, 2.46 cu ft/sk) and Tail: 350 sx PVL + 100% CaCO₃ (acid soluble cement) + fluid loss additive + 1% CaCl₂ (13.0 ppg, 2.79 cu ft/sk) attempting to bring top of cement to 1,000'.
CASING SF: COLLAPSE 1.4 YIELD 1.74 JOINT 2.15 BODY 2.46
- Contingency String:**
If lost circulation occurs while drilling the 17-1/2" hole:
- 2a. Run and set 350' of 13-3/8" 48# H-40 ST&C casing. Cement with Lead: 195 sx 35/65 Poz/C + 6% gel + 2% CaCl₂ (12.7 ppg, 1.94 cu ft/sk) and Tail: 200 sx of Class "C" cement + 2% CaCl₂ (14.8 ppg, 1.34 cu ft/sk). Circulate cement to surface. Collapse 4.28 Yield 10.0 Joint 19.17 Body 32.2

LCX Energy

WELL Big Dog State #162	FIELD Eddy County, NM Nad 83	STRUCTURE Big Dog State #162
Magnetic Parameters Model: IGRF 2005 Dip: 69.568° Mag Dec: +8.577° Date: August 17, 2007 FS: 49228.2 nT	Surface Location Lat: N32 44 32.606 Lon: W104 41' 24.173 Northing: 933996.03 ELUS Easting: 431560.40 ELUS Scale Fact: 0.9999223652 NA83 New Mexico State Plane, Eastern Zone, US Feet Grid Conv: 0.19230593°	Miscellaneous Stat: Big Dog State #162 Plan: Big Dog State #162.11 TVD Ref: RKB (9.60 ft above) Srvy Date: August 17, 2007

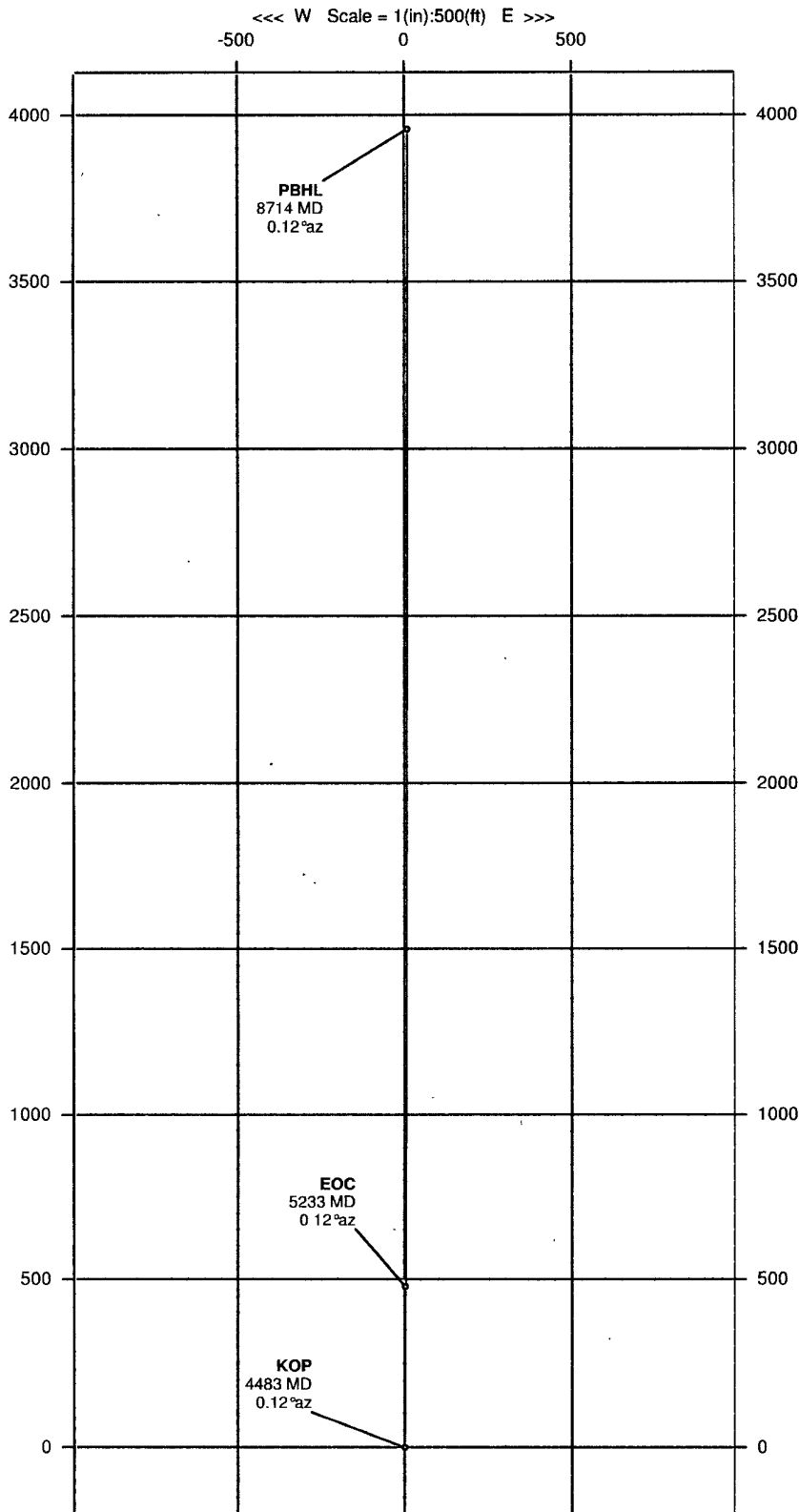


INTREPID
Directional Drilling Specialists



LCX Energy

WELL Big Dog State #162	FIELD Eddy County, NM Nad 83	STRUCTURE Big Dog State #162
Magnetic Parameters Model IGRF 2005 Dip 60.568° Mag Dec. +8.577°	Surface Location Lat N32 44 32.606 Lon W104 41 24.170 Northing 633998 03 RUS Easting 431660 40 RUS NA1983 New Mexico State Plane, Eastern Zone US Foot Grid Corner -0.19293503° Scale Factor 0.9999228662	Miscellaneous Slat Big Dog State #162 Plan Big Dog State #162 r1 TYD Ref: FKB (0.00 ft above) Srvy Date: August 17, 2007



INTREPID
Directional Drilling Specialists

Proposal

Report Date: August 17, 2007 Client: LCX Energy Field: Eddy County, NM Nad 83 Structure / Slot: Big Dog State #162 / Big Dog State #162 Well: Big Dog State #162 Borehole: Big Dog State #162 UWI/API#: Survey Name / Date: Big Dog State #162_r1 / August 17, 2007 Tort / AHD / DDI / ERD ratio: 90 000° / 3958 45 ft / 5 796 / 0.798 Grid Coordinate System: NAD83 New Mexico State Planes, Eastern Zone, US Feet Location Lat/Long: N 32 44 32 606, W 104 41 24.170 Location Grid N/E Y/X: N 633998.031 ftUS, E 431660 403 ftUS Grid Convergence Angle: -0.19293503° Grid Scale Factor: 0.99992287	Survey / DLS Computation Method: Minimum Curvature / Lubinski Vertical Section Azimuth: 0 120° Vertical Section Origin: N 0.000 ft, E 0 000 ft TVD Reference Datum: RKB TVD Reference Elevation: 0 0 ft relative to Sea Bed / Ground Level Elevation: 0.000 ft relative to Magnetic Declination: 8.577° Total Field Strength: 49228.166 nT Magnetic Dip: 60.568° Declination Date: August 17, 2007 Magnetic Declination Model: IGRF 2005 North Reference: Grid North Total Corr Mag North -> Grid North: +8.770° Local Coordinates Referenced To: Well Head
--	---

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (deg)	DLS (deg/100 ft)	Mag / Grav Tool Face (deg)
Tie-In	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---
KOP	4482.54	0.00	0.12	4482.54	0.00	0.00	0.00	0.00	0.00	0.00	0.12M
	4500.00	2.10	0.12	4500.00	0.32	0.32	0.00	0.32	0.12	12.00	0.12M
	4600.00	14.10	0.12	4598.82	14.38	14.38	0.03	14.38	0.12	12.00	HS
	4700.00	26.10	0.12	4692.56	48.67	48.67	0.10	48.67	0.12	12.00	HS
	4800.00	38.10	0.12	4777.12	101.71	101.71	0.21	101.71	0.12	12.00	HS
	4900.00	50.10	0.12	4848.81	171.17	171.17	0.36	171.17	0.12	12.00	HS
	5000.00	62.10	0.12	4904.49	254.01	254.01	0.53	254.01	0.12	12.00	HS
	5100.00	74.10	0.12	4941.72	346.63	346.62	0.73	346.63	0.12	12.00	HS
	5200.00	86.10	0.12	4958.89	444.95	444.95	0.93	444.95	0.12	12.00	HS
EOC	5232.54	90.00	0.12	4960.00	477.46	477.46	1.00	477.46	0.12	12.00	---
PBHL	8713.52	90.00	0.12	4960.00	3958.45	3958.44	8.30	3958.45	0.12	0.00	---

SECTION 16, TOWNSHIP 18 SOUTH, RANGE 23 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

BIG DOG STATE
UNIT #161

PROPOSED LEASE ROAD 2293.4'

150' NORTH
OFF SET
3960.5'
□

LCX ENERGY
BIG DOG STATE UNIT #162
ELEV. - 3961'
150' WEST OFF SET □ 3962.3' 150' EAST OFF SET □ 3958.5'

Lat. - N 32°44'32.61"
Long - W 104°41'24.17"
(NAD-83)

□
150' SOUTH
OFF SET
3961.8'

Directions to Location:

FROM THE JUNCTION OF U.S. HWY 82 AND CO. RD. 12 (ARMSTRONG), GO SOUTH ON CO. RD. 12 FOR 4.6 MILES TO LEASE ROAD, ON LEASE ROAD GO EAST 1.0 MILES, THENCE EAST 0.4 MILES TO PROPOSED LEASE ROAD TO THE BIG DOG STATE UNIT #201, PROCEED PAST LOCATION GOING NORTHEAST THENCE EAST TO PROPOSED LEASE ROAD FOR THE BIG DOG UNIT #161 AND PROPOSED LEASE ROAD.

200 0 200 400 FEET
SCALE: 1" = 200'

LCX ENERGY

REF: BIG DOG STATE UNIT #162 / WELL PAD TOPO

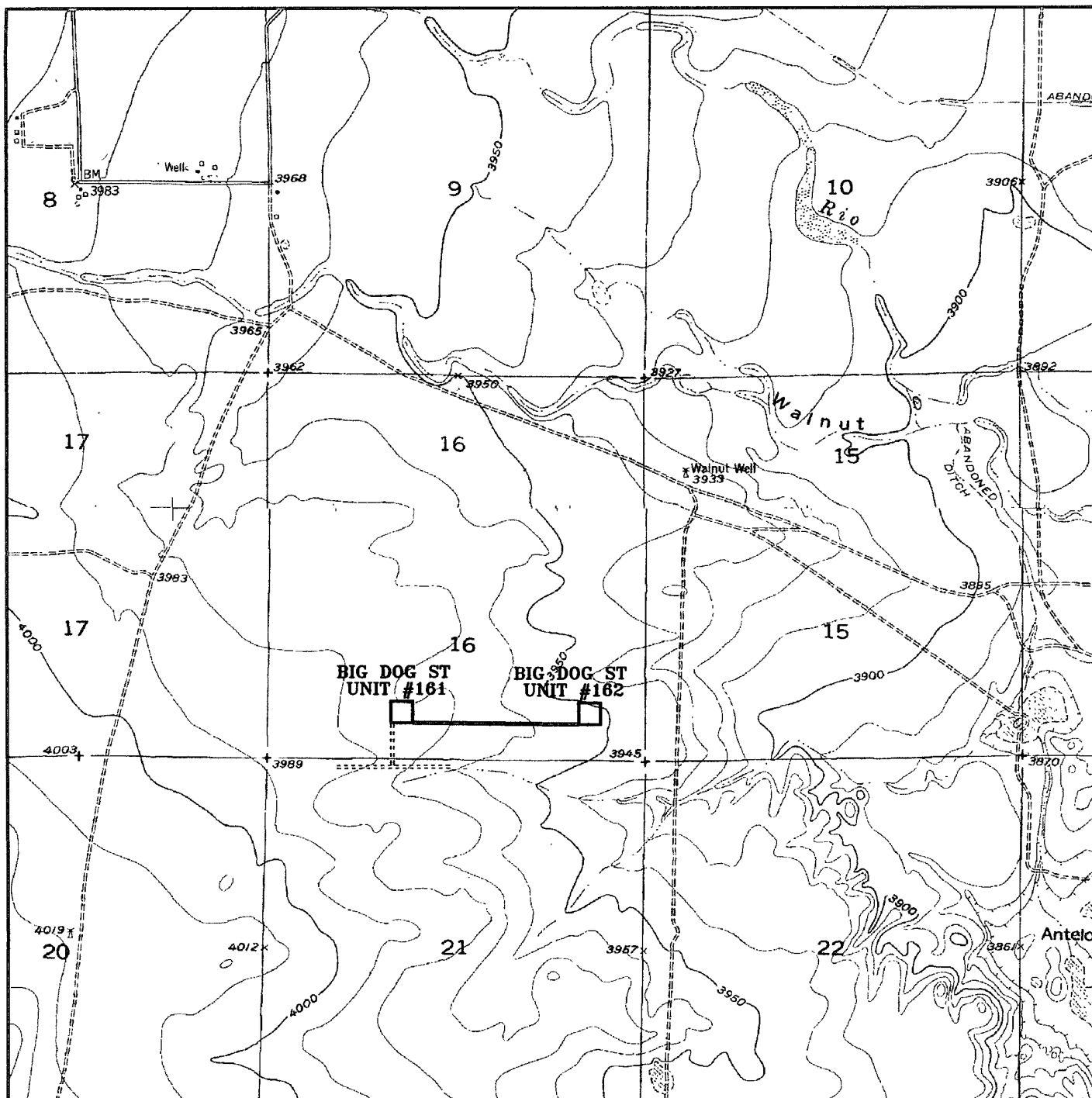
THE BIG DOG STATE UNIT #162 LOCATED 660' FROM
THE SOUTH LINE AND 760' FROM THE EAST LINE OF
SECTION 16, TOWNSHIP 18 SOUTH, RANGE 23 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 18158 Drawn By: J. M. SMALL

Date: 07-05-2007 Disk: JMS 18158W

Survey Date: 07-03-2007 Sheet 1 of 1 Sheets



BIG DOG STATE UNIT #162

Located 660' FSL and 760' FEL

Section 16, Township 18 South, Range 23 East,
N.M.P.M., Eddy County, New Mexico.



focused on excellence
in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

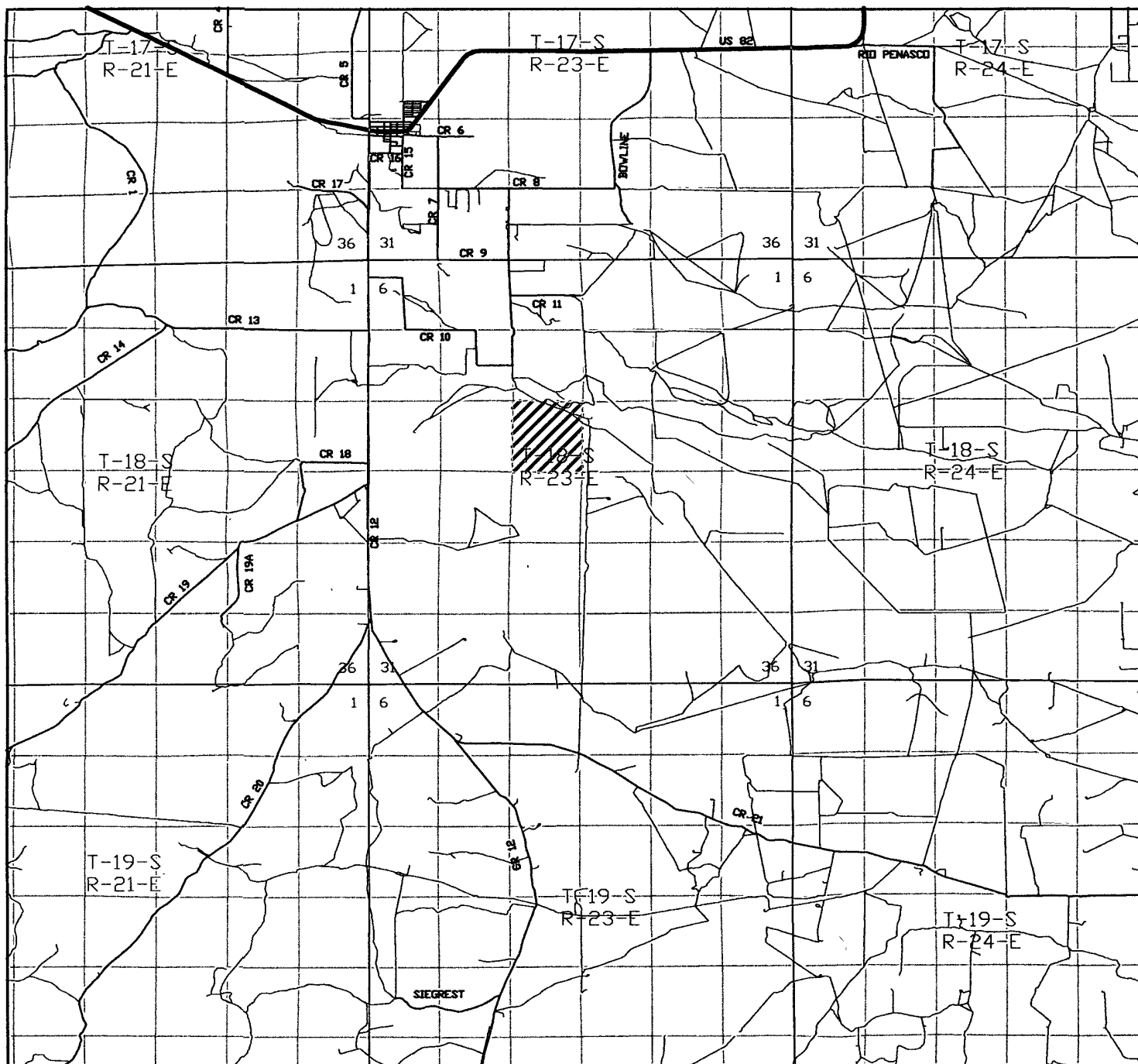
W.O. Number: JMS 18158TT

Survey Date: 07-03-2007

Scale: 1" = 2000'

Date: 07-05-2007

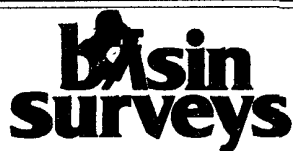
**LCX
ENERGY**



BIG DOG STATE UNIT #162

Located at 660' FSL and 760 FEL

Section 16, Township 18 South, Range 23 East,
N.M.P.M., Eddy County, New Mexico.



focused on excellence
in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

W.O. Number: JMS 18158TR

Survey Date: 07-03-2007

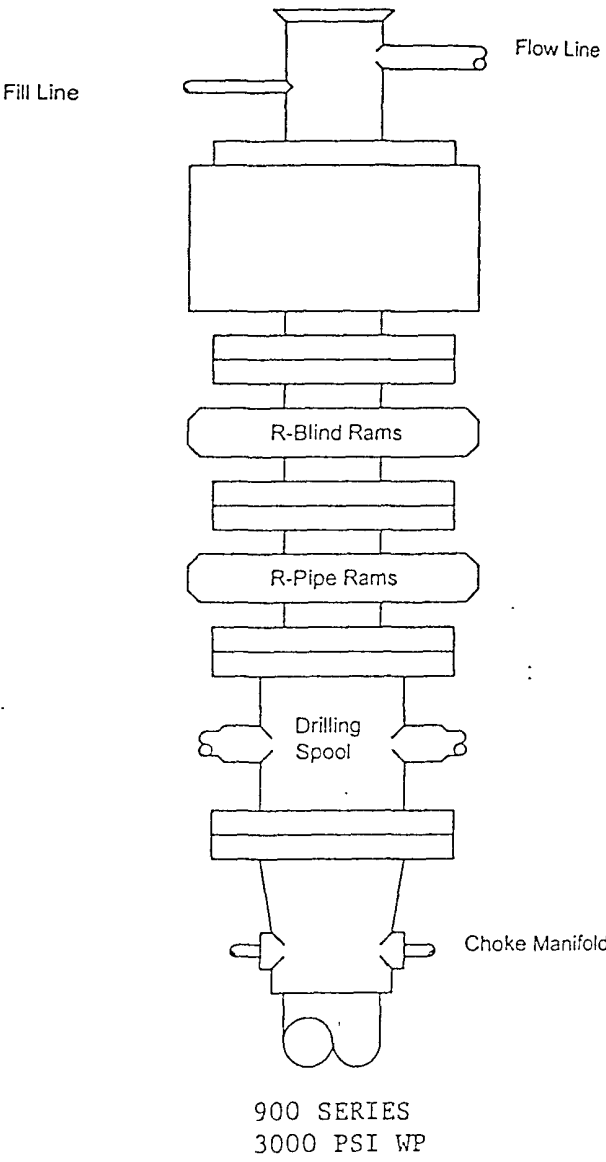
Scale: 1" = 2 MILES

Date: 07-05-2007

**LCX
ENERGY**

BLOWOUT PREVENTER SYSTEM

3000 PSI



Choke Manifold Assembly for 5M WP System

