

1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Grande Road, Aztec, NM 87410
District IV
1220 S. St. Francis, 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		LOGRID Number 218885
API Number 30 -		015-35279
Property Code	Property Name BIG DOG STATE UNIT	Well No. 201
Proposed Pool 1 UNDES. FOUR MILE DRAW-WOLFCAMP		Proposed Pool 2

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	20	18S	R23E		660'	SOUTH	1880'	WEST	EDDY

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
N	20	18S	R23E		660'	SOUTH	1880'	WEST	EDDY

Additional Well Information

Work Type Code N	Well Type Code G	Cable/Rotary ROTARY	Lease Type Code S VA-2595	Ground Level Elevation 4009'
Multiple NO	Proposed Depth MD-6857' TVD-4960'	Formation WOLFCAMP	Contractor BIG DOG DRILLING	Spud Date WHEN APPROVED
Depth to Groundwater 100'+		Distance from nearest fresh water well 2 Mi Northeast		Distance from nearest surface water FOURMILE DRAW 1 Mi SOUTH
Bit: Liner: Synthetic ☒ 12 mils thick Clay ☐ Pit Volume: 18 Mbbls		Drilling Method: Fresh Water ☒ Brine ☒ Diesel Oil-based ☐ Gas/Air ☐		
Closed-Loop System ☐				

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'	450 Sx.	Surface
12 1/4"	9 5/8"	36#	1200'	475 Sx.	Surface
8 3/4"-7 7/8"	5 1/2"	17#	MD-6857' TVD-4960'	600 Sx.	* Est TOC 1000'

** 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.

* Verify by CBL or Temp Survey

SEE ATTACHED SHEET

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

intermediate casing

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: DEC 15 2006 Expiration Date: DEC 15 2007	
Date: 12/11/06	Phone: 505-391-8503	Conditions of Approval Attached ☐	

LCX ENERGY, LLC
110 N. Marienfeld St., Suite 200
Midland, TX 79701
April 26, 2006

**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'. Run and set 1200' of 9-5/8" 36# J-55 ST&C casing. Cement with 375 sx of 35/65 Poz/C + 5% NaCl + 6% Bentonite, tail in with 100 sx. of Class "C" cement + 2% CaCl, circulate cement to surface.
4. Drill 7-7/8" or 8-3/4" hole to approx. 5000'. Set cement kick-off plug from TD to approx. 4400 ft with 150 sx H + 0.5% dispersant.
5. Dress cement top to desired kick-off point. Drill 7-7/8" curve and land lateral in pay zone (approx. 4900 ft TVD). Pickup lateral drilling assembly with an 8-3/4" or 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 or stronger production casing. Cement 5-1/2" with acid soluble cement through the lateral and 400 sx 50/50 Poz/C + 10% gel and tail in with 200 sx C + 200% CaCO₃ (acid soluble cement) + fluid loss additive + retarder (as required), attempting to bring top of cement to 1,000'.

Contingency Strings:

If lost circulation occurs in the surface hole:

- 2a. Run and set 350' of 13-3/8" 48# H-40 ST&C casing. Cement with 200 sx 35/65 Poz/C + 6% gel and tail in with 200 sx of Class "C" cement + 2% CaCl, circulate cement to surface.

If hole conditions dictate running a 7" contingency string in the 8-3/4" hole :

- 4a. Run approx. 5100 ft 7" 26# J55 or stronger casing to TD. Cement with 700 sx class 'C' cement + add's attempting bringing TOC to approx. 1,000 ft. This may be done in the vertical pilot hole or at the end of the 8-3/4" curve section.
- 4b. Run whipstock and cut a window in the 7" casing (or drill out with 6-1/8" BHA if 7" set at end of curve). Drill to TD.
- 5a. Step 5 will be omitted.
- 6a. Run and set approximately 4400 ft 4-1/2" 11.6# N/L80 liner from TD to approximately 200' above the window/7" casing shoe. Cement with approx. 110 sx C + 200% CaCO₃ (acid soluble cement) + add's attempting to bring TOC above liner top.

FRESH WATER WILL BE USED TO DRILL THE 350' HOLE AND THE 1200' HOLE.

THERE IS NO KNOWN PRESENCE OF ANY H₂S IN THIS AREA. OTHER WELLS DRILLED HAVE NOT ENCOUNTERED ANY HYDROGEN SULFIDE WHILE DRILLING.

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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

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30.015.35279	Pool Code 97415	Pool Name UNDES FOURMILE DRAW-WOLFCAMP
Property Code 36202	Property Name BIG DOG STATE UNIT	Well Number 201
OGRID No. 218885	Operator Name LCX ENERGY	Elevation 4009'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	20	18 S	23 E		660	NORTH	1880	WEST	EDDY

Bottom Hole Location If Different From Surface

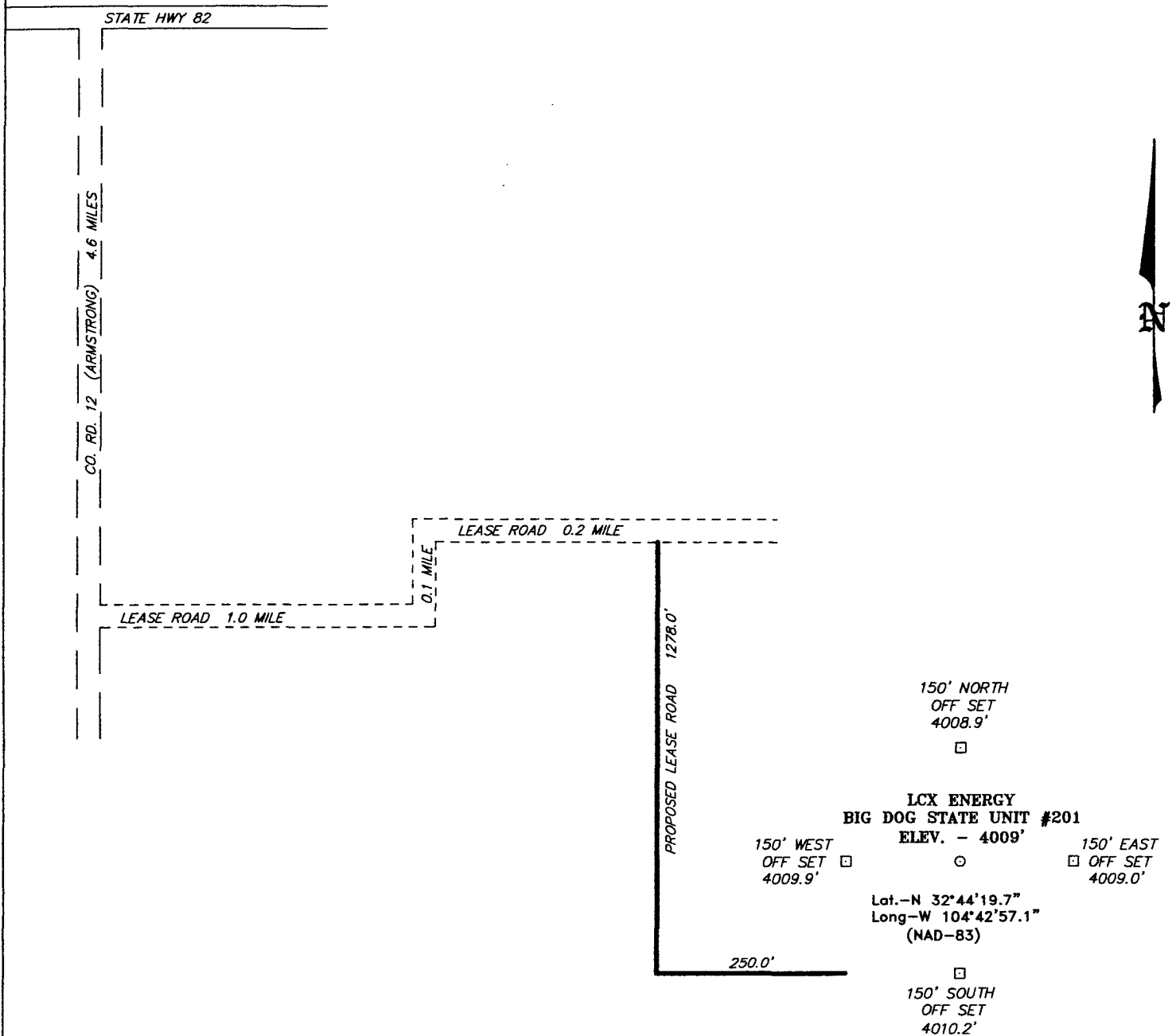
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	20	18 S	23 E		660	SOUTH	1880	WEST	EDDY

Dedicated Acres 320	Joint or Infill	Consolidation Code	Order No.
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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

SURFACE LOCATION Lat - N32°44'19.7" Long - W104°42'57.1" (NAD-83) PRODUCING AREA PROJECT AREA BOTTOM HOLE LOCATION Lat - N32°43'40.5" Long - W104°42'57.1" (NAD-83)	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 12/11/06 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. NOVEMBER 16, 2006 Date Surveyed Signature of Gary L. Jones Professional Surveyor 7977 O. No. 17397 Certified by Gary L. Jones 7977 Professional Surveyor
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SECTION 20, TOWNSHIP 18 SOUTH, RANGE 23 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



Directions to Location:

FROM HWY MARKER 86 ON STATE HWY 82, PROCEED WEST APPROX 250' FEET TO CO. RD. 12 (ARMSTRONG), ON CO RD #12 PROCEED SOUTH 4.6 MILES TO LEASE ROAD, ON LEASE ROAD PROCEED EAST 1.0 MILE TO LEASE ROAD, THENCE NORTH 0.1 MILE, THENCE EAST 0.2 MILE TO PROPOSED LEASE ROAD.

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

W.O. Number: 17397 Drawn By: J. M. SMALL

Date: 11-20-2006 Disk: JMS 17397W

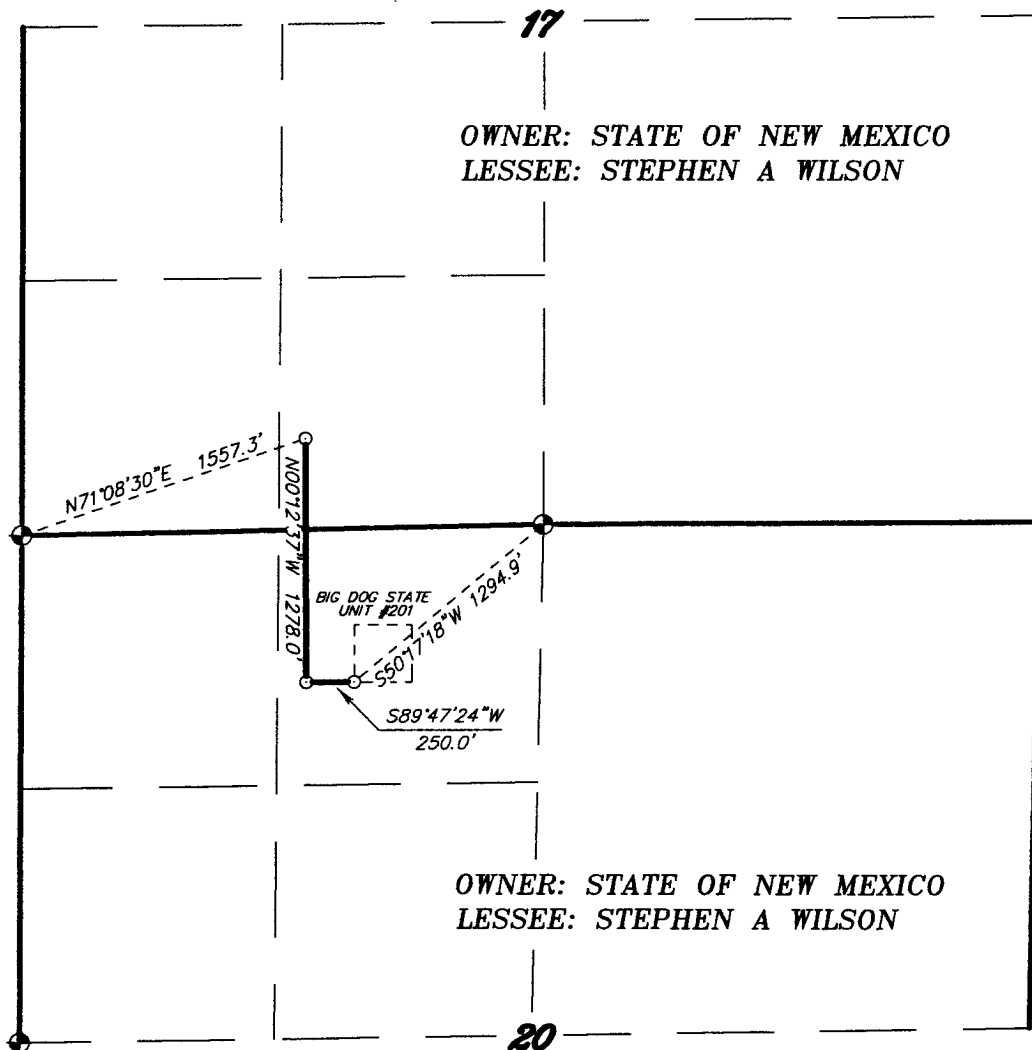
LCX ENERGY

REF: BIG DOG STATE UNIT #201 / WELL PAD TOPO

THE BIG DOG STATE UNIT No. 201 LOCATED 660' FROM
THE NORTH LINE AND 1880' FROM THE WEST LINE OF
SECTION 20, TOWNSHIP 18 SOUTH, RANGE 23 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 11-16-2006 Sheet 1 of 1 Sheets

SECTIONS 17&20, TOWNSHIP 18 SOUTH, RANGE 23 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



LEGAL DESCRIPTION

A STRIP OF LAND 20.0 FEET WIDE, LOCATED IN SECTIONS 17&20, TOWNSHIP 18 SOUTH, RANGE 23 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 10.0 FEET LEFT AND RIGHT OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY.
BEGINNING AT A POINT WHICH LIES S.50°17'18\"W., 1294.9 FEET FROM THE NORTH QUARTER CORNER OF SAID SECTION 20; THENCE S.89°47'24\"W., 250.0 FEET; THENCE N.00°12'37\"W., 1278.0 FEET TO THE END OF THIS LINE WHICH LIES N.71°08'30\"E., 1557.3 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION 17. SAID STRIP OF LAND BEING 1528.0 FEET OR 92.61 RODS IN LENGTH, AND CONTAINING 0.70 ACRES, MORE OR LESS, AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NW/4 (SEC. 20) = 63.86 RODS = 0.48 ACRES
SE/4 SW/4 (SEC. 17) = 28.75 RODS = 0.22 ACRES

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES
N.M. P.S.
TEXAS P.L.S.



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

W.O. Number: 17397 Drawn By: J. M. SMALL

Date: 11-21-2006 Disk: JMS 17397R

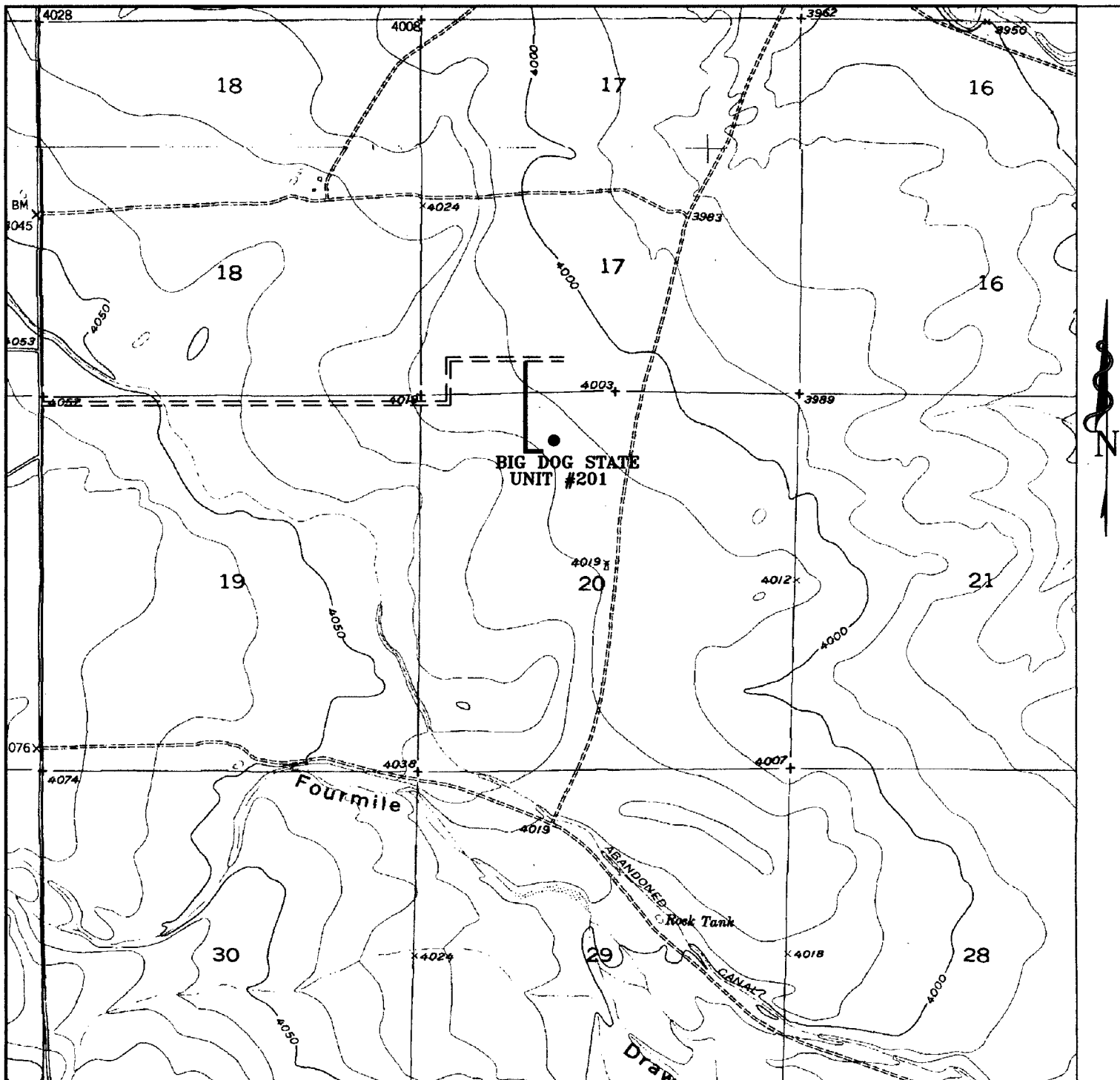
1000 0 1000 2000 FEET

LCX ENERGY

REF: PROPOSED ROAD TO THE LCX - BIG DOG STATE UNIT #201

A ROAD CROSSING STATE LAND IN
SECTIONS 17&20, TOWNSHIP 18 SOUTH, RANGE 23 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 11-16-2006 Sheet 1 of 1 Sheets



BIG DOG STATE UNIT #201

Located 660' FNL and 1880' FEL

Section 20, Township 18 South, Range 23 East,
N.M.P.M., Eddy County, New Mexico.



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

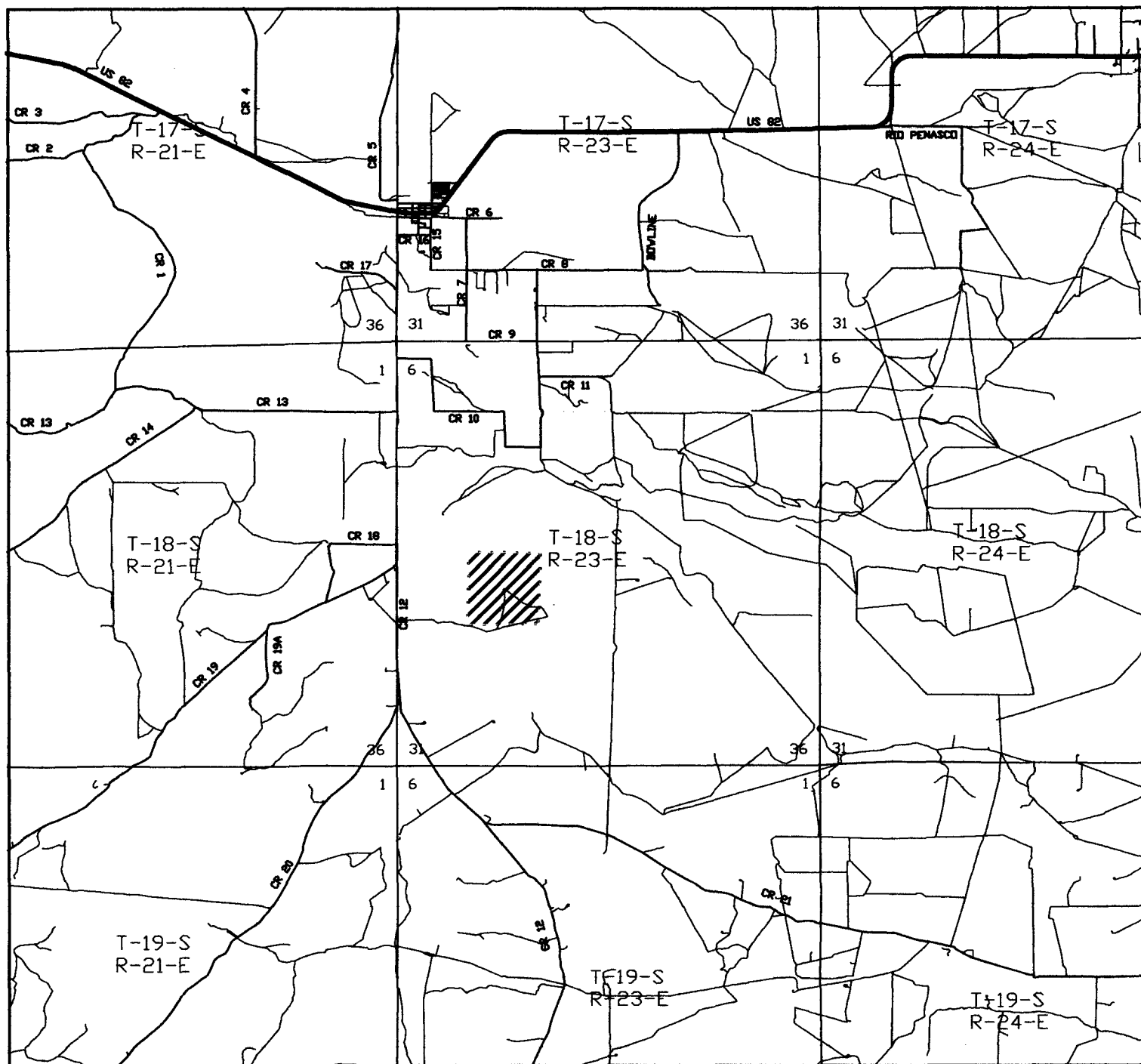
W.O. Number: JMS 17397T

Survey Date: 11-16-2006

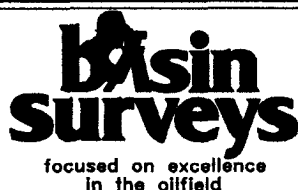
Scale: 1" = 2000'

Date: 11-20-2006

LCX
ENERGY



BIG DOG STATE UNIT #201
 Located 660' FNL and 1880' FEL
 Section 20, Township 18 South, Range 23 East,
 N.M.P.M., Eddy County, New Mexico.



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 17397T

Survey Date: 11-16-2006

Scale: 1" = 2 MILES

Date: 11-20-2006

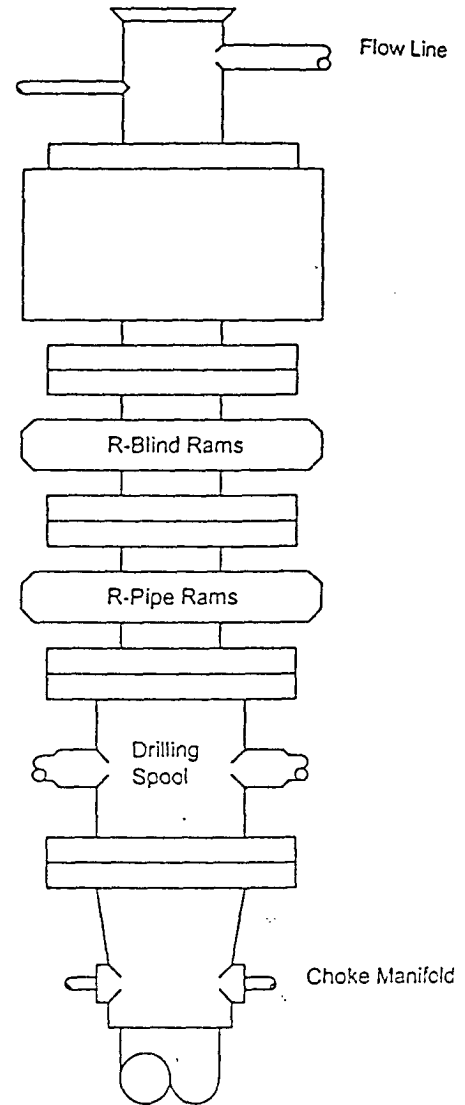
**LCX
 ENERGY**

BLOWOUT PREVENTER SYSTEM

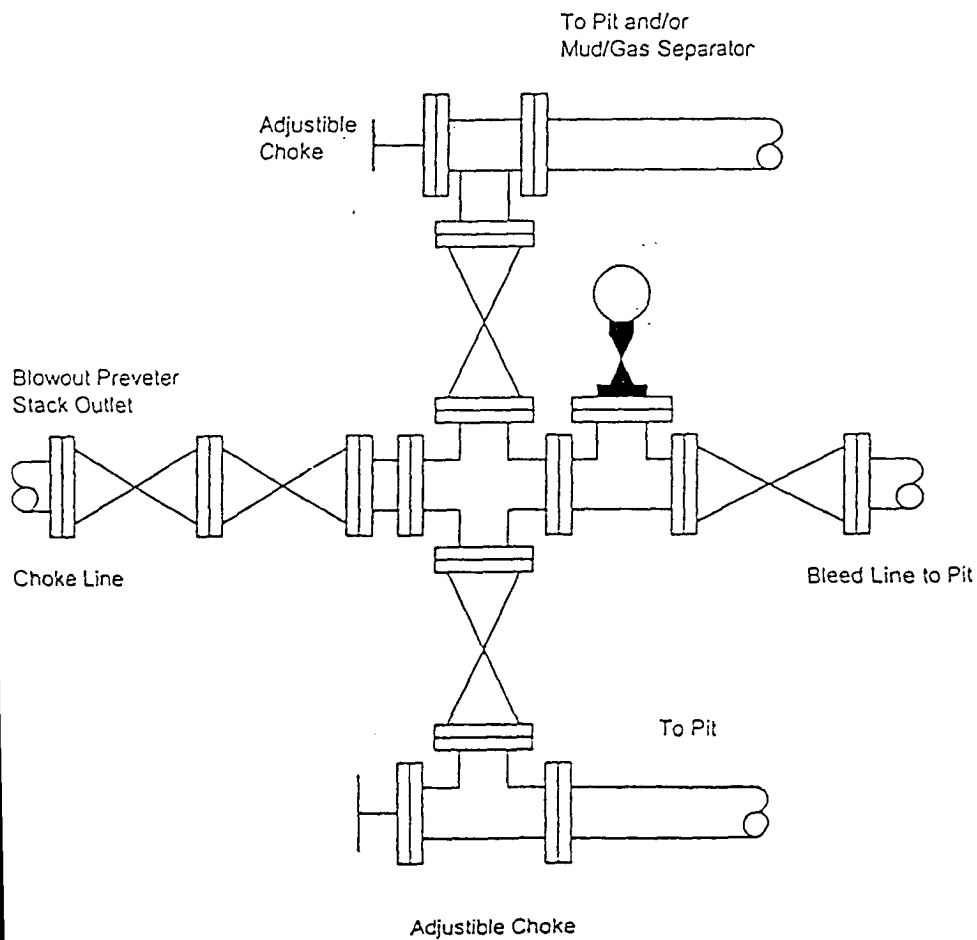
3000 PSI

Fill Line

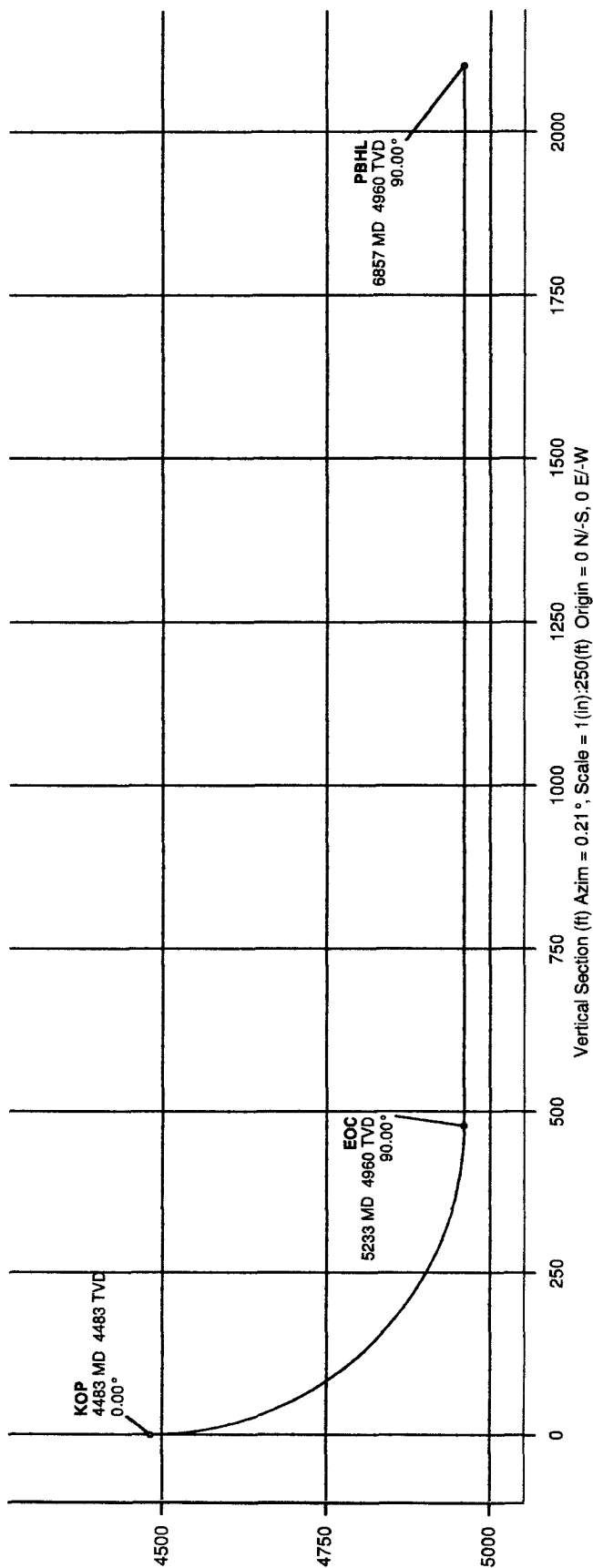
Flow Line



Choke Manifold Assembly for 5M WP System



LCX Energy

[illegible]

INTERED
Directional Drilling Specialists

INTREPID
Directional Drilling Specialists

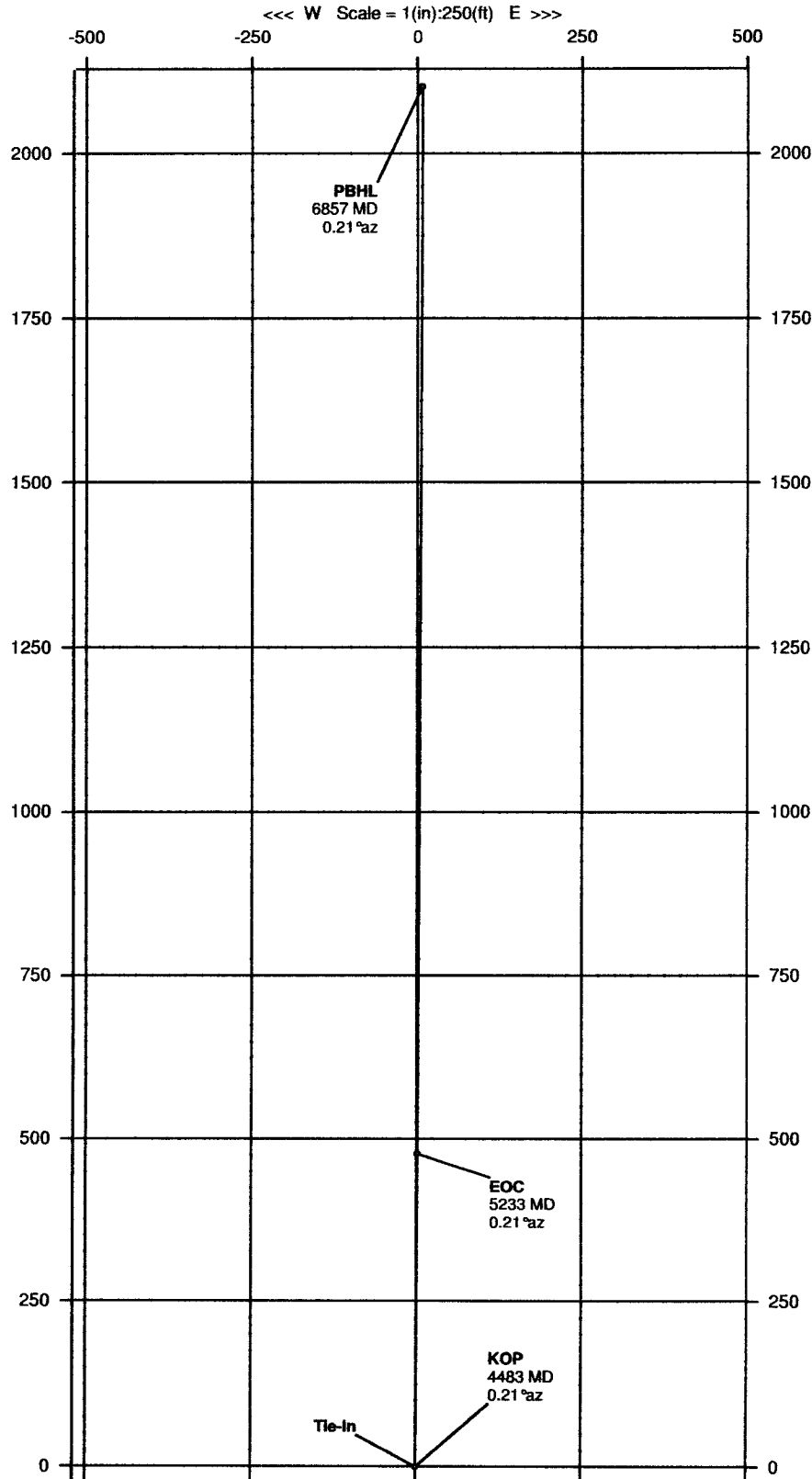
Survey / DLS Computation Method: Minimum Curvature / Lubinski
Vertical Section Azimuth: 0.210°
Vertical Section Origin: N 0.000 ft, E 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 0.0 ft relative to
Sea Bed / Ground Level Elevation: 0.000 ft relative to
Magnetic Declination: 8.668°
Total Field Strength: 49278.907 nT
Magnetic Dip: 60.558°
Declination Date: December 06, 2006
Magnetic Declination Model: IGRF 2005
North Reference: Grid North
Total Corr Mag North -> Grid North: +8.875°
Local Coordinates Referenced To: Well Head

WellDesign Ver SP 2.1 Bld(doc40x_1Bld) Dog State Unit #201\Big Dog State Unit #201\Big Dog State Unit #201\Big Dog State Unit #201Generated 12/6/2006 4:53 PM Page 1 of 2

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)
KOP	3800.00	0.00	0.21	3800.00	0.00	0.00	0.00	0.00	0.00	0.00
	3900.00	0.00	0.21	3900.00	0.00	0.00	0.00	0.00	0.00	0.00
	4000.00	0.00	0.21	4000.00	0.00	0.00	0.00	0.00	0.00	0.00
	4100.00	0.00	0.21	4100.00	0.00	0.00	0.00	0.00	0.00	0.00
	4200.00	0.00	0.21	4200.00	0.00	0.00	0.00	0.00	0.00	0.00
	4300.00	0.00	0.21	4300.00	0.00	0.00	0.00	0.00	0.00	0.00
	4400.00	0.00	0.21	4400.00	0.00	0.00	0.00	0.00	0.00	0.00
	4482.54	0.00	0.21	4482.54	0.00	0.00	0.00	0.00	0.00	0.00
	4500.00	2.10	0.21	4500.00	0.32	0.32	0.00	0.32	0.21	12.00
	4600.00	14.10	0.21	4598.82	14.38	14.38	0.05	14.38	0.21	12.00
	4700.00	26.10	0.21	4692.56	48.67	48.67	0.18	48.67	0.21	12.00
	4800.00	38.10	0.21	4777.12	101.71	101.71	0.37	101.71	0.21	12.00
	4900.00	50.10	0.21	4848.81	171.17	171.17	0.62	171.17	0.21	12.00
	5000.00	62.10	0.21	4904.49	254.01	254.01	0.92	254.01	0.21	12.00
	5100.00	74.10	0.21	4941.72	346.63	346.62	1.25	346.63	0.21	12.00
	5200.00	86.10	0.21	4958.89	444.95	444.95	1.61	444.95	0.21	12.00
EOC	5232.54	90.00	0.21	4960.00	477.46	477.46	1.72	477.46	0.21	12.00
PBHL	5300.00	90.00	0.21	4960.00	544.93	544.93	1.97	544.93	0.21	0.00
	5400.00	90.00	0.21	4960.00	644.93	644.93	2.33	644.93	0.21	0.00
	5500.00	90.00	0.21	4960.00	744.93	744.92	2.69	744.93	0.21	0.00
	5600.00	90.00	0.21	4960.00	844.93	844.92	3.05	844.93	0.21	0.00
	5700.00	90.00	0.21	4960.00	944.93	944.92	3.41	944.93	0.21	0.00
	5800.00	90.00	0.21	4960.00	1044.93	1044.92	3.77	1044.93	0.21	0.00
	5900.00	90.00	0.21	4960.00	1144.93	1144.92	4.13	1144.93	0.21	0.00
	6000.00	90.00	0.21	4960.00	1244.93	1244.92	4.49	1244.93	0.21	0.00
	6100.00	90.00	0.21	4960.00	1344.93	1344.92	4.85	1344.93	0.21	0.00
	6200.00	90.00	0.21	4960.00	1444.93	1444.92	5.22	1444.93	0.21	0.00
	6300.00	90.00	0.21	4960.00	1544.93	1544.92	5.58	1544.93	0.21	0.00
	6400.00	90.00	0.21	4960.00	1644.93	1644.92	5.94	1644.93	0.21	0.00
	6500.00	90.00	0.21	4960.00	1744.93	1744.92	6.30	1744.93	0.21	0.00
	6600.00	90.00	0.21	4960.00	1844.93	1844.92	6.66	1844.93	0.21	0.00
	6700.00	90.00	0.21	4960.00	1944.93	1944.92	7.02	1944.93	0.21	0.00
	6800.00	90.00	0.21	4960.00	2044.93	2044.92	7.38	2044.93	0.21	0.00
	6857.28	90.00	0.21	4960.00	2102.21	2102.19	7.59	2102.21	0.21	0.00

LCX Energy

WELL	Big Dog State Unit #201	FIELD	Eddy County, NM Nad 83	STRUCTURE	Big Dog State Unit #201
Magnetic Parameters Model: KGRF 2005	Dip: 60.550° Mag Dec: 18.688°	Date: December 06, 2006 FS: 48276.8 nT	Surface Location N32 43 19.700 Lat: W104 42 57.100 Lon:	NAD83 New Mexico State Plane, Eastern Zone, US Feet Grid Conr: -0.20678250° Northing: 626657.82 NUS Easting: 423696.67 EUS Scale Fact: 0.999949383	Miscellaneous Slot: Big Dog State Unit #201 Plan: Big Dog State Unit #201 -1 TVD Ref: RKB (0.00 ft above) Spot Date: December 06, 2006



INTREPID
Directional Drilling Specialists

