

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		OGRD Number 218885	
Property Code 33038		Property Name 1823 STATE	
Well No. 291		API Number 30-015-34911	
Proposed Pool 1 Four Mile Draw WOLFCAMP		Proposed Pool 2	

UL or lot no.	Section	Township	Range	Lot ID#	Feet from the	North/South line	Feet from the	East/West line	County
M	29	18S	23E		760'	SOUTH	660'	WEST	EDDY

UL or lot no.	Section	Township	Range	Lot ID#	Feet from the	North/South line	Feet from the	East/West line	County
P	29	18S	23E		760'	SOUTH	660'	EAST	EDDY

Work Type Code N	Well Type Code G	Cable/Rotary ROTARY	Lease Type Code S	Ground Level Elevation 4041'
Multiple NO	Proposed Depth MD-8703 TVD-4960	Formation WOLFCAMP	Contractor BIG DOG DRLG. CO.	Spud Date WHEN APPROVED
Depth to Groundwater 200' +		Distance from nearest fresh water well .6 MI NORTH		Distance from nearest surface water None known
Liner: Synthetic ☒ 12 mils thick Clay ☐ Pit Volume: 18M bbls		Drilling Method: Fresh Water ☒ Bridge ☒ Direct/Outboard ☐ Gas/Air ☐		
Closed-Loop System ☐				

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
26"	20"	Conductor	40'	Redi-mix	Surface
17 1/2"	13 3/8"	48#	350'	400 Sx.	Surface
12 1/2"	9 5/8"	36#	1200'	475 Sx.	Surface
8 3/4" & 7 7/8"	5 1/2"	15.5#	MD-8703'	600 Sx.	Est. TOC 1000'
			TVD 4960'		

** 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.

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

SEE ATTACHED SHEET FOR DETAIL

Operator to run CBL or Temp Survey to verify tie back		OIL CONSERVATION DIVISION	
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 NMOC guidelines ☒ a general permit ☐ or an (attached) alternative OCD-approved plan ☐ .		Approved by: BRYAN G. ARRAST DISTRICT II GEOLOGIST	
Printed name: Joe T. Janica		Title: JUN 07 2006	
Title: Agent		Approval Date: JUN 07 2006	
E-mail Address: joejanica@valornet.com		Expiration Date:	
Date: 05/31/06	Phone: 505-391-8503	Conditions of Approval Attached ☐	

**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.

Proposal

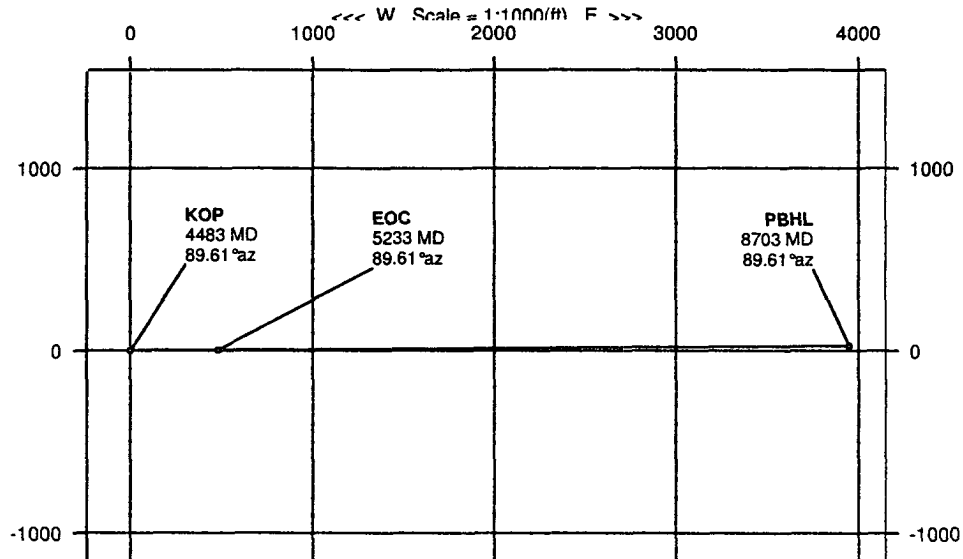
Report Date: May 30, 2006	Survey / DLS Computation Method: Minimum Curvature / Lubinski
Client: LCX ENERGY	Vertical Section Azimuth: 89.610°
Field: Eddy County, NM Nad 83	Vertical Section Origin: N 0.000 ft, E 0.000 ft
Structure / Slot: 1823 State #291 / 1823 State #291	TVD Reference Datum: RKB
Well: 1823 State #291	TVD Reference Elevation: 0.0 ft relative to
Borehole: 1823 State #291	Sea Bed / Ground Level Elevation: 0.000 ft relative to
UWI/API#:	Magnetic Declination: 8.788°
Survey Name / Date: 1823 State #291_r1 / May 30, 2006	Total Field Strength: 49305.386 nT
Tort / AHD / DDI / ERD ratio: 90.000° / 3948.14 ft / 5.795 / 0.796	Magnetic Dip: 60.533°
Grid Coordinate System: NAD83 New Mexico State Planes, Eastern Zone, US Feet	Declination Date: May 30, 2006
Location Lat/Long: N 32 42 46.208, W 104 51 14.752	Magnetic Declination Model: IGRF 2005
Location Grid N/E Y/X: N 623454.400 ftUS, E 381167.200 ftUS	North Reference: Grid North
Grid Convergence Angle: -0.28144173°	Total Corr Mag North -> Grid North: +9.069°
Grid Scale Factor: 0.99993847	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)	Tool Face (deg)
Tie-In	0.00	0.00	89.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	89.61M
KOP	4482.54	0.00	89.61	4482.54	0.00	0.00	0.00	0.00	0.00	0.00	89.61M
	4500.00	2.10	89.61	4500.00	0.32	0.00	0.32	0.32	89.61	12.00	89.61M
	4600.00	14.10	89.61	4598.82	14.38	0.10	14.38	14.38	89.61	12.00	0.00G
	4700.00	26.10	89.61	4692.56	48.67	0.33	48.67	48.67	89.61	12.00	0.00G
	4800.00	38.10	89.61	4777.12	101.71	0.69	101.71	101.71	89.61	12.00	0.00G
	4900.00	50.10	89.61	4848.81	171.17	1.16	171.16	171.17	89.61	12.00	0.00G
	5000.00	62.10	89.61	4904.49	254.01	1.72	254.01	254.01	89.61	12.00	0.00G
	5100.00	74.10	89.61	4941.72	346.63	2.35	346.62	346.63	89.61	12.00	0.00G
	5200.00	86.10	89.61	4958.89	444.95	3.02	444.94	444.95	89.61	12.00	0.00G
EOC	5232.54	90.00	89.61	4960.00	477.46	3.24	477.45	477.46	89.61	12.00	0.00G
	5300.00	90.00	89.61	4960.00	544.93	3.70	544.92	544.93	89.61	0.00	0.00G
	5400.00	90.00	89.61	4960.00	644.93	4.38	644.91	644.93	89.61	0.00	0.00G
	5500.00	90.00	89.61	4960.00	744.93	5.06	744.91	744.93	89.61	0.00	0.00G
	5600.00	90.00	89.61	4960.00	844.93	5.74	844.91	844.93	89.61	0.00	0.00G
	5700.00	90.00	89.61	4960.00	944.93	6.41	944.91	944.93	89.61	0.00	0.00G
	5800.00	90.00	89.61	4960.00	1044.93	7.09	1044.91	1044.93	89.61	0.00	0.00G
	5900.00	90.00	89.61	4960.00	1144.93	7.77	1144.90	1144.93	89.61	0.00	0.00G
	6000.00	90.00	89.61	4960.00	1244.93	8.45	1244.90	1244.93	89.61	0.00	0.00G
	6100.00	90.00	89.61	4960.00	1344.93	9.13	1344.90	1344.93	89.61	0.00	0.00G
	6200.00	90.00	89.61	4960.00	1444.93	9.81	1444.90	1444.93	89.61	0.00	0.00G
	6300.00	90.00	89.61	4960.00	1544.93	10.49	1544.89	1544.93	89.61	0.00	0.00G
	6400.00	90.00	89.61	4960.00	1644.93	11.17	1644.89	1644.93	89.61	0.00	0.00G
	6500.00	90.00	89.61	4960.00	1744.93	11.85	1744.89	1744.93	89.61	0.00	0.00G
	6600.00	90.00	89.61	4960.00	1844.93	12.52	1844.89	1844.93	89.61	0.00	0.00G
	6700.00	90.00	89.61	4960.00	1944.93	13.20	1944.88	1944.93	89.61	0.00	0.00G
	6800.00	90.00	89.61	4960.00	2044.93	13.88	2044.88	2044.93	89.61	0.00	0.00G
	6900.00	90.00	89.61	4960.00	2144.93	14.56	2144.88	2144.93	89.61	0.00	0.00G
	7000.00	90.00	89.61	4960.00	2244.93	15.24	2244.88	2244.93	89.61	0.00	0.00G
	7100.00	90.00	89.61	4960.00	2344.93	15.92	2344.88	2344.93	89.61	0.00	0.00G
	7200.00	90.00	89.61	4960.00	2444.93	16.60	2444.87	2444.93	89.61	0.00	0.00G
	7300.00	90.00	89.61	4960.00	2544.93	17.28	2544.87	2544.93	89.61	0.00	0.00G
	7400.00	90.00	89.61	4960.00	2644.93	17.95	2644.87	2644.93	89.61	0.00	0.00G
	7500.00	90.00	89.61	4960.00	2744.93	18.63	2744.87	2744.93	89.61	0.00	0.00G
	7600.00	90.00	89.61	4960.00	2844.93	19.31	2844.86	2844.93	89.61	0.00	0.00G
	7700.00	90.00	89.61	4960.00	2944.93	19.99	2944.86	2944.93	89.61	0.00	0.00G
	7800.00	90.00	89.61	4960.00	3044.93	20.67	3044.86	3044.93	89.61	0.00	0.00G
	7900.00	90.00	89.61	4960.00	3144.93	21.35	3144.86	3144.93	89.61	0.00	0.00G

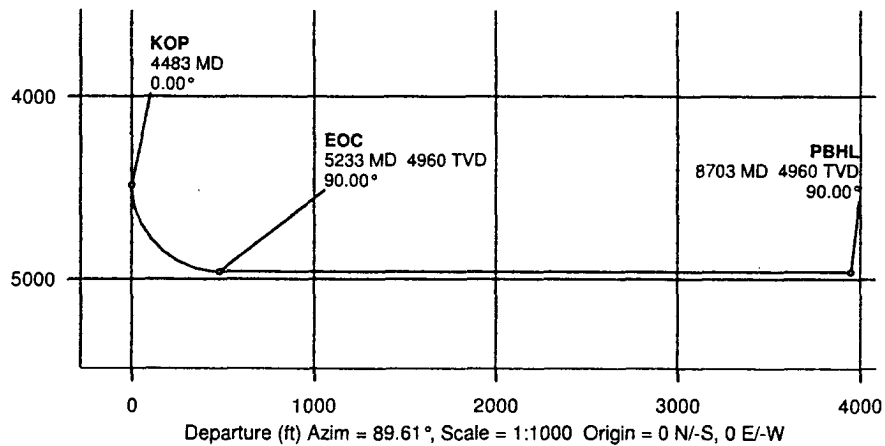
Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (deg)	DLS (deg/100 ft)	Tool Face (deg)
	8000.00	90.00	89.61	4960.00	3244.93	22.03	3244.85	3244.93	89.61	0.00	0.00G
	8100.00	90.00	89.61	4960.00	3344.93	22.71	3344.85	3344.93	89.61	0.00	0.00G
	8200.00	90.00	89.61	4960.00	3444.93	23.39	3444.85	3444.93	89.61	0.00	0.00G
	8300.00	90.00	89.61	4960.00	3544.93	24.06	3544.85	3544.93	89.61	0.00	0.00G
	8400.00	90.00	89.61	4960.00	3644.93	24.74	3644.85	3644.93	89.61	0.00	0.00G
	8500.00	90.00	89.61	4960.00	3744.93	25.42	3744.84	3744.93	89.61	0.00	0.00G
	8600.00	90.00	89.61	4960.00	3844.93	26.10	3844.84	3844.93	89.61	0.00	0.00G
	8700.00	90.00	89.61	4960.00	3944.93	26.78	3944.84	3944.93	89.61	0.00	0.00G
PBHL	8703.21	90.00	89.61	4960.00	3948.14	26.80	3948.05	3948.14	89.61	0.00	0.00G

LCX ENERGY

WELL		1823 State #291		FIELD		Eddy County, NM		STRUCTURE		1823 State #291	
Magnetic Parameters				Surface Location				Miscellaneous			
Model: IGRF 2005		Dip: 60.531°		Date: May 30, 2006		Lat: N32 42 46.208		NAD83 New Mexico State Plane, Eastern Zone, US Feet		Site: 1823 State #291	
		Mag Dec: -9.788°		PS: 49305.4 nT		Lon: W104 51 14.752		Northing: 629454.40 6.06		Plan: 1823 State #291.r1	
						Easting: 381167.20 6.05		Grid Cont: -3.28144173°		TVD Ref: RKB (0.00 ft above)	
								Scale Fact: 0.9999394608		Srv Date: Tue 04:10 PM May 30, 2006	



Critical Points								
Critical Point	MD	INCL	AZIM	TYD	YSEC	N(+) / S(-)	E(+) / W(-)	DLS
Tie-In	0.00	0.00	89.61	0.00	0.00	0.00	0.00	0.00
KOP	4482.54	0.00	89.61	4482.54	0.00	0.00	0.00	0.00
EOC	5232.54	90.00	89.61	4960.00	477.46	3.24	477.45	12.00
PBHL	8703.21	90.00	89.61	4960.00	3948.14	26.80	3948.05	0.00



INTREPID
Directional Drilling Specialists



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 & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Frances Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 97415	Pool Name Four Mile Dr. WOLFCAMP
Property Code	Property Name 1823 STATE	Well Number 291
OGRID No. 218885	Operator Name LCX ENERGY, LLC	Elevation 4041'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	29	18 S	23 E		660	WEST	760	SOUTH	EDDY

Bottom Hole Location If Different From Surface

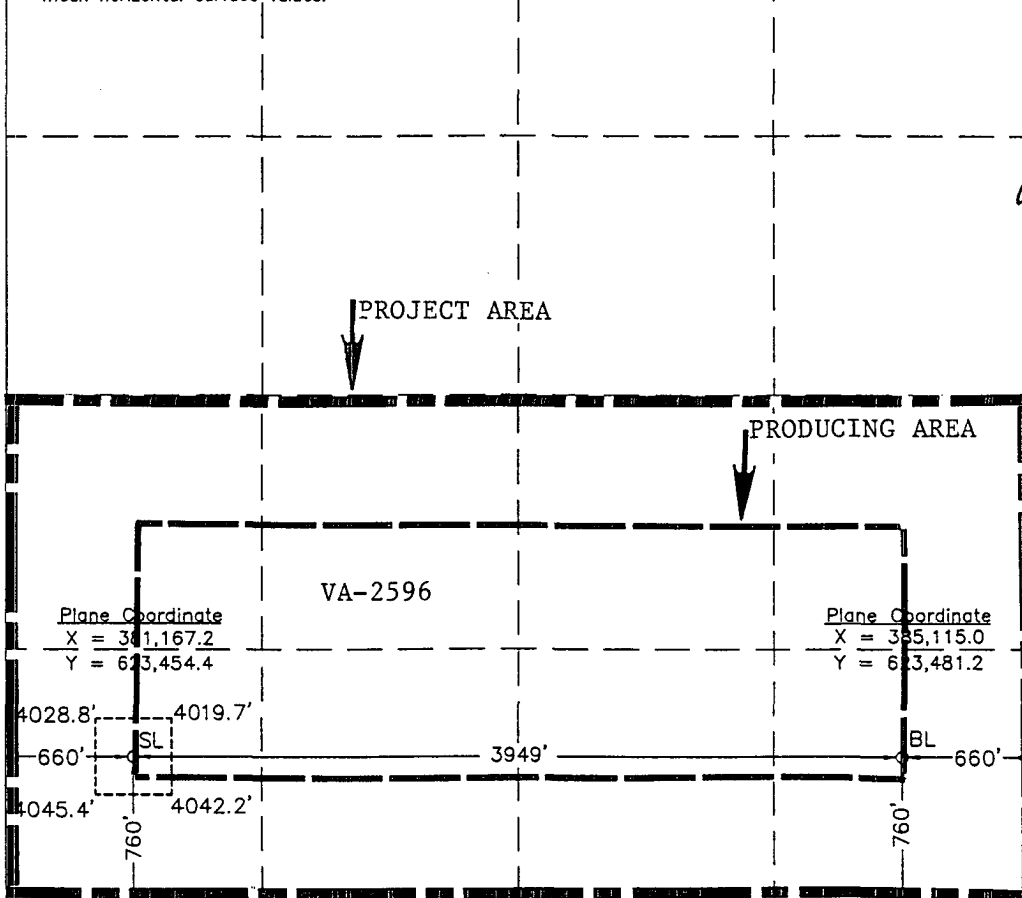
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	29	18 S	23 E		660	EAST	760	SOUTH	EDDY

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

NOTE:

- 1) Plane Coordinates shown hereon are Transverse Mercator Grid and Conform to the "New Mexico Coordinate System", New Mexico East Zone, North American Datum of 1927. Distances shown hereon are mean horizontal surface values.



OPERATOR CERTIFICATION

I hereby certify 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 released 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 a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Joe T. Janica
Signature Date
Joe T. Janica 05/31/06
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.

May 12, 2006
Date of Survey JSR
Signature & Seal of Professional Surveyor
W.O. Num. 2006-0414
Certificate No. MACON McDONALD 12185

L-2006-0414

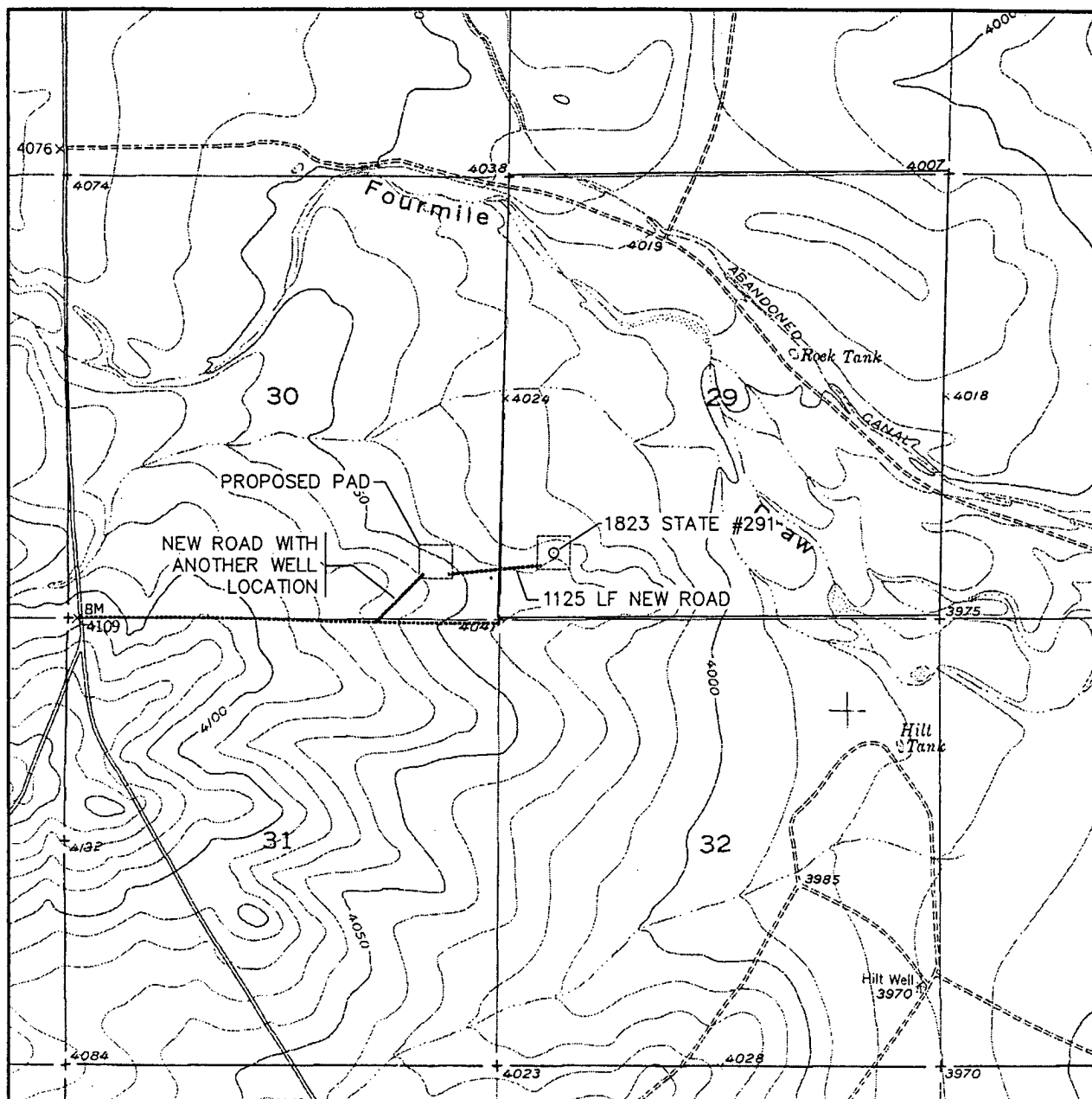
NEW MEXICO



Drawn By: JSR	Date: May 12, 2006
Scale: 1"=100'	Field Book:
Revision Date:	Quadrangle: Antelope Sink, N.M.
W.O. No: 2006-0414	Dwg. No.: L-2006-0414

110 W. LOUISIANA, STE. 110
MIDLAND TEXAS, 79701
(432) 687-0865 - (432) 687-0868 FAX

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
ANTELOPE SINK, NM - 20'

SEC. 29 TWP. 18-S RGE. 23-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 660' FWL & 760' FSL

ELEVATION 4041'

OPERATOR LCX ENERGY, LLC

LEASE 1823 STATE 291

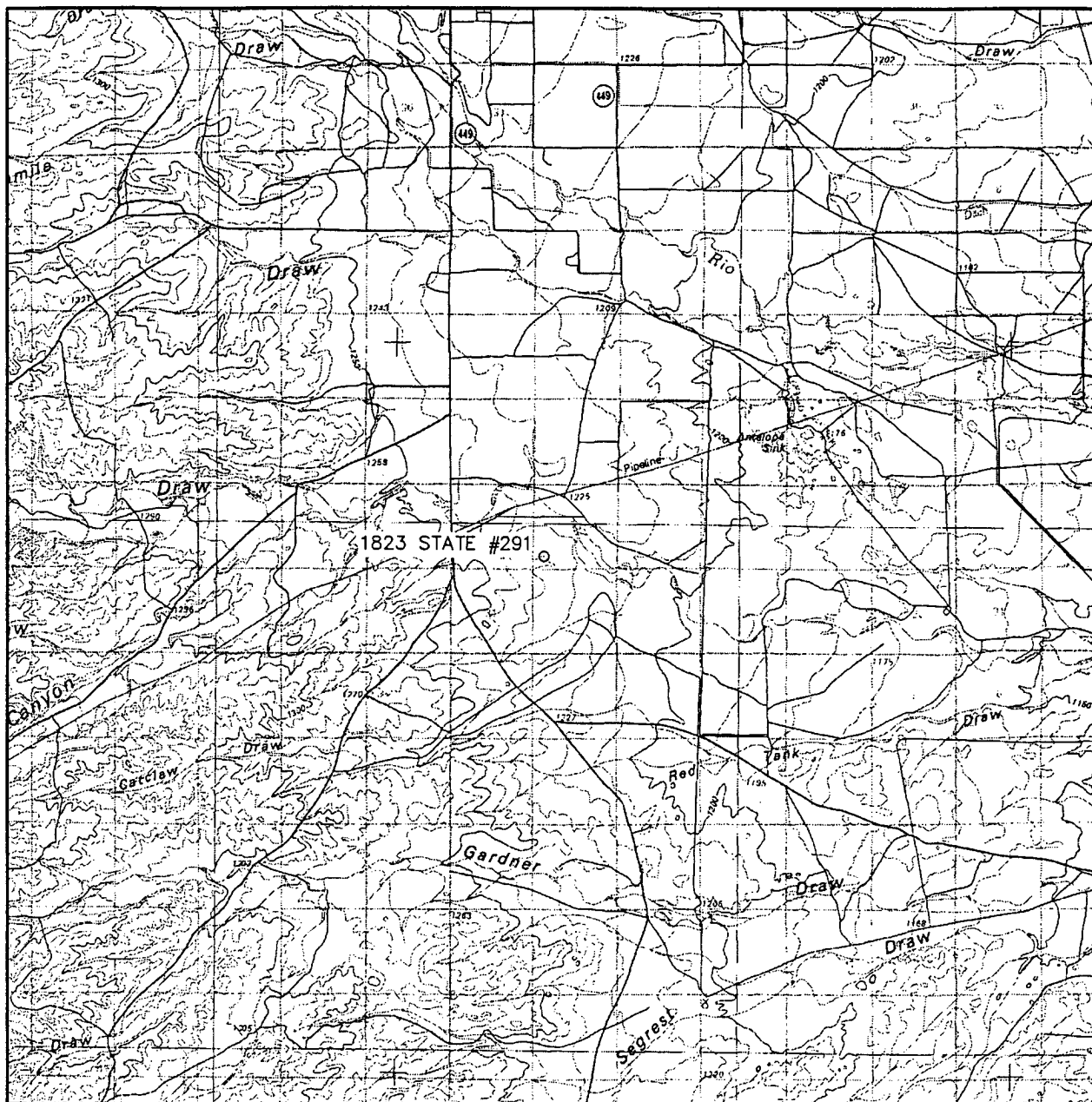
U.S.G.S. TOPOGRAPHIC MAP
ANTELOPE SINK, N.M.



WEST
COMPANY
of Midland, Inc.

110 W. LOUISIANA, STE. 110
MIDLAND TEXAS, 79701
(432) 687-0865 - (432) 687-0868 FAX

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 29 TWP. 18-S RGE. 23-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 660' FWL & 760' FSL

ELEVATION 4041'

OPERATOR LCX ENERGY, LLC

LEASE 1823 STATE #291



WEST
COMPANY
of Midland, Inc.

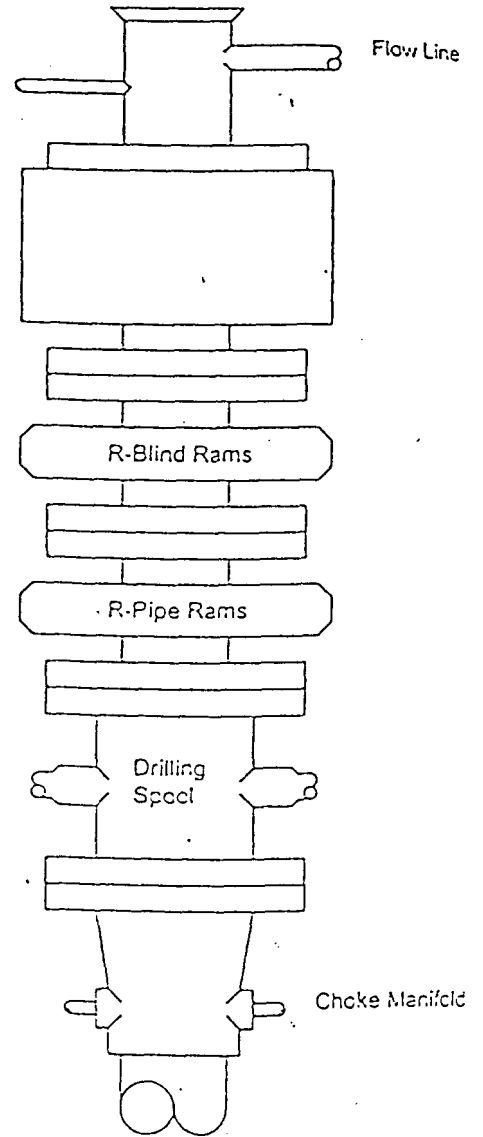
110 W. LOUISIANA, STE. 110
MIDLAND TEXAS, 79701
(432) 687-0865 - (432) 687-0868 FAX

BLOWOUT PREVENTER SYSTEM

3000 PSI

Fill Line

Flow Line



Choke Manifold Assembly for 5M WP System

To Pit and/or
Mud/Gas Separator

Adjustable
Choke

Choke Manifold

900 SERIES
3000 PSI WP

Blowout Preventer
Stack Outlet

Choke Line

Bleed Line to Pit

To Pit

Adjustable Choke

