

DATE IN 3/6/2007	SUSPENSE	ENGINEER BROOKS	LOGGED IN 3/6/2007	TYPE NSL	APP NO. pDKP0706535703
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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



Southwestern Energy
Production
Karlsbad Corral #5H
5592

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

[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.

J. Alan Grimsley
 Print or Type Name

 Signature

 Title

 Date

alan-grimsley@swn.com
 e-mail Address



**Southwestern Energy
Company**

2350 N. Sam Houston Parkway East
Suite 300
Houston, Texas 77032
(281) 618-4700 FAX: (281) 618-4818

Received 3/6/2007

March 5, 2007

Richard Ezeanyim
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Dear Mr. Ezeanyim:

Pursuant to Division Rule 104.F.(2), Southwestern Energy Production Company is requesting approval for of an unorthodox oil well location for the following well:

Well: Karlsbad Corral 11 #5-H
Location: 2,652' feet FSL & 660 feet FWL
Well Unit: NW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 11, Township 25 South, Range 29 East,
N.M.P.M., Eddy County, New Mexico

not verified 96464
The well will be drilled to test the Cherry Canyon 4 formation (Northwest Corral Canyon, Delaware Pool). The pool is spaced on 40 acres, with wells to be located no closer than 330 feet to a quarter-quarter section line and for the subject well an exception to this 330' requirement is requested. A form C-102 is attached as Exhibit A.

The proposed location is based on engineering reasons. The proposed well, Karlsbad Corral 11 #5-H, will be directionally drilled from an unorthodox surface location 2,652 feet from the South Line and 660 feet from the West Line of Section 11 to a bottom hole location 200 feet from the South Line and 660 feet from the West line.

The well plan consists of drilling a vertical pilot hole to 5,600' MD and run wireline logs to confirm the Cherry Canyon 4 target zone. The well will be plugged back and prepared to the estimated KOP (kick off point) at 4,869' MD/TVD. The hole will be directional drilled utilizing a build rate of 12°/100' to penetrate the Cherry Canyon 4 Sand at 5,620' MD / 5,347' TVD at 90° of angle. The Cherry Canyon 4 will be intersected at 2,175' FSL and 660' FWL of Section 11 T25S R29E. The well will continue laterally (90°) for $\pm 2452'$ of vertical displacement. The proposed BHL will be 200' FSL & 660' FWL of Section 11. The top of the Delaware will be intersected at $\pm 3200'$ MD/TVD at 2,652' FSL and 660' FWL of Section 11. A drilling prognosis, directional plot, and proposed survey report are attached as Exhibit B

~~Production~~ casing will be run and cemented to TD. The Cherry Canyon 4 Sand will be selectively perforated, with all perforations being placed in accordance of a standard location of Section 11 T25S R29E (greater than 330' from any lease line).

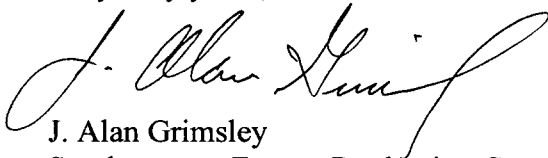
By placing the surface location at 2,652' FSL and 660' FWL of Section 11, the maximum amount of reservoir rock in the Cherry Canyon 4 Sand in the producing area can be penetrated and produced.

Furthermore, Southwestern Energy Production Company has gained 100% access to the mineral interests to the Cherry Canyon formation in the Delaware Mountain Group of Section 11 via farmout agreements with EOG (Lease Serial No. 3633-2). A land plat is attached as Exhibit D.

Your expedited approval of this unorthodox location is requested.

If you have any questions, I can be reached at 281-618-4068 or by email at alan_grimsley@swn.com.

Very truly yours,

A handwritten signature in black ink, appearing to read "J. Alan Grimsley". The signature is fluid and cursive, with a large, sweeping "J" and a long, horizontal stroke extending to the right.

J. Alan Grimsley
Southwestern Energy Production Co.

Attachments
CC: District 2
BLM – Carlsbad Office

DISTRICT I

1225 N. FRENCH DR., HOHES, NM 86240

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

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102

Revised October 12, 2005

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 KARLSBAD CORRAL 11	Well Number 5-H
OGRD No.	Operator Name SOUTHWESTERN ENERGY PRODUCTION COMPANY	Elevation 3086'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	11	25-S	29-E		2652	SOUTH	660	WEST	EDDY

Bottom Hole Location If Different From Surface

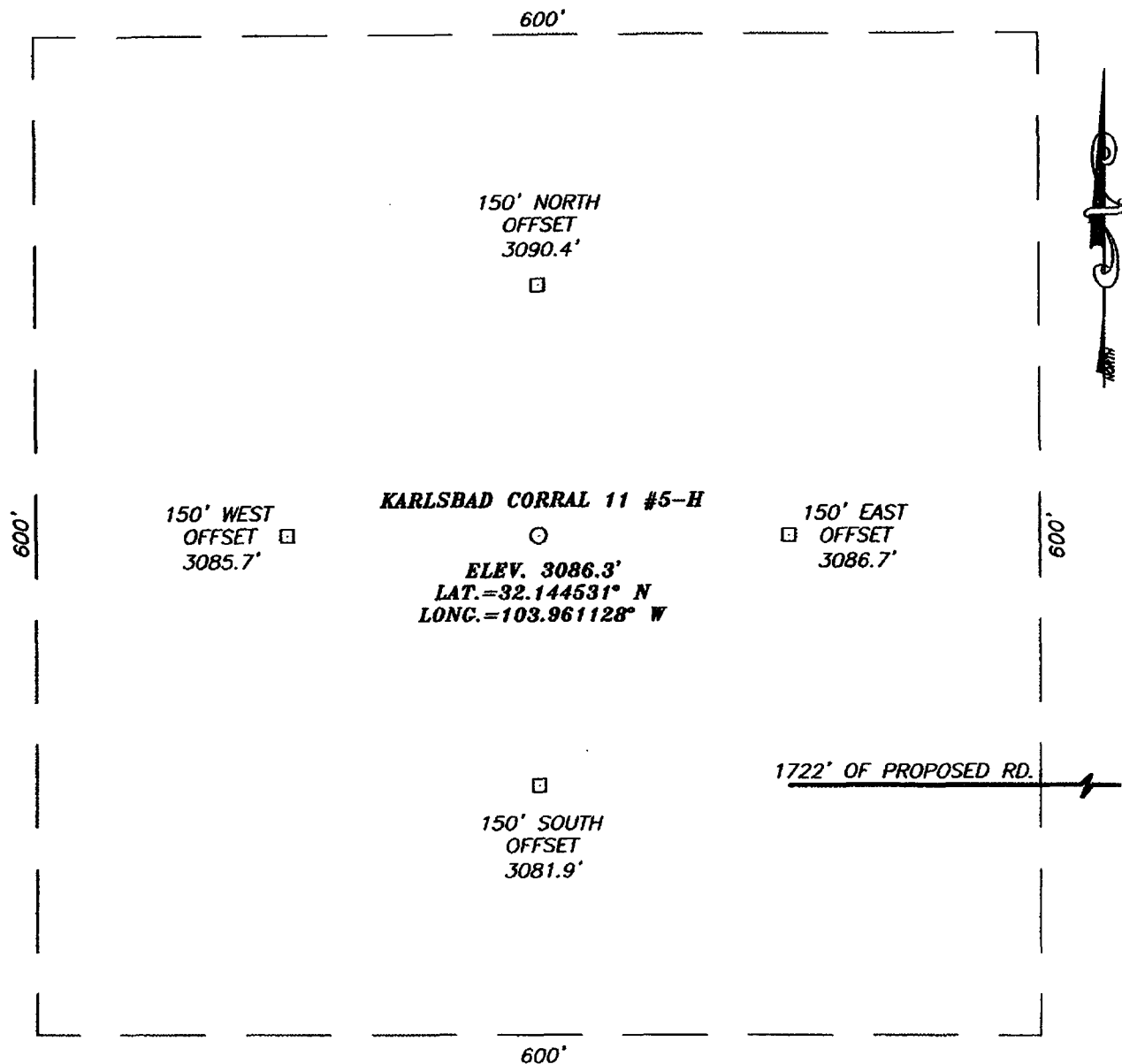
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	11	25-S	29-E		200	SOUTH	660	WEST	EDDY

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

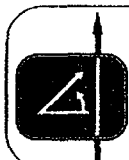
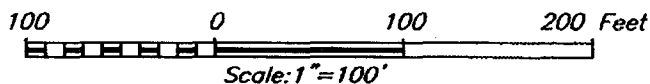
GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=416501.2 N X=615200.8 E BOTTOM HOLE LOCATION Y=414049.2 N X=615207.4 E LAT.=32.144531° N LONG.=103.961128° W GRID AZ.=179°50'42" HORIZ. DIST.=2432.6' 200' 660' SURF. 660' B.H. Project Area Producing Area		OPERATOR CERTIFICATION I hereby certify that the information 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 or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>James Alan Grimsley</i> 3/1/07 Signature Date Printed Name 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. JANUARY 02, 2007 Date Surveyed AR Signature & Seal of Professional Surveyor <i>Ronald J. Edson</i> 02/15/07 07.11.0143 Certificate No. GARY EDSON 12841 RONALD J. EDSON 3239
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SECTION 11, TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM U.S. HWY. #285 AND CO. RD. #725 (LONGHORNE), GO NORTHEAST ON CO. RD. #725 APPROX. 5.5 MILES. TURN LEFT AND GO NORTH APPROX. 11.2 MILES. VEER RIGHT AND GO NORTHEAST APPROX. 1.7 MILES. TURN RIGHT AND GO SOUTH APPROX. 0.5 MILES TO PROPOSED ROAD SURVEY. FOLLOW ROAD SURVEY WEST APPROX. 1880 FEET TO THIS LOCATION.



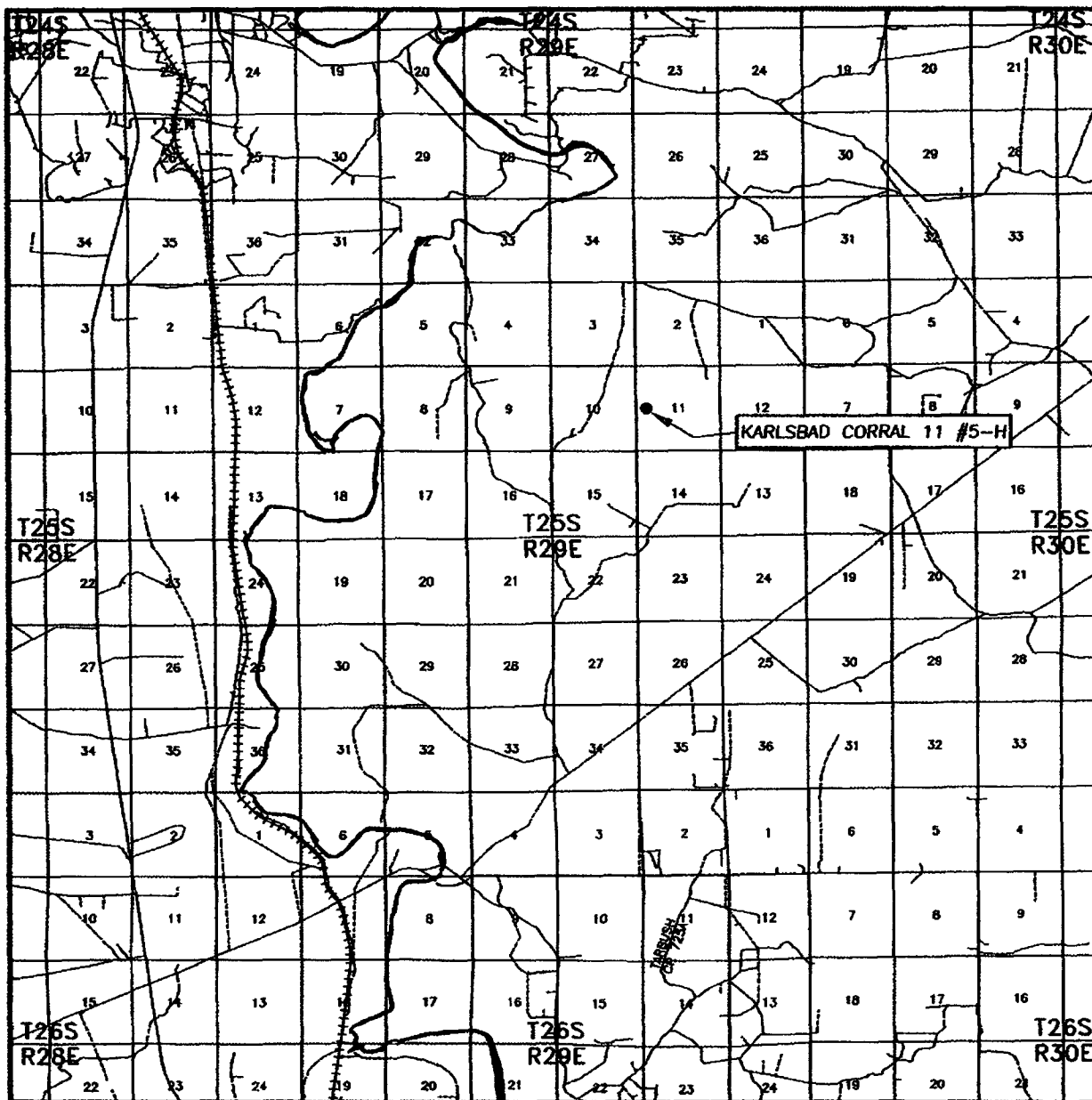
PROVIDING SURVEYING SERVICES
 SINCE 1948
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO
 HOBBS, N.M. 88240
 (505) 393-3117

SOUTHWESTERN ENERGY PRODUCTION COMPANY

KARLSBAD CORRAL 11 #5-H WELL
 LOCATED 2652 FEET FROM THE SOUTH LINE
 AND 660 FEET FROM THE WEST LINE OF SECTION 11,
 TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO.

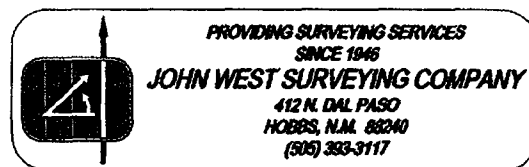
Survey Date: 02/02/07	Sheet 1 of 1 Sheets
W.O. Number: 07.11.0143	Dr By: AR
Date: 02/09/07	Disk: CD#5
07110143	Scale: 1"=100'

VICINITY MAP

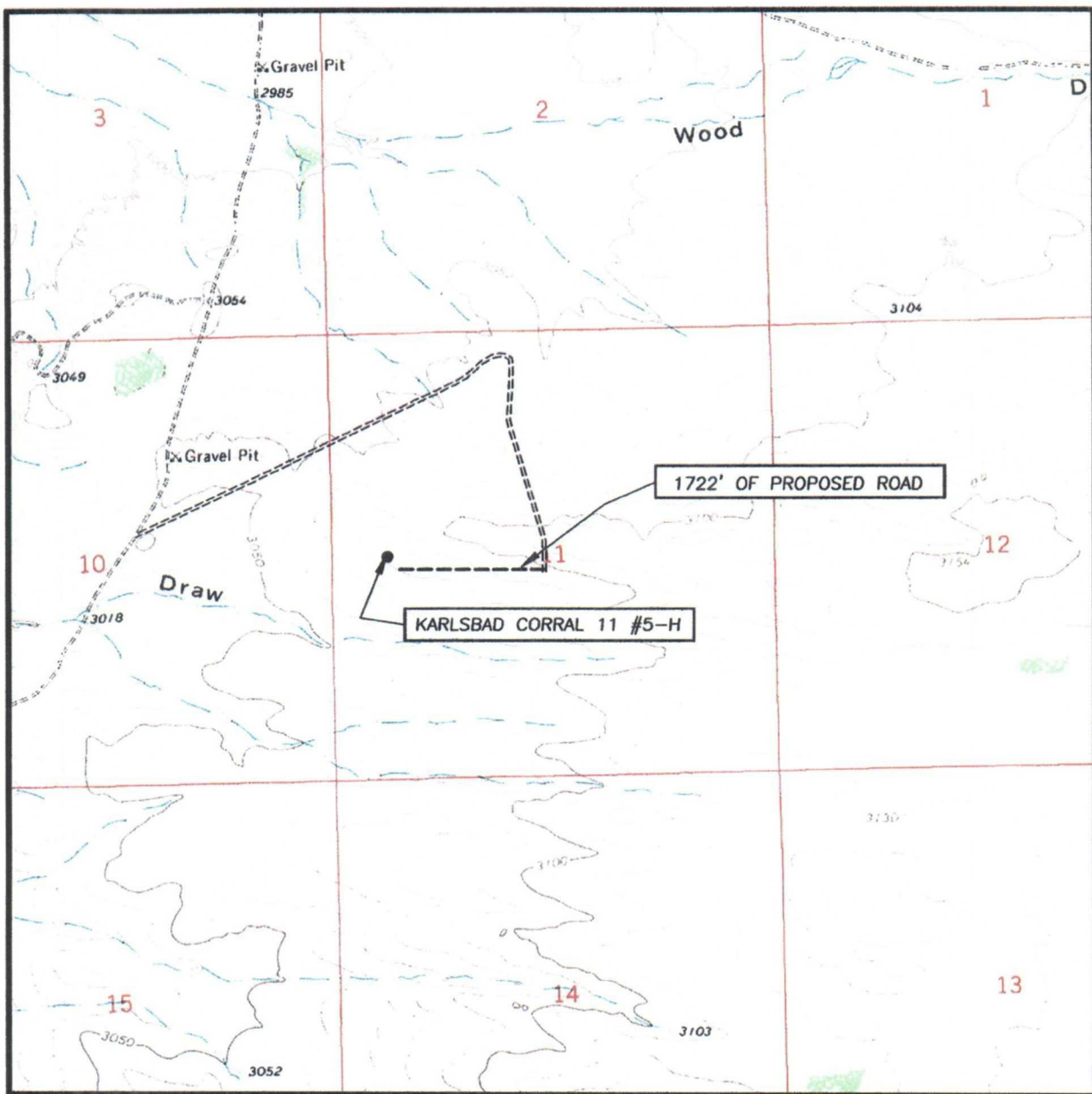


SCALE: 1" = 2 MILES

SEC. 11 TWP. 25-S RGE. 29-E
 SURVEY N.M.P.M.
 COUNTY EDDY STATE NEW MEXICO
 DESCRIPTION 2652' FSL & 660' FWL
 ELEVATION 3086'
 OPERATOR SOUTHWESTERN ENERGY
 LEASE KARLSBAD CORRAL 11



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
PIERCE CANYON, N.M. - 10'

SEC. 11 TWP. 25-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

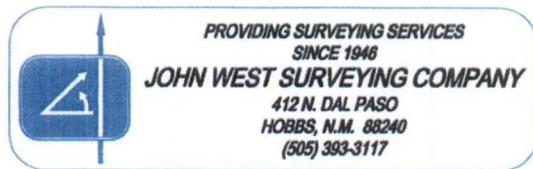
DESCRIPTION 2652' FSL & 660' FWL

ELEVATION 3086'

OPERATOR SOUTHWESTERN ENERGY
PRODUCTION COMPANY

LEASE KARLSBAD CORRAL 11

U.S.G.S. TOPOGRAPHIC MAP
PIERCE CANYON, N.M.





DRILLING PROGNOSIS
Southwestern Energy Production Company

WELL NAME: Karlsbad Corral 11 #5-H

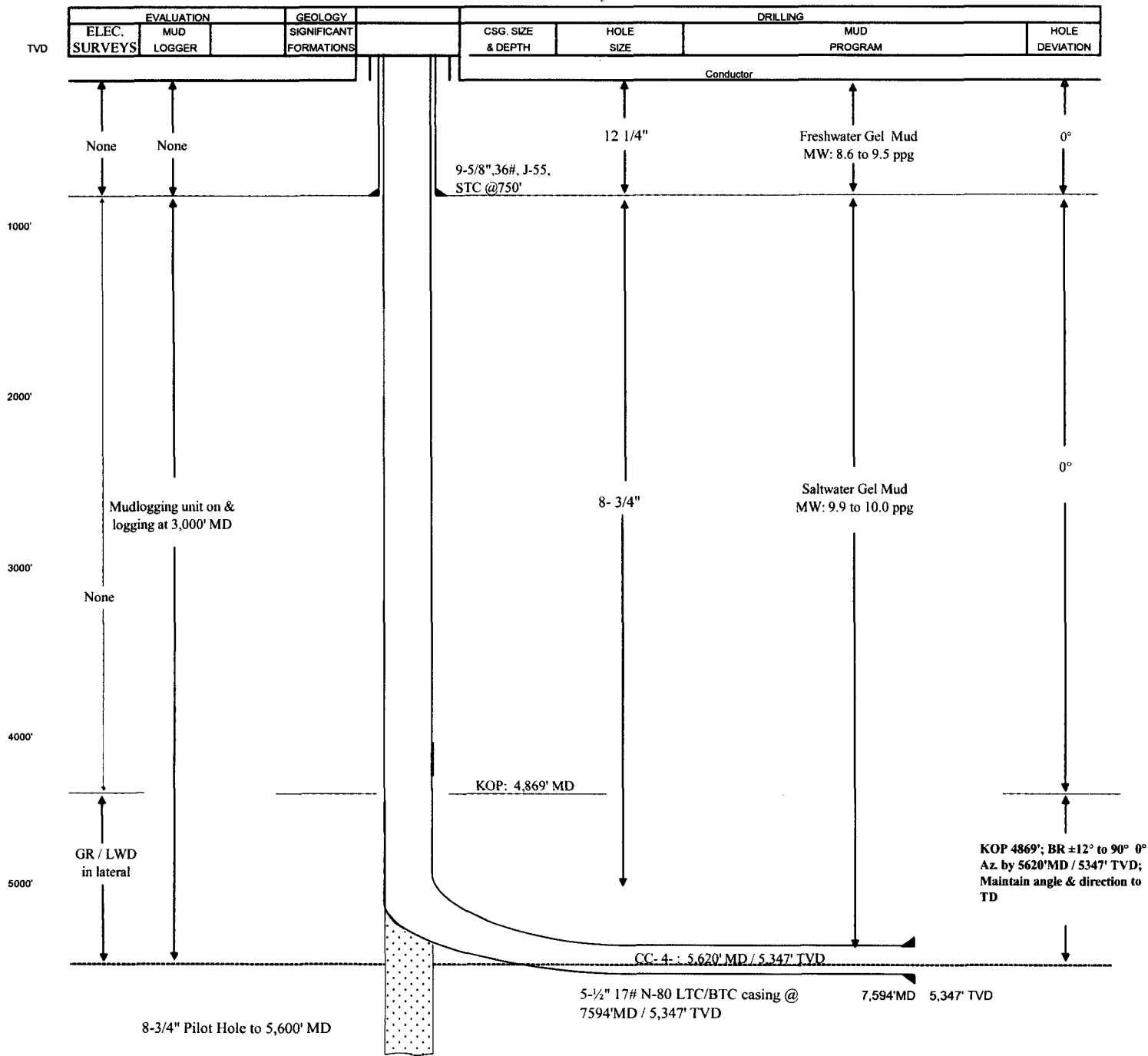
AFE NO.

LOCATION: Sec. 11, T25S, R29E
Eddy County NM
SL: 2,652' FSL 660' FWL
BHL: 200' FSL 660' FWL
TGT ENTRY PT: 2,175' FSL 660' FWL

PROSPECT: Corral Fly

OBJECTIVE: Cherry Canyon Sd, CC-4

EST. ELEVATION: GL 3086'; RKB $\pm$ 16"





Southwestern Energy Production Co.
Karlsbad Corral #5H
Karlsbad Corral Section 11 T25S R29E
Eddy County New Mexico
Plan #1

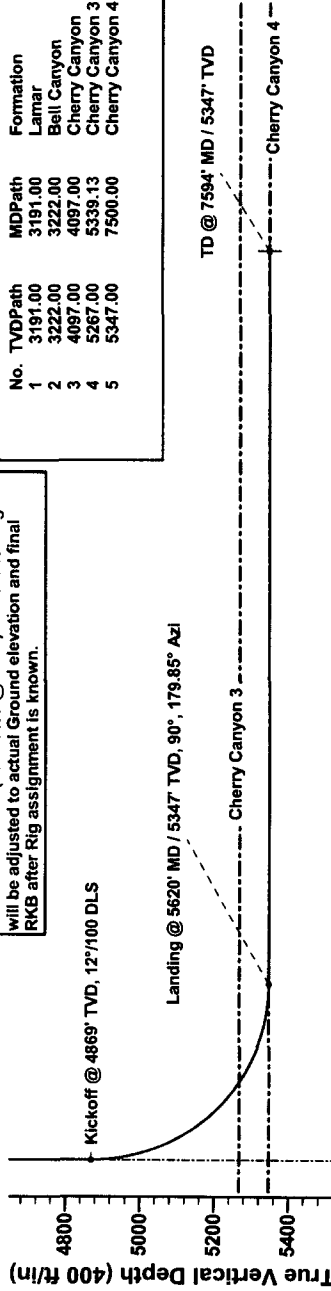


Surface Location	Estimated Ground Elevation: 3082.00		Assumed RKB @ 3097.00R (Rig not Specified)	
	+N/-S	+E/-W	Northing	Eastings
	0.00	0.00	416501.20	615200.80
			Latitude	Longitude
			32° 8' 40.304N	103° 57' 40.074W
			Slot	

TARGET LOCATIONS					
Name	TVD	+N/-S	+E/-W	Northing	Eastings
Section 11 (Karlsbad Corral 11 #5H)	0.00	-12.00	1980.00	416489.20	617180.80
PBHL (Karlsbad Corral 11 #5H)	5347.00	-2452.00	6.60	414049.20	615207.40

Preliminary Version. Rig RKB assumed at 15' and Ground Elevation (estimated @ 3082'). Final Drawing will be adjusted to actual Ground elevation and final RKB after Rig assignment is known.

FORMATION TOP DETAILS		
No.	TVDPath	MDPath Formation
1	3191.00	Lamar
2	3222.00	Bell Canyon
3	4097.00	Cherry Canyon
4	5267.00	Cherry Canyon 3
5	5347.00	Cherry Canyon 4

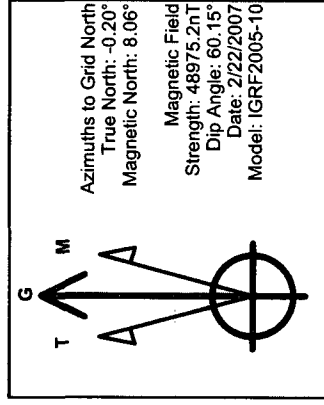


Vertical Section at 179.85° (400 ft/in)

Phil Lyons 2/22/2007

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.00	0.00	179.85	0.00	0.00	0.00	0.00	0.00	0.00
2	4869.54	0.00	179.85	4869.54	0.00	0.00	0.00	0.00	0.00
3	5619.54	90.00	179.85	5347.00	-477.46	1.29	12.00	179.85	477.46
4	7594.08	90.00	179.85	5347.00	-2452.00	6.60	0.00	0.00	2452.01

PBHL (Karlsbad Corral 11 #5H)



Azimuths to Grid North
True North: -0.20°
Magnetic North: 8.06°
Magnetic Field
Strength: 48975.2nT
Dip Angle: 60.15°
Date: 2/22/2007
Model: IGRF2005-10

Southwestern Energy Production Co.

**Eddy County New Mexico
Karlsbad Corral Section 11 T25S R29E
Karlsbad Corral #5H
Wellbore #1**

Plan: Plan #1

Standard Planning Report

22 February, 2007

Crescent Directional Drilling

Planning Report

Database:	COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference:	Well Karlsbad Corral #5H
Company:	Southwestern Energy Production Co.	TVD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Project:	Eddy County New Mexico	MD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Site:	Karlsbad Corral Section 11 T25S R29E	North Reference:	Grid
Well:	Karlsbad Corral #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project	Eddy County New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Karlsbad Corral Section 11 T25S R29E		
Site Position:		Northing:	416,501.20 ft
From:	Map	Easting:	615,200.80 ft
Position Uncertainty:	0.00 ft	Slot Radius:	in
		Latitude:	32° 08' 40.304" N
		Longitude:	103° 57' 40.074" W
		Grid Convergence:	0.20 °

Well	Karlsbad Corral #5H		
Well Position	+N/-S	0.00 ft	Northing: 416,501.20 ft
	+E/-W	0.00 ft	Easting: 615,200.80 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	32° 08' 40.304" N
		Longitude:	103° 57' 40.074" W
		Ground Level:	3,082.00 ft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2005-10	2/22/2007	8.26
			Dip Angle (°)
			60.15
			Field Strength (nT)
			48,975

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction (°)
			179.85

Plan Sections									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)
0.00	0.00	179.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,869.54	0.00	179.85	4,869.54	0.00	0.00	0.00	0.00	0.00	0.00
5,619.54	90.00	179.85	5,347.00	-477.46	1.29	12.00	12.00	0.00	179.85
7,594.08	90.00	179.85	5,347.00	-2,452.00	6.60	0.00	0.00	0.00	0.00 PBHL (Karlsbad Corr

Crescent Directional Drilling

Planning Report

Database: COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference: Well Karlsbad Corral #5H	
Company: Southwestern Energy Production Co.	TVD Reference: Assumed RKB @ 3097.00ft (Rig not Specified)	
Project: Eddy County New Mexico	MD Reference: Assumed RKB @ 3097.00ft (Rig not Specified)	
Site: Karlsbad Corral Section 11 T25S R29E	North Reference: Grid	
Well: Karlsbad Corral #5H	Survey Calculation Method: Minimum Curvature	
Wellbore: Wellbore #1		
Design: Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	179.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	179.85	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	179.85	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	179.85	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	179.85	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	179.85	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	179.85	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	179.85	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	179.85	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	179.85	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	179.85	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	179.85	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	179.85	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	179.85	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	179.85	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	179.85	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	179.85	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	179.85	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	179.85	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	179.85	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	179.85	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	179.85	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	179.85	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	179.85	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	179.85	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	179.85	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	179.85	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	179.85	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	179.85	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	179.85	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	179.85	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	179.85	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,191.00	0.00	179.85	3,191.00	0.00	0.00	0.00	0.00	0.00	0.00
Lamar									
3,200.00	0.00	179.85	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,222.00	0.00	179.85	3,222.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
3,300.00	0.00	179.85	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	179.85	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	179.85	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	179.85	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	179.85	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	179.85	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	179.85	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	179.85	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,097.00	0.00	179.85	4,097.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
4,100.00	0.00	179.85	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	179.85	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	179.85	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	179.85	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	179.85	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	179.85	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00

Crescent Directional Drilling

Planning Report

Database:	COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference:	Well Karlsbad Corral #5H
Company:	Southwestern Energy Production Co.	TVD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Project:	Eddy County New Mexico	MD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Site:	Karlsbad Corral Section 11 T25S R29E	North Reference:	Grid
Well:	Karlsbad Corral #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

4,700.00	0.00	179.85	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	179.85	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,869.54	0.00	179.85	4,869.54	0.00	0.00	0.00	0.00	0.00	0.00
Kickoff @ 4869' TVD, 12°/100 DLS									
4,900.00	3.66	179.85	4,899.98	-0.97	0.00	0.97	12.00	12.00	0.00
5,000.00	15.66	179.85	4,998.38	-17.71	0.05	17.71	12.00	12.00	0.00
5,100.00	27.66	179.85	5,091.15	-54.55	0.15	54.55	12.00	12.00	0.00
5,200.00	39.66	179.85	5,174.24	-109.87	0.30	109.87	12.00	12.00	0.00
5,300.00	51.66	179.85	5,244.01	-181.25	0.49	181.25	12.00	12.00	0.00
5,339.13	56.35	179.85	5,267.00	-212.90	0.57	212.90	12.00	12.00	0.00
Cherry Canyon 3									
5,400.00	63.66	179.85	5,297.41	-265.58	0.71	265.58	12.00	12.00	0.00
5,500.00	75.66	179.85	5,332.11	-359.17	0.97	359.17	12.00	12.00	0.00
5,600.00	87.66	179.85	5,346.60	-457.93	1.23	457.94	12.00	12.00	0.00
5,619.54	90.00	179.85	5,347.00	-477.46	1.29	477.46	12.00	12.00	0.00
Landing @ 5620' MD / 5347' TVD, 90°, 179.85° Azi									
5,700.00	90.00	179.85	5,347.00	-557.93	1.50	557.93	0.00	0.00	0.00
5,800.00	90.00	179.85	5,347.00	-657.93	1.77	657.93	0.00	0.00	0.00
5,900.00	90.00	179.85	5,347.00	-757.93	2.04	757.93	0.00	0.00	0.00
6,000.00	90.00	179.85	5,347.00	-857.93	2.31	857.93	0.00	0.00	0.00
6,100.00	90.00	179.85	5,347.00	-957.93	2.58	957.93	0.00	0.00	0.00
6,200.00	90.00	179.85	5,347.00	-1,057.93	2.85	1,057.93	0.00	0.00	0.00
6,300.00	90.00	179.85	5,347.00	-1,157.93	3.12	1,157.93	0.00	0.00	0.00
6,400.00	90.00	179.85	5,347.00	-1,257.93	3.39	1,257.93	0.00	0.00	0.00
6,500.00	90.00	179.85	5,347.00	-1,357.92	3.66	1,357.93	0.00	0.00	0.00
6,600.00	90.00	179.85	5,347.00	-1,457.92	3.92	1,457.93	0.00	0.00	0.00
6,700.00	90.00	179.85	5,347.00	-1,557.92	4.19	1,557.93	0.00	0.00	0.00
6,800.00	90.00	179.85	5,347.00	-1,657.92	4.46	1,657.93	0.00	0.00	0.00
6,900.00	90.00	179.85	5,347.00	-1,757.92	4.73	1,757.93	0.00	0.00	0.00
7,000.00	90.00	179.85	5,347.00	-1,857.92	5.00	1,857.93	0.00	0.00	0.00
7,100.00	90.00	179.85	5,347.00	-1,957.92	5.27	1,957.93	0.00	0.00	0.00
7,200.00	90.00	179.85	5,347.00	-2,057.92	5.54	2,057.93	0.00	0.00	0.00
7,300.00	90.00	179.85	5,347.00	-2,157.92	5.81	2,157.93	0.00	0.00	0.00
7,400.00	90.00	179.85	5,347.00	-2,257.92	6.08	2,257.93	0.00	0.00	0.00
7,500.00	90.00	179.85	5,347.00	-2,357.92	6.35	2,357.93	0.00	0.00	0.00
Cherry Canyon 4									
7,594.08	90.00	179.85	5,347.00	-2,452.00	6.60	2,452.01	0.00	0.00	0.00
TD @ 7594' MD / 5347' TVD									

Targets

Target Name

- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	ft	ft	(ft)	(ft)		
PBHL (Karlsbad Corral	0.00	0.00	5,347.00	-2,452.00	6.60	414,049.20	615,207.40	32° 08' 16.038" N	103° 57' 40.095" W
- plan misses by 94.08ft at 7500.00ft MD (5347.00 TVD, -2357.92 N, 6.35 E)									
- Point									
Section 11 (Karlsbad (	0.00	0.00	0.00	-12.00	1,980.00	416,489.20	617,180.80	32° 08' 40.117" N	103° 57' 17.045" W
- plan misses by 1980.04ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Rectangle (sides W5,280.00 H5,280.00 D0.00)									

Crescent Directional Drilling

Planning Report

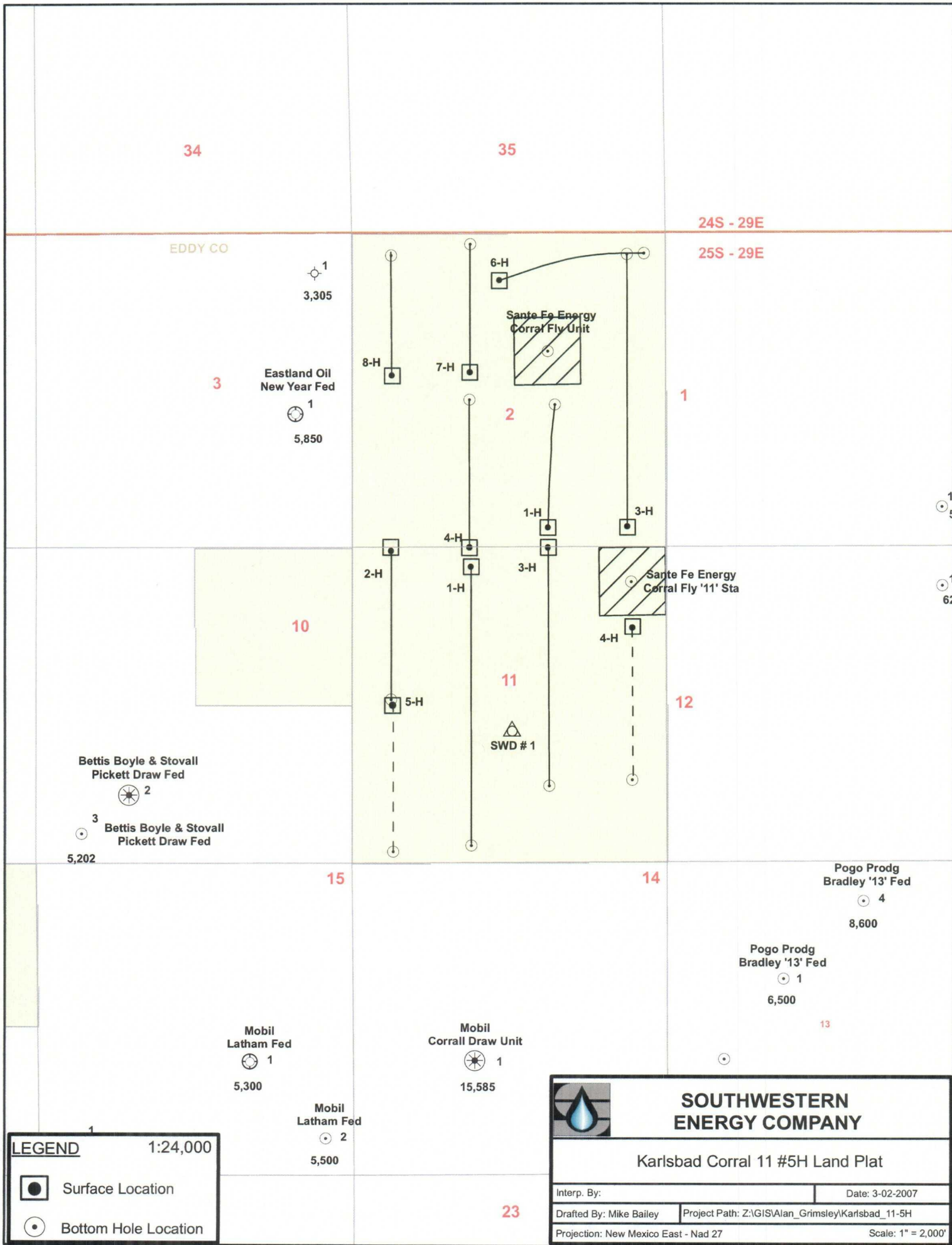
Database: COMPASS_2003.11_CDDSVR Company: Southwestern Energy Production Co. Project: Eddy County New Mexico Site: Karlsbad Corral Section 11 T25S R29E Well: Karlsbad Corral #5H Wellbore: Wellbore #1 Design: Plan #1	Local Co-ordinate Reference: Well Karlsbad Corral #5H TVD Reference: Assumed RKB @ 3097.00ft (Rig not Specified) MD Reference: Assumed RKB @ 3097.00ft (Rig not Specified) North Reference: Grid Survey Calculation Method: Minimum Curvature	
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Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,191.00	3,191.00	Lamar		0.00	
3,222.00	3,222.00	Bell Canyon		0.00	
4,097.00	4,097.00	Cherry Canyon		0.00	
5,339.13	5,267.00	Cherry Canyon 3		0.00	
7,500.00	5,347.00	Cherry Canyon 4		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,869.54	4,869.54	0.00	0.00	Kickoff @ 4869' TVD, 12°/100 DLS
5,619.54	5,347.00	-477.46	1.29	Landing @ 5620' MD / 5347' TVD, 90°, 179.85° Azi
7,594.08	5,347.00	-2,452.00	6.60	TD @ 7594' MD / 5347' TVD





**Southwestern Energy
Company**

2350 N. Sam Houston Parkway East
Suite 300
Houston, Texas 77032
(281) 618-4700 FAX: (281) 618-4818

March 5, 2007

COPY

Richard Ezeanyim
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Dear Mr. Ezeanyim:

Pursuant to Division Rule 104.F.(2), Southwestern Energy Production Company is requesting approval for of an unorthodox oil well location for the following well:

Well: Karlsbad Corral 11 #5-H
Location: 2,652' feet FSL & 660 feet FWL
Well Unit: NW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 11, Township 25 South, Range 29 East,
N.M.P.M., Eddy County, New Mexico

The well will be drilled to test the Cherry Canyon 4 formation (Northwest Corral Canyon, Delaware Pool). The pool is spaced on 40 acres, with wells to be located no closer than 330 feet to a quarter-quarter section line and for the subject well an exception to this 330' requirement is requested. A form C-102 is attached as Exhibit A.

The proposed location is based on engineering reasons. The proposed well, Karlsbad Corral 11 #5-H, will be directionally drilled from an unorthodox surface location 2,652 feet from the South Line and 660 feet from the West Line of Section 11 to a bottom hole location 200 feet from the South Line and 660 feet from the West line.

The well plan consists of drilling a vertical pilot hole to 5,600' MD and run wireline logs to confirm the Cherry Canyon 4 target zone. The well will be plugged back and prepared to the estimated KOP (kick off point) at 4,869' MD/TVD. The hole will be directional drilled utilizing a build rate of 12°/100' to penetrate the Cherry Canyon 4 Sand at 5,620' MD / 5,347' TVD at 90° of angle. The Cherry Canyon 4 will be intersected at 2,175' FSL and 660' FWL of Section 11 T25S R29E. The well will continue laterally (90°) for ±2452' of vertical displacement. The proposed BHL will be 200' FSL & 660' FWL of Section 11. The top of the Delaware will be intersected at ±3200' MD/TVD at 2,652' FSL and 660' FWL of Section 11. A drilling prognosis, directional plot, and proposed survey report are attached as Exhibit B

Production casing will be run and cemented to TD. The Cherry Canyon 4 Sand will be selectively perforated, with all perforations being placed in accordance of a standard location of Section 11 T25S R29E (greater than 330' from any lease line).

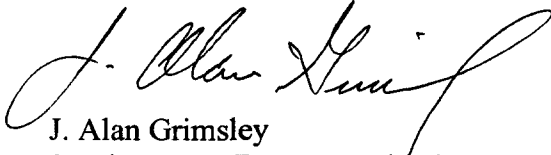
By placing the surface location at 2,652' FSL and 660' FWL of Section 11, the maximum amount of reservoir rock in the Cherry Canyon 4 Sand in the producing area can be penetrated and produced.

Furthermore, Southwestern Energy Production Company has gained 100% access to the mineral interests to the Cherry Canyon formation in the Delaware Mountain Group of Section 11 via farmout agreements with EOG (Lease Serial No. 3633-2). A land plat is attached as Exhibit D.

Your expedited approval of this unorthodox location is requested.

If you have any questions, I can be reached at 281-618-4068 or by email at alan_grimsley@swn.com.

Very truly yours,

A handwritten signature in black ink, appearing to read "J. Alan Grimsley", written in a cursive style.

J. Alan Grimsley
Southwestern Energy Production Co.

Attachments
CC: District 2
BLM – Carlsbad Office

DISTRICT I
1826 N. FRENCH DR., HOHRS, NM 88440

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

OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005
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 KARLSBAD CORRAL 11	Well Number 5-H
OGRID No.	Operator Name SOUTHWESTERN ENERGY PRODUCTION COMPANY	Elevation 3086'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	11	25-S	29-E		2652	SOUTH	660	WEST	EDDY

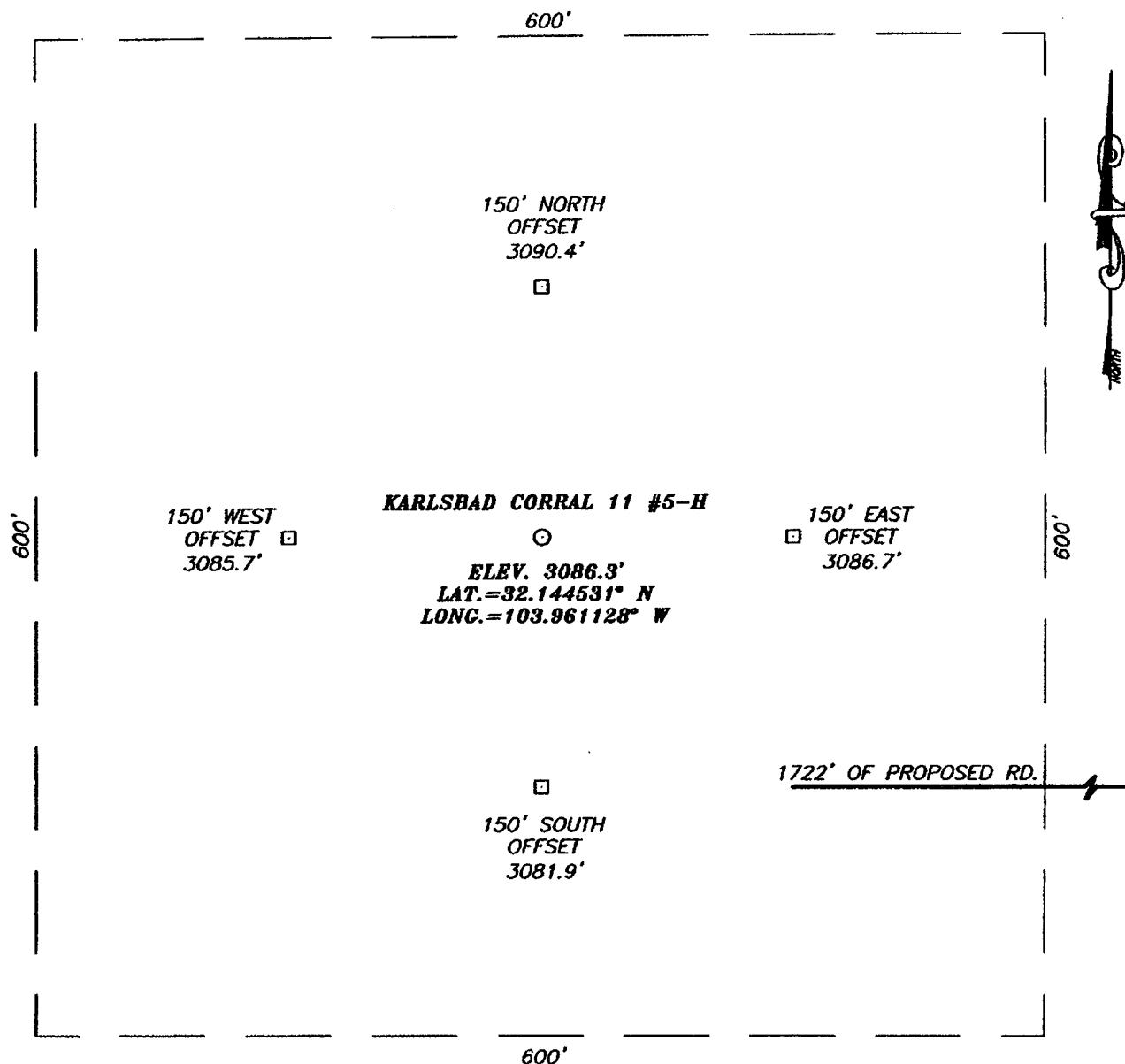
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	11	25-S	29-E		200	SOUTH	660	WEST	EDDY
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

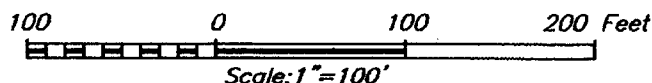
GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=416501.2 N X=615200.8 E LAT.=32.144531° N LONG.=103.961128° W 660' SURF. GRID AZ.=179°50'42" HORIZ. DIST.=2432.6' 2652' 200' 660' B.H. Project Area Producing Area	BOTTOM HOLE LOCATION Y=414049.2 N X=615207.4 E	OPERATOR CERTIFICATION I hereby certify that the information 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 or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>James Alan Grimsley</i> 3/1/07 Signature Date JAMES ALAN GRIMSLEY Printed Name 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. JANUARY 02, 2007 Date Surveyed AR Signature & Seal of Professional Surveyor <i>Ronald J. Eidson</i> 02/15/07 07.11.0143 Certificate No. GARY EIDSON 12841 RONALD J. EIDSON 3239
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SECTION 11, TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM U.S. HWY. #285 AND CO. RD. #725
 (LONGHORNE), GO NORTHEAST ON CO. RD. #725
 APPROX. 5.5 MILES. TURN LEFT AND GO NORTH
 APPROX. 11.2 MILES. VEER RIGHT AND GO
 NORTHEAST APPROX. 1.7 MILES. TURN RIGHT AND
 GO SOUTH APPROX. 0.5 MILES TO PROPOSED
 ROAD SURVEY. FOLLOW ROAD SURVEY WEST
 APPROX. 1880 FEET TO THIS LOCATION.



SOUTHWESTERN ENERGY PRODUCTION COMPANY

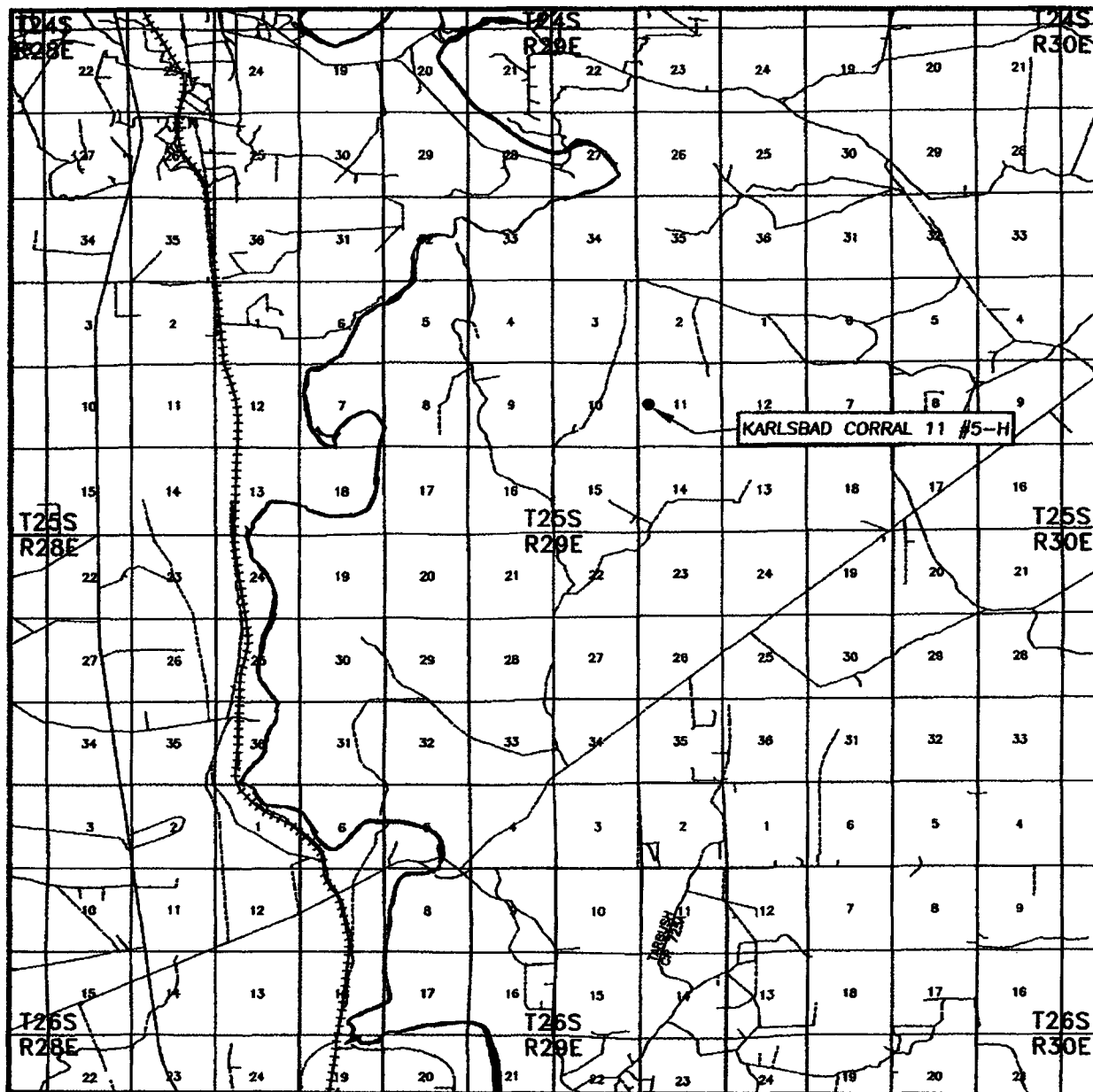
KARLSBAD CORRAL 11 #5-H WELL
 LOCATED 2652 FEET FROM THE SOUTH LINE
 AND 660 FEET FROM THE WEST LINE OF SECTION 11,
 TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO.

Survey Date: 02/02/07	Sheet 1 of 1 Sheets
W.O. Number: 07.11.0143	Dr By: AR
Date: 02/09/07	Disk: CD#5
07110143	Scale: 1"=100'



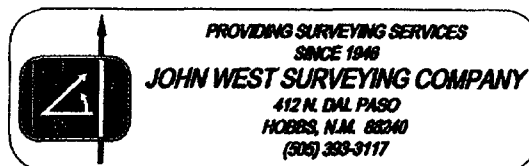
PROVIDING SURVEYING SERVICES
 SINCE 1946
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO
 HOBBS, N.M. 88240
 (505) 393-3117

VICINITY MAP

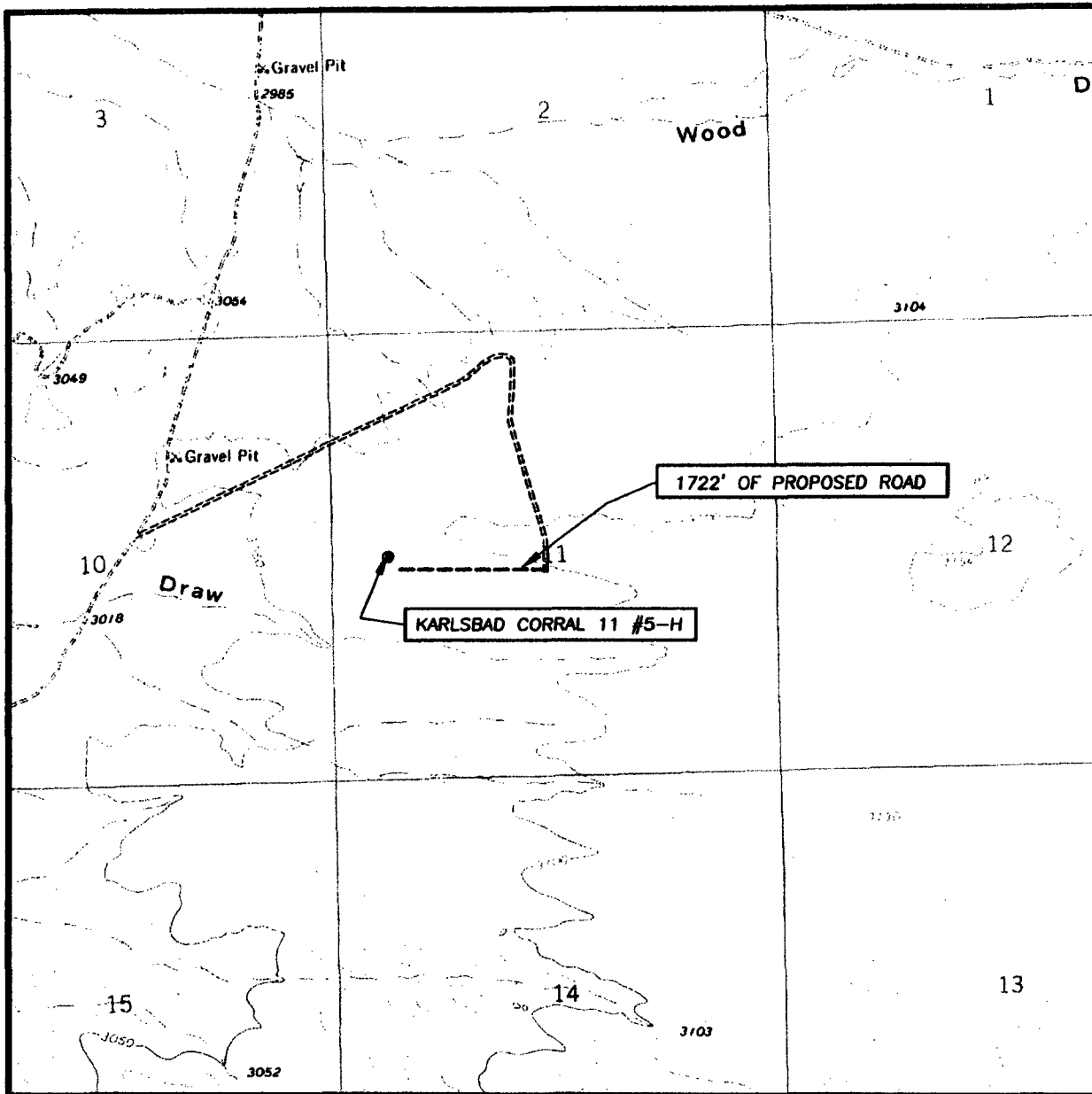


SCALE: 1" = 2 MILES

SEC. 11 TWP. 25-S RGE. 29-E
 SURVEY N.M.P.M.
 COUNTY EDDY STATE NEW MEXICO
 DESCRIPTION 2652' FSL & 660' FWL
 ELEVATION 3086'
 OPERATOR SOUTHWESTERN ENERGY PRODUCTION COMPANY
 LEASE KARLSBAD CORRAL 11



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
PIERCE CANYON, N.M. - 10'

SEC. 11 TWP. 25-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

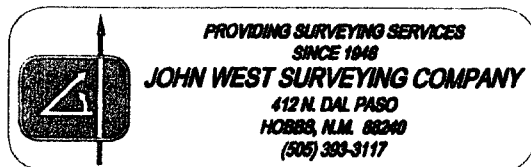
DESCRIPTION 2652' FSL & 660' FWL

ELEVATION 3086'

OPERATOR SOUTHWESTERN ENERGY
PRODUCTION COMPANY

LEASE KARLSBAD CORRAL 11

U.S.G.S. TOPOGRAPHIC MAP
PIERCE CANYON, N.M.



PROVIDING SURVEYING SERVICES
SINCE 1948

JOHN WEST SURVEYING COMPANY

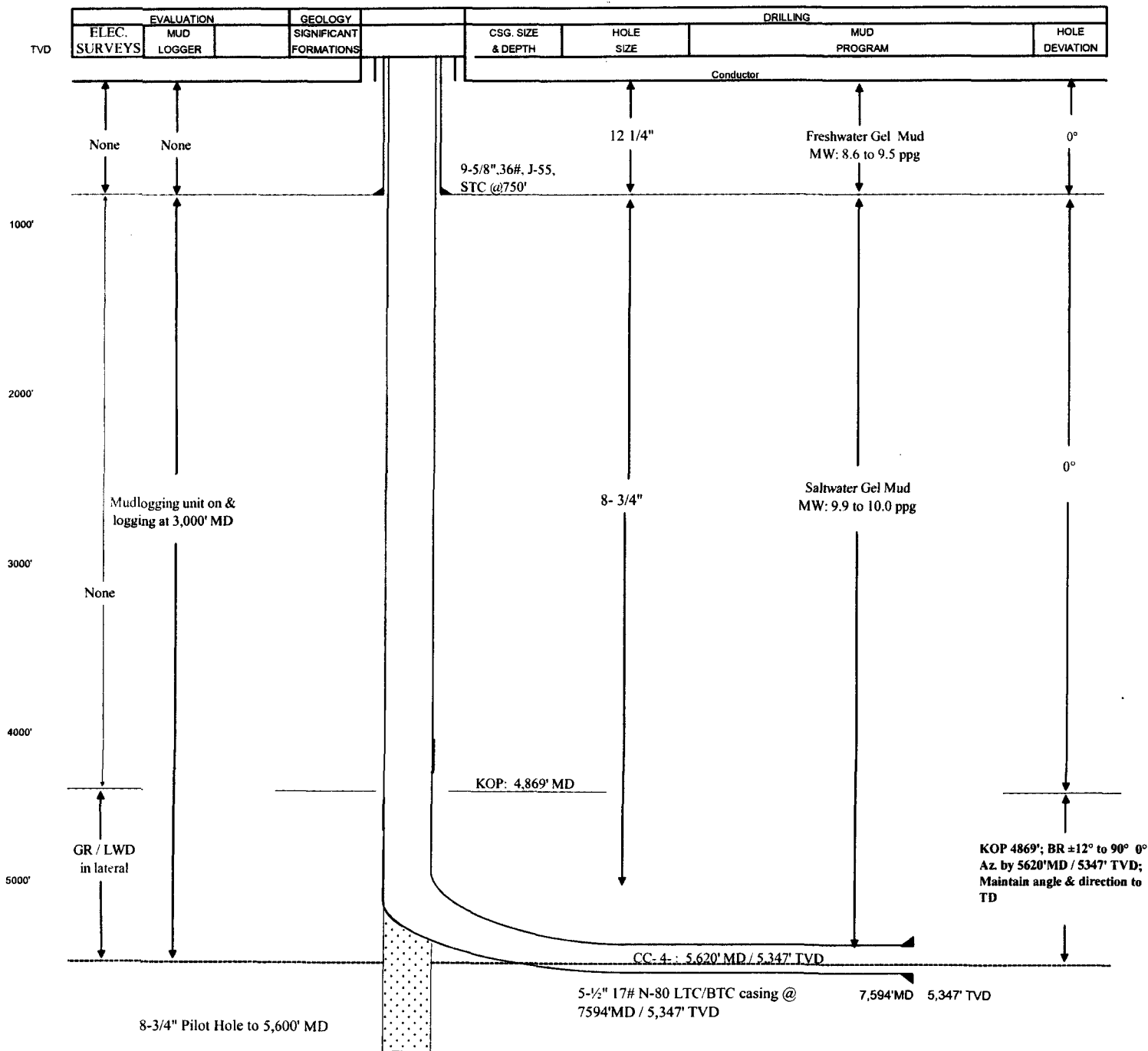
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117



AFE NO.

PROSPECT: Corral Fly

EST. ELEVATION: GL 3086'; RKB $\pm 16''$





Southwestern Energy Production Co.
Karlsbad Corral #5H
Karlsbad Corral Section 11 T25S R29E
Eddy County New Mexico
Plan #1

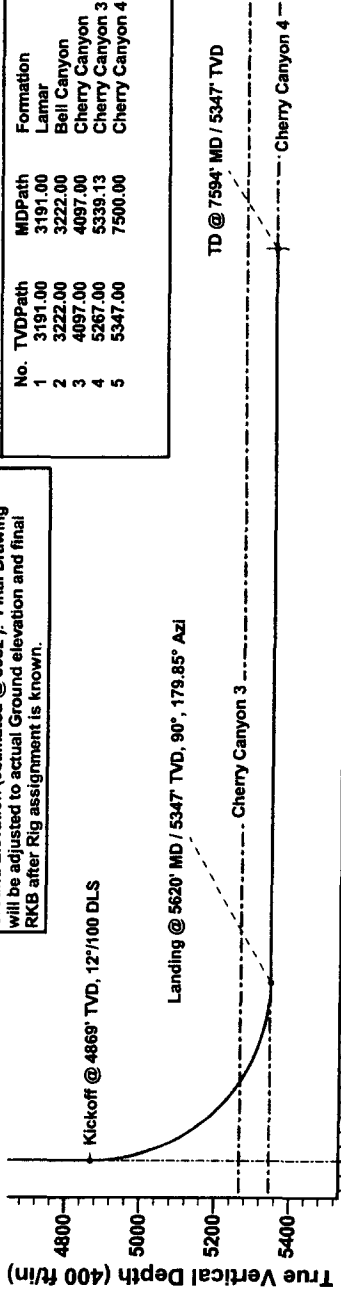


Surface Location	Estimated Ground Elevation:	3082.00	Assumed RKB @ 3097.00ft (Rig not Specified)
+N/S	+E/W	North	East
0.00	0.00	416501.20	615200.80
		Latitude	Longitude
		32° 8' 40.304N	103° 57' 40.074W
		Slot	

TARGET LOCATIONS				
Name	TVD	+N/S	+E/W	East
Section 11 (Karlsbad Corral 11 #5H)	0.00	-12.00	1980.00	416489.20
PBHL (Karlsbad Corral 11 #5H)	5347.00	-2452.00	615200.80	615207.40

Preliminary Version. Rig RKB assumed at 15' and Ground Elevation (estimated @ 3082'). Final Drawing will be adjusted to actual Ground elevation and final RKB after Rig assignment is known.

FORMATION TOP DETAILS			
No.	TVDPath	MDPPath	Formation
1	3191.00	3191.00	Lamar
2	3222.00	3222.00	Bell Canyon
3	4097.00	4097.00	Cherry Canyon
4	5339.13	5339.13	Cherry Canyon 3
5	5347.00	7500.00	Cherry Canyon 4



Vertical Section at 179.85° (400 ft/in)

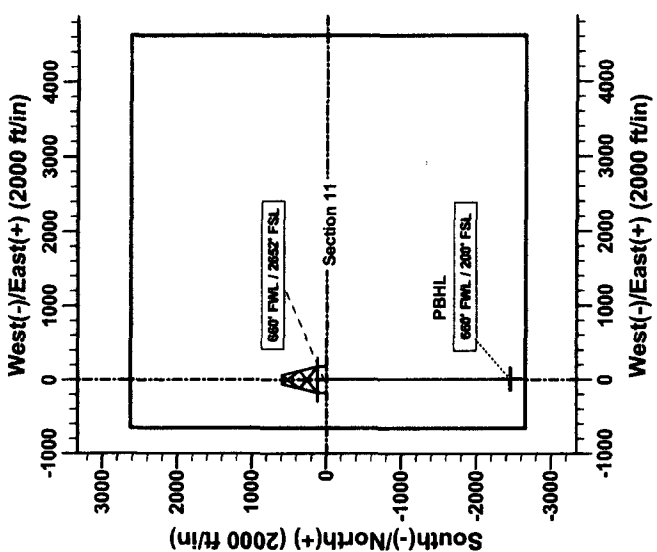
Phil Lyons 2/22/2007

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/S	+E/W	DLeg	TFace	VSec
1	0.00	0.00	179.85	0.00	0.00	0.00	0.00	0.00	0.00
2	4869.54	0.00	179.85	4869.54	0.00	0.00	0.00	0.00	0.00
3	5619.54	90.00	179.85	5347.00	-477.46	1.29	12.00	179.85	477.46
4	7594.08	90.00	179.85	5347.00	-2452.00	6.60	0.00	0.00	2452.01

PBHL (Karlsbad Corral 11 #5H)

Azimuths to Grid North
True North: -0.20°
Magnetic North: 8.06°

Magnetic Field
Strength: 48975.2nT
Dip Angle: 60.15°
Date: 2/22/2007
Model: IGRF2005-10



Southwestern Energy Production Co.

**Eddy County New Mexico
Karlsbad Corral Section 11 T25S R29E
Karlsbad Corral #5H
Wellbore #1**

Plan: Plan #1

Standard Planning Report

22 February, 2007

Crescent Directional Drilling Planning Report

Database: COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference: Well Karlsbad Corral #5H
Company: Southwestern Energy Production Co.	TVD Reference: Assumed RKB @ 3097.00ft (Rig not Specified)
Project: Eddy County New Mexico	MD Reference: Assumed RKB @ 3097.00ft (Rig not Specified)
Site: Karlsbad Corral Section 11 T25S R29E	North Reference: Grid
Well: Karlsbad Corral #5H	Survey Calculation Method: Minimum Curvature
Wellbore: Wellbore #1	
Design: Plan #1	

Project: Eddy County New Mexico		
Map System: US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum: NAD 1927 (NADCON CONUS)		
Map Zone: New Mexico East 3001		

Site: Karlsbad Corral Section 11 T25S R29E		
Site Position:	Northing: 416,501.20 ft	Latitude: 32° 08' 40.304" N
From: Map	Easting: 615,200.80 ft	Longitude: 103° 57' 40.074" W
Position Uncertainty: 0.00 ft	Slot Radius: in	Grid Convergence: 0.20 °

Well: Karlsbad Corral #5H		
Well Position	+N/-S 0.00 ft	Northing: 416,501.20 ft
	+E/-W 0.00 ft	Easting: 615,200.80 ft
		Latitude: 32° 08' 40.304" N
		Longitude: 103° 57' 40.074" W
Position Uncertainty 0.00 ft	Wellhead Elevation: ft	Ground Level: 3,082.00 ft

Wellbore: Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	2/22/2007	8.26	60.15	48,975

Design: Plan #1

Audit Notes:

Version: Phase: PROTOTYPE Tie On Depth: 0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	179.85

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	179.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,869.54	0.00	179.85	4,869.54	0.00	0.00	0.00	0.00	0.00	0.00	
5,619.54	90.00	179.85	5,347.00	-477.46	1.29	12.00	12.00	0.00	179.85	
7,594.08	90.00	179.85	5,347.00	-2,452.00	6.60	0.00	0.00	0.00	0.00	PBHL (Karlsbad Corral)

Crescent Directional Drilling Planning Report

Database:	COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference:	Well Karlsbad Corral #5H
Company:	Southwestern Energy Production Co.	TVD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Project:	Eddy County New Mexico	MD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Site:	Karlsbad Corral Section 11 T25S R29E	North Reference:	Grid
Well:	Karlsbad Corral #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	179.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	179.85	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	179.85	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	179.85	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	179.85	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	179.85	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	179.85	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	179.85	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	179.85	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	179.85	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	179.85	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	179.85	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	179.85	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	179.85	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	179.85	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	179.85	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	179.85	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	179.85	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	179.85	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	179.85	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	179.85	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	179.85	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	179.85	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	179.85	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	179.85	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	179.85	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	179.85	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	179.85	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	179.85	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	179.85	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	179.85	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	179.85	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,191.00	0.00	179.85	3,191.00	0.00	0.00	0.00	0.00	0.00	0.00
Lamar									
3,200.00	0.00	179.85	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,222.00	0.00	179.85	3,222.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
3,300.00	0.00	179.85	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	179.85	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	179.85	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	179.85	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	179.85	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	179.85	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	179.85	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	179.85	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,097.00	0.00	179.85	4,097.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
4,100.00	0.00	179.85	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	179.85	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	179.85	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	179.85	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	179.85	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	179.85	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00

Crescent Directional Drilling Planning Report

Database:	COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference:	Well Karlsbad Corral #5H
Company:	Southwestern Energy Production Co.	TVD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Project:	Eddy County New Mexico	MD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Site:	Karlsbad Corral Section 11 T25S R29E	North Reference:	Grid
Well:	Karlsbad Corral #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

4,700.00	0.00	179.85	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	179.85	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,869.54	0.00	179.85	4,869.54	0.00	0.00	0.00	0.00	0.00	0.00
Kickoff @ 4869' TVD, 12°/100 DLS									
4,900.00	3.66	179.85	4,899.98	-0.97	0.00	0.97	12.00	12.00	0.00
5,000.00	15.66	179.85	4,998.38	-17.71	0.05	17.71	12.00	12.00	0.00
5,100.00	27.66	179.85	5,091.15	-54.55	0.15	54.55	12.00	12.00	0.00
5,200.00	39.66	179.85	5,174.24	-109.87	0.30	109.87	12.00	12.00	0.00
5,300.00	51.66	179.85	5,244.01	-181.25	0.49	181.25	12.00	12.00	0.00
5,339.13	56.35	179.85	5,267.00	-212.90	0.57	212.90	12.00	12.00	0.00
Cherry Canyon 3									
5,400.00	63.66	179.85	5,297.41	-265.58	0.71	265.58	12.00	12.00	0.00
5,500.00	75.66	179.85	5,332.11	-359.17	0.97	359.17	12.00	12.00	0.00
5,600.00	87.66	179.85	5,346.60	-457.93	1.23	457.94	12.00	12.00	0.00
5,619.54	90.00	179.85	5,347.00	-477.46	1.29	477.46	12.00	12.00	0.00
Landing @ 5620' MD / 5347' TVD, 90°, 179.85° Azi									
5,700.00	90.00	179.85	5,347.00	-557.93	1.50	557.93	0.00	0.00	0.00
5,800.00	90.00	179.85	5,347.00	-657.93	1.77	657.93	0.00	0.00	0.00
5,900.00	90.00	179.85	5,347.00	-757.93	2.04	757.93	0.00	0.00	0.00
6,000.00	90.00	179.85	5,347.00	-857.93	2.31	857.93	0.00	0.00	0.00
6,100.00	90.00	179.85	5,347.00	-957.93	2.58	957.93	0.00	0.00	0.00
6,200.00	90.00	179.85	5,347.00	-1,057.93	2.85	1,057.93	0.00	0.00	0.00
6,300.00	90.00	179.85	5,347.00	-1,157.93	3.12	1,157.93	0.00	0.00	0.00
6,400.00	90.00	179.85	5,347.00	-1,257.93	3.39	1,257.93	0.00	0.00	0.00
6,500.00	90.00	179.85	5,347.00	-1,357.92	3.66	1,357.93	0.00	0.00	0.00
6,600.00	90.00	179.85	5,347.00	-1,457.92	3.92	1,457.93	0.00	0.00	0.00
6,700.00	90.00	179.85	5,347.00	-1,557.92	4.19	1,557.93	0.00	0.00	0.00
6,800.00	90.00	179.85	5,347.00	-1,657.92	4.46	1,657.93	0.00	0.00	0.00
6,900.00	90.00	179.85	5,347.00	-1,757.92	4.73	1,757.93	0.00	0.00	0.00
7,000.00	90.00	179.85	5,347.00	-1,857.92	5.00	1,857.93	0.00	0.00	0.00
7,100.00	90.00	179.85	5,347.00	-1,957.92	5.27	1,957.93	0.00	0.00	0.00
7,200.00	90.00	179.85	5,347.00	-2,057.92	5.54	2,057.93	0.00	0.00	0.00
7,300.00	90.00	179.85	5,347.00	-2,157.92	5.81	2,157.93	0.00	0.00	0.00
7,400.00	90.00	179.85	5,347.00	-2,257.92	6.08	2,257.93	0.00	0.00	0.00
7,500.00	90.00	179.85	5,347.00	-2,357.92	6.35	2,357.93	0.00	0.00	0.00
Cherry Canyon 4									
7,594.08	90.00	179.85	5,347.00	-2,452.00	6.60	2,452.01	0.00	0.00	0.00
TD @ 7594' MD / 5347' TVD									

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	ft	ft	(ft)	(ft)		
- Shape									
PBHL (Karlsbad Corral	0.00	0.00	5,347.00	-2,452.00	6.60	414,049.20	615,207.40	32° 08' 16.038" N	103° 57' 40.095" W
- plan misses by 94.08ft at 7500.00ft MD (5347.00 TVD, -2357.92 N, 6.35 E)									
- Point									
Section 11 (Karlsbad (	0.00	0.00	0.00	-12.00	1,980.00	416,489.20	617,180.80	32° 08' 40.117" N	103° 57' 17.045" W
- plan misses by 1980.04ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Rectangle (sides W5,280.00 H5,280.00 D0.00)									

Crescent Directional Drilling

Planning Report

Database: COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference: Well Karlsbad Corral #5H
Company: Southwestern Energy Production Co.	TVD Reference: Assumed RKB @ 3097.00ft (Rig not Specified)
Project: Eddy County New Mexico	MD Reference: Assumed RKB @ 3097.00ft (Rig not Specified)
Site: Karlsbad Corral Section 11 T25S R29E	North Reference: Grid
Well: Karlsbad Corral #5H	Survey Calculation Method: Minimum Curvature
Wellbore: Wellbore #1	
Design: Plan #1	

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,191.00	3,191.00	Lamar		0.00	
3,222.00	3,222.00	Bell Canyon		0.00	
4,097.00	4,097.00	Cherry Canyon		0.00	
5,339.13	5,267.00	Cherry Canyon 3		0.00	
7,500.00	5,347.00	Cherry Canyon 4		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,869.54	4,869.54	0.00	0.00	Kickoff @ 4869' TVD, 12°/100 DLS
5,619.54	5,347.00	-477.46	1.29	Landing @ 5620' MD / 5347' TVD, 90°, 179.85° Azi
7,594.08	5,347.00	-2,452.00	6.60	TD @ 7594' MD / 5347' TVD

34

35

24S - 29E

25S - 29E

1
3,305

3

Eastland Oil
New Year Fed

1
5,850

8-H

7-H

6-H

Santa Fe Energy
Corral Fly Unit

2

1

1-H

3-H

4-H

1-H

3-H

4-H

Santa Fe Energy
Corral Fly '11' Sta

10

11

12

SWD #1

2-H

5-H

Bettis Boyle & Stovall
Pickett Draw Fed

2

Bettis Boyle & Stovall
Pickett Draw Fed

3
5,202

15

14

Pogo Prodg
Bradley '13' Fed

4

8,600

Pogo Prodg
Bradley '13' Fed

1

6,500

13

Mobil
Latham Fed

1

5,300

Mobil
Corral Draw Unit

1

15,585

Mobil
Latham Fed

2

5,500



**SOUTHWESTERN
ENERGY COMPANY**

Karlsbad Corral 11 #5H Land Plat

Interp. By:

Date: 3-02-2007

Drafted By: Mike Bailey

Project Path: Z:\GIS\Alan_Grimsley\Karlsbad_11-5H

Projection: New Mexico East - Nad 27

Scale: 1" = 2,000'

LEGEND

1:24,000



Surface Location



Bottom Hole Location

23



**Southwestern Energy
Company**

2350 N. Sam Houston Parkway East
Suite 300
Houston, Texas 77032
(281) 618-4700 FAX: (281) 618-4818

March 5, 2007

COPY

Richard Ezeanyim
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Dear Mr. Ezeanyim:

Pursuant to Division Rule 104.F.(2), Southwestern Energy Production Company is requesting approval for of an unorthodox oil well location for the following well:

<u>Well:</u>	Karlsbad Corral 11 #5-H
<u>Location:</u>	2,652' feet FSL & 660 feet FWL
<u>Well Unit:</u>	NW¼SW¼ of Section 11, Township 25 South, Range 29 East, N.M.P.M., Eddy County, New Mexico

The well will be drilled to test the Cherry Canyon 4 formation (Northwest Corral Canyon, Delaware Pool). The pool is spaced on 40 acres, with wells to be located no closer than 330 feet to a quarter-quarter section line and for the subject well an exception to this 330' requirement is requested. A form C-102 is attached as Exhibit A.

The proposed location is based on engineering reasons. The proposed well, Karlsbad Corral 11 #5-H, will be directionally drilled from an unorthodox surface location 2,652 feet from the South Line and 660 feet from the West Line of Section 11 to a bottom hole location 200 feet from the South Line and 660 feet from the West line.

The well plan consists of drilling a vertical pilot hole to 5,600' MD and run wireline logs to confirm the Cherry Canyon 4 target zone. The well will be plugged back and prepared to the estimated KOP (kick off point) at 4,869' MD/TVD. The hole will be directional drilled utilizing a build rate of 12°/100' to penetrate the Cherry Canyon 4 Sand at 5,620' MD / 5,347' TVD at 90° of angle. The Cherry Canyon 4 will be intersected at 2,175' FSL and 660' FWL of Section 11 T25S R29E. The well will continue laterally (90°) for ±2452' of vertical displacement. The proposed BHL will be 200' FSL & 660' FWL of Section 11. The top of the Delaware will be intersected at ±3200' MD/TVD at 2,652' FSL and 660' FWL of Section 11. A drilling prognosis, directional plot, and proposed survey report are attached as Exhibit B

Production casing will be run and cemented to TD. The Cherry Canyon 4 Sand will be selectively perforated, with all perforations being placed in accordance of a standard location of Section 11 T25S R29E (greater than 330' from any lease line).

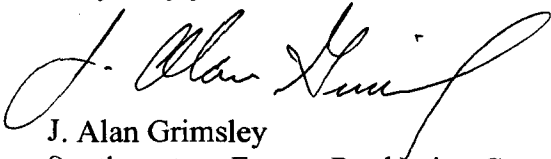
By placing the surface location at 2,652' FSL and 660' FWL of Section 11, the maximum amount of reservoir rock in the Cherry Canyon 4 Sand in the producing area can be penetrated and produced.

Furthermore, Southwestern Energy Production Company has gained 100% access to the mineral interests to the Cherry Canyon formation in the Delaware Mountain Group of Section 11 via farmout agreements with EOG (Lease Serial No. 3633-2). A land plat is attached as Exhibit D.

Your expedited approval of this unorthodox location is requested.

If you have any questions, I can be reached at 281-618-4068 or by email at alan_grimsley@swn.com.

Very truly yours,

A handwritten signature in cursive script, appearing to read "J. Alan Grimsley".

J. Alan Grimsley
Southwestern Energy Production Co.

Attachments
CC: District 2
BLM – Carlsbad Office

DISTRICT I

1625 N. FRANCH DR., ROSS, NM 88240

DISTRICT II

1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT III

1000 Rio Braso 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

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102

Revised October 12, 2005

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 KARLSBAD CORRAL 11	Well Number 5-H
OGRID No.	Operator Name SOUTHWESTERN ENERGY PRODUCTION COMPANY	Elevation 3086'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	11	25-S	29-E		2652	SOUTH	660	WEST	EDDY

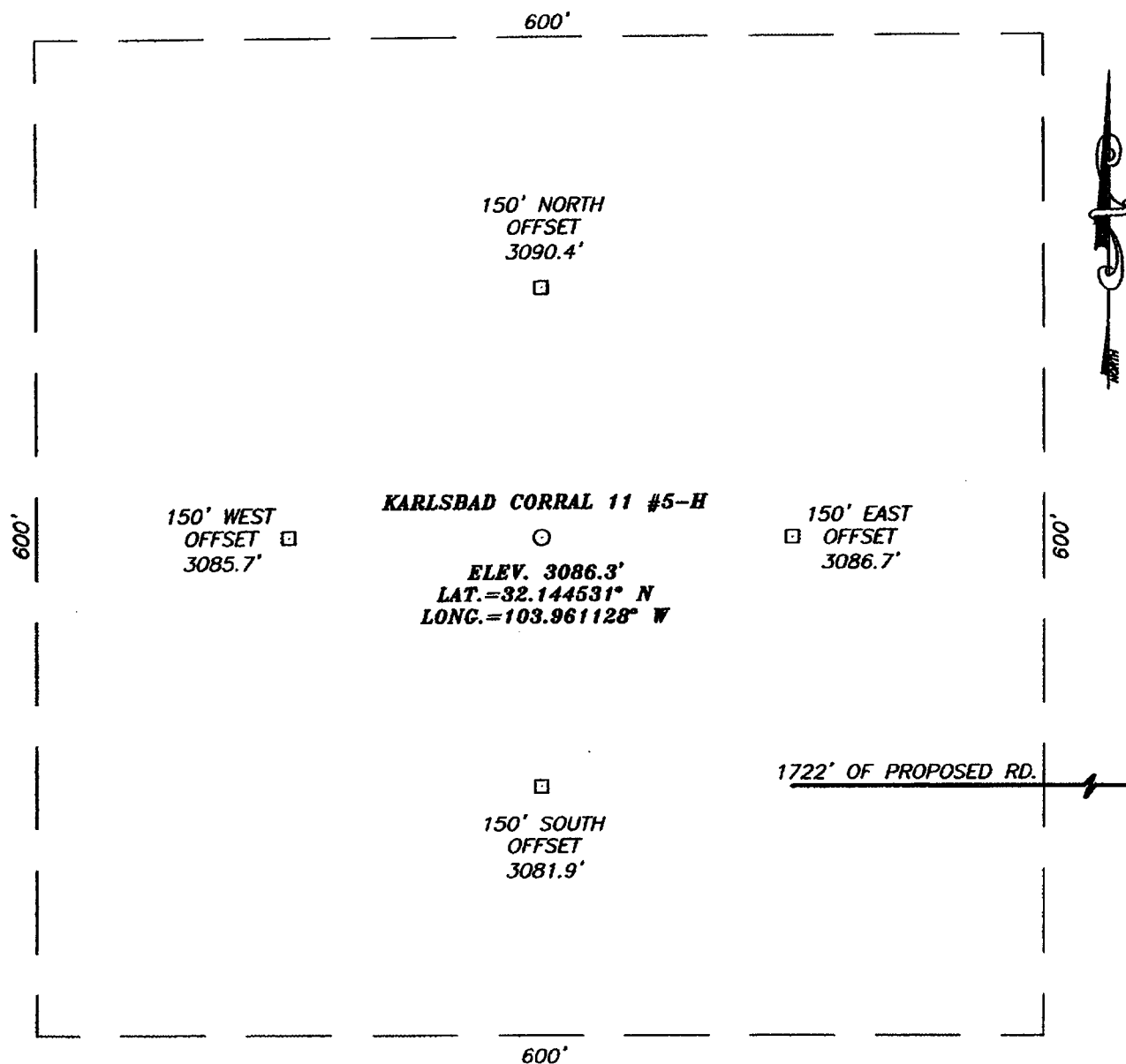
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	11	25-S	29-E		200	SOUTH	660	WEST	EDDY
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

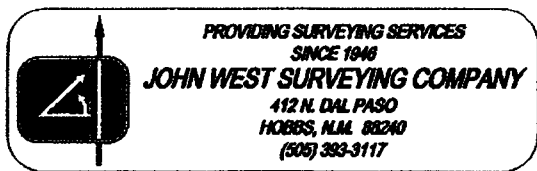
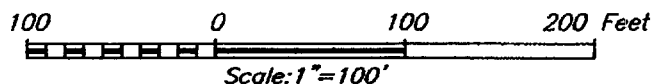
GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=416501.2 N X=615200.8 E BOTTOM HOLE LOCATION Y=414049.2 N X=615207.4 E LAT.=32.144531° N LONG.=103.961128° W 660' SURF. 660' B.H. GRID AZ = 179°50'42" HORIZ. DIST. = 2432.6' Project Area Producing Area				OPERATOR CERTIFICATION I hereby certify that the information 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 or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>James Alan Grimsley</i> 3/1/07 Signature Date JAMES ALAN GRIMSLEY Printed Name 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. JANUARY 02, 2007 Date Surveyed AR Signature & Seal of Professional Surveyor <i>Ronald J. Edson</i> 02/15/07 07.11.0143 Certificate No. GARY EDSON 12841 RONALD J. EDSON 3239
---	--	--	--	---

SECTION 11, TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM U.S. HWY. #285 AND CO. RD. #725 (LONGHORNE), GO NORTHEAST ON CO. RD. #725 APPROX. 5.5 MILES. TURN LEFT AND GO NORTH APPROX. 11.2 MILES. VEER RIGHT AND GO NORTHEAST APPROX. 1.7 MILES. TURN RIGHT AND GO SOUTH APPROX. 0.5 MILES TO PROPOSED ROAD SURVEY. FOLLOW ROAD SURVEY WEST APPROX. 1880 FEET TO THIS LOCATION.

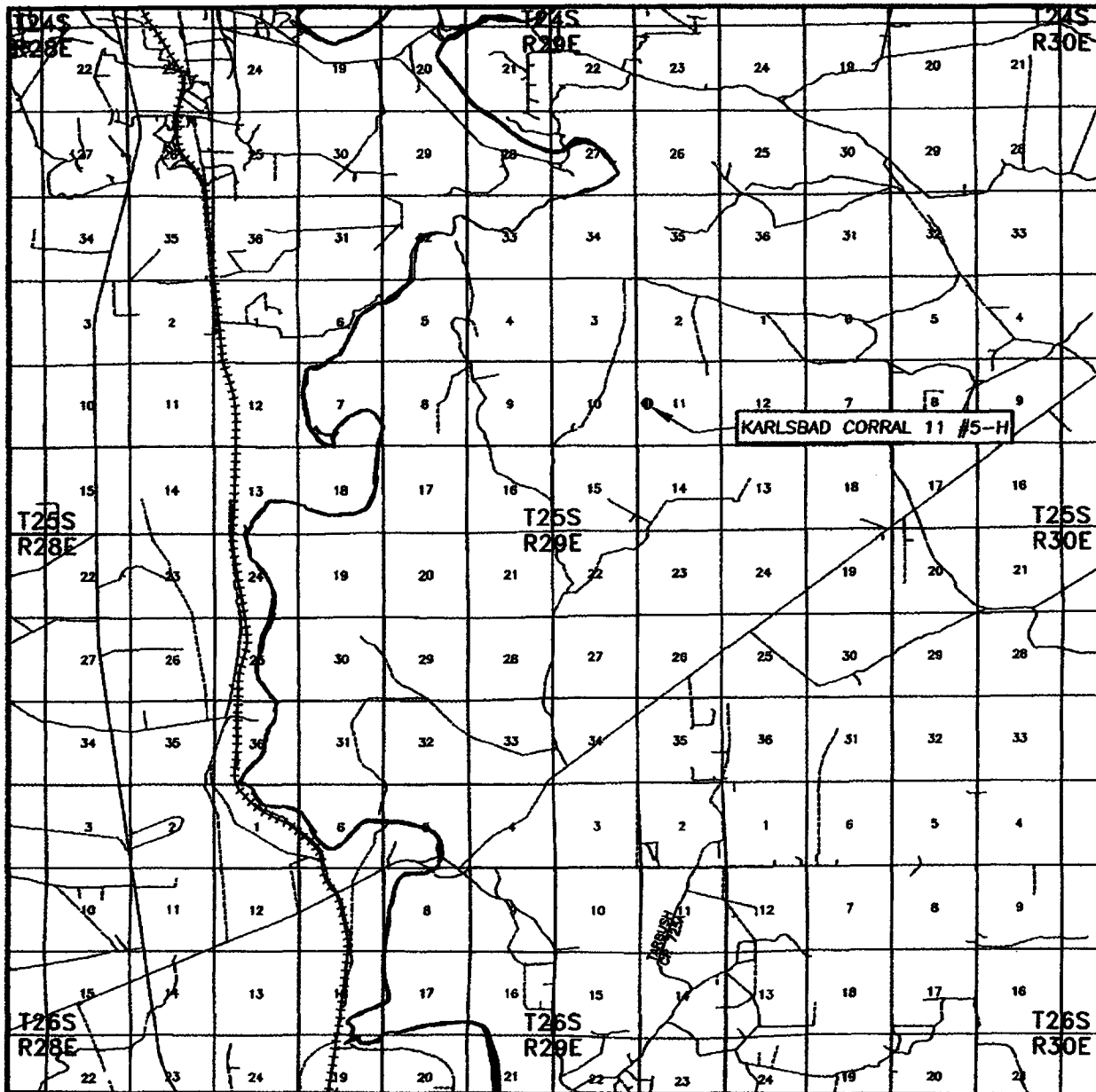


SOUTHWESTERN ENERGY PRODUCTION COMPANY

KARLSBAD CORRAL 11 #5-H WELL
 LOCATED 2652 FEET FROM THE SOUTH LINE
 AND 660 FEET FROM THE WEST LINE OF SECTION 11,
 TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO.

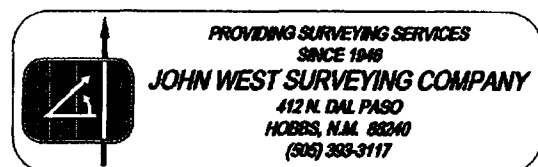
Survey Date: 02/02/07	Sheet 1 of 1 Sheets
W.O. Number: 07.11.0143	Dr By: AR
Date: 02/09/07	Disk: CD#5
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VICINITY MAP

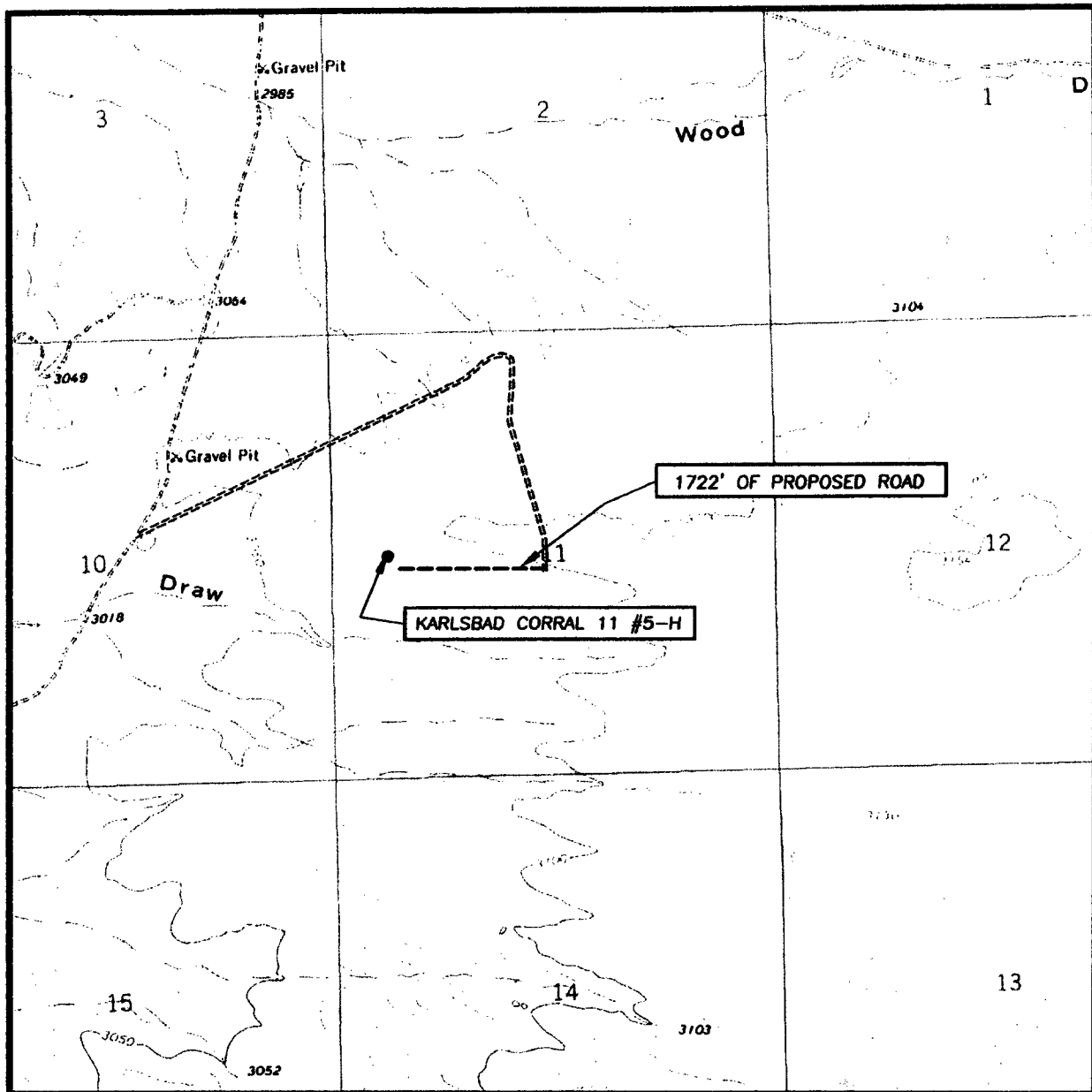


SCALE: 1" = 2 MILES

SEC. 11 TWP. 25-S RGE. 29-E
 SURVEY N.M.P.M.
 COUNTY EDDY STATE NEW MEXICO
 DESCRIPTION 2652' FSL & 660' FWL
 ELEVATION 3086'
 OPERATOR SOUTHWESTERN ENERGY PRODUCTION COMPANY
 LEASE KARLSBAD CORRAL 11



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
PIERCE CANYON, N.M. - 10'

SEC. 11 TWP. 25-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

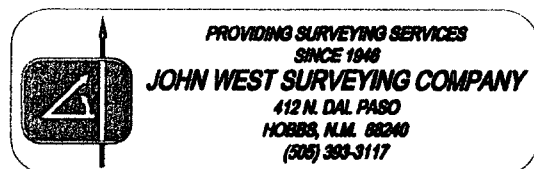
DESCRIPTION 2652' FSL & 660' FWL

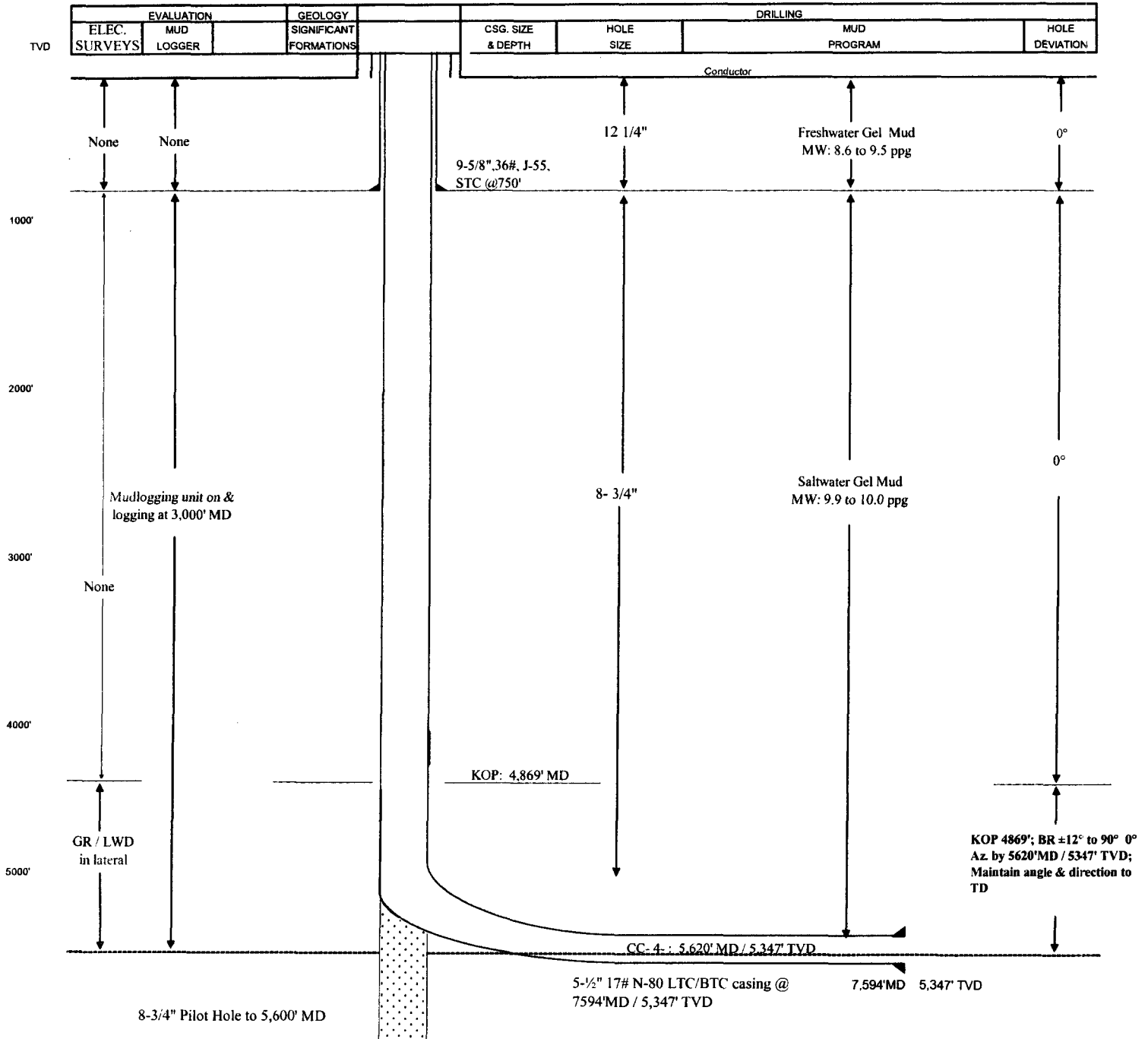
ELEVATION 3086'

OPERATOR SOUTHWESTERN ENERGY
PRODUCTION COMPANY

LEASE KARLSBAD CORRAL 11

U.S.G.S. TOPOGRAPHIC MAP
PIERCE CANYON, N.M.







Southwestern Energy Production Co.
Karlsbad Corral #5H
Karlsbad Corral Section 11 T25S R29E
Eddy County New Mexico
Plan #1

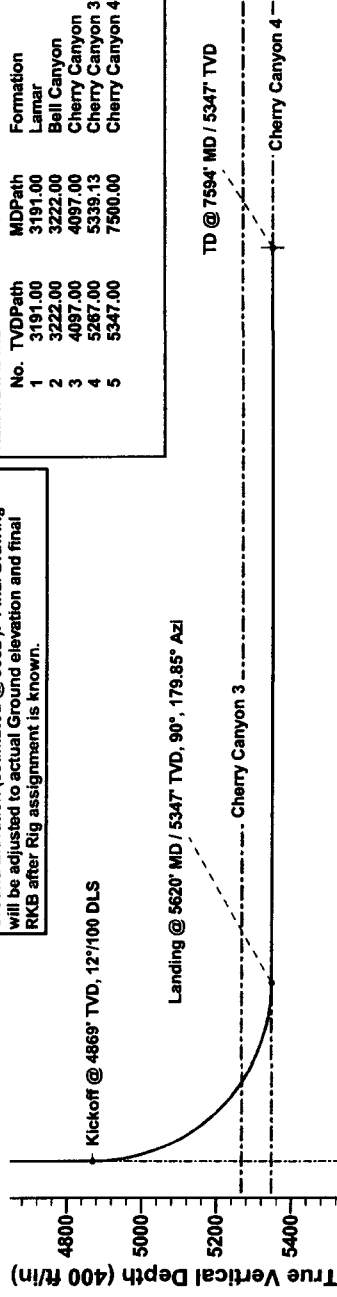
Southwestern Energy
Company

Surface Location		Estimated Ground Elevation:		Assumed RKB @ 3087.00ft (Rig not Specified)	
+N/-S	+E/-W	Northing	Eastng	Latitude	Longitude
0.00	0.00	416501.20	615200.80	32°8'40.304N	103°57'40.074W
Slot					

TARGET LOCATIONS					
Name	TVD	+N/-S	+E/-W	Northing	Eastng
Section 11 (Karlsbad Corral 11 #5H)	0.00	-12.00	1980.00	416489.20	Rectangle (5280.00x5280.00)
PBHL (Karlsbad Corral 11 #5H)	5347.00	-2452.00	6.60	414049.20	615207.40

Preliminary Version. Rig RKB assumed at 15' and Ground Elevation (estimated @ 3082'). Final Drawing will be adjusted to actual Ground elevation and final RKB after Rig assignment is known.

FORMATION TOP DETAILS		
No.	TVDPath	MDPath
1	3191.00	3191.00
2	3222.00	3222.00
3	4097.00	4097.00
4	5287.00	5339.13
5	5347.00	7500.00
		Formation
		Lamar
		Bell Canyon
		Cherry Canyon
		Cherry Canyon 3
		Cherry Canyon 4

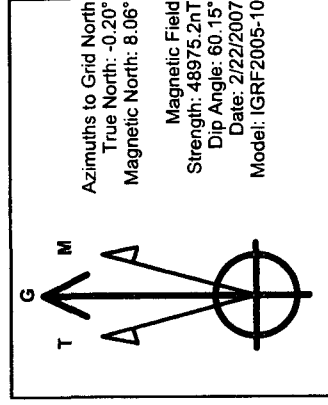


Vertical Section at 179.85° (400 ft/in)

Phil Lyons 2/22/2007

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.00	0.00	179.85	0.00	0.00	0.00	0.00	0.00	0.00
2	4869.54	0.00	179.85	4869.54	0.00	0.00	0.00	0.00	0.00
3	5619.54	90.00	179.85	5347.00	-477.46	1.29	12.00	179.85	477.46
4	7594.08	90.00	179.85	5347.00	-2452.00	6.60	0.00	0.00	2452.01

PBHL (Karlsbad Corral 11 #5H)



Southwestern Energy Production Co.

**Eddy County New Mexico
Karlsbad Corral Section 11 T25S R29E
Karlsbad Corral #5H
Wellbore #1**

Plan: Plan #1

Standard Planning Report

22 February, 2007

Crescent Directional Drilling Planning Report

Database:	COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference:	Well Karlsbad Corral #5H
Company:	Southwestern Energy Production Co.	TVD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Project:	Eddy County New Mexico	MD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Site:	Karlsbad Corral Section 11 T25S R29E	North Reference:	Grid
Well:	Karlsbad Corral #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project	Eddy County New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Karlsbad Corral Section 11 T25S R29E		
Site Position:		Northing:	416,501.20 ft
From:	Map	Easting:	615,200.80 ft
Position Uncertainty:	0.00 ft	Slot Radius:	in
		Latitude:	32° 08' 40.304" N
		Longitude:	103° 57' 40.074" W
		Grid Convergence:	0.20 °

Well	Karlsbad Corral #5H		
Well Position	+N/-S	0.00 ft	Northing: 416,501.20 ft
	+E/-W	0.00 ft	Easting: 615,200.80 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	32° 08' 40.304" N
		Longitude:	103° 57' 40.074" W
		Ground Level:	3,082.00 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	2/22/2007	8.26	60.15	48,975

Design Plan #1

Audit Notes:

Version:	Phase: PROTOTYPE	Tie On Depth: 0.00
-----------------	-------------------------	---------------------------

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	179.85

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	179.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,869.54	0.00	179.85	4,869.54	0.00	0.00	0.00	0.00	0.00	0.00	
5,619.54	90.00	179.85	5,347.00	-477.46	1.29	12.00	12.00	0.00	179.85	
7,594.08	90.00	179.85	5,347.00	-2,452.00	6.60	0.00	0.00	0.00	0.00	PBHL (Karlsbad Corr

Crescent Directional Drilling

Planning Report

Database:	COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference:	Well Karlsbad Corral #5H
Company:	Southwestern Energy Production Co.	TVD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Project:	Eddy County New Mexico	MD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Site:	Karlsbad Corral Section 11 T25S R29E	North Reference:	Grid
Well:	Karlsbad Corral #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	179.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	179.85	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	179.85	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	179.85	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	179.85	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	179.85	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	179.85	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	179.85	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	179.85	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	179.85	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	179.85	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	179.85	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	179.85	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	179.85	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	179.85	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	179.85	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	179.85	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	179.85	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	179.85	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	179.85	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	179.85	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	179.85	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	179.85	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	179.85	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	179.85	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	179.85	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	179.85	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	179.85	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	179.85	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	179.85	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	179.85	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	179.85	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,191.00	0.00	179.85	3,191.00	0.00	0.00	0.00	0.00	0.00	0.00
Lamar									
3,200.00	0.00	179.85	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,222.00	0.00	179.85	3,222.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
3,300.00	0.00	179.85	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	179.85	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	179.85	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	179.85	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	179.85	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	179.85	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	179.85	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	179.85	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,097.00	0.00	179.85	4,097.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
4,100.00	0.00	179.85	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	179.85	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	179.85	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	179.85	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	179.85	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	179.85	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00

Crescent Directional Drilling

Planning Report

Database:	COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference:	Well Karlsbad Corral #5H
Company:	Southwestern Energy Production Co.	TVD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Project:	Eddy County New Mexico	MD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Site:	Karlsbad Corral Section 11 T25S R29E	North Reference:	Grid
Well:	Karlsbad Corral #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

4,700.00	0.00	179.85	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	179.85	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,869.54	0.00	179.85	4,869.54	0.00	0.00	0.00	0.00	0.00	0.00
Kickoff @ 4869' TVD, 12°/100 DLS									
4,900.00	3.66	179.85	4,899.98	-0.97	0.00	0.97	12.00	12.00	0.00
5,000.00	15.66	179.85	4,998.38	-17.71	0.05	17.71	12.00	12.00	0.00
5,100.00	27.66	179.85	5,091.15	-54.55	0.15	54.55	12.00	12.00	0.00
5,200.00	39.66	179.85	5,174.24	-109.87	0.30	109.87	12.00	12.00	0.00
5,300.00	51.66	179.85	5,244.01	-181.25	0.49	181.25	12.00	12.00	0.00
5,339.13	56.35	179.85	5,267.00	-212.90	0.57	212.90	12.00	12.00	0.00
Cherry Canyon 3									
5,400.00	63.66	179.85	5,297.41	-265.58	0.71	265.58	12.00	12.00	0.00
5,500.00	75.66	179.85	5,332.11	-359.17	0.97	359.17	12.00	12.00	0.00
5,600.00	87.66	179.85	5,346.60	-457.93	1.23	457.94	12.00	12.00	0.00
5,619.54	90.00	179.85	5,347.00	-477.46	1.29	477.46	12.00	12.00	0.00
Landing @ 5620' MD / 5347' TVD, 90°, 179.85° Azi									
5,700.00	90.00	179.85	5,347.00	-557.93	1.50	557.93	0.00	0.00	0.00
5,800.00	90.00	179.85	5,347.00	-657.93	1.77	657.93	0.00	0.00	0.00
5,900.00	90.00	179.85	5,347.00	-757.93	2.04	757.93	0.00	0.00	0.00
6,000.00	90.00	179.85	5,347.00	-857.93	2.31	857.93	0.00	0.00	0.00
6,100.00	90.00	179.85	5,347.00	-957.93	2.58	957.93	0.00	0.00	0.00
6,200.00	90.00	179.85	5,347.00	-1,057.93	2.85	1,057.93	0.00	0.00	0.00
6,300.00	90.00	179.85	5,347.00	-1,157.93	3.12	1,157.93	0.00	0.00	0.00
6,400.00	90.00	179.85	5,347.00	-1,257.93	3.39	1,257.93	0.00	0.00	0.00
6,500.00	90.00	179.85	5,347.00	-1,357.92	3.66	1,357.93	0.00	0.00	0.00
6,600.00	90.00	179.85	5,347.00	-1,457.92	3.92	1,457.93	0.00	0.00	0.00
6,700.00	90.00	179.85	5,347.00	-1,557.92	4.19	1,557.93	0.00	0.00	0.00
6,800.00	90.00	179.85	5,347.00	-1,657.92	4.46	1,657.93	0.00	0.00	0.00
6,900.00	90.00	179.85	5,347.00	-1,757.92	4.73	1,757.93	0.00	0.00	0.00
7,000.00	90.00	179.85	5,347.00	-1,857.92	5.00	1,857.93	0.00	0.00	0.00
7,100.00	90.00	179.85	5,347.00	-1,957.92	5.27	1,957.93	0.00	0.00	0.00
7,200.00	90.00	179.85	5,347.00	-2,057.92	5.54	2,057.93	0.00	0.00	0.00
7,300.00	90.00	179.85	5,347.00	-2,157.92	5.81	2,157.93	0.00	0.00	0.00
7,400.00	90.00	179.85	5,347.00	-2,257.92	6.08	2,257.93	0.00	0.00	0.00
7,500.00	90.00	179.85	5,347.00	-2,357.92	6.35	2,357.93	0.00	0.00	0.00
Cherry Canyon 4									
7,594.08	90.00	179.85	5,347.00	-2,452.00	6.60	2,452.01	0.00	0.00	0.00
TD @ 7594' MD / 5347' TVD									

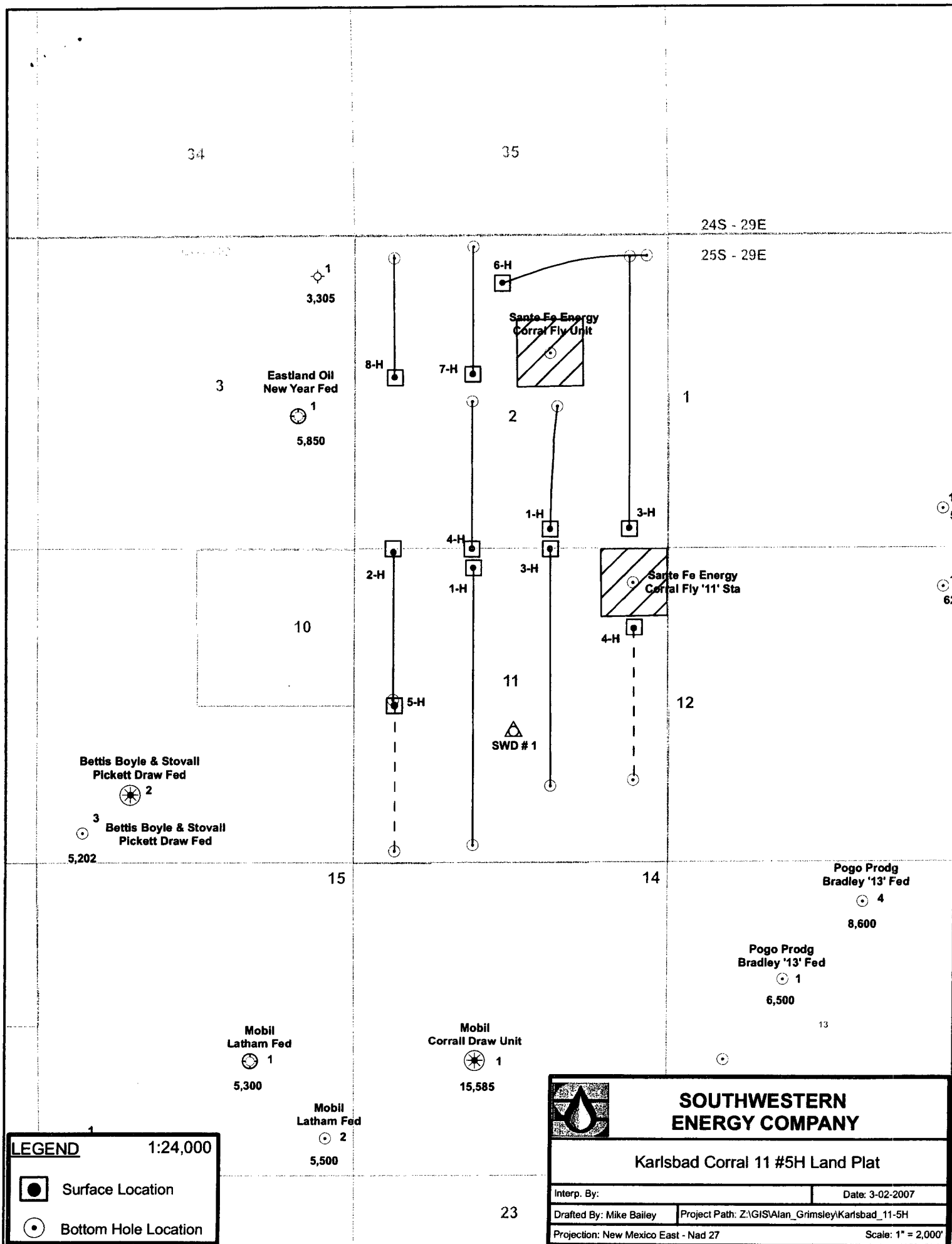
Targets									
Target Name	- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	
- Shape		(°)	(°)	(ft)	ft	ft	(ft)	(ft)	Latitude Longitude
PBHL (Karlsbad Corral		0.00	0.00	5,347.00	-2,452.00	6.60	414,049.20	615,207.40	32° 08' 16.038" N 103° 57' 40.095" W
- plan misses by 94.08ft at 7500.00ft MD (5347.00 TVD, -2357.92 N, 6.35 E)									
- Point									
Section 11 (Karlsbad Corral		0.00	0.00	0.00	-12.00	1,980.00	416,489.20	617,180.80	32° 08' 40.117" N 103° 57' 17.045" W
- plan misses by 1980.04ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Rectangle (sides W5,280.00 H5,280.00 D0.00)									

Crescent Directional Drilling Planning Report

Database:	COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference:	Well Karlsbad Corral #5H
Company:	Southwestern Energy Production Co.	TVD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Project:	Eddy County New Mexico	MD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Site:	Karlsbad Corral Section 11 T25S R29E	North Reference:	Grid
Well:	Karlsbad Corral #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,191.00	3,191.00	Lamar		0.00		
3,222.00	3,222.00	Bell Canyon		0.00		
4,097.00	4,097.00	Cherry Canyon		0.00		
5,339.13	5,267.00	Cherry Canyon 3		0.00		
7,500.00	5,347.00	Cherry Canyon 4		0.00		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,869.54	4,869.54	0.00	0.00	Kickoff @ 4869' TVD, 12°/100 DLS
5,619.54	5,347.00	-477.46	1.29	Landing @ 5620' MD / 5347' TVD, 90°, 179.85° Azi
7,594.08	5,347.00	-2,452.00	6.60	TD @ 7594' MD / 5347' TVD





**Southwestern Energy
Company**

2350 N. Sam Houston Parkway East
Suite 300
Houston, Texas 77032
(281) 618-4700 FAX: (281) 618-4818

March 5, 2007

COPY

Richard Ezeanyim
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Dear Mr. Ezeanyim:

Pursuant to Division Rule 104.F.(2), Southwestern Energy Production Company is requesting approval for of an unorthodox oil well location for the following well:

Well: Karlsbad Corral 11 #5-H
Location: 2,652' feet FSL & 660 feet FWL
Well Unit: NW¼SW¼ of Section 11, Township 25 South, Range 29 East,
N.M.P.M., Eddy County, New Mexico

The well will be drilled to test the Cherry Canyon 4 formation (Northwest Corral Canyon, Delaware Pool). The pool is spaced on 40 acres, with wells to be located no closer than 330 feet to a quarter-quarter section line and for the subject well an exception to this 330' requirement is requested. A form C-102 is attached as Exhibit A.

The proposed location is based on engineering reasons. The proposed well, Karlsbad Corral 11 #5-H, will be directionally drilled from an unorthodox surface location 2,652 feet from the South Line and 660 feet from the West Line of Section 11 to a bottom hole location 200 feet from the South Line and 660 feet from the West line.

The well plan consists of drilling a vertical pilot hole to 5,600' MD and run wireline logs to confirm the Cherry Canyon 4 target zone. The well will be plugged back and prepared to the estimated KOP (kick off point) at 4,869' MD/TVD. The hole will be directional drilled utilizing a build rate of 12°/100' to penetrate the Cherry Canyon 4 Sand at 5,620' MD / 5,347' TVD at 90° of angle. The Cherry Canyon 4 will be intersected at 2,175' FSL and 660' FWL of Section 11 T25S R29E. The well will continue laterally (90°) for ±2452' of vertical displacement. The proposed BHL will be 200' FSL & 660' FWL of Section 11. The top of the Delaware will be intersected at ±3200' MD/TVD at 2,652' FSL and 660' FWL of Section 11. A drilling prognosis, directional plot, and proposed survey report are attached as Exhibit B

Production casing will be run and cemented to TD. The Cherry Canyon 4 Sand will be selectively perforated, with all perforations being placed in accordance of a standard location of Section 11 T25S R29E (greater than 330' from any lease line).

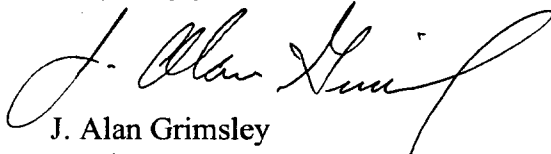
By placing the surface location at 2,652' FSL and 660' FWL of Section 11, the maximum amount of reservoir rock in the Cherry Canyon 4 Sand in the producing area can be penetrated and produced.

Furthermore, Southwestern Energy Production Company has gained 100% access to the mineral interests to the Cherry Canyon formation in the Delaware Mountain Group of Section 11 via farmout agreements with EOG (Lease Serial No. 3633-2). A land plat is attached as Exhibit D.

Your expedited approval of this unorthodox location is requested.

If you have any questions, I can be reached at 281-618-4068 or by email at alan_grimsley@swn.com.

Very truly yours,

A handwritten signature in black ink, appearing to read "J. Alan Grimsley". The signature is fluid and cursive, with a large, sweeping "J" and a long, horizontal flourish at the end.

J. Alan Grimsley
Southwestern Energy Production Co.

Attachments
CC: District 2
BLM – Carlsbad Office

DISTRICT I
1225 N. FRENCH DR., ROSS, NM 88240

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

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

DISTRICT IV
1225 S. ST. FRANCIS DR., SANTA FE, NM 87505

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 October 12, 2005
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 KARLSBAD CORRAL 11	Well Number 5-H
GRID No.	Operator Name SOUTHWESTERN ENERGY PRODUCTION COMPANY	Elevation 3086'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	11	25-S	29-E		2652	SOUTH	660	WEST	EDDY

Bottom Hole Location If Different From Surface

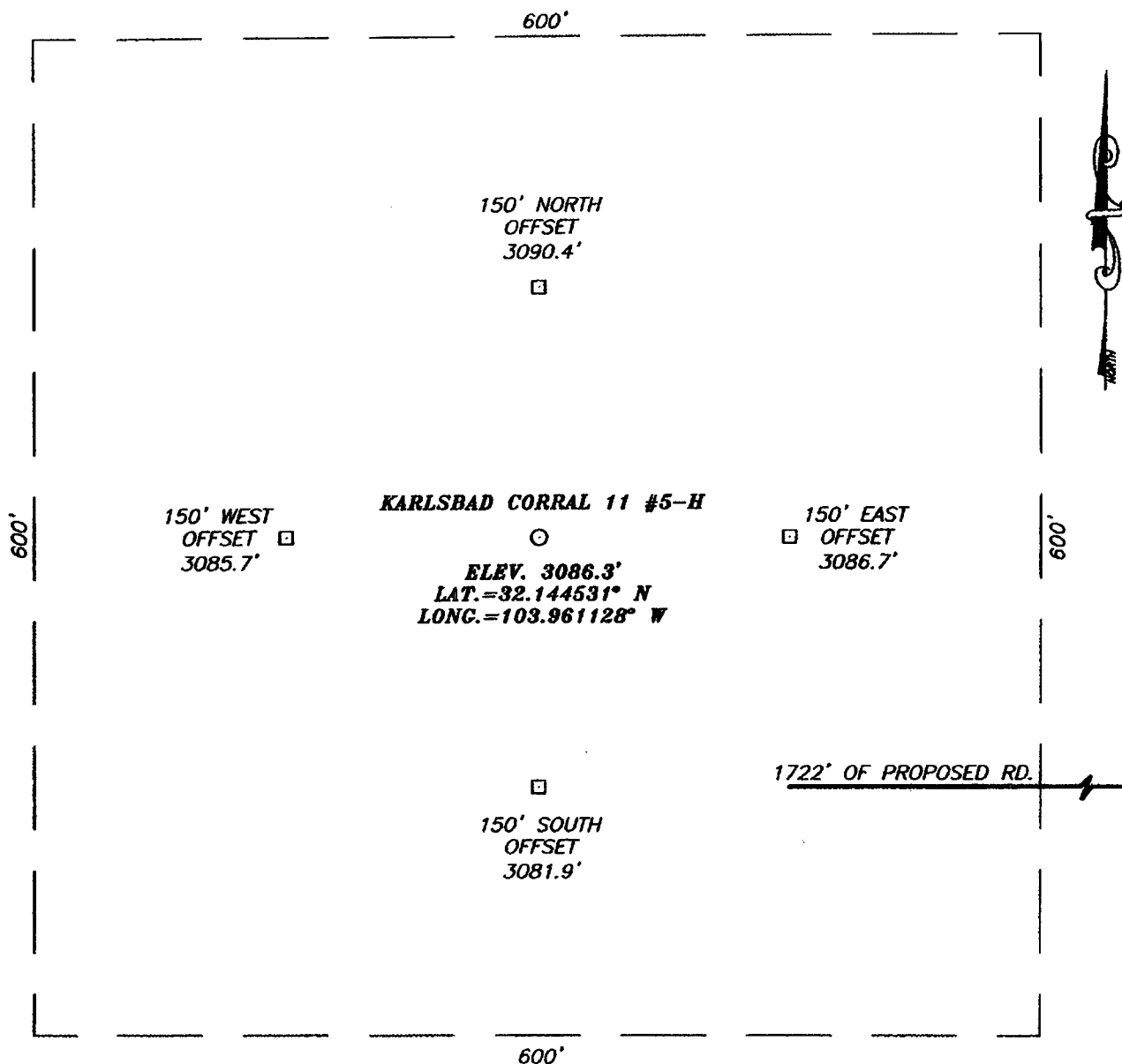
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	11	25-S	29-E		200	SOUTH	660	WEST	EDDY

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

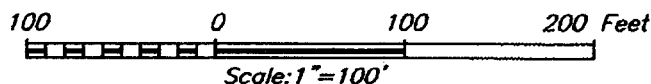
GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=416501.2 N X=615200.8 E LAT.=32.144531° N LONG.=103.961128° W BOTTOM HOLE LOCATION Y=414049.2 N X=615207.4 E 660' SURF. 660' B.H. 200' 2652' GRID AZ.=172°50'42" HORIZ. DIST.=2432.6' Project Area Producing Area	OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unless 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>James Alan Grimsley</i> 3/1/07 Signature Date JAMES ALAN GRIMSLEY Printed Name 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. JANUARY 02, 2007 Date Surveyed AR Signature & Seal of Professional Surveyor <i>Ronald J. Edson</i> 02/15/07 07.11.0143 Certificate No. GARY EDSON 12841 RONALD J. EDSON 3239
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SECTION 11, TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

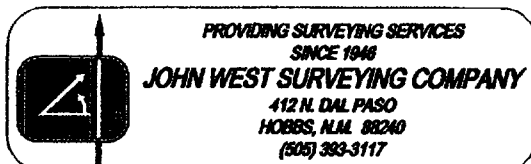
FROM U.S. HWY. #285 AND CO. RD. #725 (LONGHORNE), GO NORTHEAST ON CO. RD. #725 APPROX. 5.5 MILES. TURN LEFT AND GO NORTH APPROX. 11.2 MILES. VEER RIGHT AND GO NORTHEAST APPROX. 1.7 MILES. TURN RIGHT AND GO SOUTH APPROX. 0.5 MILES TO PROPOSED ROAD SURVEY. FOLLOW ROAD SURVEY WEST APPROX. 1880 FEET TO THIS LOCATION.



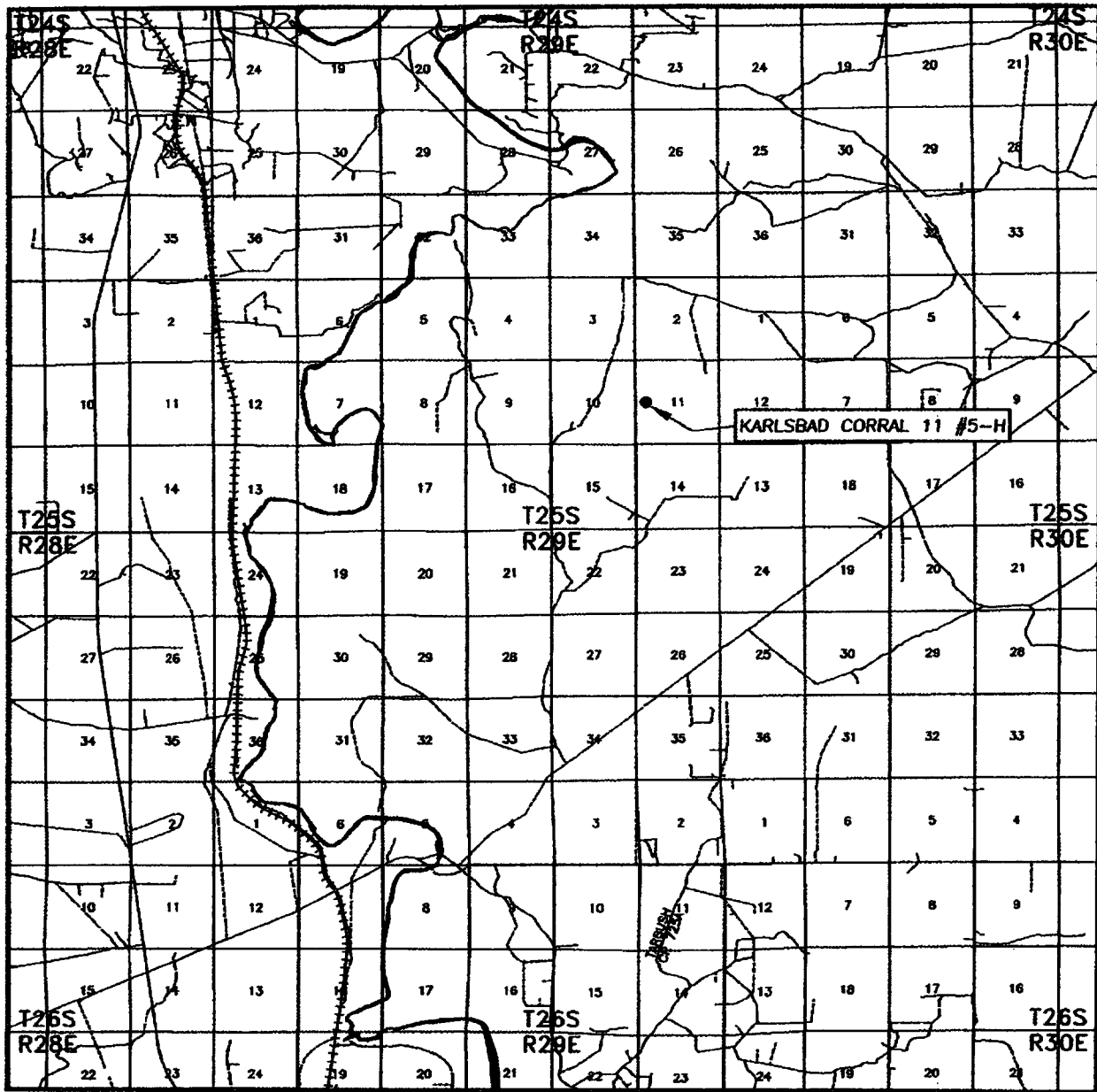
SOUTHWESTERN ENERGY PRODUCTION COMPANY

KARLSBAD CORRAL 11 #5-H WELL
 LOCATED 2652 FEET FROM THE SOUTH LINE
 AND 660 FEET FROM THE WEST LINE OF SECTION 11,
 TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO.

Survey Date: 02/02/07	Sheet 1 of 1 Sheets
W.O. Number: 07.11.0143	Dr By: AR
Date: 02/09/07	Disk: CD#5
07110143	Scale: 1"=100'

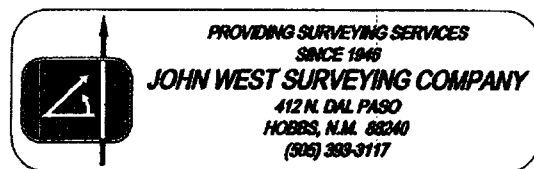


VICINITY MAP

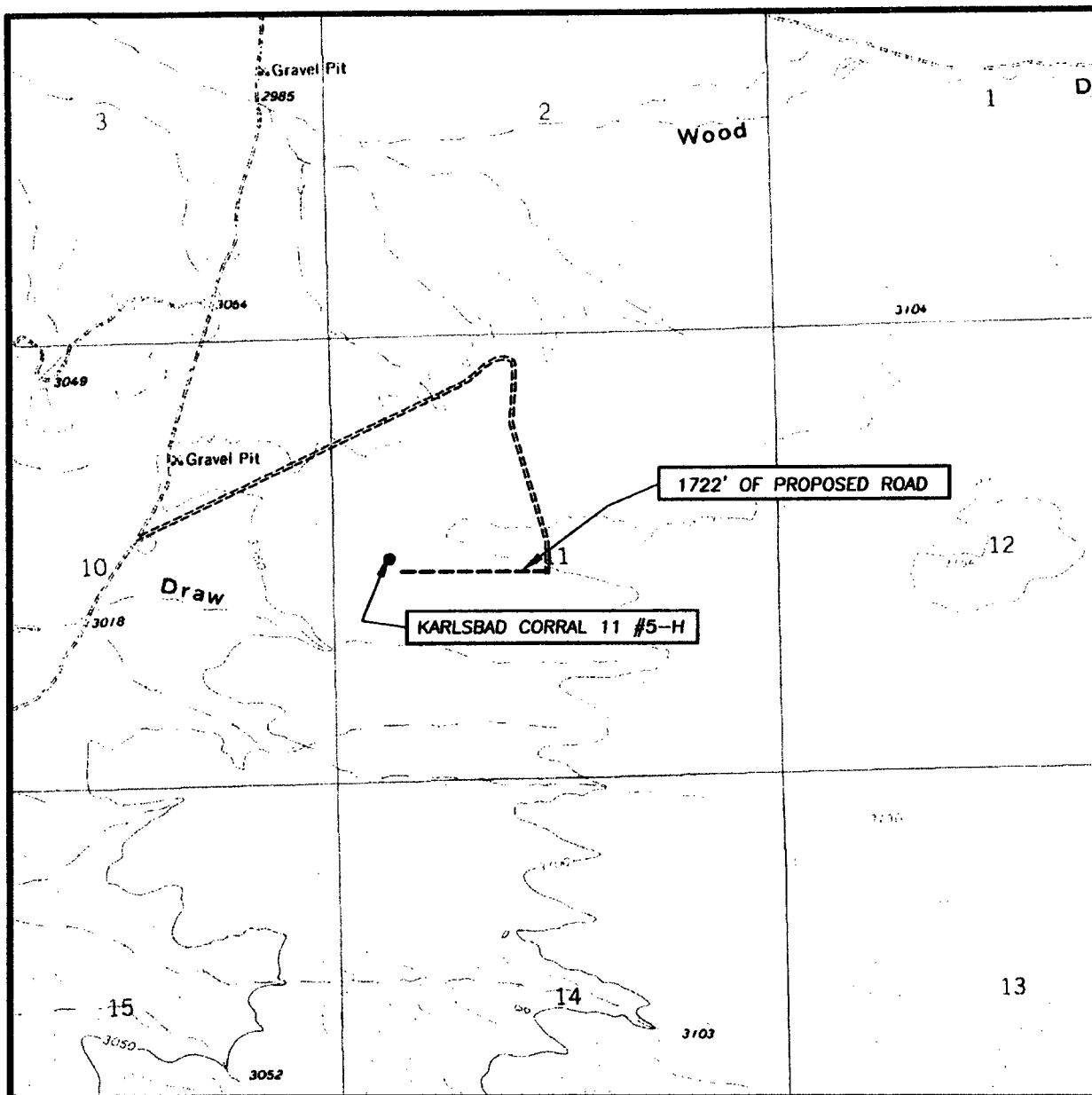


SCALE: 1" = 2 MILES

SEC. 11 TWP. 25-S RGE. 29-E
 SURVEY N.M.P.M.
 COUNTY EDDY STATE NEW MEXICO
 DESCRIPTION 2652' FSL & 660' FWL
 ELEVATION 3086'
 OPERATOR SOUTHWESTERN ENERGY PRODUCTION COMPANY
 LEASE KARLSBAD CORRAL 11



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
PIERCE CANYON, N.M. - 10'

SEC. 11 TWP. 25-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

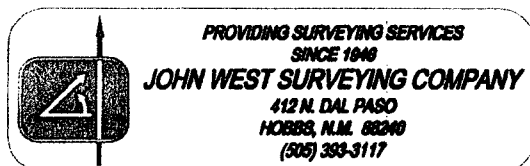
DESCRIPTION 2652' FSL & 660' FWL

ELEVATION 3086'

OPERATOR SOUTHWESTERN ENERGY
PRODUCTION COMPANY

LEASE KARLSBAD CORRAL 11

U.S.G.S. TOPOGRAPHIC MAP
PIERCE CANYON, N.M.

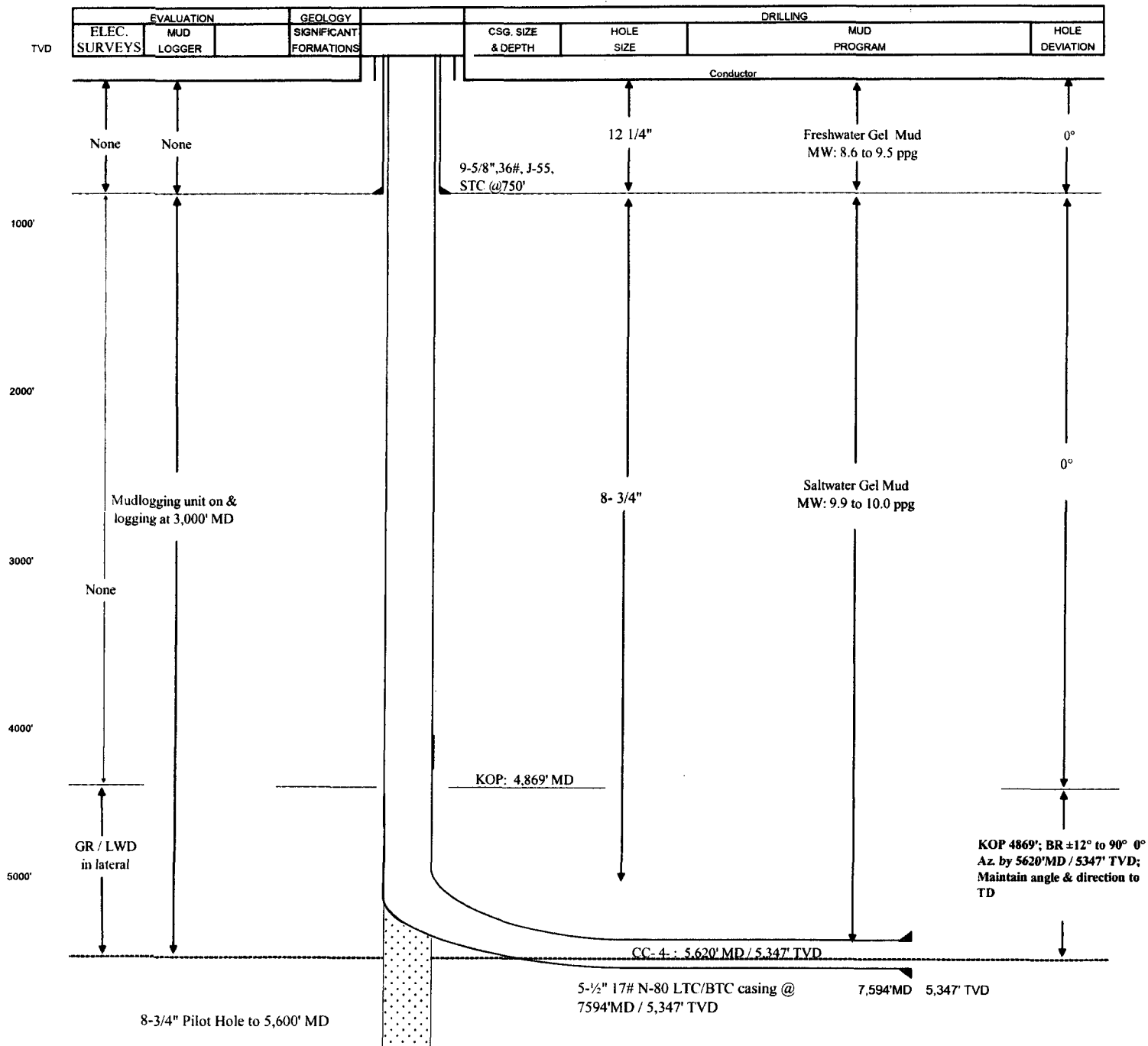




AFE NO.

PROSPECT: Corral Fly

EST. ELEVATION: GL 3086'; RKB $\pm 16''$





Southwestern Energy Production Co.
Karlsbad Corral #5H
Karlsbad Corral Section 11 T25S R29E
Eddy County New Mexico
Plan #1

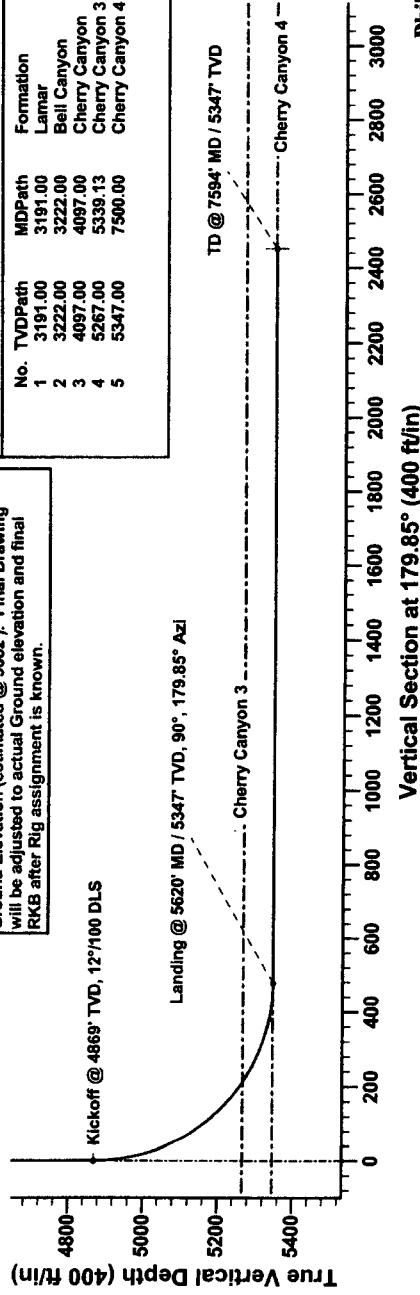
Southwestern Energy
Company

Surface Location	Estimated Ground Elevation: 3082.00 Assumed RKB @ 3097.00ft (Rig not Specified)			
+N/-S	+E/-W	Northing	Eastng	Latitude
0.00	0.00	416501.20	615200.80	32°9'40.304N
				103°57'40.074W
				Slot

TARGET LOCATIONS				
Name	TVD	+N/-S	+E/-W	Northng
Section 11 (Karlsbad Corral 11 #5H)	0.00	-12.00	1980.00	416489.20
PBHL (Karlsbad Corral 11 #5H)	5347.00	-2452.00	6.60	414049.20
				615207.40

Preliminary Version. Rig RKB assumed at 15' and
(Ground Elevation (estimated @ 3082)). Final Drawing
will be adjusted to actual Ground elevation and final
RKB after Rig assignment is known.

FORMATION TOP DETAILS			
No.	TVDPath	MDPath	Formation
1	3191.00	3191.00	Lamar
2	3222.00	3222.00	Bell Canyon
3	4097.00	4097.00	Cherry Canyon
4	5267.00	5335.13	Cherry Canyon 3
5	5347.00	7500.00	Cherry Canyon 4



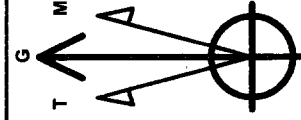
Vertical Section at 179.85° (400 ft/in)

Phil Lyons 2/22/2007

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.00	0.00	179.85	0.00	0.00	0.00	0.00	0.00	0.00
2	4869.54	0.00	179.85	4869.54	0.00	0.00	0.00	0.00	0.00
3	5619.54	90.00	179.85	5347.00	-477.46	1.29	12.00	179.35	477.46
4	7594.08	90.00	179.85	5347.00	-2452.00	6.60	0.00	0.00	2452.01

PBHL (Karlsbad Corral 11 #5H)



Azimuths to Grid North
True North: -0.20°
Magnetic North: 8.06°
Magnetic Field
Strength: 48975.2nT
Dip Angle: 60.15°
Date: 2/22/2007
Model: IGRF2005-10

Southwestern Energy Production Co.

**Eddy County New Mexico
Karlsbad Corral Section 11 T25S R29E
Karlsbad Corral #5H
Wellbore #1**

Plan: Plan #1

Standard Planning Report

22 February, 2007

Crescent Directional Drilling

Planning Report

Database: COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference: Well Karlsbad Corral #5H	
Company: Southwestern Energy Production Co.	TVD Reference: Assumed RKB @ 3097.00ft (Rig not Specified)	
Project: Eddy County New Mexico	MD Reference: Assumed RKB @ 3097.00ft (Rig not Specified)	
Site: Karlsbad Corral Section 11 T25S R29E	North Reference: Grid	
Well: Karlsbad Corral #5H	Survey Calculation Method: Minimum Curvature	
Wellbore: Wellbore #1		
Design: Plan #1		

Project: Eddy County New Mexico		
Map System: US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum: NAD 1927 (NADCON CONUS)		
Map Zone: New Mexico East 3001		

Site: Karlsbad Corral Section 11 T25S R29E		
Site Position:	Northing: 416,501.20 ft	Latitude: 32° 08' 40.304" N
From: Map	Easting: 615,200.80 ft	Longitude: 103° 57' 40.074" W
Position Uncertainty: 0.00 ft	Slot Radius: in	Grid Convergence: 0.20 °

Well: Karlsbad Corral #5H		
Well Position	+N/-S 0.00 ft	Northing: 416,501.20 ft
	+E/-W 0.00 ft	Easting: 615,200.80 ft
Position Uncertainty 0.00 ft		Latitude: 32° 08' 40.304" N
		Longitude: 103° 57' 40.074" W
	Wellhead Elevation: ft	Ground Level: 3,082.00 ft

Wellbore: Wellbore #1		
Magnetics	Model Name	Sample Date
	IGRF2005-10	2/22/2007
	Declination (°)	Dip Angle (°)
	8.26	60.15
		Field Strength (nT)
		48,975

Design: Plan #1		
Audit Notes:		
Version:	Phase: PROTOTYPE	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	Direction
	(ft)	(°)
	0.00	179.85

Plan Sections									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)
0.00	0.00	179.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,869.54	0.00	179.85	4,869.54	0.00	0.00	0.00	0.00	0.00	0.00
5,619.54	90.00	179.85	5,347.00	-477.46	1.29	12.00	12.00	0.00	179.85
7,594.08	90.00	179.85	5,347.00	-2,452.00	6.60	0.00	0.00	0.00	0.00 PBHL (Karlsbad Corr

Crescent Directional Drilling Planning Report

Database:	COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference:	Well Karlsbad Corral #5H
Company:	Southwestern Energy Production Co.	TVD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Project:	Eddy County New Mexico	MD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Site:	Karlsbad Corral Section 11 T25S R29E	North Reference:	Grid
Well:	Karlsbad Corral #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	179.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	179.85	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	179.85	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	179.85	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	179.85	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	179.85	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	179.85	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	179.85	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	179.85	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	179.85	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	179.85	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	179.85	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	179.85	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	179.85	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	179.85	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	179.85	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	179.85	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	179.85	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	179.85	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	179.85	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	179.85	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	179.85	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	179.85	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	179.85	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	179.85	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	179.85	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	179.85	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	179.85	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	179.85	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	179.85	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	179.85	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	179.85	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,191.00	0.00	179.85	3,191.00	0.00	0.00	0.00	0.00	0.00	0.00
Lamar									
3,200.00	0.00	179.85	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,222.00	0.00	179.85	3,222.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
3,300.00	0.00	179.85	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	179.85	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	179.85	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	179.85	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	179.85	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	179.85	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	179.85	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	179.85	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,097.00	0.00	179.85	4,097.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
4,100.00	0.00	179.85	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	179.85	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	179.85	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	179.85	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	179.85	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	179.85	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00

Crescent Directional Drilling

Planning Report

Database:	COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference:	Well Karlsbad Corral #5H
Company:	Southwestern Energy Production Co.	TVD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Project:	Eddy County New Mexico	MD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Site:	Karlsbad Corral Section 11 T25S R29E	North Reference:	Grid
Well:	Karlsbad Corral #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

4,700.00	0.00	179.85	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	179.85	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,869.54	0.00	179.85	4,869.54	0.00	0.00	0.00	0.00	0.00	0.00
Kickoff @ 4869' TVD, 12°/100 DLS									
4,900.00	3.66	179.85	4,899.98	-0.97	0.00	0.97	12.00	12.00	0.00
5,000.00	15.66	179.85	4,998.38	-17.71	0.05	17.71	12.00	12.00	0.00
5,100.00	27.66	179.85	5,091.15	-54.55	0.15	54.55	12.00	12.00	0.00
5,200.00	39.66	179.85	5,174.24	-109.87	0.30	109.87	12.00	12.00	0.00
5,300.00	51.66	179.85	5,244.01	-181.25	0.49	181.25	12.00	12.00	0.00
5,339.13	56.35	179.85	5,267.00	-212.90	0.57	212.90	12.00	12.00	0.00
Cherry Canyon 3									
5,400.00	63.66	179.85	5,297.41	-265.58	0.71	265.58	12.00	12.00	0.00
5,500.00	75.66	179.85	5,332.11	-359.17	0.97	359.17	12.00	12.00	0.00
5,600.00	87.66	179.85	5,346.60	-457.93	1.23	457.94	12.00	12.00	0.00
5,619.54	90.00	179.85	5,347.00	-477.46	1.29	477.46	12.00	12.00	0.00
Landing @ 5620' MD / 5347' TVD, 90°, 179.85° Azi									
5,700.00	90.00	179.85	5,347.00	-557.93	1.50	557.93	0.00	0.00	0.00
5,800.00	90.00	179.85	5,347.00	-657.93	1.77	657.93	0.00	0.00	0.00
5,900.00	90.00	179.85	5,347.00	-757.93	2.04	757.93	0.00	0.00	0.00
6,000.00	90.00	179.85	5,347.00	-857.93	2.31	857.93	0.00	0.00	0.00
6,100.00	90.00	179.85	5,347.00	-957.93	2.58	957.93	0.00	0.00	0.00
6,200.00	90.00	179.85	5,347.00	-1,057.93	2.85	1,057.93	0.00	0.00	0.00
6,300.00	90.00	179.85	5,347.00	-1,157.93	3.12	1,157.93	0.00	0.00	0.00
6,400.00	90.00	179.85	5,347.00	-1,257.93	3.39	1,257.93	0.00	0.00	0.00
6,500.00	90.00	179.85	5,347.00	-1,357.92	3.66	1,357.93	0.00	0.00	0.00
6,600.00	90.00	179.85	5,347.00	-1,457.92	3.92	1,457.93	0.00	0.00	0.00
6,700.00	90.00	179.85	5,347.00	-1,557.92	4.19	1,557.93	0.00	0.00	0.00
6,800.00	90.00	179.85	5,347.00	-1,657.92	4.46	1,657.93	0.00	0.00	0.00
6,900.00	90.00	179.85	5,347.00	-1,757.92	4.73	1,757.93	0.00	0.00	0.00
7,000.00	90.00	179.85	5,347.00	-1,857.92	5.00	1,857.93	0.00	0.00	0.00
7,100.00	90.00	179.85	5,347.00	-1,957.92	5.27	1,957.93	0.00	0.00	0.00
7,200.00	90.00	179.85	5,347.00	-2,057.92	5.54	2,057.93	0.00	0.00	0.00
7,300.00	90.00	179.85	5,347.00	-2,157.92	5.81	2,157.93	0.00	0.00	0.00
7,400.00	90.00	179.85	5,347.00	-2,257.92	6.08	2,257.93	0.00	0.00	0.00
7,500.00	90.00	179.85	5,347.00	-2,357.92	6.35	2,357.93	0.00	0.00	0.00
Cherry Canyon 4									
7,594.08	90.00	179.85	5,347.00	-2,452.00	6.60	2,452.01	0.00	0.00	0.00
TD @ 7594' MD / 5347' TVD									

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	ft	ft	(ft)	(ft)		
- Shape									
PBHL (Karlsbad Corral	0.00	0.00	5,347.00	-2,452.00	6.60	414,049.20	615,207.40	32° 08' 16.038" N	103° 57' 40.095" W
- plan misses by 94.08ft at 7500.00ft MD (5347.00 TVD, -2357.92 N, 6.35 E)									
- Point									
Section 11 (Karlsbad Corral	0.00	0.00	0.00	-12.00	1,980.00	416,489.20	617,180.80	32° 08' 40.117" N	103° 57' 17.045" W
- plan misses by 1980.04ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Rectangle (sides W5,280.00 H5,280.00 D0.00)									

Crescent Directional Drilling

Planning Report

Database:	COMPASS_2003.11_CDDSVR	Local Co-ordinate Reference:	Well Karlsbad Corral #5H
Company:	Southwestern Energy Production Co.	TVD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Project:	Eddy County New Mexico	MD Reference:	Assumed RKB @ 3097.00ft (Rig not Specified)
Site:	Karlsbad Corral Section 11 T25S R29E	North Reference:	Grid
Well:	Karlsbad Corral #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,191.00	3,191.00	Lamar		0.00	
3,222.00	3,222.00	Bell Canyon		0.00	
4,097.00	4,097.00	Cherry Canyon		0.00	
5,339.13	5,267.00	Cherry Canyon 3		0.00	
7,500.00	5,347.00	Cherry Canyon 4		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,869.54	4,869.54	0.00	0.00	Kickoff @ 4869' TVD, 12°/100 DLS
5,619.54	5,347.00	-477.46	1.29	Landing @ 5620' MD / 5347' TVD, 90°, 179.85° Azi
7,594.08	5,347.00	-2,452.00	6.60	TD @ 7594' MD / 5347' TVD

34

35

24S - 29E

25S - 29E

1
3,305

3

Eastland Oil
New Year Fed

1
5,850

8-H

7-H

6-H

Santa Fe Energy
Corral Fly Unit

2

1

1-H

3-H

4-H

1-H

3-H

Santa Fe Energy
Corral Fly '11' Sta

4-H

10

2-H

11

SWD #1

5-H

12

Bettis Boyle & Stovall
Pickett Draw Fed

2

3
Bettis Boyle & Stovall
Pickett Draw Fed
5,202

15

14

Pogo Prodg
Bradley '13' Fed

4

8,600

Pogo Prodg
Bradley '13' Fed

1

6,500

13

Mobil
Latham Fed

1

5,300

Mobil
Corral Draw Unit

1

15,585

Mobil
Latham Fed

2

5,500

LEGEND 1:24,000



Surface Location



Bottom Hole Location



**SOUTHWESTERN
ENERGY COMPANY**

Karlsbad Corral 11 #5H Land Plat

Interp. By:

Date: 3-02-2007

Drafted By: Mike Bailey

Project Path: Z:\GIS\Alan_Grimsley\Karlsbad_11-5H

Projection: New Mexico East - Nad 27

Scale: 1" = 2,000'

23

Brooks, David K., EMNRD

Sent 3/6/07

To: Alan Grimsley

Subject: Karlsbad Corral 11 #5H - NSL application

Mr. Grimsley:

This application calls for a surface location 2652 from the South line of 11-25S-29E, which it states to be in Unit L (NW/SW).

In a standard section, 2652 would be 12 feet accross the half section line, in Unit E (SW/NW).

Is this an excess section. If so, please furnish a land plat showing lot designations and acreage for the NW/SW and SW/SW. Otherwise, please clarify.

Thanks

David Brooks
Assistant General Counsel
505-476-3450

3/6/2007

Brooks, David K., EMNRD

From: Alan Grimsley [Alan_Grimsley@SWN.COM]
Sent: Tuesday, March 06, 2007 11:57 AM
To: Brooks, David K., EMNRD
Subject: RE: Karlsbad Corral 11 #5H - NSL application

Mr Brooks,

You are correct. Our surveyor, Mr Edison, has confirmed the that this ia an excess section. I have requested a plat depicting the lease calls and will forward when I recieve it.

Regards,

Alan

Alan Grimsley
Sr. Staff Drilling Engineer
Permian Basin/Gulf Coast Team
Office: (281) 618-4068
Fax: (281) 618-4758
Mobile: (713) 492-1657
email: alan_grimsley@swn.com

From: Brooks, David K., EMNRD [mailto:david.brooks@state.nm.us]
Sent: Tuesday, March 06, 2007 11:38 AM
To: Alan Grimsley
Subject: Karlsbad Corral 11 #5H - NSL application

Mr. Grimsley:

This application calls for a surface location 2652 from the South line of 11-25S-29E, which it states to be in Unit L (NW/SW).

In a standard section, 2652 would be 12 feet across the half section line, in Unit E (SW/NW).

Is this an excess section. If so, please furnish a land plat showing lot designations and acreage for the NW/SW and SW/SW. Otherwise, please clarify.

Thanks

David Brooks
Assistant General Counsel
505-476-3450

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3/7/2007

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3/7/2007

Brooks, David K., EMNRD

From: Alan Grimsley [Alan_Grimsley@SWN.COM]
Sent: Thursday, March 08, 2007 8:25 AM
To: Brooks, David K., EMNRD
Subject: FW: Karlsbad Corral 11 #5H NSL Application
Attachments: 07130285.pdf

David,

Attached is a Revised Form C-102 that details the quarter section lengths. I hope this will satisfy your surface unit locaation request. When I recieve the original the in the email, I will forward if necessary.

Thanks in advance
Alan

Alan Grimsley
Sr. Staff Drilling Engineer
Permian Basin/Gulf Coast Team
Office: (281) 618-4068
Fax: (281) 618-4758
Mobile: (713) 492-1657
email: alan_grimsley@swn.com

From: Curtis Griffin [mailto:curtisgriffin@gmail.com]
Sent: Wednesday, March 07, 2007 2:57 PM
To: Alan Grimsley
Subject: Karlsbad Corral 11 #5H

--

Curtis Griffin - Survey Supervisor
John West Surveying Co.
Hobbs, NM - Phoenix, Az
curtis@jwsc.biz
505-393-3117 Ext. 115 (Office)
505-393-3450 (Fax)
505-390-3203 (Cell)
505-390-4693 (Cell)

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