

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

State of New Mexico
Energy Minerals and Natural Resources

Form C-101
May 27, 2004

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

SEP 24 2007 Submit to appropriate District Office
OCD-ARTESIA AMENDED REPORT

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

¹ Operator Name and Address Southwestern Energy Production Company 2350 N Sam Houston Parkway E Houston, Tx 77032		² OGRID Number 148111
		³ API Number 30 - 015-35820
⁴ Property Code 33618	⁵ Property Name Karlsbad Corral 2 State	⁶ Well No. 005H
⁹ Proposed Pool 1 Corral Canyon Delaware Northwest 96496		¹⁰ Proposed Pool 2

7 Surface Location

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	2	25S	29E	M	65	S	660	W	Eddy

8 Proposed Bottom Hole Location If Different From Surface

UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	2	25S	29E		2563	S	660	W	Eddy

Additional Well Information

¹¹ Work Type N	¹² Well Type O	¹³ Cable/Rotary R	¹⁴ Lease Type S	¹⁵ Ground Level Elevation 3035
¹⁶ Multiple N	¹⁷ Proposed Depth 7531	¹⁸ Formation Cherry Canyon	¹⁹ Contractor Patterson UH Drilling #504	²⁰ Spud Date 10/3/2007
Depth to Groundwater 140		Distance from nearest fresh water well >1000		Distance from nearest surface water >1000
Pit: Liner: Synthetic ☒ mls thick Clay ☐ Pit Volume: 15000 bbls Drilling Method: Closed-Loop System ☐ Fresh Water ☒ Brine ☒ Diesel/Oil-based ☐ Gas/Air ☐				

21 Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12.25	9.625	36	750	400	0
8.75	5.5	17	7531	1500	0

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

We plan to drill a 12-1/4" hole to 750' with fresh water, run 9-5/8" 36 ppf J-55 casing and set at 750' with 400 sxs of cement circulating to surface. Drill an 8-3/4" horizontal hole to 7531' with brine, and set 5-1/2" production casing and cement with sufficient amount to cover 500 feet above all oil and gas bearing zones.

H2S Comment: We plan to complete this well in the Delaware and do not anticipate cutting any formation during the drilling of this well that contain H2S. Therefore, we do not believe an H2S contingency plan is necessary.

NSL-5316 approved on December 20, 2005

Proposed BOP Program

	Working Pressure	Test Pressure
Double Ram	5000 psig	3000 psig
Annular	5000 psig	1500 psig

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOC guidelines ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Signature: *Martha C. Howard*

Printed name: Martha Howard

Title: Regulatory Analyst

E-mail Address: Martha_howard@swn.com

Date: 9/20/2007

Phone: (281) 618-4887

OIL CONSERVATION DIVISION

Approved by:

BRYAN G. ARRANT
DISTRICT II GEOLOGIST

Title:

Approval Date:

SEP 21 2007

Expiration Date:

SEP 21 2008

Conditions of Approval Attached ☐

DISTRICT I
1625 N. FRANCH DR., HORRS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, ALFREDA, 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 JUNE 10, 2003
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-34930	Pool Code 96464	Pool Name Corral Canyon; Delaware, Northwest
Property Code	Property Name KARLSBAD CORRAL 2	Well Number 5H
OGRID No.	Operator Name SOUTHWESTERN ENERGY PRODUCTION COMPANY	Elevation 3035'

Surface Location

UL or lot No	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	2	25-S	29-E		65	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
L	2	25-S	29-E		2563	SOUTH	660	WEST	EDDY
Dedicated Acres 80	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

	BOTTOM HOLE LOCATION Y=421723.4 N X=615192.8 E GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=419225.6 N X=615193.1 E LAT.=32°09'07.27\" N LONG.=103°57'40.04\" W	OPERATOR CERTIFICATION I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief <i>James Alan Grimsley</i> Signature JAMES ALAN GRIMSLEY Printed Name Drilling Engineer Title 12/6/05 Date SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief OCTOBER 13, 2005 Date Surveyed LA REV. 10/24/05 Signature & Seal of Professional Surveyor <i>Ronald J. Edson</i> 10/24/05 03-11-1580 Certificate No. RONALD J. EDSON 3230
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

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

1 Operator Name and Address SOUTHWESTERN ENERGY PRODUCTION COMPANY 2350 N SAM HOUSTON PKWY E HOUSTON , TX 77032		2 OGRID Number 148111
		3 API Number 30-015-34930
4 Property Code 33618	5 Property Name KARLSBAD CORRAL 2 STATE	6 Well No 005H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
M	2	25S	29E	M	65	S	660	W	EDDY

8. Pool Information

CORRAL CANYON DELAWARE,NORTHWEST	96464
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Additional Well Information

9 Work Type New Well	10 Well Type OIL	11 Cable/Rotary	12 Lease Type State	13 Ground Level Elevation 3055
14 Multiple N	15 Proposed Depth 7608	16 Formation Cherry Canyon	17 Contractor	18 Spud Date 8/1/2006
Depth to Ground water 140		Distance from nearest fresh water well > 1000		Distance to nearest surface water > 1000
Ptz Lmer Synthetic ☒ 12 mls thick Clay Ptz Volume 15000 bbls Drilling Method Closed Loop System Fresh Water Brine Diesel/Oil-based Gas/Air ☒				

19. Proposed Casing and Cement Program

Type	Hole Size	Casing Type	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	12 25	9 625	36	750	400	0
Prod	8 75	5 5	17	7608	1500	0

Casing/Cement Program: Additional Comments

We plan to drill a 12- $\frac{1}{4}$ " hole to 750' with fresh water, run 9-5/8" 36 ppf J-55 casing and set at 750' with 400 sxs of cement circulating to surface, Drill 8- $\frac{3}{4}$ " hole to 7608' MD with cut brine, set 5- $\frac{1}{2}$ " production casing and cement with sufficient to cover 500 feet above all oil and gas bearing zones

Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	10000	3000	
Annular	5000	1500	

I hereby certify that the information given above is true and complete to the best of my knowledge and belief I further certify that the drilling pit will be constructed according to NMOC guidelines ☒ a general permit ☐ , or an (attached) alternative OCD-approved plan ☐	OIL CONSERVATION DIVISION
Printed Name Electronically filed by Justin Bender	Approved By Bryan Arrant
Title Manager	Title Geologist
Email Address justin_bender@swm.com	Approved Date 6/12/2006 Expiration Date 6/12/2007
Date 5/30/2006 Phone 281-618-4797	Conditions of Approval Attached

District I

1625 N French Dr , Hobbs, NM 88240
Phone (505) 393-6161 Fax (505) 393-0720

District II

1301 W Grand Ave , Artesia, NM 88210
Phone (505) 748-1283 Fax (505) 748-9720

District III

1000 Rio Brazos Rd , Aztec, NM 87410
Phone (505) 334-6178 Fax (505) 334-6170

District IV

1220 S St Francis Dr , Santa Fe, NM 87505
Phone (505) 476-3470 Fax (505) 476-3462

State of New Mexico

Form C-102
Permit 19466

Energy, Minerals and Natural Resources**Oil Conservation Division****1220 S. St Francis Dr.****Santa Fe, NM 87505****WELL LOCATION AND ACREAGE DEDICATION PLAT**

1 API Number 30-015-34930	2 Pool Code 96464	3 Pool Name CORRAL CANYON DELAWARE,NORTHWEST
4 Property Code 33618	5 Property Name KARLSBAD CORRAL 2 STATE	6 Well No 005H
7 OGRID No 148111	8 Operator Name SOUTHWESTERN ENERGY PRODUCTION COMPANY	9 Elevation 3055

10. Surface Location

UL - Lot M	Section 2	Township 25S	Range 29E	Lot Idn	Feet From 65	N/S Line S	Feet From 660	E/W Line W	County EDDY
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11. Bottom Hole Location If Different From Surface

UL - Lot L	Section 2	Township 25S	Range 29E	Lot Idn L	Feet From 2563	N/S Line S	Feet From 660	E/W Line W	County EDDY
12 Dedicated Acres 80 00		13 Joint or Infill		14 Consolidation Code			15 Order No		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</i> E-Signed By Justin Bender Title Manager Date 5/30/2006
	SURVEYOR CERTIFICATION <i>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</i> Surveyed By Ronald Edison Date of Survey 10/24/2005 Certificate Number 3239

Permit Comments

Operator: SOUTHWESTERN ENERGY PRODUCTION COMPANY , 148111

Well: KARLSBAD CORRAL 2 STATE #005H

API: 30-015-34930

Created By	Comment	Comment Date
AGRIMSLEY	H2S Comment We plan to complete this well in the Delaware and do not anticipate cutting any formations during the drilling of this well that contain H2S Therefore, we do not believe an H2S Contingency Plan is necessary	12/6/2005
AGRIMSLEY	An NSL was submitted to the Santa Fe Office on Dec 6, 2005	12/6/2005
AGRIMSLEY	A Directional plot and survey report will be faxed	12/6/2005
AGRIMSLEY	NSL approved on 12/20/2006	5/30/2006
AGRIMSLEY	Emailed Directional Plot/Survey report, location & Pit Diagram, and survey Plat	5/30/2006

Permit Conditions of Approval

Operator: SOUTHWESTERN ENERGY PRODUCTION COMPANY , 148111

Well: KARLSBAD CORRAL 2 STATE #005H

API: 30-015-34930

OCD Reviewer	Condition
BArrant	Pit construction and closure must satisfy all requirements of your approved plan, O C D Rule 19 15 2 50, and the Pit and Below-Grade Tank Guidelines
BArrant	Will require administrative order for non-standard location
BArrant	As noted, operator to drill surface hole with fresh water mud



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

December 20, 2005

Mark E. Fesmire, P.E.

Director

Oil Conservation Division

Southwestern Energy Production Company
2350 N. Sam Houston Parkway East – Suite 300
Houston, Texas 77032

Attention: J. Alan Grimsley
Alan_Grimsley@SWN.COM

Administrative Order NSL-5316 (BHL)
(Non-Standard Subsurface Location/Producing Area)

Dear Mr. Grimsley:

Reference is made to the following: (i) your application submitted to the New Mexico Oil Conservation Division ("Division") in Santa Fe, New Mexico on December 7 2005 (***administrative application reference No. pMES0-535442924***); and (ii) the Division's records in Santa Fe, including the file on Division Administrative Orders NSL-5275 (BHL) and NSL-5303 (BHL): all concerning Southwestern Energy Production Company's ("SwEPC") proposed development of the Cherry Canyon "4" Sand formation within a portion of the Karlsbad Corral "2" State Lease (***New Mexico State Land Office Lease No. V-03361-0001***) underlying the W/2 SW/4 of Section 2, Township 25 South, Range 29 East, NMPM, Eddy County, New Mexico, utilizing horizontal drainhole drilling techniques.

The Division Director Finds That:

- (1) The subject application has been duly filed under the provisions of Division Rules 104.F, 111.A (13), 111.C (2), and 1210.A (2) [formerly Division Rule 1207.A (2), see Division Order No. R-12327-A, issued by the New Mexico Oil Conservation Commission in Case No. 13482 on September 15, 2005].
- (2) By Order No. R-10591, issued in Case No. 11530 on May 8, 1996 and made effective on June 1, 1996, the Division created and defined the Northwest Corral Canyon-Delaware Pool (96464) for the production of oil from the Delaware formation; the horizontal limits for this pool comprises the following described lands in Eddy County, New Mexico (see Division Cases No. 11530 and 13540:

TOWNSHIP 25 SOUTH, RANGE 29 EAST, NMPM

Section 2:	E/2
Section 11:	N/2 and SW/4;

- (3) Currently, the Northwest Corral Canyon-Delaware Pool and that area within one-mile of the pool boundaries [see *Division Rule 104.A (2) (a)*] are subject to the statewide rules and regulations, as promulgated by Rule 104.B (1), which provides for 40-acre oil spacing and proration units, or drilling units, and requires that wells be located no closer than 330 feet to the outer boundary of a single 40-acre oil spacing and proration unit;

Oil Conservation Division * 1220 South St. Francis Drive * Santa Fe, New Mexico 87505
Phone: (505) 476-3440 * Fax (505) 476-3462 * <http://www.emnrd.state.nm.us>

- (4) It is the Division's understanding that SwEPC intends to drill its Karlsbad Corral "2" (State) Well No. 5-H from a surface location 65 feet from the South line and 660 feet from the West line (Unit M) of Section 2, vertically to an approximate measured depth (MD) of 4,838 feet; kick-off to the north and build angle at a rate of 12 degrees per 100 feet until a 90 degree, more or less, deviation off of vertical is achieved at an approximate measured depth of 5,608 feet (MD), or 5,317 feet (TVD); and continue to drill horizontally for an approximate distance of 2,000 feet to a bottomhole location, or end-point, within the Cherry Canyon "4" Sand unit of the Delaware Mountain Group at a targeted subsurface location approximately 2563 feet from the South line and 660 feet from the West line (Unit L) of Section 2;
- (5) The top of the Undesignated Northwest Corral Canyon-Delaware Pool should be intercepted at an approximate depth of 3,200 feet;
- (6) The proposed 80-acre "Project Area", pursuant to Division Rules 111.A (9) and C (3), will be established by combining two standard 40-acre oil spacing and proration units within the Undesignated Northwest Corral Canyon-Delaware Pool comprising the NW/4 SW/4 (Unit L) and the SW/4 SW/4 (Unit M) of Section 2;
- (7) The path way of the proposed wellbore vertically from the entry point into the Delaware formation to the kick-off depth, the curved portion, and portions at both ends of the drainhole will be unorthodox pursuant to Division Rules 104.B (1) and 111.A (13);
- (8) It appearing the applicant has satisfied all of the appropriate requirements prescribed in Rules 111.C (2) and 104.F, the subject application should be approved, further, the aforementioned horizontal drainhole and 80-acre project area should continue operating under the provisions contained within this order and all other applicable provisions of Division Rule 111;
- (9) The applicant has satisfied all of the appropriate requirements prescribed in Rules 111.C (2) and 104.F; therefore the subject application based on SwEPC's proposed directional drilling plan should be approved; and
- (10) The subject 80-acre oil spacing and proration unit/project area is to be governed by the provisions contained within this order and all other applicable provisions of Division Rules 111 and 505.

It Is Therefore Ordered That:

- (1) Southwestern Energy Production Company ("SwEPC") is hereby authorized to directionally drill its Karlsbad Corral "2" (State) Well No. 5-H from a surface location 65 feet from the South line and 660 feet from the West line (Unit M) of Section 2, Township 25 South, Range 29 East, NMPM, Eddy County, New Mexico, vertically to an approximate measured depth (MD) of 4,838 feet; kick-off to the north and build angle at a rate of 12 degrees per 100 feet until a 90 degree, more or less, deviation off of vertical is achieved at an approximate measured depth of 5,608 feet (MD), or 5,317 feet (TVD); and continue to drill horizontally for an approximate distance of 2,000 feet to a bottomhole location, or end-point, within the Cherry Canyon "4" Sand unit of the Delaware Mountain Group at a targeted subsurface location approximately 2563 feet from the South line and 660 feet from the West line (Unit L) of Section 2.

(2) Further, an 80-acre Project Area comprising the W/2 SW/4 of Section 2 shall be established by combining the NW/4 SW/4 (Unit L) and the SW/4 SW4 (Unit M) of Section 2

(3) The operator shall comply with all applicable requirements and conditions set forth in Division Rules 111 and 505

(4) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



MARK E. FESMIORÉ, P. E.
Director

MEF/ms

cc: New Mexico Oil Conservation Division – Artesia
New Mexico State Land Office – Santa Fe
File: NSL-5275 (BHL)
NSL-5303 (BHL)

PathFinder

Planning Report

Company: Southwestern Energy Production		Date: 11/22/2005	Time: 10:41:48	Page: 1
Field: Karlsbad Corral Section 2		Co-ordinate(NE) Reference: Well: Karlsbad Corral 2 #5H; Grid: North		
Site: Karlsbad Corral 2 #5-H		Vertical (TVD) Reference: SITE 0.0		
Well: Karlsbad Corral 2 #5H		Section (VS) Reference: Well (0.00N,0.00E:0.00Azi)		
Wellpath: Original		Plan: Plan #1 100605		

Field: Karlsbad Corral Section 2 Eddy County, New Mexico	
Map System: US State Plane Coordinate System 1927	Map Zone: New Mexico, Eastern Zone
Geo Datum: NAD27 (Clarke 1866)	Coordinate System: Well Centre
Sys Datum: Mean Sea Level	Geomagnetic Model: igrf2005

Site: Karlsbad Corral 2 #5-H Section 2, T-25S & R-29E Eddy County, N M	
Site Position:	Northing: 419225 60 ft Latitude: 32 9 7.274 N
From: Map	Easting: 615193 10 ft Longitude: 103 57 40 039 W
Position Uncertainty: 0 00 ft	North Reference: Gnd
Ground Level: 0 00 ft	Grid Convergence: 0 20 deg

Well: Karlsbad Corral 2 #5H		Slot Name:	
Well Position:	+N/-S 0 00 ft Northing: 419225.60 ft Latitude: 32 9 7.274 N	+E/-W 0 00 ft Easting : 615193.10 ft Longitude: 103 57 40 039 W	
Position Uncertainty: 0 00 ft			

Wellpath: Original		Drilled From: Surface	
Current Datum: SITE		Tie-on Depth: 0 00 ft	
Magnetic Data: 10/6/2005		Above System Datum: Mean Sea Level	
Field Strength: 0 nT		Declination: 0.00 deg	
Vertical Section: Depth From (TVD)		Mag Dip Angle: 0 00 deg	
	ft	+N/-S	+E/-W Direction
		ft	deg
0 00	0 00	0 00	0 00

Plan: Plan #1 100605	Date Composed: 10/6/2005
Principal: No	Version: 1
	Tied-to: From Surface

Plan Section Information										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0 00	0.00	0.00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
4838 00	0.00	0.00	4838 00	0.00	0 00	0.00	0 00	0.00	0 00	
5563.29	87 00	0.00	5315.00	452 66	0.00	12 00	12.00	0 00	0 00	
5583 29	87 00	0.00	5316 05	472.63	0.00	0 00	0 00	0 00	0 00	
5608 29	90.00	0 00	5316 70	497 62	0 00	12.00	12.00	0 00	0 00	
7608.47	90 00	0.00	5316.70	2497 80	0.00	0 00	0 00	0 00	0 00	KC 2-5 PBHL

Section 1 : Start Hold										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
4800 00	0.00	0.00	4800 00	0.00	0 00	0 00	0 00	0 00	0 00	0 00
4838.00	0 00	0 00	4838 00	0.00	0 00	0 00	0 00	0 00	0 00	0 00

Section 2 : Start Build 12.00										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
4850 00	1.44	0 00	4850 00	0 15	0 00	0 15	12 00	12.00	0 00	0 00
4875.00	4 44	0 00	4874.96	1 43	0 00	1 43	12 00	12 00	0 00	0 00
4900 00	7 44	0 00	4899 83	4 02	0 00	4 02	12 00	12 00	0 00	0 00
4925 00	10 44	0 00	4924.52	7 90	0 00	7 90	12 00	12 00	0 00	0 00
4950.00	13.43	0 00	4948 98	13.07	0 00	13 07	12 00	12.00	0 00	0 00
4975 00	16.43	0 00	4973.13	19.51	0 00	19.51	12 00	12 00	0 00	0 00
5000.00	19.43	0 00	4996.91	27 21	0 00	27 21	12 00	12 00	0 00	0 00
5025 00	22 43	0 00	5020 26	36 14	0 00	36 14	12 00	12 00	0 00	0 00
5050 00	25 43	0 00	5043.11	46 28	0 00	46 28	12 00	12 00	0 00	0 00
5075.00	28.43	0 00	5065.39	57.60	0 00	57 60	12.00	12 00	0 00	0 00

PathFinder

Planning Report

Company: Southwestern Energy Production	Date: 11/22/2005	Time: 10:41:48	Page: 2
Field: Karlsbad Corral Section 2	Co-ordinate(NE) Reference: Well: Karlsbad Corral 2 #5H, Grid North		
Site: Karlsbad Corral 2 #5-H	Vertical (TVD) Reference: SITE 00		
Well: Karlsbad Corral 2 #5H	Section (VS) Reference: Well (0.00N,0.00E,0.00Azi)		
Wellpath: Original	Plan: Plan #1 100605		

Section 2 : Start Build 12.00

MD ft	Incl deg	Azim deg	TVD ft	+N/S ft	+E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
5100.00	31.43	0.00	5087.06	70.07	0.00	70.07	12.00	12.00	0.00	0.00
5125.00	34.43	0.00	5108.04	83.66	0.00	83.66	12.00	12.00	0.00	0.00
5150.00	37.43	0.00	5128.28	98.33	0.00	98.33	12.00	12.00	0.00	0.00
5175.00	40.42	0.00	5147.73	114.03	0.00	114.03	12.00	12.00	0.00	0.00
5200.00	43.42	0.00	5166.33	130.73	0.00	130.73	12.00	12.00	0.00	0.00
5225.00	46.42	0.00	5184.03	148.38	0.00	148.38	12.00	12.00	0.00	0.00
5250.00	49.42	0.00	5200.78	166.94	0.00	166.94	12.00	12.00	0.00	0.00
5275.00	52.42	0.00	5216.54	186.34	0.00	186.34	12.00	12.00	0.00	0.00
5300.00	55.42	0.00	5231.26	206.54	0.00	206.54	12.00	12.00	0.00	0.00
5325.00	58.42	0.00	5244.90	227.49	0.00	227.49	12.00	12.00	0.00	0.00
5350.00	61.42	0.00	5257.43	249.12	0.00	249.12	12.00	12.00	0.00	0.00
5375.00	64.41	0.00	5268.82	271.38	0.00	271.38	12.00	12.00	0.00	0.00
5400.00	67.41	0.00	5279.02	294.20	0.00	294.20	12.00	12.00	0.00	0.00
5425.00	70.41	0.00	5288.01	317.52	0.00	317.52	12.00	12.00	0.00	0.00
5450.00	73.41	0.00	5295.77	341.28	0.00	341.28	12.00	12.00	0.00	0.00
5475.00	76.41	0.00	5302.28	365.42	0.00	365.42	12.00	12.00	0.00	0.00
5500.00	79.41	0.00	5307.52	389.86	0.00	389.86	12.00	12.00	0.00	0.00
5525.00	82.41	0.00	5311.47	414.54	0.00	414.54	12.00	12.00	0.00	0.00
5550.00	85.41	0.00	5314.12	439.40	0.00	439.40	12.00	12.00	0.00	0.00
5563.29	87.00	0.00	5315.00	452.66	0.00	452.66	12.00	12.00	0.00	0.00

Section 3 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/S ft	+E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
5583.29	87.00	0.00	5316.05	472.63	0.00	472.63	0.00	0.00	0.00	0.00

Section 4 : Start Build 12.00

MD ft	Incl deg	Azim deg	TVD ft	+N/S ft	+E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
5600.00	89.01	0.00	5316.63	489.33	0.00	489.33	12.00	12.00	0.00	0.00
5608.29	90.00	0.00	5316.70	497.62	0.00	497.62	12.00	12.00	0.00	0.00

Section 5 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/S ft	+E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
5700.00	90.00	0.00	5316.70	589.33	0.00	589.33	0.00	0.00	0.00	0.00
5800.00	90.00	0.00	5316.70	689.33	0.00	689.33	0.00	0.00	0.00	0.00
5900.00	90.00	0.00	5316.70	789.33	0.00	789.33	0.00	0.00	0.00	0.00
6000.00	90.00	0.00	5316.70	889.33	0.00	889.33	0.00	0.00	0.00	0.00
6100.00	90.00	0.00	5316.70	989.33	0.00	989.33	0.00	0.00	0.00	0.00
6200.00	90.00	0.00	5316.70	1089.33	0.00	1089.33	0.00	0.00	0.00	0.00
6300.00	90.00	0.00	5316.70	1189.33	0.00	1189.33	0.00	0.00	0.00	0.00
6400.00	90.00	0.00	5316.70	1289.33	0.00	1289.33	0.00	0.00	0.00	0.00
6500.00	90.00	0.00	5316.70	1389.33	0.00	1389.33	0.00	0.00	0.00	0.00
6600.00	90.00	0.00	5316.70	1489.33	0.00	1489.33	0.00	0.00	0.00	0.00
6700.00	90.00	0.00	5316.70	1589.33	0.00	1589.33	0.00	0.00	0.00	0.00
6800.00	90.00	0.00	5316.70	1689.33	0.00	1689.33	0.00	0.00	0.00	0.00
6900.00	90.00	0.00	5316.70	1789.33	0.00	1789.33	0.00	0.00	0.00	0.00
7000.00	90.00	0.00	5316.70	1889.33	0.00	1889.33	0.00	0.00	0.00	0.00
7100.00	90.00	0.00	5316.70	1989.33	0.00	1989.33	0.00	0.00	0.00	0.00
7200.00	90.00	0.00	5316.70	2089.33	0.00	2089.33	0.00	0.00	0.00	0.00
7300.00	90.00	0.00	5316.70	2189.33	0.00	2189.33	0.00	0.00	0.00	0.00
7400.00	90.00	0.00	5316.70	2289.33	0.00	2289.33	0.00	0.00	0.00	0.00
7500.00	90.00	0.00	5316.70	2389.33	0.00	2389.33	0.00	0.00	0.00	0.00
7608.45	90.00	0.00	5316.70	2497.78	0.00	2497.78	0.00	0.00	0.00	0.00
7608.47	90.00	0.00	5316.70	2497.80	0.00	2497.80	0.00	0.00	0.00	0.00

PathFinder

Planning Report

Company: Southwestern Energy Production	Date: 11/22/2005	Time: 10:41:48	Page: 3
Field: Karlsbad Corral Section 2	Co-ordinate(NE) Reference: Well, Karlsbad Corral 2 #5H, Grid North		
Site: Karlsbad Corral 2 #5H	Vertical (TVD) Reference: SITE 0.0		
Well: Karlsbad Corral 2 #5H	Section (VS) Reference: Well (0.00N,0.00E,0.00Azi)		
Wellpath: Original	Plan: Plan #1 100605		

Survey

MD ft	Incl deg	Azin deg	TVD ft	+N/S ft	+E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
4800.00	0.00	0.00	4800.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP @ 4838' w /12° Build
4838.00	0.00	0.00	4838.00	0.00	0.00	0.00	0.00	0.00	0.00	
4850.00	1.44	0.00	4850.00	0.15	0.00	0.15	12.00	12.00	0.00	
4875.00	4.44	0.00	4874.96	1.43	0.00	1.43	12.00	12.00	0.00	
4900.00	7.44	0.00	4899.83	4.02	0.00	4.02	12.00	12.00	0.00	
4925.00	10.44	0.00	4924.52	7.90	0.00	7.90	12.00	12.00	0.00	
4950.00	13.43	0.00	4948.98	13.07	0.00	13.07	12.00	12.00	0.00	
4975.00	16.43	0.00	4973.13	19.51	0.00	19.51	12.00	12.00	0.00	
5000.00	19.43	0.00	4996.91	27.21	0.00	27.21	12.00	12.00	0.00	
5025.00	22.43	0.00	5020.26	36.14	0.00	36.14	12.00	12.00	0.00	
5050.00	25.43	0.00	5043.11	46.28	0.00	46.28	12.00	12.00	0.00	
5075.00	28.43	0.00	5065.39	57.60	0.00	57.60	12.00	12.00	0.00	
5100.00	31.43	0.00	5087.06	70.07	0.00	70.07	12.00	12.00	0.00	
5125.00	34.43	0.00	5108.04	83.66	0.00	83.66	12.00	12.00	0.00	
5150.00	37.43	0.00	5128.28	98.33	0.00	98.33	12.00	12.00	0.00	
5175.00	40.42	0.00	5147.73	114.03	0.00	114.03	12.00	12.00	0.00	
5200.00	43.42	0.00	5166.33	130.73	0.00	130.73	12.00	12.00	0.00	
5225.00	46.42	0.00	5184.03	148.38	0.00	148.38	12.00	12.00	0.00	
5250.00	49.42	0.00	5200.78	166.94	0.00	166.94	12.00	12.00	0.00	
5275.00	52.42	0.00	5216.54	186.34	0.00	186.34	12.00	12.00	0.00	
5300.00	55.42	0.00	5231.26	206.54	0.00	206.54	12.00	12.00	0.00	
5325.00	58.42	0.00	5244.90	227.49	0.00	227.49	12.00	12.00	0.00	
5350.00	61.42	0.00	5257.43	249.12	0.00	249.12	12.00	12.00	0.00	
5375.00	64.41	0.00	5268.82	271.38	0.00	271.38	12.00	12.00	0.00	
5400.00	67.41	0.00	5279.02	294.20	0.00	294.20	12.00	12.00	0.00	
5425.00	70.41	0.00	5288.01	317.52	0.00	317.52	12.00	12.00	0.00	
5450.00	73.41	0.00	5295.77	341.28	0.00	341.28	12.00	12.00	0.00	
5475.00	76.41	0.00	5302.28	365.42	0.00	365.42	12.00	12.00	0.00	
5500.00	79.41	0.00	5307.52	389.86	0.00	389.86	12.00	12.00	0.00	
5525.00	82.41	0.00	5311.47	414.54	0.00	414.54	12.00	12.00	0.00	
5550.00	85.41	0.00	5314.12	439.40	0.00	439.40	12.00	12.00	0.00	
5563.29	87.00	0.00	5315.00	452.66	0.00	452.66	12.00	12.00	0.00	Top of CC4 / Begin Hold @
5583.29	87.00	0.00	5316.05	472.63	0.00	472.63	0.00	0.00	0.00	End Hold/Begin Build to L
5600.00	89.01	0.00	5316.63	489.33	0.00	489.33	12.00	12.00	0.00	
5608.29	90.00	0.00	5316.70	497.62	0.00	497.62	12.00	12.00	0.00	End of Curve @ 5608' MD/5
5700.00	90.00	0.00	5316.70	589.33	0.00	589.33	0.00	0.00	0.00	
5800.00	90.00	0.00	5316.70	689.33	0.00	689.33	0.00	0.00	0.00	
5900.00	90.00	0.00	5316.70	789.33	0.00	789.33	0.00	0.00	0.00	
6000.00	90.00	0.00	5316.70	889.33	0.00	889.33	0.00	0.00	0.00	
6100.00	90.00	0.00	5316.70	989.33	0.00	989.33	0.00	0.00	0.00	
6200.00	90.00	0.00	5316.70	1089.33	0.00	1089.33	0.00	0.00	0.00	
6300.00	90.00	0.00	5316.70	1189.33	0.00	1189.33	0.00	0.00	0.00	
6400.00	90.00	0.00	5316.70	1289.33	0.00	1289.33	0.00	0.00	0.00	
6500.00	90.00	0.00	5316.70	1389.33	0.00	1389.33	0.00	0.00	0.00	
6600.00	90.00	0.00	5316.70	1489.33	0.00	1489.33	0.00	0.00	0.00	
6700.00	90.00	0.00	5316.70	1589.33	0.00	1589.33	0.00	0.00	0.00	
6800.00	90.00	0.00	5316.70	1689.33	0.00	1689.33	0.00	0.00	0.00	
6900.00	90.00	0.00	5316.70	1789.33	0.00	1789.33	0.00	0.00	0.00	
7000.00	90.00	0.00	5316.70	1889.33	0.00	1889.33	0.00	0.00	0.00	
7100.00	90.00	0.00	5316.70	1989.33	0.00	1989.33	0.00	0.00	0.00	
7200.00	90.00	0.00	5316.70	2089.33	0.00	2089.33	0.00	0.00	0.00	
7300.00	90.00	0.00	5316.70	2189.33	0.00	2189.33	0.00	0.00	0.00	
7400.00	90.00	0.00	5316.70	2289.33	0.00	2289.33	0.00	0.00	0.00	
7500.00	90.00	0.00	5316.70	2389.33	0.00	2389.33	0.00	0.00	0.00	

PathFinder

Planning Report

Company: Southwestern Energy Production	Date: 11/22/2005	Time: 10:41:48	Page: 4
Field: Karlsbad Corral Section 2	Co-ordinate (NE) Reference: Well: Karlsbad Corral 2 #5H Grid North		
Site: Karlsbad Corral 2 #5 H	Vertical (TVD) Reference: SITE 0.0		
Well: Karlsbad Corral 2 #5H	Section (VS) Reference: Well (0.00N,0.00E,0.00Azi)		
Wellpath: Original	Plan: Plan #1 100605		

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
7608.45	90.00	0.00	5316.70	2497.78	0.00	2497.78	0.00	0.00	0.00	Proposed Bottom Hole Loca
7608.47	90.00	0.00	5316.70	2497.80	0.00	2497.80	0.00	0.00	0.00	KC 2-5 PBHL

Targets

Name	Description Dip, Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	Latitude Deg Min Sec	Longitude Deg Min Sec
KC 2-5 PBHL		5316.70	2497.80	-0.30	421723.40	615192.80	32 9 31 993 N	103 57 39 942 W

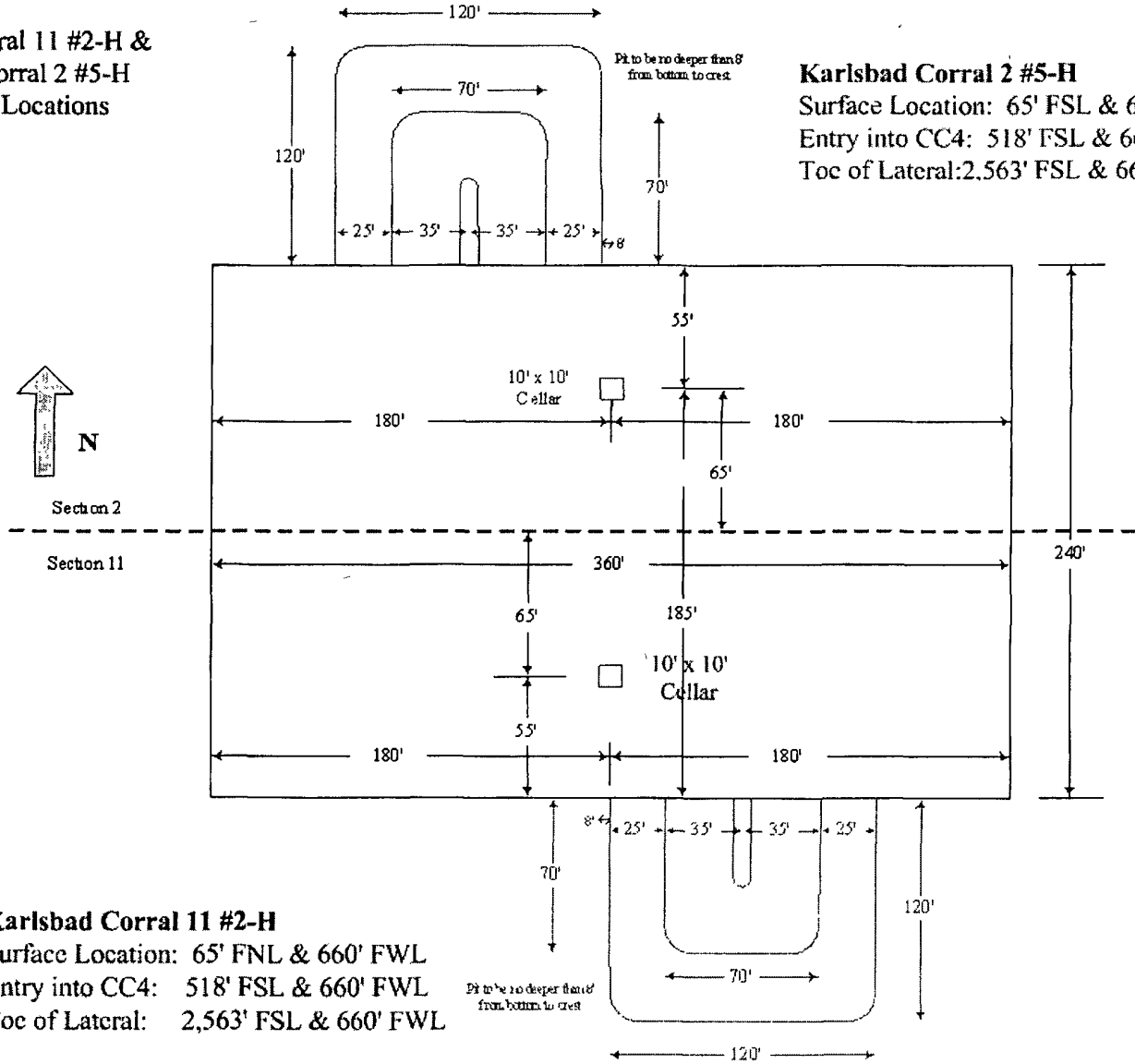
Annotation

MD ft	TVD ft	
4838.00	4838.00	KOP @ 4838' w /12° Build Rates
5563.29	5315.00	Top of CC4 / Begin Hold @ 87° Inclination
5583.29	5316.05	End Hold/Begin Build to Land Curve
5608.29	5316.70	End of Curve @ 5608' MD/5317' TVD
7608.45	5316.70	Proposed Bottom Hole Location. KC 2 #5H

**Karlsbad Corral 11 #2-H &
Karlsbad Corral 2 #5-H
Proposed Locations**

Karlsbad Corral 2 #5-H

Surface Location: 65' FSL & 660' FWL
Entry into CC4: 518' FSL & 660' FWL
Toe of Lateral: 2,563' FSL & 660' FWL



Karlsbad Corral 11 #2-H

Surface Location: 65' FNL & 660' FWL
Entry into CC4: 518' FSL & 660' FWL
Toe of Lateral: 2,563' FSL & 660' FWL

Southwestern Energy Production Co.

Karlsbad Corral 2 #5H

65 ft FSL & 660 ft FWL

Section 2, T25-S, R29-E

Eddy County, New Mexico

Plan #1 11/22/05

ANNOTATIONS

No	TVD	MD	Annotation
1	4838.00	4838.00	KOP @ 4838' w /12° Build Rates
2	5315.00	5563.29	Top of CC4 / Begin Hold @ 87° Inclination
3	5316.05	5583.29	End Hold/Begin Build to Land Curve
4	5316.70	5608.29	End of Curve @ 5608' MD/5317' TVD
5	5316.70	7608.45	Proposed Bottom Hole Location KC 2 #5H

COMPANY DETAILS

Southwestern Energy Production Co.
3250 N Sam Houston Pkwy E
Houston, TX 77032

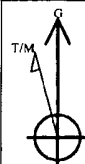
Calculation Method Minimum Curvature
Error System Systematic Ellipse
Scan Method Closest Approach 1D
Error Surface Elliptical Conic
Warning Method Error Ratio

FIELD DETAILS

Karlsbad Corral Section 2
Eddy County New Mexico

Geodetic System US State Plane Coordinate System 1927
Ellipsoid NAD27 (Clarke 1866)
Zone New Mexico, Eastern Zone
Magnetic Model igrf2005

System Datum Mean Sea Level
Local North Grid North

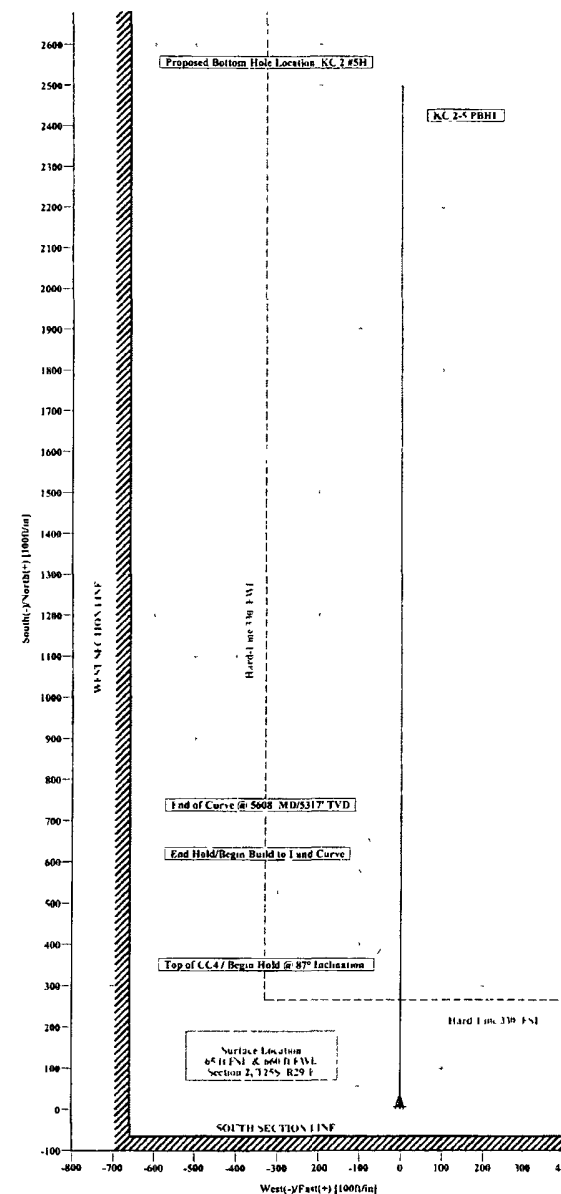
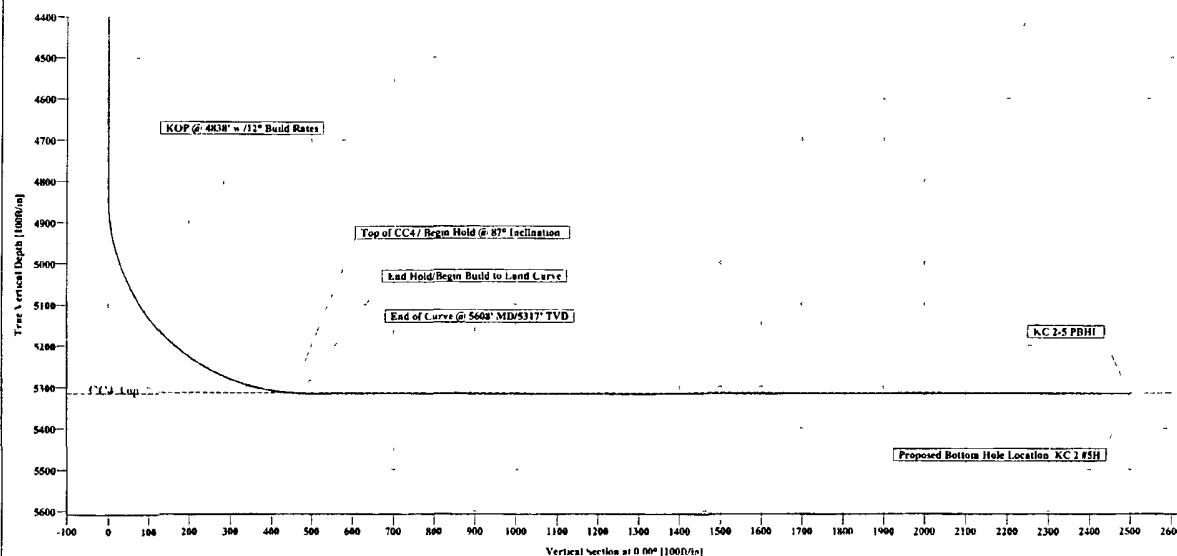


Azimuths to Grid North
True North -0.20°
Magnetic North -0.20°

Magnetic Field
Strength 0nT
Dip Angle 0.00°
Date 10/6/2005
Model igrf2005

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	IFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	4838.00	0.00	0.00	4838.00	0.00	0.00	0.00	0.00	0.00	
3	5563.29	87.00	0.00	5315.00	452.66	0.00	12.00	0.00	452.66	
4	5583.29	87.00	0.00	5316.05	472.63	0.00	0.00	0.00	472.63	
5	5608.29	90.00	0.00	5316.70	497.62	0.00	12.00	0.00	497.62	
6	7608.47	90.00	0.00	5316.70	2497.80	0.00	0.00	0.00	2497.80	KC 2-5 PBHL





**Southwestern Energy
Production Company**

A subsidiary of Southwestern Energy Company

2350 N. Sam Houston Parkway East
Suite 300
Houston, Texas 77032
(281) 618-4700 FAX: (281) 618-4751

December 6, 2005

Michael E. Stogner
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RECEIVED

DEC 7 2005
OCU-AMT/ESIA

Dear Mr. Stogner:

30 - 015 - 34930

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 2 Well No. 5-H
Location: 65 feet FSL & 660 feet FWL
Well Unit: SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 2, 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 (Corral Fly, 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 and land conservation reasons. The proposed well, Karlsbad Corral 2 #5-H, will be directionally drilled from an unorthodox surface location 65 feet from the South Line and 660 feet from the West Line of Section 2 to a bottom hole location 2,563 feet from the South Line and 660 feet from the West line.

The well plan consists of drilling a vertical hole to the KOP (kick off point) at 4,838' MD/TVD. The hole will be directional drilled utilizing a build rate of 12°/100' to penetrate the Cherry Canyon 4 Sand at 5,563' MD / 5,315' TVD at 88° of angle. The Cherry Canyon 4 will be intersected at 518' FSL and 660' FWL of Section 2 T25S R29E. The well will continue laterally (90°) for 2000' of vertical displacement. The proposed BHL will be 2,563' FSL & 660' FWL of section 2. The top of the Delaware will be intersected at 3200' MD/TVD at 65' FSL and 660' FWL of Section 2. 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 2 T25S R29E (greater than 330' from any lease line).

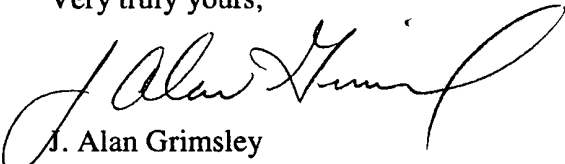
By placing the surface location at 65' FSL and 660' FWL of Section 2, the maximum amount of reservoir rock in the Cherry Canyon 4 Sand in the producing area can be penetrated and produced. The proposed surface location also allows for utilization of one (1) well pad for two wells, the Karlsbad Corral 2 #5-H and the Karlsbad Corral 11 # 2-H. A separate NSL is being applied for the Karlsbad Corral 11 #2-H well. A diagram of the proposed well pad is attached as Exhibit C.

Furthermore, Southwestern Energy Production Company has 100% access to the mineral interests to the Cherry Canyon formation in the Delaware Mountain Group of Section 2 and Section 11 via farmout agreements with Devon Energy (Lease Serial No. V-3361), and EOG (Lease Serial No. 3633-2) , respectfully. A land plat is attached as Exhibit D.

Your timely approval of this unorthodox location is requested.

If you have any questions, I can be reached at 281-618-4068.

Very truly yours,



J. Alan Grimsley
Southwestern Energy Production Co.

Attachments
CC: District 2

	BOTTOM HOLE LOCATION Y=421723.4 N X=615192.8 E	RECEIVED DEC 7 2005 OQUARTESIA
2 660' S.L. 11 660'	GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=419225.6 N X=615193.1 E LAT.=32°09'07.27" N LONG.=103°57'40.04" W	2 11

OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

James Alan Grimsley

Signature

JAMES ALAN GRIMSLEY

Printed Name

Drilling Engineer

Title

12/6/05

Date

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

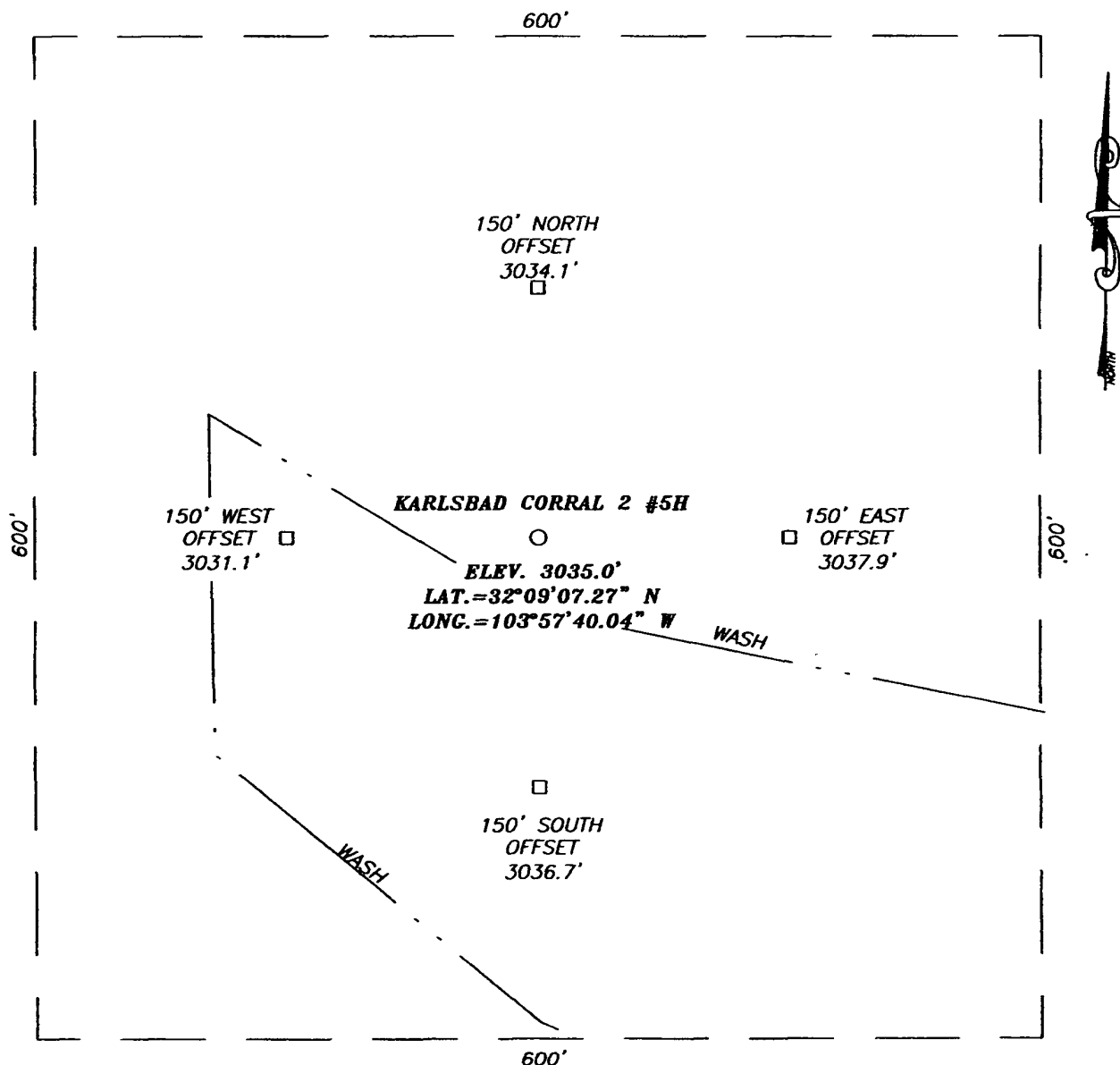
OCTOBER 13, 2005

Date Surveyed LA REV: 10/24/05

Signature & Seal of Professional Surveyor

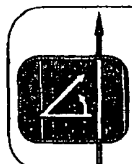
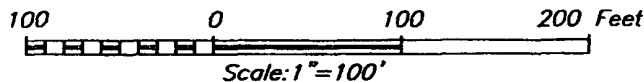
Certificate No. **RONALD J. EDSON 3239**

SECTION 2, TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF ST. HWY. #128 AND BUCK JACKSON RD. GO SOUTHWEST ON BUCK JACKSON RD. APPROX. 16.5 MILES TO THE INTERSECTION OF BUCK JACKSON ROAD AND TWIN WELLS RD. TURN RIGHT ON TWIN WELLS RD. AND GO APPROX. 500 FEET. TURN LEFT AND GO SOUTHWEST APPROX. 3.0 MILES. TURN RIGHT AND GO NORTHWEST APPROX. 1.4 MILES. TURN RIGHT AND GO NORTH APPROX. 4.1 MILES KARLSBAD CORRAL 2 #1H WELL. TURN LEFT AND GO WEST APPROX. 0.6 MILES. THIS LOCATION IS APPROX. 1047 FEET NORTH OF ROAD.



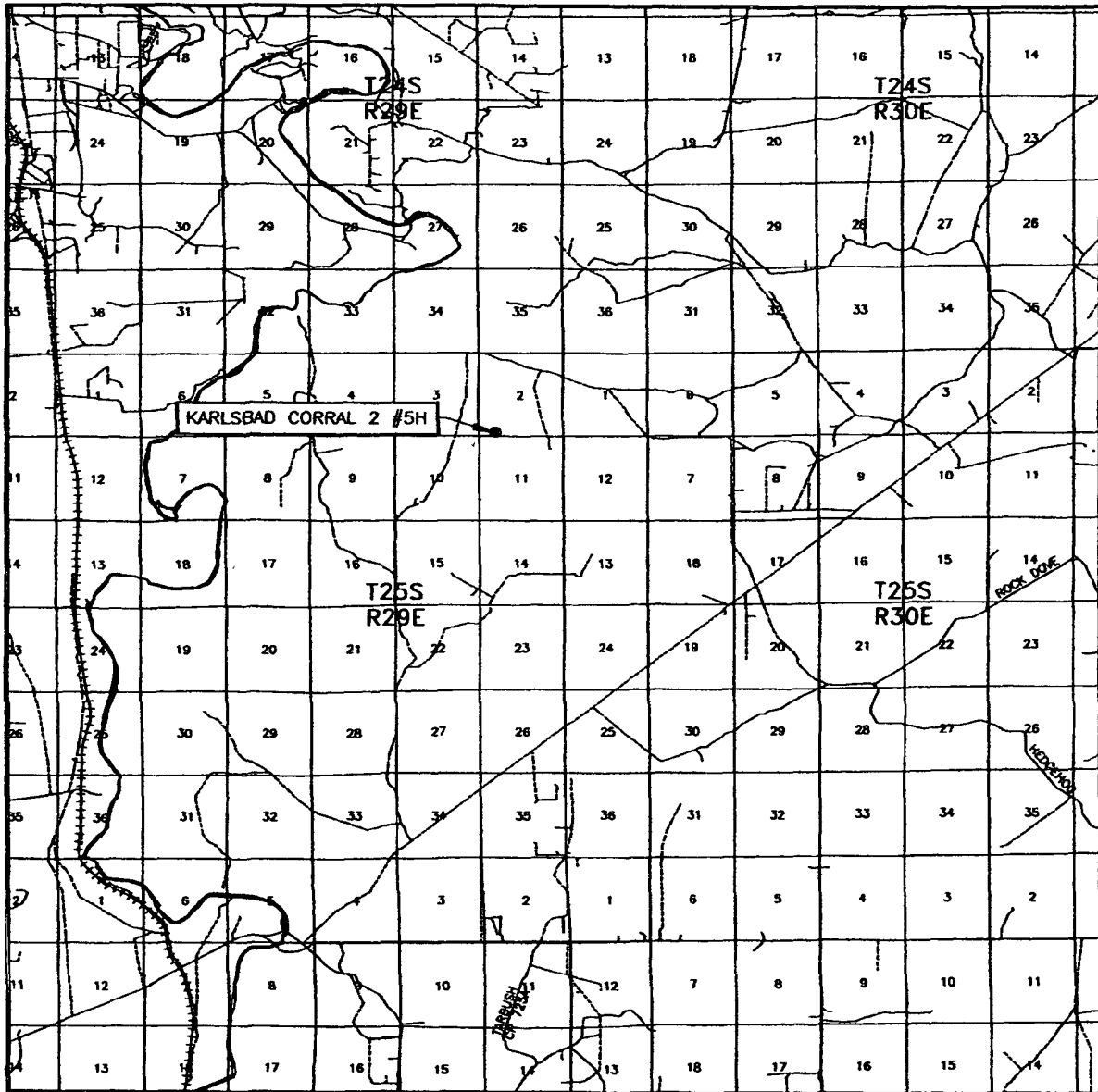
PROVIDING SURVEYING SERVICES
 SINCE 1946
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO
 HOBBS, N.M. 88240
 (505) 393-3117

SOUTHWESTERN ENERGY PRODUCTION COMPANY

KARLSBAD CORRAL 2 #5H WELL
 LOCATED 65 FEET FROM THE SOUTH LINE
 AND 660 FEET FROM THE WEST LINE OF SECTION 2,
 TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO.

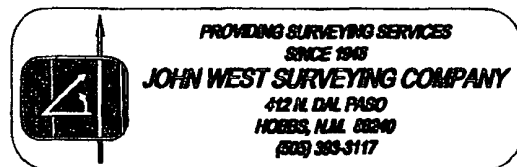
Survey Date: 10/13/05	Sheet 1 of 1 Sheets
W.O. Number: 05.11.1580	Dr By: LA
Date: 10/19/05	Rev 1:N/A
Disk: CD#4	05111580
	Scale: 1"=100'

VICINITY MAP

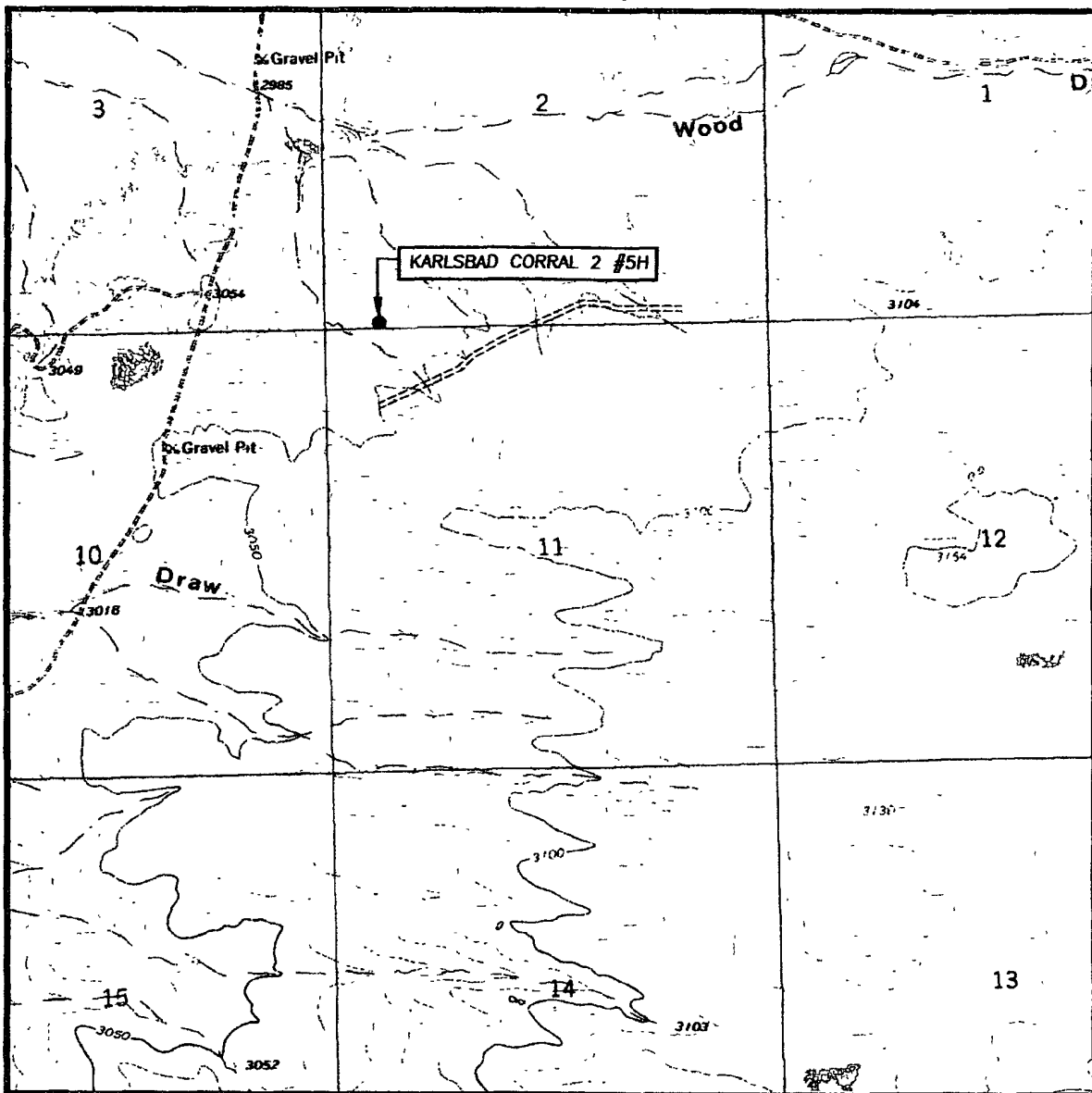


SCALE: 1" = 2 MILES

SEC. 2 TWP. 25-S RGE. 29-E
 SURVEY N.M.P.M.
 COUNTY EDDY
 DESCRIPTION 65' FSL & 660' FWL
 ELEVATION 3035'
 OPERATOR SOUTHWESTERN ENERGY PRODUCTION COMPANY
 LEASE KARLSBAD CORRAL 2



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

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

SEC. 2 TWP. 25-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY

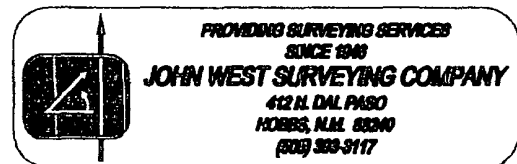
DESCRIPTION 65' FSL & 660' FWL

ELEVATION 3035'

OPERATOR SOUTHWESTERN ENERGY
PRODUCTION COMPANY

LEASE KARLSBAD CORRAL 2

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





Southwestern Energy Production Company

Drilling Prognosis

WELL NAME: Karlsbad Corral 2 #5-H

AFE NO.: Not Issued Yet

LOCATION

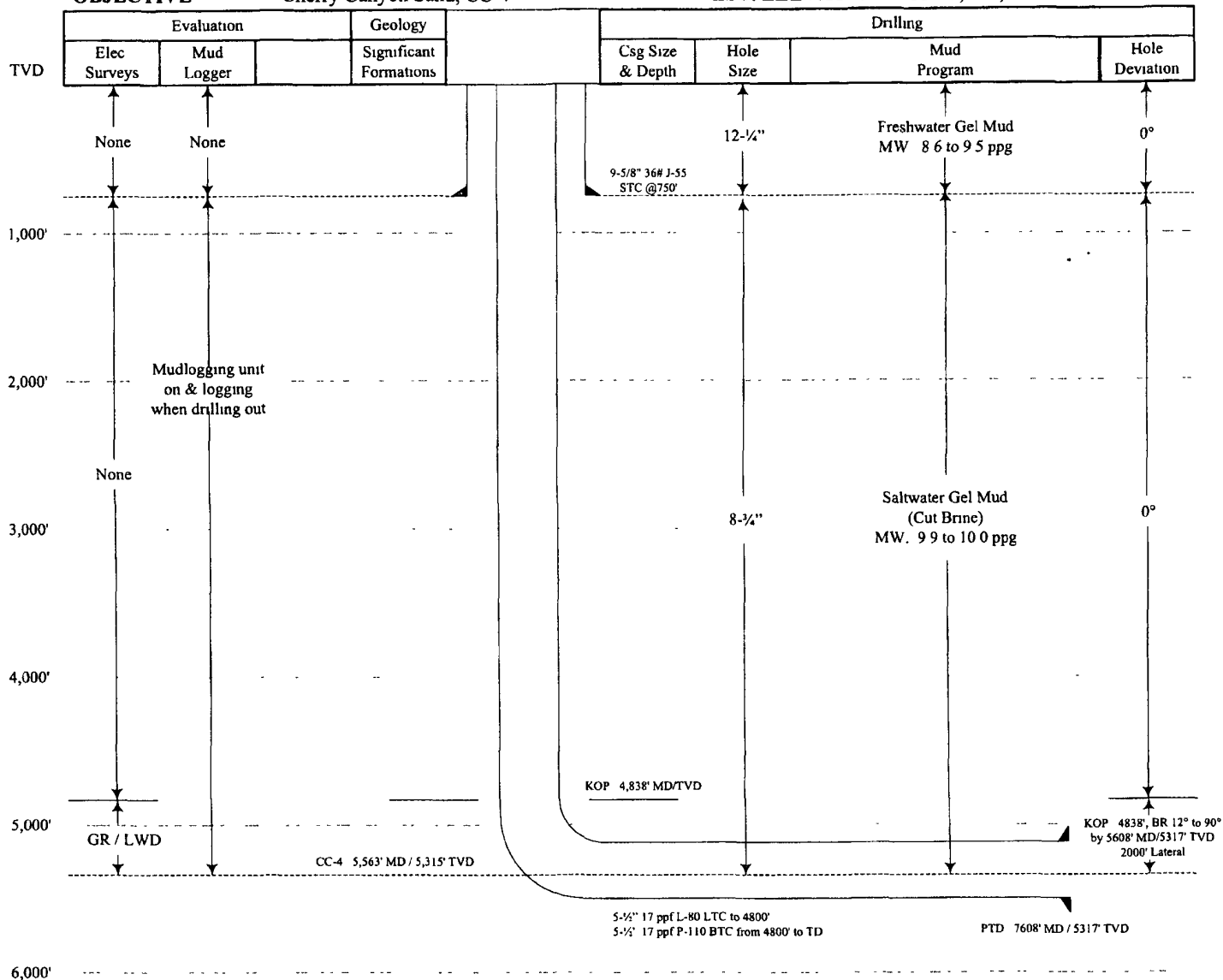
Section 2, T25S, R29E
Eddy County, New Mexico
SL: 65' FSL & 660' FWL
BHL: 2,563' FSL & 660' FWL
Target Entry Point: 520' FSL & 660' FWL

PROSPECT: Corral Fly

OBJECTIVE

Cherry Canyon Sand, CC-4

EST. ELEVATION: GL: 3,035', RKB: ±25.0'



Southwestern Energy Production Co.

Karlsbad Corral 2 #5H

65 ft FSL & 660 ft FWL

Section 2, T25-S, R29-E

Eddy County, New Mexico

Plan #1 11/22/05

ANNOTATIONS

No	TVD	MD	Annotation
1	4838 00	4838 00	KOP @ 4838' w /12° Build Rates
2	5315 00	5563 29	Top of CC4 / Begin Hold @ 87° Inclination
3	5316 05	5583 29	End Hold/Begin Build to Land Curve
4	5316 70	5608 29	End of Curve @ 5608' MD/5317' TVD
5	5316 70	7608 45	Proposed Bottom Hole Location KC 2 #5H

COMPANY DETAILS

Southwestern Energy Production Co
3250 N Sam Houston Pkwy E
Houston, TX 77032

Calculation Method Minimum Curvature
Error System Systematic Ellipse
Scan Method Closest Approach 3D
Error Surface Elliptical Conic
Warning Method Error Ratio

FIELD DETAILS

Karlsbad Corral Section 2
Eddy County, New Mexico

Geodetic System US State Plane Coordinate System 1927
Ellipsoid NAD27 (Clarke 1866)
Zone New Mexico Eastern Zone
Magnetic Model mgr2005

System Datum Mean Sea Level
Local North Grd North

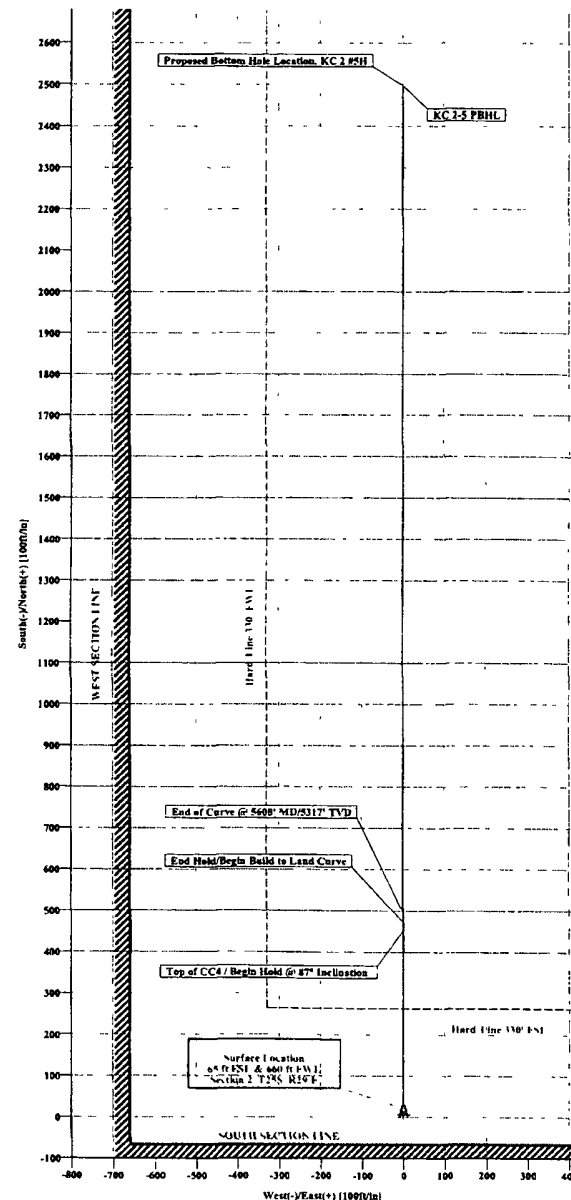
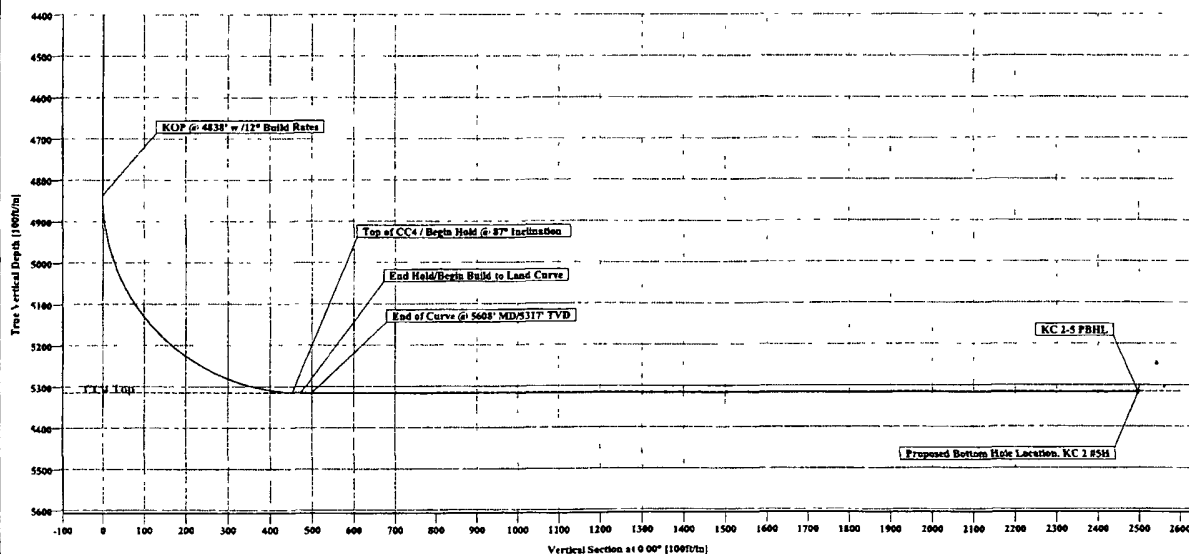


Azimuths to Grd North
True North -0.20°
Magnetic North -0.20°

Magnetic Field
Strength 0nT
Dip Angle 0.00°
Date 10/6/2005
Model mgr2005

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2	4838 00	0 00	0 00	4838 00	0 00	0 00	0 00	0 00	0 00	
3	5563 29	87 00	0 00	5315 00	452 66	0 00	12 00	0 00	452 66	
4	5583 29	87 00	0 00	5316 05	472 63	0 00	0 00	0 00	472 63	
5	5608 29	90 00	0 00	5316 70	497 62	0 00	12 00	0 00	497 62	
6	7608 47	90 00	0 00	5316 70	2497 80	0 00	0 00	0 00	2497 80	KC 2-5 PBHL



PathFinder

Planning Report

Company: Southwestern Energy Production	Date: 11/22/2005	Time: 10.41:48	Page: 1
Field: Karlsbad Corral Section 2	Co-ordinate(NE) Reference: Well. Karlsbad Corral 2 #5H, Grid North		
Site: Karlsbad Corral 2 #5-H	Vertical (TVD) Reference: SITE 0.0		
Well: Karlsbad Corral 2 #5H	Section (VS) Reference: Well (0.00N,0.00E,0.00Azi)		
Wellpath: Original	Plan: Plan #1 100605		

Field: Karlsbad Corral Section 2
Eddy County, New Mexico

Map System: US State Plane Coordinate System 1927
Geo Datum: NAD27 (Clarke 1866)
Sys Datum: Mean Sea Level

Map Zone: New Mexico, Eastern Zone
Coordinate System: Well Centre
Geomagnetic Model: igrf2005

Site: Karlsbad Corral 2 #5-H
Section 2, T-25S & R-29E
Eddy County, NM

Site Position:	Northing: 419225 60 ft	Latitude: 32 9 7 274 N
From: Map	Easting: 615193.10 ft	Longitude: 103 57 40 039 W
Position Uncertainty: 0 00 ft		North Reference: Grid
Ground Level: 0 00 ft		Grid Convergence: 0 20 deg

Well: Karlsbad Corral 2 #5H

Slot Name:

Well Position: +N/-S 0 00 ft	Northing: 419225 60 ft	Latitude: 32 9 7 274 N
+E/-W 0 00 ft	Easting: 615193 10 ft	Longitude: 103 57 40 039 W
Position Uncertainty: 0 00 ft		

Wellpath: Original

Current Datum: SITE	Height 0 00 ft	Drilled From: Surface
Magnetic Data: 10/6/2005		Tie-on Depth: 0 00 ft
Field Strength: 0 nT		Above System Datum: Mean Sea Level
Vertical Section: Depth From (TVD)	+N/-S	Declination: 0 00 deg
ft	ft	Mag Dip Angle: 0 00 deg
		+E/-W
		ft
		Direction
		deg
0 00	0 00	0 00
		0.00

Plan: Plan #1 100605

Date Composed: 10/6/2005
Version: 1
Tied-to: From Surface

Principal: No

Plan Section Information

MD ft	Incl deg	Azlm deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4838.00	0.00	0.00	4838.00	0.00	0.00	0.00	0.00	0.00	0.00	
5563.29	87.00	0.00	5315.00	452.66	0.00	12.00	12.00	0.00	0.00	
5583.29	87.00	0.00	5316.05	472.63	0.00	0.00	0.00	0.00	0.00	
5608.29	90.00	0.00	5316.70	497.62	0.00	12.00	12.00	0.00	0.00	
7608.47	90.00	0.00	5316.70	2497.80	0.00	0.00	0.00	0.00	0.00	KC 2-5 PBHL

Section 1 : Start Hold

MD ft	Incl deg	Azlm deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4800.00	0.00	0.00	4800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4838.00	0.00	0.00	4838.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Section 2 : Start Build 12.00

MD ft	Incl deg	Azlm deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
4850.00	1.44	0.00	4850.00	0.15	0.00	0.15	12.00	12.00	0.00	0.00
4875.00	4.44	0.00	4874.96	1.43	0.00	1.43	12.00	12.00	0.00	0.00
4900.00	7.44	0.00	4899.83	4.02	0.00	4.02	12.00	12.00	0.00	0.00
4925.00	10.44	0.00	4924.52	7.90	0.00	7.90	12.00	12.00	0.00	0.00
4950.00	13.43	0.00	4948.98	13.07	0.00	13.07	12.00	12.00	0.00	0.00
4975.00	16.43	0.00	4973.13	19.51	0.00	19.51	12.00	12.00	0.00	0.00
5000.00	19.43	0.00	4996.91	27.21	0.00	27.21	12.00	12.00	0.00	0.00
5025.00	22.43	0.00	5020.26	36.14	0.00	36.14	12.00	12.00	0.00	0.00
5050.00	25.43	0.00	5043.11	46.28	0.00	46.28	12.00	12.00	0.00	0.00
5075.00	28.43	0.00	5065.39	57.60	0.00	57.60	12.00	12.00	0.00	0.00

PathFinder

Planning Report

Company: Southwestern Energy Production
 Field: Karlsbad Corral Section 2
 Site: Karlsbad Corral 2 #5-H
 Well: Karlsbad Corral 2 #5H
 Wellpath: Original

Date: 11/22/2005 Time: 10:41:48 Page: 2
 Co-ordinate(NE) Reference: Well. Karlsbad Corral 2 #5H, Grid North
 Vertical (TVD) Reference: SITE 0.0
 Section (VS) Reference: Well (0.00N,0.00E,0.00Azi)
 Plan: Plan #1 100605

Section 2 : Start Build 12.00

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
5100.00	31.43	0.00	5087.06	70.07	0.00	70.07	12.00	12.00	0.00	0.00
5125.00	34.43	0.00	5108.04	83.66	0.00	83.66	12.00	12.00	0.00	0.00
5150.00	37.43	0.00	5128.28	98.33	0.00	98.33	12.00	12.00	0.00	0.00
5175.00	40.42	0.00	5147.73	114.03	0.00	114.03	12.00	12.00	0.00	0.00
5200.00	43.42	0.00	5166.33	130.73	0.00	130.73	12.00	12.00	0.00	0.00
5225.00	46.42	0.00	5184.03	148.38	0.00	148.38	12.00	12.00	0.00	0.00
5250.00	49.42	0.00	5200.78	166.94	0.00	166.94	12.00	12.00	0.00	0.00
5275.00	52.42	0.00	5216.54	186.34	0.00	186.34	12.00	12.00	0.00	0.00
5300.00	55.42	0.00	5231.26	206.54	0.00	206.54	12.00	12.00	0.00	0.00
5325.00	58.42	0.00	5244.90	227.49	0.00	227.49	12.00	12.00	0.00	0.00
5350.00	61.42	0.00	5257.43	249.12	0.00	249.12	12.00	12.00	0.00	0.00
5375.00	64.41	0.00	5268.82	271.38	0.00	271.38	12.00	12.00	0.00	0.00
5400.00	67.41	0.00	5279.02	294.20	0.00	294.20	12.00	12.00	0.00	0.00
5425.00	70.41	0.00	5288.01	317.52	0.00	317.52	12.00	12.00	0.00	0.00
5450.00	73.41	0.00	5295.77	341.28	0.00	341.28	12.00	12.00	0.00	0.00
5475.00	76.41	0.00	5302.28	365.42	0.00	365.42	12.00	12.00	0.00	0.00
5500.00	79.41	0.00	5307.52	389.86	0.00	389.86	12.00	12.00	0.00	0.00
5525.00	82.41	0.00	5311.47	414.54	0.00	414.54	12.00	12.00	0.00	0.00
5550.00	85.41	0.00	5314.12	439.40	0.00	439.40	12.00	12.00	0.00	0.00
5563.29	87.00	0.00	5315.00	452.66	0.00	452.66	12.00	12.00	0.00	0.00

Section 3 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
5583.29	87.00	0.00	5316.05	472.63	0.00	472.63	0.00	0.00	0.00	0.00

Section 4 : Start Build 12.00

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
5600.00	89.01	0.00	5316.63	489.33	0.00	489.33	12.00	12.00	0.00	0.00
5608.29	90.00	0.00	5316.70	497.62	0.00	497.62	12.00	12.00	0.00	0.00

Section 5 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
5700.00	90.00	0.00	5316.70	589.33	0.00	589.33	0.00	0.00	0.00	0.00
5800.00	90.00	0.00	5316.70	689.33	0.00	689.33	0.00	0.00	0.00	0.00
5900.00	90.00	0.00	5316.70	789.33	0.00	789.33	0.00	0.00	0.00	0.00
6000.00	90.00	0.00	5316.70	889.33	0.00	889.33	0.00	0.00	0.00	0.00
6100.00	90.00	0.00	5316.70	989.33	0.00	989.33	0.00	0.00	0.00	0.00
6200.00	90.00	0.00	5316.70	1089.33	0.00	1089.33	0.00	0.00	0.00	0.00
6300.00	90.00	0.00	5316.70	1189.33	0.00	1189.33	0.00	0.00	0.00	0.00
6400.00	90.00	0.00	5316.70	1289.33	0.00	1289.33	0.00	0.00	0.00	0.00
6500.00	90.00	0.00	5316.70	1389.33	0.00	1389.33	0.00	0.00	0.00	0.00
6600.00	90.00	0.00	5316.70	1489.33	0.00	1489.33	0.00	0.00	0.00	0.00
6700.00	90.00	0.00	5316.70	1589.33	0.00	1589.33	0.00	0.00	0.00	0.00
6800.00	90.00	0.00	5316.70	1689.33	0.00	1689.33	0.00	0.00	0.00	0.00
6900.00	90.00	0.00	5316.70	1789.33	0.00	1789.33	0.00	0.00	0.00	0.00
7000.00	90.00	0.00	5316.70	1889.33	0.00	1889.33	0.00	0.00	0.00	0.00
7100.00	90.00	0.00	5316.70	1989.33	0.00	1989.33	0.00	0.00	0.00	0.00
7200.00	90.00	0.00	5316.70	2089.33	0.00	2089.33	0.00	0.00	0.00	0.00
7300.00	90.00	0.00	5316.70	2189.33	0.00	2189.33	0.00	0.00	0.00	0.00
7400.00	90.00	0.00	5316.70	2289.33	0.00	2289.33	0.00	0.00	0.00	0.00
7500.00	90.00	0.00	5316.70	2389.33	0.00	2389.33	0.00	0.00	0.00	0.00
7608.45	90.00	0.00	5316.70	2497.78	0.00	2497.78	0.00	0.00	0.00	0.00
7608.47	90.00	0.00	5316.70	2497.80	0.00	2497.80	0.00	0.00	0.00	0.00

PathFinder

Planning Report

Company: Southwestern Energy Production
 Field: Karlsbad Corral Section 2
 Site: Karlsbad Corral 2 #5-H
 Well: Karlsbad Corral 2 #5H
 Wellpath: Original

Date: 11/22/2005 Time: 10.41.48 Page: 3
 Co-ordinate(N/E) Reference: Well: Karlsbad Corral 2 #5H, Gnd North
 Vertical (TVD) Reference: SITE 0.0
 Section (VS) Reference: Well (0.00N,0.00E,0.00Az)
 Plan: Plan #1 100605

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
4800.00	0.00	0.00	4800.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP @ 4838' w /12° Build
4838.00	0.00	0.00	4838.00	0.00	0.00	0.00	0.00	0.00	0.00	
4850.00	1.44	0.00	4850.00	0.15	0.00	0.15	12.00	12.00	0.00	
4875.00	4.44	0.00	4874.96	1.43	0.00	1.43	12.00	12.00	0.00	
4900.00	7.44	0.00	4899.83	4.02	0.00	4.02	12.00	12.00	0.00	
4925.00	10.44	0.00	4924.52	7.90	0.00	7.90	12.00	12.00	0.00	
4950.00	13.43	0.00	4948.98	13.07	0.00	13.07	12.00	12.00	0.00	
4975.00	16.43	0.00	4973.13	19.51	0.00	19.51	12.00	12.00	0.00	
5000.00	19.43	0.00	4996.91	27.21	0.00	27.21	12.00	12.00	0.00	
5025.00	22.43	0.00	5020.26	36.14	0.00	36.14	12.00	12.00	0.00	
5050.00	25.43	0.00	5043.11	46.28	0.00	46.28	12.00	12.00	0.00	
5075.00	28.43	0.00	5065.39	57.60	0.00	57.60	12.00	12.00	0.00	
5100.00	31.43	0.00	5087.06	70.07	0.00	70.07	12.00	12.00	0.00	
5125.00	34.43	0.00	5108.04	83.66	0.00	83.66	12.00	12.00	0.00	
5150.00	37.43	0.00	5128.28	98.33	0.00	98.33	12.00	12.00	0.00	
5175.00	40.42	0.00	5147.73	114.03	0.00	114.03	12.00	12.00	0.00	
5200.00	43.42	0.00	5166.33	130.73	0.00	130.73	12.00	12.00	0.00	
5225.00	46.42	0.00	5184.03	148.38	0.00	148.38	12.00	12.00	0.00	
5250.00	49.42	0.00	5200.78	166.94	0.00	166.94	12.00	12.00	0.00	
5275.00	52.42	0.00	5216.54	186.34	0.00	186.34	12.00	12.00	0.00	
5300.00	55.42	0.00	5231.26	206.54	0.00	206.54	12.00	12.00	0.00	
5325.00	58.42	0.00	5244.90	227.49	0.00	227.49	12.00	12.00	0.00	
5350.00	61.42	0.00	5257.43	249.12	0.00	249.12	12.00	12.00	0.00	
5375.00	64.41	0.00	5268.82	271.38	0.00	271.38	12.00	12.00	0.00	
5400.00	67.41	0.00	5279.02	294.20	0.00	294.20	12.00	12.00	0.00	
5425.00	70.41	0.00	5288.01	317.52	0.00	317.52	12.00	12.00	0.00	
5450.00	73.41	0.00	5295.77	341.28	0.00	341.28	12.00	12.00	0.00	
5475.00	76.41	0.00	5302.28	365.42	0.00	365.42	12.00	12.00	0.00	
5500.00	79.41	0.00	5307.52	389.86	0.00	389.86	12.00	12.00	0.00	
5525.00	82.41	0.00	5311.47	414.54	0.00	414.54	12.00	12.00	0.00	
5550.00	85.41	0.00	5314.12	439.40	0.00	439.40	12.00	12.00	0.00	
5563.29	87.00	0.00	5315.00	452.66	0.00	452.66	12.00	12.00	0.00	Top of CC4 / Begin Hold @ End Hold/Begin Build to L
5583.29	87.00	0.00	5316.05	472.63	0.00	472.63	0.00	0.00	0.00	
5600.00	89.01	0.00	5316.63	489.33	0.00	489.33	12.00	12.00	0.00	
5608.29	90.00	0.00	5316.70	497.62	0.00	497.62	12.00	12.00	0.00	End of Curve @ 5608' MD/5
5700.00	90.00	0.00	5316.70	589.33	0.00	589.33	0.00	0.00	0.00	
5800.00	90.00	0.00	5316.70	689.33	0.00	689.33	0.00	0.00	0.00	
5900.00	90.00	0.00	5316.70	789.33	0.00	789.33	0.00	0.00	0.00	
6000.00	90.00	0.00	5316.70	889.33	0.00	889.33	0.00	0.00	0.00	
6100.00	90.00	0.00	5316.70	989.33	0.00	989.33	0.00	0.00	0.00	
6200.00	90.00	0.00	5316.70	1089.33	0.00	1089.33	0.00	0.00	0.00	
6300.00	90.00	0.00	5316.70	1189.33	0.00	1189.33	0.00	0.00	0.00	
6400.00	90.00	0.00	5316.70	1289.33	0.00	1289.33	0.00	0.00	0.00	
6500.00	90.00	0.00	5316.70	1389.33	0.00	1389.33	0.00	0.00	0.00	
6600.00	90.00	0.00	5316.70	1489.33	0.00	1489.33	0.00	0.00	0.00	
6700.00	90.00	0.00	5316.70	1589.33	0.00	1589.33	0.00	0.00	0.00	
6800.00	90.00	0.00	5316.70	1689.33	0.00	1689.33	0.00	0.00	0.00	
6900.00	90.00	0.00	5316.70	1789.33	0.00	1789.33	0.00	0.00	0.00	
7000.00	90.00	0.00	5316.70	1889.33	0.00	1889.33	0.00	0.00	0.00	
7100.00	90.00	0.00	5316.70	1989.33	0.00	1989.33	0.00	0.00	0.00	
7200.00	90.00	0.00	5316.70	2089.33	0.00	2089.33	0.00	0.00	0.00	
7300.00	90.00	0.00	5316.70	2189.33	0.00	2189.33	0.00	0.00	0.00	
7400.00	90.00	0.00	5316.70	2289.33	0.00	2289.33	0.00	0.00	0.00	
7500.00	90.00	0.00	5316.70	2389.33	0.00	2389.33	0.00	0.00	0.00	

PathFinder

Planning Report

Company: Southwestern Energy Production
Field: Karlsbad Corral Section 2
Site: Karlsbad Corral 2 #5-H
Well: Karlsbad Corral 2 #5H
Wellpath: Original

Date: 11/22/2005 **Time:** 10:41:48 **Page:** 4
Co-ordinate(NE) Reference: Well Karlsbad Corral 2 #5H, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,0.00Azi)
Plan: Plan #1 100605

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
7608.45	90.00	0 00	5316 70	2497.78	0.00	2497.78	0 00	0 00	0 00	Proposed Bottom Hole Loca
7608 47	90.00	0.00	5316 70	2497 80	0 00	2497 80	0 00	0.00	0 00	KC 2-5 PBHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg Min Sec			<--- Longitude ---> Deg Min Sec		
KC 2-5 PBHL			5316 70	2497 80	-0 30	421723.40	615192 80	32	9	31.993 N	103	57	39 942 W

Annotation

MD ft	TVD ft	
4838.00	4838.00	KOP @ 4838' w /12° Build Rates
5563 29	5315 00	Top of CC4 / Begin Hold @ 87° Inclination
5583 29	5316 05	End Hold/Begin Build to Land Curve
5608 29	5316 70	End of Curve @ 5608' MD/5317' TVD
7608 45	5316 70	Proposed Bottom Hole Location KC 2 #5H

**Karlsbad Corral 11 #2-H &
Karlsbad Corral 2 #5-H
Proposed Locations**

