

Results of Directional Survey

API number:	30-025-39599		
OGRID:		Operator:	DEVON ENERGY PRODUCTION CO LP
		Property:	COCKBURN FEDERAL # 4 H

surface	ULSTR:	N	10	T 18S	R 33E
				660 FSL	1980 FWL

BH Loc	ULSTR:	C	10	T 18S	R 33E
12773	MD	9019.5	TVD	4566 FSL	1792 FWL

Top Perf/OH	ULSTR:	N	10	T 18S	R 33E
9780	MD	9227.3	TVD	1601 FSL	2040 FWL

Bot Perf/OH	ULSTR:	C	10	T 18S	R 33E
12638	MD	9040.1	TVD	4435 FSL	1818 FWL

	MD	N/S	E/W	VD
	9770	931.30	60.10	9226.7
TOP PERFS/OH	9780	941.30	60.01	9227.26
	9802	963.30	59.80	9228.50
	12626	3763.20	-160.10	9041.90
BOT PERFS/OH	12638	3774.86	-162.28	9040.10
	12658	3794.30	-165.90	9037.10

NEXT TO LAST	12690	3825.40	-171.90	9032.20
LAST READING	12722	3856.40	-178.00	9027.30
TD	12773	3905.81	-187.72	9019.49

Surface Location	660	FS	1980	FW
Projected BHL	4566	FS	1792	FW
Location of				
Top Perfs/OH	1601	FS	2040	FW
Bottom Perfs/OH	4435	FS	1818	FW

SUMMARY of Subsurface Locations

Surface Location	N-10-18S-33E	660	FS	1980	FW	Vert. Depth
Top Perfs/OH	N-10-18S-33E	1601	FS	2040	FW	9227.26
Bottom Perfs/OH	C-10-18S-33E	4435	FS	1818	FW	9040.10
Projected TD	C-10-18S-33E	4566	FS	1792	FW	9019.49

OPERATOR
WELL/LEASE
COUNTY

DEVON ENERGY PRODUCTION CO, LLP
COCKBURN FEDERAL #4
LEA

STATE OF NEW MEXICO
DEVIATION REPORT

511	0.50
816	0.25
1,001	0.50
1,249	1.00
1,545	1.00
1,886	0.50
2,172	0.25
2,490	0.50
2,862	0.75
3,188	0.50
3,473	0.75
3,718	1.00
3,972	1.00
4,511	1.00
4,804	2.00
5,080	2.00
5,437	1.00
5,723	1.00
6,032	2.00
6,325	1.00
6,611	1.00
6,889	1.00
7,174	1.00
7,426	1.00
8,193	1.00
8,480	2.00
8,595	1.00

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SUR: N-10-18s-33e, 660/S & 1980/W
BHL: C-10-18s-33e, 4566/S & 1792/W
API # 30-025-39599

BY: Cassandra Ramos

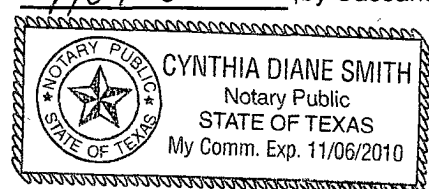
STATE OF TEXAS

COUNTY OF MIDLAND

The foregoing instrument was acknowledged before me on
Ramos on behalf of Patterson-UTI Drilling Company LLC.

Cynthia Diane Smith
Notary Public for Midland County, Texas

My Commission Expires:





Scientific Drilling

Gyroscopic Survey Report
for
DEVON ENERGY

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Well Location	LEA COUNTY, NEW MEXICO
Well Name	COCKBURN FED.#4H
Rig Name	PATTERSON #41
Survey Date	8/12/2010
Latitude	32.76 deg
North Reference	Grid North
Grid Correction	-0.37 deg
Depth Reference	17'K.B.
Calculation Method	Minimum Curvature
Section (VS) Ref	0.00N (ft), 0.00E (ft), 0.00Azim (deg)
Definitive Survey	FINAL GYRO SURVEY
Operator	J.SUTHERLAND

Comments

CORRELATION DEPTH 17'K.B.

SUR: N-10-18s-33e, 660/S & 1980/W
BHL: C-10-18s-33e, 4566/S & 1792/W
API # 30-025-39599

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Carlsbad Field Office
Carlsbad, N.M.



Survey Report

Well Name: COCKBURN FED.#4H

Survey: FINAL GYRO SURVEY

Survey Date: 8/12/2010

MD	Inc	Azim	TVD	VS	Northing	Easting	DLS	Closure Distance	Closure Angle
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	Invalid	0.00	0.00
100.00	0.47	161.41	100.00	-0.39	-0.39	0.13	0.47	0.41	161.41
200.00	0.58	153.31	199.99	-1.23	-1.23	0.49	0.14	1.32	158.31
300.00	0.41	148.88	299.99	-1.99	-1.99	0.90	0.17	2.19	155.60
400.00	0.48	150.86	399.99	-2.67	-2.67	1.30	0.07	2.97	154.11
500.00	0.44	155.84	499.98	-3.39	-3.39	1.66	0.06	3.78	153.92
600.00	0.48	160.76	599.98	-4.14	-4.14	1.96	0.05	4.58	154.71
700.00	0.54	170.08	699.98	-5.00	-5.00	2.17	0.10	5.45	156.48
800.00	0.64	170.94	799.97	-6.01	-6.01	2.34	0.10	6.45	158.71
900.00	0.90	188.57	899.96	-7.34	-7.34	2.31	0.35	7.70	162.50
1000.00	0.95	190.85	999.95	-8.93	-8.93	2.04	0.06	9.16	167.11
1100.00	1.27	182.22	1099.93	-10.85	-10.85	1.84	0.37	11.00	170.35
1200.00	1.13	181.96	1199.91	-12.95	-12.95	1.77	0.14	13.07	172.23
1300.00	0.81	209.60	1299.90	-14.56	-14.56	1.38	0.56	14.62	174.57
1400.00	0.94	192.29	1399.88	-15.97	-15.97	0.86	0.29	16.00	176.93
1500.00	0.81	209.83	1499.87	-17.39	-17.39	0.33	0.30	17.39	178.91
1600.00	0.44	213.13	1599.87	-18.32	-18.32	-0.23	0.37	18.32	180.71
1700.00	0.37	174.19	1699.86	-18.96	-18.96	-0.40	0.28	18.96	181.21
1800.00	0.46	189.16	1799.86	-19.68	-19.68	-0.43	0.14	19.68	181.26
1900.00	0.41	173.49	1899.86	-20.42	-20.42	-0.46	0.13	20.43	181.28
2000.00	0.52	185.95	1999.86	-21.22	-21.22	-0.46	0.15	21.23	181.25
2100.00	0.51	164.50	2099.85	-22.09	-22.09	-0.39	0.19	22.10	181.01
2200.00	0.61	167.62	2199.85	-23.04	-23.04	-0.16	0.11	23.04	180.40
2300.00	0.39	129.15	2299.84	-23.78	-23.78	0.22	0.39	23.78	179.46
2400.00	0.41	95.54	2399.84	-24.03	-24.03	0.84	0.23	24.04	177.99
2500.00	0.53	62.79	2499.84	-23.85	-23.85	1.61	0.29	23.91	176.14
2600.00	0.78	55.07	2599.83	-23.25	-23.25	2.58	0.26	23.39	173.68
2700.00	0.90	66.52	2699.82	-22.55	-22.55	3.85	0.21	22.88	170.30
2800.00	1.09	49.04	2799.81	-21.61	-21.61	5.30	0.36	22.25	166.23
2900.00	0.85	32.18	2899.79	-20.35	-20.35	6.41	0.37	21.34	162.51
3000.00	1.07	42.52	2999.78	-19.04	-19.04	7.44	0.27	20.44	158.66
3100.00	1.04	47.71	3099.76	-17.74	-17.74	8.74	0.10	19.78	153.77
3200.00	0.98	38.30	3199.74	-16.46	-16.46	9.94	0.18	19.23	148.88
3300.00	1.00	47.39	3299.73	-15.20	-15.20	11.11	0.16	18.83	143.85
3400.00	0.81	47.93	3399.72	-14.14	-14.14	12.27	0.19	18.72	139.05
3500.00	0.88	26.33	3499.71	-12.98	-12.98	13.14	0.32	18.47	134.66
3600.00	0.77	44.78	3599.70	-11.82	-11.82	13.95	0.29	18.28	130.28
3700.00	0.70	28.38	3699.69	-10.80	-10.80	14.71	0.22	18.25	126.29
3800.00	0.88	33.71	3799.68	-9.62	-9.62	15.43	0.19	18.18	121.94



Survey Report

Well Name:		COCKBURN FED.#4H							
Survey:		FINAL GYRO SURVEY							
Survey Date:		8/12/2010							
MD	Inc	Azim	TVD	VS	Northing	Easting	DLS	Closure Distance	Closure Angle
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	deg
3900.00	0.82	22.88	3899.67	-8.32	-8.32	16.14	0.17	18.16	117.29
4000.00	0.94	10.79	3999.66	-6.86	-6.86	16.57	0.22	17.93	112.51
4100.00	0.82	13.23	4099.64	-5.37	-5.37	16.88	0.12	17.71	107.64
4200.00	0.81	16.12	4199.63	-3.99	-3.99	17.24	0.04	17.70	103.04
4300.00	0.99	30.45	4299.62	-2.57	-2.57	17.88	0.29	18.06	98.18
4400.00	1.05	17.56	4399.61	-0.95	-0.95	18.59	0.24	18.62	92.92
4500.00	0.93	25.08	4499.59	0.66	0.66	19.21	0.18	19.22	88.03
4600.00	1.22	15.53	4599.57	2.42	2.42	19.84	0.34	19.99	83.05
4700.00	1.33	16.56	4699.55	4.55	4.55	20.46	0.12	20.96	77.45
4800.00	1.39	15.08	4799.52	6.84	6.84	21.10	0.07	22.18	72.04
4900.00	1.46	16.81	4899.49	9.23	9.23	21.79	0.08	23.66	67.04
5000.00	1.21	25.15	4999.46	11.40	11.40	22.60	0.32	25.31	63.24
5100.00	1.19	17.48	5099.44	13.34	13.34	23.36	0.16	26.90	60.26
5200.00	1.27	17.94	5199.42	15.39	15.39	24.02	0.08	28.53	57.34
5300.00	1.29	18.48	5299.39	17.51	17.51	24.71	0.02	30.29	54.68
5400.00	1.35	17.95	5399.37	19.70	19.70	25.43	0.06	32.17	52.24
5500.00	1.13	18.43	5499.34	21.75	21.75	26.11	0.21	33.98	50.20
5600.00	1.46	13.73	5599.32	23.93	23.93	26.72	0.35	35.87	48.15
5700.00	1.43	18.28	5699.29	26.36	26.36	27.42	0.12	38.03	46.13
5800.00	1.38	8.27	5799.26	28.74	28.74	27.98	0.25	40.11	44.23
5900.00	1.41	18.82	5899.23	31.10	31.10	28.56	0.26	42.22	42.56
6000.00	1.63	13.49	5999.19	33.66	33.66	29.29	0.26	44.61	41.03
6100.00	1.76	21.48	6099.15	36.47	36.47	30.18	0.27	47.34	39.61
6200.00	1.94	32.50	6199.10	39.32	39.32	31.65	0.40	50.48	38.83
6300.00	2.03	30.19	6299.04	42.28	42.28	33.45	0.12	53.91	38.35
6400.00	1.36	29.05	6398.99	44.84	44.84	34.91	0.67	56.83	37.91
6500.00	1.36	32.21	6498.96	46.88	46.88	36.12	0.08	59.18	37.61
6600.00	1.38	17.41	6598.93	49.04	49.04	37.11	0.35	61.50	37.12
6700.00	1.39	18.53	6698.91	51.34	51.34	37.86	0.03	63.79	36.41
6800.00	1.67	15.58	6798.87	53.89	53.89	38.64	0.29	66.31	35.64
6900.00	1.77	12.67	6898.82	56.80	56.80	39.37	0.13	69.11	34.72
7000.00	1.70	1.58	6998.78	59.80	59.80	39.75	0.34	71.80	33.61
7100.00	1.75	356.96	7098.73	62.81	62.81	39.71	0.15	74.31	32.30
7200.00	1.88	353.48	7198.68	65.97	65.97	39.44	0.17	76.86	30.87
7300.00	1.97	0.64	7298.63	69.32	69.32	39.27	0.26	79.67	29.53
7400.00	1.83	0.65	7398.57	72.64	72.64	39.31	0.14	82.59	28.42
7500.00	1.97	1.89	7498.52	75.95	75.95	39.39	0.14	85.55	27.41
7600.00	2.26	2.33	7598.45	79.63	79.63	39.52	0.29	88.90	26.40



Survey Report

Well Name:		COCKBURN FED.#4H							
Survey:		FINAL GYRO SURVEY							
Survey Date:		8/12/2010							
MD	Inc	Azim	TVD	VS	Northing	Easting	DLS	Closure Distance	Closure Angle
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	deg
7700.00	2.20	6.75	7698.37	83.51	83.51	39.83	0.18	92.52	25.50
7800.00	2.22	13.29	7798.30	87.30	87.30	40.50	0.25	96.24	24.89
7900.00	2.86	12.64	7898.20	91.62	91.62	41.49	0.64	100.58	24.36
8000.00	2.44	17.95	7998.09	96.08	96.08	42.69	0.48	105.14	23.96
8100.00	2.46	23.92	8098.00	100.07	100.07	44.22	0.26	109.41	23.84
8200.00	2.71	36.54	8197.90	103.94	103.94	46.50	0.62	113.87	24.10
8300.00	2.44	53.52	8297.80	107.10	107.10	49.62	0.81	118.04	24.86
8400.00	2.38	58.27	8397.71	109.46	109.46	53.10	0.21	121.66	25.88
8500.00	2.39	57.48	8497.63	111.68	111.68	56.62	0.03	125.21	26.89
8577.00	2.21	50.21	8574.56	113.49	113.49	59.12	0.45	127.96	27.52

SUR: N-10-18s-33e, 660/S & 1980/W
BHL: C-10-18s-33e, 4566/S & 1792/W
API # 30-025-39599

DEVON ENERGY

Mescalero Escarpe
Lea County, NM
Cockburn Federal #4
VH - Job #32K0810592

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Survey: Actual

SDI Standard Survey Report

22 August, 2010

This survey is correct to the best of my knowledge and is supported by actual field data.

Richard

Notorized this date 17th of September, 2010.

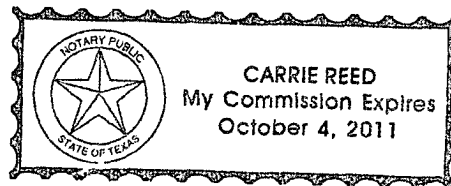
Carrie Reed

Notary Signature
County of Midland
State of Texas

Bureau of Land Management
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Carlsbad Field Office
Carlsbad N.M.



Scientific Drilling International, Inc.
SDI Standard Survey Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Cockburn Federal #4
Project:	Mescalero Escarpe	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Cockburn Federal #4	North Reference:	Grid
Wellbore:	VH - Job #32K0810592	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0810592	Database:	EDM-Regulatory

Project	Mescalero Escarpe		
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		

Well	Cockburn Federal #4, Directional (Great White)					
Well Position	+N/-S	0.0 usft	Northing:	639,417.60 usft	Latitude:	32° 45' 21.600 N
	+E/-W	0.0 usft	Easting:	709,460.50 usft	Longitude:	103° 39' 7.200 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft

Wellbore	VH - Job #32K0810592				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	8/22/2010	7.75	60.71	49,069

Design	VH - Job #32K0810592				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	27.52	

Survey Program	Date	8/22/2010			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	8,577.0	Actual (VH - Job #32K0810592)	Keeper	Keeper Gyro	

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	
100.0	0.47	161.41	100.0	-0.4	0.1	161.41	0.4	
200.0	0.58	153.31	200.0	-1.2	0.5	158.32	1.3	
300.0	0.41	148.88	300.0	-2.0	0.9	155.62	2.2	
400.0	0.48	150.86	400.0	-2.7	1.3	154.13	3.0	
500.0	0.44	155.84	500.0	-3.4	1.7	153.94	3.8	
600.0	0.48	160.76	600.0	-4.1	1.9	154.73	4.6	
700.0	0.54	170.08	700.0	-5.0	2.2	156.51	5.4	
800.0	0.64	170.94	800.0	-6.0	2.3	158.73	6.4	
900.0	0.90	188.57	900.0	-7.3	2.3	162.53	7.7	
1,000.0	0.95	190.85	1,000.0	-8.9	2.0	167.16	9.1	
1,100.0	1.27	182.22	1,099.9	-10.8	1.8	170.40	11.0	
1,200.0	1.13	181.96	1,199.9	-12.9	1.8	172.26	13.0	
1,300.0	0.81	209.60	1,299.9	-14.5	1.4	174.60	14.6	
1,400.0	0.94	192.29	1,399.9	-15.9	0.9	176.95	16.0	
1,500.0	0.81	209.83	1,499.9	-17.4	0.3	178.93	17.4	
1,600.0	0.44	213.13	1,599.9	-18.3	-0.2	180.74	18.3	

Scientific Drilling International, Inc.
SDI Standard Survey Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Cockburn Federal #4
Project:	Mescalero Escarpe	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Cockburn Federal #4	North Reference:	Grid
Wellbore:	VH - Job #32K0810592	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0810592	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,700.0	0.37	174.19	1,699.9	-18.9	-0.4	181.25	18.9
1,800.0	0.46	189.16	1,799.9	-19.7	-0.4	181.30	19.7
1,900.0	0.41	173.49	1,899.9	-20.4	-0.5	181.32	20.4
2,000.0	0.52	185.95	1,999.9	-21.2	-0.5	181.28	21.2
2,100.0	0.51	164.50	2,099.9	-22.1	-0.4	181.05	22.1
2,200.0	0.61	167.62	2,199.8	-23.0	-0.2	180.42	23.0
2,300.0	0.39	129.15	2,299.8	-23.8	0.2	179.50	23.8
2,400.0	0.41	95.54	2,399.8	-24.0	0.8	178.03	24.0
2,500.0	0.53	62.79	2,499.8	-23.9	1.6	176.17	23.9
2,600.0	0.78	55.07	2,599.8	-23.3	2.6	173.71	23.4
2,700.0	0.90	66.52	2,699.8	-22.5	3.8	170.33	22.9
2,800.0	1.09	49.04	2,799.8	-21.6	5.3	166.27	22.2
2,900.0	0.85	32.18	2,899.8	-20.4	6.4	162.56	21.3
3,000.0	1.07	42.52	2,999.8	-19.0	7.4	158.71	20.4
3,100.0	1.04	47.71	3,099.8	-17.7	8.7	153.82	19.8
3,200.0	0.98	38.30	3,199.7	-16.5	9.9	148.92	19.2
3,300.0	1.00	47.39	3,299.7	-15.2	11.1	143.87	18.8
3,400.0	0.81	47.93	3,399.7	-14.1	12.3	139.06	18.7
3,500.0	0.88	26.33	3,499.7	-13.0	13.1	134.66	18.5
3,600.0	0.77	44.78	3,599.7	-11.8	13.9	130.27	18.3
3,700.0	0.70	28.38	3,699.7	-10.8	14.7	126.28	18.2
3,800.0	0.88	33.71	3,799.7	-9.6	15.4	121.95	18.2
3,900.0	0.82	22.88	3,899.7	-8.3	16.1	117.29	18.1
4,000.0	0.94	10.79	3,999.7	-6.9	16.6	112.49	17.9
4,100.0	0.82	13.23	4,099.6	-5.4	16.9	107.60	17.7
4,200.0	0.81	16.12	4,199.6	-4.0	17.2	103.00	17.7
4,300.0	0.99	30.45	4,299.6	-2.6	17.9	98.14	18.1
4,400.0	1.05	17.56	4,399.6	-0.9	18.6	92.88	18.6
4,500.0	0.93	25.08	4,499.6	0.7	19.2	88.00	19.2
4,600.0	1.22	15.53	4,599.6	2.4	19.8	83.01	20.0
4,700.0	1.33	16.56	4,699.5	4.6	20.5	77.40	21.0
4,800.0	1.39	15.08	4,799.5	6.9	21.1	72.00	22.2
4,900.0	1.46	16.81	4,899.5	9.2	21.8	67.00	23.7
5,000.0	1.21	25.15	4,999.5	11.4	22.6	63.19	25.3
5,100.0	1.19	17.48	5,099.4	13.4	23.4	60.22	26.9
5,200.0	1.27	17.94	5,199.4	15.4	24.0	57.31	28.5
5,300.0	1.29	18.48	5,299.4	17.5	24.7	54.64	30.3
5,400.0	1.35	17.95	5,399.4	19.7	25.4	52.21	32.2
5,500.0	1.13	18.43	5,499.3	21.8	26.1	50.16	34.0
5,600.0	1.46	13.73	5,599.3	24.0	26.7	48.13	35.9
5,700.0	1.43	18.28	5,699.3	26.4	27.4	46.11	38.0
5,800.0	1.38	8.27	5,799.3	28.7	28.0	44.22	40.1
5,900.0	1.41	18.82	5,899.2	31.1	28.5	42.54	42.2
6,000.0	1.63	13.49	5,999.2	33.7	29.3	41.02	44.6

Scientific Drilling International, Inc.
SDI Standard Survey Report

Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Cockburn Federal #4
Project:	Mescalero Escarpe	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Cockburn Federal #4	North Reference:	Grid
Wellbore:	VH - Job #32K0810592	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0810592	Database:	EDM-Regulatory

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
6,100.0	1.76	21.48	6,099.1	36.5	30.2	39.60	47.3	
6,200.0	1.94	32.50	6,199.1	39.3	31.6	38.82	50.5	
6,300.0	2.03	30.19	6,299.0	42.3	33.4	38.34	53.9	
6,400.0	1.36	29.05	6,399.0	44.8	34.9	37.90	56.8	
6,500.0	1.36	32.21	6,499.0	46.9	36.1	37.61	59.2	
6,600.0	1.38	17.41	6,598.9	49.0	37.1	37.11	61.5	
6,700.0	1.39	18.53	6,698.9	51.3	37.9	36.40	63.8	
6,800.0	1.67	15.58	6,798.9	53.9	38.6	35.63	66.3	
6,900.0	1.77	12.67	6,898.8	56.8	39.4	34.72	69.1	
7,000.0	1.70	1.58	6,998.8	59.8	39.7	33.61	71.8	
7,100.0	1.75	356.96	7,098.7	62.8	39.7	32.30	74.3	
7,200.0	1.88	353.48	7,198.7	66.0	39.4	30.87	76.8	
7,300.0	1.97	0.64	7,298.6	69.3	39.3	29.54	79.7	
7,400.0	1.83	0.65	7,398.6	72.6	39.3	28.42	82.6	
7,500.0	1.97	1.89	7,498.5	75.9	39.4	27.41	85.5	
7,600.0	2.26	2.33	7,598.4	79.6	39.5	26.39	88.9	
7,700.0	2.20	6.75	7,698.4	83.5	39.8	25.50	92.5	
7,800.0	2.22	13.29	7,798.3	87.3	40.5	24.89	96.2	
7,900.0	2.86	12.64	7,898.2	91.6	41.5	24.36	100.6	
8,000.0	2.44	17.95	7,998.1	96.1	42.7	23.96	105.1	
8,100.0	2.46	23.92	8,098.0	100.1	44.2	23.84	109.4	
8,200.0	2.71	36.54	8,197.9	103.9	46.5	24.10	113.8	
8,300.0	2.44	53.52	8,297.8	107.1	49.6	24.86	118.0	
8,400.0	2.38	58.27	8,397.7	109.4	53.1	25.88	121.6	
8,500.0	2.39	57.48	8,497.6	111.7	56.6	26.89	125.2	
8,577.0	2.21	50.21	8,574.6	113.5	59.1	27.52	127.9	



Scientific Drilling
Directional Drilling Operations

Project: Mescalero Escarpe
Lea County, NM
Well: Cockburn Federal #4
Wellbore: VH - Job #32K0810592
Design: VH - Job #32K0810592

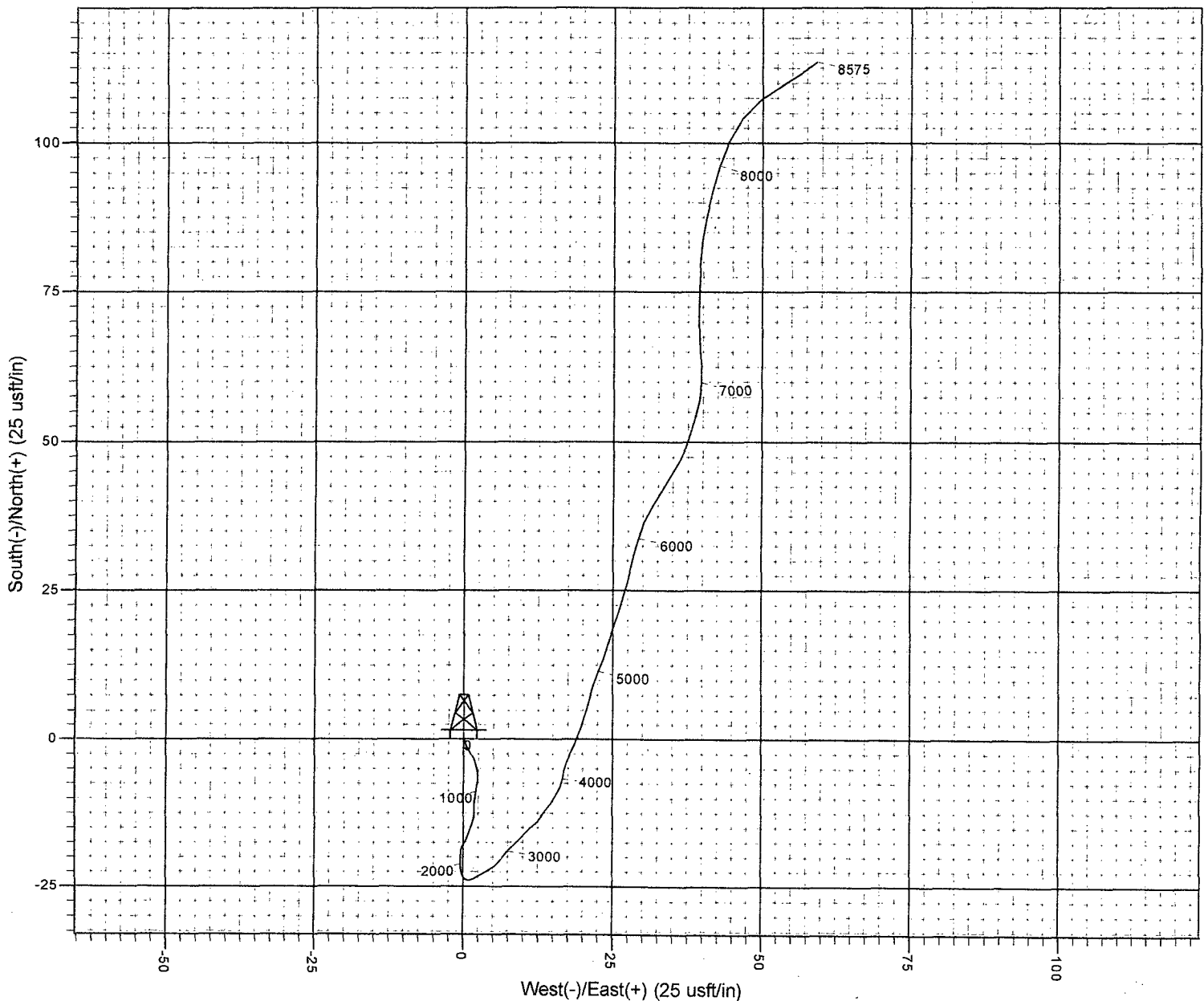


Azimuths to Grid North
True North: -0.37°
Magnetic North: 7.38°

Magnetic Field
Strength: 49068.5nT
Dip Angle: 60.71°
Date: 8/22/2010
Model: IGRF200510

WELL DETAILS: Cockburn Federal #4
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	639417.60	709460.50	32° 45' 21.600 N	103° 39' 7.200 W	



PROJECT DETAILS: Mescalero Escarpe
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

SITE DETAILS: Lea County, NM
Site Centre Latitude: 32° 45' 21.600 N
Longitude: 103° 39' 7.200 W
Positional Uncertainty: 0.0
Convergence: 0.37
Local North: Grid