

30-015-35921

Rubicon Oil & Gas, LLC.

Eddy Co., New Mexico (Nad 27)

Dark Canyon 19 Fed #1

Dark Canyon 19 Fed #1

30-015-35921

S-Well #1

Survey: MWD Survey #1

Standard Survey Report

05 December, 2008



CUDD Drilling & Measurement Services

Survey Report



Company: Rubicon Oil & Gas, LLC	Local Co-ordinate Reference: Well Dark Canyon 19 Fed #1	
Project: Eddy Co., New Mexico (Nad 27)	TVD Reference: WELL @ 3801.00ft (Original Well Elev)	
Site: Dark Canyon 19 Fed #1	MD Reference: WELL @ 3801.00ft (Original Well Elev)	
Well: Dark Canyon 19 Fed #1	North Reference: Grid	
Wellbore: S-Well #1	Survey Calculation Method: Minimum Curvature	
Design: S-Well #1	Database: EDM 2003.21 Single User Db	

Project	Eddy Co., New Mexico (Nad 27)
Map System:	US State Plane 1927 (Exact solution)
Geo Datum:	NAD 1927 (NADCON CONUS)
Map Zone:	New Mexico East 3001
System Datum:	Mean Sea Level

Site	Dark Canyon 19 Fed #1, Sec 24, T-23S, R-24E				
Site Position:	Northing:	471,333.80 ft	Latitude:	32° 17' 44.755 N	
From: Map	Easting:	465,991.90 ft	Longitude:	104° 26' 36.217 W	
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	-0.06 °

Well	Dark Canyon 19 Fed #1				
Well Position	+N/-S	0.00 ft	Northing:	471,333.80 ft	Latitude: 32° 17' 44.755 N
	+E/-W	0.00 ft	Easting:	465,991.90 ft	Longitude: 104° 26' 36.217 W
Position Uncertainty	0.00 ft	Wellhead Elevation:	3,801.00 ft	Ground Level:	3,781.00 ft

Wellbore	S-Well #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/16/2008	8.29	60.17	48,847

Design	S-Well #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	115.43	

Survey Program	Date	12/5/2008		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.00	2,110.00	Gyro Survey #1 (S-Well #1)	NS-GYRO-MS	North sensing gyrocompassing m/s

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)
2,110.00	4.11	164.93	2,107.55	-79.75	3.65	37.55	0.00	0.00	0.00
2,133.00	4.40	163.80	2,130.49	-81.39	4.12	38.67	1.31	1.26	-4.91
First CUDD MWD Survey									
2,164.00	5.50	156.20	2,161.37	-83.89	5.05	40.58	4.12	3.55	-24.52
2,196.00	6.00	155.30	2,193.21	-86.82	6.36	43.03	1.59	1.56	-2.81
2,228.00	6.50	152.30	2,225.02	-89.94	7.90	45.76	1.87	1.56	-9.38
2,293.00	7.00	150.90	2,289.57	-96.66	11.54	51.93	0.81	0.77	-2.15
2,325.00	7.30	144.30	2,321.32	-100.01	13.68	55.30	2.73	0.94	-20.63
2,357.00	7.60	139.90	2,353.05	-103.28	16.23	59.00	2.01	0.94	-13.75
2,421.00	8.00	135.20	2,416.46	-109.68	22.09	67.05	1.18	0.63	-7.34
2,485.00	8.10	134.90	2,479.83	-116.02	28.42	75.49	0.17	0.16	-0.47
2,548.00	7.90	135.20	2,542.22	-122.23	34.62	83.75	0.32	-0.32	0.48
2,580.00	7.80	131.50	2,573.92	-125.23	37.79	87.90	1.61	-0.31	-11.56

CUDD Drilling & Measurement Services

Survey Report



Company: Rubicon Oil & Gas, LLC
Project: Eddy Co., New Mexico (Nad 27)
Site: Dark Canyon 19 Fed #1
Well: Dark Canyon 19 Fed #1
Wellbore: S-Well #1
Design: S-Well #1

Local Co-ordinate Reference: Well Dark Canyon 19 Fed #1
TVD Reference: WELL @ 3801.00ft (Original Well Elev)
MD Reference: WELL @ 3801.00ft (Original Well Elev)
North Reference: Grd
Survey Calculation Method: Minimum Curvature
Database: EDM 2003 21 Single User Db

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)
2,644.00	9.30	120.30	2,637.21	-130.72	45.51	97.23	3.49	2.34	-17.50
2,707.00	10.20	111.50	2,699.30	-135.33	55.10	107.87	2.76	1.43	-13.97
2,771.00	10.50	111.60	2,762.26	-139.55	65.79	119.34	0.47	0.47	0.16
2,867.00	10.20	111.90	2,856.70	-145.94	81.81	136.55	0.32	-0.31	0.31
2,963.00	9.80	110.40	2,951.24	-151.96	97.36	153.18	0.50	-0.42	-1.56
3,058.00	9.40	109.80	3,044.91	-157.41	112.23	168.95	0.43	-0.42	-0.63
3,152.00	9.40	110.20	3,137.65	-162.66	126.66	184.23	0.07	0.00	0.43
3,247.00	9.20	108.10	3,231.40	-167.70	141.16	199.49	0.41	-0.21	-2.21
3,343.00	9.10	106.60	3,326.18	-172.25	155.73	214.61	0.27	-0.10	-1.56
3,439.00	8.70	112.40	3,421.02	-177.18	169.72	229.36	1.02	-0.42	6.04
3,534.00	8.60	110.00	3,514.94	-182.35	183.03	243.60	0.39	-0.11	-2.53
3,628.00	8.40	110.60	3,607.91	-187.17	196.07	257.44	0.23	-0.21	0.64
3,723.00	9.50	116.90	3,701.75	-193.16	209.55	272.19	1.55	1.16	6.63
3,819.00	9.30	116.00	3,796.47	-200.15	223.59	287.87	0.26	-0.21	-0.94
3,914.00	9.40	117.90	3,890.20	-207.14	237.35	303.30	0.34	0.11	2.00
4,010.00	8.40	109.90	3,985.05	-213.20	250.87	318.11	1.66	-1.04	-8.33
4,105.00	8.10	108.70	4,079.07	-217.70	263.73	331.66	0.36	-0.32	-1.26
4,201.00	9.00	110.90	4,174.00	-222.55	277.15	345.87	1.00	0.94	2.29
4,296.00	8.40	110.80	4,267.91	-227.67	290.58	360.19	0.63	-0.63	-0.11
4,392.00	9.10	105.10	4,362.79	-232.13	304.47	374.65	1.16	0.73	-5.94
4,487.00	9.30	104.20	4,456.57	-235.97	319.16	389.57	0.26	0.21	-0.95
4,582.00	8.90	108.00	4,550.37	-240.13	333.59	404.38	0.76	-0.42	4.00
4,678.00	8.60	106.10	4,645.26	-244.41	347.55	418.83	0.43	-0.31	-1.98
4,774.00	9.40	111.60	4,740.07	-249.29	361.74	433.74	1.22	0.83	5.73
4,868.00	9.10	110.00	4,832.85	-254.66	375.86	448.79	0.42	-0.32	-1.70
4,964.00	8.50	111.40	4,927.72	-259.84	389.60	463.43	0.66	-0.63	1.46
5,059.00	8.00	112.00	5,021.74	-264.88	402.27	477.03	0.53	-0.53	0.63
5,155.00	8.50	107.30	5,116.75	-269.49	415.23	490.72	0.87	0.52	-4.90
5,250.00	9.70	108.70	5,210.55	-274.15	429.52	505.62	1.28	1.26	1.47
5,345.00	8.40	107.00	5,304.36	-278.74	443.74	520.44	1.40	-1.37	-1.79
5,440.00	8.80	116.80	5,398.30	-284.05	456.86	534.57	1.60	0.42	10.32
5,536.00	9.20	117.30	5,493.12	-290.88	470.23	549.58	0.42	0.42	0.52
5,631.00	9.90	111.60	5,586.80	-297.37	484.57	565.32	1.24	0.74	-6.00
5,727.00	10.80	110.80	5,681.24	-303.60	500.66	582.52	0.95	0.94	-0.83
5,822.00	9.30	108.70	5,774.78	-309.22	516.25	599.01	1.63	-1.58	-2.21
5,918.00	8.90	109.60	5,869.57	-314.20	530.59	614.10	0.44	-0.42	0.94
6,013.00	8.70	110.40	5,963.45	-319.17	544.25	628.57	0.25	-0.21	0.84
6,108.00	9.20	112.00	6,057.30	-324.52	558.02	643.31	0.59	0.53	1.68
6,203.00	8.70	110.40	6,151.14	-329.87	571.80	658.05	0.59	-0.53	-1.68
6,298.00	8.30	113.30	6,245.10	-335.09	584.83	672.06	0.62	-0.42	3.05
6,394.00	8.00	113.00	6,340.13	-340.44	597.35	685.66	0.32	-0.31	-0.31
6,489.00	8.70	108.70	6,434.12	-345.32	610.24	699.40	0.99	0.74	-4.53
6,584.00	9.30	106.20	6,527.95	-349.77	624.41	714.11	0.75	0.63	-2.63
6,680.00	10.00	110.40	6,622.59	-354.84	639.68	730.07	1.03	0.73	4.38
6,776.00	9.70	114.80	6,717.18	-361.14	654.83	746.46	0.84	-0.31	4.58
6,871.00	8.60	118.90	6,810.97	-367.93	668.31	761.55	1.35	-1.16	4.32
6,966.00	9.60	115.00	6,904.77	-374.71	681.71	776.56	1.24	1.05	-4.11
7,062.00	8.70	118.20	6,999.55	-381.52	695.37	791.82	1.08	-0.94	3.33
7,157.00	10.30	113.80	7,093.25	-388.34	709.47	807.49	1.85	1.68	-4.63
7,253.00	10.20	111.20	7,187.72	-394.88	725.25	824.54	0.49	-0.10	-2.71
7,348.00	10.20	110.60	7,281.21	-400.88	740.96	841.31	0.11	0.00	-0.63
7,445.00	9.40	110.00	7,376.80	-406.61	756.45	857.76	0.83	-0.82	-0.62
7,540.00	8.70	109.20	7,470.62	-411.63	770.52	872.62	0.75	-0.74	-0.84
7,636.00	10.20	111.90	7,565.31	-417.19	785.27	888.33	1.63	1.56	2.81

CUDD Drilling & Measurement Services

Survey Report



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Well: Dark Canyon 19 Fed #1
Wellbore: S-Well #1
Design: S-Well #1

Local Co-ordinate Reference: Well Dark Canyon 19 Fed #1
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MD Reference: WELL @ 3801 00ft (Original Well Elev)
North Reference: Gnd
Survey Calculation Method: Minimum Curvature
Database: EDM 2003 21 Single User Db

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)
7,731.00	9.60	113.10	7,658.90	-423.43	800.36	904.64	0.67	-0.63	1.26
7,827.00	9.10	112.40	7,753.62	-429.47	814.74	920.22	0.53	-0.52	-0.73
7,922.00	8.90	113.10	7,847.45	-435.21	828.44	935.06	0.24	-0.21	0.74
8,017.00	9.50	110.70	7,941.23	-440.87	842.54	950.22	0.75	0.63	-2.53
8,113.00	8.70	110.90	8,036.02	-446.26	856.73	965.35	0.83	-0.83	0.21
8,208.00	9.00	100.10	8,129.89	-450.13	870.76	979.68	1.77	0.32	-11.37
8,304.00	8.90	101.40	8,224.73	-452.91	885.43	994.13	0.24	-0.10	1.35
8,400.00	9.70	102.70	8,319.46	-456.16	900.60	1,009.22	0.86	0.83	1.35
8,495.00	8.20	101.90	8,413.30	-459.31	915.04	1,023.61	1.58	-1.58	-0.84
8,590.00	6.20	105.00	8,507.55	-462.04	926.63	1,035.25	2.14	-2.11	3.26
8,685.00	7.40	103.50	8,601.88	-464.79	937.53	1,046.28	1.28	1.26	-1.58
8,781.00	8.60	109.20	8,696.95	-468.60	950.32	1,059.46	1.50	1.25	5.94
8,876.00	10.20	110.80	8,790.67	-473.92	964.89	1,074.91	1.71	1.68	1.68
8,971.00	8.90	112.90	8,884.35	-479.77	979.53	1,090.64	1.42	-1.37	2.21
9,067.00	8.40	113.90	8,979.26	-485.50	992.78	1,105.06	0.54	-0.52	1.04
9,163.00	9.50	111.40	9,074.09	-491.23	1,006.57	1,119.98	1.22	1.15	-2.60
9,259.00	8.30	107.40	9,168.93	-496.19	1,020.55	1,134.74	1.41	-1.25	-4.17
9,354.00	7.80	103.30	9,262.99	-499.73	1,033.37	1,147.83	0.80	-0.53	-4.32
9,449.00	7.30	101.90	9,357.17	-502.45	1,045.55	1,160.01	0.56	-0.53	-1.47
9,544.00	6.20	101.10	9,451.51	-504.69	1,056.49	1,170.84	1.16	-1.16	-0.84
9,640.00	5.80	98.60	9,546.98	-506.41	1,066.37	1,180.51	0.50	-0.42	-2.60
9,733.00	5.40	96.10	9,639.54	-507.58	1,075.37	1,189.14	0.50	-0.43	-2.69
9,828.00	5.30	94.20	9,734.13	-508.37	1,084.19	1,197.44	0.21	-0.11	-2.00
9,924.00	5.50	108.90	9,829.71	-510.19	1,092.97	1,206.15	1.45	0.21	15.31
10,019.00	5.30	112.80	9,924.28	-513.36	1,101.32	1,215.06	0.44	-0.21	4.11
10,115.00	4.80	112.40	10,019.91	-516.61	1,109.12	1,223.50	0.52	-0.52	-0.42
10,210.00	4.50	109.90	10,114.60	-519.40	1,116.30	1,231.17	0.38	-0.32	-2.63
10,305.00	4.10	107.30	10,209.33	-521.67	1,123.05	1,238.25	0.47	-0.42	-2.74
10,400.00	3.90	105.80	10,304.10	-523.56	1,129.40	1,244.79	0.24	-0.21	-1.58
10,496.00	3.50	106.00	10,399.90	-525.26	1,135.36	1,250.90	0.42	-0.42	0.21
10,592.00	3.30	114.50	10,495.73	-527.21	1,140.69	1,256.56	0.56	-0.21	8.85
10,687.00	2.70	114.80	10,590.60	-529.29	1,145.21	1,261.53	0.63	-0.63	0.32
Last CUDD MWD Survey									
10,850.00	2.70	114.80	10,753.42	-532.51	1,152.18	1,269.20	0.00	0.00	0.00
Proj to Bit									

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,133.00	2,130.49	-81.39	4.12	First CUDD MWD Survey
10,687.00	10,590.60	-529.29	1,145.21	Last CUDD MWD Survey
10,850.00	10,753.42	-532.51	1,152.18	Proj to Bit

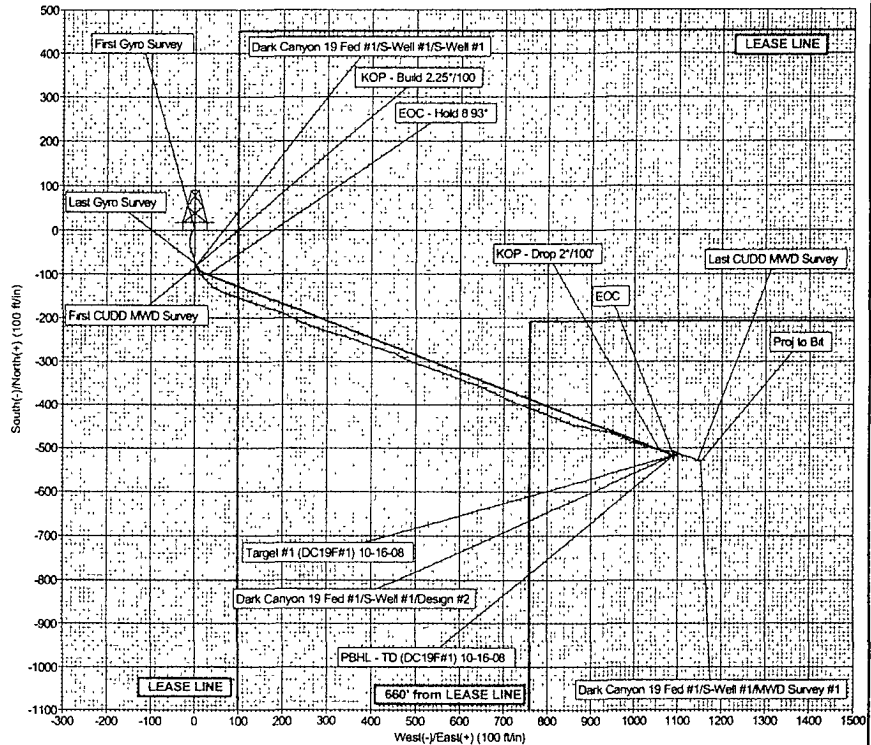
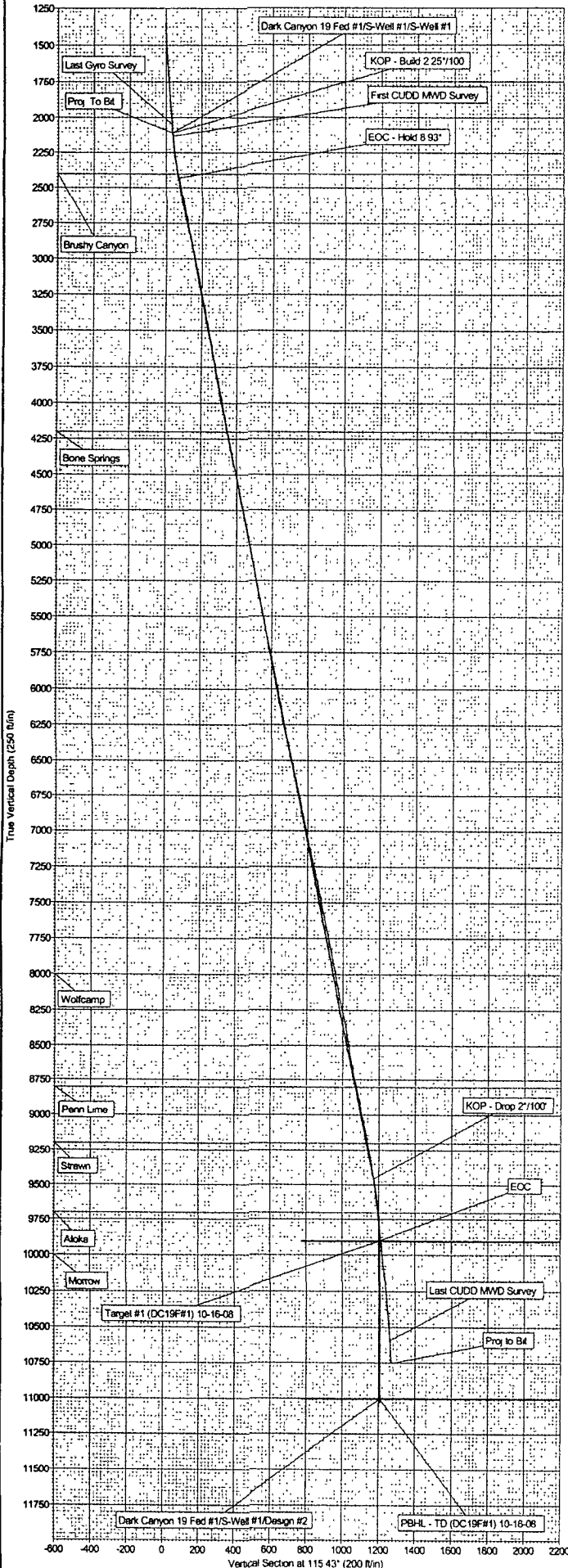
Checked By: _____

Approved By: BmiDate: 12-16-08

Rubicon Oil & Gas, LLC.



Project Eddy Co., New Mexico (Nad 27)
 Site Dark Canyon 19 Fed #1
 Well Dark Canyon 19 Fed #1
 Wellbore S-Well #1
 Design Design #2

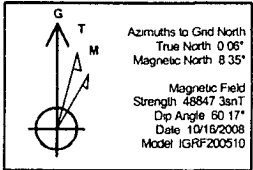


SECTION DETAILS										
Sec	MD	Inc	Az	TVD	+N/S	+E/W	D/Leg	T/Face	V/Sec	Target
1	2110.00	4.11	164.93	2107.55	-79.75	3.65	0.00	0.00	37.55	
2	2433.00	8.93	111.53	2428.61	-100.16	30.03	2.25	-80.20	70.12	
3	9545.84	8.93	111.53	9455.18	-505.45	1057.38	0.00	0.00	1171.98	
4	9992.46	0.00	360.00	9900.00	-518.20	1089.70	2.00	180.00	1206.64	Target #1 (DC19F#1) 10-16-08
5	11092.46	0.00	360.00	11000.00	-518.20	1089.70	0.00	360.00	1206.64	PBHL - TD (DC19F#1) 10-16-08

ANNOTATIONS		
TVD	MD	Annotation
2107.55	2110.00	KOP - Build 2.25°/100'
2428.61	2433.00	EOC - Hold 8.93°
9455.18	9545.84	KOP - Drop 2°/100'
9900.00	9992.46	EOC

WELLBORE TARGET DETAILS				
Name	TVD	+N/S	+E/W	Shape
Target #1 (DC19F#1) 10-16-08	9900.00	-518.20	1089.70	Rectangle (Sides L1320.00 W1320.00)
PBHL - TD (DC19F#1) 10-16-08	11000.00	-518.20	1089.70	Rectangle (Sides L1320.00 W1320.00)

WELL DETAILS Dark Canyon 19 Fed #1						
Ground Level 3781.00						
WELL @ 3801.00ft (Original Well Elev)						
+N/S	+E/W	Northing	Easting	Latitude	Longitude	Sol
0.00	0.00	471333.80	465991.90	32° 17' 44.755 N	104° 26' 36.217 W	



PROJECT DETAILS Eddy Co., New Mexico (Nad 27)	
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

Plan Design #2 (Dark Canyon 19 Fed #1/S-Well #1)	
Created By: Mike Starkey	Date: 8/02, December 05 2008
Checked: _____	Date: _____
Reviewed: _____	Date: _____
Approved: _____	Date: _____