

WELL LOGS

K Z

API number:	30-005-29034		
OGRID:		Operator:	CIMAREX ENERGY CO OF COLORADO
		Property:	MIDWAY 17 FEDERAL # 1

surface	ULSTR:	E	17	T	15S	R	31E
			1980	FNL	330	FWL	

BH Loc	ULSTR:	H	17	T	15S	R	31E
			1950	FNL	4508	FWL	

Ground Level:	**Conf**	DF:	**Conf**	KB:	**Conf**	
Datum:	KB			TD:	12648	

Land: **FEDERAL**

Completion Date: (1) 8/5/2008
 Date Logs Received: 10/10/2008 ***LATE***
 Date Logs Due in: (2) 8/25/2008

Confidential:	YES			Date out:	8/25/2009	
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Confidential period: 90 Days for State & Fee, 1 Year for federal

Date Due In: (1) is equal to Completion Date (1) + 20 days

Logs	Depth interval		
TD LD CN/GR	**Conf**	**Conf**	Three Detector Litho-Density
HRLA	**Conf**	**Conf**	High Resolution Laterolog
BHC	**Conf**	**Conf**	Borehole Compensated Sonic

K Z

OCD TOPS

Rustler	**Conf**	Strawn			
Tansill	**Conf**	Atoka			
Yates	**Conf**	Morrow			
7 rvs	**Conf**				
	Conf	Austin			
	Conf	Chester			
Queen	**Conf**	Miss Lime			
Penrose	**Conf**				
Grayburg	**Conf**				
San Andres	**Conf**				
Glorieta	**Conf**				
Paddock	**Conf**				
Blinbry	**Conf**				
Tubb	**Conf**				
Drinkard	**Conf**				
Abo	**Conf**				
Wolfcamp	**Conf**				

Results of Directional Survey

API number:	30-005-29034		
OGRID:		Operator:	CIMAREX ENERGY CO OF COLORADO
		Property:	MIDWAY 17 FEDERAL # 1

surface	ULSTR:	E	17	T	15S	R	31E
			1980	FNL	330	FWL	

BH Loc	ULSTR:	H	17	T	15S	R	31E
			1950	FNL	4508	FWL	

	MD	N/S	E/W	VD
	7400	28.24	28.87	7399.64
TOP PERFS/OH	7419	28.37	29.39	7418.63
	7500	28.94	31.60	7499.60
	12558	26.44	4088.10	8754.02
BOT PERFS/OH	12648	30.49	4178.02	8755.93
	12590	27.88	4120.07	8754.70

NEXT TO LAST	12558	26.44	4088.10	8754.02
LAST READING	12590	27.88	4120.07	8754.70
TD	12648	30.49	4178.02	8755.93

Surface Location	1980	FN	330	FW
Projected BHL	1950	FN	4508	FW
Location of				
Top Perfs/OH	1952	FN	359	FW
Bottom Perfs/OH	1950	FN	4508	FW

SUMMARY of Subsurface Locations

Surface Location	E-17-15S-31E	1980	FN	330	FW	Vert. Depth
Top Perfs/OH	E-17-15S-31E	1952	FN	359	FW	7418.63
Bottom Perfs/OH	H-17-15S-31E	1950	FN	4508	FW	8755.93
Projected TD	H-17-15S-31E	1950	FN	4508	FW	8755.93

Cimarex Energy Company

Chaves County, NM
Midway "17" Federal
#1

ST01

SUR: E-17-15s-31e, 1980/N & 330/W
BHL: H;17-15s-31e, 1950/N & 4508/W
API # 30-005-29034

Design: ST01

Sperry Drilling Services Combo Report

07 August, 2008

Well Coordinates: 734,250.40 N, 647,815.40 E (33° 01' 03.32" N, 103° 51' 03.97" W)
Ground Level: 4,446.00 ft

Local Coordinate Origin:	Centered on Well #1
Viewing Datum:	GL 4,446' + KB 23' @ 4469.00ft (Patriot 4)
TVDs to System:	N
North Reference:	Grid
Unit System:	API - U.S. Survey Feet

Version: 2003.16 Build: 42B

HALLIBURTON

Design Report for #1 - ST01

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)		
0.00	0.00	0.00	-4,469.00	0.00	0.00 N	0.00 E	734,250.40	647,815.40	0.00	0.00
100.00	0.48	152.46	-4,369.00	100.00	0.37 S	0.19 E	734,250.03	647,815.59	0.48	0.19
200.00	0.32	178.04	-4,269.00	200.00	1.02 S	0.40 E	734,249.38	647,815.80	0.24	0.39
300.00	0.32	189.50	-4,169.01	299.99	1.58 S	0.36 E	734,248.82	647,815.76	0.06	0.35
400.00	0.34	145.89	-4,069.01	399.99	2.10 S	0.48 E	734,248.30	647,815.88	0.25	0.47
500.00	0.35	146.75	-3,969.01	499.99	2.60 S	0.81 E	734,247.80	647,816.21	0.01	0.80
600.00	0.34	137.88	-3,869.01	599.99	3.07 S	1.18 E	734,247.33	647,816.58	0.05	1.17
700.00	0.33	130.88	-3,769.01	699.99	3.48 S	1.60 E	734,246.92	647,817.00	0.04	1.58
800.00	0.36	115.42	-3,669.01	799.99	3.81 S	2.10 E	734,246.59	647,817.50	0.10	2.08
900.00	0.29	99.97	-3,569.02	899.98	3.98 S	2.63 E	734,246.42	647,818.03	0.11	2.62
1,000.00	0.20	107.80	-3,469.02	999.98	4.08 S	3.05 E	734,246.32	647,818.45	0.10	3.03
1,100.00	0.40	126.83	-3,369.02	1,099.98	4.34 S	3.49 E	734,246.06	647,818.89	0.22	3.48
1,200.00	0.54	134.89	-3,269.02	1,199.98	4.89 S	4.11 E	734,245.51	647,819.51	0.15	4.09
1,300.00	0.49	133.45	-3,169.03	1,299.97	5.51 S	4.75 E	734,244.89	647,820.15	0.05	4.73
1,400.00	0.35	145.04	-3,069.03	1,399.97	6.06 S	5.24 E	734,244.34	647,820.64	0.16	5.21
1,500.00	0.35	144.96	-2,969.03	1,499.97	6.56 S	5.59 E	734,243.84	647,820.99	0.00	5.56
1,600.00	0.45	121.33	-2,869.03	1,599.97	7.01 S	6.10 E	734,243.39	647,821.50	0.19	6.07
1,700.00	0.35	130.36	-2,769.03	1,699.97	7.41 S	6.67 E	734,242.99	647,822.07	0.12	6.64
1,800.00	0.59	132.70	-2,669.04	1,799.96	7.96 S	7.28 E	734,242.44	647,822.68	0.24	7.25
1,900.00	1.08	95.20	-2,569.05	1,899.95	8.40 S	8.59 E	734,242.00	647,823.99	0.71	8.56
2,000.00	1.07	84.53	-2,469.07	1,999.93	8.39 S	10.46 E	734,242.01	647,825.86	0.20	10.43
2,100.00	1.11	88.77	-2,369.08	2,099.92	8.28 S	12.36 E	734,242.12	647,827.76	0.09	12.33
2,200.00	1.12	81.33	-2,269.10	2,199.90	8.11 S	14.29 E	734,242.29	647,829.69	0.15	14.26
2,300.00	1.16	71.73	-2,169.12	2,299.88	7.65 S	16.22 E	734,242.75	647,831.62	0.19	16.19
2,400.00	1.01	74.45	-2,069.14	2,399.86	7.10 S	18.03 E	734,243.30	647,833.43	0.16	18.00
2,500.00	0.91	79.53	-1,969.15	2,499.85	6.72 S	19.66 E	734,243.68	647,835.06	0.13	19.64
2,600.00	0.86	76.72	-1,869.17	2,599.83	6.40 S	21.17 E	734,244.00	647,836.57	0.07	21.15
2,700.00	0.63	81.58	-1,769.17	2,699.83	6.15 S	22.45 E	734,244.25	647,837.85	0.24	22.42
2,800.00	0.67	87.17	-1,669.18	2,799.82	6.04 S	23.57 E	734,244.36	647,838.97	0.07	23.55
2,900.00	0.75	66.08	-1,569.19	2,899.81	5.74 S	24.76 E	734,244.66	647,840.16	0.27	24.73
3,000.00	0.53	54.44	-1,469.19	2,999.81	5.21 S	25.73 E	734,245.19	647,841.13	0.25	25.71
3,100.00	0.37	64.44	-1,369.20	3,099.80	4.80 S	26.40 E	734,245.60	647,841.80	0.18	26.38
3,200.00	0.39	40.78	-1,269.20	3,199.80	4.40 S	26.91 E	734,246.00	647,842.31	0.16	26.90
3,300.00	0.22	9.09	-1,169.20	3,299.80	3.95 S	27.17 E	734,246.45	647,842.57	0.23	27.15
3,400.00	0.29	23.44	-1,069.20	3,399.80	3.53 S	27.30 E	734,246.87	647,842.70	0.09	27.28
3,500.00	0.44	342.08	-969.20	3,499.80	2.94 S	27.28 E	734,247.46	647,842.68	0.29	27.27
3,600.00	0.27	2.28	-869.21	3,599.79	2.33 S	27.17 E	734,248.07	647,842.57	0.21	27.16
3,700.00	0.44	2.57	-769.21	3,699.79	1.72 S	27.20 E	734,248.68	647,842.60	0.17	27.19
3,800.00	0.47	342.44	-669.21	3,799.79	0.94 S	27.09 E	734,249.46	647,842.49	0.16	27.09
3,900.00	0.50	15.34	-569.21	3,899.79	0.13 S	27.08 E	734,250.27	647,842.48	0.28	27.08
4,000.00	0.49	4.70	-469.22	3,999.78	0.72 N	27.23 E	734,251.12	647,842.63	0.09	27.23
4,100.00	0.32	5.44	-369.22	4,099.78	1.42 N	27.29 E	734,251.82	647,842.69	0.17	27.30
4,200.00	0.42	354.75	-269.22	4,199.78	2.06 N	27.29 E	734,252.46	647,842.69	0.12	27.29
4,300.00	0.26	349.66	-169.22	4,299.78	2.65 N	27.21 E	734,253.05	647,842.61	0.16	27.22
4,400.00	0.33	2.00	-69.23	4,399.77	3.16 N	27.18 E	734,253.56	647,842.58	0.09	27.19

Design Report for #1 - ST01

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)		
4,500.00	0.22	351.40	30.77	4,499.77	3.64 N	27.16 E	734,254.04	647,842.56	0.12	27.18
4,600.00	0.47	29.28	130.77	4,599.77	4.19 N	27.33 E	734,254.59	647,842.73	0.33	27.35
4,700.00	0.39	30.80	230.77	4,699.77	4.84 N	27.71 E	734,255.24	647,843.11	0.08	27.73
4,800.00	0.62	31.06	330.76	4,799.76	5.59 N	28.16 E	734,255.99	647,843.56	0.23	28.18
4,900.00	0.44	38.86	430.76	4,899.76	6.36 N	28.68 E	734,256.76	647,844.08	0.19	28.71
5,000.00	0.56	36.44	530.76	4,999.76	7.05 N	29.21 E	734,257.45	647,844.61	0.12	29.24
5,100.00	0.42	50.22	630.75	5,099.75	7.68 N	29.79 E	734,258.08	647,845.19	0.18	29.82
5,200.00	0.46	27.91	730.75	5,199.75	8.27 N	30.26 E	734,258.67	647,845.66	0.17	30.29
5,300.00	0.28	27.16	830.75	5,299.75	8.84 N	30.56 E	734,259.24	647,845.96	0.18	30.59
5,400.00	0.50	353.73	930.74	5,399.74	9.49 N	30.62 E	734,259.89	647,846.02	0.31	30.66
5,500.00	0.42	1.39	1,030.74	5,499.74	10.29 N	30.58 E	734,260.69	647,845.98	0.10	30.62
5,600.00	0.36	348.75	1,130.74	5,599.74	10.96 N	30.53 E	734,261.36	647,845.93	0.10	30.57
5,700.00	0.49	357.49	1,230.74	5,699.74	11.70 N	30.45 E	734,262.10	647,845.85	0.14	30.49
5,800.00	0.47	357.11	1,330.73	5,799.73	12.54 N	30.41 E	734,262.94	647,845.81	0.02	30.46
5,900.00	0.57	345.79	1,430.73	5,899.73	13.43 N	30.27 E	734,263.83	647,845.67	0.14	30.32
6,000.00	0.70	337.37	1,530.72	5,999.72	14.47 N	29.91 E	734,264.87	647,845.31	0.16	29.96
6,100.00	0.81	344.00	1,630.71	6,099.71	15.72 N	29.48 E	734,266.12	647,844.88	0.14	29.54
6,200.00	0.69	351.81	1,730.71	6,199.71	16.99 N	29.20 E	734,267.39	647,844.60	0.16	29.26
6,300.00	0.53	4.68	1,830.70	6,299.70	18.05 N	29.15 E	734,268.45	647,844.55	0.21	29.22
6,400.00	0.68	5.19	1,930.69	6,399.69	19.10 N	29.24 E	734,269.50	647,844.64	0.15	29.31
6,500.00	0.53	19.70	2,030.69	6,499.69	20.13 N	29.45 E	734,270.53	647,844.85	0.21	29.53
6,600.00	0.35	9.31	2,130.69	6,599.69	20.87 N	29.66 E	734,271.27	647,845.06	0.20	29.74
6,700.00	0.38	326.05	2,230.68	6,699.68	21.44 N	29.52 E	734,271.84	647,844.92	0.27	29.60
6,800.00	0.48	329.62	2,330.68	6,799.68	22.08 N	29.12 E	734,272.48	647,844.52	0.10	29.21
6,900.00	0.72	345.52	2,430.68	6,899.68	23.05 N	28.75 E	734,273.45	647,844.15	0.29	28.84
7,000.00	0.65	331.83	2,530.67	6,999.67	24.16 N	28.33 E	734,274.56	647,843.73	0.18	28.42
7,100.00	0.63	356.09	2,630.66	7,099.66	25.20 N	28.02 E	734,275.60	647,843.42	0.27	28.12
7,200.00	0.51	356.86	2,730.66	7,199.66	26.20 N	27.96 E	734,276.60	647,843.36	0.12	28.06
7,300.00	0.67	2.88	2,830.65	7,299.65	27.23 N	27.97 E	734,277.63	647,843.37	0.17	28.07
7,400.00	1.12	63.88	2,930.64	7,399.64	28.24 N	28.87 E	734,278.64	647,844.27	0.99	28.98
7,500.00	2.14	81.75	3,030.60	7,499.60	28.94 N	31.60 E	734,279.34	647,847.00	1.13	31.71
7,600.00	3.23	90.19	3,130.49	7,599.49	29.20 N	36.27 E	734,279.60	647,851.67	1.16	36.38
7,700.00	4.00	97.78	3,230.29	7,699.29	28.72 N	42.54 E	734,279.12	647,857.94	0.90	42.65
7,800.00	4.37	100.08	3,330.02	7,799.02	27.58 N	49.75 E	734,277.98	647,865.15	0.41	49.85
7,900.00	5.31	102.50	3,429.67	7,898.67	25.91 N	58.01 E	734,276.31	647,873.41	0.96	58.11
8,000.00	6.06	104.92	3,529.17	7,998.17	23.55 N	67.63 E	734,273.95	647,883.03	0.79	67.72
8,100.00	5.62	105.78	3,628.65	8,097.65	20.86 N	77.44 E	734,271.26	647,892.84	0.45	77.52
8,200.00	5.72	102.80	3,728.17	8,197.17	18.42 N	87.02 E	734,268.82	647,902.42	0.31	87.09
8,300.00	5.63	101.05	3,827.68	8,296.68	16.38 N	96.69 E	734,266.78	647,912.09	0.20	96.75
8,359.18	5.63	86.73	3,886.57	8,355.57	15.99 N	102.44 E	734,266.39	647,917.84	2.37	102.50
8,420.00	24.96	90.50	3,944.96	8,413.96	16.04 N	118.40 E	734,266.44	647,933.80	31.81	118.46
8,450.00	25.53	95.93	3,972.10	8,441.10	15.32 N	131.16 E	734,265.72	647,946.56	7.95	131.22
8,481.00	21.68	94.13	4,000.50	8,469.50	14.22 N	143.52 E	734,264.62	647,958.92	12.63	143.58
8,513.00	20.96	92.52	4,030.31	8,499.31	13.54 N	155.14 E	734,263.94	647,970.54	2.90	155.19
8,544.00	23.09	87.90	4,059.05	8,528.05	13.52 N	166.75 E	734,263.92	647,982.15	8.85	166.80

Design Report for #1 - ST01

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)		
8,576.00	25.36	86.10	4,088.23	8,557.23	14.22 N	179.86 E	734,264.62	647,995.26	7.46	179.91
8,608.00	27.72	86.61	4,116.86	8,585.86	15.12 N	194.13 E	734,265.52	648,009.53	7.41	194.19
8,639.00	33.17	88.24	4,143.57	8,612.57	15.81 N	209.82 E	734,266.21	648,025.22	17.78	209.87
8,671.00	39.17	91.42	4,169.40	8,638.40	15.83 N	228.69 E	734,266.23	648,044.09	19.64	228.75
8,703.00	47.11	90.90	4,192.73	8,661.73	15.39 N	250.55 E	734,265.79	648,065.95	24.84	250.60
8,734.00	54.93	90.49	4,212.21	8,681.21	15.11 N	274.62 E	734,265.51	648,090.02	25.25	274.68
8,766.00	62.78	89.97	4,228.75	8,697.75	15.00 N	301.99 E	734,265.40	648,117.39	24.57	302.04
8,797.00	70.59	89.91	4,241.01	8,710.01	15.03 N	330.44 E	734,265.43	648,145.84	25.19	330.49
8,829.00	78.75	89.58	4,249.46	8,718.46	15.17 N	361.27 E	734,265.57	648,176.67	25.52	361.33
8,861.00	87.44	89.68	4,253.31	8,722.31	15.38 N	393.01 E	734,265.78	648,208.41	27.16	393.06
8,893.00	88.73	89.79	4,254.38	8,723.38	15.52 N	424.99 E	734,265.92	648,240.39	4.05	425.05
8,925.00	88.80	90.21	4,255.07	8,724.07	15.52 N	456.98 E	734,265.92	648,272.38	1.33	457.04
8,957.00	90.18	90.53	4,255.35	8,724.35	15.32 N	488.98 E	734,265.72	648,304.38	4.43	489.03
8,988.00	92.07	90.26	4,254.74	8,723.74	15.10 N	519.97 E	734,265.50	648,335.37	6.16	520.02
9,020.00	92.38	90.33	4,253.50	8,722.50	14.94 N	551.95 E	734,265.34	648,367.35	0.99	552.00
9,052.00	92.01	90.46	4,252.27	8,721.27	14.72 N	583.92 E	734,265.12	648,399.32	1.23	583.97
9,083.00	92.06	90.92	4,251.17	8,720.17	14.34 N	614.90 E	734,264.74	648,430.30	1.49	614.95
9,115.00	90.74	90.56	4,250.39	8,719.39	13.93 N	646.89 E	734,264.33	648,462.29	4.28	646.94
9,146.00	89.01	90.90	4,250.46	8,719.46	13.54 N	677.88 E	734,263.94	648,493.28	5.69	677.93
9,178.00	89.57	91.26	4,250.85	8,719.85	12.93 N	709.87 E	734,263.33	648,525.27	2.08	709.92
9,210.00	89.82	91.43	4,251.03	8,720.03	12.18 N	741.87 E	734,262.58	648,557.27	0.94	741.91
9,241.00	90.09	91.23	4,251.05	8,720.05	11.46 N	772.86 E	734,261.86	648,588.26	1.08	772.90
9,273.00	88.36	90.76	4,251.48	8,720.48	10.91 N	804.85 E	734,261.31	648,620.25	5.60	804.88
9,305.00	88.49	91.26	4,252.36	8,721.36	10.34 N	836.83 E	734,260.74	648,652.23	1.61	836.86
9,336.00	88.80	91.21	4,253.09	8,722.09	9.68 N	867.82 E	734,260.08	648,683.22	1.01	867.85
9,368.00	89.04	90.63	4,253.70	8,722.70	9.16 N	899.81 E	734,259.56	648,715.21	1.96	899.83
9,400.00	89.32	90.18	4,254.16	8,723.16	8.94 N	931.80 E	734,259.34	648,747.20	1.66	931.83
9,432.00	89.57	90.41	4,254.47	8,723.47	8.77 N	963.80 E	734,259.17	648,779.20	1.06	963.83
9,464.00	90.19	90.05	4,254.53	8,723.53	8.64 N	995.80 E	734,259.04	648,811.20	2.24	995.82
9,496.00	90.52	90.12	4,254.33	8,723.33	8.59 N	1,027.80 E	734,258.99	648,843.20	1.05	1,027.82
9,528.00	89.17	89.59	4,254.42	8,723.42	8.68 N	1,059.80 E	734,259.08	648,875.20	4.53	1,059.82
9,560.00	89.01	89.58	4,254.93	8,723.93	8.91 N	1,091.79 E	734,259.31	648,907.19	0.50	1,091.82
9,592.00	89.01	89.27	4,255.48	8,724.48	9.23 N	1,123.79 E	734,259.63	648,939.19	0.97	1,123.81
9,624.00	89.35	89.10	4,255.94	8,724.94	9.68 N	1,155.78 E	734,260.08	648,971.18	1.19	1,155.81
9,656.00	90.09	89.14	4,256.10	8,725.10	10.18 N	1,187.77 E	734,260.58	649,003.17	2.32	1,187.80
9,688.00	90.37	88.99	4,255.97	8,724.97	10.70 N	1,219.77 E	734,261.10	649,035.17	0.99	1,219.80
9,719.00	89.04	89.23	4,256.13	8,725.13	11.18 N	1,250.76 E	734,261.58	649,066.16	4.36	1,250.80
9,751.00	88.67	89.12	4,256.77	8,725.77	11.64 N	1,282.76 E	734,262.04	649,098.16	1.21	1,282.79
9,783.00	88.64	88.41	4,257.52	8,726.52	12.33 N	1,314.74 E	734,262.73	649,130.14	2.22	1,314.78
9,815.00	88.43	87.02	4,258.34	8,727.34	13.60 N	1,346.70 E	734,264.00	649,162.10	4.39	1,346.74
9,847.00	88.64	86.37	4,259.15	8,728.15	15.45 N	1,378.64 E	734,265.85	649,194.04	2.13	1,378.69
9,879.00	89.01	86.17	4,259.81	8,728.81	17.53 N	1,410.56 E	734,267.93	649,225.96	1.31	1,410.62
9,911.00	89.48	86.07	4,260.23	8,729.23	19.69 N	1,442.49 E	734,270.09	649,257.89	1.50	1,442.55
9,943.00	89.54	86.13	4,260.51	8,729.51	21.87 N	1,474.41 E	734,272.27	649,289.81	0.27	1,474.48
9,975.00	89.94	85.56	4,260.65	8,729.65	24.19 N	1,506.33 E	734,274.59	649,321.73	2.18	1,506.41

Design Report for #1 - ST01

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)		
10,006.00	90.37	86.59	4,260.57	8,729.57	26.31 N	1,537.25 E	734,276.71	649,352.65	3.60	1,537.34
10,038.00	90.49	86.59	4,260.33	8,729.33	28.22 N	1,569.20 E	734,278.62	649,384.60	0.37	1,569.29
10,070.00	89.97	87.91	4,260.20	8,729.20	29.75 N	1,601.16 E	734,280.15	649,416.56	4.43	1,601.26
10,101.00	90.37	87.92	4,260.11	8,729.11	30.88 N	1,632.14 E	734,281.28	649,447.54	1.29	1,632.24
10,133.00	90.28	89.03	4,259.93	8,728.93	31.73 N	1,664.13 E	734,282.13	649,479.53	3.48	1,664.23
10,165.00	90.31	89.04	4,259.76	8,728.76	32.27 N	1,696.12 E	734,282.67	649,511.52	0.10	1,696.23
10,197.00	89.48	89.80	4,259.82	8,728.82	32.59 N	1,728.12 E	734,282.99	649,543.52	3.52	1,728.23
10,229.00	89.78	89.47	4,260.03	8,729.03	32.80 N	1,760.12 E	734,283.20	649,575.52	1.39	1,760.23
10,261.00	90.19	88.96	4,260.03	8,729.03	33.23 N	1,792.11 E	734,283.63	649,607.51	2.04	1,792.23
10,293.00	89.04	89.37	4,260.25	8,729.25	33.70 N	1,824.11 E	734,284.10	649,639.51	3.82	1,824.22
10,324.00	88.83	89.77	4,260.83	8,729.83	33.93 N	1,855.10 E	734,284.33	649,670.50	1.46	1,855.22
10,356.00	88.61	89.40	4,261.54	8,730.54	34.17 N	1,887.09 E	734,284.57	649,702.49	1.34	1,887.21
10,388.00	88.55	89.04	4,262.33	8,731.33	34.60 N	1,919.08 E	734,285.00	649,734.48	1.14	1,919.20
10,420.00	88.30	88.87	4,263.21	8,732.21	35.18 N	1,951.06 E	734,285.58	649,766.46	0.94	1,951.18
10,458.00	88.34	88.87	4,264.33	8,733.33	35.93 N	1,989.04 E	734,286.33	649,804.44	0.11	1,989.16
10,489.00	88.05	89.43	4,265.30	8,734.30	36.39 N	2,020.02 E	734,286.79	649,835.42	2.03	2,020.15
10,521.00	88.12	88.78	4,266.37	8,735.37	36.89 N	2,052.00 E	734,287.29	649,867.40	2.04	2,052.12
10,553.00	88.49	89.98	4,267.32	8,736.32	37.24 N	2,083.98 E	734,287.64	649,899.38	3.92	2,084.11
10,584.00	89.01	90.41	4,268.00	8,737.00	37.13 N	2,114.97 E	734,287.53	649,930.37	2.18	2,115.10
10,616.00	90.19	91.54	4,268.22	8,737.22	36.59 N	2,146.97 E	734,286.99	649,962.37	5.11	2,147.09
10,648.00	91.23	92.01	4,267.82	8,736.82	35.60 N	2,178.95 E	734,286.00	649,994.35	3.57	2,179.07
10,680.00	91.85	92.28	4,266.96	8,735.96	34.40 N	2,210.92 E	734,284.80	650,026.32	2.11	2,211.03
10,712.00	92.19	92.18	4,265.83	8,734.83	33.16 N	2,242.87 E	734,283.56	650,058.27	1.11	2,242.98
10,744.00	91.73	92.63	4,264.74	8,733.74	31.81 N	2,274.82 E	734,282.21	650,090.22	2.01	2,274.93
10,775.00	91.11	92.78	4,263.97	8,732.97	30.35 N	2,305.78 E	734,280.75	650,121.18	2.06	2,305.88
10,807.00	90.00	92.98	4,263.66	8,732.66	28.74 N	2,337.74 E	734,279.14	650,153.14	3.52	2,337.83
10,839.00	89.17	93.27	4,263.89	8,732.89	27.00 N	2,369.69 E	734,277.40	650,185.09	2.75	2,369.78
10,871.00	89.17	93.49	4,264.36	8,733.36	25.11 N	2,401.63 E	734,275.51	650,217.03	0.69	2,401.71
10,903.00	88.95	93.66	4,264.88	8,733.88	23.12 N	2,433.56 E	734,273.52	650,248.96	0.87	2,433.63
10,935.00	88.80	92.93	4,265.51	8,734.51	21.28 N	2,465.50 E	734,271.68	650,280.90	2.33	2,465.57
10,967.00	88.89	91.64	4,266.16	8,735.16	20.00 N	2,497.47 E	734,270.40	650,312.87	4.04	2,497.53
10,999.00	88.92	90.87	4,266.77	8,735.77	19.30 N	2,529.46 E	734,269.70	650,344.86	2.41	2,529.51
11,031.00	88.61	90.81	4,267.46	8,736.46	18.83 N	2,561.45 E	734,269.23	650,376.85	0.99	2,561.50
11,062.00	88.80	90.93	4,268.16	8,737.16	18.36 N	2,592.44 E	734,268.76	650,407.84	0.72	2,592.49
11,094.00	89.75	91.11	4,268.56	8,737.56	17.79 N	2,624.43 E	734,268.19	650,439.83	3.02	2,624.48
11,126.00	90.59	91.13	4,268.47	8,737.47	17.17 N	2,656.42 E	734,267.57	650,471.82	2.63	2,656.47
11,158.00	90.89	91.10	4,268.05	8,737.05	16.55 N	2,688.41 E	734,266.95	650,503.81	0.94	2,688.46
11,190.00	91.20	90.87	4,267.47	8,736.47	16.00 N	2,720.40 E	734,266.40	650,535.80	1.21	2,720.44
11,221.00	90.09	90.58	4,267.12	8,736.12	15.60 N	2,751.40 E	734,266.00	650,566.80	3.70	2,751.44
11,253.00	88.58	89.59	4,267.49	8,736.49	15.56 N	2,783.39 E	734,265.96	650,598.79	5.64	2,783.43
11,285.00	88.46	89.59	4,268.32	8,737.32	15.78 N	2,815.38 E	734,266.18	650,630.78	0.37	2,815.42
11,317.00	88.98	89.24	4,269.03	8,738.03	16.11 N	2,847.37 E	734,266.51	650,662.77	1.96	2,847.41
11,349.00	89.91	89.53	4,269.34	8,738.34	16.45 N	2,879.37 E	734,266.85	650,694.77	3.04	2,879.41
11,381.00	90.06	89.71	4,269.35	8,738.35	16.67 N	2,911.37 E	734,267.07	650,726.77	0.73	2,911.41
11,412.00	88.40	89.67	4,269.77	8,738.77	16.83 N	2,942.36 E	734,267.23	650,757.76	5.36	2,942.41

Design Report for #1 - ST01

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100ft)	Vertical Section (ft)
					Northing (ft)	Easting (ft)	Northing (ft)	Easting (ft)		
11,444.00	88.33	89.42	4,270.68	8,739.68	17.09 N	2,974.35 E	734,267.49	650,789.75	0.81	2,974.39
11,476.00	88.86	89.10	4,271.47	8,740.47	17.50 N	3,006.34 E	734,267.90	650,821.74	1.93	3,006.38
11,508.00	89.20	89.67	4,272.01	8,741.01	17.85 N	3,038.33 E	734,268.25	650,853.73	2.07	3,038.38
11,540.00	89.54	89.82	4,272.36	8,741.36	17.99 N	3,070.33 E	734,268.39	650,885.73	1.16	3,070.37
11,571.00	89.91	90.30	4,272.51	8,741.51	17.96 N	3,101.33 E	734,268.36	650,916.73	1.95	3,101.37
11,603.00	89.01	89.73	4,272.81	8,741.81	17.95 N	3,133.33 E	734,268.35	650,948.73	3.33	3,133.37
11,635.00	89.19	89.64	4,273.31	8,742.31	18.12 N	3,165.32 E	734,268.52	650,980.72	0.63	3,165.37
11,667.00	89.98	89.98	4,273.55	8,742.55	18.23 N	3,197.32 E	734,268.63	651,012.72	2.69	3,197.37
11,699.00	90.19	89.70	4,273.50	8,742.50	18.32 N	3,229.32 E	734,268.72	651,044.72	1.09	3,229.37
11,731.00	89.04	89.60	4,273.71	8,742.71	18.51 N	3,261.32 E	734,268.91	651,076.72	3.61	3,261.36
11,763.00	88.58	89.43	4,274.38	8,743.38	18.78 N	3,293.31 E	734,269.18	651,108.71	1.53	3,293.36
11,795.00	88.67	89.88	4,275.15	8,744.15	18.98 N	3,325.30 E	734,269.38	651,140.70	1.43	3,325.35
11,827.00	89.11	89.78	4,275.77	8,744.77	19.07 N	3,357.29 E	734,269.47	651,172.69	1.41	3,357.34
11,859.00	89.44	89.76	4,276.17	8,745.17	19.20 N	3,389.29 E	734,269.60	651,204.69	1.03	3,389.34
11,890.00	89.72	89.94	4,276.40	8,745.40	19.28 N	3,420.29 E	734,269.68	651,235.69	1.07	3,420.34
11,921.00	89.04	89.89	4,276.73	8,745.73	19.33 N	3,451.29 E	734,269.73	651,266.69	2.20	3,451.34
11,953.00	89.20	89.75	4,277.22	8,746.22	19.43 N	3,483.28 E	734,269.83	651,298.68	0.66	3,483.33
11,985.00	89.63	89.64	4,277.55	8,746.55	19.60 N	3,515.28 E	734,270.00	651,330.68	1.39	3,515.33
12,016.00	88.77	89.69	4,277.98	8,746.98	19.78 N	3,546.28 E	734,270.18	651,361.68	2.78	3,546.33
12,048.00	88.70	89.52	4,278.69	8,747.69	20.00 N	3,578.27 E	734,270.40	651,393.67	0.57	3,578.32
12,080.00	88.77	89.47	4,279.40	8,748.40	20.28 N	3,610.26 E	734,270.68	651,425.66	0.27	3,610.31
12,112.00	89.29	89.11	4,279.94	8,748.94	20.68 N	3,642.25 E	734,271.08	651,457.65	1.98	3,642.31
12,144.00	89.85	89.17	4,280.18	8,749.18	21.16 N	3,674.25 E	734,271.56	651,489.65	1.76	3,674.30
12,176.00	89.75	89.89	4,280.29	8,749.29	21.42 N	3,706.25 E	734,271.82	651,521.65	2.27	3,706.30
12,208.00	90.71	89.99	4,280.16	8,749.16	21.45 N	3,738.25 E	734,271.85	651,553.65	3.02	3,738.30
12,239.00	90.43	89.88	4,279.85	8,748.85	21.49 N	3,769.24 E	734,271.89	651,584.64	0.97	3,769.30
12,271.00	90.55	89.79	4,279.58	8,748.58	21.58 N	3,801.24 E	734,271.98	651,616.64	0.47	3,801.30
12,303.00	88.70	90.05	4,279.79	8,748.79	21.63 N	3,833.24 E	734,272.03	651,648.64	5.84	3,833.30
12,335.00	88.61	90.06	4,280.54	8,749.54	21.60 N	3,865.23 E	734,272.00	651,680.63	0.28	3,865.29
12,367.00	88.94	89.81	4,281.22	8,750.22	21.63 N	3,897.22 E	734,272.03	651,712.62	1.29	3,897.28
12,398.00	89.48	89.16	4,281.65	8,750.65	21.91 N	3,928.22 E	734,272.31	651,743.62	2.73	3,928.28
12,430.00	89.91	89.05	4,281.82	8,750.82	22.41 N	3,960.22 E	734,272.81	651,775.62	1.39	3,960.27
12,462.00	88.67	88.39	4,282.22	8,751.22	23.13 N	3,992.20 E	734,273.53	651,807.60	4.39	3,992.26
12,494.00	87.99	88.17	4,283.15	8,752.15	24.09 N	4,024.18 E	734,274.49	651,839.58	2.23	4,024.24
12,526.00	88.24	87.82	4,284.20	8,753.20	25.20 N	4,056.14 E	734,275.60	651,871.54	1.34	4,056.21
12,558.00	88.83	87.74	4,285.02	8,754.02	26.44 N	4,088.10 E	734,276.84	651,903.50	1.86	4,088.18
12,590.00	88.74	87.12	4,285.70	8,754.70	27.88 N	4,120.07 E	734,278.28	651,935.47	1.96	4,120.14
Last MWD at 12,590' MD										
12,648.00	88.74	87.12	4,286.98	8,755.98	30.79 N	4,177.98 E	734,281.19	651,993.38	0.00	4,178.07
Projection to Bit at 12,648' MD										

HALLIBURTON**Design Report for #1 - ST01****Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
12,590.00	8,754.70	27.88	4,120.07	Last MWD at 12,590' MD
12,648.00	8,755.98	30.79	4,177.98	Projection to Bit at 12,648' MD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
Target	M.17.F.#1.PBHL	89.78	Slot	0.00	0.00	0.00
8,450.00	12,648.00	MWD Survey			MWD	

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
M.17.F.#1.PBHL	0.00	0.00	8,744.00	17.70	4,632.50	734,268.10	652,447.90	33° 1' 3.277 N	103° 50' 9.562 W
- actual wellpath misses by 454.87ft at 12648.00ft MD (8755.98 TVD, 30.79 N, 4177.98 E)									
- Point									

HALLIBURTON**North Reference Sheet for Midway "17" Federal - #1 - ST01**

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to GL 4,446' + KB 23' @ 4469.00ft (Patriot 4). Northing and Easting are relative to #1

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 3001 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 104° 20' 0.000 W°, Longitude Origin: 0° 0' 0.000 E°, Latitude Origin: 0° 0' 0.000 N°

False Easting: 500,000.00ft, False Northing: 0.00ft, Scale Reduction: 0.99993411

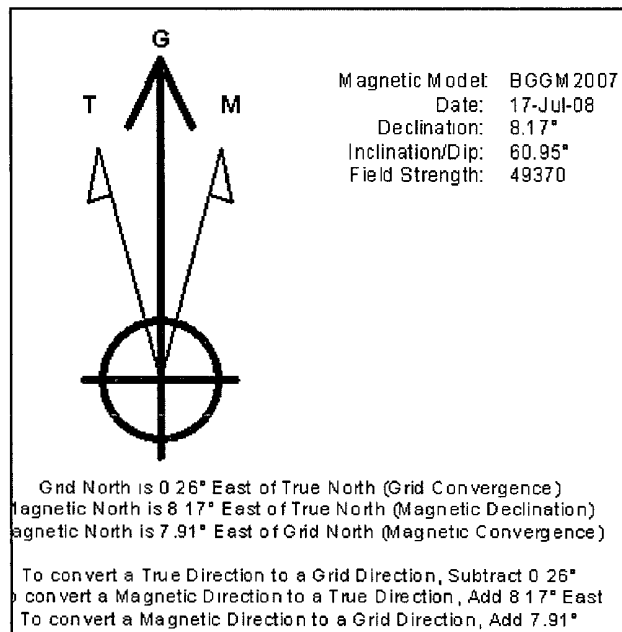
Grid Coordinates of Well: 734,250.40 ft N, 647,815.40 ft E

Geographical Coordinates of Well: 33° 01' 03.32" N, 103° 51' 03.97" W

Grid Convergence at Surface is: 0.26°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,648.00ft
the Bottom Hole Displacement is 4,178.09ft in the Direction of 89.58° (Grid).

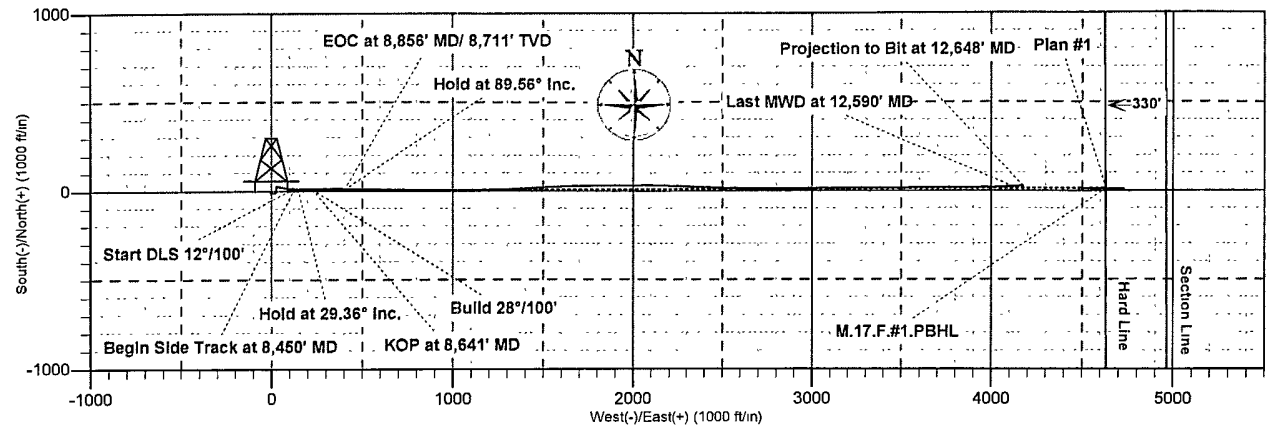
Magnetic Convergence at surface is: -7.91° (17 July 2008, , BGGM2007)



Cimarex Energy Company

HALLIBURTON
Sperry Drilling Services

Project: Chaves County, NM
Site: Midway "17" Federal
Well: #1
Wellbore: ST01
Design: ST01 (#1/ST01)
Rig: Patriot 4

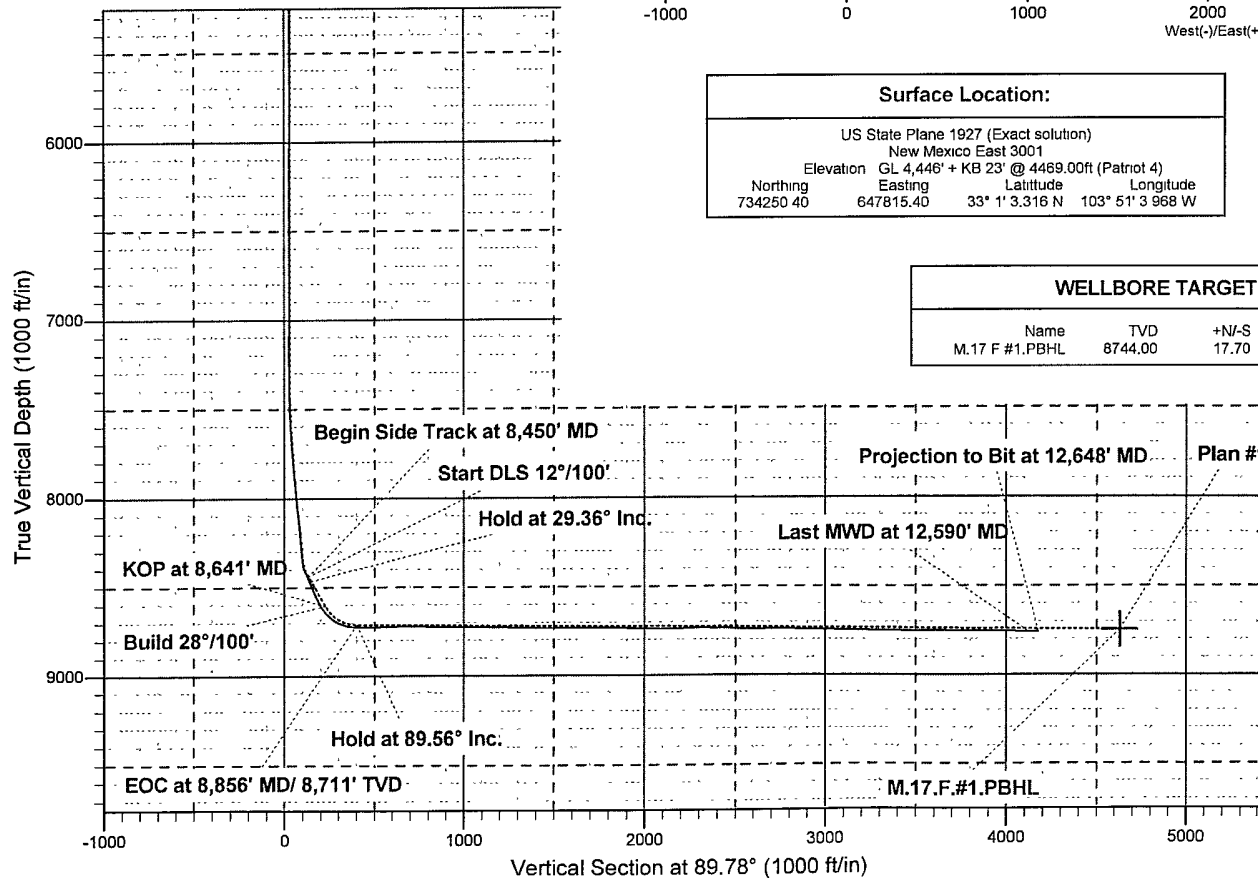


Surface Location:

US State Plane 1927 (Exact solution)
New Mexico East 3001
Elevation GL 4,446' + KB 23' @ 4469.00ft (Patriot 4)
Northing 734250.40 Easting 647815.40 Latitude 33° 1' 3.316 N Longitude 103° 51' 3.968 W

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape Point
M.17 F #1.PBHL	8744.00	17.70	4632.50	734268.10	652447.90	Point



To convert a Magnetic Direction to a Grid Direction, Add 7.91°

Magnetic Model BGGM2007 Date 17-Jul-08
Azimuths to Grid North

OPERATOR: Cimarex Energy Co.
WELL/LEASE: Midway 17 Fed # 1
COUNTY: Chaves Co., N.M. Sec. 17, T15S, R31E

RECEIVED

OCT 10 2008

HUBBS OGD

STATE OF NEW MEXICO
DEVIATION REPORT

<u>Depth</u>	<u>Deviation</u>	<u>Depth</u>	<u>Deviation</u>
697	2/9		
1,045	1/2		
1,545	1/5		
1,881	8/9		
2,377	1 2/9		
2,841	1		
3,253	1/4		
3,697	2/3		
4,093	5/8		
4,442	0		
4,922	1/2		
5,234	1/5		
4,663	5/9		
6,043	5/9		
6,454	2/3		
6,928	4/7		
7,403	1 1/4		
7,846	5		
8,067	5 5/7		
8,288	5 1/2		
8,510	4 2/9		
8,763	3		
8,985	2		

SUR: E-17-15s-31e, 1980/N & 330/W
BHL: H;17-15s-31e, 1950/N & 4508/W
API # 30-005-29034

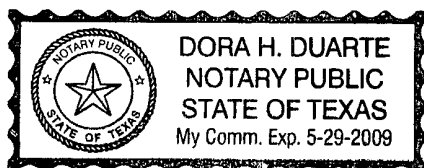
Patriot Drilling, LLC



M. Leroy Peterson, Executive Vice-President

The foregoing instrument was acknowledged before me on this 18th day of August, 2008 by M. Leroy Peterson, Executive Vice-President of Patriot Drilling, LLC.

My Commission Expires: 5/29/2009



Dora H. Duarte
Notary Public for Midland Co., Texas



REFERENCE SHEET FOR
UNDESIGNATED WELLS

	Fm	Pm	N	Pc
12-16 W	XX	XX		XX

paragraph

1. Date: 10/20/2008	
2. Type of Well:	
Oil: XX	Gas:
3. County: CHAVES	

4 Operator		API NUMBER	
CIMAREX ENERGY CO OF COLORADO		30 - 005 - 29034	
5 Address of Operator			
PO BOX 140907			
IRVING TX 75014-0907			
6 Lease name or Unit Agreement Name		7 Well Number	
MIDWAY 17 FEDERAL		# - 1	
8 Well Location			
Unit Letter: E/H	1980/1950	feet from the N line and 330/4508	feet from the W line
Section	Township	Range	
9 Completion Date		11 Perfs	Top
8/5/2008			7419
		Bottom	12648
		ID	12648
10 Name of Producing Formation(s)		12 Open Hole Casing shoe	Bottom
WOLFCAMP			PBTD
13 C-123 Filed	Date	15 Name of Pool Requested or temporary Wildcat designation	Pool ID num
Y	N XX	WILDCAT G-05 S153117E;ABO-WOLFCAMP	97722
16 Remarks			
NEW POOL			

TO BE COMPLETED BY DISTRICT GEOLOGIST

17 Action taken	18 Pool Name	Pool ID num
NEW POOL	MEDLIN RANCH;ABO-WOLFCAMP, WEST	97722
T 15 S, R 31 E		
Sec 17: N/2		

19 Advertised for HEARING	20 Case Number
21 Name of pool for which was advertised	
MEDLIN RANCH;ABO-WOLFCAMP, WEST	
22 Placed in Pool	23 By order number
	R-