WELL LOGS

K Z

API number:	30-025-38541		
OGRID:		Operator:	CIMAREX ENERGY CO
		Property:	YALE 18 FEE # 1

surface	ULSTR:	E	18	T	15S	R	38E	
			2060	FNL	430	FWL		
BH Loc	ULSTR:	D	18	T	15S	R	38E	
			442	FNL	425	FWL		

Ground Level:	3771	DF:	3793	KB:	3794	
Datum:	KB			TD:	10959	

Land: FEE

Completion Date: (1)
Date Logs Received: 12/8/2008
Date Logs Due in: (2)

Confidential:	NO			Date out:	

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	200	9833	Three Detector Litho-Density
HRLA	4587	9797	High Resolution Laterolog

K Z **OCD TOPS**

Rustler	2178	Strawn			
Tansill		Atoka			
Yates	3183	Morrow			
7 rvrs	3367				
		Austin			
		Chester			
Queen	3970	Miss Lime			
Penrose					
Grayburg	4160				
San Andres	4465				
Glorieta	6792				
Paddock					
Blinebry					
Tubb	7593				
Drinkard	7850				
Abo	8304				
Wolfcamp	9446				

OPERATOR CIMAREX ENERGY COMPANY
WELL/LEASE YALE 18 FEE 1
COUNTY LEA

075-0055

STATE OF NEW MEXICO
DEVIATION REPORT

578	0.25
932	1.00
1,256	1.00
2,200	1.00
2,844	1.25
3,272	0.50
3,658	0.50
4,050	2.75
4,543	2.00
4,715	0.50
5,297	1.25
5,801	0.75
6,148	1.00
6,734	1.00
7,166	1.00
7,622	1.40
8,120	1.25
8,363	1.25
8,882	2.00
9,354	1.00
9,768	1.00

SUR: E-18-15s-38e, 2060/N & 420/W
BHL: D-18-15s-38e, 442/N & 425/W
API # 30-025-38541

BY: _____

STATE OF TEXAS

COUNTY OF MIDLAND

The foregoing instrument was acknowledged before me on September 26, 2007, by Steve Moore on behalf of Patterson-UTI Drilling Company LLC.

_____
Notary Public for Midland County, Texas
My Commission Expires: 4/11/11

JONI D. HODGES
Notary Public
STATE OF TEXAS
My Commission
Expires 04/11/2011

Cimarex Energy Co.

Lea County, New Mexico
Yale 18 Fee
No 1

Sidetrack 2

SUR: E-18-15s-38e, 2060/N & 420/W
BHL: D-18-15s-38e, 442/N & 425/W
API # 30-025-38541

Design: Surveys

Sperry Drilling Services

Combo Report

06 December, 2007

Well Coordinates: 736,475.15 N, 906,005.92 E (33° 01' 08.03" N, 103° 08' 37.06" W)
Ground Level: 3,771.00 ft

Local Coordinate Origin:	Centered on Well No 1
Viewing Datum:	GL 3771' + KB 23' @ 3794.0ft (TBD)
TVDs to System:	N
North Reference:	Grid
Unit System:	API - US Survey Feet

Version: 2003.16 Build: 42B

HALLIBURTON

Design Report for No 1 - Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft)	Local Coordinates Easting (ft)	Map Coordinates Northing (ft)	Map Coordinates Easting (ft)	Dogleg Rate (°/100ft)	Vertical Section (ft)
0.0	0.00	0.00	-3,794.0	0.0	0.00 N	0.00 E	736,475.15	906,005.92	0.00	0.0
100.0	0.44	226.51	-3,694.0	100.0	0.26 S	0.28 W	736,474.88	906,005.64	0.44	-0.3
200.0	0.48	220.63	-3,594.0	200.0	0.85 S	0.83 W	736,474.30	906,005.09	0.06	-0.8
300.0	0.44	224 04	-3,494.0	300.0	1.44 S	1.37 W	736,473.70	906,004.55	0.05	-1.4
400.0	0.54	226.47	-3,394.0	400.0	2.04 S	1.98 W	736,473.10	906,003.94	0.10	-2.0
500.0	0.50	225 31	-3,294.0	500.0	2.67 S	2.63 W	736,472.47	906,003.29	0.04	-2.6
600.0	0.54	220.77	-3,194.0	600.0	3.34 S	3.25 W	736,471.81	906,002.67	0.06	-3.3
700.0	0.54	221.01	-3,094.0	700.0	4.05 S	3.86 W	736,471.10	906,002.06	0.00	-4.0
800.0	0.53	222.74	-2,994.0	800.0	4.74 S	4.49 W	736,470.40	906,001.43	0.02	-4.7
900.0	0.35	240.25	-2,894.0	900.0	5.24 S	5.07 W	736,469.91	906,000.85	0.22	-5.2
1,000.0	0.33	254.92	-2,794.0	1,000.0	5.46 S	5.61 W	736,469.68	906,000.31	0.09	-5.4
1,100.0	0.38	273.33	-2,694.0	1,100.0	5.52 S	6.22 W	736,469.63	905,999.70	0.12	-5.4
1,200.0	0 29	309.61	-2,594.0	1,200.0	5.34 S	6.75 W	736,469.81	905,999.18	0.23	-5.2
1,300.0	0.35	331.60	-2,494.0	1,300.0	4.91 S	7.09 W	736,470.24	905,998.84	0.14	-4.8
1,400.0	0.41	337.24	-2,394.0	1,400.0	4.31 S	7.37 W	736,470.84	905,998.55	0.07	-4.2
1,500 0	0.51	352.34	-2,294.0	1,500.0	3.54 S	7.57 W	736,471.61	905,998.35	0.16	-3.4
1,600.0	0.47	24.31	-2,194.0	1,600.0	2.72 S	7.46 W	736,472.42	905,998.46	0.27	-2.6
1,700.0	0.35	50.12	-2,094.0	1,700.0	2.15 S	7.05 W	736,472.99	905,998.87	0.22	-2.0
1,800.0	0.33	68.04	-1,994.1	1,799.9	1.85 S	6.55 W	736,473.30	905,999.37	0.11	-1.8
1,900.0	0.16	68.19	-1,894.1	1,899 9	1.69 S	6.16 W	736,473.46	905,999.77	0.17	-1.6
2,000.0	0.21	70.09	-1,794.1	1,999.9	1.58 S	5.85 W	736,473.57	906,000.07	0.05	-1.5
2,100.0	0.03	222.08	-1,694.1	2,099.9	1.53 S	5 70 W	736,473.61	906,000.22	0.24	-1.4
2,200.0	0 18	259.34	-1,594.1	2,199.9	1.58 S	5.87 W	736,473.56	906,000.05	0.16	-1.5
2,300.0	0.21	274.66	-1,494 1	2,299.9	1.59 S	6.21 W	736,473.55	905,999.71	0.06	-1.5
2,400.0	0.06	240.71	-1,394.1	2,399.9	1.61 S	6.44 W	736,473.54	905,999.49	0.16	-1.5
2,500.0	0.13	74.94	-1,294.1	2,499.9	1.60 S	6.37 W	736,473.54	905,999.55	0.19	-1.5
2,600.0	0.23	79.18	-1,194.1	2,599.9	1.53 S	6.07 W	736,473.61	905,999.86	0.10	-1.4
2,700.0	0.19	101.46	-1,094.1	2,699.9	1.53 S	5.71 W	736,473.62	906,000.22	0.09	-1.4
2,800.0	0.14	172.01	-994.1	2,799.9	1.68 S	5.53 W	736,473.46	906,000.40	0.19	-1 6
2,900.0	0.28	211.05	-894.1	2,899.9	2.01 S	5.64 W	736,473.13	906,000.29	0.19	-1.9
3,000.0	0.38	213.32	-794.1	2,999.9	2.50 S	5.94 W	736,472.64	905,999.98	0.10	-2.4
3,100.0	0.45	223.50	-694.1	3,099.9	3.06 S	6.40 W	736,472.08	905,999.53	0.10	-3.0
3,200.0	0.51	219.39	-594.1	3,199.9	3.69 S	6.95 W	736,471.45	905,998.97	0.07	-3.6
3,300.0	0.64	215.38	-494.1	3,299.9	4.49 S	7.56 W	736,470.65	905,998.37	0.14	-4.4
3,400.0	0.71	223.08	-394.1	3,399.9	5 40 S	8.30 W	736,469.75	905,997.62	0.11	-5.3
3,500.0	0 95	221.56	-294.1	3,499.9	6.47 S	9.27 W	736,468.67	905,996.65	0.24	-6.3
3,600.0	1.29	228.48	-194.1	3,599.9	7.84 S	10.67 W	736,467.31	905,995.25	0.37	-7.7
3,700.0	1.08	229.46	-94.1	3,699.9	9.20 S	12 23 W	736,465.95	905,993.70	0.21	-9.0
3,800 0	0.70	226.93	5.9	3,799.9	10.23 S	13.39 W	736,464.92	905,992.53	0.38	-10.0
3,900.0	0.82	240.60	105.9	3,899.9	10.99 S	14.46 W	736,464.15	905,991.46	0.22	-10.8
4,000.0	0.89	243.85	205.8	3,999.8	11.69 S	15.78 W	736,463.46	905,990.14	0.09	-11.5
4,100.0	0.78	231.94	305.8	4,099.8	12.45 S	17.01 W	736,462.70	905,988.91	0.20	-12.2
4,200.0	0.60	226.44	405.8	4,199.8	13.23 S	17.93 W	736,461.91	905,987.99	0.19	-13.0
4,300.0	0.57	220.26	505.8	4,299.8	13.97 S	18.63 W	736,461.17	905,987.29	0.07	-13.7
4,400.0	0.48	210.17	605.8	4,399.8	14.71 S	19.16 W	736,460.43	905,986.76	0.13	-14.4

Design Report for No 1 - Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft)	Local Coordinates Easting (ft)	Map Coordinates Northing (ft)	Map Coordinates Easting (ft)	Dogleg Rate (°/100ft)	Vertical Section (ft)
4,500.0	0.31	209.79	705 8	4,499.8	15.31 S	19.51 W	736,459.84	905,986.42	0.17	-15 0
4,600.0	0.04	115.54	805.8	4,599.8	15.56 S	19.61 W	736,459.59	905,986.31	0.32	-15.3
4,700.0	0.02	109.40	905.8	4,699.8	15.58 S	19.56 W	736,459.56	905,986.36	0.02	-15.3
4,800.0	0.09	194.02	1,005.8	4,799.8	15.66 S	19.56 W	736,459.48	905,986.36	0.09	-15.4
4,900.0	0.01	186 80	1,105.8	4,899.8	15.75 S	19.58 W	736,459.40	905,986.34	0.08	-15.5
5,000 0	0.03	215.29	1,205.8	4,999.8	15.78 S	19.60 W	736,459.37	905,986.32	0.02	-15.5
5,100.0	0.08	162.99	1,305.8	5,099.8	15.87 S	19.59 W	736,459.28	905,986.33	0.07	-15.6
5,200.0	0.12	170.14	1,405.8	5,199.8	16.04 S	19.56 W	736,459.11	905,986.37	0.04	-15.7
5,300.0	0.13	147.59	1,505.8	5,299.8	16.23 S	19.48 W	736,458.91	905,986.45	0.05	-15.9
5,400.0	0.07	130.78	1,605.8	5,399.8	16.37 S	19.37 W	736,458.78	905,986.55	0.07	-16.1
5,500.0	0.08	156.86	1,705.8	5,499.8	16.47 S	19.30 W	736,458.67	905,986.63	0.04	-16.2
5,600.0	0.13	137.33	1,805.8	5,599.8	16.62 S	19.19 W	736,458.52	905,986.73	0.06	-16.3
5,700.0	0.10	163.69	1,905.8	5,699.8	16.79 S	19.09 W	736,458.36	905,986.83	0.06	-16.5
5,800.0	0.09	219.69	2,005.8	5,799.8	16 93 S	19.12 W	736,458.21	905,986.81	0.09	-16.6
5,900.0	0.21	211.49	2,105.8	5,899.8	17.15 S	19.26 W	736,458.00	905,986.66	0.12	-16.9
6,000.0	0.32	220.55	2,205.8	5,999.8	17.52 S	19.54 W	736,457.63	905,986.38	0.12	-17.2
6,100.0	0 21	235.56	2,305.8	6,099.8	17.83 S	19.87 W	736,457.31	905,986.05	0.13	-17.5
6,200.0	0.52	223.60	2,405.8	6,199.8	18.27 S	20.34 W	736,456.88	905,985.59	0.32	-18.0
6,300.0	0.42	213.45	2,505.8	6,299.8	18.90 S	20.85 W	736,456.24	905,985.07	0.13	-18.6
6,400.0	0.46	272.11	2,605.8	6,399.8	19.19 S	21.45 W	736,455.95	905,984.47	0.43	-18.9
6,500.0	0.67	268.33	2,705.8	6,499.8	19.19 S	22.44 W	736,455.95	905,983.48	0.21	-18.9
6,600 0	0.90	263.49	2,805.8	6,599.8	19.30 S	23.80 W	736,455.85	905,982.12	0.24	-18.9
6,700.0	0.79	259.87	2,905.8	6,699.8	19.51 S	25.26 W	736,455.63	905,980 66	0.12	-19.1
6,800.0	1.01	260.00	3,005.8	6,799.8	19.78 S	26.81 W	736,455.36	905,979.11	0.22	-19.4
6,900.0	0 89	256.19	3,105.7	6,899.7	20.12 S	28.43 W	736,455.02	905,977.49	0.14	-19.7
7,000.0	0.79	253.99	3,205.7	6,999.7	20.50 S	29.85 W	736,454.65	905,976.07	0.11	-20.1
7,100.0	0.88	253.59	3,305.7	7,099.7	20.91 S	31.25 W	736,454.24	905,974.67	0 09	-20.4
7,200.0	0.81	250.41	3,405.7	7,199.7	21.36 S	32.65 W	736,453.79	905,973.27	0 08	-20.9
7,300.0	0.68	253.04	3,505.7	7,299.7	21.77 S	33.88 W	736,453.38	905,972.04	0.13	-21 3
7,400.0	0.45	256.02	3,605.7	7,399.7	22.04 S	34.83 W	736,453.11	905,971 09	0.23	-21.5
7,500.0	0.48	258.20	3,705.7	7,499.7	22.22 S	35.62 W	736,452.93	905,970.30	0.03	-21.7
7,600.0	0.48	253.47	3,805.7	7,599.7	22.42 S	36.44 W	736,452.72	905,969.49	0.04	-21 9
7,700.0	0.47	233.31	3,905.7	7,699.7	22.79 S	37.17 W	736,452.36	905,968.76	0.17	-22.2
7,800.0	0.52	242.45	4,005.7	7,799.7	23.24 S	37.90 W	736,451.90	905,968.02	0.09	-22.7
7,900.0	0.52	240.40	4,105.7	7,899.7	23.68 S	38 69 W	736,451.47	905,967.23	0.02	-23.1
8,000.0	0.24	214.88	4,205.7	7,999.7	24.07 S	39.21 W	736,451.07	905,966.71	0.32	-23.5
8,100.0	0.32	211.69	4,305.7	8,099.7	24.48 S	39.47 W	736,450.66	905,966.45	0.08	-23.9
8,200.0	0.14	149.06	4,405.7	8,199.7	24.82 S	39.56 W	736,450.32	905,966.36	0.28	-24.2
8,300.0	0.06	349 54	4,505.7	8,299.7	24.88 S	39.51 W	736,450.27	905,966.42	0.20	-24.3
8,400.0	0.49	7.32	4,605.7	8,399.7	24.40 S	39.46 W	736,450.74	905,966.46	0.43	-23.8
8,500.0	0.66	17.39	4,705.7	8,499.7	23.43 S	39.23 W	736,451.72	905,966.69	0.20	-22.8
8,600.0	0.72	22.51	4,805.7	8,599.7	22.30 S	38.82 W	736,452.85	905,967.10	0.09	-21.7
8,700.0	0.52	10.44	4,905.7	8,699.7	21.27 S	38.50 W	736,453.87	905,967.42	0.24	-20.7
8,800.0	0.34	324.58	5,005.7	8,799.7	20.58 S	38.59 W	736,454.56	905,967.33	0.37	-20.0
8,900.0	0.49	282.22	5,105.7	8,899.7	20.25 S	39.18 W	736,454.89	905,966.74	0.33	-19.7

Design Report for No 1 - Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft)	Local Coordinates Easting (ft)	Map Coordinates Northing (ft)	Map Coordinates Easting (ft)	Dogleg Rate (°/100ft)	Vertical Section (ft)
9,000.0	0.60	274.93	5,205.7	8,999.7	20.12 S	40.12 W	736,455.03	905,965.80	0.13	-19.5
9,100.0	0.74	263.77	5,305.6	9,099.6	20.14 S	41.28 W	736,455.00	905,964.64	0.19	-19.5
9,164.0	0.78	0.00	5,369.6	9,163.6	19.75 S	41.69 W	736,455.40	905,964.23	1.77	-19.1
9,212.0	5.93	9.47	5,417.5	9,211.5	16.98 S	41.28 W	736,458.17	905,964.64	10.75	-16.4
9,228.0	9.73	9.87	5,433.4	9,227.4	14.83 S	40.92 W	736,460.32	905,965.01	23.75	-14.2
9,243.0	14.80	12.17	5,448.0	9,242.0	11.70 S	40.29 W	736,463.44	905,965.63	33.95	-11.1
9,259.0	20.25	12.00	5,463 3	9,257.3	6.99 S	39.29 W	736,468.15	905,966.63	34.06	-6.4
9,275.0	26.00	10.47	5,478.0	9,272.0	0.83 S	38.07 W	736,474.31	905,967.85	36.13	-0.3
9,291.0	30.99	6.61	5,492.1	9,286.1	6.71 N	36.96 W	736,481.86	905,968.96	33.23	7.3
9,306.0	35.77	6.71	5,504.6	9,298.6	14.91 N	36.00 W	736,490.05	905,969.92	31.87	15.4
9,322.0	39.19	8.17	5,517.3	9,311.3	24.56 N	34.74 W	736,499.71	905,971.18	22.08	25.1
9,337.0	42.98	7.48	5,528.6	9,322.6	34.32 N	33.40 W	736,509.47	905,972.52	25.45	34.8
9,352.0	45.41	4.49	5,539.3	9,333.3	44.72 N	32 31 W	736,519.87	905,973.61	21.34	45.2
9,369.0	47 54	2.17	5,551.0	9,345.0	57.02 N	31.60 W	736,532.17	905,974.32	15 96	57.5
9,385.0	47.03	358.96	5,561.9	9,355.9	68.78 N	31.49 W	736,543.92	905,974.44	15.08	69.2
9,401.0	50.08	355.91	5,572.5	9,366.5	80.75 N	32.03 W	736,555.90	905,973.89	23.82	81.2
9,417.0	54.92	356.25	5,582.2	9,376.2	93.41 N	32.90 W	736,568.56	905,973.03	30 30	93.9
9,432.0	59.43	355.87	5,590.4	9,384 4	105.99 N	33.76 W	736,581.13	905,972.16	30.14	106.5
9,445.0	52.70	357.86	5,597.6	9,391.6	116.75 N	34.36 W	736,591.89	905,971.56	53.30	117.2
9,460.0	55.52	1.97	5,606.4	9,400.4	128.89 N	34.37 W	736,604.04	905,971.55	29.08	129.4
9,476.0	59.65	3.85	5,615.0	9,409.0	142.38 N	33.68 W	736,617.53	905,972.24	27.65	142.9
9,492.0	63.44	6.37	5,622.6	9,416.6	156.39 N	32.42 W	736,631.53	905,973.50	27.44	156.9
9,508.0	68.02	6.32	5,629.2	9,423.2	170.88 N	30.81 W	736,646.02	905,975.11	28.63	171.3
9,523.0	73.54	5.74	5,634.1	9,428.1	184.96 N	29.32 W	736,660 10	905,976.60	36.98	185.4
9,539.0	78.84	5.78	5,637.9	9,431.9	200.41 N	27.77 W	736,675.56	905,978.16	33.13	200.8
9,555.0	84.51	4.98	5,640.2	9,434.2	216.17 N	26.28 W	736,691.31	905,979.64	35 78	216.5
9,571.0	85.83	3.43	5,641.6	9,435.6	232.07 N	25.11 W	736,707.21	905,980.81	12.70	232.4
9,586.0	86.98	2.20	5,642.5	9,436.5	247.02 N	24.38 W	736,722.16	905,981.54	11.21	247.4
9,618.0	89.14	358.10	5,643.6	9,437.6	278.99 N	24.30 W	736,754.14	905,981.63	14.47	279.3
9,650.0	90.03	357.79	5,643.9	9,437.9	310.97 N	25.44 W	736,786.12	905,980.48	2 95	311.3
9,681.0	90.49	357.30	5,643.7	9,437.7	341.94 N	26.77 W	736,817.09	905,979.15	2.17	342.3
9,712.0	91.02	356.86	5,643.3	9,437.3	372.90 N	28.35 W	736,848.04	905,977.57	2.22	373.3
9,743.0	91.33	356.87	5,642.7	9,436 7	403.85 N	30.04 W	736,878.99	905,975.88	1.00	404.2
9,775.0	90.65	356.93	5,642.1	9,436.1	435.79 N	31.78 W	736,910.94	905,974.15	2.13	436.2
9,807.0	91.33	357.20	5,641.6	9,435.6	467.75 N	33.41 W	736,942.89	905,972.51	2.29	468.2
9,839.0	91.73	357.41	5,640.7	9,434.7	499.70 N	34.92 W	736,974.84	905,971.00	1.41	500.2
9,870.0	90.15	357.08	5,640.2	9,434.2	530.66 N	36.41 W	737,005.80	905,969.51	5.21	531.1
9,902.0	90.43	357.34	5,640.0	9,434.0	562.62 N	37.96 W	737,037.77	905,967.96	1.19	563.1
9,934.0	90.19	358.06	5,639.9	9,433.9	594.59 N	39.25 W	737,069.74	905,966.67	2.37	595.1
9,965.0	90.40	357.92	5,639.7	9,433.7	625.57 N	40.34 W	737,100.72	905,965.59	0.81	626.1
9,997.0	90.00	359.18	5,639.6	9,433.6	657.56 N	41.15 W	737,132.71	905,964.78	4.13	658.1
10,028.0	89.88	359.91	5,639.6	9,433.6	688.56 N	41.39 W	737,163.71	905,964.53	2.39	689.1
10,060.0	90.65	0.83	5,639.5	9,433.5	720.56 N	41.19 W	737,195.71	905,964.74	3.75	721.1
10,091.0	89.91	0.66	5,639.3	9,433.3	751.56 N	40.78 W	737,226.70	905,965.14	2.45	752.1
10,123.0	89.82	359.88	5,639.4	9,433.4	783.56 N	40.63 W	737,258.70	905,965.29	2.45	784.1

Design Report for No 1 - Surveys

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft)	Local Coordinates Easting (ft)	Map Coordinates Northing (ft)	Map Coordinates Easting (ft)	Dogleg Rate (°/100ft)	Vertical Section (ft)
10,154.0	91.48	1.33	5,639.0	9,433.0	814.55 N	40.30 W	737,289.70	905,965.62	7.11	815.1
10,185.0	92.06	1.32	5,638.1	9,432.1	845.53 N	39.59 W	737,320.67	905,966.33	1.87	846.0
10,217.0	90.43	1.61	5,637.4	9,431.4	877.51 N	38.77 W	737,352.65	905,967.15	5.17	878.0
10,249.0	90.03	2.92	5,637.3	9,431.3	909.48 N	37.51 W	737,384.63	905,968.42	4.28	909.9
10,281.0	88.89	3.15	5,637.6	9,431.6	941.44 N	35.81 W	737,416.58	905,970.11	3.63	941.9
10,311.0	88.89	3.66	5,638.2	9,432.2	971.38 N	34.03 W	737,446.52	905,971.89	1.70	971.8
10,343.0	89.82	5.47	5,638.5	9,432.5	1,003.27 N	31.48 W	737,478.42	905,974.44	6.36	1,003.6
10,375.0	89.35	5.86	5,638.7	9,432.7	1,035.11 N	28.32 W	737,510.26	905,977.60	1.91	1,035.4
10,406.0	89.63	5.56	5,639.0	9,433.0	1,065.96 N	25.24 W	737,541.10	905,980.68	1.32	1,066.2
10,438.0	89.29	5.61	5,639.3	9,433.3	1,097.81 N	22.13 W	737,572.95	905,983.80	1.07	1,098.0
10,469.0	89.14	4.82	5,639.7	9,433.7	1,128.67 N	19.31 W	737,603.82	905,986.61	2.59	1,128.8
10,501.0	88.12	4.57	5,640.5	9,434.5	1,160.56 N	16.69 W	737,635.70	905,989.23	3.28	1,160.7
10,532.0	88 58	3.66	5,641.4	9,435.4	1,191.46 N	14.47 W	737,666.61	905,991.46	3.29	1,191.5
10,564.0	88.49	3.06	5,642.2	9,436.2	1,223.40 N	12.59 W	737,698.54	905,993.33	1.90	1,223.5
10,595.0	88.68	2.84	5,643.0	9,437.0	1,254.35 N	11.00 W	737,729.49	905,994.93	0.94	1,254.4
10,626.0	89.51	2.45	5,643.5	9,437.5	1,285.31 N	9.57 W	737,760.46	905,996.36	2.96	1,285.3
10,658.0	89.47	2.03	5,643.8	9,437.8	1,317.29 N	8:32 W	737,792 43	905,997.61	1.32	1,317.3
10,690.0	90.25	1.28	5,643.8	9,437.8	1,349.27 N	7.39 W	737,824.42	905,998.53	3.38	1,349.2
10,721.0	91.14	359.07	5,643.5	9,437.5	1,380.27 N	7.30 W	737,855.41	905,998.63	7.68	1,380.2
10,753.0	90.80	2.10	5,642.9	9,436.9	1,412.26 N	6.97 W	737,887.40	905,998.95	9.53	1,412.2
10,785.0	90.40	2.55	5,642.6	9,436.6	1,444.23 N	5.67 W	737,919.37	906,000.25	1.88	1,444.2
10,817.0	92.34	1.03	5,641.8	9,435 8	1,476.20 N	4.67 W	737,951.35	906,001.25	7.70	1,476.1
10,848.0	91.29	359.39	5,640.8	9,434.8	1,507.18 N	4.56 W	737,982.33	906,001.36	6.28	1,507.1
10,880.0	92.34	359.95	5,639.8	9,433.8	1,539.17 N	4.74 W	738,014.31	906,001.18	3 72	1,539.1
10,911.0	93.22	359.40	5,638.3	9,432.3	1,570.13 N	4.92 W	738,045.27	906,001.00	3.35	1,570.0
Last MWD										
10,959.0	93.22	359.40	5,635.6	9,429.6	1,618.05 N	5.42 W	738,093.20	906,000.50	0.00	1,618.0
Projection to TD at 10959' MD										

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
10,911.0	9,432.3	1,570.1	-4.9	Last MWD

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (ft)	Origin +E/-W (ft)	Start TVD (ft)
Target	PBHL (ST2) P1	359.15	Slot	0.0	0.0	0.0

9,445.0	10,911.0	(ST2) MWD Survey	MWD
10,959.0	10,959.0	Projection to TD	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
PBHL (ST2) P1	0.00	0.00	9,430.0	1,730.0	-25.7	738,205.15	905,980.19	33° 1' 25.148 N	103° 8' 37.136 W

- actual wellpath misses by 113.8ft at 10959.0ft MD (9429.6 TVD, 1618.1 N, -5.4 E)
- Point

North Reference Sheet for Yale 18 Fee - No 1 - Sidetrack 2

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.
Vertical Depths are relative to GL 3771' + KB 23' @ 3794.0ft (TBD). Northing and Easting are relative to No 1
Coordinate System is US State Plane 1983, New Mexico Eastern Zone using datum North American Datum 1983, ellipsoid GRS 1980
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°

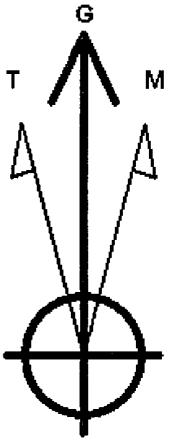
False Easting: 541,337.50ft, False Northing: 0.00ft, Scale Reduction: 1.00006135

Grid Coordinates of Well: 736,475.15 ft N, 906,005.92 ft E

Geographical Coordinates of Well. 33° 01' 08.03" N, 103° 08' 37.06" W
Grid Convergence at Surface is: 0.65°

Based upon Minimum Curvature type calculations, at a Measured Depth of 10,959.00ft
the Bottom Hole Displacement is 1,618.06ft in the Direction of 359.81° (Grid).

Magnetic Convergence at surface is: -7.26° (26 November 2007, , BGGM2007)



Magnetic Model:	BGGM 2007
Date:	26-Nov-07
Declination:	7 90°
Inclination/Dip:	61 11°
Field Strength:	49535

Grid North is 0.65° East of True North (Grid Convergence)
agnetic North is 7.90° East of True North (Magnetic Declination)
gnetic North is 7.26° East of Grid North (Magnetic Convergence)

To convert a True Direction to a Grid Direction, Subtract 0.65°
convert a Magnetic Direction to a True Direction, Add 7.90° East
To convert a Magnetic Direction to a Grid Direction, Add 7 26°

Cimarex Energy Co.

HALLIBURTON
Sperry Drilling Services

Project: Lea County, New Mexico
Site: Yale 18 Fee
Well: No 1
Wellbore: Sidetrack 2
Design: Surveys (No 1/Sidetrack 2)
Rig: TBD

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL (ST2) P1	9430.0	1730.0	-25.7	738205.15	905980.19	Point

CIMAREX

Surface Location:

US State Plane 1983
New Mexico Eastern Zone
Elevation: GL 3771' + KB 23' @ 3794.0ft (TBD)

Northing	Easting	Latittude	Longitude
736475.15	906005.92	33° 1' 8.031 N	103° 8' 37.064 W

BOTTOM HOLE LOCATION

MD = 10,959' INC. = 93.22° AZIMUTH = 359.40°
TVD = 9,429.63' VS = 1,617.95'
NORTH = 1,618.05' WEST = -5.42'
Y = 738,093.20' X = 906,000.50'

To convert a Magnetic Direction to a Grid Direction, Add 7.26°

Magnetic Model: BGGM2007 Date: 26-Nov-07
Azimuths to Grid North