

Scientific Drilling



E.O.G.

Field: Red Hills Bone Springs
Site: Lea County, NM
Well: Ochoa Federal #1
Wellpath: VH - Job #32K0107070
Survey: 01/23/07

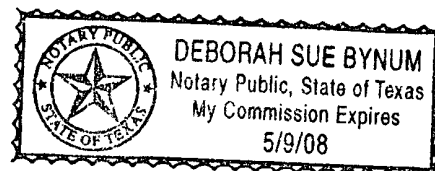
SUR: G-15-25s-33e, 1979/N & 1979/E
BHL: L-15-25s-33e, 3836/N & 4422/E
API # 30-025-27623

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

.....R. L. Hartman..... Company Representative

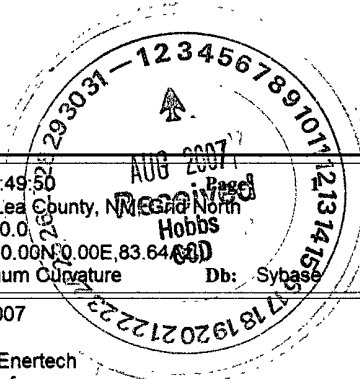
Notorized this date 21st of February, 2007.

Deborah Sue Bynum
Notary Signature
County of Midland
State of Texas





Scientific Drilling International Survey Report



Company: E.O.G.	Date: 02/21/2007	Time: 09:49:50
Field: Red Hills Bone Springs	Co-ordinate(N/E) Reference: Site: Lea County, NM	Page: 1
Site: Lea County, NM	Vertical (TVD) Reference: SITE 0.00	Received: AUG 2007
Well: Ochoa Federal #1	Section (VS) Reference: Well (0.00N 0.00E, 83.64W)	Hobbs
Wellpath: VH - Job #32K0107070	Survey Calculation Method: Minimum Curvature	Db: Sybase

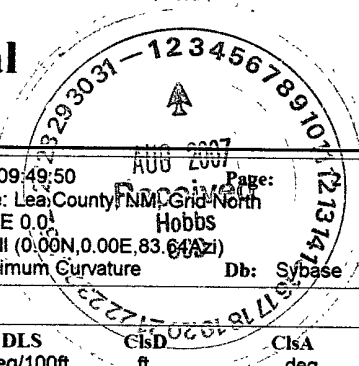
Survey: 01/23/07	Start Date: 01/23/2007
KSRG 0'-12100'	
Company: Scientific Drilling Internatio	Engineer: Pena w/Enertech
Tool: Keeper, Keeper Surface Readout Gyro	Tied-to: From Surface

Survey

MD ft	Incl deg	Azlm deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.20	86.84	100.00	0.17	0.01	0.17	0.20	0.17	86.84
200.00	0.26	114.10	200.00	0.54	-0.07	0.56	0.12	0.56	97.53
300.00	0.56	122.54	300.00	1.12	-0.43	1.17	0.31	1.25	110.06
400.00	0.53	120.15	399.99	1.87	-0.92	1.99	0.04	2.19	114.95
500.00	0.65	124.28	499.99	2.67	-1.48	2.86	0.13	3.21	117.33
600.00	0.56	127.25	599.98	3.46	-2.09	3.71	0.10	4.26	119.39
700.00	0.50	149.39	699.98	3.99	-2.76	4.32	0.21	5.13	122.57
800.00	0.52	160.77	799.97	4.27	-3.57	4.70	0.10	5.90	127.22
900.00	0.57	166.88	899.97	4.43	-4.48	4.96	0.08	6.68	132.10
1000.00	0.59	176.28	999.96	4.47	-5.48	5.10	0.10	7.49	137.02
1100.00	0.54	190.41	1099.96	4.31	-6.45	5.05	0.15	8.20	141.95
1200.00	0.45	203.31	1199.95	3.98	-7.28	4.81	0.14	8.73	146.53
1300.00	0.46	235.36	1299.95	3.43	-7.87	4.33	0.25	8.98	151.19
1400.00	0.33	266.25	1399.95	2.79	-8.11	3.71	0.24	8.92	155.44
1500.00	0.31	291.97	1499.95	2.26	-8.03	3.17	0.14	8.64	158.46
1600.00	0.32	261.26	1599.95	1.74	-7.97	2.64	0.17	8.40	161.66
1700.00	0.31	211.46	1699.95	1.30	-8.25	2.23	0.27	8.54	164.89
1800.00	0.23	149.27	1799.94	1.22	-8.65	2.19	0.29	8.92	165.81
1900.00	0.19	132.35	1899.94	1.41	-8.93	2.41	0.07	9.25	164.89
2000.00	0.14	63.18	1999.94	1.63	-8.99	2.64	0.19	9.37	163.61
2100.00	0.11	89.76	2099.94	1.84	-8.94	2.85	0.06	9.38	162.31
2200.00	0.10	73.10	2199.94	2.02	-8.91	3.03	0.03	9.41	161.22
2300.00	0.04	62.58	2299.94	2.14	-8.87	3.14	0.06	9.41	160.48
2400.00	0.11	54.80	2399.94	2.26	-8.80	3.25	0.07	9.38	159.71
2500.00	0.32	55.46	2499.94	2.59	-8.58	3.56	0.21	9.29	157.46
2600.00	0.42	62.30	2599.94	3.18	-8.25	4.12	0.11	9.22	153.50
2700.00	0.46	65.00	2699.94	3.90	-7.91	4.80	0.05	9.26	148.74
2800.00	0.55	68.20	2799.93	4.74	-7.57	5.61	0.09	9.42	143.43
2900.00	0.69	54.90	2899.93	5.73	-7.04	6.55	0.20	9.62	137.06
3000.00	0.77	63.38	2999.92	6.89	-6.39	7.65	0.13	9.97	129.91
3100.00	0.82	67.08	3099.91	8.21	-5.81	8.91	0.07	10.64	123.14
3200.00	0.85	67.38	3199.90	9.60	-5.25	10.25	0.03	11.52	117.13
3300.00	1.11	61.93	3299.88	11.22	-4.51	11.79	0.28	12.62	110.94
3400.00	1.18	64.86	3399.86	13.09	-3.62	13.58	0.09	14.05	104.92
3500.00	1.15	73.90	3499.84	15.05	-2.90	15.47	0.19	15.74	100.62
3600.00	0.96	87.51	3599.83	16.88	-2.59	17.27	0.31	17.46	98.52
3700.00	1.09	104.21	3699.81	18.61	-2.78	19.03	0.32	19.23	98.32
3800.00	1.20	104.51	3799.79	20.48	-3.28	20.97	0.11	21.22	98.89
3900.00	1.32	108.83	3899.77	22.50	-3.91	23.07	0.15	23.40	99.63
4000.00	1.34	115.77	3999.74	24.53	-4.79	25.21	0.16	25.67	100.76
4100.00	1.40	130.97	4099.71	26.35	-6.10	27.19	0.37	27.87	102.65
4200.00	1.32	139.81	4199.68	27.82	-7.78	28.86	0.22	29.89	105.10
4300.00	1.27	141.98	4299.66	29.04	-9.54	30.28	0.07	31.75	107.48
4400.00	1.33	133.67	4399.63	30.37	-11.21	31.80	0.20	33.72	109.42
4500.00	1.45	133.77	4499.60	31.92	-12.89	33.56	0.12	35.95	111.01
4600.00	1.53	134.88	4599.57	33.57	-14.70	35.42	0.09	38.35	112.55
4700.00	1.63	133.80	4699.53	35.32	-16.63	37.39	0.10	40.92	113.98
4800.00	1.01	128.35	4799.50	36.85	-18.16	39.11	0.63	43.12	114.91



Scientific Drilling International Survey Report



Company: E.O.G.
Field: Red Hills Bone Springs
Site: Lea County, NM
Well: Ochoa Federal #1
Wellpath: VH - Job #32K0107070

Date: 02/21/2007 Time: 09:49:50
Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N, 0.00E, 83.64Az)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4900.00	0.39	102.56	4899.50	37.80	-18.78	40.13	0.68	44.31	115.08
5000.00	0.47	66.89	4999.49	38.52	-18.70	40.84	0.27	44.92	114.60
5100.00	0.48	70.03	5099.49	39.32	-18.39	41.61	0.03	45.49	113.85
5200.00	0.44	63.06	5199.49	40.08	-18.08	42.35	0.07	46.04	113.12
5300.00	0.54	52.60	5299.48	40.85	-17.62	43.06	0.13	46.53	112.25
5400.00	0.55	61.62	5399.48	41.70	-17.10	43.86	0.09	47.07	111.30
5500.00	0.43	55.62	5499.48	42.47	-16.66	44.59	0.13	47.60	110.49
5600.00	0.57	49.13	5599.47	43.21	-16.12	45.28	0.15	48.06	109.60
5700.00	0.58	63.85	5699.47	44.10	-15.57	46.11	0.15	48.67	108.66
5800.00	0.56	70.34	5799.46	45.05	-15.19	47.02	0.07	49.41	107.90
5900.00	0.54	48.57	5899.46	45.91	-14.71	47.84	0.21	50.05	107.09
6000.00	0.54	58.47	5999.45	46.72	-14.15	48.59	0.09	50.61	106.24
6100.00	0.48	66.58	6099.45	47.55	-13.74	49.38	0.09	51.25	105.55
6200.00	0.45	69.07	6199.45	48.33	-13.43	50.13	0.04	51.90	105.00
6300.00	0.37	65.94	6299.44	49.02	-13.16	50.79	0.08	52.47	104.53
6400.00	0.41	52.54	6399.44	49.63	-12.81	51.37	0.10	52.94	104.00
6500.00	0.39	58.27	6499.44	50.25	-12.42	51.94	0.04	53.40	103.44
6600.00	0.38	61.52	6599.44	50.86	-12.08	52.52	0.02	53.89	102.95
6700.00	0.35	42.55	6699.43	51.40	-11.70	53.02	0.12	54.29	102.44
6800.00	0.51	21.38	6799.43	51.84	-11.06	53.39	0.22	54.52	101.70
6900.00	0.50	25.02	6899.43	52.27	-10.25	53.74	0.03	54.70	100.80
7000.00	0.63	9.34	6999.42	52.65	-9.31	54.01	0.20	54.81	99.78
7100.00	0.55	357.91	7099.42	52.83	-8.29	54.08	0.14	54.71	98.71
7200.00	0.57	359.22	7199.41	52.92	-7.31	54.06	0.02	54.55	97.70
7300.00	0.64	350.82	7299.41	52.94	-6.26	53.96	0.11	54.32	96.62
7400.00	0.65	352.44	7399.40	52.90	-5.15	53.80	0.02	54.04	95.46
7500.00	0.62	349.35	7499.39	52.84	-4.05	53.62	0.05	53.78	94.32
7600.00	0.50	179.34	7599.39	52.76	-3.96	53.53	1.12	53.67	94.23
7700.00	0.60	174.00	7699.39	52.71	-4.91	53.59	0.11	53.81	95.24
7800.00	0.22	175.30	7799.39	52.71	-5.63	53.66	0.38	53.95	95.99
7900.00	0.30	325.06	7899.38	52.57	-5.60	53.52	0.50	53.82	95.98
8000.00	0.55	335.90	7999.38	52.30	-4.95	53.18	0.26	53.41	95.32
8100.00	0.67	312.85	8099.38	51.77	-4.11	52.55	0.27	52.71	94.48
8200.00	0.87	329.90	8199.37	51.09	-3.06	51.74	0.30	51.83	93.38
8300.00	0.92	320.81	8299.36	50.35	-1.78	50.86	0.15	50.89	92.01
8400.00	1.28	327.85	8399.34	49.42	-0.21	49.75	0.38	49.75	90.25
8500.00	0.91	322.10	8499.32	48.52	1.36	48.67	0.39	48.69	88.40
8600.00	0.89	313.56	8599.31	47.61	2.52	47.62	0.14	47.69	86.97
8700.00	0.88	314.39	8699.29	46.62	3.59	46.51	0.02	46.65	85.58
8800.00	1.06	316.93	8799.28	45.58	4.81	45.33	0.19	45.58	83.95
8900.00	1.26	318.81	8899.26	44.40	6.31	43.97	0.20	44.42	81.84
9000.00	1.77	321.71	8999.22	42.96	8.35	42.29	0.52	43.11	78.83
9100.00	1.92	320.42	9099.17	41.22	10.85	40.27	0.16	41.71	74.92
9200.00	1.82	324.77	9199.12	39.54	13.44	38.29	0.17	40.58	70.66
9300.00	1.61	321.86	9299.07	38.03	15.84	36.50	0.23	39.79	66.54
9400.00	1.38	316.93	9399.04	36.57	17.83	34.81	0.26	39.11	62.88
9500.00	1.11	312.49	9499.02	35.21	19.36	33.28	0.29	38.50	59.81
9600.00	0.93	324.96	9599.00	34.19	20.68	32.09	0.28	38.18	57.21
9700.00	0.54	318.18	9698.99	33.52	21.70	31.31	0.40	38.10	55.29
9800.00	0.42	319.31	9798.99	33.04	22.32	30.76	0.12	38.01	54.03
9900.00	0.25	345.05	9898.99	32.80	22.81	30.47	0.22	38.06	53.17
10000.00	0.09	47.14	9998.99	32.84	23.08	30.47	0.22	38.22	52.86



Scientific
Drilling

Scientific Drilling International Survey Report

Company: E.O.G.
Field: Red Hills Bone Springs
Site: Lea County, NM
Well: Ochoa Federal #1
Wellpath: VH - Job #32K0107070

Date: 02/21/2007 Time: 09:49:50 Page: 3
Co-ordinate(NE) Reference: Site: Lea County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,83.64Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

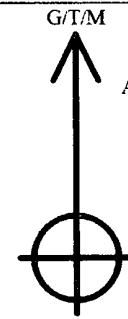
MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
10100.00	0.07	335.01	10098.99	32.88	23.19	30.50	0.10	38.31	52.76
10200.00	0.18	320.51	10198.99	32.77	23.36	30.37	0.11	38.32	52.43
10300.00	0.06	268.61	10298.99	32.64	23.48	30.22	0.15	38.27	52.15
10400.00	0.46	191.30	10398.98	32.46	23.09	30.09	0.45	37.93	52.50
10500.00	0.52	187.98	10498.98	32.23	22.24	29.95	0.07	37.31	53.40
10600.00	0.49	194.70	10598.98	31.96	21.38	29.78	0.07	36.66	54.32
10700.00	0.49	190.88	10698.97	31.68	20.55	29.59	0.03	36.02	55.22
10800.00	0.42	180.01	10798.97	31.51	19.76	29.51	0.11	35.51	56.19
10900.00	0.44	166.89	10898.97	31.52	19.02	29.59	0.10	35.18	57.27
11000.00	0.40	188.37	10998.97	31.47	18.30	29.63	0.16	34.83	58.30
11100.00	0.44	209.35	11098.96	31.16	17.62	29.39	0.16	34.27	59.06
11200.00	0.92	165.16	11198.96	31.06	16.51	29.41	0.68	33.73	60.69
11300.00	1.19	200.95	11298.94	30.70	14.77	29.24	0.70	32.76	63.21
11400.00	1.52	214.98	11398.91	29.35	12.71	28.11	0.47	30.85	65.67
11500.00	1.78	223.59	11498.87	27.28	10.50	26.28	0.36	28.30	68.23
11600.00	1.47	218.65	11598.83	25.19	8.37	24.41	0.34	25.80	71.07
11700.00	0.75	206.17	11698.81	23.93	6.78	23.32	0.76	24.28	73.78
11800.00	0.24	182.33	11798.81	23.54	5.98	23.02	0.54	23.79	75.43
11900.00	0.60	154.94	11898.80	23.68	5.30	23.23	0.40	23.83	77.15
12000.00	0.90	150.91	11998.80	24.15	4.14	23.84	0.30	24.20	80.15
12100.00	0.93	151.45	12098.78	24.76	2.74	24.61	0.03	24.76	83.64





**Scientific
Drilling**

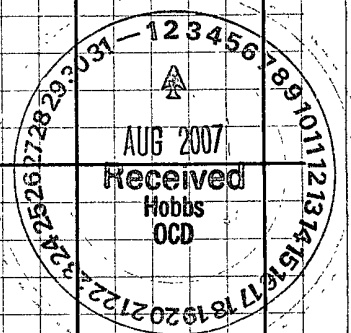
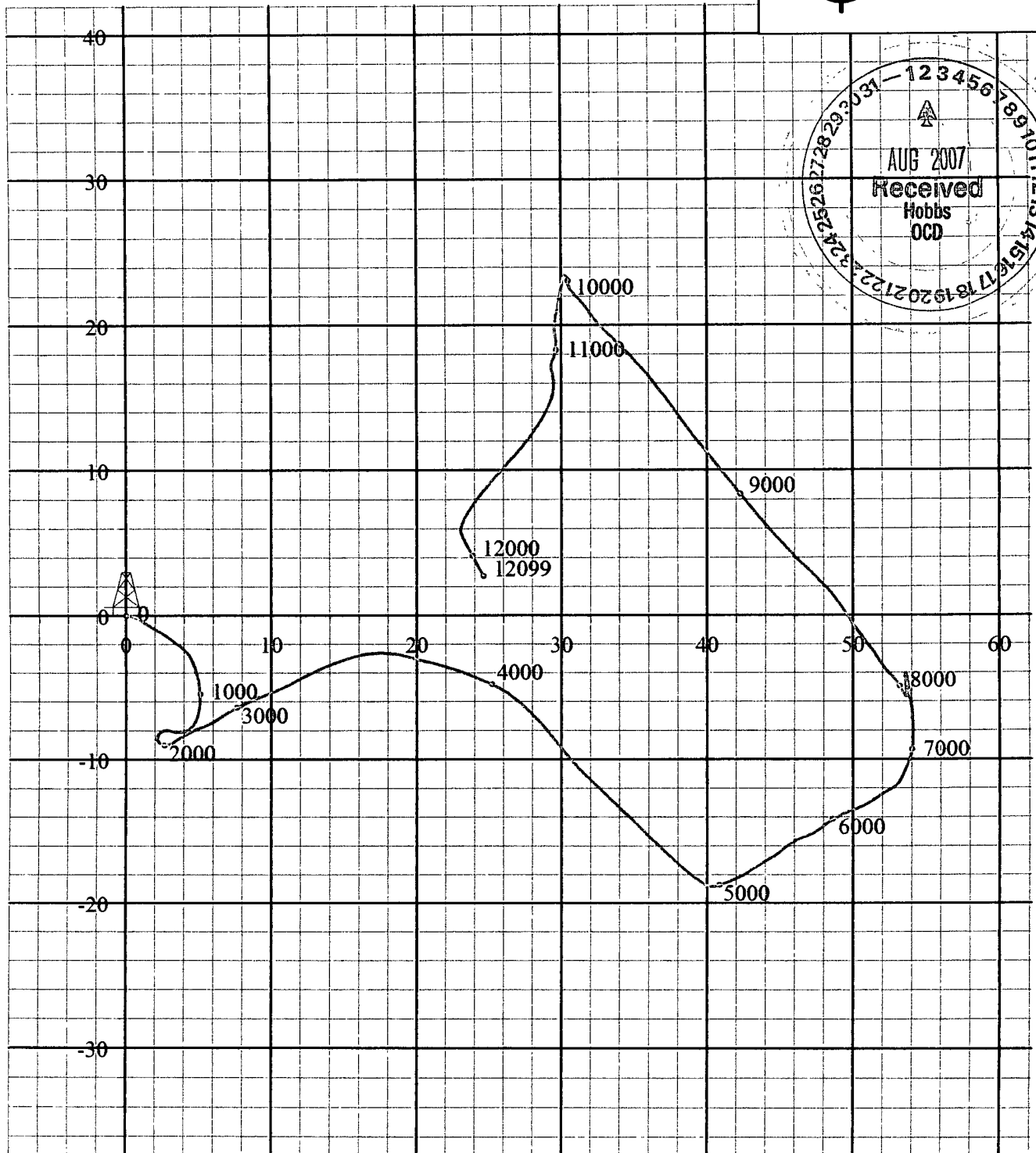
Field: Red Hills Bone Springs
Site: Lea County, NM
Well: Ochoa Federal #1
Wellpath: VH - Job #32K0107070
Survey: 01/23/07



Azimuths to Grid North
True North: 0.00°
Magnetic North: 0.00°

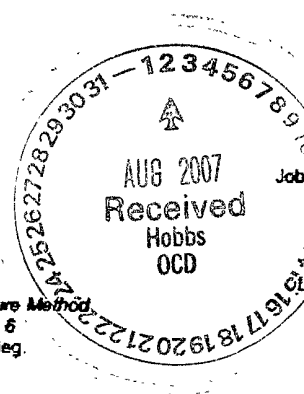
Magnetic Field
Strength: 0nT
Dip Angle: 0.00°
Date: 02/21/2007
Model: igrf2000

South(-)/North(+) [10ft/in]



West(-)/East(+) [10ft/in]

Pathfinder Survey Report



Page 1
Job No: 101006190WT-WT
Date: 2/20/2007
Time: 10:19 am
Wellpath ID: 01006190
Date Created: 2/6/2007
Last Revision: 2/20/2007

Calculated using the Minimum Curvature Method
Computed using PDS VER2.2.6
Vertical Section Plane: 231.97 deg.

Survey Reference: WELLHEAD
Vertical Section Reference: WELLHEAD
Closure Reference: WELLHEAD
TVD Reference: WELLHEAD

EQG Resources
Ochoa Fed # 1
McVay # 10
Eddy Co., NM
001006190

Measured Depth (ft)	Incl (deg.)	Drift Dir (deg.)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)		Closure Dist. (ft)	Dir (deg.)	DLS (dg/100ft)
11600.00	1.47	218.24	11598.83	0.00	-24.45	8.55 N	24.35 E	25.81	70.65	0.00
11693.00	3.19	236.58	11691.75	93.00	-20.71	6.19 N	21.45 E	22.33	73.91	1.99
11748.00	8.35	217.29	11746.46	55.00	-15.32	2.16 N	17.75 E	17.85	83.05	9.89
11767.00	10.38	220.19	11765.20	19.00	-12.31	0.24 S	15.81 E	15.81	90.87	10.97
11798.00	14.42	222.56	11795.47	31.00	-5.76	5.22 S	11.40 E	12.54	114.61	13.13
11829.00	18.38	224.59	11825.21	31.00	2.90	11.55 S	5.35 E	12.73	155.13	12.91
11860.00	22.07	229.51	11854.29	31.00	13.57	18.81 S	2.51 W	18.98	187.80	13.10
11891.00	25.85	234.78	11882.62	31.00	26.14	26.48 S	12.47 W	29.28	205.20	14.00
11922.00	29.19	240.14	11910.11	31.00	40.38	34.16 S	24.59 W	42.06	215.70	13.40
11953.00	32.80	246.47	11936.69	31.00	56.00	41.28 S	38.81 W	58.66	223.24	15.88
11985.00	36.23	250.86	11963.06	32.00	73.35	47.84 S	55.70 W	73.43	229.34	13.23
12016.00	38.08	253.24	11987.76	31.00	90.93	53.60 S	73.51 W	90.98	233.90	7.56
12047.00	39.22	254.82	12011.97	31.00	108.87	58.93 S	92.12 W	109.38	237.40	4.86
12078.00	39.66	254.47	12035.92	31.00	127.04	64.14 S	111.11 W	128.30	240.00	1.59
12109.00	41.24	254.55	12059.51	31.00	145.61	69.51 S	130.50 W	147.85	241.96	5.10
12141.00	44.05	254.12	12083.04	32.00	185.66	75.37 S	151.37 W	189.05	243.53	8.83
12172.00	46.08	254.73	12104.94	31.00	185.94	81.26 S	172.50 W	190.68	244.78	6.69
12204.00	48.28	255.70	12128.69	32.00	207.50	87.24 S	195.20 W	213.81	245.92	7.23
12233.00	51.88	255.28	12145.29	29.00	227.90	92.82 S	216.72 W	235.77	246.82	12.47
12266.00	56.63	255.70	12164.56	33.00	252.45	99.53 S	242.65 W	262.27	247.70	14.43
12297.00	61.99	257.45	12180.38	31.00	275.67	105.71 S	268.57 W	288.62	248.62	17.96
12324.00	66.48	257.37	12192.12	27.00	298.62	111.01 S	292.28 W	312.66	249.20	16.63
12329.00	67.71	257.28	12194.06	5.00	302.79	112.02 S	295.79 W	317.22	249.32	24.66
12361.00	71.75	253.85	12205.15	32.00	330.29	119.51 S	325.84 W	347.07	249.86	16.14
12393.00	74.83	250.51	12214.35	32.00	359.04	128.89 S	355.01 W	377.68	250.05	13.88
12423.00	76.15	249.48	12221.87	30.00	386.66	138.83 S	382.30 W	406.73	250.04	5.55
12455.00	77.38	248.40	12229.19	32.00	416.46	150.03 S	411.36 W	437.87	249.96	5.02
12487.00	77.47	247.70	12236.16	32.00	448.47	161.71 S	440.33 W	469.08	249.83	2.15
12518.00	79.32	247.17	12242.60	32.00	476.68	173.73 S	468.28 W	500.40	249.68	6.00
12550.00	82.04	246.21	12247.62	31.00	506.26	185.84 S	497.37 W	530.95	249.51	9.29
12582.00	85.56	245.41	12251.07	32.00	537.14	198.87 S	526.35 W	562.70	249.30	11.28
12614.00	88.90	244.36	12252.62	32.00	568.29	212.44 S	555.32 W	594.56	249.07	10.94
12646.00	89.43	243.66	12253.08	32.00	599.59	226.48 S	584.08 W	626.44	248.81	2.74
12678.00	89.08	243.74	12253.50	32.00	630.92	240.64 S	612.76 W	658.32	248.56	1.12
12710.00	88.81	243.48	12254.09	32.00	662.25	254.86 S	641.42 W	690.20	248.33	1.77
12742.00	88.55	243.48	12254.83	32.00	693.60	269.14 S	670.09 W	722.08	248.12	0.81
12774.00	88.55	243.66	12255.64	32.00	724.94	283.38 S	698.69 W	753.97	247.92	0.56
12806.00	88.64	243.92	12256.42	32.00	756.25	297.51 S	727.40 W	785.85	247.76	0.86
12838.00	88.55	244.01	12257.21	32.00	787.54	311.55 S	756.14 W	817.81	247.61	0.40

Ochoa Fed #1H RE Final Surveys.txt

~Version Information

VERS. 2.00: PATHFINDER ENERGY SERVICES LAS - Version 2.00
 WRAP. NO: One line per depth step

~Well Information

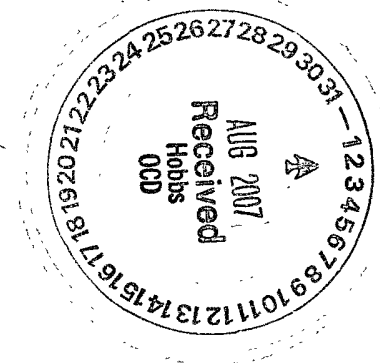
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 COMP. EOG RESOURCES: COMPANY
 WELL. OCHOA: WELL
 FLD. RED HILLS; BONE SPRINGS: FLD
 SRVC. Pathfinder Energy Services: SERVICE COMPANY
 LOC. : LOCATION
 DATE. 20-Feb-07: LOG DATE
 UWI. 30-025-27623: API NUMBER
 APD.FT 18.00: ELEVATION ABOVE PERMANENT DATUM
 CNTY. LEA: COUNTY
 CTRY. U.S.A.: COUNTRY
 DMF. KELLY BUSHINGS: DRILLING-LOG MEASURED FROM
 EPD.FT 3386.00: ELEVATION OF PERMANENT DATUM
 FL1. 1979' FNL 1979' FEL: WELL LOCATION 1
 "FL2. X; 740,137 Y; 412,695: WELL LOCATION 2"
 PDAM. GROUND LEVEL - MEAN SEA LEVEL: ELEVATION OF PERMANENT DATUM REF
 PDAT. GROUND LEVEL: PERMANENT DATUM
 RANG. 33 EAST: RANGE
 SECT. 15: SECTION
 STAT. NM: STATE
 TOWN. 25 SOUTH: TOWNSHIP

~Curve Information

DEPT.FT : MWD Tool Measurement Depth
 MTVD.FT : MWD Tool Measurement TVD
 INC.DEG : Inclination
 AZI.DEG : Azimuth
 SECT.FT : Section
 RCN.FT : Rectangular Co-ordinates North
 RCE.FT : Rectangular Co-ordinates East
 DLSEV.DG/HFT : Dog-leg Severity

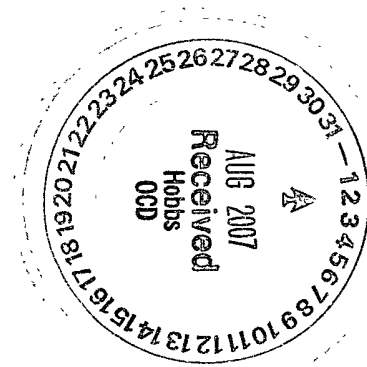
DEPT FT	MTVD FT	INC DEG	AZI DEG	SECT FT	RCN FT	RCE FT	DLSEV DG/HFT
11600.00	11598.83	1.47	218.24	-24.45	8.55	24.35	-999.25
11693.00	11691.75	3.19	236.58	-20.71	6.19	21.45	1.99
11748.00	11746.46	8.35	217.29	-15.32	2.16	17.75	9.89
11767.00	11765.20	10.38	220.19	-12.31	-0.24	15.81	10.97

~ASCII Data

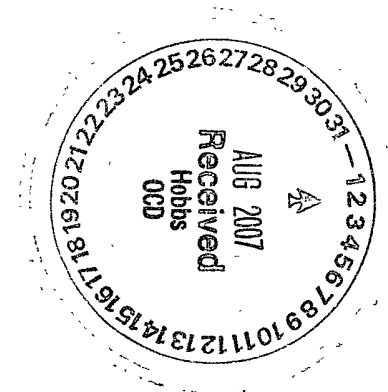


Ochoa Fed #1H RE Final Surveys.txt

11798.00	11795.47	14.42	222.56	-5.76	-5.22	11.40	13.13
11829.00	11825.21	18.38	224.58	2.90	-11.55	5.35	12.90
11860.00	11854.29	22.07	229.51	13.57	-18.81	-2.51	13.10
11891.00	11882.62	25.85	234.78	26.14	-26.49	-12.47	14.00
11922.00	11910.11	29.19	240.14	40.38	-34.16	-24.55	13.40
11953.00	11936.69	32.80	246.47	56.00	-41.28	-38.81	15.68
11985.00	11963.06	36.23	250.86	73.35	-47.84	-55.70	13.23
12016.00	11987.76	38.08	253.24	90.93	-53.60	-73.51	7.56
12047.00	12011.98	39.22	254.82	108.87	-58.93	-92.12	4.86
12078.00	12035.92	39.66	254.47	127.04	-64.14	-111.11	1.59
12109.00	12059.51	41.24	254.56	145.61	-69.51	-130.49	5.10
12141.00	12083.04	44.05	254.12	165.66	-75.37	-151.37	8.83
12172.00	12104.94	46.08	254.73	185.94	-81.26	-172.50	6.69
12204.00	12126.68	48.28	255.70	207.50	-87.24	-195.20	7.22
12233.00	12145.29	51.88	255.26	227.89	-92.82	-216.72	12.47
12266.00	12164.56	56.63	255.70	252.45	-99.53	-242.65	14.43
12297.00	12180.38	61.99	257.45	276.67	-105.70	-268.57	17.96
12324.00	12192.11	66.48	257.37	298.62	-111.00	-292.29	16.63
12329.00	12194.06	67.71	257.28	302.78	-112.01	-296.79	24.66
12361.00	12205.15	71.75	253.85	330.29	-119.51	-325.84	16.14
12393.00	12214.35	74.83	250.51	359.04	-128.89	-355.01	13.88
12423.00	12221.87	76.15	249.46	386.66	-138.83	-382.30	5.55
12455.00	12229.19	77.38	248.40	416.45	-150.03	-411.36	5.02
12487.00	12236.16	77.47	247.70	446.47	-161.70	-440.33	2.15
12519.00	12242.60	79.32	247.17	476.68	-173.73	-469.28	6.00
12550.00	12247.62	82.04	246.20	506.26	-185.84	-497.37	9.30
12582.00	12251.07	85.56	245.41	537.14	-198.88	-526.38	11.27
12614.00	12252.62	88.90	244.36	568.29	-212.44	-555.31	10.94
12646.00	12253.08	89.43	243.66	599.59	-226.46	-584.08	2.74
12678.00	12253.50	89.08	243.74	630.92	-240.64	-612.76	1.12
12710.00	12254.09	88.81	243.48	662.25	-254.86	-641.42	1.17
12742.00	12254.83	88.55	243.48	693.60	-269.14	-670.05	0.81
12774.00	12255.64	88.55	243.66	724.94	-283.38	-698.69	0.56
12806.00	12256.42	88.64	243.92	756.25	-297.51	-727.39	0.86
12838.00	12257.21	88.55	244.01	787.54	-311.55	-756.14	0.40
12870.00	12258.07	88.37	244.18	818.81	-325.53	-784.91	0.77
12902.00	12259.00	88.29	244.45	850.06	-339.39	-813.74	0.88
12934.00	12260.03	88.02	244.18	881.31	-353.25	-842.56	1.19
13030.00	12263.86	87.41	244.45	975.01	-394.83	-929.01	0.70
13127.00	12267.50	88.29	244.18	1069.70	-436.84	-1016.36	0.95
13222.00	12269.09	89.78	244.54	1162.47	-477.94	-1101.99	1.61
13317.00	12269.39	89.87	244.10	1255.27	-519.11	-1187.60	0.47
13412.00	12269.60	89.87	243.39	1348.27	-561.13	-1272.80	0.75
13506.00	12269.81	89.87	241.37	1440.72	-604.71	-1356.09	2.15



Ochoa Fed #1H RE Final Surveys.txt							
13601.00	12270.18	89.69	240.40	1534.57	-650.93	-1439.08	1.04
13697.00	12270.10	90.40	237.15	1629.88	-700.69	-1521.16	3.46
13793.00	12269.22	90.66	234.69	1725.64	-754.48	-1600.67	2.58
13822.13	12268.95	90.40	233.02	1754.75	-771.66	-1624.19	5.80
13857.00	12268.70	90.40	231.18	1789.62	-793.08	-1651.70	5.28
13889.00	12268.78	89.34	228.01	1821.59	-813.82	-1676.07	10.45
13921.00	12269.24	88.99	223.71	1853.40	-836.10	-1699.02	13.48
13953.00	12270.05	88.11	219.57	1884.86	-860.00	-1720.27	13.22
13985.00	12271.45	86.88	216.76	1915.90	-885.13	-1740.03	9.58
14079.00	12274.84	88.99	215.00	2006.15	-961.24	-1795.08	2.92
14143.00	12276.36	88.29	214.83	2067.32	-1013.70	-1831.70	1.12
14207.00	12278.32	88.20	215.09	2128.49	-1066.13	-1868.35	0.43
14271.00	12280.18	88.46	214.92	2189.68	-1118.53	-1905.05	0.49
14335.00	12281.36	89.43	214.48	2250.78	-1171.14	-1941.48	1.66
14399.00	12281.66	90.04	213.86	2311.72	-1224.09	-1977.42	1.36
14461.00	12281.71	89.87	213.60	2370.60	-1275.65	-2011.85	0.50
14524.00	12281.75	90.04	214.83	2430.60	-1327.74	-2047.27	1.97
14587.00	12282.10	89.34	217.02	2491.14	-1378.76	-2084.23	3.65
14648.00	12282.28	90.31	217.11	2550.09	-1427.43	-2121.00	1.60
14711.00	12281.99	90.22	217.90	2611.09	-1477.41	-2159.35	1.26
14772.00	12281.62	90.48	217.82	2670.25	-1525.57	-2196.79	0.45
14835.00	12280.85	90.92	217.46	2731.28	-1575.45	-2235.26	0.90
14898.00	12279.88	90.84	216.94	2792.20	-1625.63	-2273.35	0.83
14961.00	12278.91	90.92	216.67	2852.99	-1676.06	-2311.09	0.45
15023.00	12277.87	91.01	216.41	2912.75	-1725.87	-2347.99	0.44
15085.00	12276.97	90.66	215.80	2972.38	-1775.96	-2384.53	1.13
15117.00	12276.65	90.48	215.84	3003.12	-1801.90	-2403.25	0.58



Pathfinder Survey Report

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Date: 2/23/2007
Worksheet: D:\1000190

Measured Depth (ft)	Incl (deg)	Drift Dir (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)	Closure Dist (ft)	Dr. (deg)	OLS (dp/1000)
12870.00	88.37	244.18	12258.07	32.00	818.82	325.53 S	784.91W	849.74@247.47	0.77
12902.00	88.29	244.45	12269.00	32.00	830.06	339.38 S	813.74W	881.68@247.36	0.88
12934.00	88.02	244.16	12280.03	32.00	881.31	353.25 S	842.56W	913.63@247.25	1.19
13020.00	87.41	244.45	12283.86	88.00	875.01	364.83 S	829.05W	1006.43@246.97	0.99
13127.00	88.20	244.18	12287.48	87.00	1098.70	435.84 S	1016.39W	1108.28@245.74	0.95
13222.00	89.78	244.56	12289.09	86.00	1162.46	477.90 S	1192.01W	1201.18@246.58	1.63
13317.00	89.87	244.10	12289.98	95.00	1255.28	519.03 S	1187.64W	1298.18@246.39	0.52
13412.00	89.87	243.39	12289.60	95.00	1348.26	561.06 S	1272.84W	1391.01@246.21	0.73
13506.00	89.87	241.37	12289.81	94.00	1440.70	604.63 S	1366.13W	1484.81@245.97	2.15
13601.00	89.69	240.40	12270.18	95.00	1534.55	660.86 S	1438.12W	1579.48@248.86	1.04
13697.00	90.49	237.15	12270.03	98.00	1629.86	700.81 S	1521.20W	1674.78@248.27	3.49
13793.00	90.66	234.99	12269.08	98.00	1725.62	754.40 S	1600.70W	1789.57@244.77	2.57
13825.00	90.40	233.02	12268.77	32.00	1757.80	773.27 S	1525.54W	1801.00@244.57	5.28
13857.00	90.40	231.18	12268.94	32.00	1789.46	792.83 S	1461.78W	1832.25@244.36	5.75
13889.00	89.34	228.01	12268.82	32.00	1821.57	813.67 S	1676.18W	1863.27@244.11	9.45
13921.00	88.99	223.71	12269.06	32.00	1853.38	835.95 S	1689.11W	1893.62@243.80	13.45
13953.00	88.11	219.57	12269.89	32.00	1884.84	858.65 S	1720.35W	1923.28@243.44	13.22
13985.00	86.98	216.78	12271.29	32.00	1915.88	884.98 S	1740.12W	1952.23@243.04	9.58
14079.00	88.99	215.00	12274.68	94.00	2006.13	961.09 S	1786.17W	2036.25@241.84	2.92
14143.00	88.29	214.83	12276.20	64.00	2067.30	1013.55 S	1831.79W	2093.90@241.04	1.13
14207.00	88.20	215.69	12278.16	64.00	2128.47	1065.88 S	1866.44W	2151.14@240.29	0.43
14271.00	88.46	214.92	12280.82	64.00	2189.86	1118.38 S	1905.14W	2209.18@239.59	0.49
14335.00	89.43	214.48	12281.20	64.00	2250.78	1170.99 S	1941.57W	2267.34@238.91	1.66
14399.00	90.04	213.86	12281.50	64.00	2311.70	1223.94 S	1977.51W	2325.63@238.25	1.36
14461.00	89.87	213.60	12281.58	62.00	2375.58	1275.95 S	2011.94W	2382.18@237.63	0.50
14524.00	90.04	214.83	12281.60	63.00	2430.58	1327.60 S	2047.38W	2440.13@237.04	1.87
14587.00	89.34	217.02	12281.94	63.00	2491.12	1378.61 S	2084.32W	2498.98@236.52	3.65
14648.00	90.31	217.11	12282.12	61.00	2550.07	1427.28 S	2121.08W	2556.68@236.08	1.80
14711.00	90.22	217.80	12281.83	63.00	2611.07	1477.26 S	2158.45W	2616.39@235.62	1.28
14772.00	90.48	217.82	12281.48	61.00	2670.23	1525.42 S	2196.88W	2674.54@235.23	0.45
14835.00	90.92	217.49	12280.88	63.00	2731.26	1575.30 S	2235.39W	2734.08@234.83	0.80
14898.00	90.84	216.94	12279.72	63.00	2792.18	1625.48 S	2273.44W	2794.78@234.44	0.84
14961.00	90.92	216.87	12278.75	63.00	2852.97	1675.92 S	2311.18W	2854.68@234.05	0.45
15023.00	91.01	216.41	12277.71	62.00	2912.73	1725.72 S	2348.09W	2914.04@233.69	0.44
15085.00	90.65	215.79	12276.81	62.00	2972.36	1775.81 S	2384.61W	2973.16@233.33	1.15
15117.00	90.48	215.84	12276.49	32.00	3003.10	1801.78 S	2403.34W	3003.78@233.14	0.58
PROJECTION TO BIT									
15185.00	90.48	215.84	12275.82	68.00	3068.42	1855.88 S	2443.19W	3068.71@232.76	6.00

