

Results of Directional Survey

API number:	30-025-40330			
OGRID:		Operator:	THREE RIVERS OPERATING COMPANY LLC	
		Property:	EAGLE 2 STATE	# 6H

surface	ULSTR:	O	02	T 20S	R 34E
				330 FSL	1950 FEL

BH Loc	ULSTR:	B	02	T 20S	R 34E
15221	MD	10899.8	TVD	497 FNL	2018 FEL
				4783 FSL	

Top Perf/OH	ULSTR:	O	02	T 20S	R 34E
11300	MD	10939.2	TVD	864 FSL	1920 FEL

Bot Perf/OH	ULSTR:	B	02	T 20S	R 34E
15102	MD	10901.4	TVD	616 FNL	2014 FEL
				4664 FSL	

	MD	N/S	E/W	VD
	11275	508.80	30.00	10937.06
TOP PERFS/OH	11300	533.71	30.02	10939.15
	11306	539.69	30.02	10939.65
	14983	4214.89	-60.17	10902.04
BOT PERFS/OH	15102	4333.81	-64.22	10901.43
	15078	4309.83	-63.40	10901.55

NEXT TO LAST	15078	4309.83	-63.40	10901.55
LAST READING	15222	4453.74	-68.17	10899.79
TD	15221	4452.74	-68.14	10899.80

Surface Location	330	FS	1950	FE
Projected BHL	4783	FS	2018	FE
Location of				
Top Perfs/OH	864	FS	1920	FE
Bottom Perfs/OH	4664	FS	2014	FE

SUMMARY of Subsurface Locations

Surface Location	O-02-20S-34E	330	FS	1950	FE	Vert. Depth
Top Perfs/OH	O-02-20S-34E	864	FS	1920	FE	10939.15
Bottom Perfs/OH	B-02-20S-34E	4664	FS	2014	FE	10901.43
Projected TD	B-02-20S-34E	4783	FS	2018	FE	10899.80

DEC 20 2012

Survey Report

RECEIVED

Company: THREE RIVERS OPERATING COMPANY
 Field: Lea County, NM (NAD27)
 Site: Eagle "2" State #6H
 Well: #6H
 Wellpath: Original Hole

Date: 3/20/2012 Time: 08:14:49 Page: 1
 Co-ordinate(NE) Reference: Well: #6H, Grid North
 Vertical (TVD) Reference: 3665'GL+22'KB 3687.0
 Section (VS) Reference: Well (0.00N,0.00E;359.25Azi)
 Survey Calculation Method: Minimum Curvature Db: Adapti

Field: Lea County, NM (NAD27)

Map System US State Plane Coordinate System 1927
 Geo Datum NAD27 (Clarke 1866)
 Sys Datum: Mean Sea Level

Map Zone: New Mexico, Eastern Zone
 Coordinate System: Well Centre
 Geomagnetic Model: IGRF2010

Site: Eagle "2" State #6H

Site Position: Northing: 581355.46 ft Latitude: 32 35 44.416 N
 From: Map Easting: 747973.24 ft Longitude: 103 31 41.406 W
 Position Uncertainty: 0.00 ft North Reference: Grid
 Ground Level: 3665.00 ft Grid Convergence: 0.43 deg

Well: #6H

Slot Name:

Well Position: +N/-S 0.00 ft Northing: 581355.46 ft Latitude: 32 35 44.416 N
 +E/-W 0.00 ft Easting: 747973.24 ft Longitude: 103 31 41.406 W
 Position Uncertainty: 0.00 ft

Wellpath: Original Hole

Drilled From: Surface
 Tie-on Depth: 0.00 ft
 Above System Datum: Mean Sea Level
 Declination: 7.51 deg
 Mag Dip Angle: 60.52 deg
 Direction
 deg

Current Datum: 3665'GL+22'KB Height 3687.00 ft
 Magnetic Data: 2/24/2012
 Field Strength: 48801 nT
 Vertical Section: Depth From (TVD)
 ft +N/-S
 ft

0.00

0.00

0.00

359.25

Survey Program for Definitive Wellpath

Date: 3/20/2012 Validated: No
 Actual From To Survey

Version: 0
 Toolcode

Tool Name

85.20 10155.20 Survey #1 (85.20-10155.20)
 10196.00 15078.00 Survey #2 (10196.00-15078.00)
 15222.00 15222.00 Survey #3 (15222.00-15222.00)

Gyroscope
 MWD
 Project
 Gyroscope
 Std MWD
 Projection

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
85.20	0.74	54.72	85.20	0.32	0.45	0.31	0.87	0.87	0.00	Gyroscope
275.20	0.70	64.33	275.18	1.53	2.50	1.50	0.07	-0.02	5.06	Gyroscope
465.20	0.60	74.53	465.17	2.30	4.50	2.24	0.08	-0.05	5.37	Gyroscope
655.20	0.56	79.30	655.16	2.74	6.37	2.65	0.03	-0.02	2.51	Gyroscope
845.20	0.49	88.38	845.15	2.93	8.10	2.82	0.06	-0.04	4.78	Gyroscope
1035.20	0.13	95.69	1035.15	2.93	9.12	2.81	0.19	-0.19	3.85	Gyroscope
1225.20	0.10	117.74	1225.15	2.83	9.49	2.71	0.03	-0.02	11.61	Gyroscope
1415.20	0.29	183.63	1415.15	2.28	9.60	2.15	0.14	0.10	34.68	Gyroscope
1605.20	0.31	180.17	1605.15	1.28	9.57	1.16	0.01	0.01	-1.82	Gyroscope
1795.20	0.36	103.48	1795.14	0.63	10.15	0.50	0.22	0.03	-40.36	Gyroscope
1985.20	0.40	109.99	1985.14	0.26	11.35	0.11	0.03	0.02	3.43	Gyroscope
2175.20	0.46	115.91	2175.13	-0.30	12.66	-0.46	0.04	0.03	3.12	Gyroscope
2365.20	0.50	119.97	2365.13	-1.04	14.07	-1.23	0.03	0.02	2.14	Gyroscope
2555.20	0.83	98.76	2555.11	-1.67	16.14	-1.88	0.21	0.17	-11.16	Gyroscope
2745.20	1.76	89.74	2745.06	-1.86	20.42	-2.13	0.50	0.49	-4.75	Gyroscope
2935.20	2.76	83.65	2934.91	-1.34	27.89	-1.71	0.54	0.53	-3.21	Gyroscope
3125.20	3.55	82.20	3124.62	-0.04	38.26	-0.54	0.42	0.42	-0.76	Gyroscope
3315.20	2.91	102.06	3314.33	-0.25	48.81	-0.89	0.67	-0.34	10.45	Gyroscope
3505.20	2.79	161.08	3504.13	-5.63	55.02	-6.35	1.48	-0.06	31.06	Gyroscope
3695.20	4.22	189.61	3693.78	-16.90	55.35	-17.62	1.17	0.75	15.02	Gyroscope

SUR: O-2-20s-34e, 330/S & 1950/E
 BHL: B-2-20s-34e, 4783/S & 2018/E
 API # 30-025-40330

Survey Report

Company: THREE RIVERS OPERATING COMPANY
Field: Lea County, NM (NAD27)
Site: Eagle "2" State #6H
Well: #6H
Wellpath: Original Hole

Date: 3/20/2012 **Time:** 08:14:49 **Page:** 2
Co-ordinate(NE) Reference: Well: #6H, Grid North
Vertical (TVD) Reference: 3665'GL+22'KB 3687.0
Section (VS) Reference: Well (0.00N,0.00E,359.25Azi)
Survey Calculation Method: Minimum Curvature **Db:** Adapti

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N-S ft	+E-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
3885.20	3.39	194.45	3883.36	-29.23	52.79	-29.92	0.47	-0.44	2.55	Gyroscope
4075.20	2.82	197.89	4073.08	-39.12	49.95	-39.77	0.32	-0.30	1.81	Gyroscope
4265.20	2.05	199.93	4262.91	-46.76	47.35	-47.38	0.41	-0.41	1.07	Gyroscope
4455.20	2.09	199.19	4452.79	-53.23	45.06	-53.82	0.03	0.02	-0.39	Gyroscope
4645.20	1.59	209.02	4642.69	-58.81	42.64	-59.36	0.31	-0.26	5.17	Gyroscope
4835.20	1.23	197.91	4832.63	-63.05	40.73	-63.58	0.24	-0.19	-5.85	Gyroscope
5025.20	1.10	214.95	5022.59	-66.49	39.06	-66.99	0.19	-0.07	8.97	Gyroscope
5215.20	0.65	228.73	5212.57	-68.69	37.21	-69.18	0.26	-0.24	7.25	Gyroscope
5405.20	0.66	239.41	5402.56	-69.96	35.45	-70.42	0.06	0.01	5.62	Gyroscope
5595.20	1.08	240.35	5592.54	-71.41	32.96	-71.83	0.22	0.22	0.49	Gyroscope
5785.20	1.07	249.57	5782.50	-72.91	29.74	-73.29	0.09	-0.01	4.85	Gyroscope
5975.20	1.00	244.79	5972.47	-74.24	26.58	-74.58	0.06	-0.04	-2.52	Gyroscope
6165.20	1.22	254.67	6162.44	-75.48	23.12	-75.77	0.15	0.12	5.20	Gyroscope
6355.20	1.19	255.45	6352.39	-76.51	19.26	-76.75	0.02	-0.02	0.41	Gyroscope
6545.20	1.05	248.85	6542.36	-77.63	15.73	-77.83	0.10	-0.07	-3.47	Gyroscope
6735.20	0.85	282.59	6732.33	-77.95	12.73	-78.11	0.31	-0.11	17.76	Gyroscope
6925.20	1.04	255.98	6922.31	-78.06	9.68	-78.18	0.25	0.10	-14.01	Gyroscope
7115.20	0.87	260.18	7112.28	-78.73	6.59	-78.81	0.10	-0.09	2.21	Gyroscope
7305.20	0.76	256.26	7302.26	-79.27	3.94	-79.32	0.06	-0.06	-2.06	Gyroscope
7495.20	0.96	252.66	7492.24	-80.05	1.20	-80.05	0.11	0.11	-1.89	Gyroscope
7685.20	1.18	234.52	7682.21	-81.66	-1.91	-81.62	0.21	0.12	-9.55	Gyroscope
8065.20	0.68	235.49	8062.16	-85.20	-6.96	-85.11	0.13	-0.13	0.26	Gyroscope
8255.20	0.24	302.85	8252.15	-85.63	-8.22	-85.51	0.33	-0.23	35.45	Gyroscope
8445.20	0.57	6.44	8442.15	-84.47	-8.45	-84.35	0.27	0.17	33.47	Gyroscope
8635.20	1.34	16.67	8632.12	-81.40	-7.70	-81.30	0.41	0.41	5.38	Gyroscope
8825.20	1.94	19.60	8822.04	-76.25	-5.99	-76.16	0.32	0.32	1.54	Gyroscope
9015.20	1.70	59.85	9011.95	-71.80	-2.47	-71.76	0.67	-0.13	21.18	Gyroscope
9205.20	1.33	89.97	9201.89	-70.38	2.17	-70.41	0.45	-0.19	15.85	Gyroscope
9395.20	1.74	103.64	9391.82	-71.06	7.18	-71.15	0.29	0.22	7.19	Gyroscope
9585.20	1.74	109.80	9581.73	-72.72	12.70	-72.88	0.10	0.00	3.24	Gyroscope
9775.20	1.76	118.99	9771.64	-75.11	17.96	-75.34	0.15	0.01	4.84	Gyroscope
9965.20	1.22	116.32	9961.58	-77.42	22.33	-77.71	0.29	-0.28	-1.41	Gyroscope
10155.20	0.99	115.84	10151.54	-79.04	25.62	-79.36	0.12	-0.12	-0.25	Gyroscope
10196.00	1.20	102.60	10192.34	-79.28	26.35	-79.62	0.80	0.51	-32.45	MWD
10292.00	1.20	103.50	10288.32	-79.74	28.31	-80.10	0.02	0.00	0.94	MWD
10324.00	1.30	95.80	10320.31	-79.85	29.00	-80.22	0.61	0.31	-24.06	MWD
10356.00	2.00	23.10	10352.30	-79.37	29.58	-79.75	6.36	2.19	-227.19	MWD
10388.00	5.10	3.30	10384.23	-77.44	29.88	-77.82	10.28	9.69	-61.87	MWD
10419.00	8.20	356.90	10415.02	-73.86	29.84	-74.24	10.27	10.00	-20.65	MWD
10450.00	10.50	353.20	10445.61	-68.84	29.38	-69.22	7.66	7.42	-11.94	MWD
10481.00	13.30	351.60	10475.94	-62.51	28.53	-62.88	9.09	9.03	-5.16	MWD
10512.00	16.70	351.10	10505.88	-54.58	27.32	-54.93	10.98	10.97	-1.61	MWD
10544.00	19.60	351.50	10536.28	-44.73	25.81	-45.06	9.07	9.06	1.25	MWD
10575.00	22.20	351.00	10565.24	-33.80	24.13	-34.11	8.41	8.39	-1.61	MWD
10608.00	24.70	351.20	10595.51	-20.82	22.10	-21.11	7.58	7.58	0.61	MWD
10638.00	26.90	354.10	10622.52	-7.88	20.44	-8.14	8.45	7.33	9.67	MWD
10670.00	28.70	357.30	10650.83	7.00	19.33	6.75	7.31	5.62	10.00	MWD
10702.00	31.50	0.00	10678.51	23.04	18.97	22.79	9.72	8.75	8.44	MWD
10735.00	34.90	1.10	10706.12	41.10	19.15	40.85	10.46	10.30	3.33	MWD
10765.00	38.50	0.80	10730.17	59.03	19.45	58.77	12.01	12.00	-1.00	MWD
10797.00	41.60	1.40	10754.66	79.61	19.85	79.35	9.76	9.69	1.87	MWD
10829.00	45.40	2.40	10777.87	101.62	20.58	101.34	12.07	11.87	3.12	MWD
10860.00	48.90	2.60	10798.95	124.32	21.58	124.03	11.30	11.29	0.65	MWD
10892.00	53.30	2.40	10819.04	149.20	22.66	148.89	13.76	13.75	-0.62	MWD

Survey Report

Company: THREE RIVERS OPERATING COMPANY	Date: 3/20/2012	Time: 08:14:49	Page: 3
Field: Lea County, NM (NAD27)	Co-ordinate(NE) Reference: Well: #6H, Grid North		
Site: Eagle "2" State #6H	Vertical (TVD) Reference: 3665'GL+22'KB 3687.0		
Well: #6H	Section (VS) Reference: Well: (0.00N,0.00E,359.25Azi)		
Wellpath: Original Hole	Survey Calculation Method: Minimum Curvature		
	Db: Adapti		

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
10924.00	57.10	2.20	10837.30	175.45	23.71	175.12	11.89	11.87	-0.62	MWD
10956.00	61.00	1.50	10853.75	202.87	24.60	202.53	12.33	12.19	-2.19	MWD
10988.00	64.90	0.70	10868.30	231.36	25.14	231.01	12.39	12.19	-2.50	MWD
11019.00	68.70	0.60	10880.51	259.85	25.46	259.49	12.26	12.26	-0.32	MWD
11051.00	71.80	0.80	10891.33	289.96	25.83	289.60	9.71	9.69	0.62	MWD
11084.00	74.10	1.00	10901.00	321.50	26.33	321.13	6.99	6.97	0.61	MWD
11116.00	75.90	1.30	10909.28	352.41	26.95	352.02	5.70	5.62	0.94	MWD
11146.00	77.40	1.50	10916.21	381.59	27.66	381.19	5.04	5.00	0.67	MWD
11178.00	79.30	1.50	10922.67	412.91	28.48	412.51	5.94	5.94	0.00	MWD
11211.00	80.80	1.50	10928.37	445.41	29.33	444.98	4.55	4.55	0.00	MWD
11243.00	82.00	0.50	10933.16	477.04	29.88	476.61	4.86	3.75	-3.12	MWD
11275.00	84.00	359.90	10937.06	508.80	30.00	508.36	6.52	6.25	-1.88	MWD
11306.00	86.40	0.20	10939.65	539.69	30.02	539.25	7.80	7.74	0.97	MWD
11338.00	87.90	0.40	10941.24	571.65	30.19	571.20	4.73	4.69	0.62	MWD
11370.00	88.30	0.50	10942.30	603.63	30.44	603.18	1.29	1.25	0.31	MWD
11403.00	90.20	359.90	10942.74	636.62	30.56	636.17	6.04	5.76	-1.82	MWD
11434.00	91.30	359.00	10942.33	667.62	30.26	667.17	4.58	3.55	-2.90	MWD
11466.00	91.60	359.10	10941.52	699.60	29.73	699.16	0.99	0.94	0.31	MWD
11498.00	91.90	359.00	10940.54	731.59	29.20	731.14	0.99	0.94	-0.31	MWD
11530.00	92.20	359.10	10939.40	763.56	28.67	763.12	0.99	0.94	0.31	MWD
11593.00	90.60	358.90	10937.86	826.53	27.57	826.10	2.56	-2.54	-0.32	MWD
11625.00	90.80	358.90	10937.47	858.52	26.95	858.10	0.62	0.62	0.00	MWD
11720.00	91.40	359.00	10935.64	953.49	25.21	953.08	0.64	0.63	0.11	MWD
11815.00	92.00	359.30	10932.83	1048.43	23.80	1048.03	0.71	0.63	0.32	MWD
11908.00	90.70	358.60	10930.64	1141.39	22.10	1141.00	1.59	-1.40	-0.75	MWD
12004.00	91.20	358.40	10929.04	1237.34	19.59	1236.98	0.56	0.52	-0.21	MWD
12099.00	89.70	358.10	10928.30	1332.29	16.69	1331.96	1.61	-1.58	-0.32	MWD
12193.00	89.60	357.90	10928.87	1426.24	13.41	1425.94	0.24	-0.11	-0.21	MWD
12289.00	90.30	358.20	10928.96	1522.88	10.14	1521.92	0.79	0.73	0.31	MWD
12384.00	91.20	358.60	10927.71	1617.13	7.49	1616.90	1.04	0.95	0.42	MWD
12479.00	91.90	359.00	10925.14	1712.08	5.50	1711.86	0.85	0.74	0.42	MWD
12574.00	92.40	359.00	10921.58	1806.99	3.84	1806.79	0.53	0.53	0.00	MWD
12669.00	91.40	358.70	10918.43	1901.92	1.94	1901.73	1.10	-1.05	-0.32	MWD
12764.00	89.60	358.70	10917.60	1996.89	-0.22	1996.72	1.89	-1.89	0.00	MWD
12857.00	90.00	358.20	10917.92	2089.85	-2.73	2089.71	0.69	0.43	-0.54	MWD
12952.00	90.70	358.30	10917.34	2184.81	-5.64	2184.69	0.74	0.74	0.11	MWD
13047.00	90.50	358.30	10916.35	2279.76	-8.45	2279.68	0.21	-0.21	0.00	MWD
13143.00	91.10	358.10	10915.01	2375.70	-11.47	2375.65	0.66	0.62	-0.21	MWD
13238.00	90.20	357.90	10913.93	2470.64	-14.78	2470.62	0.97	-0.95	-0.21	MWD
13333.00	91.00	358.10	10912.94	2565.57	-18.10	2565.59	0.87	0.84	0.21	MWD
13428.00	89.80	357.90	10912.27	2660.51	-21.41	2660.57	1.28	-1.26	-0.21	MWD
13523.00	90.20	357.80	10912.27	2755.45	-24.98	2755.54	0.43	0.42	-0.11	MWD
13557.00	90.40	359.10	10912.10	2789.43	-25.90	2789.53	3.87	0.59	3.82	MWD
13652.00	91.40	358.90	10910.60	2884.40	-27.56	2884.52	1.07	1.05	-0.21	MWD
13746.00	89.50	359.30	10909.86	2978.39	-29.03	2978.51	2.07	-2.02	0.43	MWD
13841.00	89.90	359.30	10910.36	3073.38	-30.19	3073.51	0.42	0.42	0.00	MWD
13937.00	90.60	359.00	10909.94	3169.36	-31.62	3169.51	0.79	0.73	-0.31	MWD
14032.00	89.40	358.90	10909.94	3264.35	-33.36	3264.50	1.27	-1.26	-0.11	MWD
14126.00	90.00	358.70	10910.44	3358.32	-35.33	3358.50	0.67	0.64	-0.21	MWD
14222.00	90.70	358.40	10909.85	3454.29	-37.76	3454.49	0.79	0.73	-0.31	MWD
14317.00	91.40	358.30	10908.11	3549.24	-40.49	3549.46	0.74	0.74	-0.11	MWD
14412.00	89.80	358.50	10907.11	3644.19	-43.14	3644.44	1.70	-1.68	0.21	MWD
14507.00	90.60	358.40	10906.78	3739.15	-45.71	3739.43	0.85	0.84	-0.11	MWD

Survey Report

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 Field: Lea County, NM (NAD27)
 Site: Eagle "2" State #6H
 Well: #6H
 Wellpath: Original Hole

Date: 3/20/2012 Time: 08:14:49 Page: 4
 Co-ordinate(NE) Reference: Well #6H Grid North
 Vertical (TVD) Reference: 3665'GL+22'KB 3687.0
 Section (VS) Reference: Well (0.00N,0.00E,359.25Azi)
 Survey Calculation Method: Minimum Curvature Db: Adapti

Survey

MD ft	Incl. deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
14602.00	91.50	358.60	10905.04	3834.10	-48.20	3834.41	0.97	0.95	0.21	MWD
14697.00	90.50	358.30	10903.38	3929.05	-50.77	3929.38	1.10	-1.05	-0.32	MWD
14793.00	91.00	357.80	10902.13	4024.99	-54.03	4025.35	0.74	0.52	-0.52	MWD
14888.00	89.60	358.40	10901.63	4119.93	-57.18	4120.33	1.60	-1.47	0.63	MWD
14983.00	89.90	358.00	10902.04	4214.89	-60.17	4215.31	0.53	0.32	-0.42	MWD
15078.00	90.70	358.10	10901.55	4309.83	-63.40	4310.29	0.85	0.84	0.11	MWD
15222.00	90.70	358.10	10899.79	4453.74	-68.17	4454.25	0.00	0.00	0.00	Project

Archer

Archer Directional Drilling Services.
911 Regional Park Drive
Houston, Texas 77060
Tel: 281-934-9600
Fax: 281-951-2101

Three Rivers Operating Company
122 S Capital of Texas Highway
Austin, Texas 78746

Re: Eagle 2 State 6H
Rig: Nabors F03
Lea County, New Mexico

Enclosed please find the original of the survey performed on the referenced well by Archer Directional Drilling Services. Other information required by your office is as follows:

<u>Name & Title Of Surveyor</u>	<u>Wellhole Number</u>	<u>Survey Depths</u>	<u>Dates Performed</u>	<u>Type Survey</u>
Josh Braunig Field Engineer	Eagle 2 State 6H	10196-15222	02/24/12-03/20/12	MWD

If additional information is required, please contact the undersigned at the letterhead address and phone number.



Martin Campbell
MWD Coordinator

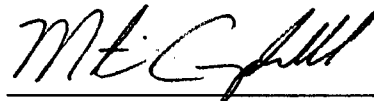
Archer

Archer Directional Drilling Services.
911 Regional Park Drive
Houston, Texas 77060
Tel: 281-934-9600
Fax: 281-951-2101

State of New Mexico

County of Lea

I, Martin Campbell, certify that; I am employed by Archer Directional Drilling Services; that I did on the day(s) of 02/24/12 through 03/20/12, conduct or supervise the taking of MWD surveys from a depth of 10196 feet to a depth of 15222 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Archer Directional Drilling Services; that I am authorized and qualified to make this report; that these surveys were conducted at the request for the Eagle 2 State 6H well located in Lea County, New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Archer Directional Drilling Services.



Martin Campbell
MWD Coordinator



Company: Three Rivers Operating Co.

Job Number:

HL12088

Calculation Method

Minimum Curvature

Well: Eagle 2 State #6H

Mag Decl.:

7.08

Proposed Azimuth

359.3

Location: Lea County, New Mexico

Dir Driller:

David Waldrum / Charles

Depth Reference

KBG

Rig: Nabors F03

MWD Eng:

Josh Braunig / Brandon

Tie Into: Gyro Survey

Job Date: 02/24/12 - 03/20/12

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth			
Tie In	10155.20	0.99	115.84	0	10151.54	-79.36	79.04 S	25.62 E					
1	10196	1.2	102.6	41	10192.33	-79.62	79.29 S	26.35 E	83.55	161.61	0.80	0.51	-32.45
2	10292	1.2	103.5	96	10288.31	-80.10	79.74 S	28.31 E	84.62	160.45	0.02	0.00	0.94
3	10324	1.3	95.8	32	10320.30	-80.23	79.86 S	29.00 E	84.96	160.04	0.61	0.31	-24.06
4	10356	2.0	23.1	32	10352.29	-79.76	79.38 S	29.58 E	84.71	159.56	6.36	2.19	-227.19
5	10388	5.1	3.3	32	10384.23	-77.83	77.44 S	29.88 E	83.01	158.90	10.28	9.69	-61.88
6	10419	8.2	356.9	31	10415.02	-74.24	73.86 S	29.84 E	79.66	158.00	10.27	10.00	1140.65
7	10450	10.5	353.2	31	10445.60	-69.23	68.85 S	29.39 E	74.86	156.89	7.66	7.42	-11.94
8	10481	13.3	351.6	31	10475.93	-62.88	62.51 S	28.53 E	68.72	155.47	9.09	9.03	-5.16
9	10512	16.7	351.1	31	10505.87	-54.94	54.58 S	27.32 E	61.04	153.41	10.98	10.97	-1.61
10	10544	19.6	351.5	32	10536.28	-45.06	44.73 S	25.82 E	51.65	150.01	9.07	9.06	1.25
11	10575	22.2	351.0	31	10565.24	-34.12	33.80 S	24.13 E	41.53	144.48	8.41	8.39	-1.61
12	10608	24.7	351.2	33	10595.51	-21.12	20.83 S	22.10 E	30.37	133.30	7.58	7.58	0.61
13	10638	26.9	354.1	30	10622.52	-8.15	7.88 S	20.44 E	21.91	111.08	8.45	7.33	9.67
14	10670	28.7	357.3	32	10650.82	6.74	7.00 N	19.34 E	20.56	70.11	7.31	5.63	10.00
15	10702	31.5	0.0	32	10678.51	22.78	23.03 N	18.98 E	29.84	39.48	9.72	8.75	-1116.56
16	10735	34.9	1.1	33	10706.12	40.85	41.10 N	19.16 E	45.35	24.99	10.46	10.30	3.33
17	10765	38.5	0.8	30	10730.17	58.76	59.02 N	19.45 E	62.15	18.24	12.01	12.00	-1.00
18	10797	41.6	1.4	32	10754.66	79.34	79.61 N	19.85 E	82.05	14.00	9.76	9.69	1.88
19	10829	45.4	2.4	32	10777.87	101.34	101.62 N	20.59 E	103.68	11.45	12.07	11.88	3.13
20	10860	48.9	2.6	31	10798.95	124.03	124.32 N	21.58 E	126.18	9.85	11.30	11.29	0.65
21	10892	53.3	2.4	32	10819.04	148.88	149.19 N	22.66 E	150.91	8.64	13.76	13.75	-0.63
22	10924	57.1	2.2	32	10837.30	175.12	175.44 N	23.72 E	177.04	7.70	11.89	11.88	-0.62
23	10956	61.0	1.5	32	10853.75	202.53	202.87 N	24.60 E	204.35	6.91	12.33	12.19	-2.19
24	10988	64.9	0.7	32	10868.30	231.01	231.36 N	25.14 E	232.72	6.20	12.39	12.19	-2.50
25	11019	68.7	0.6	31	10880.51	259.49	259.84 N	25.47 E	261.09	5.60	12.26	12.26	-0.32
26	11051	71.8	0.8	32	10891.32	289.59	289.95 N	25.83 E	291.10	5.09	9.71	9.69	0.63
27	11084	74.1	1.0	33	10901.00	321.13	321.50 N	26.33 E	322.57	4.68	6.99	6.97	0.61
28	11116	75.9	1.3	32	10909.28	352.02	352.40 N	26.95 E	353.43	4.37	5.70	5.63	0.94
29	11146	77.4	1.5	30	10916.21	381.19	381.58 N	27.66 E	382.58	4.15	5.04	5.00	0.67
30	11178	79.3	1.5	32	10922.67	412.50	412.91 N	28.49 E	413.89	3.95	5.94	5.94	0.00
31	11211	80.8	1.5	33	10928.37	444.98	445.40 N	29.34 E	446.37	3.77	4.55	4.55	0.00
32	11243	82.0	0.5	32	10933.15	476.60	477.03 N	29.89 E	477.97	3.59	4.86	3.75	-3.13
33	11275	84.0	359.9	32	10937.05	508.36	508.79 N	30.00 E	509.68	3.37	6.52	6.25	1123.13
34	11306	86.4	0.2	31	10939.65	539.24	539.68 N	30.03 E	540.52	3.18	7.80	7.74	-1160.32



Company: Three Rivers Operating Co.

Job Number:

HL12088

Calculation Method

Minimum Curvature

Well: Eagle 2 State #6H

Mag Decl.:

7.08

Proposed Azimuth

359.3

Location: Lea County, New Mexico

Dir Driller:

David Waldrum / Charles

Depth Reference

KBG

Rig: Nabors F03

MWD Eng:

Josh Braunig / Brandon

Tie Into: Gyro Survey

Job Date: 02/24/12 - 03/20/12

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth			
35	11338	87.9	0.4	32	10941.24	571.20	571.64 N	30.19 E	572.44	3.02	4.73	4.69	0.63
36	11370	88.3	0.5	32	10942.30	603.17	603.62 N	30.44 E	604.39	2.89	1.29	1.25	0.31
37	11403	90.2	359.9	33	10942.73	636.16	636.62 N	30.56 E	637.35	2.75	6.04	5.76	1089.09
38	11435	91.3	359.0	32	10942.31	668.16	668.61 N	30.25 E	669.30	2.59	4.44	3.44	-2.81
39	11466	91.6	359.1	31	10941.53	699.15	699.60 N	29.74 E	700.23	2.43	1.02	0.97	0.32
40	11498	91.9	359.0	32	10940.55	731.14	731.58 N	29.21 E	732.16	2.29	0.99	0.94	-0.31
41	11530	92.2	359.1	32	10939.41	763.11	763.56 N	28.68 E	764.09	2.15	0.99	0.94	0.31
42	11593	90.6	358.9	63	10937.87	826.09	826.53 N	27.58 E	826.99	1.91	2.56	-2.54	-0.32
43	11625	90.8	358.9	32	10937.48	858.09	858.52 N	26.96 E	858.94	1.80	0.62	0.63	0.00
44	11720	91.4	359.0	95	10935.65	953.07	953.48 N	25.22 E	953.82	1.52	0.64	0.63	0.11
45	11815	92.0	359.3	95	10932.83	1048.03	1048.43 N	23.81 E	1048.70	1.30	0.71	0.63	0.32
46	11908	90.7	358.6	93	10930.64	1141.00	1141.39 N	22.11 E	1141.60	1.11	1.59	-1.40	-0.75
47	12004	91.2	358.4	96	10929.05	1236.98	1237.34 N	19.60 E	1237.49	0.91	0.56	0.52	-0.21
48	12099	89.7	358.1	95	10928.31	1331.96	1332.29 N	16.70 E	1332.39	0.72	1.61	-1.58	-0.32
49	12193	89.6	357.9	94	10928.88	1425.93	1426.23 N	13.42 E	1426.29	0.54	0.24	-0.11	-0.21
50	12289	90.3	358.2	96	10928.96	1521.91	1522.17 N	10.15 E	1522.21	0.38	0.79	0.73	0.31
51	12384	91.2	358.6	95	10927.72	1616.89	1617.13 N	7.50 E	1617.15	0.27	1.04	0.95	0.42
52	12479	91.9	359.0	95	10925.15	1711.85	1712.07 N	5.51 E	1712.08	0.18	0.85	0.74	0.42
53	12574	92.4	359.0	95	10921.59	1806.78	1806.99 N	3.85 E	1806.99	0.12	0.53	0.53	0.00
54	12669	91.4	358.7	95	10918.44	1901.73	1901.92 N	1.95 E	1901.92	0.06	1.10	-1.05	-0.32
55	12764	89.6	358.7	95	10917.61	1996.72	1996.89 N	0.21 W	1996.89	359.99	1.89	-1.89	0.00
56	12857	90.0	358.2	93	10917.93	2089.71	2089.85 N	2.72 W	2089.85	359.93	0.69	0.43	-0.54
57	12952	90.7	358.3	95	10917.35	2184.69	2184.80 N	5.63 W	2184.81	359.85	0.74	0.74	0.11
58	13047	90.5	358.3	95	10916.36	2279.67	2279.76 N	8.44 W	2279.77	359.79	0.21	-0.21	0.00
59	13143	91.1	358.1	96	10915.02	2375.65	2375.70 N	11.46 W	2375.73	359.72	0.66	0.62	-0.21
60	13238	90.2	357.9	95	10913.94	2470.62	2470.63 N	14.77 W	2470.68	359.66	0.97	-0.95	-0.21
61	13333	91.0	358.1	95	10912.94	2565.59	2565.57 N	18.09 W	2565.63	359.60	0.87	0.84	0.21
62	13428	89.8	357.9	95	10912.28	2660.56	2660.51 N	21.40 W	2660.59	359.54	1.28	-1.26	-0.21
63	13523	90.2	357.8	95	10912.28	2755.53	2755.44 N	24.97 W	2755.55	359.48	0.43	0.42	-0.11
64	13557	90.4	359.1	34	10912.10	2789.53	2789.43 N	25.89 W	2789.55	359.47	3.87	0.59	3.82
65	13652	91.4	358.9	95	10910.61	2884.51	2884.40 N	27.55 W	2884.53	359.45	1.07	1.05	-0.21
66	13746	89.5	359.3	94	10909.87	2978.51	2978.38 N	29.02 W	2978.52	359.44	2.07	-2.02	0.43
67	13841	89.9	359.3	95	10910.37	3073.50	3073.37 N	30.18 W	3073.52	359.44	0.42	0.42	0.00
68	13937	90.6	359.0	96	10909.95	3169.50	3169.36 N	31.61 W	3169.52	359.43	0.79	0.73	-0.31
69	14032	89.4	358.9	95	10909.95	3264.50	3264.34 N	33.35 W	3264.51	359.41	1.27	-1.26	-0.11
70	14126	90.0	358.7	94	10910.44	3358.49	3358.32 N	35.32 W	3358.51	359.40	0.67	0.64	-0.21
71	14222	90.7	358.4	96	10909.86	3454.48	3454.29 N	37.75 W	3454.49	359.37	0.79	0.73	-0.31
72	14317	91.4	358.3	95	10908.12	3549.46	3549.23 N	40.48 W	3549.46	359.35	0.74	0.74	-0.11



Company: Three Rivers Operating Co.

Job Number:

HL12088

Calculation Method

Minimum Curvature

Well: Eagle 2 State #6H

Mag Decl.:

7.08

Proposed Azimuth

359.3

Location: Lea County, New Mexico

Dir Driller:

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Depth Reference

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Job Date: 02/24/12 - 03/20/12

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth			
73	14412	89.8	358.5	95	10907.12	3644.44	3644.19 N	43.13 W	3644.44	359.32	1.70	-1.68	0.21
74	14507	90.6	358.4	95	10906.79	3739.43	3739.15 N	45.70 W	3739.43	359.30	0.85	0.84	-0.11
75	14602	91.5	358.6	95	10905.05	3834.40	3834.10 N	48.19 W	3834.40	359.28	0.97	0.95	0.21
76	14697	90.5	358.3	95	10903.39	3929.38	3929.05 N	50.76 W	3929.38	359.26	1.10	-1.05	-0.32
77	14793	91.0	357.8	96	10902.13	4025.35	4024.98 N	54.02 W	4025.35	359.23	0.74	0.52	-0.52
78	14888	89.6	358.4	95	10901.64	4120.32	4119.93 N	57.17 W	4120.33	359.20	1.60	-1.47	0.63
79	14983	89.9	358.0	95	10902.05	4215.31	4214.88 N	60.16 W	4215.31	359.18	0.53	0.32	-0.42
80	15078	90.7	358.1	95	10901.55	4310.28	4309.82 N	63.39 W	4310.29	359.16	0.85	0.84	0.11
Proj.	15222	90.7	358.1	144	10899.79	4454.24	4453.73 N	68.16 W	4454.26	359.12	0.00	0.00	0.00

