



# **Ursa Operating Company, LLC**

**Rockies Region**

**Valley Farms L**

**41B-14-06-92**

**Wellbore #1**

**Design: Actual**

## **End Of Well Report**

**04 December, 2014**



<b>Company:</b>	Ursa Operating Company, LLC	<b>Local Co-ordinate Reference:</b>	Well 41B-14-06-92
<b>Project:</b>	Rockies Region	<b>TVD Reference:</b>	41B-14-06-92 @ 5592.0usft (Capstar 321)
<b>Site:</b>	Valley Farms L	<b>MD Reference:</b>	41B-14-06-92 @ 5592.0usft (Capstar 321)
<b>Well:</b>	41B-14-06-92	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Actual	<b>Database:</b>	MasterDB

Project		Rockies Region	
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	Valley Farms L					
Site Position:			Northing:	1,627,813.26 usft	Latitude:	39° 32' 16.142 N
From:	Lat/Long		Easting:	2,399,633.86 usft	Longitude:	107° 37' 44.058 W
Position Uncertainty:	0.0 usft		Slot Radius:	13-3/16 "	Grid Convergence:	-1.34 °

Well		41B-14-06-92, SHL LAT: 39.537682998 LONG: -107.629214368				
Well Position	+N/-S	0.0 usft	Northing:	1,627,766.42 usft	Latitude:	39° 32' 15.658 N
	+E/-W	0.0 usft	Easting:	2,399,545.52 usft	Longitude:	107° 37' 45.172 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	5,592.0 usft	Ground Level:	5,577.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	11/25/2013	9.84	65.79	52,116

Design		Actual			
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	27.6
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		27.6	0.0	0.0	162.39

Survey Program		Date	12/4/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
152.0	7,533.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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<b>Well:</b>	41B-14-06-92	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Actual	<b>Database:</b>	MasterDB

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
152.0	0.77	312.53	152.0	-0.9	0.7	-0.8	0.51	0.51	0.00	
180.0	0.66	308.17	180.0	-1.2	0.9	-1.0	0.44	-0.39	-15.57	
210.0	0.79	315.60	210.0	-1.5	1.2	-1.3	0.53	0.43	24.77	
242.0	0.53	325.23	242.0	-1.8	1.5	-1.5	0.88	-0.81	30.09	
272.0	0.57	314.99	272.0	-2.1	1.7	-1.7	0.35	0.13	-34.13	
302.0	0.26	314.94	302.0	-2.3	1.8	-1.9	1.03	-1.03	-0.17	
332.0	0.31	324.96	332.0	-2.4	1.9	-2.0	0.23	0.17	33.40	
362.0	0.13	344.65	362.0	-2.6	2.0	-2.0	0.64	-0.60	65.63	
392.0	0.22	51.67	392.0	-2.6	2.1	-2.0	0.69	0.30	223.40	
422.0	0.26	85.55	422.0	-2.6	2.1	-1.9	0.48	0.13	112.93	
452.0	0.26	83.97	452.0	-2.6	2.2	-1.7	0.02	0.00	-5.27	
482.0	0.48	62.48	482.0	-2.6	2.2	-1.6	0.85	0.73	-71.63	
512.0	0.57	58.17	512.0	-2.7	2.4	-1.3	0.33	0.30	-14.37	
542.0	0.31	59.36	542.0	-2.7	2.5	-1.1	0.87	-0.87	3.97	
572.0	0.18	48.11	572.0	-2.7	2.6	-1.0	0.46	-0.43	-37.50	
602.0	0.13	78.08	602.0	-2.8	2.6	-1.0	0.31	-0.17	99.90	
632.0	0.40	144.04	632.0	-2.7	2.5	-0.9	1.22	0.90	219.87	
662.0	0.54	148.98	662.0	-2.4	2.3	-0.7	0.49	0.47	16.47	
692.0	0.44	143.16	692.0	-2.2	2.1	-0.6	0.37	-0.33	-19.40	
722.0	0.35	162.58	722.0	-2.0	1.9	-0.5	0.53	-0.30	64.73	
752.0	0.35	174.14	752.0	-1.8	1.7	-0.4	0.23	0.00	38.53	
782.0	0.31	177.70	782.0	-1.6	1.6	-0.4	0.15	-0.13	11.87	
812.0	0.57	166.67	812.0	-1.4	1.3	-0.4	0.91	0.87	-36.77	
842.0	0.44	151.25	842.0	-1.1	1.1	-0.3	0.62	-0.43	-51.40	
872.0	0.40	153.00	872.0	-0.9	0.9	-0.2	0.14	-0.13	5.83	
902.0	0.26	158.67	902.0	-0.7	0.7	-0.1	0.48	-0.47	18.90	

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<b>Site:</b>	Valley Farms L	<b>MD Reference:</b>	41B-14-06-92 @ 5592.0usft (Capstar 321)
<b>Well:</b>	41B-14-06-92	<b>North Reference:</b>	True
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Actual	<b>Database:</b>	MasterDB

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	
932.0	0.35	150.02	932.0	-0.6	0.6	-0.1	0.34	0.30	-28.83	
962.0	0.57	176.82	962.0	-0.4	0.4	0.0	1.01	0.73	89.33	
1,020.0	0.76	171.78	1,020.0	0.3	-0.3	0.1	0.34	0.33	-8.69	
1,106.0	1.76	166.59	1,105.9	2.2	-2.1	0.4	1.17	1.16	-6.03	
1,191.0	4.13	161.45	1,190.8	6.5	-6.3	1.7	2.80	2.79	-6.05	
1,276.0	7.25	159.12	1,275.4	15.0	-14.2	4.6	3.68	3.67	-2.74	
1,362.0	9.71	167.06	1,360.5	27.6	-26.4	8.2	3.16	2.86	9.23	
1,447.0	12.92	167.56	1,443.8	44.2	-42.6	11.8	3.78	3.78	0.59	
1,532.0	16.79	162.37	1,525.9	66.0	-63.6	17.6	4.81	4.55	-6.11	
1,618.0	19.91	165.31	1,607.6	93.0	-89.6	25.1	3.78	3.63	3.42	
1,703.0	23.42	164.13	1,686.5	124.4	-119.9	33.4	4.16	4.13	-1.39	
1,789.0	26.10	164.31	1,764.6	160.4	-154.6	43.2	3.12	3.12	0.21	
1,874.0	30.04	164.19	1,839.6	200.3	-193.0	54.0	4.64	4.64	-0.14	
1,959.0	30.45	164.66	1,913.0	243.1	-234.3	65.5	0.56	0.48	0.55	
2,045.0	30.06	164.88	1,987.3	286.4	-276.1	76.9	0.47	-0.45	0.26	
2,130.0	29.62	165.27	2,061.1	328.7	-317.0	87.8	0.57	-0.52	0.46	
2,216.0	30.03	164.90	2,135.7	371.4	-358.3	98.8	0.52	0.48	-0.43	
2,301.0	30.15	162.55	2,209.2	414.0	-399.2	110.7	1.39	0.14	-2.76	
2,387.0	29.97	162.02	2,283.7	457.1	-440.2	123.8	0.37	-0.21	-0.62	
2,472.0	30.06	160.35	2,357.3	499.6	-480.5	137.6	0.99	0.11	-1.96	
2,557.0	29.79	159.74	2,430.9	541.9	-520.3	152.0	0.48	-0.32	-0.72	
2,643.0	29.40	163.30	2,505.7	584.4	-560.6	165.5	2.09	-0.45	4.14	
2,728.0	29.18	163.56	2,579.8	626.0	-600.5	177.3	0.30	-0.26	0.31	
2,814.0	28.26	163.69	2,655.3	667.3	-640.1	189.0	1.07	-1.07	0.15	
2,899.0	27.71	163.15	2,730.3	707.2	-678.3	200.4	0.71	-0.65	-0.64	
2,985.0	27.34	162.42	2,806.6	746.9	-716.3	212.1	0.58	-0.43	-0.85	
3,070.0	26.94	160.88	2,882.2	785.7	-753.1	224.3	0.95	-0.47	-1.81	

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Survey										
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3,156.0	28.25	161.29	2,958.4	825.5	-790.8	237.3	1.54	1.52	0.48	
3,241.0	29.49	163.56	3,032.9	866.5	-829.9	249.6	1.95	1.46	2.67	
3,326.0	28.78	164.62	3,107.1	907.9	-869.7	261.0	1.03	-0.84	1.25	
3,412.0	28.13	163.47	3,182.7	948.8	-909.1	272.2	0.99	-0.76	-1.34	
3,498.0	29.05	161.93	3,258.3	990.0	-948.4	284.5	1.37	1.07	-1.79	
3,583.0	30.10	163.30	3,332.2	1,031.9	-988.4	297.0	1.47	1.24	1.61	
3,669.0	29.77	164.46	3,406.7	1,074.8	-1,029.6	308.9	0.77	-0.38	1.35	
3,754.0	28.30	163.47	3,481.0	1,116.1	-1,069.3	320.3	1.82	-1.73	-1.16	
3,840.0	28.04	164.26	3,556.8	1,156.7	-1,108.3	331.6	0.53	-0.30	0.92	
3,925.0	29.18	164.88	3,631.5	1,197.3	-1,147.5	342.4	1.39	1.34	0.73	
4,011.0	30.67	165.85	3,706.0	1,240.2	-1,189.0	353.2	1.82	1.73	1.13	
4,096.0	29.58	165.14	3,779.5	1,282.8	-1,230.3	363.9	1.35	-1.28	-0.84	
4,181.0	28.21	163.69	3,853.9	1,323.8	-1,269.9	375.0	1.81	-1.61	-1.71	
4,267.0	28.21	164.00	3,929.7	1,364.5	-1,308.9	386.3	0.17	0.00	0.36	
4,352.0	27.91	163.03	4,004.7	1,404.4	-1,347.3	397.6	0.64	-0.35	-1.14	
4,438.0	26.67	164.53	4,081.1	1,443.9	-1,385.1	408.6	1.65	-1.44	1.74	
4,523.0	27.27	163.85	4,156.9	1,482.4	-1,422.2	419.1	0.79	0.71	-0.80	
4,608.0	28.24	161.12	4,232.1	1,522.0	-1,460.0	431.1	1.88	1.14	-3.21	
4,694.0	27.38	158.64	4,308.2	1,562.0	-1,497.6	444.8	1.68	-1.00	-2.88	
4,779.0	23.60	159.17	4,384.9	1,598.5	-1,531.7	458.0	4.46	-4.45	0.62	
4,865.0	21.14	160.05	4,464.4	1,631.2	-1,562.4	469.4	2.89	-2.86	1.02	
4,950.0	18.85	161.85	4,544.3	1,660.3	-1,589.9	478.9	2.79	-2.69	2.12	
4,982.7	17.87	162.16	4,575.4	1,670.6	-1,599.7	482.1	3.02	-3.00	0.95	
41B-14-06-92 TGT										
5,035.0	16.30	162.73	4,625.3	1,685.9	-1,614.3	486.8	3.02	-3.00	1.09	
5,121.0	13.71	169.84	4,708.4	1,708.1	-1,635.9	492.1	3.69	-3.01	8.27	
5,206.0	10.94	172.92	4,791.4	1,726.0	-1,653.8	494.9	3.35	-3.26	3.62	

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Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	
5,292.0	8.33	183.97	4,876.2	1,739.9	-1,668.1	495.5	3.71	-3.03	12.85	
5,377.0	5.63	196.78	4,960.6	1,749.0	-1,678.3	493.9	3.65	-3.18	15.07	
5,463.0	4.39	185.75	5,046.3	1,755.5	-1,685.6	492.3	1.82	-1.44	-12.83	
5,548.0	3.47	176.04	5,131.1	1,761.0	-1,691.4	492.2	1.33	-1.08	-11.42	
5,634.0	3.07	168.29	5,216.9	1,765.8	-1,696.2	492.8	0.69	-0.47	-9.01	
5,719.0	2.81	148.71	5,301.8	1,770.1	-1,700.2	494.4	1.21	-0.31	-23.04	
5,805.0	0.70	167.52	5,387.8	1,772.7	-1,702.6	495.6	2.51	-2.45	21.87	
5,890.0	0.28	150.05	5,472.8	1,773.4	-1,703.2	495.8	0.52	-0.49	-20.55	
5,976.0	0.48	99.84	5,558.8	1,773.8	-1,703.5	496.2	0.43	0.23	-58.38	
6,061.0	0.88	81.91	5,643.7	1,774.1	-1,703.5	497.2	0.53	0.47	-21.09	
6,147.0	1.32	85.38	5,729.7	1,774.4	-1,703.3	498.9	0.52	0.51	4.03	
6,232.0	0.48	72.51	5,814.7	1,774.6	-1,703.1	500.2	1.01	-0.99	-15.14	
6,317.0	1.45	260.90	5,899.7	1,774.5	-1,703.2	499.5	2.27	1.14	-201.89	
6,403.0	1.45	253.74	5,985.7	1,774.3	-1,703.6	497.4	0.21	0.00	-8.33	
6,488.0	0.75	239.81	6,070.7	1,774.4	-1,704.2	495.8	0.88	-0.82	-16.39	
6,573.0	0.48	220.21	6,155.7	1,774.7	-1,704.8	495.1	0.40	-0.32	-23.06	
6,659.0	1.15	286.94	6,241.7	1,774.4	-1,704.8	494.1	1.23	0.78	77.59	
6,744.0	1.24	307.43	6,326.6	1,773.1	-1,704.0	492.5	0.51	0.11	24.11	
6,829.0	0.83	340.05	6,411.6	1,771.8	-1,702.8	491.6	0.83	-0.48	38.38	
6,915.0	0.31	359.56	6,497.6	1,770.9	-1,702.0	491.4	0.64	-0.60	22.69	
7,000.0	0.52	52.90	6,582.6	1,770.6	-1,701.6	491.7	0.49	0.25	62.75	
7,085.0	0.88	61.17	6,667.6	1,770.3	-1,701.0	492.6	0.44	0.42	9.73	
7,171.0	1.49	48.47	6,753.6	1,769.7	-1,700.0	494.0	0.77	0.71	-14.77	
7,256.0	1.71	61.74	6,838.6	1,769.1	-1,698.6	495.9	0.51	0.26	15.61	
7,342.0	1.80	65.08	6,924.5	1,768.6	-1,697.4	498.3	0.16	0.10	3.88	
7,427.0	1.67	61.61	7,009.5	1,768.2	-1,696.3	500.6	0.20	-0.15	-4.08	
7,476.0	1.71	58.66	7,058.5	1,767.9	-1,695.6	501.8	0.20	0.08	-6.02	

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Survey										
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7,533.0	1.71	58.66	7,115.4	1,767.5	-1,694.7	503.3	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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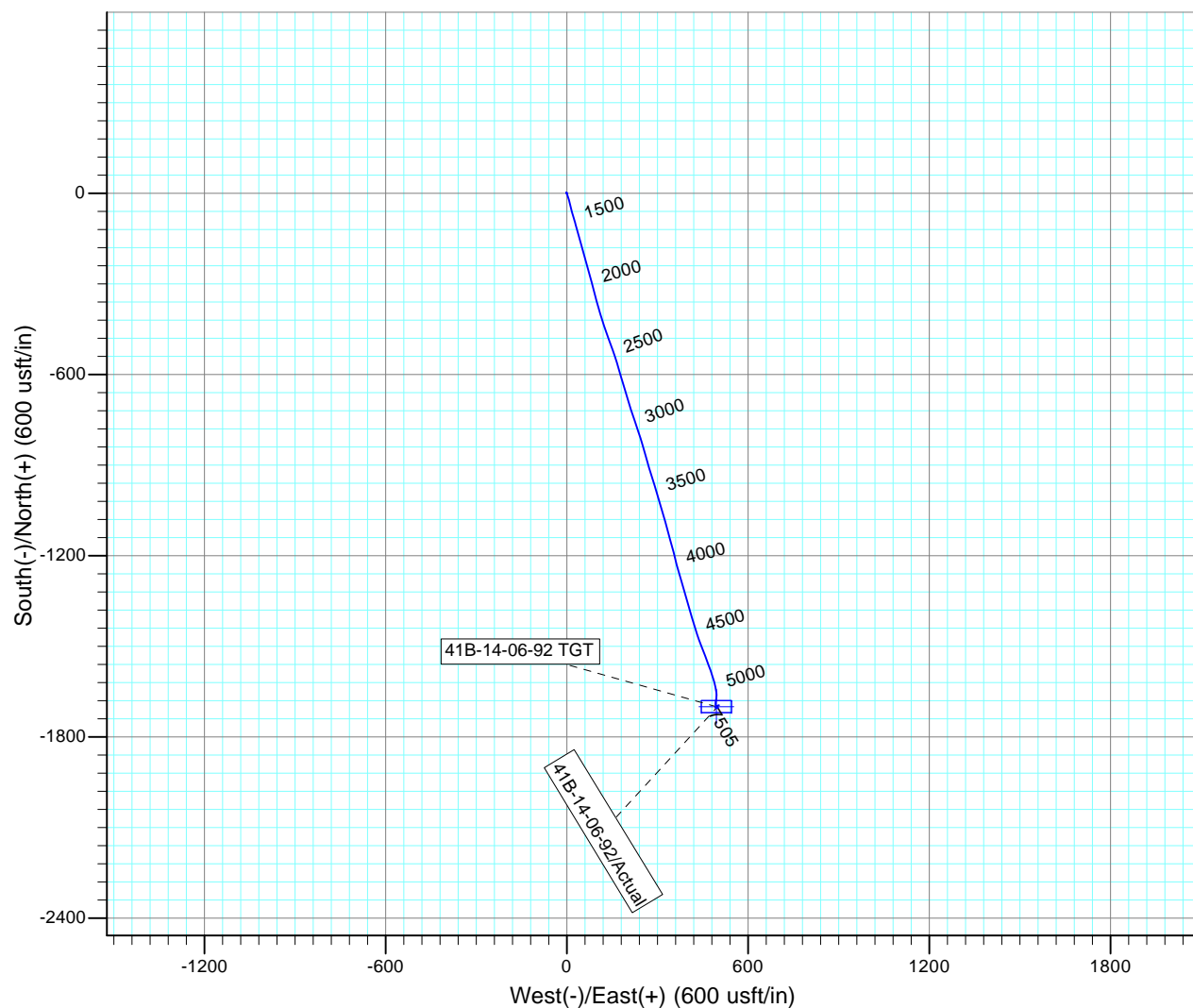
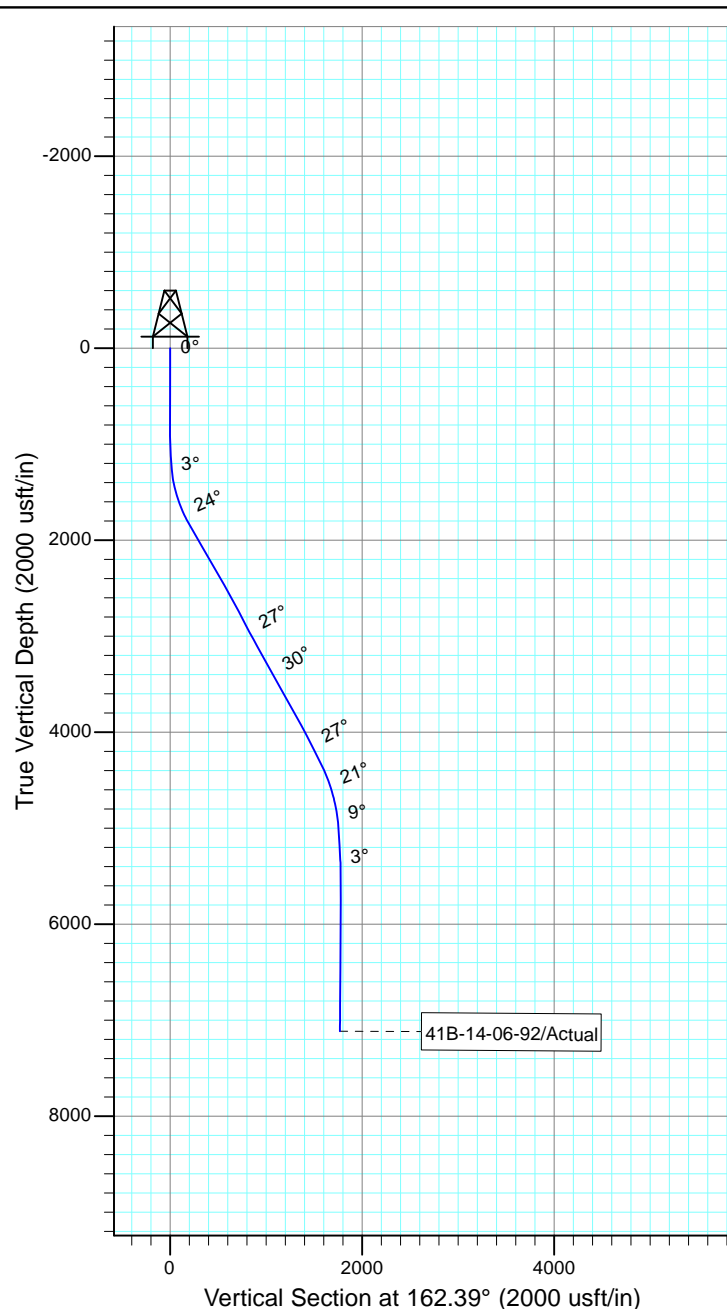
Project: Rockies Region  
Site: Valley Farms L  
Well: 41B-14-06-92  
Wellbore: Wellbore ;  
SURVEY: Actual

FINAL SURVEY REPORT



Azimuths to True North  
Magnetic North: 9.84°

Magnetic Field  
Strength: 52116.4snT  
Dip Angle: 65.79°  
Date: 11/25/2013  
Model: IGRF200510



Design: Actual (41B-14-06-92/Wellbore #1)

Created By: Sarah Webb-Hudson Date: 11:52, December 04 2014  
THIS SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND IS  
SUPPORTED BY ACTUAL FIELD DATA.