



Ursa Operating Company, LLC

Rockies Region

Valley Farms L

33D-11-6-92

Wellbore #1

Design: Actual

End Of Well Report

19 January, 2015



Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well 33D-11-6-92
Project:	Rockies Region	TVD Reference:	33D-11-6-92 @ 5592.0usft (Capstar 321)
Site:	Valley Farms L	MD Reference:	33D-11-6-92 @ 5592.0usft (Capstar 321)
Well:	33D-11-6-92	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	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		33D-11-6-92, SHL LAT: 39.537800380 LONG: -107.628943774				
Well Position	+N/-S	0.0 usft	Northing:	1,627,807.38 usft	Latitude:	39° 32' 16.081 N
	+E/-W	0.0 usft	Easting:	2,399,622.82 usft	Longitude:	107° 37' 44.198 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)
	IGRF2010	4/7/2014	9.83	65.76	52,039

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	287.24

Survey Program		Date	1/19/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
154.0	7,400.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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Well:	33D-11-6-92	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	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	
154.0	0.44	301.98	154.0	0.6	0.3	-0.5	0.29	0.29	0.00	
182.0	0.70	265.11	182.0	0.8	0.4	-0.8	1.56	0.93	-131.68	
212.0	0.44	265.90	212.0	1.1	0.3	-1.1	0.87	-0.87	2.63	
242.0	0.83	286.47	242.0	1.4	0.4	-1.4	1.49	1.30	68.57	
274.0	0.70	294.99	274.0	1.9	0.5	-1.8	0.54	-0.41	26.62	
304.0	0.57	330.54	304.0	2.2	0.7	-2.0	1.36	-0.43	118.50	
334.0	0.53	22.13	334.0	2.2	1.0	-2.0	1.60	-0.13	171.97	
364.0	0.48	63.58	364.0	2.1	1.2	-1.9	1.20	-0.17	138.17	
394.0	1.05	63.40	394.0	1.9	1.4	-1.5	1.90	1.90	-0.60	
424.0	0.70	52.19	424.0	1.6	1.6	-1.1	1.29	-1.17	-37.37	
454.0	0.75	69.99	454.0	1.3	1.8	-0.8	0.77	0.17	59.33	
484.0	0.35	65.42	484.0	1.1	1.9	-0.5	1.34	-1.33	-15.23	
514.0	0.70	48.37	514.0	0.9	2.0	-0.3	1.27	1.17	-56.83	
544.0	0.48	42.39	544.0	0.8	2.3	-0.1	0.76	-0.73	-19.93	
574.0	0.79	51.53	574.0	0.6	2.5	0.2	1.08	1.03	30.47	
604.0	0.76	78.83	604.0	0.3	2.6	0.5	1.22	-0.10	91.00	
634.0	0.53	120.31	634.0	0.0	2.6	0.8	1.68	-0.77	138.27	
664.0	0.69	152.12	664.0	-0.3	2.4	1.0	1.23	0.53	106.03	
694.0	0.83	155.60	694.0	-0.6	2.0	1.2	0.49	0.47	11.60	
724.0	0.83	171.50	724.0	-0.8	1.6	1.3	0.77	0.00	53.00	
754.0	0.70	163.24	754.0	-1.0	1.2	1.4	0.57	-0.43	-27.53	
784.0	1.01	168.21	784.0	-1.2	0.8	1.5	1.06	1.03	16.57	
814.0	0.57	177.61	814.0	-1.4	0.4	1.6	1.52	-1.47	31.33	
844.0	0.26	174.05	844.0	-1.5	0.2	1.6	1.04	-1.03	-11.87	
874.0	0.22	215.41	874.0	-1.5	0.1	1.6	0.58	-0.13	137.87	
904.0	0.35	184.29	903.9	-1.5	-0.1	1.5	0.66	0.43	-103.73	

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Well:	33D-11-6-92	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	MasterDB

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	
934.0	0.55	198.09	933.9	-1.5	-0.3	1.5	0.75	0.67	46.00	
964.0	0.57	177.04	963.9	-1.6	-0.6	1.4	0.69	0.07	-70.17	
993.0	0.83	173.70	992.9	-1.7	-1.0	1.5	0.91	0.90	-11.52	
1,078.0	1.10	254.39	1,077.9	-1.2	-1.8	0.8	1.49	0.32	94.93	
1,163.0	3.74	280.88	1,162.9	2.2	-1.5	-2.8	3.29	3.11	31.16	
1,248.0	7.29	288.10	1,247.4	10.3	0.7	-10.6	4.25	4.18	8.49	
1,334.0	9.10	290.86	1,332.6	22.6	4.8	-22.2	2.15	2.10	3.21	
1,419.0	11.95	289.63	1,416.1	38.1	10.2	-36.7	3.36	3.35	-1.45	
1,504.0	14.15	289.63	1,498.9	57.3	16.6	-54.8	2.59	2.59	0.00	
1,547.0	15.82	288.36	1,540.5	68.4	20.2	-65.3	3.96	3.88	-2.95	
1,590.0	17.14	286.07	1,581.7	80.6	23.8	-77.0	3.42	3.07	-5.33	
1,675.0	18.15	284.53	1,662.7	106.3	30.6	-101.8	1.31	1.19	-1.81	
1,760.0	18.02	283.35	1,743.5	132.7	37.0	-127.4	0.46	-0.15	-1.39	
1,845.0	18.59	284.27	1,824.2	159.3	43.4	-153.4	0.75	0.67	1.08	
1,931.0	18.94	288.05	1,905.6	187.0	51.1	-179.9	1.47	0.41	4.40	
2,016.0	18.68	288.00	1,986.1	214.4	59.6	-206.0	0.31	-0.31	-0.06	
2,102.0	18.19	285.63	2,067.7	241.6	67.4	-232.0	1.04	-0.57	-2.76	
2,187.0	18.85	291.12	2,148.3	268.5	75.9	-257.6	2.19	0.78	6.46	
2,272.0	18.46	288.75	2,228.8	295.7	85.2	-283.1	1.00	-0.46	-2.79	
2,358.0	18.37	288.53	2,310.4	322.8	93.9	-308.9	0.13	-0.10	-0.26	
2,443.0	19.25	289.41	2,390.9	350.2	102.8	-334.8	1.09	1.04	1.04	
2,529.0	18.81	288.31	2,472.2	378.3	111.9	-361.3	0.66	-0.51	-1.28	
2,614.0	18.26	287.85	2,552.8	405.3	120.3	-387.0	0.67	-0.65	-0.54	
2,699.0	17.84	287.70	2,633.6	431.6	128.3	-412.1	0.50	-0.49	-0.18	
2,784.0	19.14	288.38	2,714.2	458.6	136.7	-437.7	1.55	1.53	0.80	
2,870.0	18.68	288.14	2,795.5	486.4	145.4	-464.2	0.54	-0.53	-0.28	
2,955.0	18.28	286.55	2,876.2	513.4	153.4	-489.9	0.76	-0.47	-1.87	

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3,040.0	18.24	288.58	2,956.9	540.0	161.5	-515.3	0.75	-0.05	2.39	
3,126.0	18.90	292.97	3,038.4	567.3	171.2	-540.9	1.80	0.77	5.10	
3,212.0	18.11	292.05	3,120.0	594.5	181.6	-566.1	0.98	-0.92	-1.07	
3,297.0	18.50	290.86	3,200.7	621.1	191.4	-590.9	0.64	0.46	-1.40	
3,382.0	19.47	287.46	3,281.0	648.7	200.5	-617.0	1.73	1.14	-4.00	
3,468.0	19.07	286.82	3,362.2	677.1	208.8	-644.2	0.53	-0.47	-0.74	
3,553.0	17.23	283.17	3,443.0	703.6	215.7	-669.7	2.54	-2.16	-4.29	
3,639.0	17.89	284.88	3,525.0	729.5	222.0	-694.9	0.97	0.77	1.99	
3,724.0	20.04	288.05	3,605.4	757.1	229.9	-721.4	2.80	2.53	3.73	
3,809.0	19.82	288.62	3,685.3	786.0	239.0	-748.9	0.35	-0.26	0.67	
3,895.0	19.07	288.36	3,766.4	814.7	248.1	-776.0	0.88	-0.87	-0.30	
3,980.0	17.52	286.95	3,847.1	841.3	256.2	-801.4	1.90	-1.82	-1.66	
4,066.0	15.42	289.45	3,929.5	865.7	263.8	-824.6	2.58	-2.44	2.91	
4,151.0	13.11	287.84	4,011.9	886.7	270.5	-844.4	2.76	-2.72	-1.89	
4,236.0	11.47	286.60	4,095.0	904.7	275.8	-861.7	1.95	-1.93	-1.46	
4,322.0	10.37	284.71	4,179.4	921.0	280.2	-877.4	1.34	-1.28	-2.20	
4,407.0	8.39	288.44	4,263.3	934.9	284.2	-890.7	2.44	-2.33	4.39	
4,493.0	6.42	287.04	4,348.5	946.0	287.5	-901.2	2.30	-2.29	-1.63	
4,578.0	4.00	280.09	4,433.2	953.6	289.5	-908.7	2.94	-2.85	-8.18	
4,664.0	3.34	280.01	4,519.0	959.1	290.4	-914.1	0.77	-0.77	-0.09	
4,749.0	2.80	280.61	4,603.9	963.6	291.2	-918.6	0.64	-0.64	0.71	
4,834.0	2.37	280.27	4,688.8	967.4	291.9	-922.4	0.51	-0.51	-0.40	
4,920.0	1.76	287.34	4,774.7	970.5	292.6	-925.4	0.77	-0.71	8.22	
5,005.0	1.45	290.20	4,859.7	972.9	293.4	-927.6	0.38	-0.36	3.36	
5,091.0	1.20	297.99	4,945.7	974.9	294.2	-929.4	0.36	-0.29	9.06	
5,176.0	1.10	309.84	5,030.7	976.5	295.1	-930.8	0.30	-0.12	13.94	
5,261.0	0.88	329.36	5,115.7	977.7	296.2	-931.8	0.47	-0.26	22.96	

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5,347.0	0.97	4.13	5,201.7	978.4	297.5	-932.1	0.65	0.10	40.43	
5,432.0	1.05	32.11	5,286.6	978.4	298.9	-931.6	0.58	0.09	32.92	
5,518.0	0.36	72.00	5,372.6	977.9	299.6	-931.0	0.94	-0.80	46.38	
5,603.0	0.92	242.30	5,457.6	978.2	299.4	-931.3	1.50	0.66	200.35	
5,689.0	0.83	228.52	5,543.6	979.0	298.7	-932.4	0.27	-0.10	-16.02	
5,774.0	0.48	221.91	5,628.6	979.5	298.0	-933.1	0.42	-0.41	-7.78	
5,860.0	0.57	229.86	5,714.6	979.9	297.5	-933.6	0.13	0.10	9.24	
5,945.0	0.22	202.22	5,799.6	980.1	297.0	-934.0	0.46	-0.41	-32.52	
6,031.0	1.47	225.16	5,885.6	980.6	296.1	-934.9	1.48	1.45	26.67	
6,116.0	1.23	233.82	5,970.6	981.7	294.8	-936.4	0.37	-0.28	10.19	
6,202.0	1.01	222.53	6,056.6	982.6	293.7	-937.6	0.36	-0.26	-13.13	
6,287.0	0.35	168.08	6,141.6	982.8	292.9	-938.1	1.01	-0.78	-64.06	
6,372.0	0.40	145.75	6,226.5	982.4	292.4	-937.9	0.18	0.06	-26.27	
6,458.0	0.92	85.46	6,312.5	981.5	292.2	-937.0	0.93	0.60	-70.10	
6,543.0	1.27	79.13	6,397.5	980.1	292.4	-935.4	0.44	0.41	-7.45	
6,629.0	0.48	5.00	6,483.5	979.3	293.0	-934.4	1.43	-0.92	-86.20	
6,714.0	1.47	324.90	6,568.5	980.2	294.2	-935.0	1.35	1.16	-47.18	
6,799.0	2.20	285.19	6,653.5	982.7	295.5	-937.2	1.67	0.86	-46.72	
6,885.0	1.67	241.64	6,739.4	985.2	295.4	-939.9	1.76	-0.62	-50.64	
6,970.0	1.54	238.92	6,824.4	986.9	294.2	-942.0	0.18	-0.15	-3.20	
7,056.0	1.01	236.90	6,910.4	988.1	293.2	-943.6	0.62	-0.62	-2.35	
7,141.0	0.35	219.76	6,995.4	988.7	292.6	-944.4	0.80	-0.78	-20.16	
7,226.0	0.31	88.18	7,080.4	988.6	292.4	-944.4	0.71	-0.05	-154.80	
7,312.0	0.56	79.85	7,166.4	988.0	292.5	-943.7	0.30	0.29	-9.69	
7,343.0	0.70	81.86	7,197.4	987.7	292.5	-943.4	0.46	0.45	6.48	
7,400.0	0.70	81.86	7,254.4	987.1	292.6	-942.7	0.00	0.00	0.00	

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Project: Rockies Region
Site: Valley Farms L
Well: 33D-11-6-92
Wellbore: Wellbore #1
Design: Actual

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TVD Reference: 33D-11-6-92 @ 5592.0usft (Capstar 321)
MD Reference: 33D-11-6-92 @ 5592.0usft (Capstar 321)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: MasterDB

Checked By: _____ Approved By: _____ Date: _____



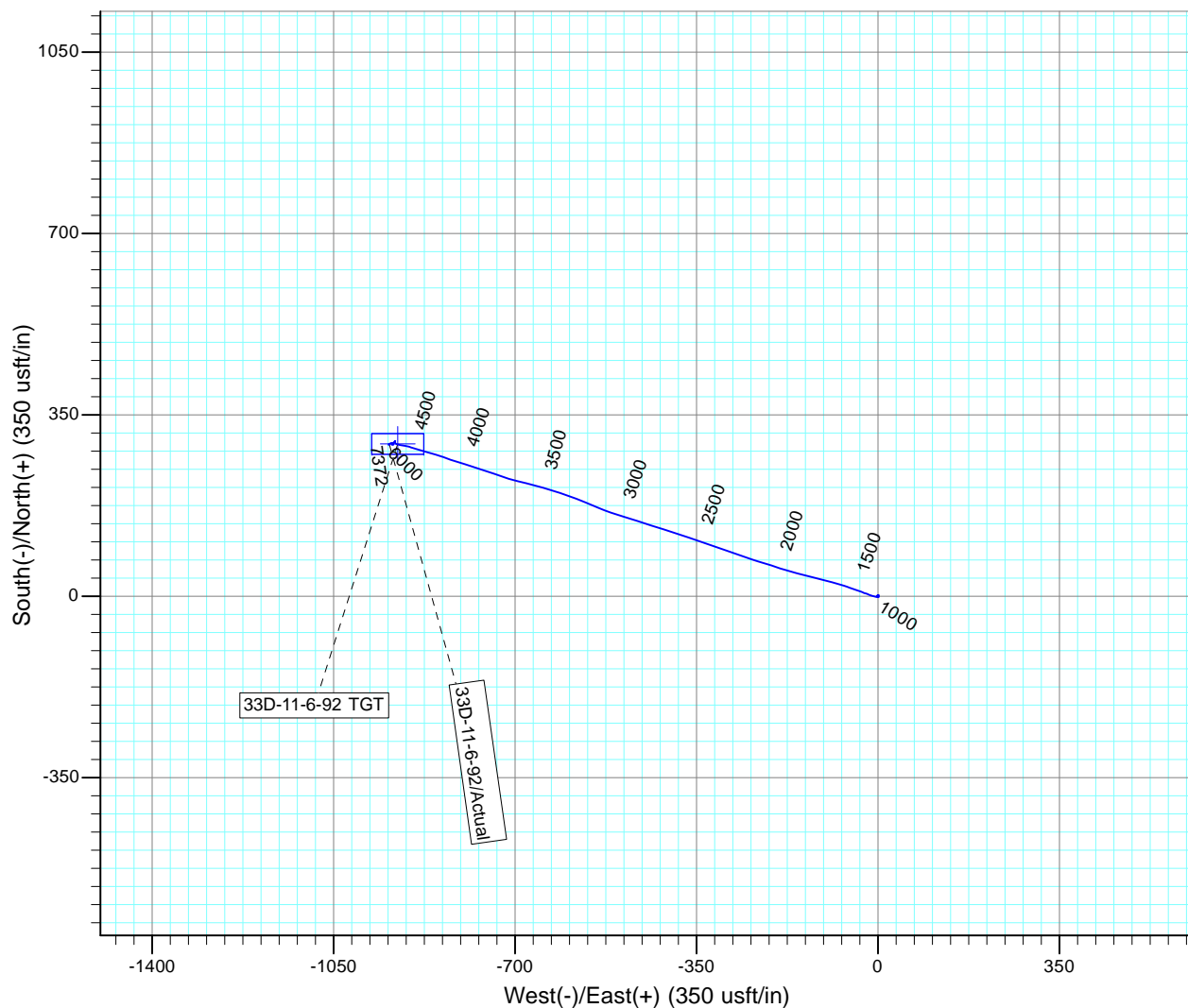
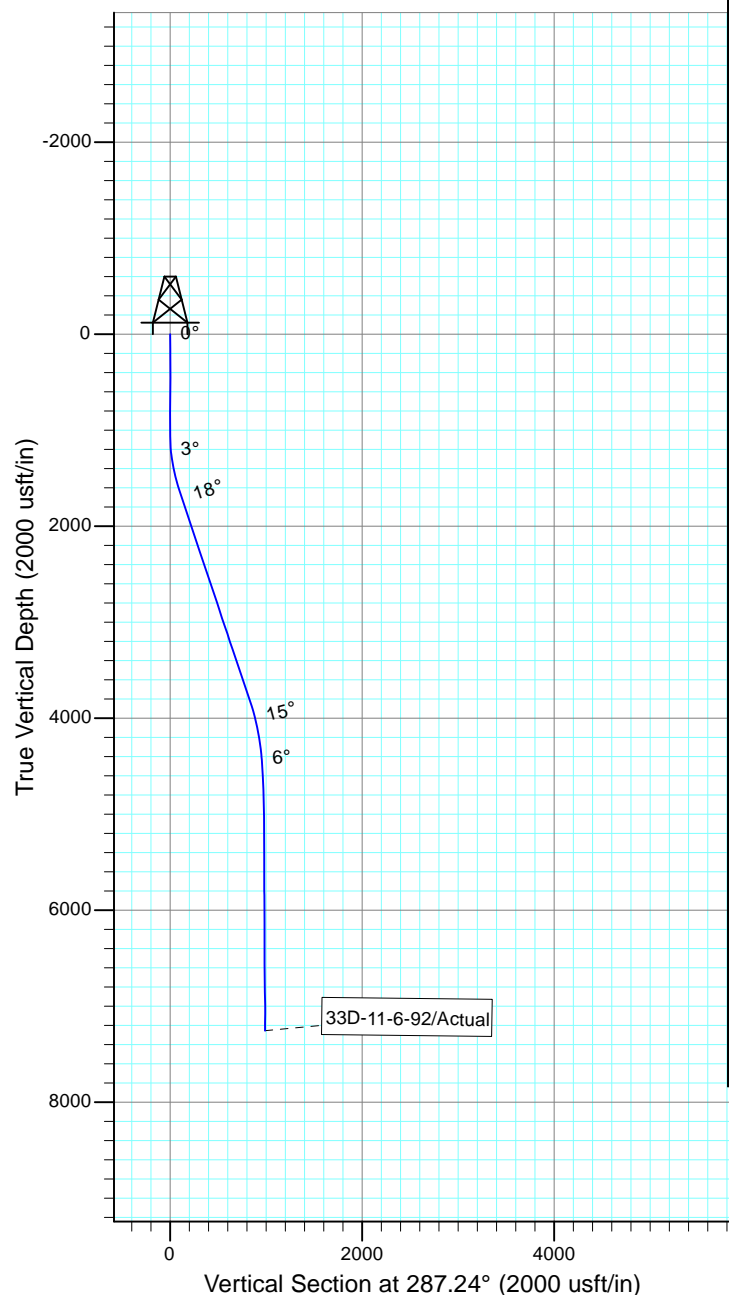
Project: Rockies Region
 Site: Valley Farms L
 Well: 33D-11-6-92
 Wellbore: Wellbore #1
 SURVEY: Actual

FINAL SURVEY REPORT



Azimuths to True North
 Magnetic North: 9.83°

Magnetic Field
 Strength: 52039.0snT
 Dip Angle: 65.76°
 Date: 4/7/2014
 Model: IGRF2010



Design: Actual (33D-11-6-92/Wellbore #1)

Created By: Sarah Webb-Hudson Date: 16:31, January 19 2015
 THIS SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND IS
 SUPPORTED BY ACTUAL FIELD DATA.