



Ursa Operating Company, LLC

Rockies Region

Valley Farms L

34C-11-6-92

Wellbore #1

Design: Actual

End Of Well Report

24 November, 2014



Company:	Ursa Operating Company, LLC	Local Co-ordinate Reference:	Well 34C-11-6-92
Project:	Rockies Region	TVD Reference:	34C-11-6-92 @ 5590.5usft (Capstar 321)
Site:	Valley Farms L	MD Reference:	34C-11-6-92 @ 5590.5usft (Capstar 321)
Well:	34C-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		34C-11-6-92, SHL LAT: 39.537615922 LONG: -107.629368992				
Well Position	+N-S	0.0 usft	Northing:	1,627,743.02 usft	Latitude:	39° 32' 15.417 N
	+E-W	0.0 usft	Easting:	2,399,501.35 usft	Longitude:	107° 37' 45.728 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	5,590.5 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:	26.1
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		26.1	0.0	0.0	231.25

Survey Program		Date	11/24/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
150.5	7,425.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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Well:	34C-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	
150.5	0.54	140.97	150.5	0.0	-0.6	0.4	0.36	0.36	0.00	
178.5	0.62	136.39	178.5	0.0	-0.8	0.6	0.33	0.29	-16.36	
208.5	0.75	111.65	208.5	-0.1	-1.0	0.9	1.07	0.43	-82.47	
240.5	1.10	110.82	240.5	-0.4	-1.1	1.4	1.09	1.09	-2.59	
270.5	0.97	112.13	270.5	-0.7	-1.3	1.9	0.44	-0.43	4.37	
300.5	0.75	131.43	300.5	-0.8	-1.6	2.3	1.20	-0.73	64.33	
330.5	0.66	90.87	330.5	-1.0	-1.7	2.6	1.65	-0.30	-135.20	
360.5	0.49	116.32	360.5	-1.2	-1.8	2.9	1.01	-0.57	84.83	
390.5	0.44	64.76	390.5	-1.3	-1.8	3.1	1.36	-0.17	-171.87	
420.5	0.57	349.83	420.5	-1.5	-1.6	3.2	2.08	0.43	-249.77	
450.5	0.79	352.26	450.5	-1.7	-1.2	3.1	0.74	0.73	8.10	
480.5	0.79	10.18	480.5	-2.0	-0.8	3.2	0.82	0.00	59.73	
510.5	0.85	10.93	510.5	-2.3	-0.4	3.2	0.20	0.20	2.50	
540.5	1.11	14.91	540.5	-2.7	0.1	3.4	0.90	0.87	13.27	
570.5	0.70	1.35	570.5	-3.0	0.6	3.4	1.53	-1.37	-45.20	
600.5	1.14	342.72	600.5	-3.3	1.0	3.3	1.76	1.47	-62.10	
630.5	0.70	335.16	630.5	-3.4	1.5	3.2	1.52	-1.47	-25.20	
660.5	0.83	331.07	660.4	-3.5	1.9	3.0	0.47	0.43	-13.63	
690.5	0.65	355.46	690.4	-3.6	2.2	2.9	1.20	-0.60	81.30	
720.5	0.92	338.15	720.4	-3.8	2.6	2.8	1.19	0.90	-57.70	
750.5	0.57	339.95	750.4	-3.9	3.0	2.6	1.17	-1.17	6.00	
780.5	0.66	293.89	780.4	-3.9	3.2	2.4	1.63	0.30	-153.53	
810.5	0.44	288.60	810.4	-3.7	3.3	2.2	0.75	-0.73	-17.63	
840.5	0.44	321.67	840.4	-3.7	3.4	2.0	0.83	0.00	110.23	
870.5	0.48	312.57	870.4	-3.7	3.6	1.8	0.28	0.13	-30.33	
900.5	0.44	340.25	900.4	-3.7	3.8	1.7	0.74	-0.13	92.27	

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Well:	34C-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)	
930.5	0.44	270.91	930.4	-3.6	3.9	1.5	1.67	0.00	-231.13	
960.5	0.22	241.95	960.4	-3.5	3.9	1.4	0.90	-0.73	-96.53	
1,036.0	0.62	306.55	1,035.9	-3.2	4.0	0.9	0.74	0.53	85.56	
1,121.0	1.49	257.68	1,120.9	-2.1	4.1	-0.5	1.39	1.02	-57.49	
1,206.0	3.16	239.53	1,205.8	1.2	2.7	-3.6	2.12	1.96	-21.35	
1,292.0	5.98	239.14	1,291.6	8.0	-0.8	-9.5	3.28	3.28	-0.45	
1,377.0	8.61	227.71	1,375.9	18.7	-7.4	-18.0	3.52	3.09	-13.45	
1,462.0	12.28	228.54	1,459.5	34.1	-17.7	-29.5	4.32	4.32	0.98	
1,548.0	14.24	234.92	1,543.2	53.8	-29.8	-45.0	2.84	2.28	7.42	
1,676.0	19.69	225.47	1,665.6	91.0	-54.0	-73.3	4.76	4.26	-7.38	
1,761.0	19.51	225.03	1,745.6	119.3	-74.1	-93.6	0.27	-0.21	-0.52	
1,846.0	19.99	230.83	1,825.6	148.0	-93.3	-114.9	2.37	0.56	6.82	
1,931.0	20.07	229.73	1,905.5	177.1	-111.9	-137.3	0.45	0.09	-1.29	
2,017.0	19.82	229.16	1,986.3	206.4	-131.0	-159.6	0.37	-0.29	-0.66	
2,102.0	20.04	231.01	2,066.3	235.4	-149.5	-181.8	0.79	0.26	2.18	
2,188.0	19.64	230.66	2,147.2	264.6	-168.0	-204.4	0.49	-0.47	-0.41	
2,273.0	19.86	232.33	2,227.2	293.3	-185.9	-226.9	0.71	0.26	1.96	
2,358.0	19.65	231.46	2,307.2	322.0	-203.6	-249.5	0.43	-0.25	-1.02	
2,443.0	19.07	233.86	2,387.3	350.2	-220.7	-271.9	1.16	-0.68	2.82	
2,529.0	20.04	234.87	2,468.4	378.9	-237.4	-295.3	1.19	1.13	1.17	
2,614.0	20.21	234.57	2,548.2	408.1	-254.3	-319.2	0.23	0.20	-0.35	
2,700.0	19.91	234.08	2,629.0	437.6	-271.5	-343.1	0.40	-0.35	-0.57	
2,785.0	19.42	233.82	2,709.0	466.1	-288.4	-366.2	0.59	-0.58	-0.31	
2,870.0	20.00	233.80	2,789.0	494.8	-305.3	-389.4	0.68	0.68	-0.02	
2,956.0	19.56	232.85	2,870.0	523.8	-322.7	-412.7	0.63	-0.51	-1.10	
3,041.0	20.17	230.70	2,949.9	552.7	-340.5	-435.4	1.12	0.72	-2.53	
3,127.0	19.56	231.18	3,030.8	581.9	-359.0	-458.1	0.73	-0.71	0.56	

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Well:	34C-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)	
3,211.0	19.82	230.57	3,109.9	610.3	-376.8	-480.1	0.39	0.31	-0.73	
3,297.0	19.25	228.77	3,190.9	639.0	-395.4	-502.0	0.96	-0.66	-2.09	
3,383.0	19.91	228.99	3,272.0	667.8	-414.4	-523.7	0.77	0.77	0.26	
3,468.0	19.86	229.29	3,351.9	696.7	-433.3	-545.6	0.13	-0.06	0.35	
3,554.0	19.00	227.57	3,433.0	725.3	-452.3	-567.0	1.20	-1.00	-2.00	
3,639.0	19.42	228.94	3,513.3	753.2	-470.9	-587.8	0.72	0.49	1.61	
3,724.0	19.82	231.18	3,593.3	781.7	-489.2	-609.7	1.00	0.47	2.64	
3,810.0	19.29	231.31	3,674.4	810.5	-507.2	-632.2	0.62	-0.62	0.15	
3,895.0	18.01	230.33	3,754.9	837.7	-524.4	-653.2	1.55	-1.51	-1.15	
3,981.0	16.96	229.56	3,836.9	863.5	-541.0	-673.0	1.25	-1.22	-0.90	
4,067.0	16.07	231.98	3,919.4	887.9	-556.5	-691.9	1.31	-1.03	2.81	
4,152.0	14.06	232.06	4,001.5	910.0	-570.1	-709.4	2.36	-2.36	0.09	
4,237.0	12.83	232.28	4,084.1	929.8	-582.2	-725.0	1.45	-1.45	0.26	
4,323.0	10.63	232.24	4,168.3	947.3	-592.9	-738.8	2.56	-2.56	-0.05	
4,408.0	8.86	237.11	4,252.1	961.6	-601.3	-750.5	2.30	-2.08	5.73	
4,494.0	6.76	234.20	4,337.3	973.3	-607.8	-760.1	2.48	-2.44	-3.38	
4,579.0	5.01	233.69	4,421.8	982.0	-612.9	-767.2	2.06	-2.06	-0.60	
4,664.0	2.55	235.93	4,506.6	987.6	-616.2	-771.8	2.90	-2.89	2.64	
4,749.8	2.37	233.08	4,592.4	991.2	-618.3	-774.8	0.25	-0.21	-3.33	
34C-11-6-92 TGT										
4,750.0	2.37	233.07	4,592.6	991.3	-618.3	-774.8	0.25	-0.21	-3.58	
4,835.0	1.82	232.57	4,677.5	994.4	-620.2	-777.2	0.65	-0.65	-0.59	
4,921.0	1.98	231.53	4,763.5	997.2	-622.0	-779.5	0.19	0.19	-1.21	
5,006.0	2.81	232.02	4,848.4	1,000.8	-624.2	-782.3	0.98	0.98	0.58	
5,092.0	2.62	223.95	4,934.3	1,004.8	-626.9	-785.3	0.50	-0.22	-9.38	
5,177.0	2.64	239.66	5,019.2	1,008.7	-629.3	-788.3	0.85	0.02	18.48	
5,262.0	2.42	240.76	5,104.1	1,012.4	-631.1	-791.6	0.27	-0.26	1.29	

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Survey										
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5,348.0	2.20	231.49	5,190.0	1,015.8	-633.0	-794.5	0.50	-0.26	-10.78	
5,433.0	1.71	264.27	5,275.0	1,018.5	-634.2	-797.0	1.41	-0.58	38.56	
5,518.0	1.58	268.58	5,360.0	1,020.5	-634.3	-799.4	0.21	-0.15	5.07	
5,604.0	1.27	262.34	5,445.9	1,022.3	-634.5	-801.6	0.40	-0.36	-7.26	
5,689.0	0.70	256.63	5,530.9	1,023.6	-634.7	-803.0	0.68	-0.67	-6.72	
5,775.0	1.36	223.62	5,616.9	1,025.0	-635.6	-804.2	1.00	0.77	-38.38	
5,860.0	1.63	227.89	5,701.9	1,027.3	-637.1	-805.8	0.34	0.32	5.02	
5,946.0	1.36	222.96	5,787.9	1,029.5	-638.7	-807.4	0.35	-0.31	-5.73	
6,031.0	1.05	219.62	5,872.8	1,031.2	-640.0	-808.6	0.37	-0.36	-3.93	
6,116.0	0.80	200.64	5,957.8	1,032.5	-641.2	-809.3	0.46	-0.29	-22.33	
6,202.0	0.44	207.72	6,043.8	1,033.3	-642.1	-809.7	0.43	-0.42	8.23	
6,287.0	0.26	148.39	6,128.8	1,033.7	-642.5	-809.7	0.45	-0.21	-69.80	
6,373.0	0.22	132.57	6,214.8	1,033.7	-642.8	-809.5	0.09	-0.05	-18.40	
6,458.0	0.34	136.34	6,299.8	1,033.6	-643.1	-809.2	0.14	0.14	4.44	
6,544.0	0.76	60.73	6,385.8	1,033.0	-643.0	-808.5	0.87	0.49	-87.92	
6,629.0	1.14	59.58	6,470.8	1,031.6	-642.3	-807.3	0.45	0.45	-1.35	
6,714.0	0.35	113.32	6,555.8	1,030.7	-642.0	-806.4	1.15	-0.93	63.22	
6,800.0	0.44	84.27	6,641.8	1,030.3	-642.0	-805.8	0.25	0.10	-33.78	
6,885.0	0.87	79.74	6,726.8	1,029.4	-641.9	-804.8	0.51	0.51	-5.33	
6,970.0	1.08	106.35	6,811.8	1,028.4	-642.0	-803.4	0.58	0.25	31.31	
7,056.0	1.41	89.11	6,897.8	1,027.1	-642.2	-801.6	0.58	0.38	-20.05	
7,141.0	2.07	58.56	6,982.7	1,024.8	-641.4	-799.2	1.31	0.78	-35.94	
7,227.0	2.68	51.45	7,068.6	1,021.2	-639.3	-796.3	0.79	0.71	-8.27	
7,312.0	2.55	51.58	7,153.6	1,017.3	-636.9	-793.3	0.15	-0.15	0.15	
7,368.0	2.50	48.85	7,209.5	1,014.9	-635.3	-791.4	0.23	-0.09	-4.87	
7,425.0	2.50	48.85	7,266.4	1,012.4	-633.7	-789.5	0.00	0.00	0.00	

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Site:	Valley Farms L	MD Reference:	34C-11-6-92 @ 5590.5usft (Capstar 321)
Well:	34C-11-6-92	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	MasterDB

Checked By: _____	Approved By: _____	Date: _____
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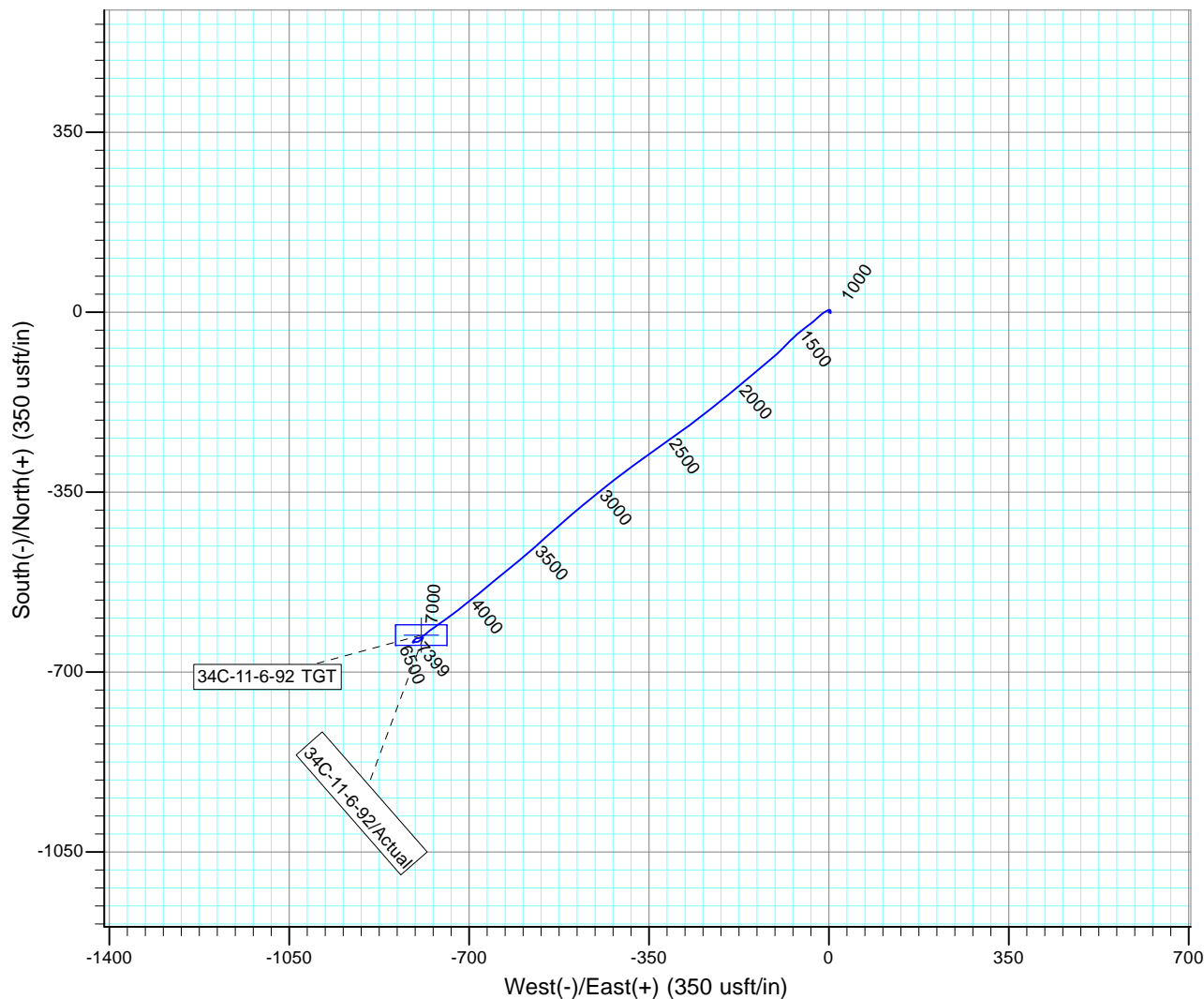
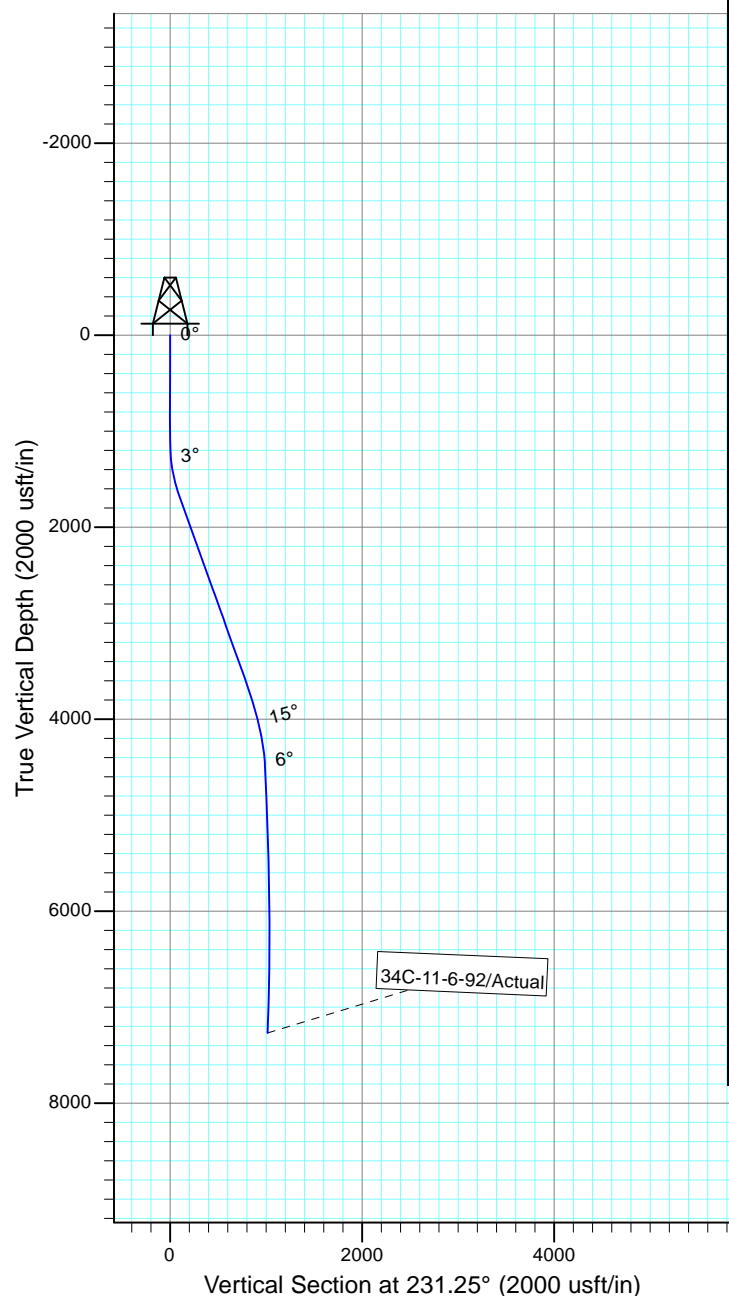
Project: Rockies Region
 Site: Valley Farms L
 Well: 34C-11-6-92
 Wellbore: Wellbore #1
 SURVEY: Actual

FINAL SURVEY REPORT



Azimuths to True North
 Magnetic North: 9.83°

Magnetic Field
 Strength: 52039.1snT
 Dip Angle: 65.76°
 Date: 4/7/2014
 Model: IGRF2010



Design: Actual (34C-11-6-92/Wellbore #1)

Created By: Sarah Webb-Hudson Date: 15:00, November 24 2014
 THIS SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND IS
 SUPPORTED BY ACTUAL FIELD DATA.