



Ursa Operating Company, LLC

Rockies Region

Tompkins

Tompkins 41B-08-07-95

Wellbore #1

Design: Actual

End Of Well Report

29 June, 2016



Company: Ursa Operating Company, LLC	Local Co-ordinate Reference: Well Tompkins 41B-08-07-95
Project: Rockies Region	TVD Reference: Tompkins 41B-08-07-95 @ 5549.0usft (Capstar 321)
Site: Tompkins	MD Reference: Tompkins 41B-08-07-95 @ 5549.0usft (Capstar 321)
Well: Tompkins 41B-08-07-95	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	Tompkins		
Site Position:	Northing:	1,602,267.16 usft	Latitude: 39° 27' 36.106 N
From: Lat/Long	Easting:	2,290,225.27 usft	Longitude: 108° 0' 51.048 W
Position Uncertainty: 0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence: -1.59 °

Well	Tompkins 41B-08-07-95, SHL LAT: 39.460025200 LONG: -108.013958700		
Well Position	+N/-S	0.0 usft	Northing: 1,602,263.87 usft
	+E/-W	0.0 usft	Easting: 2,290,287.65 usft
Position Uncertainty		0.0 usft	Wellhead Elevation: 5,549.0 usft
			Latitude: 39° 27' 36.090 N
			Longitude: 108° 0' 50.251 W
			Ground Level: 5,532.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	6/8/2016	9.81
			Dip Angle (°) 65.57
			Field Strength (nT) 51,625

Design	Actual		
Audit Notes:			
Version: 1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
			Direction (°) 185.24

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Actual	Database:	MasterDB

Survey Program	Date									
	6/29/2016									
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description						
139.0	1,665.0	Surface (Wellbore #1)	MWD	MWD - Standard						
1,744.0	6,935.0	Production (Wellbore #1)	MWD	MWD - Standard						

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	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
139.0	0.44	78.36	139.0	-0.2	0.1	0.5	0.32	0.32	0.00	0.00	
170.0	0.49	60.93	170.0	-0.3	0.2	0.8	0.48	0.16	-56.23	-56.23	
200.0	0.66	55.43	200.0	-0.4	0.4	1.0	0.60	0.57	-18.33	-18.33	
231.0	0.53	59.25	231.0	-0.6	0.5	1.3	0.44	-0.42	12.32	12.32	
261.0	0.66	58.33	261.0	-0.8	0.7	1.5	0.43	0.43	-3.07	-3.07	
291.0	0.70	70.59	291.0	-1.0	0.8	1.9	0.50	0.13	40.87	40.87	
322.0	0.83	58.24	322.0	-1.2	1.0	2.2	0.68	0.42	-39.84	-39.84	
353.0	0.70	58.24	353.0	-1.5	1.2	2.6	0.42	-0.42	0.00	0.00	
383.0	0.13	72.92	383.0	-1.6	1.3	2.8	1.92	-1.90	48.93	48.93	
414.0	0.31	216.92	414.0	-1.5	1.3	2.8	1.36	0.58	464.52	464.52	
445.0	0.35	225.80	445.0	-1.4	1.2	2.6	0.21	0.13	28.65	28.65	
475.0	0.44	237.84	475.0	-1.3	1.0	2.5	0.41	0.30	40.13	40.13	
506.0	0.57	206.06	506.0	-1.0	0.8	2.3	0.98	0.42	-102.52	-102.52	
536.0	0.43	216.67	536.0	-0.8	0.6	2.2	0.56	-0.47	35.37	35.37	
567.0	0.53	249.75	567.0	-0.6	0.5	2.0	0.93	0.32	106.71	106.71	
597.0	0.40	251.29	597.0	-0.5	0.4	1.7	0.44	-0.43	5.13	5.13	
627.0	0.57	227.52	627.0	-0.4	0.2	1.5	0.87	0.57	-79.23	-79.23	
657.0	0.44	257.13	657.0	-0.2	0.1	1.3	0.96	-0.43	98.70	98.70	
688.0	0.31	279.85	688.0	-0.2	0.1	1.1	0.63	-0.42	73.29	73.29	
718.0	0.04	265.97	718.0	-0.2	0.1	1.0	0.90	-0.90	-46.27	-46.27	

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Well: Tompkins 41B-08-07-95	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)	
749.0	0.31	232.04	749.0	-0.2	0.1	0.9	0.90	0.87	-109.45	
780.0	0.26	217.23	780.0	0.0	0.0	0.8	0.29	-0.16	-47.77	
810.0	0.09	72.70	810.0	0.0	-0.1	0.8	1.12	-0.57	-481.77	
840.0	0.13	37.54	840.0	0.0	0.0	0.9	0.26	0.13	-117.20	
882.0	0.62	199.74	882.0	0.1	-0.2	0.8	1.77	1.17	386.19	
926.0	2.33	188.62	926.0	1.3	-1.3	0.6	3.92	3.89	-25.27	
969.0	4.09	189.24	968.9	3.7	-3.7	0.2	4.09	4.09	1.44	
1,011.0	5.32	190.43	1,010.7	7.1	-7.1	-0.4	2.94	2.93	2.83	
1,053.0	6.33	189.33	1,052.5	11.4	-11.3	-1.1	2.42	2.40	-2.62	
1,096.0	7.34	186.56	1,095.2	16.5	-16.4	-1.8	2.47	2.35	-6.44	
1,139.0	8.35	184.36	1,137.8	22.3	-22.2	-2.3	2.45	2.35	-5.12	
1,182.0	8.83	184.32	1,180.3	28.8	-28.6	-2.8	1.12	1.12	-0.09	
1,224.0	9.14	184.10	1,221.8	35.3	-35.2	-3.3	0.74	0.74	-0.52	
1,267.0	9.38	184.36	1,264.3	42.2	-42.1	-3.8	0.57	0.56	0.60	
1,310.0	9.55	184.35	1,306.7	49.3	-49.1	-4.4	0.40	0.40	-0.02	
1,352.0	9.54	185.24	1,348.1	56.3	-56.1	-4.9	0.35	-0.02	2.12	
1,395.0	9.89	184.36	1,390.5	63.5	-63.3	-5.6	0.88	0.81	-2.05	
1,438.0	9.49	185.33	1,432.9	70.8	-70.5	-6.2	1.00	-0.93	2.26	
1,480.0	9.18	184.45	1,474.3	77.6	-77.3	-6.7	0.81	-0.74	-2.10	
1,523.0	9.23	182.82	1,516.8	84.4	-84.1	-7.2	0.62	0.12	-3.79	
1,566.0	9.01	183.53	1,559.2	91.3	-91.0	-7.6	0.57	-0.51	1.65	
1,608.0	8.93	185.96	1,600.7	97.8	-97.5	-8.1	0.92	-0.19	5.79	
1,651.0	8.88	187.04	1,643.2	104.5	-104.1	-8.9	0.41	-0.12	2.51	
1,665.0	8.58	188.97	1,657.0	106.6	-106.2	-9.1	2.99	-2.14	13.79	
1,744.0	8.99	189.11	1,735.1	118.6	-118.1	-11.0	0.52	0.52	0.18	
1,829.0	8.61	187.66	1,819.1	131.6	-131.0	-12.9	0.52	-0.45	-1.71	
1,914.0	8.31	187.74	1,903.2	144.1	-143.4	-14.6	0.35	-0.35	0.09	

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Well:	Tompkins 41B-08-07-95	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)	
2,000.0	9.05	187.44	1,988.2	157.1	-156.2	-16.3	0.86	0.86	-0.35	
2,086.0	10.15	182.38	2,073.0	171.4	-170.5	-17.5	1.61	1.28	-5.88	
2,171.0	9.67	179.61	2,156.7	186.0	-185.1	-17.8	0.80	-0.56	-3.26	
2,256.0	10.42	179.22	2,240.4	200.7	-200.0	-17.6	0.89	0.88	-0.46	
2,342.0	11.07	181.72	2,324.9	216.7	-216.0	-17.8	0.93	0.76	2.91	
2,427.0	10.63	185.11	2,408.4	232.7	-231.9	-18.7	0.91	-0.52	3.99	
2,512.0	11.12	186.73	2,491.9	248.7	-247.9	-20.4	0.68	0.58	1.91	
2,597.0	11.65	190.73	2,575.2	265.5	-264.5	-22.9	1.12	0.62	4.71	
2,683.0	11.25	189.15	2,659.5	282.5	-281.3	-25.9	0.59	-0.47	-1.84	
2,768.0	10.99	189.28	2,742.9	298.8	-297.5	-28.5	0.31	-0.31	0.15	
2,854.0	11.03	192.01	2,827.3	315.2	-313.6	-31.5	0.61	0.05	3.17	
2,939.0	10.36	190.68	2,910.8	330.9	-329.1	-34.6	0.84	-0.79	-1.56	
3,024.0	10.06	189.59	2,994.5	345.9	-343.9	-37.3	0.42	-0.35	-1.28	
3,109.0	10.42	191.70	3,078.1	360.9	-358.7	-40.1	0.61	0.42	2.48	
3,195.0	9.76	190.91	3,162.8	375.9	-373.5	-43.1	0.78	-0.77	-0.92	
3,280.0	9.67	187.31	3,246.6	390.2	-387.7	-45.3	0.72	-0.11	-4.24	
3,366.0	9.80	187.79	3,331.3	404.7	-402.1	-47.2	0.18	0.15	0.56	
3,451.0	9.36	190.03	3,415.1	418.8	-416.1	-49.4	0.68	-0.52	2.64	
3,536.0	9.58	185.81	3,499.0	432.8	-429.9	-51.3	0.86	0.26	-4.96	
3,621.0	9.98	187.52	3,582.7	447.2	-444.2	-53.0	0.58	0.47	2.01	
3,707.0	9.14	182.65	3,667.6	461.5	-458.5	-54.3	1.36	-0.98	-5.66	
3,792.0	9.67	187.00	3,751.4	475.4	-472.3	-55.5	1.04	0.62	5.12	
3,878.0	9.35	185.12	3,836.2	489.6	-486.4	-57.0	0.52	-0.37	-2.19	
3,963.0	10.20	183.88	3,920.0	504.0	-500.8	-58.1	1.03	1.00	-1.46	
4,049.0	9.71	184.01	4,004.7	518.9	-515.6	-59.1	0.57	-0.57	0.15	
4,134.0	8.79	181.06	4,088.6	532.5	-529.3	-59.8	1.22	-1.08	-3.47	
4,219.0	7.87	178.82	4,172.7	544.8	-541.6	-59.8	1.15	-1.08	-2.64	

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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)	
4,305.0	7.31	177.14	4,257.9	556.1	-552.9	-59.4	0.70	-0.65	-1.95	
4,390.0	7.12	175.88	4,342.3	566.6	-563.6	-58.7	0.29	-0.22	-1.48	
4,475.0	4.53	178.96	4,426.8	575.1	-572.2	-58.3	3.07	-3.05	3.62	
4,561.0	3.47	175.00	4,512.6	581.1	-578.2	-58.0	1.27	-1.23	-4.60	
4,646.0	3.16	180.14	4,597.5	585.9	-583.1	-57.8	0.50	-0.36	6.05	
4,731.0	3.03	172.36	4,682.3	590.5	-587.7	-57.5	0.52	-0.15	-9.15	
4,817.0	2.80	173.29	4,768.2	594.7	-592.0	-56.9	0.27	-0.27	1.08	
4,902.0	2.50	158.30	4,853.1	598.4	-595.8	-56.0	0.89	-0.35	-17.64	
4,988.0	2.64	162.12	4,939.1	601.9	-599.4	-54.7	0.26	0.16	4.44	
5,073.0	2.07	162.17	5,024.0	605.1	-602.7	-53.6	0.67	-0.67	0.06	
5,158.0	2.24	170.56	5,108.9	608.1	-605.8	-52.9	0.42	0.20	9.87	
5,244.0	0.79	206.47	5,194.9	610.3	-608.0	-52.9	1.94	-1.69	41.76	
5,329.0	0.75	214.29	5,279.9	611.4	-609.0	-53.5	0.13	-0.05	9.20	
5,414.0	0.70	180.58	5,364.9	612.4	-610.0	-53.8	0.50	-0.06	-39.66	
5,500.0	0.78	179.39	5,450.9	613.5	-611.1	-53.8	0.09	0.09	-1.38	
5,585.0	0.40	182.21	5,535.9	614.3	-612.0	-53.8	0.45	-0.45	3.32	
5,670.0	0.70	186.95	5,620.9	615.2	-612.8	-53.9	0.36	0.35	5.58	
5,755.0	1.14	328.24	5,705.9	615.0	-612.6	-54.4	2.05	0.52	166.22	
5,841.0	0.97	8.36	5,791.8	613.6	-611.1	-54.7	0.86	-0.20	46.65	
5,926.0	0.79	33.19	5,876.8	612.3	-609.9	-54.3	0.49	-0.21	29.21	
6,011.0	0.44	32.13	5,961.8	611.5	-609.2	-53.8	0.41	-0.41	-1.25	
6,098.0	1.85	332.50	6,048.8	610.1	-607.6	-54.3	1.92	1.62	-68.54	
6,182.0	1.41	333.73	6,132.8	608.0	-605.5	-55.3	0.53	-0.52	1.46	
6,267.0	1.63	326.83	6,217.8	606.2	-603.6	-56.5	0.34	0.26	-8.12	
6,352.0	1.58	321.43	6,302.7	604.4	-601.6	-57.9	0.19	-0.06	-6.35	
6,438.0	1.36	294.80	6,388.7	603.2	-600.3	-59.5	0.83	-0.26	-30.97	
6,523.0	1.85	291.81	6,473.7	602.5	-599.4	-61.7	0.58	0.58	-3.52	

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6,608.0	1.80	286.09	6,558.6	601.8	-598.5	-64.3	0.22	-0.06	-6.73
6,694.0	1.45	279.68	6,644.6	601.5	-597.9	-66.6	0.46	-0.41	-7.45
6,779.0	1.01	282.93	6,729.6	601.3	-597.6	-68.4	0.52	-0.52	3.82
6,865.0	0.97	274.58	6,815.5	601.2	-597.3	-69.9	0.17	-0.05	-9.71
Last PZD Survey									
6,935.0	0.97	274.58	6,885.5	601.2	-597.2	-71.1	0.00	0.00	0.00
Straight Line Projection to TD									

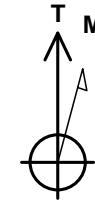
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,865.0	6,815.5	-597.3	-69.9	Last PZD Survey
6,935.0	6,885.5	-597.2	-71.1	Straight Line Projection to TD

Checked By: _____ Approved By: _____ Date: _____



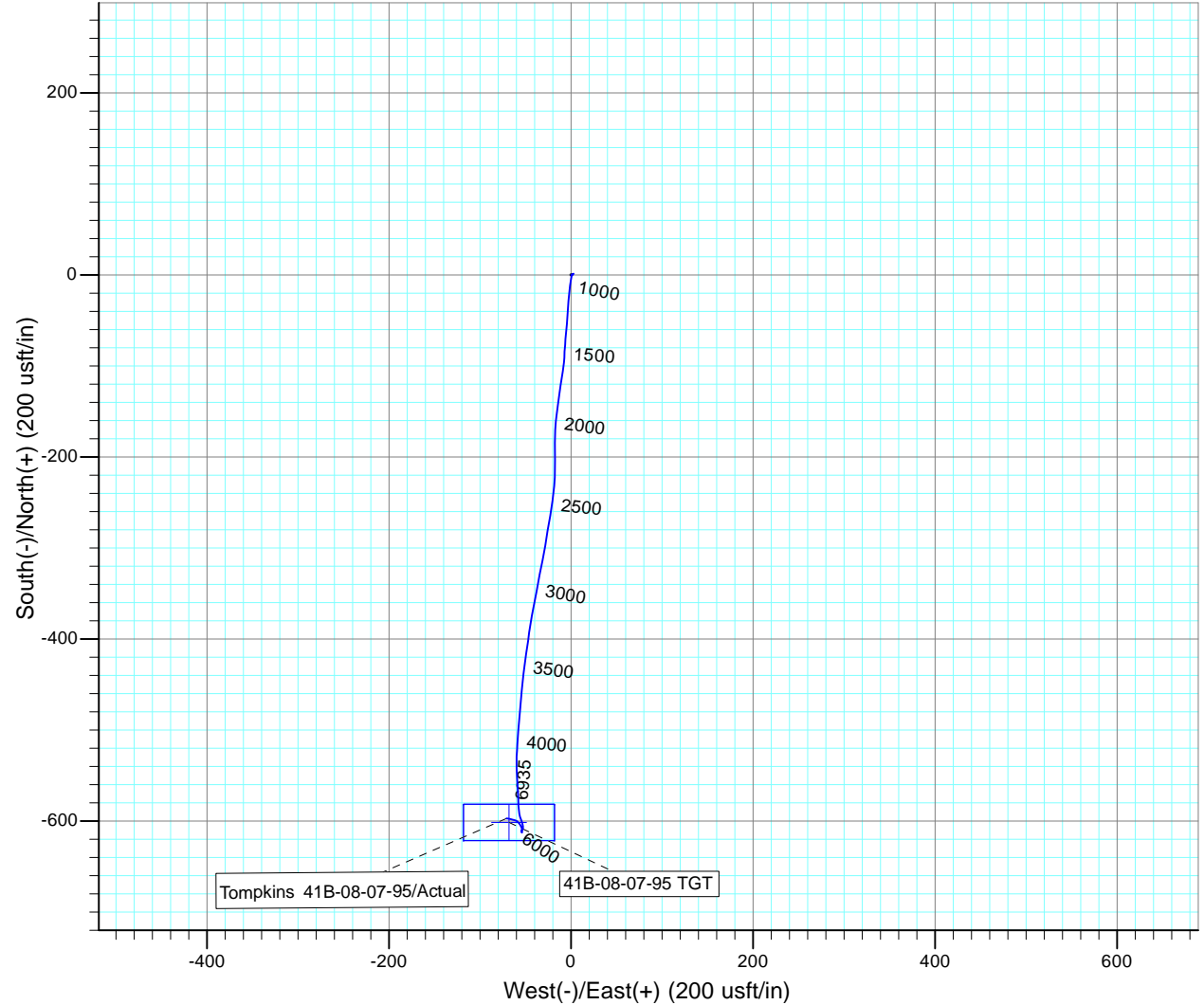
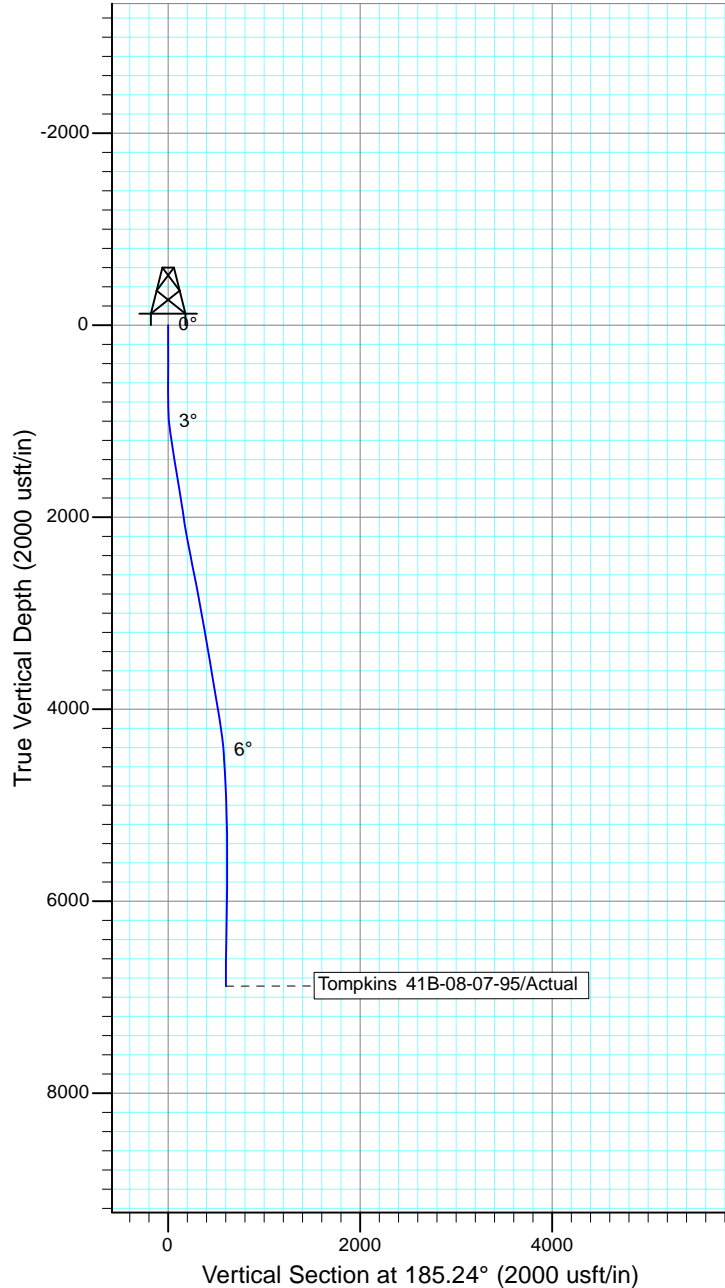
Project: Rockies Region
 Site: Tompkins
 Well: Tompkins 41B-08-07-95
 Wellbore: Wellbore #1
 SURVEY: Actual

FINAL SURVEY REPORT



Azimuths to True North
 Magnetic North: 9.81°

Magnetic Field
 Strength: 51624.6snT
 Dip Angle: 65.57°
 Date: 6/8/2016
 Model: IGRF2015



Design: Actual (Tompkins 41B-08-07-95/Wellbore #1)

Created By: Sarah Webb-Hudson Date: 6:41, June 29 2016
 THIS SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND IS
 SUPPORTED BY ACTUAL FIELD DATA.