



## NEW VENTURES

KANSAS

ZERR 10

ZERR 31-41-1H

ZERR 31-41-1H \_ ST1

## Deviation Summary Report

Disclaimer: Although the information contained in this report is based on sound engineering practices, the copyright owner (s) does (do) not accept any responsibility whatsoever, in negligence or otherwise, for any loss or damage arising from the possession or use of the report whether in terms of correctness or otherwise. The application, therefore, by the user of this report or any part thereof, is solely at the user's own risk.

## 1 General

### 1.1 Customer Information

Company	NEW VENTURES
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	ZERR 31-41-1H		01
Wellbore Legal Name	ZERR 31-41-1H ST1	Common Wellbore Name	ZERR 31-41-1H _ ST1
Project	KANSAS	Site	ZERR 10
Vertical Section Azimuth	180.93 (°)	North Reference	Grid
Origin N/S	0.0 (ft)	Origin E/W	0.0 (ft)
Spud Date	8/15/2012	UWI	
Active datum	ORIGINAL KB @2,774.0ft (above Mean Sea Level)		

## 2 Survey Name

### 2.1 Survey Name: SIDETRACK SURVEY

Survey Name	SIDETRACK SURVEY	Survey Company	Apache Corporation
Start Date/Time	9/8/2012	End Date/Time	
Tool Name	200906_EMS	Survey Engineer	apacheadmin

#### 2.1.1 Tie On Point

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)
3,681.0	0.22	292.92	3,681.0	-2.77	-2.85

#### 2.1.2 Survey Stations

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec. (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	Tface (°)
9/8/2012	Tie On	3,681.0	0.22	292.92	3,681.0	-2.77	-2.85	2.82	0.00	0.00	0.00	0.00
	NORMAL	3,788.0	6.68	179.79	3,787.8	-8.33	-2.76	8.37	6.66	6.66	-2.53	-2.53
	NORMAL	3,819.0	8.77	185.80	3,818.5	-12.48	-2.99	12.53	7.22	6.74	19.39	24.13
9/8/2012	NORMAL	3,692.0	0.50	209.10	3,692.0	-2.80	-2.89	2.85	4.76	2.55	-762.00	-108.48
	NORMAL	3,724.0	1.84	167.67	3,724.0	-3.43	-2.85	3.47	4.69	4.19	-129.47	-54.15
	NORMAL	3,756.0	4.55	180.60	3,755.9	-5.20	-2.75	5.24	8.71	8.47	40.41	21.41
	NORMAL	3,851.0	10.56	187.48	3,850.0	-17.82	-3.62	17.88	5.66	5.59	5.25	9.78
	NORMAL	3,883.0	12.47	187.31	3,881.4	-24.15	-4.44	24.22	5.97	5.97	-0.53	-1.10
	NORMAL	3,915.0	13.72	185.52	3,912.6	-31.36	-5.25	31.44	4.11	3.91	-5.59	-18.85
	NORMAL	3,946.0	15.69	185.84	3,942.6	-39.19	-6.03	39.28	6.36	6.35	1.03	2.52
9/9/2012	NORMAL	4,010.0	18.91	183.06	4,003.6	-58.19	-7.69	58.31	5.38	4.75	-8.09	-29.19
9/9/2012	NORMAL	4,042.0	21.51	181.61	4,033.7	-69.23	-8.13	69.36	8.27	8.13	-4.53	-11.59
	NORMAL	4,073.0	23.88	182.49	4,062.3	-81.19	-8.56	81.31	7.72	7.65	2.84	8.56
	NORMAL	4,105.0	26.02	182.50	4,091.3	-94.67	-9.15	94.81	6.69	6.69	0.03	0.12
	NORMAL	4,137.0	27.59	181.49	4,119.8	-109.09	-9.65	109.23	5.11	4.91	-3.16	-16.63
	NORMAL	4,169.0	29.80	182.25	4,147.9	-124.45	-10.15	124.59	7.00	6.91	2.38	9.71
	NORMAL	4,200.0	31.58	183.13	4,174.6	-140.25	-10.90	140.41	5.92	5.74	2.84	14.54
	NORMAL	4,232.0	34.16	181.84	4,201.4	-157.60	-11.64	157.77	8.35	8.06	-4.03	-15.73
	NORMAL	4,264.0	36.21	182.09	4,227.6	-176.03	-12.28	176.20	6.42	6.41	0.78	4.12
	NORMAL	4,296.0	38.50	181.73	4,253.0	-195.43	-12.92	195.61	7.19	7.16	-1.13	-5.59
9/9/2012	NORMAL	3,978.0	17.39	185.65	3,973.2	-48.25	-6.94	48.36	5.32	5.31	-0.59	-1.91
9/11/2012	NORMAL	4,327.0	41.20	179.80	4,276.8	-215.29	-13.18	215.47	9.58	8.71	-6.23	-25.35

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec. (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	Tface (°)
9/11/2012	NORMAL	4,359.0	44.41	180.67	4,300.3	-237.03	-13.27	237.21	10.20	10.03	2.72	10.76
	NORMAL	4,391.0	46.79	179.45	4,322.7	-259.89	-13.29	260.07	7.92	7.44	-3.81	-20.54
	NORMAL	4,423.0	49.07	179.69	4,344.1	-283.64	-13.11	283.82	7.15	7.13	0.75	4.55
	NORMAL	4,454.0	51.56	180.36	4,363.9	-307.50	-13.13	307.67	8.20	8.03	2.16	11.91
	NORMAL	4,486.0	54.75	179.97	4,383.1	-333.10	-13.20	333.27	10.02	9.97	-1.22	-5.71
	NORMAL	4,518.0	57.29	180.27	4,401.0	-359.63	-13.26	359.80	7.98	7.94	0.94	5.68
	NORMAL	4,550.0	59.88	180.12	4,417.7	-386.94	-13.35	387.11	8.10	8.09	-0.47	-2.87
	NORMAL	4,581.0	62.44	179.35	4,432.6	-414.09	-13.22	414.25	8.54	8.26	-2.48	-14.95
	NORMAL	4,613.0	65.89	178.89	4,446.6	-442.89	-12.78	443.04	10.86	10.78	-1.44	-6.94
	NORMAL	4,645.0	69.25	178.99	4,458.8	-472.46	-12.23	472.59	10.50	10.50	0.31	1.60
	NORMAL	4,677.0	71.86	178.74	4,469.4	-502.62	-11.63	502.75	8.19	8.16	-0.78	-5.20
	NORMAL	4,708.0	74.77	178.91	4,478.3	-532.31	-11.02	532.42	9.40	9.39	0.55	3.23
	NORMAL	4,740.0	77.43	178.43	4,486.0	-563.36	-10.30	563.45	8.44	8.31	-1.50	-9.99
	NORMAL	4,772.0	78.62	178.16	4,492.6	-594.65	-9.37	594.72	3.81	3.72	-0.84	-12.54
	NORMAL	4,804.0	81.26	177.86	4,498.2	-626.14	-8.28	626.19	8.30	8.25	-0.94	-6.41
9/12/2012	NORMAL	4,835.0	83.44	177.71	4,502.4	-656.84	-7.09	656.86	7.05	7.03	-0.48	-3.91
	NORMAL	4,867.0	85.61	178.10	4,505.4	-688.67	-5.92	688.67	6.89	6.78	1.22	10.16
	NORMAL	4,899.0	85.91	179.31	4,507.8	-720.57	-5.20	720.56	3.89	0.94	3.78	76.08
9/20/2012	NORMAL	4,954.0	89.47	180.60	4,510.0	-775.51	-5.16	775.50	6.88	6.47	2.35	19.93
	NORMAL	5,032.0	88.33	175.14	4,511.5	-853.42	-2.26	853.34	7.15	-1.46	-7.00	-101.84
	NORMAL	5,063.0	88.02	172.97	4,512.5	-884.23	0.95	884.10	7.07	-1.00	-7.00	-98.17
	NORMAL	5,097.0	89.32	172.64	4,513.3	-917.95	5.20	917.75	3.94	3.82	-0.97	-14.24
	NORMAL	5,128.0	90.62	173.98	4,513.3	-948.74	8.81	948.47	6.02	4.19	4.32	45.87
	NORMAL	5,160.0	90.93	174.90	4,512.9	-980.59	11.91	980.27	3.03	0.97	2.88	71.37
	NORMAL	5,192.0	90.19	175.39	4,512.5	-1,012.47	14.62	1,012.10	2.77	-2.31	1.53	146.49
	NORMAL	5,223.0	90.80	177.61	4,512.3	-1,043.41	16.51	1,043.01	7.43	1.97	7.16	74.63
	NORMAL	5,255.0	91.36	180.38	4,511.7	-1,075.40	17.08	1,074.98	8.83	1.75	8.66	78.54
	NORMAL	5,287.0	91.73	182.02	4,510.8	-1,107.38	16.41	1,106.97	5.25	1.16	5.13	77.26
	NORMAL	5,319.0	92.47	182.69	4,509.6	-1,139.33	15.09	1,138.93	3.12	2.31	2.09	42.13
	NORMAL	5,350.0	93.15	183.06	4,508.1	-1,170.25	13.54	1,169.88	2.50	2.19	1.19	28.51
9/21/2012	NORMAL	5,387.0	92.90	182.47	4,506.2	-1,207.16	11.76	1,206.81	1.73	-0.68	-1.59	-112.98
	NORMAL	5,418.0	92.35	182.51	4,504.7	-1,238.09	10.41	1,237.76	1.78	-1.77	0.13	175.84
	NORMAL	5,450.0	92.53	182.59	4,503.4	-1,270.03	8.99	1,269.72	0.62	0.56	0.25	23.94
	NORMAL	5,482.0	92.84	183.24	4,501.9	-1,301.96	7.36	1,301.67	2.25	0.97	2.03	64.46
	NORMAL	5,514.0	92.84	183.60	4,500.3	-1,333.86	5.46	1,333.60	1.12	0.00	1.13	89.99
	NORMAL	5,545.0	92.97	183.53	4,498.7	-1,364.76	3.53	1,364.52	0.48	0.42	-0.23	-28.27
	NORMAL	5,577.0	93.09	183.53	4,497.0	-1,396.66	1.56	1,396.45	0.38	0.38	0.00	0.00
	NORMAL	5,609.0	94.14	183.67	4,495.0	-1,428.53	-0.44	1,428.35	3.31	3.28	0.44	7.58
	NORMAL	5,641.0	91.92	183.36	4,493.3	-1,460.42	-2.40	1,460.27	7.00	-6.94	-0.97	-172.05
	NORMAL	5,672.0	91.79	183.19	4,492.3	-1,491.35	-4.17	1,491.23	0.69	-0.42	-0.55	-127.42
	NORMAL	5,736.0	94.88	184.46	4,488.6	-1,555.09	-8.43	1,555.03	5.22	4.83	1.98	22.28
	NORMAL	5,768.0	94.45	184.56	4,486.0	-1,586.89	-10.94	1,586.86	1.38	-1.34	0.31	166.95
	NORMAL	5,799.0	94.21	184.94	4,483.7	-1,617.70	-13.50	1,617.70	1.45	-0.77	1.23	122.34
	NORMAL	5,831.0	92.29	183.83	4,481.8	-1,649.55	-15.94	1,649.59	6.93	-6.00	-3.47	-149.97
	NORMAL	5,863.0	92.22	183.21	4,480.6	-1,681.46	-17.90	1,681.53	1.95	-0.22	-1.94	-96.43
9/22/2012	NORMAL	5,863.0	92.22	183.21	4,480.6	-1,681.46	-17.90	1,681.53	0.00	0.00	0.00	0.00
9/25/2012	NORMAL	5,906.0	93.40	182.86	4,478.5	-1,724.35	-20.18	1,724.45	2.86	2.74	-0.81	-16.49
	NORMAL	5,938.0	93.40	182.45	4,476.6	-1,756.26	-21.66	1,756.38	1.28	0.00	-1.28	-89.99
	NORMAL	5,970.0	93.52	181.76	4,474.6	-1,788.18	-22.83	1,788.31	2.18	0.38	-2.16	-80.10
	NORMAL	6,034.0	92.41	179.97	4,471.2	-1,852.08	-23.73	1,852.22	3.47	-2.50	-2.41	-136.11
	NORMAL	6,065.0	90.87	180.03	4,470.3	-1,883.06	-23.73	1,883.20	4.97	-4.97	0.19	177.77
	NORMAL	6,097.0	90.80	180.18	4,469.8	-1,915.06	-23.78	1,915.19	0.52	-0.22	0.47	115.02
	NORMAL	6,129.0	90.99	180.58	4,469.3	-1,947.05	-24.00	1,947.19	1.38	0.59	1.25	64.59
	NORMAL	6,161.0	90.62	180.71	4,468.9	-1,979.05	-24.36	1,979.18	1.23	-1.16	0.41	160.64
9/25/2012	NORMAL	6,197.0	90.62	180.61	4,468.5	-2,015.05	-24.77	2,015.18	0.28	0.00	-0.28	-90.00
	NORMAL	6,228.0	90.37	180.74	4,468.2	-2,046.04	-25.14	2,046.18	0.91	-0.81	0.42	152.53
	NORMAL	6,260.0	90.06	180.63	4,468.1	-2,078.04	-25.52	2,078.18	1.03	-0.97	-0.34	-160.46

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec. (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	Tface (°)	
9/25/2012	NORMAL	6,292.0	91.67	181.11	4,467.6	-2,110.03	-26.00	2,110.18	5.25	5.03	1.50	16.60	
	NORMAL	6,324.0	93.15	182.44	4,466.3	-2,141.99	-26.99	2,142.14	6.22	4.63	4.16	41.89	
9/26/2012	NORMAL	6,355.0	93.71	183.15	4,464.4	-2,172.89	-28.50	2,173.07	2.91	1.81	2.29	51.67	
	NORMAL	6,419.0	93.77	183.12	4,460.3	-2,236.66	-32.00	2,236.89	0.10	0.09	-0.05	-26.52	
	NORMAL	6,451.0	93.33	182.45	4,458.3	-2,268.56	-33.55	2,268.81	2.50	-1.38	-2.09	-123.32	
	NORMAL	6,514.0	93.09	180.20	4,454.7	-2,331.44	-35.00	2,331.70	3.59	-0.38	-3.57	-96.03	
	NORMAL	6,550.0	91.66	179.05	4,453.3	-2,367.41	-34.77	2,367.66	5.10	-3.97	-3.19	-141.19	
	NORMAL	6,582.0	90.43	178.46	4,452.7	-2,399.40	-34.07	2,399.63	4.26	-3.84	-1.84	-154.37	
9/26/2012	NORMAL	6,614.0	88.70	178.61	4,452.9	-2,431.38	-33.25	2,431.60	5.43	-5.41	0.47	175.05	
	NORMAL	6,646.0	88.15	178.98	4,453.8	-2,463.36	-32.58	2,463.57	2.07	-1.72	1.16	146.09	
	NORMAL	6,677.0	89.01	179.51	4,454.6	-2,494.35	-32.17	2,494.54	3.26	2.77	1.71	31.64	
	NORMAL	6,709.0	89.57	180.02	4,455.0	-2,526.35	-32.04	2,526.54	2.37	1.75	1.59	42.33	
	NORMAL	6,741.0	90.18	180.23	4,455.0	-2,558.35	-32.11	2,558.53	2.02	1.91	0.66	19.00	
	NORMAL	6,773.0	91.05	180.44	4,454.7	-2,590.34	-32.30	2,590.53	2.80	2.72	0.66	13.57	
	NORMAL	6,804.0	91.54	180.65	4,454.0	-2,621.34	-32.59	2,621.52	1.72	1.58	0.68	23.19	
	NORMAL	6,836.0	91.48	180.64	4,453.1	-2,653.32	-32.95	2,653.51	0.19	-0.19	-0.03	-170.54	
	NORMAL	6,868.0	89.94	180.70	4,452.7	-2,685.32	-33.33	2,685.50	4.82	-4.81	0.19	177.77	
	NORMAL	6,900.0	88.83	180.63	4,453.1	-2,717.31	-33.70	2,717.50	3.48	-3.47	-0.22	-176.39	
	NORMAL	6,931.0	87.40	180.84	4,454.1	-2,748.29	-34.10	2,748.48	4.66	-4.61	0.68	171.65	
	NORMAL	6,963.0	86.42	180.93	4,455.8	-2,780.24	-34.59	2,780.44	3.08	-3.06	0.28	174.76	
	9/27/2012	NORMAL	7,027.0	85.24	182.11	4,460.8	-2,844.02	-36.25	2,844.24	2.02	0.00	2.03	90.03
		NORMAL	7,058.0	86.79	182.44	4,463.0	-2,874.92	-37.48	2,875.15	5.11	5.00	1.06	12.00
NORMAL		7,090.0	88.40	183.38	4,464.3	-2,906.85	-39.10	2,907.10	5.82	5.03	2.94	30.28	
NORMAL		7,122.0	88.27	182.77	4,465.2	-2,938.79	-40.81	2,939.07	1.95	-0.41	-1.91	-102.04	
NORMAL		7,154.0	87.65	182.57	4,466.4	-2,970.74	-42.30	2,971.03	2.04	-1.94	-0.63	-162.14	
NORMAL		7,185.0	87.71	182.36	4,467.6	-3,001.68	-43.64	3,002.00	0.70	0.19	-0.68	-74.05	
NORMAL		7,217.0	88.33	182.34	4,468.7	-3,033.64	-44.95	3,033.97	1.94	1.94	-0.06	-1.85	
NORMAL		7,249.0	88.27	182.45	4,469.7	-3,065.59	-46.28	3,065.94	0.39	-0.19	0.34	118.62	
NORMAL		7,281.0	89.07	183.00	4,470.4	-3,097.55	-47.81	3,097.92	3.03	2.50	1.72	34.51	
NORMAL		7,312.0	88.70	182.29	4,471.0	-3,128.51	-49.24	3,128.90	2.58	-1.19	-2.29	-117.54	
9/27/2012		NORMAL	6,995.0	85.24	181.46	4,458.2	-2,812.15	-35.25	2,812.35	4.04	-3.69	1.66	155.89
		NORMAL	7,349.0	89.51	181.82	4,471.6	-3,165.48	-50.56	3,165.88	2.53	2.19	-1.27	-30.13
		NORMAL	7,380.0	90.49	181.58	4,471.6	-3,196.47	-51.48	3,196.88	3.25	3.16	-0.77	-13.76
		NORMAL	7,412.0	90.43	181.02	4,471.4	-3,228.46	-52.21	3,228.88	1.76	-0.19	-1.75	-96.11
	NORMAL	7,444.0	91.36	180.51	4,470.9	-3,260.45	-52.64	3,260.88	3.31	2.91	-1.59	-28.73	
9/30/2012	NORMAL	7,476.0	92.04	180.27	4,469.9	-3,292.44	-52.85	3,292.86	2.25	2.13	-0.75	-19.43	
	NORMAL	7,508.0	91.73	179.53	4,468.9	-3,324.42	-52.80	3,324.84	2.51	-0.97	-2.31	-112.73	
	NORMAL	7,540.0	92.10	179.96	4,467.8	-3,356.40	-52.65	3,356.81	1.77	1.16	1.34	49.27	
	NORMAL	7,572.0	92.16	179.89	4,466.6	-3,388.38	-52.61	3,388.79	0.29	0.19	-0.22	-49.38	
	NORMAL	7,604.0	91.73	179.67	4,465.5	-3,420.36	-52.49	3,420.76	1.51	-1.34	-0.69	-152.91	
	NORMAL	7,667.0	92.78	179.64	4,463.0	-3,483.31	-52.11	3,483.70	1.67	1.67	-0.05	-1.63	
	NORMAL	7,703.0	91.05	179.07	4,461.8	-3,519.28	-51.71	3,519.66	5.06	-4.81	-1.58	-161.76	
	NORMAL	7,735.0	89.81	178.46	4,461.6	-3,551.27	-51.02	3,551.64	4.32	-3.88	-1.91	-153.80	
	NORMAL	7,767.0	90.06	178.61	4,461.6	-3,583.26	-50.20	3,583.61	0.91	0.78	0.47	30.96	
10/1/2012	NORMAL	7,798.0	88.70	178.74	4,462.0	-3,614.25	-49.48	3,614.58	4.41	-4.39	0.42	174.54	
	NORMAL	7,830.0	88.33	178.77	4,462.8	-3,646.24	-48.79	3,646.55	1.16	-1.16	0.09	175.37	
	NORMAL	7,862.0	88.08	179.06	4,463.8	-3,678.21	-48.18	3,678.51	1.20	-0.78	0.91	130.78	
	NORMAL	7,894.0	88.33	178.81	4,464.8	-3,710.19	-47.59	3,710.48	1.10	0.78	-0.78	-44.99	
	NORMAL	7,957.0	87.77	179.04	4,466.9	-3,773.14	-46.41	3,773.40	0.96	-0.89	0.37	157.69	
	NORMAL	7,989.0	86.60	179.18	4,468.5	-3,805.10	-45.91	3,805.35	3.68	-3.66	0.44	173.19	
	NORMAL	8,021.0	85.67	180.61	4,470.7	-3,837.03	-45.85	3,837.27	5.32	-2.91	4.47	123.14	
10/1/2012	NORMAL	8,053.0	85.61	181.91	4,473.1	-3,868.93	-46.55	3,869.17	4.06	-0.19	4.06	92.70	
	NORMAL	8,084.0	85.92	183.33	4,475.4	-3,899.81	-47.96	3,900.07	4.68	1.00	4.58	77.71	
	NORMAL	8,116.0	86.91	185.55	4,477.4	-3,931.65	-50.44	3,931.95	7.58	3.09	6.94	66.00	
	NORMAL	8,148.0	87.22	186.14	4,479.0	-3,963.44	-53.69	3,963.79	2.08	0.97	1.84	62.27	
	NORMAL	8,180.0	88.08	185.73	4,480.3	-3,995.24	-57.00	3,995.64	2.98	2.69	-1.28	-25.48	
	NORMAL	8,211.0	89.51	185.58	4,481.0	-4,026.08	-60.05	4,026.53	4.64	4.61	-0.48	-5.99	

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec. (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	Tface (°)
10/1/2012	NORMAL	8,243.0	90.43	188.87	4,481.0	-4,057.82	-64.08	4,058.33	10.68	2.88	10.28	74.38
	NORMAL	8,275.0	91.92	184.17	4,480.4	-4,089.60	-67.71	4,090.16	15.40	4.66	-14.69	-72.37
	NORMAL	8,311.0	92.97	183.29	4,478.8	-4,125.49	-70.05	4,126.08	3.80	2.92	-2.44	-39.92
1/1/6002	NORMAL	6,002.0	93.21	180.74	4,472.8	-1,820.12	-23.53	1,820.26	3.33	-0.97	-3.19	-106.90

2.2 Survey Name: Zerr 31-41-1H\_Survey\_Final\_Curve\_Lateral

Survey Name	Zerr 31-41-1H_Survey_Final_Curve_Lateral	Survey Company	Apache
Start Date/Time	10/9/2012	End Date/Time	
Tool Name	200906_MWD+SC	Survey Engineer	Apache

2.2.1 Tie On Point

MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)
3,681.0	0.22	175.14	3,681.0	-2.77	-2.85

2.2.2 Survey Stations

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec. (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	Tface (°)
10/9/2012	NORMAL	5,032.0	88.33	175.14	4,514.5	-852.98	1.19	852.85	3.62	1.82	-3.14	-59.96
	NORMAL	5,063.0	88.02	172.97	4,515.5	-883.80	4.39	883.61	7.07	-1.00	-7.00	-98.17
10/9/2012	Tie On	0.0	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NORMAL	148.0	0.10	247.11	148.0	-0.05	-0.12	0.05	0.07	0.07	0.00	245.54
	NORMAL	241.0	0.17	330.15	241.0	0.04	-0.26	-0.03	0.20	0.08	89.29	115.20
	NORMAL	342.0	0.21	285.36	342.0	0.22	-0.52	-0.21	0.15	0.04	-44.35	-98.07
	NORMAL	436.0	0.11	329.19	436.0	0.34	-0.73	-0.33	0.16	-0.11	46.63	149.75
	NORMAL	530.0	0.19	313.78	530.0	0.53	-0.89	-0.51	0.09	0.09	-16.39	-34.61
	NORMAL	623.0	0.08	227.66	623.0	0.59	-1.05	-0.57	0.22	-0.12	-92.60	-156.62
	NORMAL	717.0	0.12	359.36	717.0	0.64	-1.10	-0.62	0.19	0.04	140.11	150.73
	NORMAL	811.0	0.17	344.04	811.0	0.88	-1.13	-0.86	0.07	0.05	-16.30	-45.62
	NORMAL	905.0	0.17	10.01	905.0	1.15	-1.15	-1.13	0.08	0.00	27.63	102.98
	NORMAL	968.0	0.08	325.97	968.0	1.27	-1.16	-1.26	0.20	-0.14	-69.90	-153.69
	NORMAL	999.0	0.08	338.23	999.0	1.31	-1.18	-1.29	0.06	0.00	39.55	96.13
	NORMAL	1,030.0	0.18	333.19	1,030.0	1.38	-1.21	-1.36	0.32	0.32	-16.26	-9.05
	NORMAL	1,062.0	0.13	46.88	1,062.0	1.45	-1.20	-1.43	0.59	-0.16	230.28	138.99
	NORMAL	1,093.0	0.18	37.54	1,093.0	1.51	-1.15	-1.49	0.18	0.16	-30.13	-31.53
	NORMAL	1,124.0	0.13	55.61	1,124.0	1.57	-1.09	-1.55	0.22	-0.16	58.29	144.44
	NORMAL	1,155.0	0.14	55.93	1,155.0	1.61	-1.03	-1.59	0.03	0.03	1.03	4.47
	NORMAL	1,187.0	0.14	54.28	1,187.0	1.65	-0.97	-1.64	0.01	0.00	-5.16	-90.82
	NORMAL	1,218.0	0.15	69.56	1,218.0	1.69	-0.90	-1.67	0.13	0.03	49.29	83.22
	NORMAL	1,249.0	0.08	342.51	1,249.0	1.72	-0.86	-1.71	0.54	-0.23	-280.81	-151.29
	NORMAL	1,281.0	0.11	117.54	1,281.0	1.73	-0.84	-1.72	0.55	0.09	421.97	153.78
	NORMAL	1,312.0	0.05	332.31	1,312.0	1.73	-0.82	-1.72	0.50	-0.19	-468.48	-169.31
	NORMAL	1,343.0	0.00	332.20	1,343.0	1.74	-0.83	-1.73	0.16	-0.16	0.00	-180.00
	NORMAL	1,375.0	0.13	119.02	1,375.0	1.72	-0.80	-1.71	0.41	0.41	0.00	117.45
	NORMAL	1,406.0	0.11	126.34	1,406.0	1.69	-0.74	-1.68	0.08	-0.06	23.61	146.15
	NORMAL	1,437.0	0.10	5.09	1,437.0	1.70	-0.72	-1.69	0.59	-0.03	-391.13	-152.16
	NORMAL	1,468.0	0.15	118.88	1,468.0	1.71	-0.68	-1.69	0.68	0.16	367.06	139.47
	NORMAL	1,613.0	0.25	150.02	1,613.0	1.34	-0.36	-1.33	0.10	0.07	21.48	63.67
	NORMAL	1,645.0	0.25	149.14	1,645.0	1.22	-0.28	-1.21	0.01	0.00	-2.75	-90.44
	NORMAL	1,677.0	0.25	131.73	1,677.0	1.11	-0.20	-1.11	0.24	0.00	-54.41	-98.70
	NORMAL	1,708.0	0.33	138.25	1,708.0	1.00	-0.09	-1.00	0.28	0.26	21.03	25.70
	NORMAL	1,740.0	0.33	129.14	1,740.0	0.87	0.05	-0.88	0.16	0.00	-28.47	-94.55
	NORMAL	1,772.0	0.31	164.03	1,772.0	0.73	0.14	-0.74	0.60	-0.06	109.03	113.12

2.2.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec. (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	Tface (°)
10/9/2012	NORMAL	1,803.0	0.25	142.08	1,803.0	0.60	0.21	-0.60	0.39	-0.19	-70.81	-129.90
	NORMAL	1,835.0	0.19	145.08	1,835.0	0.50	0.28	-0.51	0.19	-0.19	9.38	170.63
	NORMAL	1,867.0	0.35	164.63	1,867.0	0.36	0.34	-0.37	0.57	0.50	61.09	39.95
	NORMAL	1,899.0	0.31	158.53	1,899.0	0.19	0.39	-0.19	0.17	-0.13	-19.06	-141.73
	NORMAL	1,930.0	0.20	186.92	1,930.0	0.06	0.42	-0.06	0.53	-0.35	91.58	144.65
	NORMAL	1,962.0	0.35	138.17	1,962.0	-0.07	0.48	0.06	0.83	0.47	-152.34	-83.33
	NORMAL	1,994.0	0.25	201.49	1,994.0	-0.21	0.52	0.20	1.02	-0.31	197.88	136.78
	NORMAL	2,026.0	0.28	178.94	2,026.0	-0.35	0.49	0.34	0.34	0.09	-70.47	-85.42
	NORMAL	2,057.0	0.22	207.01	2,057.0	-0.48	0.47	0.47	0.43	-0.19	90.55	129.68
	NORMAL	2,093.0	0.31	189.49	2,093.0	-0.64	0.42	0.63	0.33	0.25	-48.67	-50.98
	NORMAL	2,125.0	0.22	216.10	2,125.0	-0.77	0.37	0.77	0.47	-0.28	83.16	138.99
	NORMAL	2,157.0	0.31	192.72	2,157.0	-0.91	0.31	0.90	0.43	0.28	-73.06	-62.31
	NORMAL	2,189.0	0.20	173.75	2,189.0	-1.05	0.30	1.04	0.43	-0.34	-59.28	-151.72
	NORMAL	2,220.0	0.20	225.89	2,220.0	-1.14	0.27	1.14	0.57	0.00	168.19	116.07
	NORMAL	2,252.0	0.32	211.32	2,252.0	-1.25	0.18	1.25	0.43	0.38	-45.53	-36.27
	NORMAL	2,284.0	0.25	193.07	2,284.0	-1.40	0.12	1.40	0.36	-0.22	-57.03	-136.53
	NORMAL	2,315.0	0.31	187.17	2,315.0	-1.55	0.09	1.55	0.21	0.19	-19.03	-28.64
	NORMAL	2,347.0	0.25	219.61	2,347.0	-1.69	0.04	1.69	0.52	-0.19	101.38	126.44
	NORMAL	2,379.0	0.22	208.62	2,379.0	-1.80	-0.04	1.80	0.17	-0.09	-34.34	-129.06
	NORMAL	2,411.0	0.19	200.47	2,411.0	-1.90	-0.09	1.90	0.13	-0.09	-25.47	-139.84
	NORMAL	2,442.0	0.28	199.97	2,442.0	-2.02	-0.13	2.02	0.29	0.29	-1.61	-1.56
	NORMAL	2,474.0	0.25	180.00	2,474.0	-2.16	-0.16	2.16	0.30	-0.09	-62.41	-117.81
	NORMAL	2,506.0	0.33	187.68	2,506.0	-2.32	-0.17	2.33	0.28	0.25	24.00	29.79
	NORMAL	2,538.0	0.31	193.25	2,538.0	-2.50	-0.20	2.50	0.12	-0.06	17.41	125.50
	NORMAL	2,570.0	0.31	206.88	2,570.0	-2.66	-0.26	2.66	0.23	0.00	42.59	96.81
	NORMAL	2,601.0	0.32	186.59	2,601.0	-2.82	-0.31	2.83	0.36	0.03	-65.45	-95.08
	NORMAL	2,633.0	0.26	196.11	2,633.0	-2.98	-0.34	2.98	0.24	-0.19	29.75	145.93
	NORMAL	2,665.0	0.26	233.20	2,665.0	-3.09	-0.42	3.10	0.52	0.00	115.91	108.54
	NORMAL	2,696.0	0.25	208.53	2,696.0	-3.19	-0.50	3.20	0.35	-0.03	-79.58	-107.46
	NORMAL	2,728.0	0.22	220.54	2,728.0	-3.30	-0.58	3.31	0.18	-0.09	37.53	127.25
	NORMAL	2,760.0	0.28	251.25	2,760.0	-3.37	-0.69	3.38	0.45	0.19	95.97	81.75
	NORMAL	2,792.0	0.20	237.25	2,792.0	-3.43	-0.81	3.44	0.31	-0.25	-43.75	-150.62
	NORMAL	2,824.0	0.33	232.91	2,824.0	-3.52	-0.93	3.53	0.41	0.41	-13.56	-10.95
	NORMAL	2,855.0	0.25	221.50	2,855.0	-3.62	-1.05	3.64	0.32	-0.26	-36.81	-149.79
	NORMAL	2,887.0	0.17	251.79	2,887.0	-3.69	-1.14	3.70	0.42	-0.25	94.66	140.28
	NORMAL	2,919.0	0.12	231.13	2,919.0	-3.72	-1.21	3.74	0.22	-0.16	-64.56	-143.74
	NORMAL	2,950.0	0.00	144.90	2,950.0	-3.74	-1.24	3.76	0.39	-0.39	0.00	-180.00
	NORMAL	2,982.0	0.06	84.40	2,982.0	-3.74	-1.22	3.76	0.19	0.19	0.00	82.83
	NORMAL	3,014.0	0.14	333.44	3,014.0	-3.70	-1.22	3.72	0.53	0.25	-346.75	-130.10
	NORMAL	3,046.0	0.14	350.94	3,046.0	-3.63	-1.24	3.65	0.13	0.00	54.69	98.75
	NORMAL	3,078.0	0.00	189.79	3,078.0	-3.59	-1.25	3.61	0.44	-0.44	0.00	-180.00
	NORMAL	3,109.0	0.20	337.11	3,109.0	-3.54	-1.27	3.56	0.65	0.65	0.00	335.54
	NORMAL	3,141.0	0.20	314.01	3,141.0	-3.45	-1.33	3.47	0.25	0.00	-72.19	-101.55
	NORMAL	3,173.0	0.22	338.31	3,173.0	-3.36	-1.40	3.38	0.28	0.06	75.94	89.68
	NORMAL	3,205.0	0.12	326.48	3,205.0	-3.27	-1.44	3.29	0.33	-0.31	-36.97	-166.51
	NORMAL	3,236.0	0.12	294.01	3,236.0	-3.23	-1.49	3.25	0.22	0.00	-104.74	-106.23
	NORMAL	3,268.0	0.14	307.95	3,268.0	-3.19	-1.55	3.22	0.12	0.06	43.56	64.79
	NORMAL	3,300.0	0.20	253.07	3,300.0	-3.19	-1.63	3.21	0.52	0.19	-171.50	-98.67
	NORMAL	3,332.0	0.26	261.84	3,332.0	-3.21	-1.76	3.24	0.22	0.19	27.41	34.84
	NORMAL	3,363.0	0.26	279.46	3,363.0	-3.21	-1.90	3.24	0.26	0.00	56.84	98.81
	NORMAL	3,395.0	0.14	259.11	3,395.0	-3.21	-2.01	3.24	0.43	-0.38	-63.59	-159.28
	NORMAL	3,427.0	0.14	240.22	3,427.0	-3.23	-2.08	3.27	0.14	0.00	-59.03	-99.44
	NORMAL	3,459.0	0.25	261.62	3,459.0	-3.26	-2.18	3.30	0.41	0.34	66.88	44.52
	NORMAL	3,490.0	0.20	352.43	3,490.0	-3.22	-2.26	3.25	1.04	-0.16	292.94	141.66
	NORMAL	3,522.0	0.22	310.91	3,522.0	-3.12	-2.31	3.16	0.47	0.06	-129.75	-103.60
	NORMAL	3,554.0	0.22	306.53	3,554.0	-3.05	-2.40	3.09	0.05	0.00	-13.69	-92.19
	NORMAL	3,585.0	0.20	284.23	3,585.0	-3.00	-2.50	3.04	0.27	-0.06	-71.94	-114.73

2.2.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec. (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	Tface (°)
10/9/2012	NORMAL	3,617.0	0.17	299.16	3,617.0	-2.96	-2.60	3.00	0.18	-0.09	46.66	129.21
	NORMAL	3,649.0	0.40	311.23	3,649.0	-2.86	-2.73	2.91	0.74	0.72	37.72	20.72
	NORMAL	3,681.0	0.22	292.92	3,681.0	-2.77	-2.87	2.81	0.64	-0.56	-57.22	-160.12
	NORMAL	3,692.0	0.50	209.10	3,692.0	-2.80	-2.91	2.85	4.76	2.55	-762.00	-108.48
	NORMAL	3,724.0	1.84	167.67	3,724.0	-3.42	-2.87	3.47	4.69	4.19	-129.47	-54.15
	NORMAL	3,756.0	4.55	180.60	3,755.9	-5.20	-2.77	5.24	8.71	8.47	40.41	21.41
	NORMAL	3,788.0	6.28	179.79	3,787.8	-8.22	-2.78	8.26	5.41	5.41	-2.53	-2.93
	NORMAL	3,819.0	8.77	185.80	3,818.5	-12.26	-3.01	12.31	8.41	8.03	19.39	20.54
	NORMAL	3,851.0	10.56	187.48	3,850.0	-17.60	-3.64	17.65	5.66	5.59	5.25	9.78
	NORMAL	3,883.0	12.47	187.31	3,881.4	-23.93	-4.46	24.00	5.97	5.97	-0.53	-1.10
	NORMAL	3,915.0	13.72	185.52	3,912.6	-31.14	-5.27	31.22	4.11	3.91	-5.59	-18.85
	NORMAL	3,946.0	15.69	185.84	3,942.6	-38.97	-6.05	39.06	6.36	6.35	1.03	2.52
	NORMAL	3,978.0	17.39	185.65	3,973.2	-48.03	-6.96	48.14	5.32	5.31	-0.59	-1.91
	NORMAL	4,010.0	18.91	183.06	4,003.6	-57.97	-7.70	58.08	5.38	4.75	-8.09	-29.19
	NORMAL	4,042.0	21.51	181.61	4,033.7	-69.01	-8.15	69.13	8.27	8.13	-4.53	-11.59
	NORMAL	4,073.0	23.88	182.49	4,062.3	-80.96	-8.58	81.09	7.72	7.65	2.84	8.56
	NORMAL	4,105.0	26.02	182.50	4,091.3	-94.45	-9.17	94.58	6.69	6.69	0.03	0.12
	NORMAL	4,137.0	27.59	181.49	4,119.8	-108.87	-9.66	109.01	5.11	4.91	-3.16	-16.63
	NORMAL	4,169.0	29.80	182.25	4,147.9	-124.22	-10.17	124.37	7.00	6.91	2.38	9.71
	NORMAL	4,200.0	31.58	183.13	4,174.6	-140.03	-10.92	140.19	5.92	5.74	2.84	14.54
	NORMAL	4,232.0	34.16	181.84	4,201.4	-157.38	-11.66	157.55	8.35	8.06	-4.03	-15.73
	NORMAL	4,264.0	36.21	182.09	4,227.6	-175.80	-12.29	175.98	6.42	6.41	0.78	4.12
	NORMAL	4,296.0	38.50	181.73	4,253.0	-195.21	-12.94	195.39	7.19	7.16	-1.13	-5.59
	NORMAL	4,327.0	41.20	179.88	4,276.8	-215.07	-13.21	215.25	9.51	8.71	-5.97	-24.42
	NORMAL	4,359.0	44.41	180.67	4,300.3	-236.81	-13.32	236.99	10.17	10.03	2.47	9.79
	NORMAL	4,391.0	46.79	179.45	4,322.7	-259.67	-13.34	259.85	7.92	7.44	-3.81	-20.54
	NORMAL	4,423.0	49.07	179.69	4,344.1	-283.42	-13.16	283.60	7.15	7.13	0.75	4.55
	NORMAL	4,454.0	51.56	180.36	4,363.9	-307.27	-13.17	307.45	8.20	8.03	2.16	11.91
	NORMAL	4,486.0	54.75	179.97	4,383.1	-332.88	-13.25	333.05	10.02	9.97	-1.22	-5.71
	NORMAL	4,518.0	57.29	180.27	4,401.0	-359.41	-13.30	359.58	7.98	7.94	0.94	5.68
	NORMAL	4,550.0	59.88	180.12	4,417.7	-386.72	-13.39	386.89	8.10	8.09	-0.47	-2.87
	NORMAL	4,581.0	62.44	179.35	4,432.6	-413.87	-13.27	414.03	8.54	8.26	-2.48	-14.95
	NORMAL	4,613.0	65.89	178.89	4,446.6	-442.67	-12.82	442.82	10.86	10.78	-1.44	-6.94
	NORMAL	4,645.0	69.25	178.99	4,458.8	-472.24	-12.28	472.37	10.50	10.50	0.31	1.60
	NORMAL	4,677.0	71.86	178.74	4,469.4	-502.40	-11.68	502.52	8.19	8.16	-0.78	-5.20
	NORMAL	4,708.0	74.77	178.91	4,478.3	-532.09	-11.07	532.20	9.40	9.39	0.55	3.23
	NORMAL	4,740.0	77.43	178.43	4,486.0	-563.14	-10.35	563.23	8.44	8.31	-1.50	-9.99
	NORMAL	4,772.0	78.62	178.16	4,492.6	-594.43	-9.42	594.50	3.81	3.72	-0.84	-12.54
	NORMAL	4,804.0	81.26	177.86	4,498.2	-625.91	-8.32	625.97	8.30	8.25	-0.94	-6.41
	NORMAL	4,835.0	83.44	177.71	4,502.4	-656.61	-7.13	656.64	7.05	7.03	-0.48	-3.91
	NORMAL	4,867.0	85.61	178.10	4,505.4	-688.44	-5.97	688.45	6.89	6.78	1.22	10.16
	NORMAL	4,899.0	85.91	179.31	4,507.8	-720.35	-5.25	720.34	3.89	0.94	3.78	76.08
	NORMAL	5,097.0	89.32	172.64	4,516.2	-917.52	8.65	917.26	3.94	3.82	-0.97	-14.24
	NORMAL	5,128.0	90.62	173.89	4,516.3	-948.31	12.29	947.98	5.82	4.19	4.03	43.88
	NORMAL	5,160.0	90.93	174.90	4,515.8	-980.15	15.41	979.77	3.30	0.97	3.16	72.93
	NORMAL	5,192.0	90.19	175.39	4,515.5	-1,012.03	18.12	1,011.61	2.77	-2.31	1.53	146.49
	NORMAL	5,223.0	90.80	177.61	4,515.2	-1,042.97	20.01	1,042.51	7.43	1.97	7.16	74.63
	NORMAL	5,255.0	91.36	180.38	4,514.6	-1,074.96	20.57	1,074.49	8.83	1.75	8.66	78.54
	NORMAL	5,287.0	91.73	182.02	4,513.8	-1,106.94	19.90	1,106.47	5.25	1.16	5.13	77.26
	NORMAL	5,319.0	92.47	182.69	4,512.6	-1,138.89	18.59	1,138.44	3.12	2.31	2.09	42.13
	NORMAL	5,350.0	93.15	183.06	4,511.1	-1,169.81	17.04	1,169.39	2.50	2.19	1.19	28.51
	NORMAL	5,387.0	92.90	182.47	4,509.1	-1,206.72	15.26	1,206.31	1.73	-0.68	-1.59	-112.98
	NORMAL	5,418.0	92.35	182.51	4,507.7	-1,237.66	13.91	1,237.27	1.78	-1.77	0.13	175.84
	NORMAL	5,450.0	92.53	182.59	4,506.4	-1,269.60	12.49	1,269.23	0.62	0.56	0.25	23.94
	NORMAL	5,482.0	92.84	183.24	4,504.9	-1,301.52	10.86	1,301.17	2.25	0.97	2.03	64.46
	NORMAL	5,514.0	92.84	183.60	4,503.3	-1,333.42	8.96	1,333.10	1.12	0.00	1.13	89.99
	NORMAL	5,545.0	92.97	183.53	4,501.7	-1,364.32	7.03	1,364.03	0.48	0.42	-0.23	-28.27

2.2.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec. (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	Tface (°)
10/9/2012	NORMAL	5,577.0	93.09	183.53	4,500.0	-1,396.22	5.06	1,395.95	0.38	0.38	0.00	0.00
	NORMAL	5,609.0	94.14	183.67	4,498.0	-1,428.09	3.06	1,427.85	3.31	3.28	0.44	7.58
	NORMAL	5,641.0	91.92	183.36	4,496.3	-1,459.98	1.10	1,459.78	7.00	-6.94	-0.97	-172.05
	NORMAL	5,672.0	91.79	183.19	4,495.3	-1,490.92	-0.67	1,490.73	0.69	-0.42	-0.55	-127.42
	NORMAL	5,736.0	94.88	184.46	4,491.6	-1,554.66	-4.93	1,554.53	5.22	4.83	1.98	22.28
	NORMAL	5,768.0	94.45	184.56	4,489.0	-1,586.45	-7.44	1,586.37	1.38	-1.34	0.31	166.95
	NORMAL	5,799.0	94.21	184.94	4,486.6	-1,617.26	-10.00	1,617.21	1.45	-0.77	1.23	122.34
	NORMAL	5,831.0	92.29	183.83	4,484.8	-1,649.11	-12.44	1,649.10	6.93	-6.00	-3.47	-149.97
	NORMAL	5,863.0	92.22	183.21	4,483.6	-1,681.03	-14.40	1,681.04	1.95	-0.22	-1.94	-96.43
	NORMAL	5,906.0	93.40	182.86	4,481.4	-1,723.91	-16.68	1,723.96	2.86	2.74	-0.81	-16.49
	NORMAL	5,938.0	93.40	182.45	4,479.5	-1,755.82	-18.16	1,755.89	1.28	0.00	-1.28	-89.99
	NORMAL	5,970.0	93.52	181.76	4,477.6	-1,787.74	-19.33	1,787.82	2.18	0.38	-2.16	-80.10
	NORMAL	6,002.0	93.21	180.74	4,475.7	-1,819.68	-20.03	1,819.77	3.33	-0.97	-3.19	-106.90
	NORMAL	6,034.0	92.41	179.97	4,474.2	-1,851.64	-20.23	1,851.72	3.47	-2.50	-2.41	-136.11
	NORMAL	6,065.0	90.87	180.03	4,473.3	-1,882.63	-20.23	1,882.71	4.97	-4.97	0.19	177.77
	NORMAL	6,097.0	90.80	180.18	4,472.8	-1,914.62	-20.28	1,914.70	0.52	-0.22	0.47	115.02
	NORMAL	6,129.0	90.99	180.58	4,472.3	-1,946.62	-20.50	1,946.70	1.38	0.59	1.25	64.59
	NORMAL	6,161.0	90.62	180.71	4,471.9	-1,978.61	-20.86	1,978.69	1.23	-1.16	0.41	160.64
	NORMAL	6,197.0	90.62	180.61	4,471.5	-2,014.61	-21.27	2,014.69	0.28	0.00	-0.28	-90.00
	NORMAL	6,228.0	90.37	180.74	4,471.2	-2,045.61	-21.64	2,045.69	0.91	-0.81	0.42	152.53
	NORMAL	6,260.0	90.06	180.63	4,471.1	-2,077.60	-22.02	2,077.69	1.03	-0.97	-0.34	-160.46
	NORMAL	6,292.0	91.67	181.11	4,470.6	-2,109.59	-22.51	2,109.68	5.25	5.03	1.50	16.60
	NORMAL	6,324.0	93.15	182.44	4,469.3	-2,141.55	-23.50	2,141.65	6.22	4.63	4.16	41.89
	NORMAL	6,355.0	93.71	183.15	4,467.4	-2,172.46	-25.00	2,172.58	2.91	1.81	2.29	51.67
	NORMAL	6,387.0	93.71	182.94	4,465.3	-2,204.34	-26.70	2,204.49	0.65	0.00	-0.66	-89.99
	NORMAL	6,419.0	93.77	183.12	4,463.2	-2,236.23	-28.39	2,236.40	0.59	0.19	0.56	71.52
	NORMAL	6,451.0	93.33	182.45	4,461.3	-2,268.13	-29.94	2,268.32	2.50	-1.38	-2.09	-123.32
	NORMAL	6,482.0	93.46	181.77	4,459.4	-2,299.06	-31.08	2,299.26	2.23	0.42	-2.19	-79.14
	NORMAL	6,514.0	93.09	180.20	4,457.6	-2,331.00	-31.63	2,331.20	5.03	-1.16	-4.91	-103.24
	NORMAL	6,550.0	91.66	179.05	4,456.1	-2,366.97	-31.39	2,367.16	5.10	-3.97	-3.19	-141.19
	NORMAL	6,582.0	90.43	178.46	4,455.5	-2,398.95	-30.70	2,399.13	4.26	-3.84	-1.84	-154.37
	NORMAL	6,614.0	88.70	178.61	4,455.8	-2,430.94	-29.88	2,431.10	5.43	-5.41	0.47	175.05
	NORMAL	6,646.0	88.15	178.98	4,456.6	-2,462.92	-29.21	2,463.07	2.07	-1.72	1.16	146.09
	NORMAL	6,677.0	89.01	179.51	4,457.4	-2,493.91	-28.80	2,494.05	3.26	2.77	1.71	31.64
	NORMAL	6,709.0	89.57	180.02	4,457.8	-2,525.90	-28.67	2,526.04	2.37	1.75	1.59	42.33
	NORMAL	6,741.0	90.18	180.23	4,457.9	-2,557.90	-28.74	2,558.03	2.02	1.91	0.66	19.00
	NORMAL	6,773.0	91.05	180.44	4,457.5	-2,589.90	-28.92	2,590.03	2.80	2.72	0.66	13.57
	NORMAL	6,804.0	91.54	180.65	4,456.8	-2,620.89	-29.22	2,621.02	1.72	1.58	0.68	23.19
	NORMAL	6,836.0	91.48	180.64	4,456.0	-2,652.88	-29.58	2,653.01	0.19	-0.19	-0.03	-170.54
	NORMAL	6,868.0	89.94	180.70	4,455.6	-2,684.87	-29.95	2,685.01	4.82	-4.81	0.19	177.77
	NORMAL	6,900.0	88.83	180.63	4,455.9	-2,716.87	-30.32	2,717.00	3.48	-3.47	-0.22	-176.39
	NORMAL	6,931.0	87.40	180.84	4,457.0	-2,747.85	-30.72	2,747.99	4.66	-4.61	0.68	171.65
	NORMAL	6,963.0	86.42	180.93	4,458.7	-2,779.80	-31.22	2,779.94	3.08	-3.06	0.28	174.76
	NORMAL	6,995.0	85.24	181.46	4,461.0	-2,811.71	-31.88	2,811.85	4.04	-3.69	1.66	155.89
	NORMAL	7,027.0	85.24	182.11	4,463.7	-2,843.58	-32.87	2,843.74	2.02	0.00	2.03	90.03
	NORMAL	7,058.0	86.79	182.44	4,465.8	-2,874.48	-34.10	2,874.65	5.11	5.00	1.06	12.00
	NORMAL	7,090.0	88.40	183.38	4,467.2	-2,906.41	-35.73	2,906.61	5.82	5.03	2.94	30.28
	NORMAL	7,122.0	88.27	182.77	4,468.1	-2,938.35	-37.44	2,938.57	1.95	-0.41	-1.91	-102.04
	NORMAL	7,154.0	87.65	182.57	4,469.2	-2,970.29	-38.93	2,970.53	2.04	-1.94	-0.63	-162.14
	NORMAL	7,185.0	87.71	182.36	4,470.5	-3,001.24	-40.26	3,001.50	0.70	0.19	-0.68	-74.05
	NORMAL	7,217.0	88.33	182.34	4,471.6	-3,033.19	-41.57	3,033.47	1.94	1.94	-0.06	-1.85
	NORMAL	7,249.0	88.27	182.45	4,472.5	-3,065.15	-42.91	3,065.44	0.39	-0.19	0.34	118.62
	NORMAL	7,281.0	89.07	183.00	4,473.3	-3,097.11	-44.43	3,097.42	3.03	2.50	1.72	34.51
	NORMAL	7,312.0	88.70	182.29	4,473.9	-3,128.07	-45.86	3,128.40	2.58	-1.19	-2.29	-117.54
	NORMAL	7,349.0	89.51	181.82	4,474.5	-3,165.04	-47.19	3,165.39	2.53	2.19	-1.27	-30.13
	NORMAL	7,380.0	90.49	181.58	4,474.5	-3,196.02	-48.11	3,196.38	3.25	3.16	-0.77	-13.76
	NORMAL	7,412.0	90.43	181.02	4,474.2	-3,228.01	-48.83	3,228.38	1.76	-0.19	-1.75	-96.11

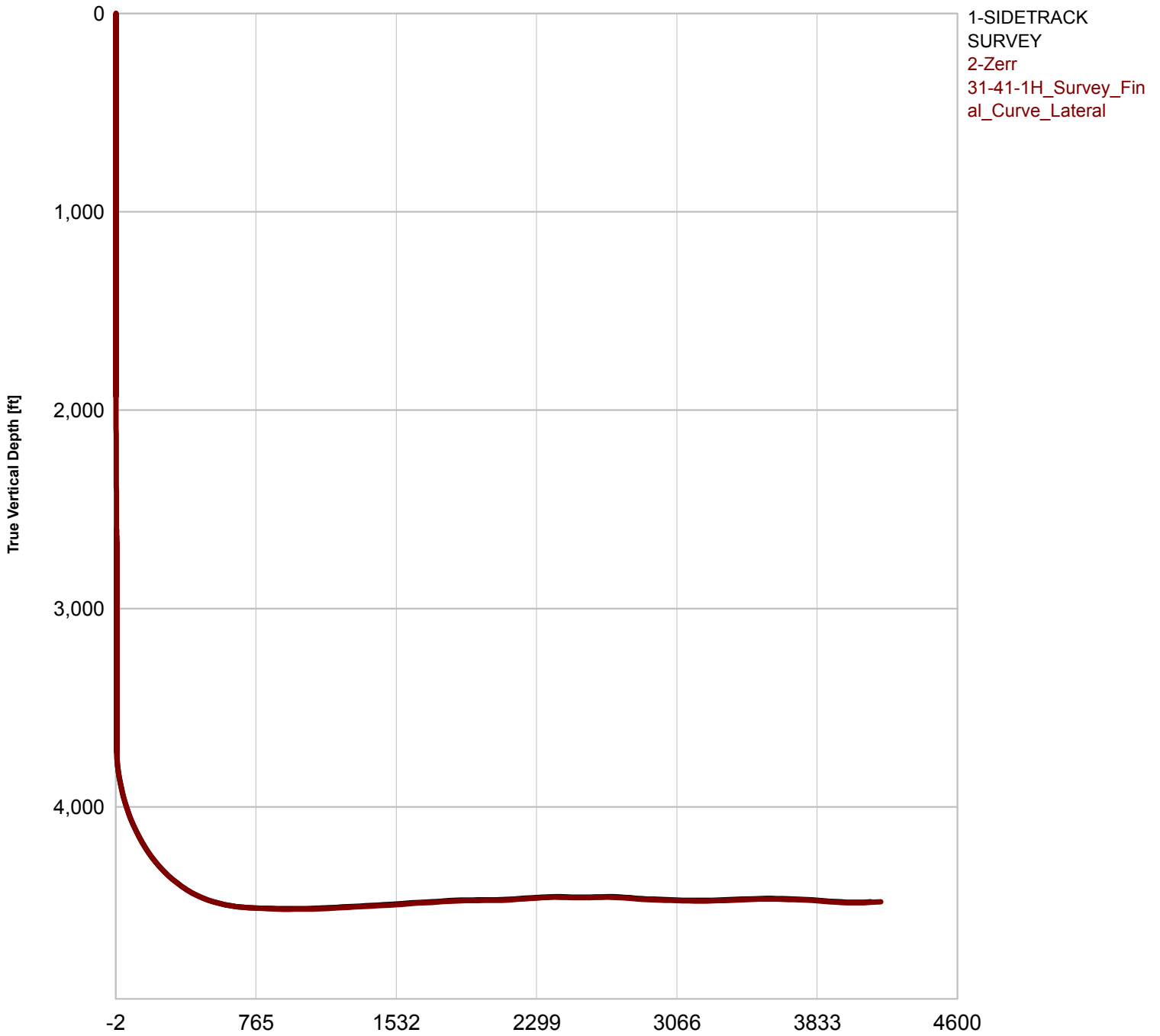


2.2.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec. (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	Tface (°)
10/9/2012	NORMAL	7,444.0	91.36	180.51	4,473.7	-3,260.01	-49.26	3,260.38	3.31	2.91	-1.59	-28.73
	NORMAL	7,476.0	92.04	180.27	4,472.8	-3,291.99	-49.48	3,292.36	2.25	2.13	-0.75	-19.43
	NORMAL	7,508.0	91.73	179.53	4,471.7	-3,323.97	-49.42	3,324.34	2.51	-0.97	-2.31	-112.73
	NORMAL	7,540.0	92.10	179.96	4,470.6	-3,355.96	-49.28	3,356.31	1.77	1.16	1.34	49.27
	NORMAL	7,572.0	92.16	179.89	4,469.5	-3,387.93	-49.24	3,388.29	0.29	0.19	-0.22	-49.38
	NORMAL	7,604.0	91.73	179.67	4,468.4	-3,419.92	-49.12	3,420.26	1.51	-1.34	-0.69	-152.91
	NORMAL	7,667.0	92.78	179.64	4,465.9	-3,482.86	-48.74	3,483.20	1.67	1.67	-0.05	-1.63
	NORMAL	7,703.0	91.05	179.07	4,464.7	-3,518.84	-48.33	3,519.16	5.06	-4.81	-1.58	-161.76
	NORMAL	7,735.0	89.81	178.46	4,464.4	-3,550.83	-47.64	3,551.14	4.32	-3.88	-1.91	-153.80
	NORMAL	7,767.0	90.06	178.61	4,464.5	-3,582.82	-46.82	3,583.11	0.91	0.78	0.47	30.96
	NORMAL	7,798.0	88.70	178.74	4,464.8	-3,613.81	-46.11	3,614.08	4.41	-4.39	0.42	174.54
	NORMAL	7,830.0	88.33	178.77	4,465.6	-3,645.79	-45.41	3,646.05	1.16	-1.16	0.09	175.37
	NORMAL	7,862.0	88.08	179.06	4,466.6	-3,677.77	-44.81	3,678.01	1.20	-0.78	0.91	130.78
	NORMAL	7,894.0	88.33	178.81	4,467.6	-3,709.75	-44.21	3,709.98	1.10	0.78	-0.78	-44.99
	NORMAL	7,926.0	88.70	179.00	4,468.5	-3,741.73	-43.60	3,741.95	1.30	1.16	0.59	27.18
	NORMAL	7,957.0	87.77	179.04	4,469.4	-3,772.71	-43.07	3,772.92	3.00	-3.00	0.13	177.54
	NORMAL	7,989.0	86.60	179.18	4,471.0	-3,804.67	-42.57	3,804.86	3.68	-3.66	0.44	173.19
	NORMAL	8,021.0	85.67	180.61	4,473.2	-3,836.60	-42.52	3,836.78	5.32	-2.91	4.47	123.14
	NORMAL	8,053.0	85.61	181.91	4,475.6	-3,868.49	-43.22	3,868.69	4.06	-0.19	4.06	92.70
	NORMAL	8,084.0	85.92	183.33	4,477.9	-3,899.38	-44.63	3,899.59	4.68	1.00	4.58	77.71
	NORMAL	8,116.0	86.91	185.55	4,479.9	-3,931.22	-47.10	3,931.46	7.58	3.09	6.94	66.00
	NORMAL	8,148.0	87.22	186.14	4,481.5	-3,963.01	-50.36	3,963.30	2.08	0.97	1.84	62.27
	NORMAL	8,180.0	88.08	185.73	4,482.8	-3,994.81	-53.66	3,995.15	2.98	2.69	-1.28	-25.48
	NORMAL	8,211.0	89.51	185.58	4,483.5	-4,025.65	-56.72	4,026.04	4.64	4.61	-0.48	-5.99
	NORMAL	8,243.0	90.43	184.87	4,483.5	-4,057.52	-59.63	4,057.95	3.63	2.88	-2.22	-37.66
	NORMAL	8,275.0	91.92	184.17	4,482.8	-4,089.41	-62.15	4,089.88	5.14	4.66	-2.19	-25.15
	NORMAL	8,311.0	92.97	183.29	4,481.3	-4,125.30	-64.49	4,125.80	3.80	2.92	-2.44	-39.92
10/11/2012	NORMAL	8,367.0	92.97	183.29	4,478.4	-4,181.13	-67.70	4,181.68	0.00	0.00	0.00	0.00

### 3 Charts

#### 3.1 Vertical Section View



Vertical Section at 180.93 ° [ft]

### 3.2 Plan View

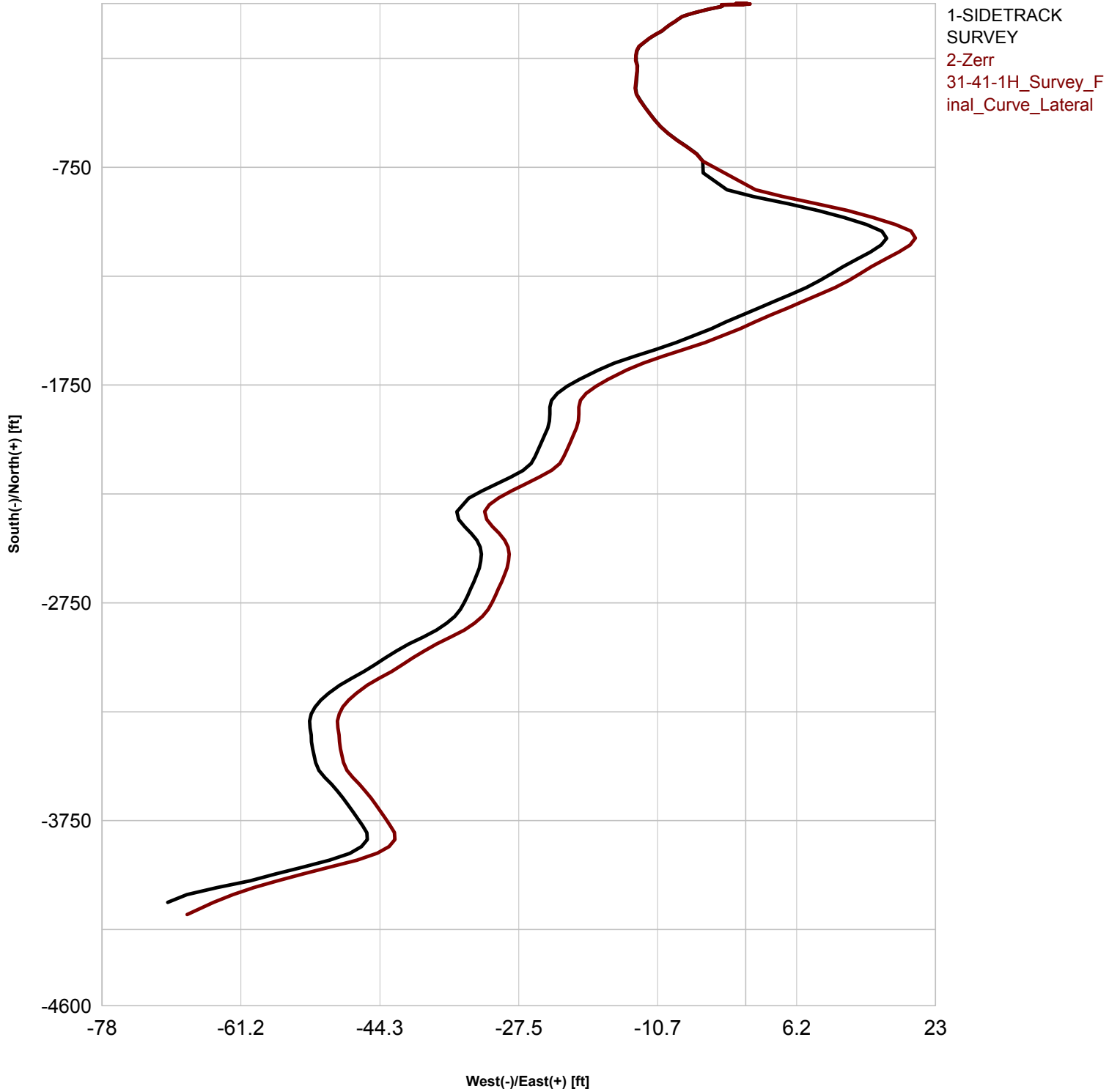




Table of Contents

1 General..... 1

1.1 Customer Information..... 1

1.2 Well/Wellbore Information..... 1

2 Survey Name..... 1

2.1 Survey Name: SIDETRACK SURVEY..... 1

2.1.1 Tie On Point..... 1

2.1.2 Survey Stations..... 1

2.2 Survey Name: Zerr 31-41-1H\_Survey\_Final\_Curve\_Lateral..... 4

2.2.1 Tie On Point..... 4

2.2.2 Survey Stations..... 4

3 Charts..... 9

3.1 Vertical Section View..... 9

3.2 Plan View..... 10