



CONFIDENTIAL

OIL & GAS CONSERVATION DIVISION

WELL COMPLETION FORM

WELL HISTORY - DESCRIPTION OF WELL & LEASE

Form Must Be Typed
Form must be Signed
All blanks must be Filled

OPERATOR: License # 34269
Name: Apache Corporation
Address 1: 2000 POST OAK BLVD, STE 100
Address 2:
City: HOUSTON State: TX Zip: 77056
Contact Person: Jaime Ramirez
Phone: (713) 296-6000
CONTRACTOR: License # 99975
Name: COMPANY SERVICING TOOLS
Wellsite Geologist: Beth Leadbetter
Purchaser:

Designate Type of Completion:
New Well Re-Entry Workover
Oil WSW SWD SIOW
Gas D&A ENHR SIGW
OG GSW Temp. Abd.
CM (Coal Bed Methane)
Cathodic Other (Core, Expl., etc.):

If Workover/Re-entry: Old Well Info as follows:
Operator:

Well Name:
Original Comp. Date: Original Total Depth:
Deepening Re-perf. Conv. to ENHR Conv. to SWD
Conv. to GSW
Plug Back: Plug Back Total Depth
Commingled Permit #:
Dual Completion Permit #:
SWD Permit #:
ENHR Permit #:
GSW Permit #:

8/15/2012 10/6/2012 11/26/2012
Spud Date or Date Reached TD Completion Date or Recompletion Date

API No. 15 - 15-179-21307-01-00
Spot Description:
NE NE NE NW Sec. 31 Twp. 10 S. R. 28 East West
160 Feet from North / South Line of Section
2655 Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:
NE NW SE SW
County: Sheridan
Lease Name: Zerr Well #: 31-41-1H
Field Name: Dove

Producing Formation: Kansas City/Lansing
Elevation: Ground: 2745 Kelly Bushing: 26
Total Depth: 8367 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 1538 Feet
Multiple Stage Cementing Collar Used? Yes No
If yes, show depth set: Feet
If Alternate II completion, cement circulated from: 1538
feet depth to: 0 w/ 640 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)
Chloride content: 1600 ppm Fluid volume: 0 bbls
Dewatering method used: Evaporated
Location of fluid disposal if hauled offsite:
Operator Name:
Lease Name: License #:
Quarter Sec. Twp. S. R. East West
County: Permit #:

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Letter of Confidentiality Received
Date: 12/10/2012
Confidential Release Date:
Wireline Log Received
Geologist Report Received
UIC Distribution
ALT I II III Approved by: NAOMI JAMES Date: 12/19/2012



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	LWI	
Active datum	ORIGINAL KB @2,774.0ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: SIDETRACK SURVEY

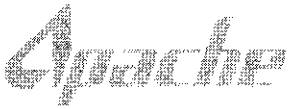
Survey Name	SIDETRACK SURVEY	Survey Company	Apache Corporation
Start Date/Time	9/8/2012	End Date/Time	
Tool Name	200906_EMS	Survey Engineer	apacheadmin

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)	DLog (°/100ft)	Buidl (°/100ft)	Turn (°/100ft)	Trace (°)
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	4,003.8	-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



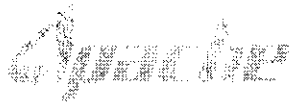
2.1.2 Survey Stations (Continued)

Date	Type	MO (ft)	Inc. (")	Azl. (")	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec. (ft)	DLeg ("/100ft)	Bulld ("/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	-594.85	-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	1,108.97	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	5,908.0	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. (°)	Azl. (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec. (ft)	DLog (°/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
10/1/2012	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
	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)	DLog (*/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	MO (ft)	Inc. (°)	Azi. (°)	TVD (ft)	N/S (ft)	EW (ft)	V. Sec. (ft)	DLeg (°/100ft)	Bulk (°/100ft)	Turn (°/100ft)	Trace (°)
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

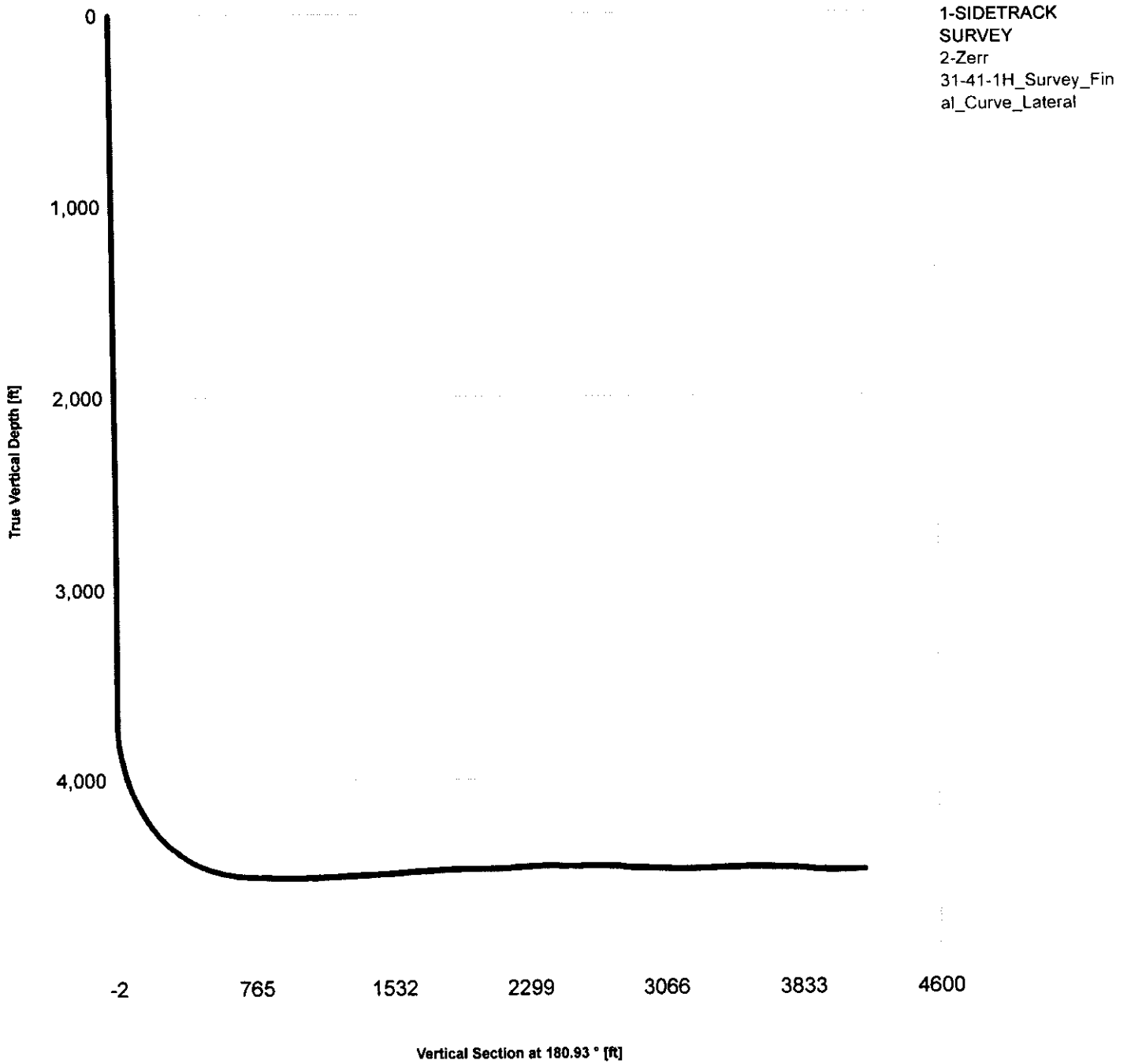
2.2.2 Survey Stations (Continued)

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

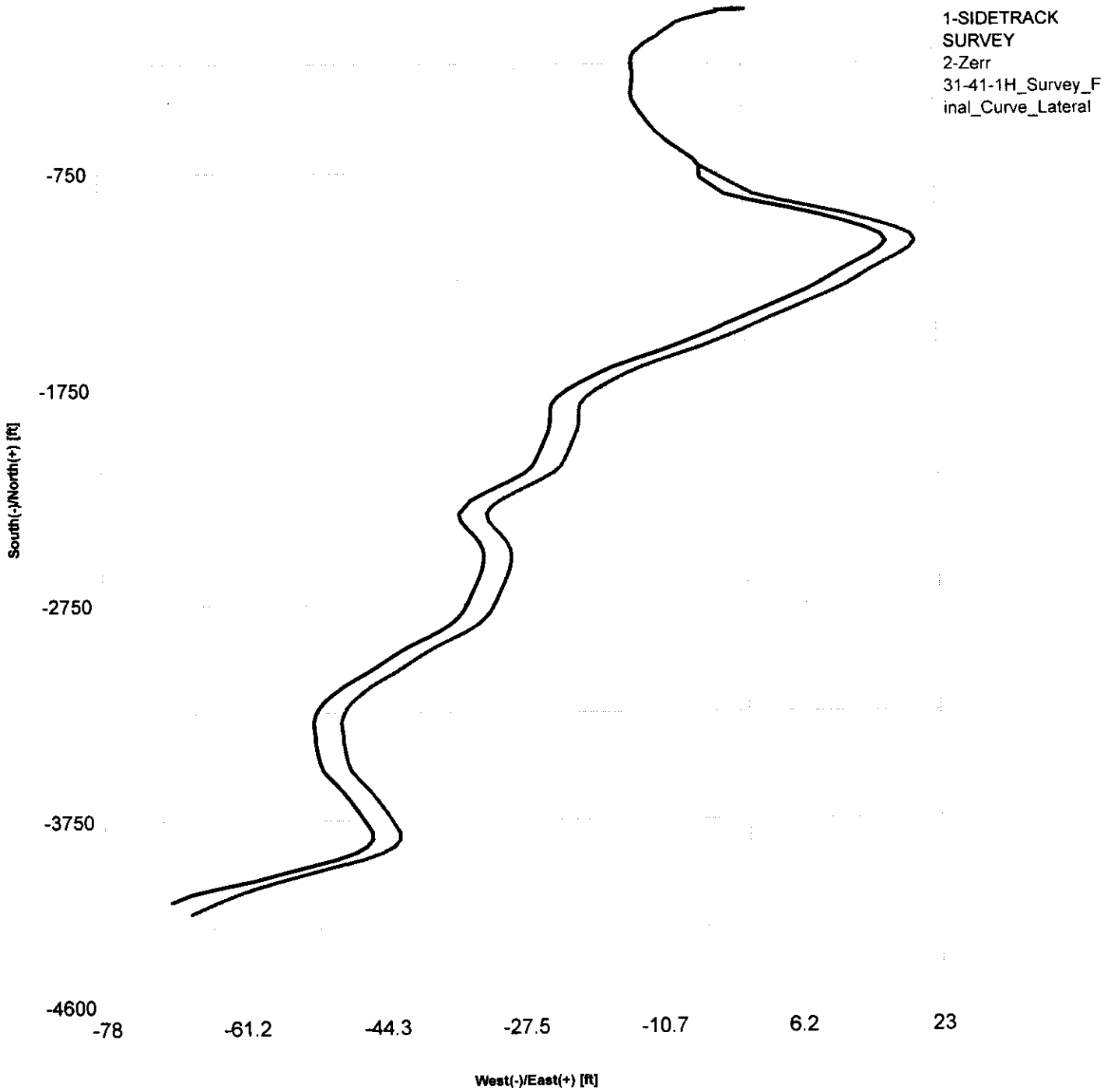


3 Charts

3.1 Vertical Section View



3.2 Plan View



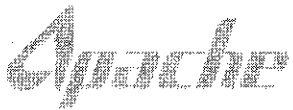


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2.2 Survey Name: Zerr 31-41-1H_Survey_Final_Curve_Lateral..... 4

2.2.1 Tie On Point..... 4

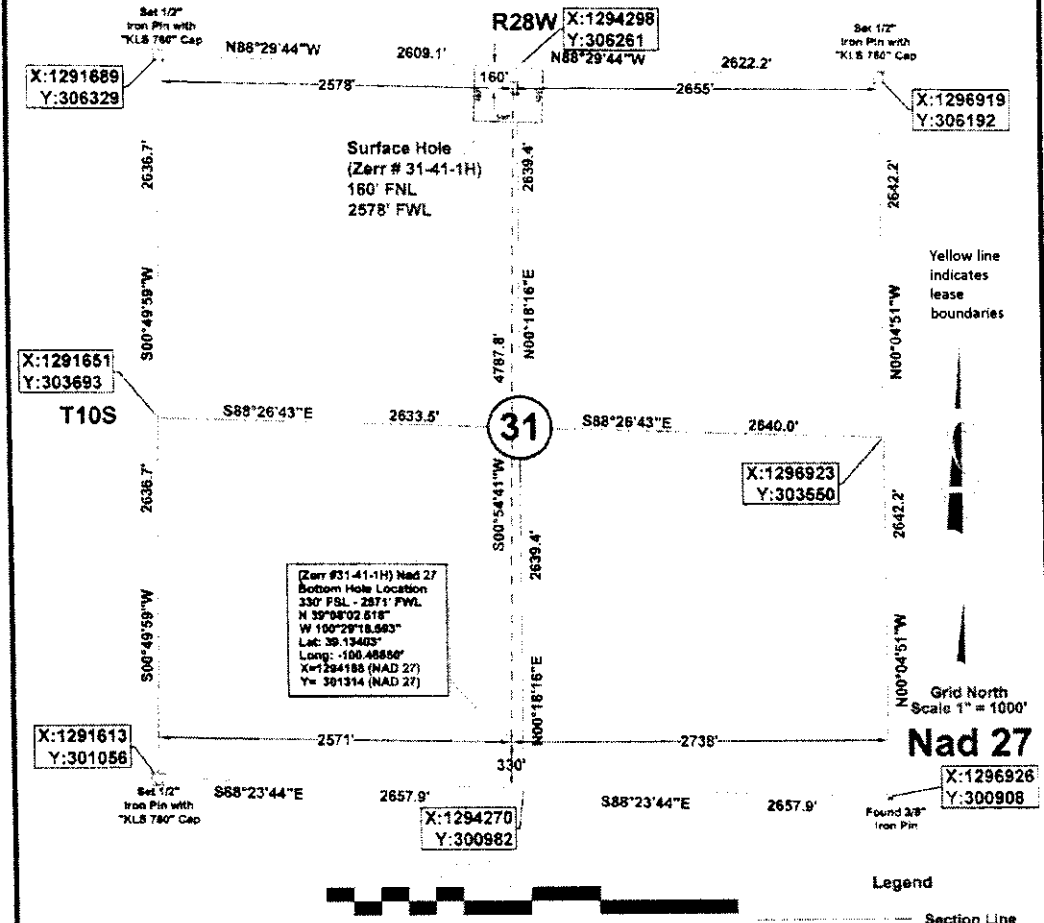
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Sheridan County, Kansas.
BHL 330' FSL - 2571' FWL, Section 31, T 10 S, R 28 6th P.M. West



[Zerr #31-41-1H] Nad 27
 Bottom Hole Location
 330' FSL - 2571' FWL
 N 39°08'02.618"
 W 100°29'18.593"
 Loc. 39.13403°
 Long: -100.48858°
 X=1294188 (NAD 27)
 Y= 301314 (NAD 27)

BOTTOM HOLE INFORMATION PROVIDED BY OPERATOR LISTED, NOT SURVEYED.
 CORNER COORDINATES ARE TAKEN FROM POINTS SURVEYED IN THE FIELD.

OPERATOR: Apache Corporation **WELL NO.: 31-41-1H**
LEASE NAME: Zerr **ELEVATION: 2748' GR. AT STAKE**

TOPOGRAPHY & VEGETATION: Level to sloped grass pasture.

GOOD DRILL SITE: YES REFERENCE STAKES OR ALTERNATE LOCATION STAKES SET: NONE

BEST ACCESSIBILITY TO LOCATION: From the south or northwest

DISTANCE & DIRECTION

FROM HWY JCT OR TOWN: Beginning at the Intersection 010 Hwy 40 & Hwy 23, north on Hwy 23 0.75 mi. to the, west on Gove road 1.0 mi., north on CR 48 2.0 mi., west on CR FF 0.90 mi. to a two track road, west on two track road 0.10 mi. to a pasture, west along north line of Section 31 0.50 mi. to location.

REVISION: DATE OF DRAWING: June 4, 2012
 INVOICE #: 17266 DATE STAKED: May 31, 2012

STAKED SURFACE HOLE

DATUM: Nad 27
 N: 39°08'49.839"
 W: 100°29'19.296"
 LAT: 39.14718°
 LONG: -100.48869°
 STATE PLANE
 COORDINATES: (US FEET)
 ZONE: OK North
 X: 1284264
 Y: 306102

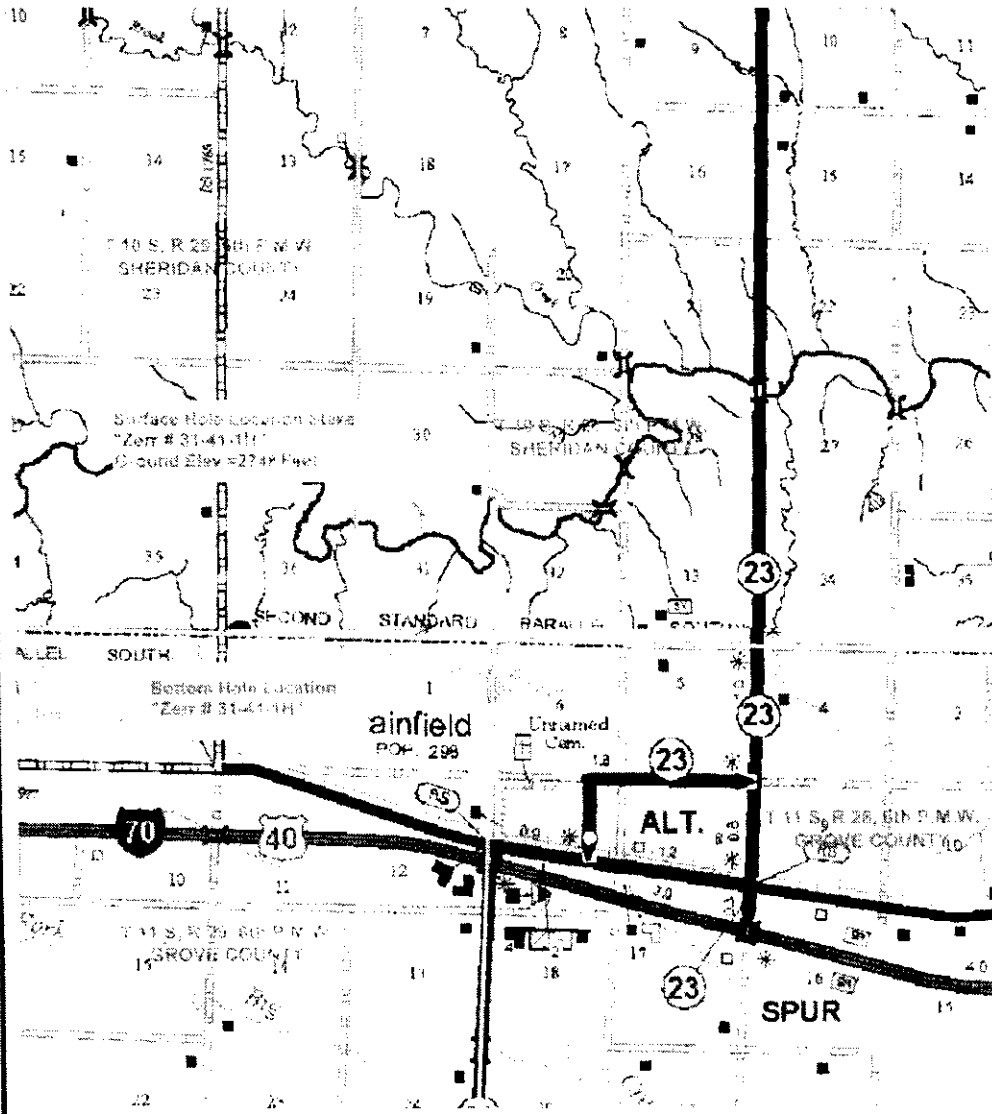
We do hereby certify that this survey was done in accordance to records, maps and other information as provided to us by the client herein named and that great care was taken in the actual staking of this well and the determination of any obstacles thereupon. However, the accuracy of this survey is not guaranteed and if there appears to be any discrepancy, please notify us immediately.

06-03-12

Survey is valid only if print has original seal and signature of surveyor present

JIVIDENS LAND SURVEY CO., INC. 1210 19TH STREET / P.O. BOX 943 WOODWARD, OKLAHOMA 73802 Phone 530-258-7174 - Fax 530-258-3424 roger@jvidenslandsurvey.com mika@jvidenslandsurvey.com	Survey For: Apache Corporation 2000 Post Oak Blvd., Ste. 100 Houston, Texas 77056	JOB 339-12	DATE OF PLAT 06-04-2012	SCALE 1"=1000'	SHEET 1 OF 4
	DRAWN BY R.D.J.	OKLA. CA #2064, EXP. 06/30/2013 KANSAS CA #143, EXP. 12/31/2012			

Sheridan County, Kansas.
BHL 330' FSL - 2571' FWL, Section 31, T 10 S, R 28 6th P.M. West



VICINITY MAP

ELEVATION:
2748' GR. AT STAKE

48 HOURS BEFORE YOU DRILL
 Call 1-800-344-7271

NO DRILLING IN CALIFORNIA

Drilling without the required permits is illegal in California. For more information, visit www.water.ca.gov. For the full regulations, visit www.water.ca.gov. For more information, visit www.water.ca.gov.

BOTTOM HOLE INFORMATION PROVIDED BY OPERATOR LISTED, NOT SURVEYED.
 CORNER COORDINATES ARE TAKEN FROM POINTS SURVEYED IN THE FIELD.

OPERATOR: Apache Corporation

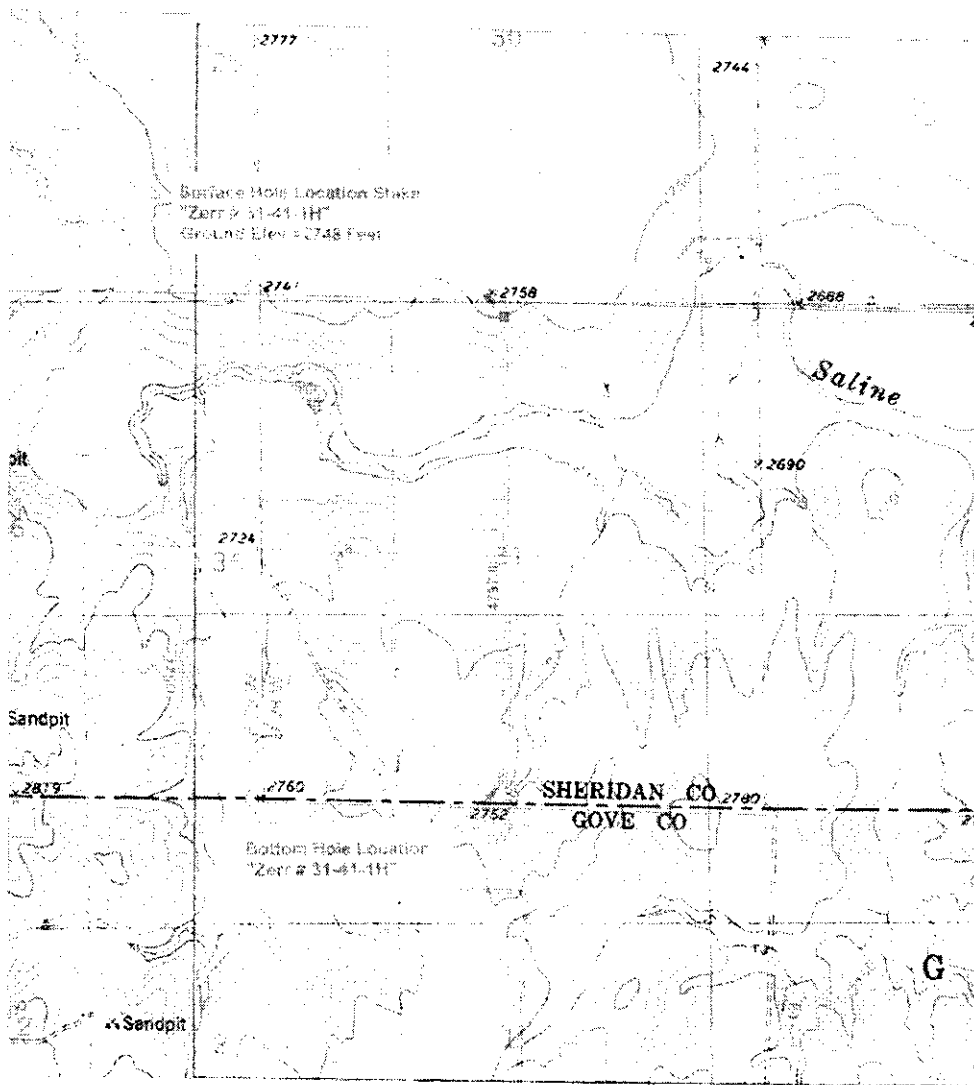
WELL NO.: 31-41-1H

LEASE NAME: Zerr

Grid North
 NTS

	JVIDENS LAND SURVEY CO., INC. 1210 19TH STREET / P.O. BOX 943 WOODWARD, OKLAHOMA 73802 Phone 580-256-7174 - Fax 580-256-3424 roger@jvidenslandsurvey.com mikal@jvidenslandsurvey.com	Survey For: Apache Corporation 2000 Post Oak Blvd., Ste. 100 Houston, Texas 77056	JOB 339-12	DATE OF PLAT 06-04-2012	SCALE NTS	SHEET 2 OF 4
			DRAWN BY R.D.J.	OKLA. CA #2084. EXP. 06/30/2013 KANSAS CA #143. EXP. 12/31/2012		

Sheridan County, Kansas.
BHL 330' FSL - 2571' FWL, Section 31, T 10 S, R 28 6th P.M. West



ELEVATION MAP

ELEVATION:
2748' GR. AT STAKE

48 HOURS BEFORE YOU DIG.
 CALL NADRA & ONE-CALL
 1-800-844-7233

NO DIG SIGN REQUIRED

When used, we do not warrant, defend, or accept any liability for damage or injury to utility facilities. Our liability is limited to the cost of the sign. We are not responsible for contacting or notifying utility owners prior to construction.

**BOTTOM HOLE INFORMATION PROVIDED BY OPERATOR LISTED, NOT SURVEYED.
 CORNER COORDINATES ARE TAKEN FROM POINTS SURVEYED IN THE FIELD.**

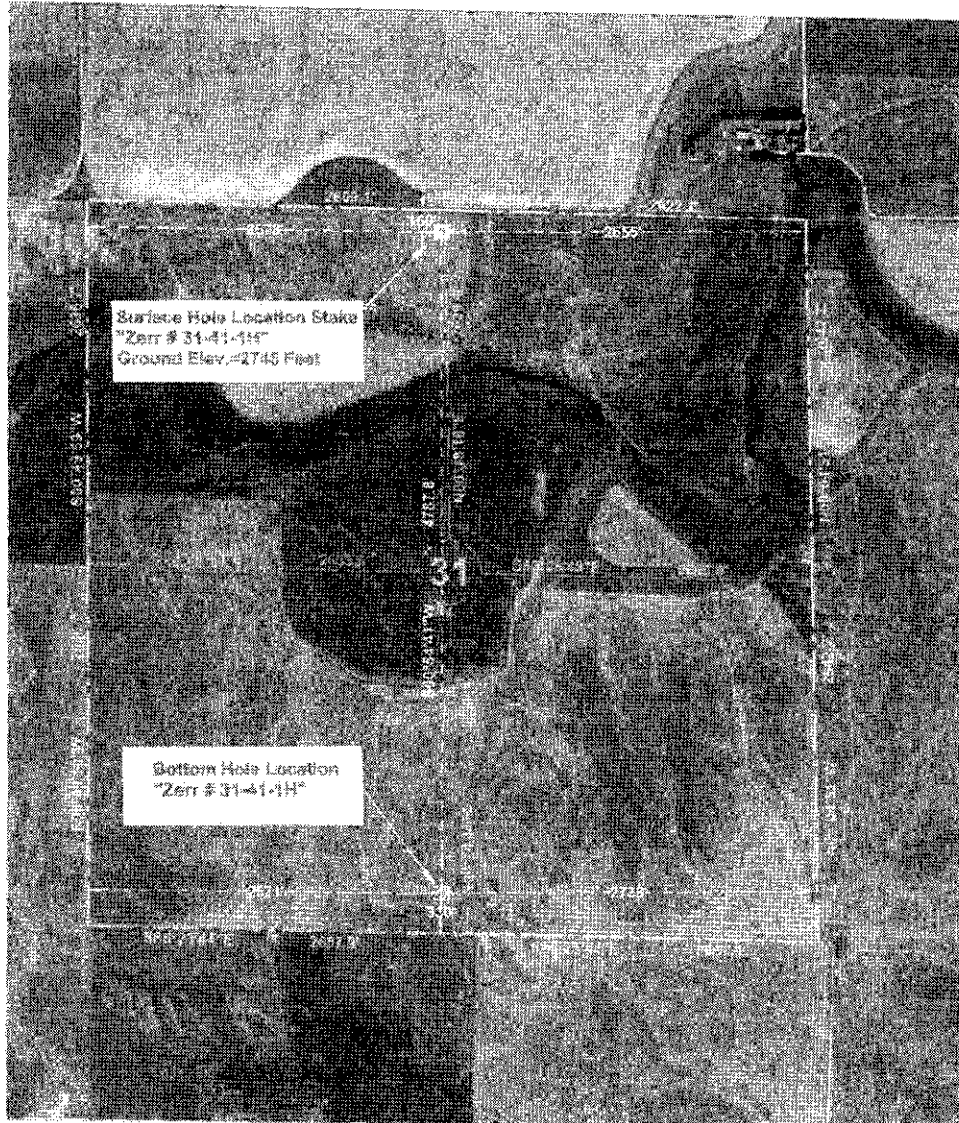
OPERATOR: Apache Corporation
LEASE NAME: Zerr

WELL NO.: 31-41-1H

Grid North
 NTS

	JVIDENS LAND SURVEY CO., INC. 1210 19TH STREET / P.O. BOX 943 WOODWARD, OKLAHOMA 73802 Phone 580-256-7174 • Fax 580-256-3424 <small>roger@jvidenslandsurvey.com mbe@jvidenslandsurvey.com</small>	Survey For: Apache Corporation 2000 Post Oak Blvd., Ste. 100 Houston, Texas 77056		JOB 339-12	DATE OF PLAT 08-04-2012	SCALE NTS	SHEET 3 OF 4
		DRAWN BY R.D.J.	OKLA. CA #2084, EXP. 06/30/2013 KANSAS CA #143, EXP. 12/31/2012				

Sheridan County, Kansas.
BHL 330' FSL - 2571' FWL, Section 31, T 10 S, R 28 6th P.M. West



2010 Photo

ELEVATION:
2748' GR. AT STAKE

48 HOURS BEFORE YOU DRILL...
 CALL KANSAS ONECALL
 1-800-344-7233

KANSAS ONECALL 878.1117

Some utilities are not necessarily shown. It is the contractor's responsibility to locate and protect all utility services. Customers are responsible for contacting all utility companies, prior to construction.

BOTTOM HOLE INFORMATION PROVIDED BY OPERATOR LISTED, NOT SURVEYED. CORNER COORDINATES ARE TAKEN FROM POINTS SURVEYED IN THE FIELD.

OPERATOR: Apache Corporation WELL NO.: 31-41-1H
LEASE NAME: Zerr

Grid North
 Scale 1" = 1000'

<p>JVIDENS LAND SURVEY CO., INC. 1210 19TH STREET / P.O. BOX 843 WOODWARD, OKLAHOMA 73802 Phone 580-256-7174 - Fax 580-256-3424 roger@jvidenslandsurvey.com mike@jvidenslandsurvey.com</p>	Survey For: Apache Corporation 2000 Post Oak Blvd., Ste. 100 Houston, Texas 77056		JOB 339-12	DATE OF PLAT 06-04-2012	SCALE 1"=1000'	SHEET 4 OF 4
	DRAWN BY R.D.J.		OKLA. CA #2084, EXP. 06/30/2013 KANSAS CA #143, EXP. 12/31/2012			