

BONANZA CREEK ENERGY OPERATING

Well Name: **Antelope K-O-18HNB**

Surface Location: Antelope F-18 Pad Sec.18-T5N-R62W

North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

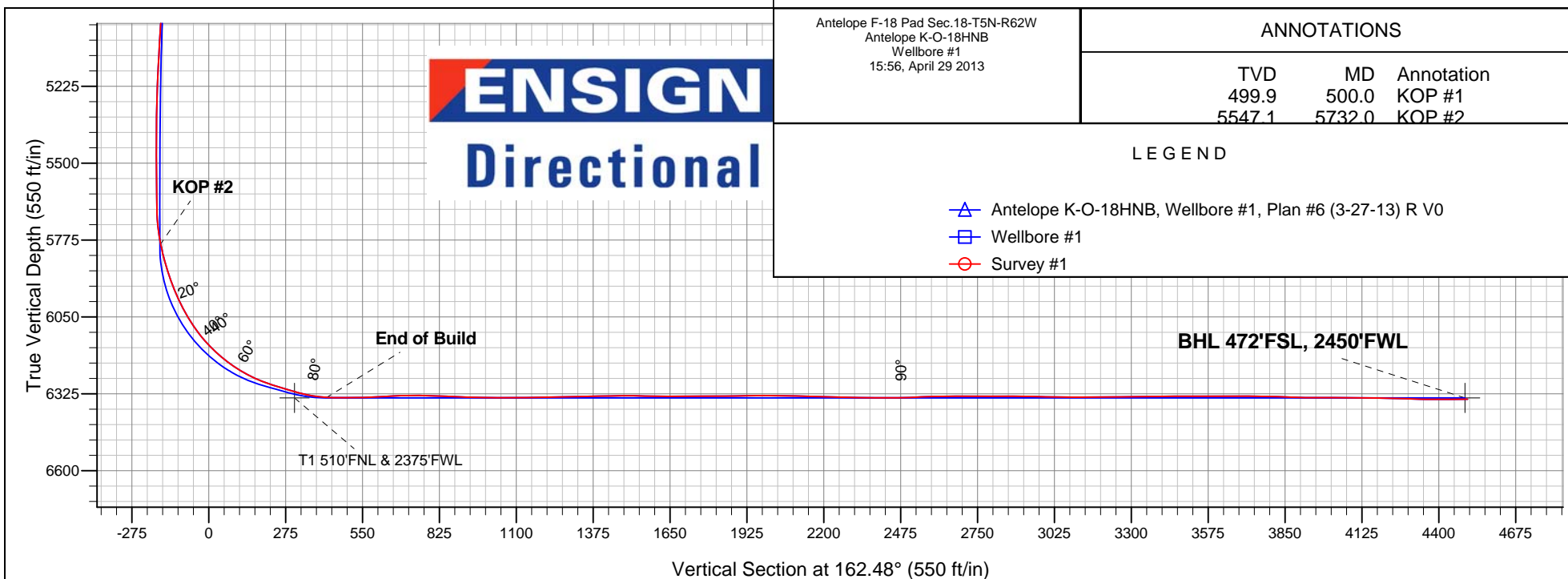
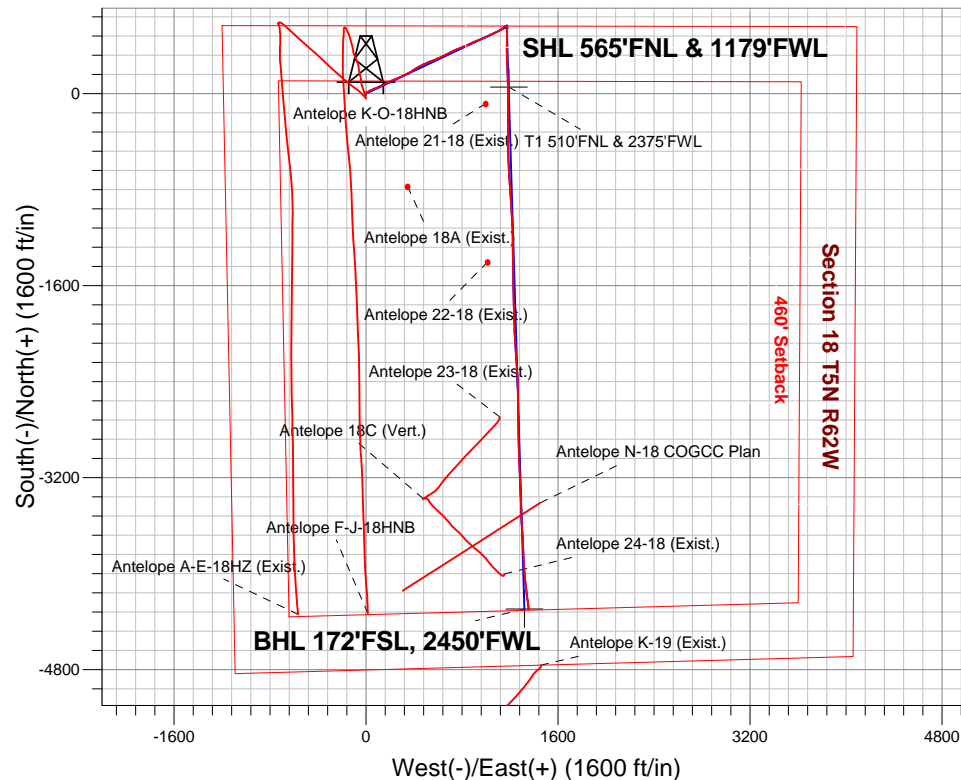
Ground Elevation: 4614.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1392415.57	3314358.75	40.405090	-104.371170	

Ensign 136 RKB - 12' WELL @ 4626.0ft (Ensign 136 RKB - 12')

FINAL SURVEY

Projected Bottom Hole Location
11104' MD 6344' TVD 4293' S & 1356' E of SHL
90.8 degree Incl @ 173.4 degree AZM





BONANZA CREEK ENERGY OPERATING

SEC.18-T5N-R62W

Antelope F-18 Pad Sec.18-T5N-R62W

Antelope K-O-18HNB

Wellbore #1

Survey: Survey #1

Standard Survey Report

29 April, 2013

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Well:	Antelope K-O-18HNB	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.18-T5N-R62W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Antelope F-18 Pad Sec.18-T5N-R62W				
Site Position:		Northing:	1,392,415.58ft	Latitude:	40.405090
From:	Lat/Long	Easting:	3,314,358.75ft	Longitude:	-104.371170
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.73 °

Well	Antelope K-O-18HNB					
Well Position	+N-S	0.0 ft	Northing:	1,392,415.57 ft	Latitude:	40.405090
	+E-W	0.0 ft	Easting:	3,314,358.75 ft	Longitude:	-104.371170
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,614.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/27/2013	8.41	67.06	52,989

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	162.48	

Survey Program	Date	4/29/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
136.0	11,104.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
136.0	1.00	339.80	136.0	1.1	-0.4	-1.2	0.74	0.74	0.00	
226.0	1.10	331.50	226.0	2.6	-1.1	-2.8	0.20	0.11	-9.22	
311.0	1.20	15.50	311.0	4.2	-1.2	-4.4	1.02	0.12	51.76	
396.0	0.90	38.30	395.9	5.6	-0.6	-5.5	0.60	-0.35	26.82	
457.0	1.60	54.10	456.9	6.4	0.4	-6.0	1.27	1.15	25.90	
493.7	1.60	57.30	493.6	7.0	1.2	-6.3	0.24	0.00	8.73	
9 5/8"										
500.0	1.60	57.85	499.9	7.1	1.4	-6.4	0.24	0.00	8.73	
KOP #1										
512.0	1.60	58.90	511.9	7.3	1.7	-6.4	0.24	0.01	8.72	
605.0	2.60	75.40	604.8	8.5	4.8	-6.6	1.25	1.08	17.74	
698.0	4.40	56.90	697.7	11.0	9.9	-7.5	2.26	1.94	-19.89	

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Well:	Antelope K-O-18HNB	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
792.0	5.80	62.60	791.3	15.1	17.1	-9.3	1.58	1.49	6.06
885.0	7.90	60.40	883.6	20.4	26.8	-11.4	2.28	2.26	-2.37
979.0	9.80	65.50	976.5	27.0	39.7	-13.7	2.18	2.02	5.43
1,070.0	12.10	67.30	1,065.8	33.8	55.6	-15.5	2.55	2.53	1.98
1,161.0	14.10	68.40	1,154.5	41.6	74.7	-17.2	2.21	2.20	1.21
1,252.0	16.20	64.50	1,242.3	51.2	96.4	-19.7	2.56	2.31	-4.29
1,380.0	17.90	64.10	1,364.7	67.4	130.3	-25.1	1.33	1.33	-0.31
1,507.0	16.70	64.00	1,485.9	84.0	164.2	-30.6	0.95	-0.94	-0.08
1,634.0	15.40	63.40	1,608.0	99.5	195.7	-36.0	1.03	-1.02	-0.47
1,719.0	15.20	68.70	1,690.0	108.6	216.2	-38.5	1.66	-0.24	6.24
1,803.0	15.50	70.80	1,771.0	116.3	237.0	-39.5	0.75	0.36	2.50
1,888.0	16.40	66.40	1,852.7	124.8	258.8	-41.1	1.77	1.06	-5.18
1,972.0	17.30	62.70	1,933.1	135.3	280.7	-44.5	1.67	1.07	-4.40
2,057.0	18.00	66.20	2,014.1	146.4	304.0	-48.1	1.50	0.82	4.12
2,142.0	18.20	65.40	2,094.9	157.2	328.1	-51.2	0.38	0.24	-0.94
2,227.0	18.60	62.40	2,175.6	169.1	352.1	-55.2	1.21	0.47	-3.53
2,312.0	19.70	59.20	2,255.8	182.7	376.5	-60.9	1.79	1.29	-3.76
2,396.0	18.90	54.80	2,335.1	197.8	399.7	-68.2	1.98	-0.95	-5.24
2,481.0	18.10	57.10	2,415.7	212.9	422.1	-75.9	1.27	-0.94	2.71
2,567.0	19.50	61.70	2,497.2	226.9	445.9	-82.1	2.37	1.63	5.35
2,652.0	20.10	66.40	2,577.1	239.5	471.8	-86.3	2.00	0.71	5.53
2,738.0	19.20	65.00	2,658.1	251.4	498.2	-89.7	1.18	-1.05	-1.63
2,823.0	20.00	68.70	2,738.2	262.6	524.4	-92.5	1.74	0.94	4.35
2,909.0	19.50	67.80	2,819.1	273.4	551.4	-94.7	0.68	-0.58	-1.05
2,994.0	17.80	66.90	2,899.7	283.8	576.5	-97.1	2.03	-2.00	-1.06
3,080.0	18.50	67.80	2,981.4	294.1	601.2	-99.5	0.88	0.81	1.05
3,166.0	17.40	66.20	3,063.2	304.5	625.6	-102.0	1.40	-1.28	-1.86
3,251.0	17.30	63.10	3,144.3	315.3	648.5	-105.4	1.09	-0.12	-3.65
3,337.0	17.50	60.80	3,226.4	327.4	671.2	-110.1	0.83	0.23	-2.67
3,422.0	18.10	62.20	3,307.3	339.8	694.0	-115.1	0.87	0.71	1.65
3,508.0	18.40	66.20	3,389.0	351.5	718.2	-119.0	1.50	0.35	4.65
3,593.0	18.00	66.80	3,469.8	362.1	742.6	-121.7	0.52	-0.47	0.71
3,679.0	18.10	67.60	3,551.5	372.4	767.2	-124.2	0.31	0.12	0.93
3,765.0	18.30	66.90	3,633.2	382.8	791.9	-126.6	0.34	0.23	-0.81
3,850.0	17.90	67.10	3,714.0	393.1	816.2	-129.1	0.48	-0.47	0.24
3,936.0	17.50	65.50	3,796.0	403.6	840.2	-132.0	0.73	-0.47	-1.86
4,021.0	17.40	66.80	3,877.0	413.9	863.5	-134.8	0.47	-0.12	1.53
4,107.0	17.10	67.10	3,959.2	423.9	886.9	-137.2	0.36	-0.35	0.35
4,192.0	15.60	66.90	4,040.7	433.3	909.0	-139.5	1.77	-1.76	-0.24
4,278.0	14.50	63.80	4,123.8	442.6	929.3	-142.3	1.58	-1.28	-3.60
4,406.0	12.80	71.50	4,248.2	454.1	957.1	-144.9	1.94	-1.33	6.02
4,492.0	14.20	67.60	4,331.8	461.2	975.9	-146.0	1.94	1.63	-4.53
4,577.0	14.60	67.80	4,414.1	469.2	995.4	-147.7	0.47	0.47	0.24
4,663.0	15.90	64.50	4,497.1	478.4	1,016.1	-150.3	1.82	1.51	-3.84
4,748.0	14.90	64.70	4,579.0	488.1	1,036.5	-153.3	1.18	-1.18	0.24
4,834.0	15.20	65.50	4,662.1	497.5	1,056.8	-156.2	0.42	0.35	0.93
4,919.0	15.20	63.40	4,744.1	507.1	1,076.9	-159.3	0.65	0.00	-2.47
5,005.0	14.20	63.30	4,827.3	516.9	1,096.4	-162.8	1.16	-1.16	-0.12
5,091.0	12.80	57.50	4,910.9	526.7	1,113.8	-166.9	2.26	-1.63	-6.74
5,219.0	9.60	51.50	5,036.5	541.0	1,134.1	-174.4	2.66	-2.50	-4.69
5,304.0	7.40	54.10	5,120.5	548.6	1,144.1	-178.7	2.63	-2.59	3.06
5,390.0	6.60	42.50	5,205.9	555.5	1,152.0	-182.9	1.88	-0.93	-13.49
5,476.0	4.60	59.60	5,291.5	560.9	1,158.3	-186.1	3.00	-2.33	19.88
5,561.0	3.20	69.80	5,376.3	563.4	1,163.4	-187.0	1.83	-1.65	12.00

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Well:	Antelope K-O-18HNB	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,647.0	2.90	71.30	5,462.2	565.0	1,167.7	-187.2	0.36	-0.35	1.74
5,732.0	2.20	81.70	5,547.1	565.9	1,171.4	-186.9	0.98	-0.82	12.24
KOP #2									
5,818.0	2.30	90.10	5,633.0	566.1	1,174.8	-186.2	0.40	0.12	9.77
5,861.0	2.40	111.10	5,676.0	565.8	1,176.5	-185.3	2.00	0.23	48.84
5,903.0	5.20	166.80	5,717.9	563.6	1,177.7	-182.9	10.30	6.67	132.62
5,946.0	9.70	180.50	5,760.5	558.1	1,178.1	-177.5	11.18	10.47	31.86
5,989.0	13.30	182.10	5,802.7	549.5	1,177.9	-169.4	8.40	8.37	3.72
6,031.0	16.10	186.50	5,843.3	538.9	1,177.1	-159.5	7.17	6.67	10.48
6,074.0	18.40	184.50	5,884.4	526.2	1,175.9	-147.8	5.52	5.35	-4.65
6,117.0	21.20	180.50	5,924.8	511.7	1,175.3	-134.1	7.23	6.51	-9.30
6,160.0	24.30	179.80	5,964.5	495.0	1,175.2	-118.2	7.24	7.21	-1.63
6,202.0	26.90	179.30	6,002.3	476.9	1,175.4	-100.9	6.21	6.19	-1.19
6,245.0	30.50	179.30	6,040.0	456.3	1,175.6	-81.1	8.37	8.37	0.00
6,288.0	34.80	181.40	6,076.2	433.1	1,175.5	-59.1	10.34	10.00	4.88
6,331.0	39.20	181.70	6,110.6	407.2	1,174.8	-34.6	10.24	10.23	0.70
6,374.0	43.70	181.40	6,142.8	378.8	1,174.0	-7.7	10.48	10.47	-0.70
6,416.0	48.10	180.30	6,172.0	348.6	1,173.6	20.9	10.64	10.48	-2.62
6,459.0	52.30	178.70	6,199.5	315.6	1,173.9	52.5	10.18	9.77	-3.72
6,502.0	56.30	178.70	6,224.6	280.7	1,174.7	86.0	9.30	9.30	0.00
6,545.0	60.60	176.60	6,247.1	244.1	1,176.2	121.4	10.83	10.00	-4.88
6,587.0	65.20	177.30	6,266.2	206.8	1,178.2	157.5	11.05	10.95	1.67
6,630.0	69.60	178.00	6,282.8	167.1	1,179.8	195.9	10.34	10.23	1.63
6,673.0	73.80	178.20	6,296.3	126.3	1,181.1	235.2	9.78	9.77	0.47
6,713.0	73.80	177.73	6,307.4	87.9	1,182.5	272.2	1.12	0.00	-1.16
4-1/2"									
6,716.0	73.80	177.70	6,308.3	85.0	1,182.6	275.0	1.12	0.00	-1.16
6,754.1	74.60	178.59	6,318.6	48.4	1,183.8	310.3	3.06	2.09	2.33
T1 510'FNL & 2375'FWL									
6,759.0	74.70	178.70	6,319.9	43.7	1,183.9	314.8	3.06	2.10	2.32
6,801.0	79.00	179.30	6,329.5	2.8	1,184.6	354.0	10.33	10.24	1.43
6,840.0	83.70	179.60	6,335.4	-35.8	1,185.0	390.9	12.08	12.05	0.77
6,883.0	87.73	180.21	6,338.6	-78.6	1,185.1	431.8	9.48	9.37	1.41
7"									
6,904.0	89.70	180.50	6,339.0	-99.6	1,184.9	451.7	9.48	9.38	1.40
6,946.0	90.30	180.00	6,339.0	-141.6	1,184.8	491.7	1.86	1.43	-1.19
6,989.0	90.70	180.50	6,338.7	-184.6	1,184.6	532.7	1.49	0.93	1.16
7,031.0	92.10	181.60	6,337.6	-226.6	1,183.8	572.5	4.24	3.33	2.62
7,073.0	92.90	180.90	6,335.8	-268.5	1,182.9	612.2	2.53	1.90	-1.67
7,116.0	92.90	179.60	6,333.6	-311.5	1,182.7	653.1	3.02	0.00	-3.02
7,158.0	91.70	180.30	6,331.9	-353.4	1,182.7	693.1	3.31	-2.86	1.67
7,201.0	90.20	179.30	6,331.2	-396.4	1,182.9	734.2	4.19	-3.49	-2.33
7,243.0	88.90	178.70	6,331.6	-438.4	1,183.6	774.4	3.41	-3.10	-1.43
7,286.0	87.70	179.10	6,332.8	-481.4	1,184.4	815.7	2.94	-2.79	0.93
7,329.0	87.30	178.20	6,334.7	-524.4	1,185.4	856.9	2.29	-0.93	-2.09
7,372.0	87.70	176.60	6,336.6	-567.3	1,187.4	898.4	3.83	0.93	-3.72
7,415.0	88.90	176.60	6,337.9	-610.2	1,189.9	940.1	2.79	2.79	0.00
7,457.0	89.30	176.80	6,338.5	-652.1	1,192.4	980.8	1.06	0.95	0.48
7,500.0	89.30	176.80	6,339.0	-695.0	1,194.8	1,022.5	0.00	0.00	0.00
7,543.0	90.00	176.50	6,339.3	-737.9	1,197.3	1,064.2	1.77	1.63	-0.70
7,586.0	90.20	175.90	6,339.2	-780.9	1,200.1	1,105.9	1.47	0.47	-1.40
7,628.0	91.20	175.60	6,338.7	-822.7	1,203.2	1,146.8	2.49	2.38	-0.71
7,671.0	91.50	177.00	6,337.7	-865.6	1,206.0	1,188.6	3.33	0.70	3.26
7,714.0	90.70	176.10	6,336.9	-908.5	1,208.6	1,230.3	2.80	-1.86	-2.09

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Well:	Antelope K-O-18HNB	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,757.0	91.10	176.80	6,336.2	-951.5	1,211.3	1,272.0	1.87	0.93	1.63
7,800.0	91.00	176.10	6,335.4	-994.4	1,213.9	1,313.7	1.64	-0.23	-1.63
7,842.0	91.70	176.10	6,334.4	-1,036.3	1,216.8	1,354.5	1.67	1.67	0.00
7,885.0	91.00	177.00	6,333.4	-1,079.2	1,219.4	1,396.2	2.65	-1.63	2.09
7,928.0	90.40	178.40	6,332.9	-1,122.1	1,221.1	1,437.7	3.54	-1.40	3.26
7,971.0	90.90	178.20	6,332.4	-1,165.1	1,222.4	1,479.1	1.25	1.16	-0.47
8,013.0	89.50	179.30	6,332.3	-1,207.1	1,223.3	1,519.4	4.24	-3.33	2.62
8,056.0	88.40	179.10	6,333.0	-1,250.1	1,223.9	1,560.6	2.60	-2.56	-0.47
8,099.0	88.90	178.90	6,334.1	-1,293.1	1,224.6	1,601.8	1.25	1.16	-0.47
8,142.0	89.30	179.10	6,334.7	-1,336.1	1,225.4	1,643.0	1.04	0.93	0.47
8,184.0	90.60	179.30	6,334.8	-1,378.0	1,226.0	1,683.2	3.13	3.10	0.48
8,227.0	91.30	180.50	6,334.1	-1,421.0	1,226.0	1,724.2	3.23	1.63	2.79
8,270.0	90.50	179.30	6,333.4	-1,464.0	1,226.1	1,765.3	3.35	-1.86	-2.79
8,313.0	89.40	178.60	6,333.4	-1,507.0	1,226.9	1,806.5	3.03	-2.56	-1.63
8,356.0	90.60	178.90	6,333.4	-1,550.0	1,227.8	1,847.8	2.88	2.79	0.70
8,398.0	91.10	178.60	6,332.8	-1,592.0	1,228.8	1,888.1	1.39	1.19	-0.71
8,441.0	90.60	179.40	6,332.2	-1,635.0	1,229.5	1,929.3	2.19	-1.16	1.86
8,484.0	90.00	178.90	6,331.9	-1,678.0	1,230.2	1,970.5	1.82	-1.40	-1.16
8,527.0	89.10	178.70	6,332.3	-1,721.0	1,231.1	2,011.8	2.14	-2.09	-0.47
8,569.0	89.90	178.60	6,332.6	-1,763.0	1,232.0	2,052.1	1.92	1.90	-0.24
8,612.0	89.00	178.90	6,333.0	-1,805.9	1,233.0	2,093.4	2.21	-2.09	0.70
8,655.0	89.10	178.70	6,333.8	-1,848.9	1,233.9	2,134.6	0.52	0.23	-0.47
8,698.0	87.80	177.70	6,334.9	-1,891.9	1,235.2	2,176.0	3.81	-3.02	-2.33
8,741.0	88.20	178.00	6,336.4	-1,934.8	1,236.8	2,217.4	1.16	0.93	0.70
8,783.0	88.30	177.90	6,337.7	-1,976.8	1,238.3	2,257.9	0.34	0.24	-0.24
8,826.0	89.10	175.90	6,338.7	-2,019.7	1,240.7	2,299.5	5.01	1.86	-4.65
8,869.0	89.40	176.60	6,339.2	-2,062.6	1,243.5	2,341.3	1.77	0.70	1.63
8,912.0	89.90	176.10	6,339.5	-2,105.5	1,246.2	2,383.0	1.64	1.16	-1.16
8,954.0	89.70	175.90	6,339.7	-2,147.4	1,249.1	2,423.9	0.67	-0.48	-0.48
8,997.0	91.10	176.10	6,339.4	-2,190.3	1,252.1	2,465.7	3.29	3.26	0.47
9,040.0	92.10	176.80	6,338.2	-2,233.2	1,254.8	2,507.4	2.84	2.33	1.63
9,083.0	92.40	176.50	6,336.5	-2,276.1	1,257.3	2,549.0	0.99	0.70	-0.70
9,125.0	91.40	176.30	6,335.1	-2,318.0	1,260.0	2,589.8	2.43	-2.38	-0.48
9,168.0	90.70	177.20	6,334.3	-2,360.9	1,262.4	2,631.5	2.65	-1.63	2.09
9,211.0	89.70	177.00	6,334.1	-2,403.9	1,264.6	2,673.1	2.37	-2.33	-0.47
9,254.0	90.70	178.20	6,334.0	-2,446.8	1,266.4	2,714.6	3.63	2.33	2.79
9,297.0	89.90	179.10	6,333.8	-2,489.8	1,267.4	2,755.9	2.80	-1.86	2.09
9,339.0	89.80	180.30	6,333.9	-2,531.8	1,267.6	2,796.0	2.87	-0.24	2.86
9,382.0	90.00	179.80	6,333.9	-2,574.8	1,267.6	2,837.0	1.25	0.47	-1.16
9,425.0	89.50	179.10	6,334.1	-2,617.8	1,268.0	2,878.1	2.00	-1.16	-1.63
9,468.0	89.90	179.10	6,334.4	-2,660.8	1,268.7	2,919.3	0.93	0.93	0.00
9,510.0	88.50	179.30	6,334.9	-2,702.8	1,269.2	2,959.5	3.37	-3.33	0.48
9,553.0	88.50	179.60	6,336.1	-2,745.8	1,269.7	3,000.6	0.70	0.00	0.70
9,596.0	88.80	179.30	6,337.1	-2,788.8	1,270.1	3,041.8	0.99	0.70	-0.70
9,639.0	90.00	178.70	6,337.5	-2,831.8	1,270.8	3,083.0	3.12	2.79	-1.40
9,682.0	90.00	178.60	6,337.5	-2,874.7	1,271.8	3,124.3	0.23	0.00	-0.23
9,724.0	90.20	178.70	6,337.5	-2,916.7	1,272.8	3,164.6	0.53	0.48	0.24
9,767.0	90.60	178.40	6,337.2	-2,959.7	1,273.9	3,205.9	1.16	0.93	-0.70
9,810.0	91.00	177.90	6,336.6	-3,002.7	1,275.3	3,247.3	1.49	0.93	-1.16
9,853.0	91.40	178.40	6,335.7	-3,045.7	1,276.7	3,288.7	1.49	0.93	1.16
9,895.0	90.50	177.00	6,335.0	-3,087.6	1,278.4	3,329.2	3.96	-2.14	-3.33
9,938.0	89.60	177.30	6,334.9	-3,130.6	1,280.5	3,370.8	2.21	-2.09	0.70
9,981.0	90.80	177.90	6,334.8	-3,173.5	1,282.3	3,412.3	3.12	2.79	1.40
10,024.0	90.70	177.50	6,334.2	-3,216.5	1,284.0	3,453.8	0.96	-0.23	-0.93

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Well:	Antelope K-O-18HNB	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
10,067.0	89.60	177.70	6,334.1	-3,259.4	1,285.8	3,495.3	2.60	-2.56	0.47	
10,109.0	90.30	177.70	6,334.1	-3,301.4	1,287.5	3,535.9	1.67	1.67	0.00	
10,152.0	89.90	177.90	6,334.1	-3,344.4	1,289.2	3,577.3	1.04	-0.93	0.47	
10,195.0	90.80	178.20	6,333.8	-3,387.4	1,290.6	3,618.8	2.21	2.09	0.70	
10,238.0	90.00	178.00	6,333.5	-3,430.3	1,292.1	3,660.2	1.92	-1.86	-0.47	
10,281.0	89.70	178.20	6,333.6	-3,473.3	1,293.5	3,701.6	0.84	-0.70	0.47	
10,323.0	89.70	177.30	6,333.8	-3,515.3	1,295.1	3,742.1	2.14	0.00	-2.14	
10,366.0	88.10	176.30	6,334.7	-3,558.2	1,297.5	3,783.8	4.39	-3.72	-2.33	
10,409.0	88.20	176.80	6,336.0	-3,601.1	1,300.1	3,825.4	1.19	0.23	1.16	
10,452.0	88.30	176.10	6,337.4	-3,644.0	1,302.8	3,867.1	1.64	0.23	-1.63	
10,495.0	88.50	176.50	6,338.6	-3,686.9	1,305.6	3,908.9	1.04	0.47	0.93	
10,537.0	89.70	178.20	6,339.2	-3,728.8	1,307.5	3,949.5	4.95	2.86	4.05	
10,580.0	90.50	178.60	6,339.1	-3,771.8	1,308.7	3,990.8	2.08	1.86	0.93	
10,623.0	89.80	177.50	6,339.0	-3,814.8	1,310.2	4,032.2	3.03	-1.63	-2.56	
10,666.0	89.40	177.30	6,339.3	-3,857.7	1,312.1	4,073.8	1.04	-0.93	-0.47	
10,709.0	89.50	176.30	6,339.7	-3,900.7	1,314.5	4,115.5	2.34	0.23	-2.33	
10,751.0	89.40	176.50	6,340.1	-3,942.6	1,317.1	4,156.2	0.53	-0.24	0.48	
10,796.0	89.30	175.40	6,340.7	-3,987.5	1,320.3	4,200.0	2.45	-0.22	-2.44	
10,841.0	88.20	173.80	6,341.6	-4,032.3	1,324.6	4,244.0	4.31	-2.44	-3.56	
10,886.0	87.80	173.80	6,343.2	-4,077.0	1,329.4	4,288.1	0.89	-0.89	0.00	
10,930.0	88.40	173.60	6,344.7	-4,120.7	1,334.2	4,331.2	1.44	1.36	-0.45	
10,975.0	90.00	172.80	6,345.3	-4,165.4	1,339.6	4,375.4	3.98	3.56	-1.78	
11,020.0	90.30	172.60	6,345.2	-4,210.0	1,345.3	4,419.7	0.80	0.67	-0.44	
11,049.0	90.50	172.90	6,345.0	-4,238.8	1,348.9	4,448.2	1.24	0.69	1.03	
11,099.0	90.77	173.35	6,344.4	-4,288.4	1,354.9	4,497.4	1.06	0.55	0.91	
4-1/2"										
11,101.8	90.79	173.38	6,344.4	-4,291.2	1,355.3	4,500.1	1.06	0.55	0.91	
BHL 470'FSL, 2415'FWL										
11,104.0	90.80	173.40	6,344.4	-4,293.4	1,355.5	4,502.3	1.06	0.55	0.91	
TD at 11104'										

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name			Casing Diameter (")	Hole Diameter (")
493.7	493.6	9 5/8"			9-5/8	12-1/4
6,883.0	6,338.6	7"			7	7-1/2
6,713.0	6,307.4	4-1/2"			4-1/2	6
11,099.0	6,344.4	4-1/2"			4-1/2	6

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
500.0	499.9	7.1	1.4	KOP #1	
5,732.0	5,547.1	565.9	1,171.4	KOP #2	
11,104.0	6,344.4	-4,293.4	1,355.5	TD at 11104'	

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------



BONANZA CREEK ENERGY OPERATING

SEC.18-T5N-R62W

Antelope F-18 Pad Sec.18-T5N-R62W

Antelope K-O-18HNB

Wellbore #1

Survey: Survey #1

Anticollision Report

29 April, 2013

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 6349-UNKNOWN													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
400.0	399.9	384.9	384.9	0.7	7.7	115.82	-772.3	348.1	852.5	844.1	8.40	101.468		
500.0	499.9	484.9	484.9	0.9	9.7	98.16	-772.3	348.1	853.1	842.5	10.61	80.398		
600.0	599.9	584.9	584.9	1.1	11.7	81.41	-772.3	348.1	853.0	840.2	12.83	66.504		
634.4	634.2	619.2	619.2	1.2	12.4	90.00	-772.3	348.1	852.9	839.3	13.59	62.749		
700.0	699.7	684.7	684.7	1.4	13.7	99.57	-772.3	348.1	853.3	838.2	15.05	56.693		
800.0	799.3	784.3	784.3	1.6	15.7	94.88	-772.3	348.1	854.3	837.0	17.29	49.407		
900.0	898.5	883.5	883.5	1.9	17.7	96.64	-772.3	348.1	855.7	836.1	19.55	43.766		
1,000.0	997.2	982.2	982.2	2.2	19.6	93.11	-772.3	348.1	856.9	835.1	21.84	39.229		
1,100.0	1,095.1	1,080.1	1,080.1	2.6	21.6	92.72	-772.3	348.1	857.9	833.8	24.18	35.489		
1,200.0	1,192.2	1,177.2	1,177.2	3.0	23.5	95.30	-772.3	348.1	859.4	832.9	26.54	32.376		
1,300.0	1,288.3	1,273.3	1,273.3	3.5	25.5	99.16	-772.3	348.1	863.2	834.3	28.94	29.829		
1,400.0	1,383.7	1,368.7	1,368.7	4.1	27.4	101.22	-772.3	348.1	868.8	837.5	31.35	27.716		
1,500.0	1,479.2	1,464.2	1,464.2	4.6	29.3	103.18	-772.3	348.1	875.4	841.6	33.74	25.945		
1,600.0	1,575.2	1,560.2	1,560.2	5.0	31.2	105.37	-772.3	348.1	882.5	846.4	36.09	24.455		
1,700.0	1,671.6	1,656.6	1,656.6	5.5	33.1	103.20	-772.3	348.1	889.6	851.2	38.48	23.117		
1,800.0	1,768.1	1,753.1	1,753.1	6.0	35.1	101.67	-772.3	348.1	895.4	854.5	40.90	21.895		
1,900.0	1,864.2	1,849.2	1,849.2	6.6	37.0	107.95	-772.3	348.1	902.7	859.5	43.22	20.885		
2,000.0	1,959.8	1,944.8	1,944.8	7.1	38.9	111.41	-772.3	348.1	913.4	867.9	45.55	20.053		
2,100.0	2,055.0	2,040.0	2,040.0	7.7	40.8	111.22	-772.3	348.1	924.7	876.8	47.95	19.284		
2,200.0	2,150.0	2,135.0	2,135.0	8.4	42.7	115.25	-772.3	348.1	937.5	887.3	50.23	18.662		
2,300.0	2,244.5	2,229.5	2,229.5	9.0	44.6	120.36	-772.3	348.1	953.3	900.9	52.38	18.198		
2,400.0	2,338.9	2,323.9	2,323.9	9.6	46.5	126.67	-772.3	348.1	972.3	917.8	54.50	17.840		
2,500.0	2,433.8	2,418.8	2,418.8	10.2	48.4	124.97	-772.3	348.1	991.5	934.6	56.92	17.420		
7,100.0	6,334.4	6,319.4	6,319.4	26.1	126.4	91.66	-772.3	348.1	961.1	817.5	143.67	6.690		
7,200.0	6,331.2	6,316.2	6,316.2	26.6	126.3	90.10	-772.3	348.1	915.9	771.7	144.15	6.354		
7,300.0	6,333.4	6,318.4	6,318.4	27.2	126.4	89.25	-772.3	348.1	881.2	736.4	144.85	6.084		
7,400.0	6,337.5	6,322.5	6,322.5	28.0	126.5	89.77	-772.3	348.1	859.4	713.0	146.42	5.869		
7,500.0	6,339.0	6,324.0	6,324.0	28.9	126.5	89.98	-772.3	348.1	850.2	702.5	147.67	5.757		
7,526.1	6,339.3	6,324.3	6,324.3	29.1	126.5	90.00	-772.3	348.1	849.7	701.6	148.09	5.738 ES		
7,600.0	6,339.1	6,324.1	6,324.1	29.9	126.5	89.95	-772.3	348.1	853.3	704.0	149.26	5.717 SF		
7,700.0	6,337.1	6,322.1	6,322.1	31.0	126.4	89.80	-772.3	348.1	868.2	717.8	150.40	5.773		
7,800.0	6,335.4	6,320.4	6,320.4	32.1	126.4	89.67	-772.3	348.1	893.8	742.0	151.77	5.889		
7,900.0	6,333.2	6,318.2	6,318.2	33.3	126.4	89.67	-772.3	348.1	929.4	776.7	152.75	6.085		
8,000.0	6,332.2	6,317.2	6,317.2	34.5	126.3	90.03	-772.3	348.1	971.3	817.6	153.74	6.318		

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design Antelope (Existing Wells) Pad Sec.18-T5N-R62W - Antelope 18C (Vert.) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.0 ft
Survey Program: 6850-UNKNOWN													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
9,600.0	6,337.2	6,322.2	6,322.2	57.7	126.4	89.23	-3,373.5	476.3	983.6	804.0	179.61	5.476		
9,700.0	6,337.5	6,322.5	6,322.5	59.3	126.5	90.05	-3,373.5	476.3	929.9	748.2	181.69	5.118		
9,800.0	6,336.7	6,321.7	6,321.7	61.0	126.4	90.39	-3,373.5	476.3	884.8	701.1	183.72	4.816		
9,900.0	6,334.9	6,319.9	6,319.9	62.6	126.4	90.12	-3,373.5	476.3	850.1	664.3	185.75	4.576		
10,000.0	6,334.5	6,319.5	6,319.5	64.3	126.4	90.14	-3,373.5	476.3	826.8	639.6	187.22	4.416		
10,100.0	6,334.2	6,319.2	6,319.2	65.9	126.4	90.01	-3,373.5	476.3	814.9	626.0	188.94	4.313		
10,152.0	6,333.9	6,318.9	6,318.9	66.8	126.4	90.00	-3,373.5	476.3	813.4	623.6	189.74	4.287 CC, ES		
10,200.0	6,333.7	6,318.7	6,318.7	67.5	126.4	89.96	-3,373.5	476.3	814.7	624.2	190.49	4.277 SF		
10,300.0	6,333.7	6,318.7	6,318.7	69.2	126.4	90.06	-3,373.5	476.3	826.4	634.1	192.34	4.297		
10,400.0	6,335.8	6,320.8	6,320.8	70.8	126.4	90.60	-3,373.5	476.3	851.8	657.3	194.51	4.379		
10,500.0	6,338.7	6,323.7	6,323.7	72.5	126.5	90.61	-3,373.5	476.3	888.5	692.2	196.34	4.525		
10,600.0	6,339.0	6,324.0	6,324.0	74.3	126.5	89.90	-3,373.5	476.3	932.1	734.5	197.61	4.717		
10,700.0	6,339.7	6,324.7	6,324.7	75.9	126.5	90.37	-3,373.5	476.3	985.0	785.0	199.95	4.926		

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 6349-UNKNOWN												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
500.0	499.9	484.9	484.9	0.9	9.7	37.37	-83.8	997.0	999.8	989.2	10.61	94.205	
600.0	599.9	584.9	584.9	1.1	11.7	20.48	-83.8	997.0	996.7	983.9	12.82	77.761	
700.0	699.7	684.7	684.7	1.4	13.7	38.51	-83.8	997.0	991.6	976.6	15.02	66.017	
800.0	799.3	784.3	784.3	1.6	15.7	33.58	-83.8	997.0	984.2	967.0	17.21	57.192	
900.0	898.5	883.5	883.5	1.9	17.7	35.11	-83.8	997.0	974.1	954.7	19.38	50.271	
1,000.0	997.2	982.2	982.2	2.2	19.6	31.14	-83.8	997.0	960.5	939.1	21.50	44.684	
1,100.0	1,095.1	1,080.1	1,080.1	2.6	21.6	30.23	-83.8	997.0	943.2	919.6	23.57	40.019	
1,200.0	1,192.2	1,177.2	1,177.2	3.0	23.5	32.34	-83.8	997.0	922.4	896.8	25.65	35.966	
1,300.0	1,288.3	1,273.3	1,273.3	3.5	25.5	35.85	-83.8	997.0	899.4	871.6	27.78	32.370	
1,400.0	1,383.7	1,368.7	1,368.7	4.1	27.4	37.38	-83.8	997.0	874.9	844.9	29.99	29.177	
1,500.0	1,479.2	1,464.2	1,464.2	4.6	29.3	38.51	-83.8	997.0	851.1	818.8	32.36	26.306	
1,600.0	1,575.2	1,560.2	1,560.2	5.0	31.2	39.99	-83.8	997.0	829.1	794.4	34.74	23.869	
1,700.0	1,671.6	1,656.6	1,656.6	5.5	33.1	37.11	-83.8	997.0	808.3	771.3	37.00	21.843	
1,800.0	1,768.1	1,753.1	1,753.1	6.0	35.1	34.98	-83.8	997.0	786.6	747.4	39.22	20.058	
1,900.0	1,864.2	1,849.2	1,849.2	6.6	37.0	41.29	-83.8	997.0	764.6	723.0	41.59	18.384	
2,000.0	1,959.8	1,944.8	1,944.8	7.1	38.9	44.93	-83.8	997.0	743.0	699.1	43.97	16.898	
2,100.0	2,055.0	2,040.0	2,040.0	7.7	40.8	44.75	-83.8	997.0	720.5	674.2	46.30	15.563	
2,200.0	2,150.0	2,135.0	2,135.0	8.4	42.7	49.04	-83.8	997.0	698.4	649.5	48.86	14.295	
2,300.0	2,244.5	2,229.5	2,229.5	9.0	44.6	54.94	-83.8	997.0	677.7	626.2	51.50	13.159	
2,400.0	2,338.9	2,323.9	2,323.9	9.6	46.5	61.77	-83.8	997.0	659.7	605.3	54.36	12.136	
2,500.0	2,433.8	2,418.8	2,418.8	10.2	48.4	60.87	-83.8	997.0	644.0	587.1	56.89	11.320	
2,600.0	2,528.2	2,513.2	2,513.2	10.8	50.3	58.27	-83.8	997.0	626.7	567.4	59.26	10.574	
2,700.0	2,622.3	2,607.3	2,607.3	11.5	52.1	58.78	-83.8	997.0	607.7	545.8	61.87	9.822	
2,800.0	2,716.6	2,701.6	2,701.6	12.1	54.0	59.41	-83.8	997.0	590.2	525.7	64.47	9.154	
2,900.0	2,810.7	2,795.7	2,795.7	12.8	55.9	61.98	-83.8	997.0	572.6	505.4	67.22	8.518	
3,000.0	2,905.4	2,890.4	2,890.4	13.4	57.8	65.44	-83.8	997.0	557.8	487.7	70.06	7.962	
3,100.0	3,000.4	2,985.4	2,985.4	14.0	59.7	67.88	-83.8	997.0	544.7	472.0	72.74	7.489	
3,200.0	3,095.7	3,080.7	3,080.7	14.6	61.6	73.09	-83.8	997.0	534.0	458.5	75.55	7.069	
3,300.0	3,191.1	3,176.1	3,176.1	15.2	63.5	79.14	-83.8	997.0	526.6	448.3	78.30	6.726	
3,400.0	3,286.4	3,271.4	3,271.4	15.8	65.4	82.22	-83.8	997.0	521.8	440.8	80.96	6.445	
3,500.0	3,381.4	3,366.4	3,366.4	16.4	67.3	81.69	-83.8	997.0	517.3	433.8	83.55	6.192	
3,600.0	3,476.4	3,461.4	3,461.4	17.0	69.2	83.97	-83.8	997.0	513.1	427.0	86.14	5.957	
3,700.0	3,571.5	3,556.5	3,556.5	17.6	71.1	86.73	-83.8	997.0	510.4	421.7	88.70	5.754	
3,787.2	3,654.4	3,639.4	3,639.4	18.1	72.8	90.00	-83.8	997.0	509.6	418.7	90.90	5.606	
3,800.0	3,666.5	3,651.5	3,651.5	18.2	73.0	90.49	-83.8	997.0	509.7	418.5	91.21	5.588	
3,900.0	3,761.6	3,746.6	3,746.6	18.8	74.9	94.55	-83.8	997.0	510.9	417.3	93.64	5.457	
4,000.0	3,857.0	3,842.0	3,842.0	19.4	76.8	97.46	-83.8	997.0	514.4	418.5	95.99	5.359	
4,100.0	3,952.5	3,937.5	3,937.5	20.0	78.7	100.01	-83.8	997.0	519.1	420.8	98.29	5.281	
4,200.0	4,048.4	4,033.4	4,033.4	20.5	80.7	103.44	-83.8	997.0	525.0	424.5	100.53	5.223	
4,300.0	4,145.1	4,130.1	4,130.1	21.0	82.6	107.71	-83.8	997.0	532.4	429.7	102.68	5.185	
4,400.0	4,242.3	4,227.3	4,227.3	21.5	84.5	104.17	-83.8	997.0	539.1	434.1	104.98	5.135	
4,500.0	4,339.6	4,324.6	4,324.6	22.0	86.5	109.78	-83.8	997.0	546.0	439.0	107.01	5.103	
4,600.0	4,436.4	4,421.4	4,421.4	22.5	88.4	112.82	-83.8	997.0	555.3	446.2	109.05	5.092	
4,700.0	4,532.7	4,517.7	4,517.7	23.0	90.4	117.38	-83.8	997.0	567.1	456.2	110.95	5.112	
4,800.0	4,629.3	4,614.3	4,614.3	23.5	92.3	119.06	-83.8	997.0	579.8	466.8	113.02	5.131	
4,900.0	4,725.8	4,710.8	4,710.8	24.0	94.2	122.50	-83.8	997.0	593.4	478.5	114.92	5.164	
5,000.0	4,822.5	4,807.5	4,807.5	24.6	96.1	125.14	-83.8	997.0	608.1	491.1	116.95	5.199	
5,100.0	4,919.7	4,904.7	4,904.7	25.0	98.1	133.09	-83.8	997.0	622.9	504.1	118.85	5.241	
5,200.0	5,017.8	5,002.8	5,002.8	25.4	100.1	139.12	-83.8	997.0	637.1	516.0	121.09	5.262	
5,300.0	5,116.6	5,101.6	5,101.6	25.7	102.0	138.88	-83.8	997.0	648.9	525.3	123.54	5.252	
5,400.0	5,215.8	5,200.8	5,200.8	26.0	104.0	149.60	-83.8	997.0	658.8	533.1	125.62	5.244	
5,500.0	5,315.4	5,300.4	5,300.4	26.2	106.0	132.29	-83.8	997.0	665.8	537.7	128.04	5.200	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design		Antelope (Existing Wells) Pad Sec.18-T5N-R62W - Antelope 21-18 (Exist.) - Wellbore #1 - Wellbore #1										Offset Site Error:		0.0 ft		
Survey Program: 6349-UNKNOWN														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)					
5,600.0	5,415.2	5,400.2	5,400.2	26.4	108.0	124.09	-83.8	997.0	669.5	539.3	130.20	5.142				
5,700.0	5,515.1	5,500.1	5,500.1	26.6	110.0	117.81	-83.8	997.0	672.1	539.8	132.31	5.080				
5,800.0	5,615.0	5,600.0	5,600.0	26.7	112.0	106.82	-83.8	997.0	673.6	539.1	134.41	5.011				
5,900.0	5,714.9	5,699.9	5,699.9	26.8	114.0	30.53	-83.8	997.0	672.4	536.4	135.97	4.945				
6,000.0	5,813.4	5,798.4	5,798.4	26.8	116.0	12.95	-83.8	997.0	656.1	521.9	134.16	4.890				
6,100.0	5,908.9	5,893.9	5,893.9	26.7	117.9	15.46	-83.8	997.0	627.3	495.5	131.82	4.759				
6,200.0	6,000.5	5,985.5	5,985.5	26.6	119.7	20.32	-83.8	997.0	589.2	461.5	127.75	4.612				
6,300.0	6,086.0	6,071.0	6,071.0	26.4	121.4	21.63	-83.8	997.0	540.2	421.6	118.60	4.554				
6,400.0	6,161.2	6,146.2	6,146.2	26.1	122.9	29.10	-83.8	997.0	478.0	368.9	109.08	4.382				
6,500.0	6,223.5	6,208.5	6,208.5	25.8	124.2	42.64	-83.8	997.0	406.9	296.6	110.28	3.690				
6,600.0	6,271.6	6,256.6	6,256.6	25.7	125.1	60.90	-83.8	997.0	332.7	208.0	124.67	2.668				
6,700.0	6,303.8	6,288.8	6,288.8	25.5	125.8	75.53	-83.8	997.0	261.0	124.5	136.53	1.912	Level 3, CC, ES, SF			
6,800.0	6,329.3	6,314.3	6,314.3	25.5	126.3	85.03	-83.8	997.0	207.0	65.7	141.32	1.465				
6,889.3	6,339.3	6,324.3	6,324.3	25.6	126.5	90.00	-83.8	997.0	187.9	45.3	142.62	1.317				
6,900.0	6,339.0	6,324.0	6,324.0	25.6	126.5	90.04	-83.8	997.0	188.3	45.7	142.64	1.320				
7,000.0	6,338.5	6,323.5	6,323.5	25.8	126.5	89.38	-83.8	997.0	218.2	75.3	142.94	1.527				
7,100.0	6,334.4	6,319.4	6,319.4	26.1	126.4	86.71	-83.8	997.0	281.6	138.5	143.02	1.969				
7,200.0	6,331.2	6,316.2	6,316.2	26.6	126.3	89.60	-83.8	997.0	362.9	218.8	144.10	2.518				
7,300.0	6,333.4	6,318.4	6,318.4	27.2	126.4	95.62	-83.8	997.0	452.4	307.6	144.75	3.125				
7,400.0	6,337.5	6,322.5	6,322.5	28.0	126.5	94.90	-83.8	997.0	546.3	399.9	146.37	3.732				
7,500.0	6,339.0	6,324.0	6,324.0	28.9	126.5	92.66	-83.8	997.0	642.4	494.7	147.77	4.348				
7,600.0	6,339.1	6,324.1	6,324.1	29.9	126.5	87.45	-83.8	997.0	739.8	590.9	148.88	4.969				
7,700.0	6,337.1	6,322.1	6,322.1	31.0	126.4	85.05	-83.8	997.0	837.7	688.3	149.40	5.607				
7,800.0	6,335.4	6,320.4	6,320.4	32.1	126.4	84.04	-83.8	997.0	936.1	785.6	150.45	6.222				

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design		Antelope (Existing Wells) Pad Sec.18-T5N-R62W - Antelope 22-18 (Exist.) - Wellbore #1 - Wellbore #1										Offset Site Error:		0.0 ft			
Survey Program: 6349-UNKNOWN														Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor					
7,300.0	6,333.4	6,318.4	6,318.4	27.2	126.4	78.59	-1,402.6	1,013.8	923.1	782.0	141.18	6.539					
7,400.0	6,337.5	6,322.5	6,322.5	28.0	126.5	84.59	-1,402.6	1,013.8	826.2	680.9	145.33	5.685					
7,500.0	6,339.0	6,324.0	6,324.0	28.9	126.5	87.79	-1,402.6	1,013.8	730.3	583.0	147.36	4.956					
7,600.0	6,339.1	6,324.1	6,324.1	29.9	126.5	91.37	-1,402.6	1,013.8	636.0	486.6	149.36	4.258					
7,700.0	6,337.1	6,322.1	6,322.1	31.0	126.4	92.11	-1,402.6	1,013.8	543.7	393.2	150.53	3.612					
7,800.0	6,335.4	6,320.4	6,320.4	32.1	126.4	91.73	-1,402.6	1,013.8	454.6	302.7	151.91	2.993					
7,900.0	6,333.2	6,318.2	6,318.2	33.3	126.4	91.08	-1,402.6	1,013.8	371.1	218.2	152.87	2.427					
8,000.0	6,332.2	6,317.2	6,317.2	34.5	126.3	89.94	-1,402.6	1,013.8	295.4	141.7	153.73	1.922					
8,100.0	6,334.1	6,319.1	6,319.1	35.6	126.4	89.46	-1,402.6	1,013.8	237.1	82.0	155.14	1.529					
8,200.0	6,334.6	6,319.6	6,319.6	36.9	126.4	90.03	-1,402.6	1,013.8	212.5	55.9	156.54	1.357	Level 3				
8,207.3	6,334.5	6,319.5	6,319.5	37.0	126.4	90.00	-1,402.6	1,013.8	212.3	55.7	156.66	1.355	Level 3, CC, ES, SF				
8,300.0	6,333.3	6,318.3	6,318.3	38.2	126.4	90.12	-1,402.6	1,013.8	231.6	73.3	158.33	1.463	Level 3				
8,400.0	6,332.8	6,317.8	6,317.8	39.6	126.4	88.99	-1,402.6	1,013.8	287.9	128.0	159.84	1.801					
8,500.0	6,332.0	6,317.0	6,317.0	40.9	126.3	90.47	-1,402.6	1,013.8	363.1	201.7	161.43	2.249					
8,600.0	6,332.9	6,317.9	6,317.9	42.3	126.4	91.41	-1,402.6	1,013.8	448.4	285.4	163.06	2.750					
8,700.0	6,335.0	6,320.0	6,320.0	43.7	126.4	95.39	-1,402.6	1,013.8	538.9	374.2	164.72	3.272					
8,800.0	6,338.2	6,323.2	6,323.2	45.2	126.5	94.26	-1,402.6	1,013.8	632.7	465.8	166.85	3.792					
8,900.0	6,339.5	6,324.5	6,324.5	46.8	126.5	90.91	-1,402.6	1,013.8	728.8	559.7	169.03	4.311					
9,000.0	6,339.3	6,324.3	6,324.3	48.3	126.5	84.92	-1,402.6	1,013.8	825.9	656.3	169.63	4.869					
9,100.0	6,335.8	6,320.8	6,320.8	49.9	126.4	80.52	-1,402.6	1,013.8	923.5	754.2	169.23	5.457					

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design Antelope (Existing Wells) Pad Sec.18-T5N-R62W - Antelope 23-18 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 437-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,600.0	6,332.9	6,421.6	6,328.4	42.3	20.8	89.50	-2,696.7	1,113.6	910.7	856.1	54.54	16.696	
8,700.0	6,335.0	6,422.6	6,329.4	43.7	20.8	82.22	-2,696.7	1,113.6	812.0	756.7	55.31	14.683	
8,800.0	6,338.2	6,424.5	6,331.3	45.2	20.8	86.92	-2,696.7	1,113.6	714.1	656.2	57.90	12.332	
8,900.0	6,339.5	6,424.6	6,331.4	46.8	20.8	91.49	-2,696.7	1,113.6	617.4	557.1	60.31	10.237	
9,000.0	6,339.3	6,423.2	6,330.0	48.3	20.8	95.24	-2,696.7	1,113.6	522.2	459.9	62.25	8.388	
9,100.0	6,335.8	6,418.5	6,325.3	49.9	20.8	96.13	-2,696.8	1,113.6	428.9	364.9	63.97	6.705	
9,200.0	6,334.1	6,415.6	6,322.4	51.5	20.8	91.07	-2,696.8	1,113.6	339.1	273.9	65.16	5.204	
9,300.0	6,333.8	6,414.1	6,320.9	53.0	20.8	90.64	-2,696.8	1,113.6	255.5	189.2	66.26	3.856	
9,400.0	6,334.0	6,413.1	6,319.9	54.5	20.8	90.20	-2,696.8	1,113.6	185.9	118.1	67.80	2.741	
9,500.0	6,334.7	6,412.6	6,319.4	56.1	20.8	89.88	-2,696.8	1,113.6	155.5	86.0	69.54	2.236	
9,502.0	6,334.8	6,412.6	6,319.4	56.1	20.8	89.88	-2,696.8	1,113.6	155.5	85.9	69.57	2.235 CC, ES, SF	
9,600.0	6,337.2	6,413.9	6,320.7	57.7	20.8	90.14	-2,696.8	1,113.6	183.6	112.3	71.26	2.576	
9,700.0	6,337.5	6,413.0	6,319.8	59.3	20.8	88.88	-2,696.8	1,113.6	252.1	179.0	73.05	3.451	
9,800.0	6,336.7	6,411.0	6,317.8	61.0	20.8	86.71	-2,696.8	1,113.6	337.0	262.3	74.68	4.512	
9,900.0	6,334.9	6,408.0	6,314.8	62.6	20.8	86.87	-2,696.9	1,113.7	428.8	352.1	76.69	5.591	
10,000.0	6,334.5	6,406.4	6,313.2	64.3	20.8	85.05	-2,696.9	1,113.7	523.8	445.9	77.92	6.722	
10,100.0	6,334.2	6,404.8	6,311.6	65.9	20.8	86.51	-2,696.9	1,113.7	620.3	540.4	79.91	7.762	
10,200.0	6,333.7	6,403.2	6,310.0	67.5	20.8	83.60	-2,696.9	1,113.7	717.7	636.7	80.95	8.865	
10,300.0	6,333.7	6,402.0	6,308.8	69.2	20.8	87.80	-2,697.0	1,113.7	815.6	732.1	83.52	9.765	
10,400.0	6,335.8	6,402.8	6,309.6	70.8	20.8	97.47	-2,696.9	1,113.7	914.3	828.5	85.86	10.650	

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design Antelope (Existing Wells) Pad Sec.18-T5N-R62W - Antelope 24-18 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 437-MWD												Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,900.0	6,334.9	6,428.0	6,340.9	62.6	20.8	98.89	-4,009.1	1,151.7	925.5	847.8	77.69	11.912	
10,000.0	6,334.5	6,426.8	6,339.7	64.3	20.8	100.67	-4,009.1	1,151.7	827.4	748.4	78.95	10.479	
10,100.0	6,334.2	6,424.0	6,336.9	65.9	20.8	96.80	-4,009.2	1,151.7	729.7	648.8	80.89	9.021	
10,200.0	6,333.7	6,421.1	6,334.0	67.5	20.8	98.19	-4,009.3	1,151.7	632.6	550.2	82.35	7.682	
10,300.0	6,333.7	6,418.7	6,331.6	69.2	20.8	93.59	-4,009.3	1,151.7	536.5	452.2	84.27	6.366	
10,400.0	6,335.8	6,418.4	6,331.3	70.8	20.8	89.19	-4,009.3	1,151.7	442.8	356.6	86.22	5.135	
10,500.0	6,338.7	6,419.0	6,331.9	72.5	20.8	90.31	-4,009.3	1,151.7	353.0	264.9	88.09	4.007	
10,600.0	6,339.0	6,417.0	6,329.9	74.3	20.8	92.26	-4,009.4	1,151.7	268.7	179.3	89.37	3.007	
10,700.0	6,339.7	6,415.3	6,328.2	75.9	20.8	90.86	-4,009.4	1,151.6	200.5	108.8	91.74	2.186	
10,800.0	6,340.7	6,414.0	6,326.9	77.6	20.8	90.38	-4,009.4	1,151.6	170.0	76.0	93.99	1.808	
10,803.8	6,340.8	6,413.9	6,326.9	77.7	20.8	90.37	-4,009.4	1,151.6	169.9	75.8	94.08	1.806 CC, ES, SF	
10,900.0	6,343.7	6,414.7	6,327.6	79.4	20.8	90.82	-4,009.4	1,151.6	196.9	100.5	96.39	2.043	
11,000.0	6,345.3	6,414.0	6,326.9	81.2	20.8	88.63	-4,009.4	1,151.6	263.0	164.6	98.41	2.673	
11,100.0	6,344.4	6,410.8	6,323.8	83.0	20.8	86.71	-4,009.5	1,151.6	346.0	246.3	99.70	3.471	
11,104.0	6,344.4	6,410.7	6,323.6	83.1	20.8	86.63	-4,009.5	1,151.6	349.5	249.8	99.75	3.504	

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Antelope (Existing Wells) Pad Sec.18-T5N-R62W - Antelope K-19 (Exist.) - Wellbore #1 - Wellbore #1												Offset Well Error:	0.0 ft
Survey Program: 499-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,600.0	6,339.0	6,420.5	6,336.7	74.3	19.9	-97.56	-4,767.7	1,459.6	987.5	900.2	87.28	11.314	
10,700.0	6,339.7	6,419.8	6,335.9	75.9	19.9	-92.01	-4,767.7	1,459.6	888.1	797.6	90.50	9.813	
10,800.0	6,340.7	6,419.5	6,335.6	77.6	19.9	-89.22	-4,767.7	1,459.6	788.7	695.8	92.82	8.496	
10,900.0	6,343.7	6,421.3	6,337.4	79.4	19.9	-74.11	-4,767.7	1,459.6	689.0	595.7	93.32	7.383	
11,000.0	6,345.3	6,421.5	6,337.7	81.2	19.9	-102.12	-4,767.7	1,459.6	589.3	495.3	93.99	6.269	
11,100.0	6,344.4	6,419.3	6,335.4	83.0	19.9	-104.59	-4,767.7	1,459.6	489.7	395.0	94.67	5.172	
11,104.0	6,344.4	6,419.2	6,335.3	83.1	19.9	-104.58	-4,767.7	1,459.6	485.7	390.9	94.74	5.126 CC, ES, SF	

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design		Antelope D-18 Pad - Plans by another company - Antelope N-18 COGCC Plan - Wellbore #1 - Wellbore										Offset Site Error:		0.0 ft			
Survey Program: 100-MWD														Offset Well Error:		0.0 ft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	Offset Wellbore Centre +E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)						
9,300.0	6,333.8	6,499.2	6,312.8	53.0	29.5	-89.43	-3,409.4	1,453.4	935.3	866.3	69.01	13.553					
9,400.0	6,334.0	6,499.4	6,313.0	54.5	29.5	-89.04	-3,409.4	1,453.4	837.5	766.8	70.67	11.851					
9,500.0	6,334.7	6,500.2	6,313.7	56.1	29.5	-85.22	-3,409.4	1,453.4	739.9	667.3	72.67	10.183					
9,600.0	6,337.2	6,502.6	6,316.2	57.7	29.5	-86.16	-3,409.4	1,453.4	643.3	569.0	74.32	8.656					
9,700.0	6,337.5	6,503.0	6,316.5	59.3	29.5	-90.26	-3,409.4	1,453.4	547.5	471.7	75.83	7.220					
9,800.0	6,336.7	6,502.2	6,315.7	61.0	29.5	-92.34	-3,409.4	1,453.4	453.3	375.9	77.41	5.857					
9,900.0	6,334.9	6,500.4	6,313.9	62.6	29.5	-90.81	-3,409.4	1,453.4	361.8	282.3	79.52	4.551					
10,000.0	6,334.5	6,500.0	6,313.5	64.3	29.5	-91.04	-3,409.4	1,453.4	275.8	194.7	81.11	3.401					
10,100.0	6,334.2	6,499.6	6,313.2	65.9	29.5	-90.11	-3,409.4	1,453.4	203.3	120.4	82.96	2.451					
10,200.0	6,333.7	6,499.2	6,312.7	67.5	29.5	-90.10	-3,409.4	1,453.4	163.5	78.9	84.63	1.932					
10,222.5	6,333.5	6,498.9	6,312.5	67.9	29.5	-90.00	-3,409.4	1,453.4	162.0	77.0	85.03	1.905 CC, ES, SF					
10,300.0	6,333.7	6,499.2	6,312.7	69.2	29.5	-90.14	-3,409.4	1,453.4	179.6	93.2	86.38	2.079					
10,400.0	6,335.8	6,501.2	6,314.8	70.8	29.5	-91.92	-3,409.4	1,453.4	238.8	150.8	88.01	2.714					
10,500.0	6,338.7	6,504.1	6,317.7	72.5	29.5	-92.27	-3,409.4	1,453.4	318.7	229.0	89.73	3.552					
10,600.0	6,339.0	6,504.5	6,318.0	74.3	29.5	-89.58	-3,409.4	1,453.4	408.7	317.0	91.69	4.457					
10,700.0	6,339.7	6,505.1	6,318.7	75.9	29.5	-91.46	-3,409.4	1,453.4	502.0	408.6	93.40	5.375					
10,800.0	6,340.7	6,506.2	6,319.7	77.6	29.5	-92.51	-3,409.4	1,453.4	597.0	501.9	95.12	6.276					
10,900.0	6,343.7	6,509.2	6,322.7	79.4	29.5	-96.77	-3,409.4	1,453.4	692.4	596.3	96.06	7.208					
11,000.0	6,345.3	6,510.7	6,324.3	81.2	29.5	-89.39	-3,409.4	1,453.4	788.5	689.2	99.36	7.936					
11,100.0	6,344.4	6,509.9	6,323.4	83.0	29.5	-86.64	-3,409.4	1,453.4	885.5	784.1	101.35	8.736					
11,104.0	6,344.4	6,509.8	6,323.4	83.1	29.5	-86.52	-3,409.4	1,453.4	889.3	787.9	101.43	8.768					

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design Antelope F-18 Pad Sec.18-T5N-R62W - Antelope A-E-18HZ (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 503-MWD												Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-40.1	0.0	40.1				
100.0	100.0	100.0	100.0	0.1	0.1	-160.11	-40.0	0.0	40.6	40.4	0.23	180.122	
200.0	200.0	200.1	200.1	0.3	0.2	-154.90	-39.9	0.0	42.1	41.5	0.52	80.883	
300.0	300.0	300.1	300.1	0.5	0.3	167.75	-39.6	0.0	43.6	42.8	0.84	51.794	
400.0	399.9	400.1	400.1	0.7	0.4	139.31	-39.3	0.0	44.9	43.7	1.15	38.938	
500.0	499.9	500.2	500.2	0.9	0.6	123.96	-38.8	-0.1	45.9	44.5	1.47	31.169	
600.0	599.9	600.1	600.1	1.1	0.8	110.80	-38.3	0.0	46.9	45.0	1.89	24.778	
700.0	699.7	700.0	699.9	1.4	1.0	134.92	-37.7	-0.4	49.8	47.5	2.32	21.431	
800.0	799.3	799.9	799.9	1.6	1.2	138.30	-36.4	-1.9	55.5	52.7	2.77	20.024	
900.0	898.5	899.7	899.6	1.9	1.4	149.71	-33.4	-4.6	64.1	60.9	3.23	19.829 SF	
1,000.0	997.2	998.3	998.0	2.2	1.6	156.41	-28.0	-9.0	76.8	73.1	3.70	20.751	
1,100.0	1,095.1	1,094.7	1,093.9	2.6	1.9	164.96	-21.4	-15.2	96.0	91.9	4.18	22.991	
1,200.0	1,192.2	1,189.4	1,187.8	3.0	2.1	174.71	-12.7	-23.3	121.8	117.2	4.67	26.105	
1,300.0	1,288.3	1,280.6	1,277.9	3.5	2.4	-176.93	-2.6	-33.2	154.3	149.1	5.18	29.792	
1,400.0	1,383.7	1,369.2	1,365.1	4.1	2.7	-172.35	8.4	-45.1	192.0	186.3	5.72	33.548	
1,500.0	1,479.2	1,456.4	1,450.2	4.6	3.1	-168.77	21.2	-58.9	231.6	225.3	6.30	36.743	
1,600.0	1,575.2	1,540.0	1,531.3	5.0	3.4	-165.60	34.1	-74.4	272.6	265.7	6.89	39.592	
1,700.0	1,671.6	1,626.9	1,615.3	5.5	3.8	-167.60	47.2	-92.1	314.6	307.1	7.49	42.016	
1,800.0	1,768.1	1,718.2	1,703.6	6.0	4.2	-168.72	61.4	-111.0	357.4	349.3	8.09	44.202	
1,900.0	1,864.2	1,804.4	1,786.8	6.6	4.6	-161.57	75.1	-128.9	401.7	393.0	8.69	46.209	
2,000.0	1,959.8	1,895.7	1,874.9	7.1	5.1	-158.17	89.7	-148.0	447.1	437.8	9.33	47.950	
2,100.0	2,055.0	1,986.5	1,962.4	7.7	5.5	-159.22	104.6	-166.5	493.7	483.7	9.95	49.594	
2,200.0	2,150.0	2,071.6	2,044.5	8.4	5.9	-155.66	119.4	-183.9	540.8	530.1	10.63	50.873	
2,300.0	2,244.5	2,161.7	2,131.2	9.0	6.4	-150.84	135.4	-202.5	588.3	576.9	11.34	51.895	
2,400.0	2,338.9	2,254.1	2,220.3	9.6	6.8	-145.79	151.1	-221.0	634.8	622.7	12.10	52.447	
2,500.0	2,433.8	2,345.8	2,308.8	10.2	7.3	-149.32	167.1	-238.9	679.4	666.6	12.79	53.105	
2,600.0	2,528.2	2,431.4	2,391.3	10.8	7.7	-154.57	183.0	-255.7	726.1	712.7	13.41	54.153	
2,700.0	2,622.3	2,517.9	2,474.4	11.5	8.2	-156.44	199.1	-272.9	775.2	761.1	14.10	54.972	
2,800.0	2,716.6	2,603.7	2,557.1	12.1	8.6	-158.31	214.9	-290.0	823.9	809.1	14.76	55.802	
2,900.0	2,810.7	2,686.1	2,636.3	12.8	9.1	-158.09	230.1	-306.6	873.8	858.3	15.46	56.503	
3,000.0	2,905.4	2,767.5	2,714.3	13.4	9.5	-156.96	245.8	-323.6	922.5	906.3	16.25	56.773	
3,100.0	3,000.4	2,852.7	2,795.9	14.0	10.0	-156.92	262.7	-341.8	971.2	954.2	16.94	57.330	

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 165-MWD													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-180.00	-18.2	0.0	18.2	18.2	0.00	N/A CC, ES		
100.0	100.0	99.9	99.9	0.1	0.1	-159.98	-18.4	-0.2	19.0	18.8	0.23	83.632		
200.0	200.0	199.9	199.9	0.3	0.3	-154.35	-19.0	-0.6	21.2	20.6	0.56	37.937		
300.0	300.0	299.9	299.9	0.5	0.5	169.60	-19.4	-1.4	23.4	22.4	0.98	23.931		
400.0	399.9	400.0	399.9	0.7	0.7	143.55	-19.5	-2.1	25.2	23.8	1.38	18.247		
500.0	499.9	499.9	499.9	0.9	0.9	131.14	-19.4	-2.8	26.9	25.1	1.79	14.975		
600.0	599.9	600.8	600.7	1.1	1.1	122.73	-17.7	-3.6	27.4	25.2	2.22	12.346		
646.0	645.8	647.1	647.0	1.2	1.2	140.06	-15.5	-4.3	27.2	24.7	2.42	11.210		
700.0	699.7	701.3	701.0	1.4	1.3	157.66	-11.6	-5.7	27.6	25.0	2.66	10.388 SF		
800.0	799.3	800.5	799.7	1.6	1.6	174.12	-2.8	-9.9	33.2	30.1	3.13	10.623		
900.0	898.5	899.8	898.1	1.9	1.8	-166.28	9.8	-14.7	44.9	41.3	3.64	12.353		
1,000.0	997.2	997.8	994.9	2.2	2.1	-159.48	24.2	-19.3	62.6	58.4	4.17	15.002		
1,100.0	1,095.1	1,095.0	1,091.0	2.6	2.4	-155.45	38.5	-23.7	85.4	80.7	4.71	18.118		
1,200.0	1,192.2	1,189.7	1,184.5	3.0	2.7	-151.49	52.8	-28.4	112.6	107.4	5.28	21.325		
1,300.0	1,288.3	1,285.7	1,279.0	3.5	3.0	-148.05	68.6	-34.2	143.7	137.8	5.89	24.378		
1,400.0	1,383.7	1,385.4	1,377.2	4.1	3.4	-147.56	85.0	-37.6	174.1	167.5	6.55	26.595		
1,500.0	1,479.2	1,481.1	1,471.7	4.6	3.7	-147.60	100.6	-39.7	203.0	195.9	7.19	28.236		
1,600.0	1,575.2	1,576.8	1,566.1	5.0	4.0	-147.15	115.9	-42.0	230.6	222.8	7.83	29.458		
1,700.0	1,671.6	1,673.4	1,661.4	5.5	4.3	-150.90	131.2	-44.5	257.4	248.9	8.47	30.401		
1,800.0	1,768.1	1,769.6	1,756.6	6.0	4.6	-153.64	145.7	-46.7	284.8	275.7	9.09	31.324		
1,900.0	1,864.2	1,862.3	1,848.3	6.6	4.9	-148.39	158.7	-49.6	313.5	303.8	9.73	32.213		
2,000.0	1,959.8	1,957.5	1,942.6	7.1	5.2	-146.77	171.3	-53.2	343.3	333.0	10.38	33.088		
2,100.0	2,055.0	2,054.7	2,038.8	7.7	5.5	-149.15	184.3	-56.6	374.5	363.5	11.02	34.001		
2,200.0	2,150.0	2,154.3	2,137.3	8.4	5.9	-146.85	199.0	-59.1	405.2	393.5	11.72	34.571		
2,300.0	2,244.5	2,254.4	2,236.1	9.0	6.2	-143.23	215.1	-60.1	434.6	422.1	12.47	34.858		
2,400.0	2,338.9	2,338.0	2,318.6	9.6	6.5	-139.09	228.5	-61.6	463.8	450.6	13.21	35.098		
2,500.0	2,433.8	2,428.0	2,407.5	10.2	6.8	-143.10	242.2	-64.9	493.4	479.5	13.87	35.571		
2,600.0	2,528.2	2,521.8	2,500.2	10.8	7.1	-148.91	255.8	-69.1	526.2	511.7	14.46	36.381		
2,700.0	2,622.3	2,612.6	2,590.0	11.5	7.4	-151.41	268.4	-73.6	561.6	546.5	15.10	37.190		
2,800.0	2,716.6	2,703.3	2,679.8	12.1	7.7	-153.84	280.5	-78.5	597.1	581.4	15.71	37.995		
2,900.0	2,810.7	2,794.6	2,770.1	12.8	8.0	-154.24	292.2	-83.9	634.0	617.7	16.37	38.741		
3,000.0	2,905.4	2,892.8	2,867.5	13.4	8.3	-153.75	303.9	-89.4	668.9	651.8	17.07	39.180		
3,100.0	3,000.4	2,990.7	2,964.7	14.0	8.6	-154.42	314.8	-94.3	702.5	684.8	17.68	39.742		
3,200.0	3,095.7	3,088.5	3,061.8	14.6	8.9	-152.19	325.5	-98.7	734.5	716.2	18.35	40.019		
3,300.0	3,191.1	3,191.0	3,163.6	15.2	9.2	-149.27	335.8	-102.9	765.0	746.0	19.01	40.234		
3,400.0	3,286.4	3,304.8	3,277.0	15.8	9.5	-149.86	345.7	-105.3	793.4	773.8	19.62	40.436		
3,500.0	3,381.4	3,400.2	3,371.9	16.4	9.7	-154.26	355.2	-106.3	822.3	802.2	20.15	40.816		
3,600.0	3,476.4	3,489.3	3,460.3	17.0	10.0	-155.44	366.1	-107.6	852.3	831.5	20.76	41.055		
3,700.0	3,571.5	3,575.8	3,546.1	17.6	10.3	-155.99	377.4	-109.5	883.1	861.7	21.37	41.324		
3,800.0	3,666.5	3,660.4	3,629.7	18.2	10.5	-155.43	389.7	-112.4	915.1	893.1	22.02	41.550		
3,900.0	3,761.6	3,752.6	3,720.7	18.8	10.9	-154.50	404.1	-116.2	947.3	924.6	22.74	41.655		
4,000.0	3,857.0	3,846.6	3,813.5	19.4	11.2	-154.73	418.2	-120.2	978.9	955.5	23.43	41.780		

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.00	N/A CC		
100.0	100.0	100.0	100.0	0.1	0.1	180.00	0.0	0.0	0.6	0.4	0.23	2.807		
200.0	200.0	200.0	200.0	0.3	0.3	-175.48	0.0	0.0	2.3	1.7	0.63	3.692		
300.0	300.0	300.0	300.0	0.5	0.6	151.33	0.0	0.0	4.2	3.1	1.07	3.912		
400.0	399.9	399.9	399.9	0.7	0.8	134.34	0.0	0.0	5.6	4.2	1.49	3.790		
500.0	499.9	500.0	500.0	0.9	1.0	120.44	0.7	1.6	6.4	4.5	1.92	3.326		
600.0	599.9	600.1	599.9	1.1	1.2	87.81	3.0	6.3	5.7	3.4	2.35	2.426		
637.6	637.4	637.6	637.3	1.2	1.3	86.80	4.2	8.9	5.5	3.0	2.53	2.170		
700.0	699.7	700.0	699.5	1.4	1.5	78.80	6.7	14.2	6.1	3.2	2.82	2.146		
800.0	799.3	799.8	798.5	1.6	1.7	53.46	11.9	25.2	8.2	4.9	3.30	2.496		
900.0	898.5	899.5	897.0	1.9	2.0	43.49	18.6	39.3	11.1	7.3	3.79	2.934		
1,000.0	997.2	999.1	994.8	2.2	2.4	31.12	26.7	56.4	13.7	9.4	4.28	3.205		
1,100.0	1,095.1	1,098.7	1,091.8	2.6	2.8	22.12	36.2	76.6	15.5	10.7	4.75	3.260		
1,200.0	1,192.2	1,198.1	1,187.8	3.0	3.3	16.35	47.2	99.9	16.8	11.6	5.21	3.229		
1,300.0	1,288.3	1,297.9	1,283.6	3.5	3.8	17.35	59.3	125.5	17.5	11.8	5.76	3.041		
1,400.0	1,383.7	1,397.9	1,379.4	4.1	4.4	20.14	71.5	151.2	16.1	9.7	6.42	2.512		
1,500.0	1,479.2	1,497.9	1,475.2	4.6	4.9	22.93	83.6	177.0	15.1	8.0	7.15	2.120		
1,511.2	1,489.9	1,509.1	1,485.9	4.6	5.0	23.16	85.0	179.9	15.1	7.9	7.22	2.095		
1,600.0	1,575.2	1,597.9	1,571.1	5.0	5.5	24.10	95.8	202.8	15.8	8.0	7.82	2.022		
1,700.0	1,671.6	1,697.9	1,666.9	5.5	6.1	17.67	108.0	228.5	17.7	9.4	8.33	2.123		
1,800.0	1,768.1	1,797.8	1,762.7	6.0	6.7	6.17	120.2	254.3	19.3	10.7	8.56	2.249		
1,900.0	1,864.2	1,897.8	1,858.5	6.6	7.2	5.38	132.3	280.1	20.0	11.0	8.98	2.231		
2,000.0	1,959.8	1,997.8	1,954.4	7.1	7.8	8.67	144.5	305.8	19.2	9.6	9.59	2.006		
2,100.0	2,055.0	2,097.8	2,050.2	7.7	8.4	6.55	156.7	331.6	16.9	6.7	10.16	1.662		
2,200.0	2,150.0	2,197.7	2,146.0	8.4	9.0	10.13	168.9	357.4	14.0	3.2	10.81	1.292 Level 3		
2,300.0	2,244.5	2,297.6	2,241.8	9.0	9.6	27.04	181.0	383.1	10.5	-2.0	12.47	0.843 Level 1		
2,361.8	2,302.9	2,359.4	2,300.9	9.4	9.9	49.96	188.5	399.0	9.3	-6.2	15.53	0.600 Level 1		
2,400.0	2,338.9	2,397.4	2,337.4	9.6	10.2	67.05	193.2	408.8	9.8	-8.1	17.82	0.548 Level 1		
2,500.0	2,433.8	2,497.3	2,433.1	10.2	10.8	86.20	205.3	434.6	13.1	-7.6	20.73	0.631 Level 1		
2,600.0	2,528.2	2,597.1	2,528.9	10.8	11.4	99.31	217.5	460.3	15.2	-6.8	22.03	0.692 Level 1		
2,700.0	2,622.3	2,697.0	2,624.6	11.5	11.9	117.66	229.6	486.0	16.6	-5.0	21.60	0.771 Level 1		
2,800.0	2,716.6	2,796.8	2,720.3	12.1	12.5	130.19	241.8	511.8	19.0	-1.5	20.51	0.927 Level 1		
2,900.0	2,810.7	2,896.7	2,816.0	12.8	13.1	144.57	254.0	537.5	22.0	3.2	18.76	1.173 Level 2		
3,000.0	2,905.4	2,996.6	2,911.7	13.4	13.7	153.04	266.1	563.3	24.5	6.4	18.12	1.352 Level 3		
3,100.0	3,000.4	3,096.5	3,007.5	14.0	14.3	158.07	278.3	589.0	26.6	8.7	17.87	1.487 Level 3		
3,200.0	3,095.7	3,196.5	3,103.4	14.6	14.9	163.48	290.5	614.8	28.1	10.1	18.06	1.557		
3,300.0	3,191.1	3,296.5	3,199.2	15.2	15.5	165.85	302.7	640.6	29.6	10.8	18.82	1.574		
3,400.0	3,286.4	3,396.5	3,295.0	15.8	16.1	163.65	314.8	666.3	31.9	12.0	19.88	1.605		
3,500.0	3,381.4	3,496.4	3,390.8	16.4	16.7	160.40	327.0	692.1	34.8	14.3	20.46	1.699		
3,600.0	3,476.4	3,596.4	3,486.6	17.0	17.3	162.21	339.2	717.9	37.2	16.6	20.62	1.804		
3,700.0	3,571.5	3,696.3	3,582.4	17.6	17.9	164.66	351.3	743.6	39.4	18.6	20.76	1.897		
3,800.0	3,666.5	3,796.3	3,678.2	18.2	18.5	167.68	363.5	769.4	41.9	20.9	21.01	1.996		
3,900.0	3,761.6	3,896.2	3,774.1	18.8	19.1	170.45	375.7	795.1	44.0	22.7	21.37	2.060		
4,000.0	3,857.0	3,996.2	3,869.9	19.4	19.7	171.25	387.9	820.9	45.6	23.7	21.86	2.084		
4,100.0	3,952.5	4,096.2	3,965.7	20.0	20.3	172.24	400.0	846.7	46.7	24.4	22.32	2.093		
4,200.0	4,048.4	4,196.2	4,061.6	20.5	20.9	174.00	412.2	872.4	46.2	23.4	22.81	2.025		
4,300.0	4,145.1	4,296.2	4,157.4	21.0	21.5	175.49	424.4	898.2	43.2	19.8	23.39	1.847		
4,400.0	4,242.3	4,396.0	4,253.1	21.5	22.1	170.99	436.6	923.9	37.8	13.9	23.85	1.584		
4,500.0	4,339.6	4,495.8	4,348.8	22.0	22.7	177.25	448.7	949.7	32.3	8.0	24.34	1.329 Level 3		
4,600.0	4,436.4	4,595.8	4,444.6	22.5	23.3	-179.49	460.9	975.4	28.7	3.8	24.94	1.152 Level 2		
4,700.0	4,532.7	4,695.7	4,540.4	23.0	23.9	-176.61	473.1	1,001.2	26.9	1.4	25.55	1.054 Level 2		
4,800.0	4,629.3	4,795.7	4,636.2	23.5	24.5	-176.74	485.2	1,027.0	24.3	-1.8	26.16	0.931 Level 1		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0ft
Survey Program: 0-MWD													Offset Well Error:	0.0ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.0	4,725.8	4,895.7	4,732.0	24.0	25.1	-174.84	497.4	1,052.7	21.9	-4.8	26.78	0.819	Level 1	
5,000.0	4,822.5	4,995.3	4,827.6	24.6	25.6	-175.41	509.4	1,078.1	19.2	-8.0	27.28	0.705	Level 1	
5,100.0	4,919.7	5,094.6	4,923.7	25.0	26.0	-174.87	520.1	1,100.8	17.1	-10.7	27.79	0.614	Level 1	
5,200.0	5,017.8	5,194.0	5,020.7	25.4	26.4	176.68	529.4	1,120.5	14.9	-15.6	30.52	0.490	Level 1	
5,300.0	5,116.6	5,293.5	5,118.4	25.7	26.7	157.12	537.3	1,137.1	13.0	-24.7	37.67	0.344	Level 1	
5,357.7	5,173.9	5,350.9	5,175.1	25.9	26.9	150.46	541.2	1,145.4	12.3	-30.5	42.88	0.288	Level 1	
5,400.0	5,215.8	5,393.0	5,216.8	26.0	27.0	145.21	543.7	1,150.7	12.8	-34.0	46.77	0.274	Level 1	
5,500.0	5,315.4	5,492.8	5,315.9	26.2	27.3	112.39	548.7	1,161.2	13.2	-38.2	51.41	0.257	Level 1	
5,600.0	5,415.2	5,592.6	5,415.4	26.4	27.4	94.75	552.2	1,168.6	12.4	-40.8	53.25	0.233	Level 1	
5,700.0	5,515.1	5,692.5	5,515.2	26.6	27.6	89.49	554.2	1,172.9	11.8	-41.6	53.38	0.221	Level 1	
5,791.6	5,606.6	5,784.0	5,606.6	26.7	27.7	91.92	554.7	1,174.0	11.5	-39.6	51.04	0.224	Level 1	
5,800.0	5,615.0	5,792.4	5,615.0	26.7	27.7	91.80	554.7	1,174.0	11.4	-39.4	50.82	0.224	Level 1	
5,900.0	5,714.9	5,892.3	5,714.9	26.8	27.8	36.67	554.7	1,174.0	9.9	-33.1	42.96	0.230	Level 1	
5,967.4	5,781.6	5,959.0	5,781.6	26.8	27.8	89.99	554.7	1,174.0	4.3	-31.7	35.98	0.120	Level 1	
6,000.0	5,813.4	5,991.0	5,813.6	26.8	27.9	148.91	554.3	1,174.0	8.3	-45.2	53.52	0.155	Level 1	
6,100.0	5,908.9	6,092.8	5,914.3	26.7	27.9	175.69	540.4	1,174.4	23.4	-25.2	48.60	0.482	Level 1	
6,200.0	6,000.5	6,198.1	6,013.6	26.6	27.8	-179.22	505.8	1,175.5	30.9	-14.7	45.61	0.677	Level 1	
6,300.0	6,086.0	6,304.5	6,104.8	26.4	27.6	-177.93	451.3	1,177.1	31.4	-9.2	40.68	0.773	Level 1	
6,400.0	6,161.2	6,410.6	6,182.7	26.1	27.4	-169.60	379.7	1,179.2	29.5	-3.5	33.02	0.893	Level 1	
6,500.0	6,223.5	6,515.9	6,244.2	25.8	27.1	-162.73	294.5	1,181.8	25.1	-1.5	26.52	0.945	Level 1	
6,600.0	6,271.6	6,619.5	6,286.8	25.7	26.9	-159.12	200.2	1,184.6	17.2	-3.5	20.75	0.829	Level 1	
6,700.0	6,303.8	6,720.3	6,313.9	25.5	26.7	-151.96	103.3	1,187.5	11.8	-6.1	17.89	0.661	Level 1	
6,800.0	6,329.3	6,821.3	6,335.6	25.5	26.6	-137.47	4.8	1,190.4	8.6	-11.2	19.86	0.434	Level 1	
6,852.3	6,336.9	6,873.9	6,339.7	25.5	26.6	-112.04	-47.6	1,192.0	7.6	-20.1	27.68	0.274	Level 1	
6,900.0	6,339.0	6,921.6	6,340.0	25.6	26.6	-96.43	-95.4	1,193.4	8.5	-23.4	31.95	0.267	Level 1	
7,000.0	6,338.5	7,021.6	6,340.0	25.8	26.8	-96.90	-195.2	1,196.5	12.1	-20.5	32.64	0.371	Level 1	
7,100.0	6,334.4	7,121.4	6,340.0	26.1	27.1	-108.06	-295.0	1,199.5	17.7	-13.1	30.80	0.575	Level 1	
7,200.0	6,331.2	7,221.2	6,340.0	26.6	27.5	-113.96	-394.8	1,202.5	21.5	-9.0	30.49	0.705	Level 1	
7,300.0	6,333.4	7,321.2	6,340.0	27.2	28.1	-107.46	-494.8	1,205.5	21.8	-12.8	34.64	0.630	Level 1	
7,400.0	6,337.5	7,421.1	6,340.0	28.0	28.8	-97.10	-594.6	1,208.5	19.6	-20.7	40.37	0.486	Level 1	
7,500.0	6,339.0	7,521.1	6,340.0	28.9	29.7	-93.10	-694.5	1,211.5	16.8	-26.9	43.72	0.385	Level 1	
7,600.0	6,339.1	7,621.0	6,340.0	29.9	30.6	-93.51	-794.4	1,214.6	13.5	-33.3	46.79	0.288	Level 1	
7,700.0	6,337.1	7,720.9	6,340.0	31.0	31.7	-106.24	-894.3	1,217.6	10.3	-35.3	45.59	0.226	Level 1	
7,800.0	6,335.4	7,820.8	6,340.0	32.1	32.9	-124.29	-994.2	1,220.6	8.1	-32.7	40.77	0.198	Level 1	
7,865.2	6,334.4	7,886.0	6,340.0	32.9	33.7	-139.90	-1,059.3	1,222.6	7.3	-27.2	34.54	0.212	Level 1	
7,900.0	6,333.2	7,920.8	6,340.0	33.3	34.1	-152.53	-1,094.0	1,223.6	7.6	-22.5	30.17	0.253	Level 1	
8,000.0	6,332.2	8,020.8	6,340.0	34.5	35.5	-155.47	-1,194.0	1,226.6	8.5	-22.6	31.19	0.274	Level 1	
8,100.0	6,334.1	8,120.7	6,340.0	35.6	36.9	-139.67	-1,293.9	1,229.7	7.7	-32.4	40.14	0.193	Level 1	
8,125.9	6,334.5	8,146.6	6,340.0	36.0	37.2	-135.93	-1,319.8	1,230.4	7.7	-34.8	42.46	0.181	Level 1	
8,200.0	6,334.6	8,220.7	6,340.0	36.9	38.3	-129.42	-1,393.8	1,232.7	8.5	-38.7	47.19	0.180	Level 1	
8,300.0	6,333.3	8,320.7	6,340.0	38.2	39.8	-126.22	-1,493.8	1,235.7	11.3	-41.3	52.55	0.214	Level 1	
8,400.0	6,332.8	8,420.6	6,340.0	39.6	41.3	-126.06	-1,593.7	1,238.7	12.3	-42.9	55.13	0.222	Level 1	
8,500.0	6,332.0	8,520.6	6,340.0	40.9	42.9	-125.36	-1,693.6	1,241.7	13.8	-45.0	58.77	0.235	Level 1	
8,600.0	6,332.9	8,620.6	6,340.0	42.3	44.5	-120.61	-1,793.6	1,244.7	14.0	-50.8	64.76	0.216	Level 1	
8,700.0	6,335.0	8,720.6	6,340.0	43.7	46.1	-111.72	-1,893.5	1,247.8	13.4	-60.4	73.85	0.182	Level 1	
8,800.0	6,338.2	8,820.5	6,340.0	45.2	47.7	-98.75	-1,993.4	1,250.8	11.8	-71.0	82.88	0.143	Level 1	
8,900.0	6,339.5	8,920.5	6,340.0	46.8	49.4	-93.41	-2,093.3	1,253.8	8.4	-79.9	88.29	0.095	Level 1	
9,000.0	6,339.3	9,020.4	6,340.0	48.3	51.1	-98.69	-2,193.2	1,256.8	4.5	-85.7	90.22	0.050	Level 1	
9,052.8	6,338.0	9,073.2	6,340.0	49.2	52.0	-127.25	-2,246.0	1,258.4	3.2	-71.0	74.27	0.044	Level 1	
9,100.0	6,335.8	9,120.3	6,340.0	49.9	52.8	-160.58	-2,293.0	1,259.8	4.4	-44.4	48.85	0.090	Level 1	
9,200.0	6,334.1	9,220.2	6,340.0	51.5	54.5	168.99	-2,392.9	1,262.9	6.0	-48.4	54.42	0.110	Level 1	
9,300.0	6,333.8	9,320.2	6,340.0	53.0	56.3	165.96	-2,492.9	1,265.9	6.4	-51.7	58.09	0.110	Level 1	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design Antelope F-18 Pad Sec.18-T5N-R62W - Antelope K-O-18HNB - Wellbore #1 - Plan #6 (3-27-13) R												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,396.1	6,334.0	9,416.3	6,340.0	54.5	57.9	-177.68	-2,588.9	1,268.8	6.0	-44.7	50.68	0.118	Level 1
9,400.0	6,334.0	9,420.2	6,340.0	54.5	58.0	-168.51	-2,592.8	1,268.9	6.1	-44.9	51.02	0.120	Level 1
9,500.0	6,334.7	9,520.2	6,340.0	56.1	59.8	-152.01	-2,692.7	1,271.9	6.0	-57.4	63.34	0.094	Level 1
9,579.9	6,336.3	9,600.0	6,340.0	57.3	61.2	-131.53	-2,772.5	1,274.3	5.6	-79.8	85.32	0.065	Level 1
9,600.0	6,337.2	9,620.1	6,340.0	57.7	61.5	-120.35	-2,792.6	1,274.9	5.6	-90.6	96.14	0.058	Level 1
9,700.0	6,337.5	9,720.1	6,340.0	59.3	63.3	-113.40	-2,892.6	1,277.9	6.2	-98.8	104.96	0.059	Level 1
9,800.0	6,336.7	9,820.1	6,340.0	61.0	65.1	-118.37	-2,992.5	1,281.0	6.9	-97.6	104.45	0.066	Level 1
9,900.0	6,334.9	9,920.1	6,340.0	62.6	66.9	-133.35	-3,092.5	1,284.0	7.4	-85.6	92.97	0.079	Level 1
9,984.2	6,334.1	10,004.3	6,340.0	64.0	68.4	-145.88	-3,176.6	1,286.5	7.1	-73.1	80.16	0.088	Level 1
10,000.0	6,334.5	10,020.1	6,340.0	64.3	68.7	-143.97	-3,192.4	1,287.0	6.8	-76.0	82.74	0.082	Level 1
10,100.0	6,334.2	10,120.1	6,340.0	65.9	70.5	-153.72	-3,292.3	1,290.0	6.5	-67.5	74.02	0.088	Level 1
10,142.8	6,334.0	10,162.9	6,340.0	66.6	71.3	-157.25	-3,335.1	1,291.3	6.5	-64.5	71.06	0.092	Level 1
10,200.0	6,333.7	10,220.1	6,340.0	67.5	72.3	-160.14	-3,392.3	1,293.0	6.7	-62.6	69.24	0.096	Level 1
10,300.0	6,333.7	10,320.1	6,340.0	69.2	74.1	-162.99	-3,492.2	1,296.1	6.6	-62.4	68.94	0.095	Level 1
10,400.0	6,335.8	10,420.0	6,340.0	70.8	76.0	-172.96	-3,592.1	1,299.1	4.3	-64.9	69.14	0.062	Level 1
10,459.0	6,337.5	10,479.0	6,340.0	71.8	77.0	-139.40	-3,651.1	1,300.9	3.3	-108.2	111.53	0.029	Level 1
10,500.0	6,338.7	10,519.9	6,340.0	72.5	77.8	-109.28	-3,692.0	1,302.1	4.0	-137.9	141.91	0.028	Level 1, SF
10,600.0	6,339.0	10,619.9	6,340.0	74.3	79.6	-103.11	-3,791.9	1,305.1	4.3	-143.3	147.52	0.029	Level 1
10,700.0	6,339.7	10,719.9	6,340.0	75.9	81.5	-93.28	-3,891.9	1,308.1	5.8	-147.7	153.55	0.038	Level 1, ES
10,800.0	6,340.7	10,819.8	6,340.0	77.6	83.3	-85.73	-3,991.8	1,311.2	9.5	-147.2	156.73	0.061	Level 1
10,900.0	6,343.7	10,919.5	6,340.0	79.4	85.2	-77.59	-4,091.4	1,314.2	17.2	-140.3	157.50	0.109	Level 1
11,000.0	6,345.3	11,019.1	6,340.0	81.2	87.0	-78.30	-4,190.9	1,317.2	26.1	-135.7	161.84	0.161	Level 1
11,100.0	6,344.4	11,118.6	6,340.0	83.0	88.9	-82.70	-4,290.4	1,320.2	35.2	-132.4	167.53	0.210	Level 1
11,104.0	6,344.4	11,122.6	6,340.0	83.1	88.9	-82.86	-4,294.4	1,320.3	35.5	-132.2	167.73	0.212	Level 1

Company:	BONANZA CREEK ENERGY OPERATING	Local Co-ordinate Reference:	Well Antelope K-O-18HNB
Project:	SEC.18-T5N-R62W	TVD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Reference Site:	Antelope F-18 Pad Sec.18-T5N-R62W	MD Reference:	WELL @ 4626.0ft (Ensign 136 RKB - 12')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Antelope K-O-18HNB	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Survey: Survey #1	Offset TVD Reference:	Offset Datum

Offset Design Antelope J-F-19HZ Pad Sec.19-T5N-R62W - Antelope O-K-19HZ - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 504-MWD												Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
11,100.0	6,344.4	11,237.0	6,355.7	83.0	86.3	-98.48	-5,243.0	1,611.6	987.5	827.5	160.05	6.170	
11,104.0	6,344.4	11,237.0	6,355.7	83.1	86.3	-98.59	-5,243.0	1,611.6	983.6	823.5	160.07	6.145 CC, ES, SF	

Reference Depths are relative to WELL @ 4626.0ft (Ensign 136 RKB - Coordinates are relative to: Antelope K-O-18HNB
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 ° Grid Convergence at Surface is: 0.73°



Reference Depths are relative to WELL @ 4626.0ft (Ensign 136 RKB - Coordinates are relative to: Antelope K-O-18HNB
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 ° Grid Convergence at Surface is: 0.73°

