



Company: B.P.
Project: Archuleta County, CO NAD83
Site: Kerrigan Pad
Well: Kerrigan GU 32-6-2 #3



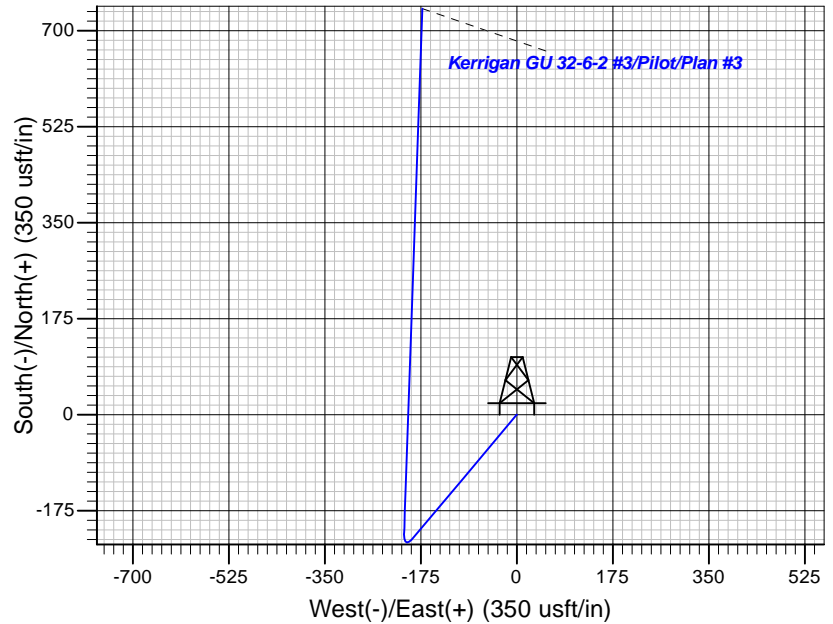
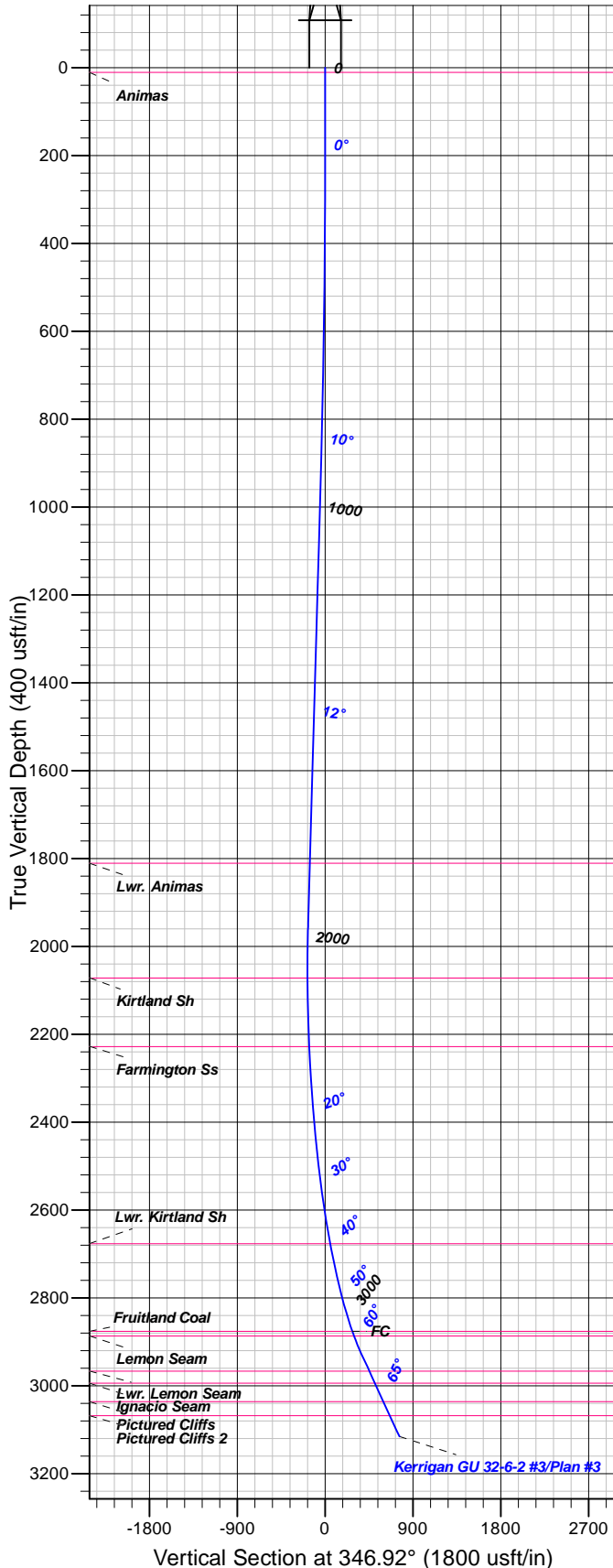
Well Details: Kerrigan GU 32-6-2 #3

GL 6392' & 11' @ 6403.00usft (Aztec 507)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1142918.49	2423954.00	37.0424524	-107.4737064	

Azimuths to Grid North
True North: 1.21°
Magnetic North: 10.33°

Magnetic Field
Strength: 50080.7snT
Dip Angle: 63.60°
Date: 9/7/2017
Model: HDGM



FORMATION TOP DETAILS

TVDPPath	MDPath	Formation
11.00	11.00	Animas
1811.00	1835.64	Lwr. Animas
2072.00	2100.91	Kirtland Sh
2228.00	2258.20	Farmington Ss
2677.00	2764.99	Lwr. Kirtland Sh
2876.00	3073.80	Fruitland Coal
2887.00	3095.22	Lemon Seam
2967.00	3275.48	Lwr. Lemon Seam
2994.00	3339.37	Ignacio Seam
3036.00	3438.75	Pictured Cliffs
3068.00	3514.47	Pictured Cliffs 2

Plan: Plan #3

12:01, October 30 2017
Created By: Mel Mireles Jr.

PROJECT DETAILS: Archuleta County, CO NAD83

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Southern Zone

System Datum: Mean Sea Level

CASING DETAILS

No casing data is available

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	175.00	0.00	0.00	175.00	0.00	0.00	0.00	0.00	0.00	
3	975.00	12.00	220.00	969.16	-63.94	-53.65	1.50	220.00	-50.14	
4	1975.00	12.00	220.00	1947.31	-223.21	-187.30	0.00	0.00	-175.01	
5	2258.43	12.00	2.00	2228.22	-216.24	-205.45	8.00	160.61	-164.12	
6	3187.93	65.00	2.00	2930.00	341.63	-185.96	5.70	0.00	374.86	
7	3628.00	65.00	2.00	3115.98	740.23	-172.04	0.00	0.00	759.96	

DESIGN TARGET DETAILS

No target data is available.



B.P.

Archuleta County, CO NAD83

Kerrigan Pad

Kerrigan GU 32-6-2 #3

Pilot

Plan: Plan #3

Standard Planning Report

30 October, 2017





Database:	Grand Junction District	Local Co-ordinate Reference:	Well Kerrigan GU 32-6-2 #3
Company:	B.P.	TVD Reference:	GL 6392' & 11' @ 6403.00usft (Aztec 507)
Project:	Archuleta County, CO NAD83	MD Reference:	GL 6392' & 11' @ 6403.00usft (Aztec 507)
Site:	Kerrigan Pad	North Reference:	Grid
Well:	Kerrigan GU 32-6-2 #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Pilot		
Design:	Plan #3		

Project	Archuleta County, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Southern Zone		

Site	Kerrigan Pad			
Site Position:		Northing:	1,142,918.49 usft	Latitude: 37.0424523
From: Map		Easting:	2,423,954.00 usft	Longitude: -107.4737065
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -1.21 °

Well	Kerrigan GU 32-6-2 #3			
Well Position	+N/-S	0.00 usft	Northing:	1,142,918.49 usft
	+E/-W	0.00 usft	Easting:	2,423,954.00 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	0.00 usft
			Ground Level:	6,392.00 usft

Wellbore	Pilot				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/7/2017	9.12	63.60	50,081

Design	Plan #3			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	346.92

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
175.00	0.00	0.00	175.00	0.00	0.00	0.00	0.00	0.00	0.00	
975.00	12.00	220.00	969.16	-63.94	-53.65	1.50	1.50	0.00	220.00	
1,975.00	12.00	220.00	1,947.31	-223.21	-187.30	0.00	0.00	0.00	0.00	
2,258.43	12.00	2.00	2,228.22	-216.24	-205.45	8.00	0.00	50.10	160.61	
3,187.93	65.00	2.00	2,930.00	341.63	-185.96	5.70	5.70	0.00	0.00	
3,628.00	65.00	2.00	3,115.98	740.23	-172.04	0.00	0.00	0.00	0.00	



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Project:	Archuleta County, CO NAD83	MD Reference:	GL 6392' & 11' @ 6403.00usft (Aztec 507)
Site:	Kerrigan Pad	North Reference:	Grid
Well:	Kerrigan GU 32-6-2 #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Pilot		
Design:	Plan #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
175.00	0.00	0.00	175.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.38	220.00	200.00	-0.06	-0.05	-0.05	1.50	1.50	0.00
300.00	1.88	220.00	299.98	-1.57	-1.31	-1.23	1.50	1.50	0.00
400.00	3.38	220.00	399.87	-5.07	-4.26	-3.98	1.50	1.50	0.00
500.00	4.88	220.00	499.61	-10.59	-8.88	-8.30	1.50	1.50	0.00
600.00	6.38	220.00	599.12	-18.09	-15.18	-14.19	1.50	1.50	0.00
700.00	7.88	220.00	698.35	-27.59	-23.15	-21.64	1.50	1.50	0.00
800.00	9.38	220.00	797.21	-39.08	-32.79	-30.64	1.50	1.50	0.00
900.00	10.88	220.00	895.65	-52.55	-44.09	-41.20	1.50	1.50	0.00
975.00	12.00	220.00	969.16	-63.94	-53.65	-50.14	1.50	1.50	0.00
1,000.00	12.00	220.00	993.62	-67.92	-56.99	-53.26	0.00	0.00	0.00
1,100.00	12.00	220.00	1,091.43	-83.85	-70.36	-65.75	0.00	0.00	0.00
1,200.00	12.00	220.00	1,189.25	-99.78	-83.72	-78.23	0.00	0.00	0.00
1,300.00	12.00	220.00	1,287.06	-115.70	-97.09	-90.72	0.00	0.00	0.00
1,400.00	12.00	220.00	1,384.88	-131.63	-110.45	-103.21	0.00	0.00	0.00
1,500.00	12.00	220.00	1,482.69	-147.56	-123.82	-115.70	0.00	0.00	0.00
1,600.00	12.00	220.00	1,580.51	-163.49	-137.18	-128.19	0.00	0.00	0.00
1,700.00	12.00	220.00	1,678.32	-179.41	-150.54	-140.67	0.00	0.00	0.00
1,800.00	12.00	220.00	1,776.14	-195.34	-163.91	-153.16	0.00	0.00	0.00
1,900.00	12.00	220.00	1,873.95	-211.27	-177.27	-165.65	0.00	0.00	0.00
1,975.00	12.00	220.00	1,947.31	-223.21	-187.30	-175.01	0.00	0.00	0.00
2,000.00	10.13	223.78	1,971.85	-226.79	-190.49	-177.78	8.00	-7.46	15.10
2,100.00	4.18	272.32	2,071.09	-233.01	-200.23	-181.63	8.00	-5.96	48.54
2,200.00	7.75	350.42	2,170.67	-226.20	-205.00	-173.92	8.00	3.57	78.10
2,258.43	12.00	2.00	2,228.22	-216.24	-205.45	-164.12	8.00	7.28	19.82
2,300.00	14.37	2.00	2,268.70	-206.77	-205.11	-154.97	5.70	5.70	0.00
2,400.00	20.07	2.00	2,364.17	-177.19	-204.08	-126.39	5.70	5.70	0.00
2,500.00	25.77	2.00	2,456.24	-138.28	-202.72	-88.80	5.70	5.70	0.00
2,600.00	31.48	2.00	2,543.98	-90.42	-201.05	-42.56	5.70	5.70	0.00
2,700.00	37.18	2.00	2,626.53	-34.09	-199.08	11.87	5.70	5.70	0.00
2,800.00	42.88	2.00	2,703.07	30.16	-196.84	73.94	5.70	5.70	0.00
2,900.00	48.58	2.00	2,772.84	101.70	-194.34	143.05	5.70	5.70	0.00
3,000.00	54.28	2.00	2,835.16	179.80	-191.61	218.52	5.70	5.70	0.00
3,073.80	58.49	2.00	2,876.00	241.21	-189.47	277.84	5.70	5.70	0.00
FC									
3,100.00	59.99	2.00	2,889.40	263.71	-188.68	299.58	5.70	5.70	0.00
3,187.93	65.00	2.00	2,930.00	341.63	-185.96	374.86	5.70	5.70	0.00
3,200.00	65.00	2.00	2,935.10	352.56	-185.58	385.42	0.00	0.00	0.00
3,300.00	65.00	2.00	2,977.36	443.14	-182.42	472.93	0.00	0.00	0.00
3,400.00	65.00	2.00	3,019.62	533.72	-179.26	560.44	0.00	0.00	0.00
3,500.00	65.00	2.00	3,061.89	624.29	-176.09	647.95	0.00	0.00	0.00
3,600.00	65.00	2.00	3,104.15	714.87	-172.93	735.46	0.00	0.00	0.00
3,628.00	65.00	2.00	3,115.98	740.23	-172.04	759.96	0.00	0.00	0.00

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
+N/-S (usft)	+E/-W (usft)			
3,073.80	2,876.00	241.21	-189.47	FC