

EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)

NW NE SEC. 5 T5N R65W 6th P.M.

DT-LUTHER 1-5-6

ORIGINAL WELLBORE

17 November, 2014

Plan: PROPOSAL #2

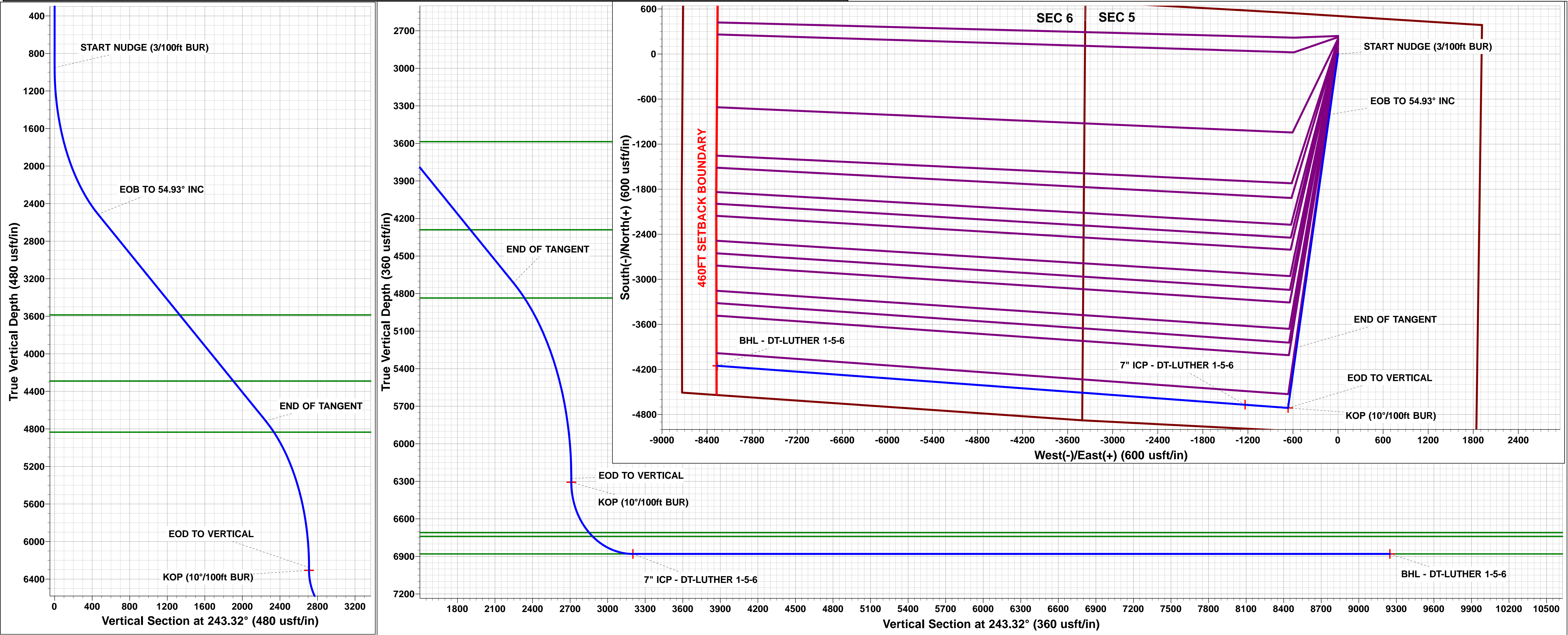
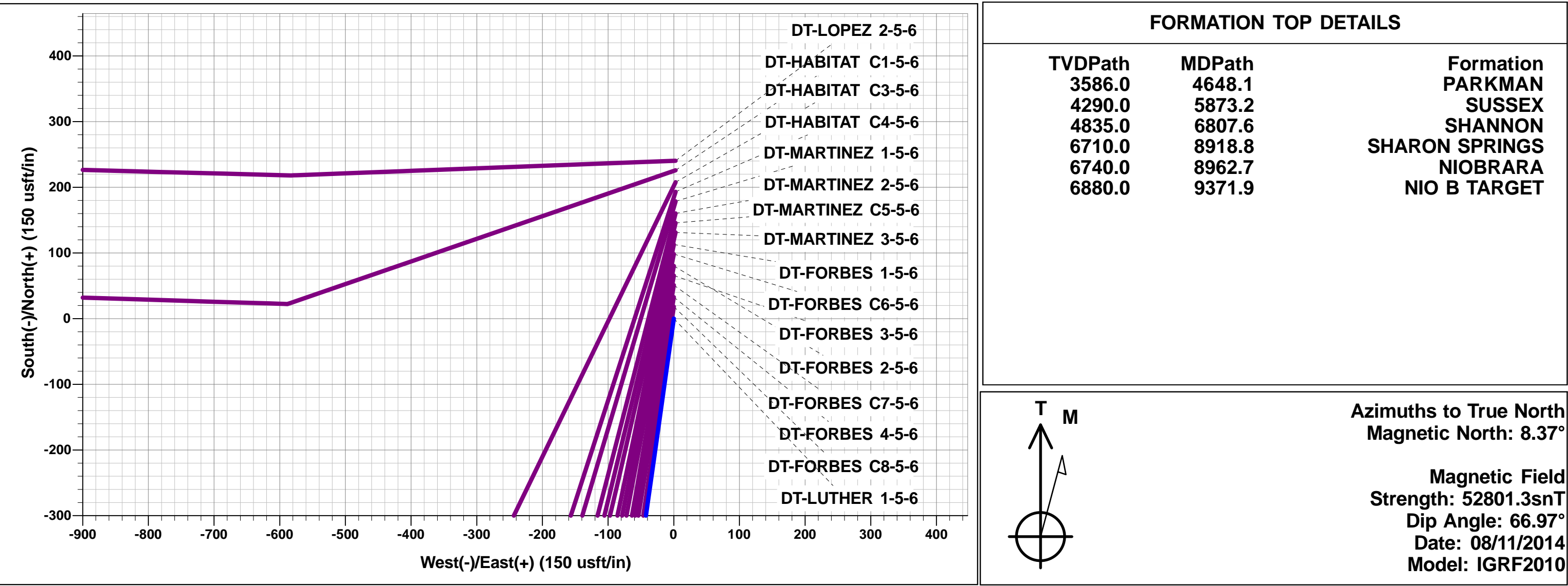




Project: WELD COUNTY, COLORADO (NAD 83)
Site: NW NE SEC. 5 T5N R65W 6th P.M.
Well: DT-LUTHER 1-5-6
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation		
950.0	950.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDDGE (3/100ft BUR)		
2513.0	2780.9	54.93	188.03	-804.4	-113.5	462.5	812.4	EOB TO 54.93° INC		
4714.0	6611.0	54.93	188.03	-3908.3	-551.3	2247.2	3947.0	END OF TANGENT		
6277.0	8441.8	0.00	0.00	-4712.7	-664.8	2709.8	4759.4	EOD TO VERTICAL		
6307.0	8471.8	0.00	0.00	-4712.7	-664.8	2709.8	4759.4	KOP (10°/100ft BUR)		
6880.0	9371.9	90.00	274.23	-4670.5	-1236.2	3201.4	5332.3	7" ICP - DT-LUTHER 1-5-6		
6880.0	16418.4	90.00	274.22	-4151.8	-8263.6	9247.9	12378.8	BHL - DT-LUTHER 1-5-6		

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - DT-LUTHER 1-5-6	6307.0	-4712.7	-664.8	40.422214	-104.686948
7" ICP - DT-LUTHER 1-5-6	6880.0	-4670.5	-1236.2	40.422330	-104.689000
BHL - DT-LUTHER 1-5-6	6880.0	-4151.8	-8263.6	40.423750	-104.714240



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well DT-LUTHER 1-5-6
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4656.2usft (SAV 802)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4656.2usft (SAV 802)
Site:	NW NE SEC. 5 T5N R65W 6th P.M.	North Reference:	True
Well:	DT-LUTHER 1-5-6	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Project	WELD COUNTY, COLORADO (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	NW NE SEC. 5 T5N R65W 6th P.M.		
Site Position:		Northing:	1,402,409.16usft
From:	Lat/Long	Easting:	3,226,987.53usft
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft
		Latitude:	40.435150
		Longitude:	-104.684560
		Grid Convergence:	0.53 °

Well	DT-LUTHER 1-5-6		
Well Position	+N/-S	-102.0 usft	Northing:
	+E/-W	228.3 usft	Easting:
Position Uncertainty		0.0 usft	Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/11/2014	8.37	66.97	52,801

Design	PROPOSAL #2			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	244.50

Plan Sections											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100usf)	Turn Rate (°/100usf)	TFO (°)	Target
0.0	0.00	0.00	0.0	-4,656.2	0.0	0.0	0.00	0.00	0.00	0.00	
250.0	0.00	0.00	250.0	-4,406.2	0.0	0.0	0.00	0.00	0.00	0.00	
1,020.8	23.12	190.96	1,000.0	-3,656.2	-150.6	-29.2	3.00	3.00	0.00	190.96	
1,085.8	23.12	190.96	1,059.8	-3,596.4	-175.7	-34.0	0.00	0.00	0.00	0.00	
1,426.6	43.57	190.96	1,343.0	-3,313.2	-358.6	-69.5	6.00	6.00	0.00	0.00	
7,328.5	43.57	190.96	5,619.0	962.8	-4,352.4	-843.1	0.00	0.00	0.00	0.00	
8,054.7	0.00	0.00	6,277.2	1,621.0	-4,610.7	-893.1	6.00	-6.00	0.00	180.00	
8,084.7	0.00	0.00	6,307.2	1,651.0	-4,610.7	-893.1	0.00	0.00	0.00	0.00	KOP - DT-LUTHER
8,984.8	90.00	274.23	6,880.2	2,224.0	-4,568.4	-1,464.5	10.00	10.00	-9.53	274.23	7" ICP - DT-LUTHE
16,031.3	90.00	274.22	6,880.2	2,224.0	-4,049.7	-8,491.9	0.00	0.00	0.00	-75.90	BHL - DT-LUTHER

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well DT-LUTHER 1-5-6
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4656.2usft (SAV 802)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4656.2usft (SAV 802)
Site:	NW NE SEC. 5 T5N R65W 6th P.M.	North Reference:	True
Well:	DT-LUTHER 1-5-6	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	4,656.20	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,556.20	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,456.20	0.0	0.0	0.0	0.00	0.00	0.00
START SURFACE NUDGE (3°/100ft BUR)										
250.0	0.00	0.00	250.0	4,406.20	0.0	0.0	0.0	0.00	0.00	0.00
300.0	1.50	190.96	300.0	4,356.21	-0.6	-0.1	0.4	3.00	3.00	0.00
400.0	4.50	190.96	399.8	4,256.35	-5.8	-1.1	3.5	3.00	3.00	0.00
500.0	7.50	190.96	499.3	4,156.91	-16.0	-3.1	9.7	3.00	3.00	0.00
600.0	10.50	190.96	598.0	4,058.16	-31.4	-6.1	19.0	3.00	3.00	0.00
700.0	13.50	190.96	695.8	3,960.35	-51.8	-10.0	31.4	3.00	3.00	0.00
800.0	16.50	190.96	792.4	3,863.77	-77.2	-15.0	46.7	3.00	3.00	0.00
900.0	19.50	190.96	887.5	3,768.68	-107.5	-20.8	65.1	3.00	3.00	0.00
1,000.0	22.50	190.96	980.9	3,675.33	-142.7	-27.6	86.4	3.00	3.00	0.00
SURFACE CASING										
1,020.8	23.12	190.96	1,000.0	3,656.20	-150.6	-29.2	91.2	3.00	3.00	0.00
START INT NUDGE (6°/100ft BUR)										
1,085.8	23.12	190.96	1,059.8	3,596.42	-175.7	-34.0	106.3	0.00	0.00	0.00
1,100.0	23.98	190.96	1,072.8	3,583.36	-181.3	-35.1	109.7	6.00	6.00	0.02
1,200.0	29.98	190.96	1,161.9	3,494.28	-225.8	-43.7	136.7	6.00	6.00	0.00
1,300.0	35.98	190.96	1,245.8	3,410.43	-279.2	-54.1	169.0	6.00	6.00	0.00
1,400.0	41.98	190.96	1,323.5	3,332.73	-340.9	-66.0	206.4	6.00	6.00	0.00
EOB TO 43.57° INC										
1,426.6	43.57	190.96	1,343.0	3,313.22	-358.6	-69.5	217.1	6.00	6.00	0.00
1,500.0	43.57	190.96	1,396.2	3,260.02	-408.3	-79.1	247.2	0.00	0.00	0.00
1,600.0	43.57	190.96	1,468.6	3,187.57	-476.0	-92.2	288.1	0.00	0.00	0.00
1,700.0	43.57	190.96	1,541.1	3,115.12	-543.7	-105.3	329.1	0.00	0.00	0.00
1,800.0	43.57	190.96	1,613.5	3,042.67	-611.3	-118.4	370.0	0.00	0.00	0.00
1,900.0	43.57	190.96	1,686.0	2,970.22	-679.0	-131.5	411.0	0.00	0.00	0.00
2,000.0	43.57	190.96	1,758.4	2,897.77	-746.7	-144.6	451.9	0.00	0.00	0.00
2,100.0	43.57	190.96	1,830.9	2,825.32	-814.3	-157.7	492.9	0.00	0.00	0.00
2,200.0	43.57	190.96	1,903.3	2,752.87	-882.0	-170.8	533.9	0.00	0.00	0.00
2,300.0	43.57	190.96	1,975.8	2,680.42	-949.7	-184.0	574.8	0.00	0.00	0.00
2,400.0	43.57	190.96	2,048.2	2,607.96	-1,017.3	-197.1	615.8	0.00	0.00	0.00
2,500.0	43.57	190.96	2,120.7	2,535.51	-1,085.0	-210.2	656.7	0.00	0.00	0.00
2,600.0	43.57	190.96	2,193.1	2,463.06	-1,152.7	-223.3	697.7	0.00	0.00	0.00
2,700.0	43.57	190.96	2,265.6	2,390.61	-1,220.4	-236.4	738.7	0.00	0.00	0.00
2,800.0	43.57	190.96	2,338.0	2,318.16	-1,288.0	-249.5	779.6	0.00	0.00	0.00
2,900.0	43.57	190.96	2,410.5	2,245.71	-1,355.7	-262.6	820.6	0.00	0.00	0.00
3,000.0	43.57	190.96	2,482.9	2,173.26	-1,423.4	-275.7	861.5	0.00	0.00	0.00
3,100.0	43.57	190.96	2,555.4	2,100.81	-1,491.0	-288.8	902.5	0.00	0.00	0.00
3,200.0	43.57	190.96	2,627.8	2,028.36	-1,558.7	-301.9	943.5	0.00	0.00	0.00
3,300.0	43.57	190.96	2,700.3	1,955.90	-1,626.4	-315.0	984.4	0.00	0.00	0.00
3,400.0	43.57	190.96	2,772.7	1,883.45	-1,694.0	-328.1	1,025.4	0.00	0.00	0.00
3,500.0	43.57	190.96	2,845.2	1,811.00	-1,761.7	-341.2	1,066.3	0.00	0.00	0.00
3,600.0	43.57	190.96	2,917.6	1,738.55	-1,829.4	-354.4	1,107.3	0.00	0.00	0.00
3,700.0	43.57	190.96	2,990.1	1,666.10	-1,897.0	-367.5	1,148.3	0.00	0.00	0.00
3,800.0	43.57	190.96	3,062.6	1,593.65	-1,964.7	-380.6	1,189.2	0.00	0.00	0.00
3,900.0	43.57	190.96	3,135.0	1,521.20	-2,032.4	-393.7	1,230.2	0.00	0.00	0.00
4,000.0	43.57	190.96	3,207.5	1,448.75	-2,100.0	-406.8	1,271.1	0.00	0.00	0.00
4,100.0	43.57	190.96	3,279.9	1,376.30	-2,167.7	-419.9	1,312.1	0.00	0.00	0.00
4,200.0	43.57	190.96	3,352.4	1,303.84	-2,235.4	-433.0	1,353.0	0.00	0.00	0.00
4,300.0	43.57	190.96	3,424.8	1,231.39	-2,303.0	-446.1	1,394.0	0.00	0.00	0.00
4,400.0	43.57	190.96	3,497.3	1,158.94	-2,370.7	-459.2	1,435.0	0.00	0.00	0.00
4,500.0	43.57	190.96	3,569.7	1,086.49	-2,438.4	-472.3	1,475.9	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well DT-LUTHER 1-5-6
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4656.2usft (SAV 802)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4656.2usft (SAV 802)
Site:	NW NE SEC. 5 T5N R65W 6th P.M.	North Reference:	True
Well:	DT-LUTHER 1-5-6	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
PARKMAN										
4,522.8	43.57	190.96	3,586.2	1,070.00	-2,453.8	-475.3	1,485.2	0.00	0.00	0.00
4,600.0	43.57	190.96	3,642.2	1,014.04	-2,506.1	-485.4	1,516.9	0.00	0.00	0.00
4,700.0	43.57	190.96	3,714.6	941.59	-2,573.7	-498.5	1,557.8	0.00	0.00	0.00
4,800.0	43.57	190.96	3,787.1	869.14	-2,641.4	-511.6	1,598.8	0.00	0.00	0.00
4,900.0	43.57	190.96	3,859.5	796.69	-2,709.1	-524.8	1,639.8	0.00	0.00	0.00
5,000.0	43.57	190.96	3,932.0	724.24	-2,776.7	-537.9	1,680.7	0.00	0.00	0.00
5,100.0	43.57	190.96	4,004.4	651.78	-2,844.4	-551.0	1,721.7	0.00	0.00	0.00
5,200.0	43.57	190.96	4,076.9	579.33	-2,912.1	-564.1	1,762.6	0.00	0.00	0.00
5,300.0	43.57	190.96	4,149.3	506.88	-2,979.7	-577.2	1,803.6	0.00	0.00	0.00
5,400.0	43.57	190.96	4,221.8	434.43	-3,047.4	-590.3	1,844.6	0.00	0.00	0.00
SUSSEX										
5,494.5	43.57	190.96	4,290.2	366.00	-3,111.3	-602.7	1,883.2	0.00	0.00	0.00
5,500.0	43.57	190.96	4,294.2	361.98	-3,115.1	-603.4	1,885.5	0.00	0.00	0.00
5,600.0	43.57	190.96	4,366.7	289.53	-3,182.7	-616.5	1,926.5	0.00	0.00	0.00
5,700.0	43.57	190.96	4,439.1	217.08	-3,250.4	-629.6	1,967.4	0.00	0.00	0.00
5,800.0	43.57	190.96	4,511.6	144.63	-3,318.1	-642.7	2,008.4	0.00	0.00	0.00
5,900.0	43.57	190.96	4,584.0	72.18	-3,385.7	-655.8	2,049.3	0.00	0.00	0.00
6,000.0	43.57	190.96	4,656.5	-0.28	-3,453.4	-668.9	2,090.3	0.00	0.00	0.00
6,100.0	43.57	190.96	4,728.9	-72.73	-3,521.1	-682.1	2,131.3	0.00	0.00	0.00
6,200.0	43.57	190.96	4,801.4	-145.18	-3,588.7	-695.2	2,172.2	0.00	0.00	0.00
SHANNON										
6,246.7	43.57	190.96	4,835.2	-179.00	-3,620.3	-701.3	2,191.3	0.00	0.00	0.00
6,300.0	43.57	190.96	4,873.8	-217.63	-3,656.4	-708.3	2,213.2	0.00	0.00	0.00
6,400.0	43.57	190.96	4,946.3	-290.08	-3,724.1	-721.4	2,254.1	0.00	0.00	0.00
6,500.0	43.57	190.96	5,018.7	-362.53	-3,791.8	-734.5	2,295.1	0.00	0.00	0.00
6,600.0	43.57	190.96	5,091.2	-434.98	-3,859.4	-747.6	2,336.1	0.00	0.00	0.00
6,700.0	43.57	190.96	5,163.6	-507.43	-3,927.1	-760.7	2,377.0	0.00	0.00	0.00
6,800.0	43.57	190.96	5,236.1	-579.88	-3,994.8	-773.8	2,418.0	0.00	0.00	0.00
6,900.0	43.57	190.96	5,308.5	-652.34	-4,062.4	-786.9	2,458.9	0.00	0.00	0.00
7,000.0	43.57	190.96	5,381.0	-724.79	-4,130.1	-800.0	2,499.9	0.00	0.00	0.00
7,100.0	43.57	190.96	5,453.4	-797.24	-4,197.8	-813.1	2,540.9	0.00	0.00	0.00
7,200.0	43.57	190.96	5,525.9	-869.69	-4,265.4	-826.2	2,581.8	0.00	0.00	0.00
7,300.0	43.57	190.96	5,598.3	-942.14	-4,333.1	-839.3	2,622.8	0.00	0.00	0.00
END OF TANGENT										
7,328.5	43.57	190.96	5,619.0	-962.80	-4,352.4	-843.1	2,634.5	0.00	0.00	0.00
7,400.0	39.28	190.96	5,672.6	-1,016.39	-4,398.8	-852.1	2,662.6	6.00	-6.00	0.00
7,500.0	33.28	190.96	5,753.2	-1,096.96	-4,456.9	-863.3	2,697.7	6.00	-6.00	0.00
7,600.0	27.28	190.96	5,839.5	-1,183.27	-4,506.4	-872.9	2,727.7	6.00	-6.00	0.00
7,700.0	21.28	190.96	5,930.6	-1,274.39	-4,546.7	-880.7	2,752.1	6.00	-6.00	0.00
7,800.0	15.28	190.96	6,025.5	-1,369.29	-4,577.5	-886.7	2,770.7	6.00	-6.00	0.00
7,900.0	9.28	190.96	6,123.2	-1,466.96	-4,598.4	-890.7	2,783.4	6.00	-6.00	0.00
8,000.0	3.28	190.96	6,222.5	-1,566.31	-4,609.1	-892.8	2,789.9	6.00	-6.00	0.00
EOD TO VERTICAL										
8,054.7	0.00	0.00	6,277.2	-1,621.00	-4,610.7	-893.1	2,790.8	6.00	-6.00	0.00
KOP (10°/100ft BUR)										
8,084.7	0.00	0.00	6,307.2	-1,651.00	-4,610.7	-893.1	2,790.8	0.00	0.00	0.00
8,100.0	1.53	274.23	6,322.5	-1,666.28	-4,610.7	-893.3	2,791.0	10.00	10.00	0.00
8,200.0	11.53	274.23	6,421.7	-1,765.51	-4,609.8	-904.6	2,800.8	10.00	10.00	0.00
8,300.0	21.53	274.23	6,517.5	-1,861.25	-4,607.7	-933.0	2,825.5	10.00	10.00	0.00
8,400.0	31.53	274.23	6,606.8	-1,950.61	-4,604.4	-977.5	2,864.2	10.00	10.00	0.00
8,500.0	41.53	274.23	6,687.1	-2,030.87	-4,600.1	-1,036.7	2,915.9	10.00	10.00	0.00
SHARON SPRINGS										

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well DT-LUTHER 1-5-6
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4656.2usft (SAV 802)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4656.2usft (SAV 802)
Site:	NW NE SEC. 5 T5N R65W 6th P.M.	North Reference:	True
Well:	DT-LUTHER 1-5-6	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,531.7	44.69	274.23	6,710.2	-2,054.00	-4,598.5	-1,058.3	2,934.7	10.00	10.00	0.00
NIOBRARA										
8,575.6	49.08	274.23	6,740.2	-2,084.00	-4,596.1	-1,090.3	2,962.5	10.00	10.00	0.00
8,600.0	51.52	274.23	6,755.8	-2,099.59	-4,594.7	-1,109.0	2,978.8	10.00	10.00	0.00
8,700.0	61.52	274.23	6,810.9	-2,154.68	-4,588.6	-1,192.1	3,051.1	10.00	10.00	0.00
8,800.0	71.52	274.23	6,850.7	-2,194.46	-4,581.8	-1,283.5	3,130.7	10.00	10.00	0.00
8,900.0	81.52	274.23	6,873.9	-2,217.74	-4,574.7	-1,380.3	3,215.0	10.00	10.00	0.00
7" ICP - DT-LUTHER 1-5-6 - NIO B TARGET										
8,984.8	90.00	274.23	6,880.2	-2,224.00	-4,568.4	-1,464.5	3,288.4	10.00	10.00	0.00
9,000.0	90.00	274.23	6,880.2	-2,224.00	-4,567.3	-1,479.7	3,301.6	0.00	0.00	0.00
9,100.0	90.00	274.23	6,880.2	-2,224.00	-4,559.9	-1,579.5	3,388.5	0.00	0.00	0.00
9,200.0	90.00	274.23	6,880.2	-2,224.01	-4,552.6	-1,679.2	3,475.3	0.00	0.00	0.00
9,300.0	90.00	274.23	6,880.2	-2,224.01	-4,545.2	-1,778.9	3,562.1	0.00	0.00	0.00
9,400.0	90.00	274.23	6,880.2	-2,224.01	-4,537.8	-1,878.6	3,649.0	0.00	0.00	0.00
9,500.0	90.00	274.23	6,880.2	-2,224.01	-4,530.4	-1,978.4	3,735.8	0.00	0.00	0.00
9,600.0	90.00	274.23	6,880.2	-2,224.02	-4,523.1	-2,078.1	3,822.7	0.00	0.00	0.00
9,700.0	90.00	274.23	6,880.2	-2,224.02	-4,515.7	-2,177.8	3,909.5	0.00	0.00	0.00
9,800.0	90.00	274.23	6,880.2	-2,224.02	-4,508.3	-2,277.6	3,996.4	0.00	0.00	0.00
9,900.0	90.00	274.23	6,880.2	-2,224.02	-4,501.0	-2,377.3	4,083.2	0.00	0.00	0.00
10,000.0	90.00	274.23	6,880.2	-2,224.02	-4,493.6	-2,477.0	4,170.0	0.00	0.00	0.00
10,100.0	90.00	274.23	6,880.2	-2,224.03	-4,486.2	-2,576.7	4,256.9	0.00	0.00	0.00
10,200.0	90.00	274.23	6,880.2	-2,224.03	-4,478.9	-2,676.5	4,343.7	0.00	0.00	0.00
10,300.0	90.00	274.23	6,880.2	-2,224.03	-4,471.5	-2,776.2	4,430.6	0.00	0.00	0.00
10,400.0	90.00	274.23	6,880.2	-2,224.03	-4,464.1	-2,875.9	4,517.4	0.00	0.00	0.00
10,500.0	90.00	274.23	6,880.2	-2,224.03	-4,456.8	-2,975.7	4,604.3	0.00	0.00	0.00
10,600.0	90.00	274.23	6,880.2	-2,224.03	-4,449.4	-3,075.4	4,691.1	0.00	0.00	0.00
10,700.0	90.00	274.22	6,880.2	-2,224.04	-4,442.0	-3,175.1	4,778.0	0.00	0.00	0.00
10,800.0	90.00	274.22	6,880.2	-2,224.04	-4,434.7	-3,274.8	4,864.8	0.00	0.00	0.00
10,900.0	90.00	274.22	6,880.2	-2,224.04	-4,427.3	-3,374.6	4,951.6	0.00	0.00	0.00
11,000.0	90.00	274.22	6,880.2	-2,224.04	-4,419.9	-3,474.3	5,038.5	0.00	0.00	0.00
11,100.0	90.00	274.22	6,880.2	-2,224.04	-4,412.6	-3,574.0	5,125.3	0.00	0.00	0.00
11,200.0	90.00	274.22	6,880.2	-2,224.04	-4,405.2	-3,673.7	5,212.2	0.00	0.00	0.00
11,300.0	90.00	274.22	6,880.2	-2,224.04	-4,397.8	-3,773.5	5,299.0	0.00	0.00	0.00
11,400.0	90.00	274.22	6,880.2	-2,224.04	-4,390.5	-3,873.2	5,385.9	0.00	0.00	0.00
11,500.0	90.00	274.22	6,880.2	-2,224.04	-4,383.1	-3,972.9	5,472.7	0.00	0.00	0.00
11,600.0	90.00	274.22	6,880.2	-2,224.04	-4,375.7	-4,072.7	5,559.6	0.00	0.00	0.00
11,700.0	90.00	274.22	6,880.2	-2,224.05	-4,368.4	-4,172.4	5,646.4	0.00	0.00	0.00
11,800.0	90.00	274.22	6,880.2	-2,224.05	-4,361.0	-4,272.1	5,733.3	0.00	0.00	0.00
11,900.0	90.00	274.22	6,880.2	-2,224.05	-4,353.6	-4,371.8	5,820.1	0.00	0.00	0.00
12,000.0	90.00	274.22	6,880.2	-2,224.05	-4,346.3	-4,471.6	5,907.0	0.00	0.00	0.00
12,100.0	90.00	274.22	6,880.2	-2,224.05	-4,338.9	-4,571.3	5,993.8	0.00	0.00	0.00
12,200.0	90.00	274.22	6,880.2	-2,224.05	-4,331.5	-4,671.0	6,080.6	0.00	0.00	0.00
12,300.0	90.00	274.22	6,880.2	-2,224.05	-4,324.2	-4,770.8	6,167.5	0.00	0.00	0.00
12,400.0	90.00	274.22	6,880.2	-2,224.05	-4,316.8	-4,870.5	6,254.3	0.00	0.00	0.00
12,500.0	90.00	274.22	6,880.2	-2,224.05	-4,309.5	-4,970.2	6,341.2	0.00	0.00	0.00
12,600.0	90.00	274.22	6,880.2	-2,224.05	-4,302.1	-5,069.9	6,428.0	0.00	0.00	0.00
12,700.0	90.00	274.22	6,880.2	-2,224.05	-4,294.7	-5,169.7	6,514.9	0.00	0.00	0.00
12,800.0	90.00	274.22	6,880.2	-2,224.05	-4,287.4	-5,269.4	6,601.7	0.00	0.00	0.00
12,900.0	90.00	274.22	6,880.2	-2,224.05	-4,280.0	-5,369.1	6,688.6	0.00	0.00	0.00
13,000.0	90.00	274.22	6,880.2	-2,224.05	-4,272.7	-5,468.9	6,775.4	0.00	0.00	0.00
13,100.0	90.00	274.22	6,880.2	-2,224.05	-4,265.3	-5,568.6	6,862.3	0.00	0.00	0.00
13,200.0	90.00	274.22	6,880.2	-2,224.05	-4,257.9	-5,668.3	6,949.1	0.00	0.00	0.00
13,300.0	90.00	274.22	6,880.2	-2,224.05	-4,250.6	-5,768.0	7,036.0	0.00	0.00	0.00
13,400.0	90.00	274.22	6,880.2	-2,224.04	-4,243.2	-5,867.8	7,122.8	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well DT-LUTHER 1-5-6
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4656.2usft (SAV 802)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4656.2usft (SAV 802)
Site:	NW NE SEC. 5 T5N R65W 6th P.M.	North Reference:	True
Well:	DT-LUTHER 1-5-6	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,500.0	90.00	274.22	6,880.2	-2,224.04	-4,235.9	-5,967.5	7,209.7	0.00	0.00	0.00
13,600.0	90.00	274.22	6,880.2	-2,224.04	-4,228.5	-6,067.2	7,296.5	0.00	0.00	0.00
13,700.0	90.00	274.22	6,880.2	-2,224.04	-4,221.1	-6,167.0	7,383.4	0.00	0.00	0.00
13,800.0	90.00	274.22	6,880.2	-2,224.04	-4,213.8	-6,266.7	7,470.2	0.00	0.00	0.00
13,900.0	90.00	274.22	6,880.2	-2,224.04	-4,206.4	-6,366.4	7,557.1	0.00	0.00	0.00
14,000.0	90.00	274.22	6,880.2	-2,224.04	-4,199.1	-6,466.2	7,643.9	0.00	0.00	0.00
14,100.0	90.00	274.22	6,880.2	-2,224.04	-4,191.7	-6,565.9	7,730.8	0.00	0.00	0.00
14,200.0	90.00	274.22	6,880.2	-2,224.04	-4,184.4	-6,665.6	7,817.6	0.00	0.00	0.00
14,300.0	90.00	274.22	6,880.2	-2,224.04	-4,177.0	-6,765.3	7,904.5	0.00	0.00	0.00
14,400.0	90.00	274.22	6,880.2	-2,224.03	-4,169.6	-6,865.1	7,991.3	0.00	0.00	0.00
14,500.0	90.00	274.22	6,880.2	-2,224.03	-4,162.3	-6,964.8	8,078.2	0.00	0.00	0.00
14,600.0	90.00	274.22	6,880.2	-2,224.03	-4,154.9	-7,064.5	8,165.0	0.00	0.00	0.00
14,700.0	90.00	274.22	6,880.2	-2,224.03	-4,147.6	-7,164.3	8,251.9	0.00	0.00	0.00
14,800.0	90.00	274.22	6,880.2	-2,224.03	-4,140.2	-7,264.0	8,338.7	0.00	0.00	0.00
14,900.0	90.00	274.22	6,880.2	-2,224.03	-4,132.9	-7,363.7	8,425.6	0.00	0.00	0.00
15,000.0	90.00	274.22	6,880.2	-2,224.02	-4,125.5	-7,463.4	8,512.4	0.00	0.00	0.00
15,100.0	90.00	274.22	6,880.2	-2,224.02	-4,118.2	-7,563.2	8,599.3	0.00	0.00	0.00
15,200.0	90.00	274.22	6,880.2	-2,224.02	-4,110.8	-7,662.9	8,686.1	0.00	0.00	0.00
15,300.0	90.00	274.22	6,880.2	-2,224.02	-4,103.5	-7,762.6	8,773.0	0.00	0.00	0.00
15,400.0	90.00	274.22	6,880.2	-2,224.02	-4,096.1	-7,862.4	8,859.8	0.00	0.00	0.00
15,500.0	90.00	274.22	6,880.2	-2,224.01	-4,088.7	-7,962.1	8,946.7	0.00	0.00	0.00
15,600.0	90.00	274.22	6,880.2	-2,224.01	-4,081.4	-8,061.8	9,033.5	0.00	0.00	0.00
15,700.0	90.00	274.22	6,880.2	-2,224.01	-4,074.0	-8,161.5	9,120.4	0.00	0.00	0.00
15,800.0	90.00	274.22	6,880.2	-2,224.01	-4,066.7	-8,261.3	9,207.3	0.00	0.00	0.00
15,900.0	90.00	274.22	6,880.2	-2,224.00	-4,059.3	-8,361.0	9,294.1	0.00	0.00	0.00
16,000.0	90.00	274.22	6,880.2	-2,224.00	-4,052.0	-8,460.7	9,381.0	0.00	0.00	0.00
BHL - DT-LUTHER 1-5-6										
16,031.3	90.00	274.22	6,880.2	-2,224.00	-4,049.7	-8,491.9	9,408.1	0.00	0.00	0.00

Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,522.8	3,586.2	PARKMAN			
5,494.5	4,290.2	SUSSEX			
6,246.7	4,835.2	SHANNON			
8,531.7	6,710.2	SHARON SPRINGS			
8,575.6	6,740.2	NIOBRARA			
8,984.8	6,880.2	NIO B TARGET			

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well DT-LUTHER 1-5-6
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4656.2usft (SAV 802)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4656.2usft (SAV 802)
Site:	NW NE SEC. 5 T5N R65W 6th P.M.	North Reference:	True
Well:	DT-LUTHER 1-5-6	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
250.0	250.0	0.0	0.0	START SURFACE NUDGE (3°/100ft BUR)
1,020.8	1,000.0	-150.6	-29.2	SURFACE CASING
1,085.8	1,059.8	-175.7	-34.0	START INT NUDGE (6°/100ft BUR)
1,426.6	1,343.0	-358.6	-69.5	EOB TO 43.57° INC
7,328.5	5,619.0	-4,352.4	-843.1	END OF TANGENT
8,054.7	6,277.2	-4,610.7	-893.1	EOD TO VERTICAL
8,084.7	6,307.2	-4,610.7	-893.1	KOP (10°/100ft BUR)
8,984.8	6,880.2	-4,568.4	-1,464.5	7" ICP - DT-LUTHER 1-5-6
16,031.3	6,880.2	-4,049.7	-8,491.9	BHL - DT-LUTHER 1-5-6