

EXTRACTION OIL & GAS

WELD COUNTY, COLORADO (NAD 83)

NE SE SEC. 8 T5N R66W 6th P.M.

TC-AIMS C4-9-11

ORIGINAL WELLBORE

23 July, 2015

Plan: PROPOSAL #1





Project: WELD COUNTY, COLORADO (NAD 83)
Site: NE SE SEC. 8 T5N R66W 6th P.M.
Well: TC-AIMS C4-9-11
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

ANNOTATIONS											FORMATION TOP DETAILS		
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation			TVDPath	MDPath	Formation
1700.0	1700.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)			3680.0	3719.4	PARKMAN
2333.2	2338.5	12.77	86.58	4.2	70.7	70.7	70.9	EOB TO 12.77° INC			4410.0	4468.0	SUSSEX
6848.5	6968.3	12.77	86.58	65.3	1092.4	1092.5	1094.4	START BUILD & TURN			4820.0	4888.4	SHANNON
7295.0	7740.9	90.00	90.26	69.3	1651.3	1651.4	1653.3	LANDING PNT - TC-AIMS C4-9-11			6940.0	7064.4	SHARON SPRINGS
7295.0	20380.4	90.00	90.26	11.4	14290.7	14290.7	14292.8	BHL - TC-AIMS C4-9-11			6972.0	7099.5	NIOBRARA
											7092.0	7243.0	NIO B TARGET
											7260.0	7539.6	FORT HAYS
											7285.0	7633.7	CODELL

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LANDING PNT - TC-AIMS C4-9-11	7295.0	69.3	1651.3	40.414570	-104.792750
BHL - TC-AIMS C4-9-11	7295.0	11.4	14290.7	40.414400	-104.747360

South(-)/North(+) (150 usft/in)

West(-)/East(+) (150 usft/in)

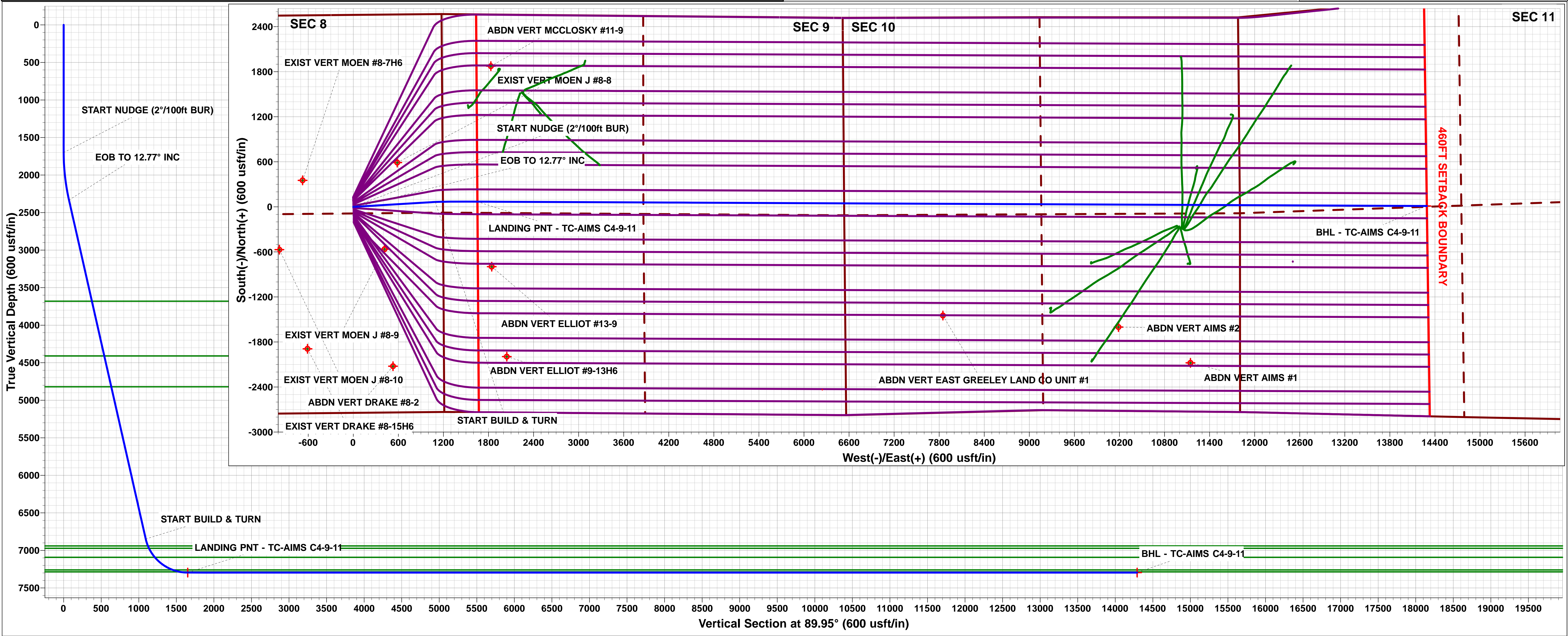
TC-MOISER HILL 2-9-7
TC-MOISER HILL 3-9-11
TC-COUNTRY CLUB WEST C1-9-11
TC-COUNTRY CLUB WEST 1-9-11
TC-COUNTRY CLUB WEST 2-9-11
TC-COUNTRY CLUB WEST C2-9-11
TC-COUNTRY CLUB WEST 3-9-11
TC-COUNTRY CLUB WEST 4-9-11
TC-COUNTRY CLUB WEST C3-9-11
TC-COUNTRY CLUB WEST 5-9-11
TC-AIMS 1-9-11
TC-AIMS C4-9-11
TC-AIMS 2-9-11
TC-AIMS 3-9-11
TC-AIMS C5-9-11
TC-AIMS 4-9-11
TC-HILAND KNOLLS 1-9-11
TC-HILAND KNOLLS C6-9-11
TC-HILAND KNOLLS 2-9-11
TC-HILAND KNOLLS 3-9-11
TC-HILAND KNOLLS C7-9-11
TC-HILAND KNOLLS 4-9-11
TC-PINNACLE PARK 1-9-11
TC-PINNACLE PARK C8-9-11
TC-PINNACLE PARK 2-9-11

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3680.0	3719.4	PARKMAN
4410.0	4468.0	SUSSEX
4820.0	4888.4	SHANNON
6940.0	7064.4	SHARON SPRINGS
6972.0	7099.5	NIOBRARA
7092.0	7243.0	NIO B TARGET
7260.0	7539.6	FORT HAYS
7285.0	7633.7	CODELL

Azimuths to True North
Magnetic North: 8.43°

Magnetic Field
Strength: 52613.5snT
Dip Angle: 66.91°
Date: 23/07/2015
Model: IGRF2015



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TC-AIMS C4-9-11
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4805.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4805.0usft (Original Well Elev)
Site:	NE SE SEC. 8 T5N R66W 6th P.M.	North Reference:	True
Well:	TC-AIMS C4-9-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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	NE SE SEC. 8 T5N R66W 6th P.M.		
Site Position:		Northing:	1,394,363.62 usft
From:	Lat/Long	Easting:	3,195,288.63 usft
Position Uncertainty:	0.0 usft	Slot Radius:	1.10000ft
		Latitude:	40.413810
		Longitude:	-104.798660
		Grid Convergence:	0.45 °

Well	TC-AIMS C4-9-11		
Well Position	+N/-S	207.6 usft	Northing:
	+E/-W	-5.6 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)
	IGRF2015	23/07/2015	8.43	66.91	52,614

Design	PROPOSAL #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	7,295.0	0.0	0.0	89.95

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	-4,805.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	-3,105.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,338.5	12.77	86.58	2,333.2	-2,471.8	4.2	70.7	2.00	2.00	0.00	86.58	
2,338.5	12.77	86.58	2,333.2	-2,471.8	4.2	70.7	10.00	9.40	-15.33	-19.83	
6,968.3	12.77	86.58	6,848.5	2,043.5	65.3	1,092.4	0.00	0.00	0.00	0.00	
7,740.9	90.00	90.26	7,295.0	2,490.0	69.3	1,651.3	10.00	10.00	0.48	3.78	LANDING PNT - TC
20,380.4	90.00	90.26	7,295.0	2,490.0	11.4	14,290.7	0.00	0.00	0.00	0.00	BHL - TC-AIMS C4-

Planning Report



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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4805.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4805.0usft (Original Well Elev)
Site:	NE SE SEC. 8 T5N R66W 6th P.M.	North Reference:	True
Well:	TC-AIMS C4-9-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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	4,805.00	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	4,705.00	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	4,605.00	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	4,505.00	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	4,405.00	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	4,305.00	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	4,205.00	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	4,105.00	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	4,005.00	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	3,905.00	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	3,805.00	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	3,705.00	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	3,605.00	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	3,505.00	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	3,405.00	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	3,305.00	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	3,205.00	0.0	0.0	0.0	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
1,700.0	0.00	0.00	1,700.0	3,105.00	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	2.00	86.58	1,800.0	3,005.02	0.1	1.7	1.7	2.00	2.00	0.00
1,900.0	4.00	86.58	1,899.8	2,905.16	0.4	7.0	7.0	2.00	2.00	0.00
2,000.0	6.00	86.58	1,999.5	2,805.55	0.9	15.7	15.7	2.00	2.00	0.00
2,100.0	8.00	86.58	2,098.7	2,706.30	1.7	27.8	27.8	2.00	2.00	0.00
2,200.0	10.00	86.58	2,197.5	2,607.53	2.6	43.4	43.4	2.00	2.00	0.00
2,300.0	12.00	86.58	2,295.6	2,509.38	3.7	62.5	62.5	2.00	2.00	0.00
EOB TO 12.77° INC										
2,338.5	12.77	86.58	2,333.2	2,471.77	4.2	70.7	70.7	2.00	2.00	0.00
2,400.0	12.77	86.58	2,393.2	2,411.79	5.0	84.3	84.3	0.00	0.00	0.00
2,500.0	12.77	86.58	2,490.7	2,314.27	6.4	106.4	106.4	0.00	0.00	0.00
2,600.0	12.77	86.58	2,588.3	2,216.74	7.7	128.4	128.4	0.00	0.00	0.00
2,700.0	12.77	86.58	2,685.8	2,119.22	9.0	150.5	150.5	0.00	0.00	0.00
2,800.0	12.77	86.58	2,783.3	2,021.69	10.3	172.6	172.6	0.00	0.00	0.00
2,900.0	12.77	86.58	2,880.8	1,924.17	11.6	194.6	194.7	0.00	0.00	0.00
3,000.0	12.77	86.58	2,978.4	1,826.64	13.0	216.7	216.7	0.00	0.00	0.00
3,100.0	12.77	86.58	3,075.9	1,729.11	14.3	238.8	238.8	0.00	0.00	0.00
3,200.0	12.77	86.58	3,173.4	1,631.59	15.6	260.8	260.9	0.00	0.00	0.00
3,300.0	12.77	86.58	3,270.9	1,534.06	16.9	282.9	282.9	0.00	0.00	0.00
3,400.0	12.77	86.58	3,368.5	1,436.54	18.2	305.0	305.0	0.00	0.00	0.00
3,500.0	12.77	86.58	3,466.0	1,339.01	19.6	327.0	327.1	0.00	0.00	0.00
3,600.0	12.77	86.58	3,563.5	1,241.48	20.9	349.1	349.1	0.00	0.00	0.00
3,700.0	12.77	86.58	3,661.0	1,143.96	22.2	371.2	371.2	0.00	0.00	0.00
PARKMAN										
3,719.4	12.77	86.58	3,680.0	1,125.00	22.5	375.5	375.5	0.00	0.00	0.00
3,800.0	12.77	86.58	3,758.6	1,046.43	23.5	393.2	393.3	0.00	0.00	0.00
3,900.0	12.77	86.58	3,856.1	948.91	24.8	415.3	415.3	0.00	0.00	0.00
4,000.0	12.77	86.58	3,953.6	851.38	26.2	437.4	437.4	0.00	0.00	0.00
4,100.0	12.77	86.58	4,051.1	753.86	27.5	459.5	459.5	0.00	0.00	0.00
4,200.0	12.77	86.58	4,148.7	656.33	28.8	481.5	481.5	0.00	0.00	0.00
4,300.0	12.77	86.58	4,246.2	558.80	30.1	503.6	503.6	0.00	0.00	0.00
4,400.0	12.77	86.58	4,343.7	461.28	31.4	525.7	525.7	0.00	0.00	0.00
SUSSEX										
4,468.0	12.77	86.58	4,410.0	395.00	32.3	540.6	540.7	0.00	0.00	0.00
4,500.0	12.77	86.58	4,441.2	363.75	32.8	547.7	547.7	0.00	0.00	0.00
4,600.0	12.77	86.58	4,538.8	266.23	34.1	569.8	569.8	0.00	0.00	0.00

Planning Report



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Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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)
4,700.0	12.77	86.58	4,636.3	168.70	35.4	591.9	591.9	0.00	0.00	0.00
4,800.0	12.77	86.58	4,733.8	71.17	36.7	613.9	614.0	0.00	0.00	0.00
SHANNON										
4,888.4	12.77	86.58	4,820.0	-15.00	37.9	633.4	633.5	0.00	0.00	0.00
4,900.0	12.77	86.58	4,831.4	-26.35	38.0	636.0	636.0	0.00	0.00	0.00
5,000.0	12.77	86.58	4,928.9	-123.88	39.4	658.1	658.1	0.00	0.00	0.00
5,100.0	12.77	86.58	5,026.4	-221.40	40.7	680.1	680.2	0.00	0.00	0.00
5,200.0	12.77	86.58	5,123.9	-318.93	42.0	702.2	702.2	0.00	0.00	0.00
5,300.0	12.77	86.58	5,221.5	-416.45	43.3	724.3	724.3	0.00	0.00	0.00
5,400.0	12.77	86.58	5,319.0	-513.98	44.6	746.3	746.4	0.00	0.00	0.00
5,500.0	12.77	86.58	5,416.5	-611.51	46.0	768.4	768.4	0.00	0.00	0.00
5,600.0	12.77	86.58	5,514.0	-709.03	47.3	790.5	790.5	0.00	0.00	0.00
5,700.0	12.77	86.58	5,611.6	-806.56	48.6	812.5	812.6	0.00	0.00	0.00
5,800.0	12.77	86.58	5,709.1	-904.08	49.9	834.6	834.6	0.00	0.00	0.00
5,900.0	12.77	86.58	5,806.6	-1,001.61	51.2	856.7	856.7	0.00	0.00	0.00
6,000.0	12.77	86.58	5,904.1	-1,099.14	52.6	878.7	878.8	0.00	0.00	0.00
6,100.0	12.77	86.58	6,001.7	-1,196.66	53.9	900.8	900.8	0.00	0.00	0.00
6,200.0	12.77	86.58	6,099.2	-1,294.19	55.2	922.9	922.9	0.00	0.00	0.00
6,300.0	12.77	86.58	6,196.7	-1,391.71	56.5	944.9	945.0	0.00	0.00	0.00
6,400.0	12.77	86.58	6,294.2	-1,489.24	57.8	967.0	967.0	0.00	0.00	0.00
6,500.0	12.77	86.58	6,391.8	-1,586.76	59.2	989.1	989.1	0.00	0.00	0.00
6,600.0	12.77	86.58	6,489.3	-1,684.29	60.5	1,011.1	1,011.2	0.00	0.00	0.00
6,700.0	12.77	86.58	6,586.8	-1,781.82	61.8	1,033.2	1,033.3	0.00	0.00	0.00
6,800.0	12.77	86.58	6,684.3	-1,879.34	63.1	1,055.3	1,055.3	0.00	0.00	0.00
6,900.0	12.77	86.58	6,781.9	-1,976.87	64.4	1,077.3	1,077.4	0.00	0.00	0.00
START BUILD & TURN										
6,968.3	12.77	86.58	6,848.5	-2,043.48	65.3	1,092.4	1,092.5	0.00	0.00	0.00
7,000.0	15.93	87.34	6,879.2	-2,074.19	65.7	1,100.3	1,100.3	10.00	9.98	2.40
SHARON SPRINGS										
7,064.4	22.37	88.23	6,940.0	-2,135.00	66.5	1,121.4	1,121.4	10.00	9.99	1.39
NIOBRARA										
7,099.5	25.87	88.54	6,972.0	-2,167.00	66.9	1,135.7	1,135.7	10.00	9.99	0.88
7,100.0	25.93	88.54	6,972.5	-2,167.47	66.9	1,135.9	1,136.0	10.00	9.99	0.76
7,200.0	35.92	89.11	7,058.1	-2,253.14	68.0	1,187.2	1,187.3	10.00	10.00	0.57
NIO B TARGET										
7,243.0	40.22	89.28	7,092.0	-2,287.00	68.3	1,213.7	1,213.8	10.00	10.00	0.38
7,300.0	45.92	89.45	7,133.6	-2,328.61	68.8	1,252.6	1,252.7	10.00	10.00	0.31
7,400.0	55.92	89.70	7,196.6	-2,391.57	69.3	1,330.2	1,330.2	10.00	10.00	0.24
7,500.0	65.92	89.89	7,245.1	-2,440.12	69.6	1,417.4	1,417.5	10.00	10.00	0.19
FORT HAYS										
7,539.6	69.87	89.96	7,260.0	-2,455.00	69.7	1,454.1	1,454.1	10.00	10.00	0.17
7,600.0	75.92	90.05	7,277.8	-2,472.77	69.7	1,511.8	1,511.9	10.00	10.00	0.16
CODELL										
7,633.7	79.28	90.10	7,285.0	-2,480.00	69.6	1,544.7	1,544.7	10.00	10.00	0.15
7,700.0	85.91	90.20	7,293.5	-2,488.54	69.4	1,610.4	1,610.5	10.00	10.00	0.15
LANDING PNT - TC-AIMS C4-9-11										
7,740.9	90.00	90.26	7,295.0	-2,490.00	69.3	1,651.3	1,651.4	9.99	9.99	0.15
7,800.0	90.00	90.26	7,295.0	-2,490.00	69.0	1,710.4	1,710.5	0.00	0.00	0.00
7,900.0	90.00	90.26	7,295.0	-2,490.00	68.6	1,810.4	1,810.5	0.00	0.00	0.00
8,000.0	90.00	90.26	7,295.0	-2,490.00	68.1	1,910.4	1,910.5	0.00	0.00	0.00
8,100.0	90.00	90.26	7,295.0	-2,490.00	67.6	2,010.4	2,010.5	0.00	0.00	0.00
8,200.0	90.00	90.26	7,295.0	-2,490.00	67.2	2,110.4	2,110.5	0.00	0.00	0.00
8,300.0	90.00	90.26	7,295.0	-2,490.00	66.7	2,210.4	2,210.5	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TC-AIMS C4-9-11
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4805.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4805.0usft (Original Well Elev)
Site:	NE SE SEC. 8 T5N R66W 6th P.M.	North Reference:	True
Well:	TC-AIMS C4-9-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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)
8,400.0	90.00	90.26	7,295.0	-2,490.00	66.3	2,310.4	2,310.5	0.00	0.00	0.00
8,500.0	90.00	90.26	7,295.0	-2,490.00	65.8	2,410.4	2,410.5	0.00	0.00	0.00
8,600.0	90.00	90.26	7,295.0	-2,490.00	65.4	2,510.4	2,510.5	0.00	0.00	0.00
8,700.0	90.00	90.26	7,295.0	-2,490.00	64.9	2,610.4	2,610.5	0.00	0.00	0.00
8,800.0	90.00	90.26	7,295.0	-2,490.00	64.4	2,710.4	2,710.5	0.00	0.00	0.00
8,900.0	90.00	90.26	7,295.0	-2,490.00	64.0	2,810.4	2,810.5	0.00	0.00	0.00
9,000.0	90.00	90.26	7,295.0	-2,490.00	63.5	2,910.4	2,910.4	0.00	0.00	0.00
9,100.0	90.00	90.26	7,295.0	-2,490.00	63.1	3,010.4	3,010.4	0.00	0.00	0.00
9,200.0	90.00	90.26	7,295.0	-2,490.00	62.6	3,110.4	3,110.4	0.00	0.00	0.00
9,300.0	90.00	90.26	7,295.0	-2,490.00	62.1	3,210.4	3,210.4	0.00	0.00	0.00
9,400.0	90.00	90.26	7,295.0	-2,490.00	61.7	3,310.4	3,310.4	0.00	0.00	0.00
9,500.0	90.00	90.26	7,295.0	-2,490.00	61.2	3,410.4	3,410.4	0.00	0.00	0.00
9,600.0	90.00	90.26	7,295.0	-2,490.00	60.8	3,510.4	3,510.4	0.00	0.00	0.00
9,700.0	90.00	90.26	7,295.0	-2,490.00	60.3	3,610.4	3,610.4	0.00	0.00	0.00
9,800.0	90.00	90.26	7,295.0	-2,490.00	59.9	3,710.4	3,710.4	0.00	0.00	0.00
9,900.0	90.00	90.26	7,295.0	-2,490.00	59.4	3,810.4	3,810.4	0.00	0.00	0.00
10,000.0	90.00	90.26	7,295.0	-2,490.00	58.9	3,910.4	3,910.4	0.00	0.00	0.00
10,100.0	90.00	90.26	7,295.0	-2,490.00	58.5	4,010.4	4,010.4	0.00	0.00	0.00
10,200.0	90.00	90.26	7,295.0	-2,490.00	58.0	4,110.4	4,110.4	0.00	0.00	0.00
10,300.0	90.00	90.26	7,295.0	-2,490.00	57.6	4,210.4	4,210.4	0.00	0.00	0.00
10,400.0	90.00	90.26	7,295.0	-2,490.00	57.1	4,310.4	4,310.4	0.00	0.00	0.00
10,500.0	90.00	90.26	7,295.0	-2,490.00	56.7	4,410.4	4,410.4	0.00	0.00	0.00
10,600.0	90.00	90.26	7,295.0	-2,490.00	56.2	4,510.4	4,510.4	0.00	0.00	0.00
10,700.0	90.00	90.26	7,295.0	-2,490.00	55.7	4,610.4	4,610.4	0.00	0.00	0.00
10,800.0	90.00	90.26	7,295.0	-2,490.00	55.3	4,710.4	4,710.4	0.00	0.00	0.00
10,900.0	90.00	90.26	7,295.0	-2,490.00	54.8	4,810.4	4,810.4	0.00	0.00	0.00
11,000.0	90.00	90.26	7,295.0	-2,490.00	54.4	4,910.4	4,910.4	0.00	0.00	0.00
11,100.0	90.00	90.26	7,295.0	-2,490.00	53.9	5,010.4	5,010.4	0.00	0.00	0.00
11,200.0	90.00	90.26	7,295.0	-2,490.00	53.4	5,110.4	5,110.4	0.00	0.00	0.00
11,300.0	90.00	90.26	7,295.0	-2,490.00	53.0	5,210.4	5,210.4	0.00	0.00	0.00
11,400.0	90.00	90.26	7,295.0	-2,490.00	52.5	5,310.4	5,310.4	0.00	0.00	0.00
11,500.0	90.00	90.26	7,295.0	-2,490.00	52.1	5,410.4	5,410.4	0.00	0.00	0.00
11,600.0	90.00	90.26	7,295.0	-2,490.00	51.6	5,510.4	5,510.4	0.00	0.00	0.00
11,700.0	90.00	90.26	7,295.0	-2,490.00	51.2	5,610.4	5,610.4	0.00	0.00	0.00
11,800.0	90.00	90.26	7,295.0	-2,490.00	50.7	5,710.4	5,710.4	0.00	0.00	0.00
11,900.0	90.00	90.26	7,295.0	-2,490.00	50.2	5,810.4	5,810.4	0.00	0.00	0.00
12,000.0	90.00	90.26	7,295.0	-2,490.00	49.8	5,910.4	5,910.4	0.00	0.00	0.00
12,100.0	90.00	90.26	7,295.0	-2,490.00	49.3	6,010.4	6,010.4	0.00	0.00	0.00
12,200.0	90.00	90.26	7,295.0	-2,490.00	48.9	6,110.4	6,110.4	0.00	0.00	0.00
12,300.0	90.00	90.26	7,295.0	-2,490.00	48.4	6,210.4	6,210.4	0.00	0.00	0.00
12,400.0	90.00	90.26	7,295.0	-2,490.00	48.0	6,310.4	6,310.4	0.00	0.00	0.00
12,500.0	90.00	90.26	7,295.0	-2,490.00	47.5	6,410.4	6,410.4	0.00	0.00	0.00
12,600.0	90.00	90.26	7,295.0	-2,490.00	47.0	6,510.4	6,510.4	0.00	0.00	0.00
12,700.0	90.00	90.26	7,295.0	-2,490.00	46.6	6,610.4	6,610.4	0.00	0.00	0.00
12,800.0	90.00	90.26	7,295.0	-2,490.00	46.1	6,710.4	6,710.4	0.00	0.00	0.00
12,900.0	90.00	90.26	7,295.0	-2,490.00	45.7	6,810.4	6,810.4	0.00	0.00	0.00
13,000.0	90.00	90.26	7,295.0	-2,490.00	45.2	6,910.4	6,910.4	0.00	0.00	0.00
13,100.0	90.00	90.26	7,295.0	-2,490.00	44.8	7,010.4	7,010.4	0.00	0.00	0.00
13,200.0	90.00	90.26	7,295.0	-2,490.00	44.3	7,110.4	7,110.4	0.00	0.00	0.00
13,300.0	90.00	90.26	7,295.0	-2,490.00	43.8	7,210.4	7,210.4	0.00	0.00	0.00
13,400.0	90.00	90.26	7,295.0	-2,490.00	43.4	7,310.4	7,310.4	0.00	0.00	0.00
13,500.0	90.00	90.26	7,295.0	-2,490.00	42.9	7,410.4	7,410.4	0.00	0.00	0.00
13,600.0	90.00	90.26	7,295.0	-2,490.00	42.5	7,510.4	7,510.4	0.00	0.00	0.00
13,700.0	90.00	90.26	7,295.0	-2,490.00	42.0	7,610.4	7,610.4	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TC-AIMS C4-9-11
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4805.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4805.0usft (Original Well Elev)
Site:	NE SE SEC. 8 T5N R66W 6th P.M.	North Reference:	True
Well:	TC-AIMS C4-9-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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)
13,800.0	90.00	90.26	7,295.0	-2,490.00	41.5	7,710.3	7,710.4	0.00	0.00	0.00
13,900.0	90.00	90.26	7,295.0	-2,490.00	41.1	7,810.3	7,810.4	0.00	0.00	0.00
14,000.0	90.00	90.26	7,295.0	-2,490.00	40.6	7,910.3	7,910.4	0.00	0.00	0.00
14,100.0	90.00	90.26	7,295.0	-2,490.00	40.2	8,010.3	8,010.4	0.00	0.00	0.00
14,200.0	90.00	90.26	7,295.0	-2,490.00	39.7	8,110.3	8,110.4	0.00	0.00	0.00
14,300.0	90.00	90.26	7,295.0	-2,490.00	39.3	8,210.3	8,210.4	0.00	0.00	0.00
14,400.0	90.00	90.26	7,295.0	-2,490.00	38.8	8,310.3	8,310.4	0.00	0.00	0.00
14,500.0	90.00	90.26	7,295.0	-2,490.00	38.3	8,410.3	8,410.4	0.00	0.00	0.00
14,600.0	90.00	90.26	7,295.0	-2,490.00	37.9	8,510.3	8,510.4	0.00	0.00	0.00
14,700.0	90.00	90.26	7,295.0	-2,490.00	37.4	8,610.3	8,610.4	0.00	0.00	0.00
14,800.0	90.00	90.26	7,295.0	-2,490.00	37.0	8,710.3	8,710.4	0.00	0.00	0.00
14,900.0	90.00	90.26	7,295.0	-2,490.00	36.5	8,810.3	8,810.4	0.00	0.00	0.00
15,000.0	90.00	90.26	7,295.0	-2,490.00	36.1	8,910.3	8,910.4	0.00	0.00	0.00
15,100.0	90.00	90.26	7,295.0	-2,490.00	35.6	9,010.3	9,010.4	0.00	0.00	0.00
15,200.0	90.00	90.26	7,295.0	-2,490.00	35.1	9,110.3	9,110.4	0.00	0.00	0.00
15,300.0	90.00	90.26	7,295.0	-2,490.00	34.7	9,210.3	9,210.4	0.00	0.00	0.00
15,400.0	90.00	90.26	7,295.0	-2,490.00	34.2	9,310.3	9,310.4	0.00	0.00	0.00
15,500.0	90.00	90.26	7,295.0	-2,490.00	33.8	9,410.3	9,410.4	0.00	0.00	0.00
15,600.0	90.00	90.26	7,295.0	-2,490.00	33.3	9,510.3	9,510.4	0.00	0.00	0.00
15,700.0	90.00	90.26	7,295.0	-2,490.00	32.9	9,610.3	9,610.4	0.00	0.00	0.00
15,800.0	90.00	90.26	7,295.0	-2,490.00	32.4	9,710.3	9,710.4	0.00	0.00	0.00
15,900.0	90.00	90.26	7,295.0	-2,490.00	31.9	9,810.3	9,810.3	0.00	0.00	0.00
16,000.0	90.00	90.26	7,295.0	-2,490.00	31.5	9,910.3	9,910.3	0.00	0.00	0.00
16,100.0	90.00	90.26	7,295.0	-2,490.00	31.0	10,010.3	10,010.3	0.00	0.00	0.00
16,200.0	90.00	90.26	7,295.0	-2,490.00	30.6	10,110.3	10,110.3	0.00	0.00	0.00
16,300.0	90.00	90.26	7,295.0	-2,490.00	30.1	10,210.3	10,210.3	0.00	0.00	0.00
16,400.0	90.00	90.26	7,295.0	-2,490.00	29.6	10,310.3	10,310.3	0.00	0.00	0.00
16,500.0	90.00	90.26	7,295.0	-2,490.00	29.2	10,410.3	10,410.3	0.00	0.00	0.00
16,600.0	90.00	90.26	7,295.0	-2,490.00	28.7	10,510.3	10,510.3	0.00	0.00	0.00
16,700.0	90.00	90.26	7,295.0	-2,490.00	28.3	10,610.3	10,610.3	0.00	0.00	0.00
16,800.0	90.00	90.26	7,295.0	-2,490.00	27.8	10,710.3	10,710.3	0.00	0.00	0.00
16,900.0	90.00	90.26	7,295.0	-2,490.00	27.4	10,810.3	10,810.3	0.00	0.00	0.00
17,000.0	90.00	90.26	7,295.0	-2,490.00	26.9	10,910.3	10,910.3	0.00	0.00	0.00
17,100.0	90.00	90.26	7,295.0	-2,490.00	26.4	11,010.3	11,010.3	0.00	0.00	0.00
17,200.0	90.00	90.26	7,295.0	-2,490.00	26.0	11,110.3	11,110.3	0.00	0.00	0.00
17,300.0	90.00	90.26	7,295.0	-2,490.00	25.5	11,210.3	11,210.3	0.00	0.00	0.00
17,400.0	90.00	90.26	7,295.0	-2,490.00	25.1	11,310.3	11,310.3	0.00	0.00	0.00
17,500.0	90.00	90.26	7,295.0	-2,490.00	24.6	11,410.3	11,410.3	0.00	0.00	0.00
17,600.0	90.00	90.26	7,295.0	-2,490.00	24.2	11,510.3	11,510.3	0.00	0.00	0.00
17,700.0	90.00	90.26	7,295.0	-2,490.00	23.7	11,610.3	11,610.3	0.00	0.00	0.00
17,800.0	90.00	90.26	7,295.0	-2,490.00	23.2	11,710.3	11,710.3	0.00	0.00	0.00
17,900.0	90.00	90.26	7,295.0	-2,490.00	22.8	11,810.3	11,810.3	0.00	0.00	0.00
18,000.0	90.00	90.26	7,295.0	-2,490.00	22.3	11,910.3	11,910.3	0.00	0.00	0.00
18,100.0	90.00	90.26	7,295.0	-2,490.00	21.9	12,010.3	12,010.3	0.00	0.00	0.00
18,200.0	90.00	90.26	7,295.0	-2,490.00	21.4	12,110.3	12,110.3	0.00	0.00	0.00
18,300.0	90.00	90.26	7,295.0	-2,490.00	21.0	12,210.3	12,210.3	0.00	0.00	0.00
18,400.0	90.00	90.26	7,295.0	-2,490.00	20.5	12,310.3	12,310.3	0.00	0.00	0.00
18,500.0	90.00	90.26	7,295.0	-2,490.00	20.0	12,410.3	12,410.3	0.00	0.00	0.00
18,600.0	90.00	90.26	7,295.0	-2,490.00	19.6	12,510.3	12,510.3	0.00	0.00	0.00
18,700.0	90.00	90.26	7,295.0	-2,490.00	19.1	12,610.3	12,610.3	0.00	0.00	0.00
18,800.0	90.00	90.26	7,295.0	-2,490.00	18.7	12,710.3	12,710.3	0.00	0.00	0.00
18,900.0	90.00	90.26	7,295.0	-2,490.00	18.2	12,810.3	12,810.3	0.00	0.00	0.00
19,000.0	90.00	90.26	7,295.0	-2,490.00	17.7	12,910.3	12,910.3	0.00	0.00	0.00
19,100.0	90.00	90.26	7,295.0	-2,490.00	17.3	13,010.3	13,010.3	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well TC-AIMS C4-9-11
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4805.0usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4805.0usft (Original Well Elev)
Site:	NE SE SEC. 8 T5N R66W 6th P.M.	North Reference:	True
Well:	TC-AIMS C4-9-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

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)
19,200.0	90.00	90.26	7,295.0	-2,490.00	16.8	13,110.3	13,110.3	0.00	0.00	0.00
19,300.0	90.00	90.26	7,295.0	-2,490.00	16.4	13,210.3	13,210.3	0.00	0.00	0.00
19,400.0	90.00	90.26	7,295.0	-2,490.00	15.9	13,310.3	13,310.3	0.00	0.00	0.00
19,500.0	90.00	90.26	7,295.0	-2,490.00	15.5	13,410.3	13,410.3	0.00	0.00	0.00
19,600.0	90.00	90.26	7,295.0	-2,490.00	15.0	13,510.3	13,510.3	0.00	0.00	0.00
19,700.0	90.00	90.26	7,295.0	-2,490.00	14.5	13,610.3	13,610.3	0.00	0.00	0.00
19,800.0	90.00	90.26	7,295.0	-2,490.00	14.1	13,710.3	13,710.3	0.00	0.00	0.00
19,900.0	90.00	90.26	7,295.0	-2,490.00	13.6	13,810.3	13,810.3	0.00	0.00	0.00
20,000.0	90.00	90.26	7,295.0	-2,490.00	13.2	13,910.3	13,910.3	0.00	0.00	0.00
20,100.0	90.00	90.26	7,295.0	-2,490.00	12.7	14,010.3	14,010.3	0.00	0.00	0.00
20,200.0	90.00	90.26	7,295.0	-2,490.00	12.3	14,110.3	14,110.3	0.00	0.00	0.00
20,300.0	90.00	90.26	7,295.0	-2,490.00	11.8	14,210.3	14,210.3	0.00	0.00	0.00
BHL - TC-AIMS C4-9-11										
20,380.4	90.00	90.26	7,295.0	-2,490.00	11.4	14,290.7	14,290.7	0.00	0.00	0.00

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,719.4	3,680.0	PARKMAN				
4,468.0	4,410.0	SUSSEX				
4,888.4	4,820.0	SHANNON				
7,064.4	6,940.0	SHARON SPRINGS				
7,099.5	6,972.0	NIOBRARA				
7,243.0	7,092.0	NIO B TARGET				
7,539.6	7,260.0	FORT HAYS				
7,633.7	7,285.0	CODELL				

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,700.0	1,700.0	0.0	0.0	START NUDGE (2°/100ft BUR)
2,338.5	2,333.2	4.2	70.7	EOB TO 12.77° INC
6,968.3	6,848.5	65.3	1,092.4	START BUILD & TURN
7,740.9	7,295.0	69.3	1,651.3	LANDING PNT - TC-AIMS C4-9-11
20,380.4	7,295.0	11.4	14,290.7	BHL - TC-AIMS C4-9-11