

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

1N-67W-11 Leinweber 27-11 Pad

LEINWEBER 37N-11HZ

Plan A

Plan: Permit Rev-1

Standard Planning Report

20 May, 2016



Azimuths to True North
Magnetic North: 8.22°

Magnetic Field
Strength: 52430.2snT
Dip Angle: 66.60°
Date: 5/19/2016
Model: IGRF2010

SITE: 1N-67W-11 Leinweber 27-11 Pad

Well: LEINWEBER 37N-11HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1333.00	1339.75	Fox Hills
4217.00	4335.07	Parkman
4522.00	4644.40	Sussex
7218.00	7410.65	Sharon Springs
7253.00	7468.68	Niobrara
7354.00	7733.74	Nio B

WELL DETAILS: LEINWEBER 37N-11HZ

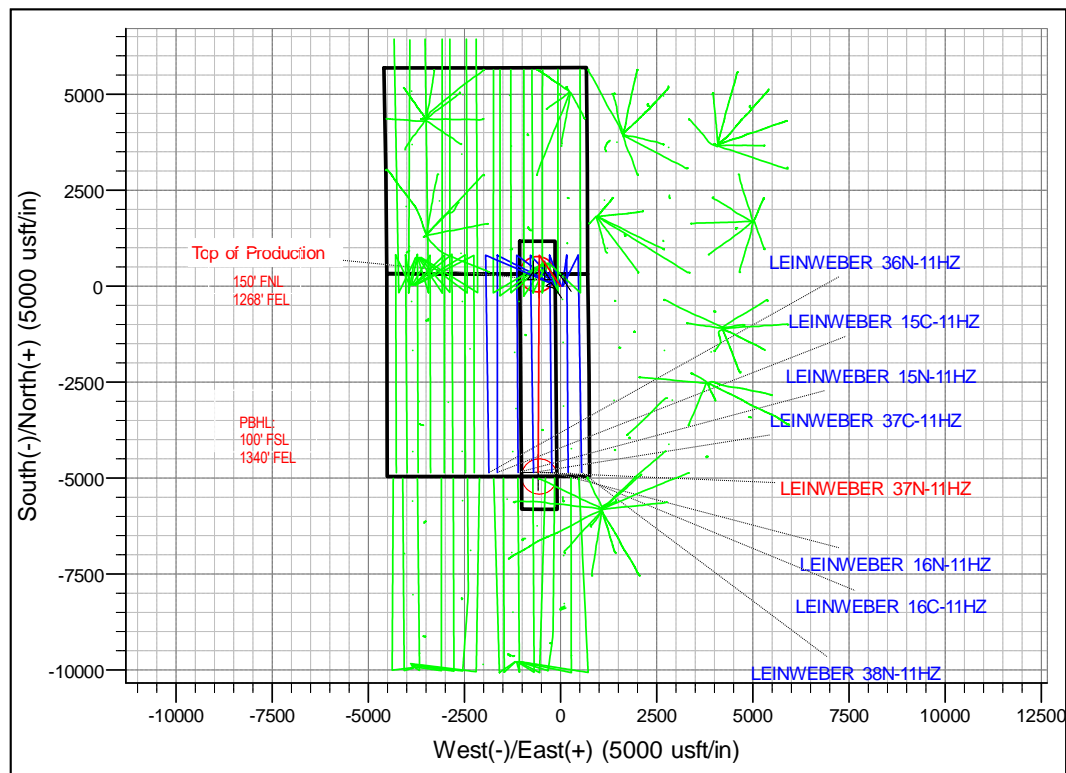
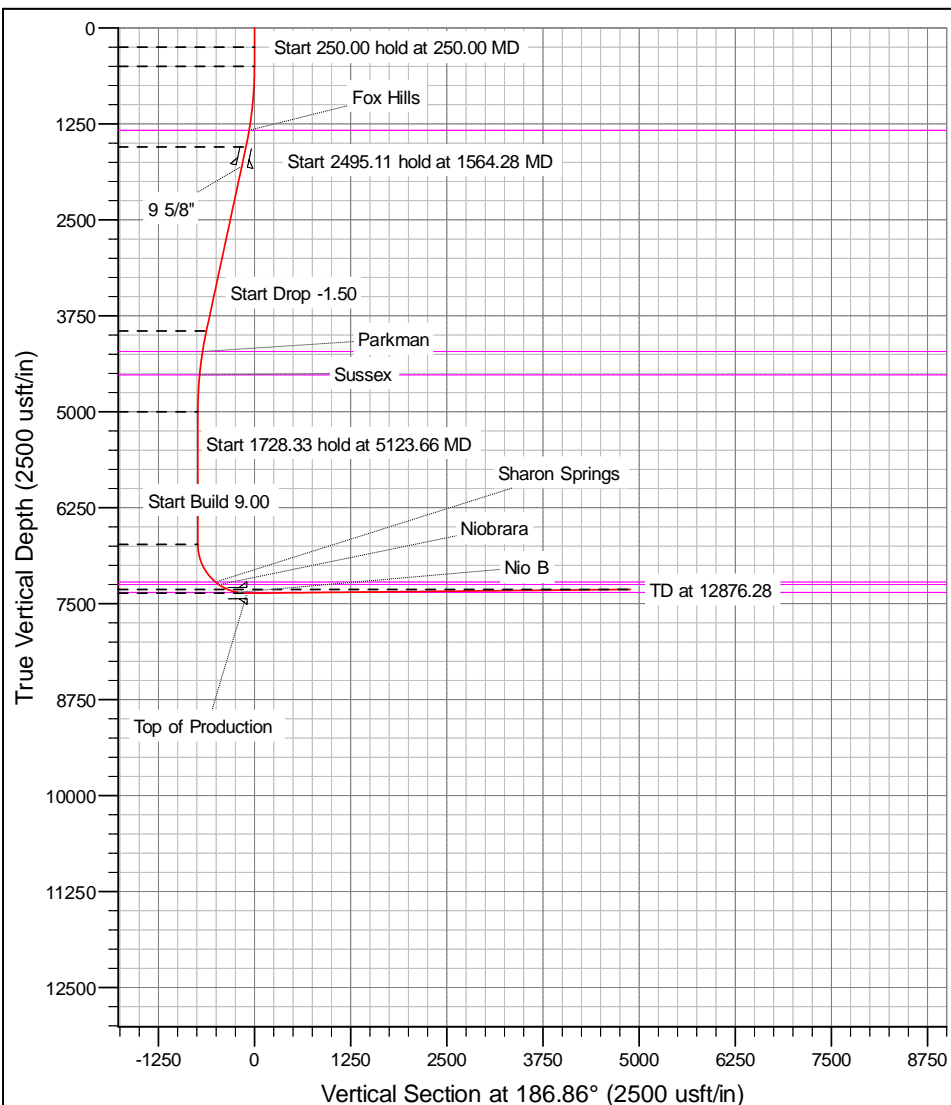
+N/-S	+E/-W	GL: 4965.00	RKB @ 4982.00usft (D Rig)	Longitude	Slot
0.00	0.00	Northing 14552948.66	Easting 1682034.73	Latitude 40.071896	

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00
1564.28	15.96	325.46	1550.56	121.35	-83.52	1.50	-110.50
4059.38	15.96	325.46	3949.44	686.65	-472.57	0.00	-625.26
5123.66	0.00	0.00	5000.00	808.00	-556.09	1.50	-735.75
6851.99	0.00	0.00	6728.33	808.00	-556.09	0.00	-735.75
7858.33	90.57	180.28	7364.92	165.05	-559.27	9.00	-97.04
12876.28	90.57	180.28	7315.00	-4852.59	-584.09	0.00	4887.62

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LEINWEBER 37N-11HZ_PBHL	7315.00	-4852.59	-584.09	14548095.09	1681458.75	40.058570	-104.853322



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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well LEINWEBER 37N-11HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4982.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4982.00usft (D Rig)
Site:	1N-67W-11 Leinweber 27-11 Pad	North Reference:	True
Well:	LEINWEBER 37N-11HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Project	WELD-NAD83-UTMFT13N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site		1N-67W-11 Leinweber 27-11 Pad			
Site Position:		Northing:	14,552,949.23 usft	Latitude:	40.071898
From:	Lat/Long	Easting:	1,681,944.92 usft	Longitude:	-104.851556
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.10 °

Well	LEINWEBER 37N-11HZ					
Well Position	+N/-S	-0.73 usft	Northing:	14,552,948.65 usft	Latitude:	40.071896
	+E/-W	89.80 usft	Easting:	1,682,034.72 usft	Longitude:	-104.851235
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,965.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/19/2016	8.22	66.60	52,430

Design	Permit Rev-1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	186.86

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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,564.28	15.96	325.46	1,550.56	121.35	-83.52	1.50	1.50	0.00	325.46	
4,059.38	15.96	325.46	3,949.44	686.65	-472.57	0.00	0.00	0.00	0.00	
5,123.66	0.00	0.00	5,000.00	808.00	-556.09	1.50	-1.50	0.00	180.00	
6,851.99	0.00	0.00	6,728.33	808.00	-556.09	0.00	0.00	0.00	0.00	
7,858.33	90.57	180.28	7,364.92	165.05	-559.27	9.00	9.00	0.00	180.28	
12,876.28	90.57	180.28	7,315.00	-4,852.59	-584.09	0.00	0.00	0.00	0.00	LEINWEBER 37N-1

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well LEINWEBER 37N-11HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4982.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4982.00usft (D Rig)
Site:	1N-67W-11 Leinweber 27-11 Pad	North Reference:	True
Well:	LEINWEBER 37N-11HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

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
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	1.50	325.46	599.99	1.08	-0.74	-0.98	1.50	1.50	0.00
700.00	3.00	325.46	699.91	4.31	-2.97	-3.93	1.50	1.50	0.00
800.00	4.50	325.46	799.69	9.70	-6.68	-8.83	1.50	1.50	0.00
900.00	6.00	325.46	899.27	17.24	-11.86	-15.70	1.50	1.50	0.00
1,000.00	7.50	325.46	998.57	26.92	-18.53	-24.51	1.50	1.50	0.00
1,100.00	9.00	325.46	1,097.54	38.74	-26.66	-35.28	1.50	1.50	0.00
1,200.00	10.50	325.46	1,196.09	52.69	-36.26	-47.98	1.50	1.50	0.00
1,300.00	12.00	325.46	1,294.16	68.76	-47.32	-62.61	1.50	1.50	0.00
1,339.75	12.60	325.46	1,333.00	75.73	-52.12	-68.96	1.50	1.50	0.00
Fox Hills									
1,400.00	13.50	325.46	1,391.70	86.94	-59.83	-79.17	1.50	1.50	0.00
1,500.00	15.00	325.46	1,488.62	107.22	-73.79	-97.63	1.50	1.50	0.00
1,564.28	15.96	325.46	1,550.56	121.35	-83.52	-110.50	1.50	1.50	0.00
1,600.00	15.96	325.46	1,584.91	129.44	-89.09	-117.87	0.00	0.00	0.00
1,700.00	15.96	325.46	1,681.05	152.10	-104.68	-138.50	0.00	0.00	0.00
1,800.00	15.96	325.46	1,777.19	174.76	-120.27	-159.13	0.00	0.00	0.00
1,823.72	15.96	325.46	1,800.00	180.13	-123.97	-164.02	0.00	0.00	0.00
9 5/8"									
1,900.00	15.96	325.46	1,873.34	197.41	-135.87	-179.76	0.00	0.00	0.00
2,000.00	15.96	325.46	1,969.48	220.07	-151.46	-200.39	0.00	0.00	0.00
2,100.00	15.96	325.46	2,065.62	242.72	-167.05	-221.02	0.00	0.00	0.00
2,200.00	15.96	325.46	2,161.77	265.38	-182.64	-241.65	0.00	0.00	0.00
2,300.00	15.96	325.46	2,257.91	288.04	-198.24	-262.28	0.00	0.00	0.00
2,400.00	15.96	325.46	2,354.05	310.69	-213.83	-282.91	0.00	0.00	0.00
2,500.00	15.96	325.46	2,450.20	333.35	-229.42	-303.54	0.00	0.00	0.00
2,600.00	15.96	325.46	2,546.34	356.01	-245.01	-324.18	0.00	0.00	0.00
2,700.00	15.96	325.46	2,642.48	378.66	-260.61	-344.81	0.00	0.00	0.00
2,800.00	15.96	325.46	2,738.63	401.32	-276.20	-365.44	0.00	0.00	0.00
2,900.00	15.96	325.46	2,834.77	423.98	-291.79	-386.07	0.00	0.00	0.00
3,000.00	15.96	325.46	2,930.91	446.63	-307.39	-406.70	0.00	0.00	0.00
3,100.00	15.96	325.46	3,027.06	469.29	-322.98	-427.33	0.00	0.00	0.00
3,200.00	15.96	325.46	3,123.20	491.95	-338.57	-447.96	0.00	0.00	0.00
3,300.00	15.96	325.46	3,219.34	514.60	-354.16	-468.59	0.00	0.00	0.00
3,400.00	15.96	325.46	3,315.49	537.26	-369.76	-489.22	0.00	0.00	0.00
3,500.00	15.96	325.46	3,411.63	559.91	-385.35	-509.85	0.00	0.00	0.00
3,600.00	15.96	325.46	3,507.77	582.57	-400.94	-530.48	0.00	0.00	0.00
3,700.00	15.96	325.46	3,603.92	605.23	-416.54	-551.11	0.00	0.00	0.00
3,800.00	15.96	325.46	3,700.06	627.88	-432.13	-571.74	0.00	0.00	0.00
3,900.00	15.96	325.46	3,796.20	650.54	-447.72	-592.37	0.00	0.00	0.00
4,000.00	15.96	325.46	3,892.35	673.20	-463.31	-613.00	0.00	0.00	0.00
4,059.38	15.96	325.46	3,949.44	686.65	-472.57	-625.26	0.00	0.00	0.00
4,100.00	15.35	325.46	3,988.55	695.68	-478.79	-633.48	1.50	-1.50	0.00
4,200.00	13.85	325.46	4,085.31	716.45	-493.08	-652.39	1.50	-1.50	0.00
4,300.00	12.35	325.46	4,182.71	735.13	-505.94	-669.40	1.50	-1.50	0.00
4,335.07	11.83	325.46	4,217.00	741.18	-510.10	-674.91	1.50	-1.50	0.00
Parkman									

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well LEINWEBER 37N-11HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4982.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4982.00usft (D Rig)
Site:	1N-67W-11 Leinweber 27-11 Pad	North Reference:	True
Well:	LEINWEBER 37N-11HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

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)
4,400.00	10.85	325.46	4,280.66	751.70	-517.34	-684.49	1.50	-1.50	0.00
4,500.00	9.35	325.46	4,379.11	766.15	-527.29	-697.65	1.50	-1.50	0.00
4,600.00	7.85	325.46	4,477.98	778.48	-535.77	-708.87	1.50	-1.50	0.00
4,644.40	7.19	325.46	4,522.00	783.27	-539.07	-713.23	1.50	-1.50	0.00
Sussex									
4,700.00	6.35	325.46	4,577.21	788.67	-542.78	-718.15	1.50	-1.50	0.00
4,800.00	4.85	325.46	4,676.73	796.71	-548.32	-725.47	1.50	-1.50	0.00
4,900.00	3.35	325.46	4,776.47	802.61	-552.38	-730.84	1.50	-1.50	0.00
5,000.00	1.85	325.46	4,876.36	806.35	-554.96	-734.25	1.50	-1.50	0.00
5,100.00	0.35	325.46	4,976.34	807.94	-556.05	-735.70	1.50	-1.50	0.00
5,123.66	0.00	0.00	5,000.00	808.00	-556.09	-735.75	1.50	-1.50	0.00
5,200.00	0.00	0.00	5,076.34	808.00	-556.09	-735.75	0.00	0.00	0.00
5,300.00	0.00	0.00	5,176.34	808.00	-556.09	-735.75	0.00	0.00	0.00
5,400.00	0.00	0.00	5,276.34	808.00	-556.09	-735.75	0.00	0.00	0.00
5,500.00	0.00	0.00	5,376.34	808.00	-556.09	-735.75	0.00	0.00	0.00
5,600.00	0.00	0.00	5,476.34	808.00	-556.09	-735.75	0.00	0.00	0.00
5,700.00	0.00	0.00	5,576.34	808.00	-556.09	-735.75	0.00	0.00	0.00
5,800.00	0.00	0.00	5,676.34	808.00	-556.09	-735.75	0.00	0.00	0.00
5,900.00	0.00	0.00	5,776.34	808.00	-556.09	-735.75	0.00	0.00	0.00
6,000.00	0.00	0.00	5,876.34	808.00	-556.09	-735.75	0.00	0.00	0.00
6,100.00	0.00	0.00	5,976.34	808.00	-556.09	-735.75	0.00	0.00	0.00
6,200.00	0.00	0.00	6,076.34	808.00	-556.09	-735.75	0.00	0.00	0.00
6,300.00	0.00	0.00	6,176.34	808.00	-556.09	-735.75	0.00	0.00	0.00
6,400.00	0.00	0.00	6,276.34	808.00	-556.09	-735.75	0.00	0.00	0.00
6,500.00	0.00	0.00	6,376.34	808.00	-556.09	-735.75	0.00	0.00	0.00
6,600.00	0.00	0.00	6,476.34	808.00	-556.09	-735.75	0.00	0.00	0.00
6,700.00	0.00	0.00	6,576.34	808.00	-556.09	-735.75	0.00	0.00	0.00
6,800.00	0.00	0.00	6,676.34	808.00	-556.09	-735.75	0.00	0.00	0.00
6,851.99	0.00	0.00	6,728.33	808.00	-556.09	-735.75	0.00	0.00	0.00
6,900.00	4.32	180.28	6,776.29	806.19	-556.10	-733.96	9.00	9.00	0.00
7,000.00	13.32	180.28	6,875.01	790.87	-556.17	-718.74	9.00	9.00	0.00
7,100.00	22.32	180.28	6,970.11	760.30	-556.33	-688.37	9.00	9.00	0.00
7,200.00	31.32	180.28	7,059.26	715.23	-556.55	-643.59	9.00	9.00	0.00
7,300.00	40.32	180.28	7,140.27	656.76	-556.84	-585.51	9.00	9.00	0.00
7,400.00	49.32	180.28	7,211.12	586.35	-557.19	-515.56	9.00	9.00	0.00
7,410.65	50.28	180.28	7,218.00	578.21	-557.23	-507.48	9.00	9.00	0.00
Sharon Springs									
7,468.68	55.50	180.28	7,253.00	531.95	-557.46	-461.52	9.00	9.00	0.00
Niobrara									
7,500.00	58.32	180.28	7,270.10	505.71	-557.59	-435.46	9.00	9.00	0.00
7,600.00	67.32	180.28	7,315.73	416.85	-558.02	-347.17	9.00	9.00	0.00
7,700.00	76.32	180.28	7,346.89	321.94	-558.49	-252.89	9.00	9.00	0.00
7,733.74	79.36	180.28	7,354.00	288.96	-558.66	-220.13	9.00	9.00	0.00
Nio B									
7,800.00	85.32	180.28	7,362.83	223.32	-558.98	-154.92	9.00	9.00	0.00
7,858.33	90.57	180.28	7,364.92	165.05	-559.27	-97.03	9.00	9.00	0.00
Top of Production - LEINWEBER 37N-11HZ_PHL									
7,900.00	90.57	180.28	7,364.51	123.38	-559.48	-55.64	0.00	0.00	0.00
8,000.00	90.57	180.28	7,363.51	23.39	-559.97	43.70	0.00	0.00	0.00
8,100.00	90.57	180.28	7,362.52	-76.60	-560.47	143.03	0.00	0.00	0.00
8,200.00	90.57	180.28	7,361.52	-176.60	-560.96	242.37	0.00	0.00	0.00
8,300.00	90.57	180.28	7,360.53	-276.59	-561.45	341.71	0.00	0.00	0.00
8,400.00	90.57	180.28	7,359.53	-376.59	-561.95	441.04	0.00	0.00	0.00
8,500.00	90.57	180.28	7,358.54	-476.58	-562.44	540.38	0.00	0.00	0.00

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well LEINWEBER 37N-11HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4982.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4982.00usft (D Rig)
Site:	1N-67W-11 Leinweber 27-11 Pad	North Reference:	True
Well:	LEINWEBER 37N-11HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

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)
8,600.00	90.57	180.28	7,357.54	-576.57	-562.94	639.72	0.00	0.00	0.00
8,700.00	90.57	180.28	7,356.55	-676.57	-563.43	739.05	0.00	0.00	0.00
8,800.00	90.57	180.28	7,355.55	-776.56	-563.93	838.39	0.00	0.00	0.00
8,900.00	90.57	180.28	7,354.56	-876.56	-564.42	937.72	0.00	0.00	0.00
9,000.00	90.57	180.28	7,353.56	-976.55	-564.92	1,037.06	0.00	0.00	0.00
9,100.00	90.57	180.28	7,352.57	-1,076.54	-565.41	1,136.40	0.00	0.00	0.00
9,200.00	90.57	180.28	7,351.57	-1,176.54	-565.91	1,235.73	0.00	0.00	0.00
9,300.00	90.57	180.28	7,350.58	-1,276.53	-566.40	1,335.07	0.00	0.00	0.00
9,400.00	90.57	180.28	7,349.58	-1,376.52	-566.90	1,434.41	0.00	0.00	0.00
9,500.00	90.57	180.28	7,348.59	-1,476.52	-567.39	1,533.74	0.00	0.00	0.00
9,600.00	90.57	180.28	7,347.59	-1,576.51	-567.88	1,633.08	0.00	0.00	0.00
9,700.00	90.57	180.28	7,346.60	-1,676.51	-568.38	1,732.42	0.00	0.00	0.00
9,800.00	90.57	180.28	7,345.60	-1,776.50	-568.87	1,831.75	0.00	0.00	0.00
9,900.00	90.57	180.28	7,344.61	-1,876.49	-569.37	1,931.09	0.00	0.00	0.00
10,000.00	90.57	180.28	7,343.61	-1,976.49	-569.86	2,030.42	0.00	0.00	0.00
10,100.00	90.57	180.28	7,342.62	-2,076.48	-570.36	2,129.76	0.00	0.00	0.00
10,200.00	90.57	180.28	7,341.62	-2,176.48	-570.85	2,229.10	0.00	0.00	0.00
10,300.00	90.57	180.28	7,340.63	-2,276.47	-571.35	2,328.43	0.00	0.00	0.00
10,400.00	90.57	180.28	7,339.63	-2,376.46	-571.84	2,427.77	0.00	0.00	0.00
10,500.00	90.57	180.28	7,338.64	-2,476.46	-572.34	2,527.11	0.00	0.00	0.00
10,600.00	90.57	180.28	7,337.65	-2,576.45	-572.83	2,626.44	0.00	0.00	0.00
10,700.00	90.57	180.28	7,336.65	-2,676.44	-573.33	2,725.78	0.00	0.00	0.00
10,800.00	90.57	180.28	7,335.66	-2,776.44	-573.82	2,825.12	0.00	0.00	0.00
10,900.00	90.57	180.28	7,334.66	-2,876.43	-574.31	2,924.45	0.00	0.00	0.00
11,000.00	90.57	180.28	7,333.67	-2,976.43	-574.81	3,023.79	0.00	0.00	0.00
11,100.00	90.57	180.28	7,332.67	-3,076.42	-575.30	3,123.12	0.00	0.00	0.00
11,200.00	90.57	180.28	7,331.68	-3,176.41	-575.80	3,222.46	0.00	0.00	0.00
11,300.00	90.57	180.28	7,330.68	-3,276.41	-576.29	3,321.80	0.00	0.00	0.00
11,400.00	90.57	180.28	7,329.69	-3,376.40	-576.79	3,421.13	0.00	0.00	0.00
11,500.00	90.57	180.28	7,328.69	-3,476.39	-577.28	3,520.47	0.00	0.00	0.00
11,600.00	90.57	180.28	7,327.70	-3,576.39	-577.78	3,619.81	0.00	0.00	0.00
11,700.00	90.57	180.28	7,326.70	-3,676.38	-578.27	3,719.14	0.00	0.00	0.00
11,800.00	90.57	180.28	7,325.71	-3,776.38	-578.77	3,818.48	0.00	0.00	0.00
11,900.00	90.57	180.28	7,324.71	-3,876.37	-579.26	3,917.82	0.00	0.00	0.00
12,000.00	90.57	180.28	7,323.72	-3,976.36	-579.76	4,017.15	0.00	0.00	0.00
12,100.00	90.57	180.28	7,322.72	-4,076.36	-580.25	4,116.49	0.00	0.00	0.00
12,200.00	90.57	180.28	7,321.73	-4,176.35	-580.74	4,215.82	0.00	0.00	0.00
12,300.00	90.57	180.28	7,320.73	-4,276.35	-581.24	4,315.16	0.00	0.00	0.00
12,400.00	90.57	180.28	7,319.74	-4,376.34	-581.73	4,414.50	0.00	0.00	0.00
12,500.00	90.57	180.28	7,318.74	-4,476.33	-582.23	4,513.83	0.00	0.00	0.00
12,600.00	90.57	180.28	7,317.75	-4,576.33	-582.72	4,613.17	0.00	0.00	0.00
12,700.00	90.57	180.28	7,316.75	-4,676.32	-583.22	4,712.51	0.00	0.00	0.00
12,800.00	90.57	180.28	7,315.76	-4,776.31	-583.71	4,811.84	0.00	0.00	0.00
12,876.28	90.57	180.28	7,315.00	-4,852.59	-584.09	4,887.62	0.00	0.00	0.00
LEINWEBER 37N-11HZ_PBHL									

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well LEINWEBER 37N-11HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4982.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4982.00usft (D Rig)
Site:	1N-67W-11 Leinweber 27-11 Pad	North Reference:	True
Well:	LEINWEBER 37N-11HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
LEINWEBER 37N-11H - plan hits target center - Point	0.00	0.00	7,315.00	-4,852.59	-584.09	14,548,095.09	1,681,458.75	40.058570	-104.853323
LEINWEBER 37N-11H - plan hits target center - Point	0.00	0.00	7,364.92	165.05	-559.27	14,553,112.77	1,681,475.18	40.072349	-104.853234

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,823.72	1,800.00	9 5/8"	9-5/8	13-1/2	
7,858.33	7,364.92	Top of Production	5-1/2	8-1/2	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,339.75	1,333.00	Fox Hills				
4,335.07	4,217.00	Parkman				
4,644.40	4,522.00	Sussex				
7,410.65	7,218.00	Sharon Springs				
7,468.68	7,253.00	Niobrara				
7,733.74	7,354.00	Nio B				