

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

VIPER PAD

VIPER PYRO 39N-10HZ

Plan A

Plan: PERMIT REV-2

Sperry Drilling Services Proposal Report

05 January, 2015

Well Coordinates: 14,610,989.18 N, 1,672,429.86 E (40° 13' 52.76" N, 104° 53' 07.08" W)

Ground Level: 4,793.00 usft

Local Coordinate Origin:

Centered on Well VIPER PYRO 39N-10HZ

Viewing Datum:

RKB = 17' @ 4810.00usft (Drilling Rig)

TVDs to System:

N

North Reference:

True

Unit System:

Dec-Deg - API - US Survey Feet - Custom

Version: 5000.1 Build: 70

HALLIBURTON

Project: WELD-NAD83-UTMFT13N
Site: VIPER PAD
Well: VIPER PYRO 39N-10HZ
Wellbore: Plan A
Design: PERMIT REV-2

US ROCKIES WATTENBERG PLANNING

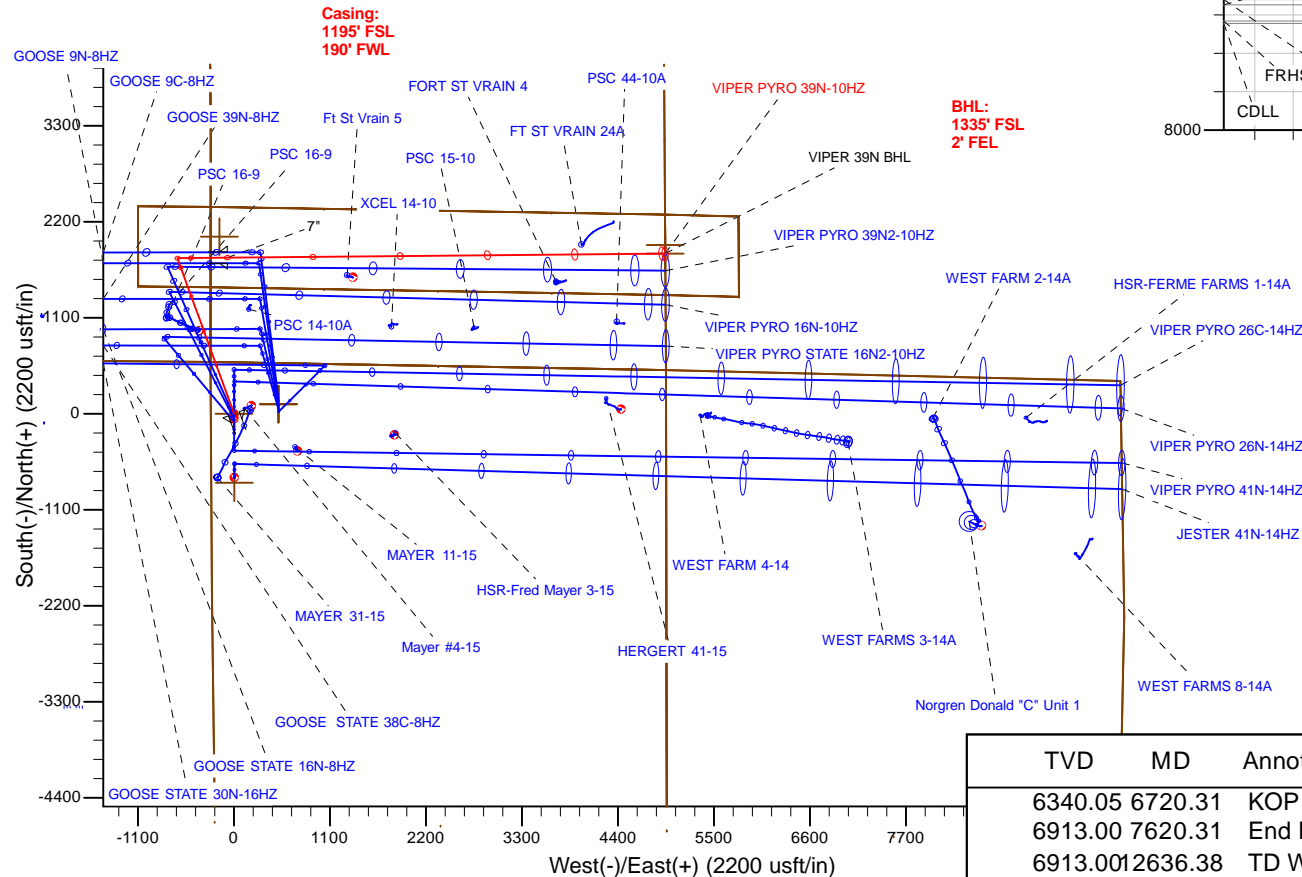
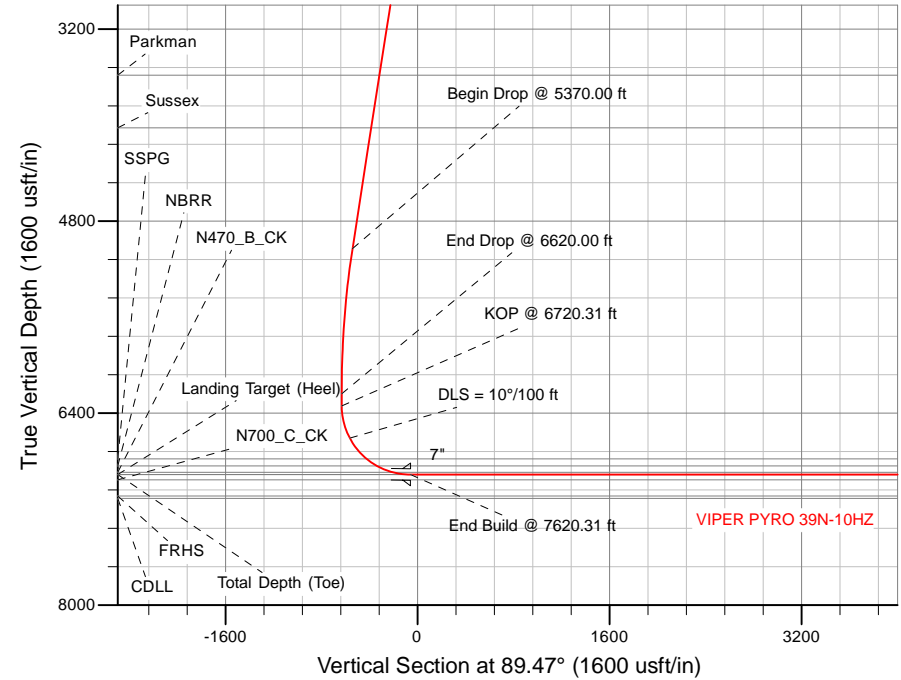
HALLIBURTON
Sperry Drilling

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	
3	2150.00	25.00	340.00	2110.71	252.22	-91.80	2.00	340.00	-89.46	
4	5370.00	25.00	340.00	5029.02	1530.98	-557.23	0.00	0.00	-543.05	
5	6620.00	0.00	0.00	6239.74	1783.21	-649.03	2.00	180.00	-632.51	
6	6720.31	0.00	0.00	6340.05	1783.21	-649.03	0.00	0.00	-632.51	
7	7620.31	90.00	89.47	6913.00	1788.50	-76.10	10.00	89.47	-59.55	
8	12636.38	90.00	89.47	6913.00	1834.89	4939.76	0.00	0.00	4956.52	VIPER 39N BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N-S	+E-W	Latitude	Longitude	Shape
3N-R67W-Sec. 10_Section Lines	0.00	110.71	509.08	40.231625	-104.883476	Polygon
3N-R67W-Sec. 14_Section Lines	0.00	-789.85	4.47	40.229152	-104.885284	Polygon
3N-R67W-Sec. 15_Section Lines	0.00	110.71	509.08	40.231625	-104.883476	Polygon
3N-R67W-Sec. 9_Section Lines	0.00	110.71	509.08	40.231625	-104.883476	Polygon
VIPER 39N SHL	0.00	0.00	0.00	40.231321	-104.885300	Polygon
VIPER 39N BHL	6913.00	1834.89	4939.76	40.236358	-104.867600	Point



TVD MD Annotation

6340.05 6720.31 KOP @ 6720.31 ft
6913.00 7620.31 End Build @ 7620.31 ft
6913.00 12636.38 TD Well @ 12636.38 ft

WELL DETAILS: VIPER PYRO 39N-10HZ

Ground Level: 4793.00

RKB = 17' @ 4810.00usft (Drilling Rig)

Plan: PERMIT REV-2 (VIPER PYRO 39N-10HZ/Plan A)

Created By: Katie Benner

Date: 1/5/2015

Reviewed:

Date:

Plan Report for VIPER PYRO 39N-10HZ - PERMIT REV-2

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)	Toolface Azimuth (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tie On to Surface @ 0.00 ft - 3N-R67W-Sec. 9_Section Lines - VIPER 39N SHL - 3N-R67W-Sec. 15_Section Lines - 3N-R67W-Sec. 14_Section Lines -										
100.00	0.00	0.00	100.00	0.00	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	0.00
300.00	0.00	0.00	300.00	0.00	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	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
743.00	0.00	0.00	743.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"										
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Nudge @ 900.00 ft										
1,000.00	2.00	340.00	999.98	1.64	-0.60	-0.58	2.00	2.00	0.00	340.00
1,100.00	4.00	340.00	1,099.84	6.56	-2.39	-2.33	2.00	2.00	0.00	0.00
1,200.00	6.00	340.00	1,199.45	14.75	-5.37	-5.23	2.00	2.00	0.00	0.00
1,300.00	8.00	340.00	1,298.70	26.20	-9.54	-9.29	2.00	2.00	0.00	0.00
1,400.00	10.00	340.00	1,397.47	40.90	-14.89	-14.51	2.00	2.00	0.00	0.00
1,500.00	12.00	340.00	1,495.62	58.83	-21.41	-20.87	2.00	2.00	0.00	0.00
1,600.00	14.00	340.00	1,593.06	79.96	-29.10	-28.36	2.00	2.00	0.00	0.00
1,700.00	16.00	340.00	1,689.64	104.28	-37.96	-36.99	2.00	2.00	0.00	0.00
1,800.00	18.00	340.00	1,785.27	131.76	-47.96	-46.73	2.00	2.00	0.00	0.00
1,900.00	20.00	340.00	1,879.82	162.35	-59.09	-57.59	2.00	2.00	0.00	0.00
2,000.00	22.00	340.00	1,973.17	196.02	-71.35	-69.53	2.00	2.00	0.00	0.00
2,100.00	24.00	340.00	2,065.21	232.74	-84.71	-82.55	2.00	2.00	0.00	0.00
2,150.00	25.00	340.00	2,110.71	252.22	-91.80	-89.46	2.00	2.00	0.00	0.00
End Nudge @ 2150.00 ft										
2,200.00	25.00	340.00	2,156.03	272.08	-99.03	-96.51	0.00	0.00	0.00	0.00
2,300.00	25.00	340.00	2,246.66	311.79	-113.48	-110.59	0.00	0.00	0.00	0.00
2,400.00	25.00	340.00	2,337.29	351.50	-127.94	-124.68	0.00	0.00	0.00	0.00
2,500.00	25.00	340.00	2,427.92	391.22	-142.39	-138.77	0.00	0.00	0.00	0.00
2,600.00	25.00	340.00	2,518.55	430.93	-156.85	-152.85	0.00	0.00	0.00	0.00
2,700.00	25.00	340.00	2,609.18	470.64	-171.30	-166.94	0.00	0.00	0.00	0.00
2,800.00	25.00	340.00	2,699.81	510.36	-185.75	-181.03	0.00	0.00	0.00	0.00
2,900.00	25.00	340.00	2,790.44	550.07	-200.21	-195.11	0.00	0.00	0.00	0.00
3,000.00	25.00	340.00	2,881.07	589.78	-214.66	-209.20	0.00	0.00	0.00	0.00
3,100.00	25.00	340.00	2,971.70	629.50	-229.12	-223.29	0.00	0.00	0.00	0.00
3,200.00	25.00	340.00	3,062.34	669.21	-243.57	-237.37	0.00	0.00	0.00	0.00
3,300.00	25.00	340.00	3,152.97	708.92	-258.03	-251.46	0.00	0.00	0.00	0.00
3,400.00	25.00	340.00	3,243.60	748.64	-272.48	-265.54	0.00	0.00	0.00	0.00
3,500.00	25.00	340.00	3,334.23	788.35	-286.94	-279.63	0.00	0.00	0.00	0.00
3,600.00	25.00	340.00	3,424.86	828.06	-301.39	-293.72	0.00	0.00	0.00	0.00
3,700.00	25.00	340.00	3,515.49	867.77	-315.84	-307.80	0.00	0.00	0.00	0.00
3,775.59	25.00	340.00	3,584.00	897.80	-326.77	-318.45	0.00	0.00	0.00	0.00
Parkman										
3,800.00	25.00	340.00	3,606.12	907.49	-330.30	-321.89	0.00	0.00	0.00	0.00
3,900.00	25.00	340.00	3,696.75	947.20	-344.75	-335.98	0.00	0.00	0.00	0.00
4,000.00	25.00	340.00	3,787.38	986.91	-359.21	-350.06	0.00	0.00	0.00	0.00
4,100.00	25.00	340.00	3,878.01	1,026.63	-373.66	-364.15	0.00	0.00	0.00	0.00
4,200.00	25.00	340.00	3,968.64	1,066.34	-388.12	-378.24	0.00	0.00	0.00	0.00
4,259.98	25.00	340.00	4,023.00	1,090.16	-396.79	-386.68	0.00	0.00	0.00	0.00
Sussex										
4,300.00	25.00	340.00	4,059.27	1,106.05	-402.57	-392.32	0.00	0.00	0.00	0.00
4,400.00	25.00	340.00	4,149.90	1,145.77	-417.02	-406.41	0.00	0.00	0.00	0.00
4,500.00	25.00	340.00	4,240.54	1,185.48	-431.48	-420.50	0.00	0.00	0.00	0.00
4,600.00	25.00	340.00	4,331.17	1,225.19	-445.93	-434.58	0.00	0.00	0.00	0.00
4,700.00	25.00	340.00	4,421.80	1,264.91	-460.39	-448.67	0.00	0.00	0.00	0.00

Plan Report for VIPER PYRO 39N-10HZ - PERMIT REV-2

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)	Toolface Azimuth (°)
4,800.00	25.00	340.00	4,512.43	1,304.62	-474.84	-462.75	0.00	0.00	0.00	0.00
4,900.00	25.00	340.00	4,603.06	1,344.33	-489.30	-476.84	0.00	0.00	0.00	0.00
5,000.00	25.00	340.00	4,693.69	1,384.05	-503.75	-490.93	0.00	0.00	0.00	0.00
5,100.00	25.00	340.00	4,784.32	1,423.76	-518.21	-505.01	0.00	0.00	0.00	0.00
5,200.00	25.00	340.00	4,874.95	1,463.47	-532.66	-519.10	0.00	0.00	0.00	0.00
5,300.00	25.00	340.00	4,965.58	1,503.18	-547.11	-533.19	0.00	0.00	0.00	0.00
5,370.00	25.00	340.00	5,029.02	1,530.98	-557.23	-543.05	0.00	0.00	0.00	0.00
Begin Drop @ 5370.00 ft										
5,400.00	24.40	340.00	5,056.28	1,542.76	-561.52	-547.23	2.00	-2.00	0.00	180.00
5,500.00	22.40	340.00	5,148.05	1,580.08	-575.10	-560.46	2.00	-2.00	0.00	180.00
5,600.00	20.40	340.00	5,241.15	1,614.37	-587.58	-572.62	2.00	-2.00	0.00	180.00
5,700.00	18.40	340.00	5,335.47	1,645.58	-598.94	-583.69	2.00	-2.00	0.00	180.00
5,800.00	16.40	340.00	5,430.89	1,673.68	-609.17	-593.66	2.00	-2.00	0.00	180.00
5,900.00	14.40	340.00	5,527.29	1,698.63	-618.25	-602.51	2.00	-2.00	0.00	180.00
6,000.00	12.40	340.00	5,624.56	1,720.41	-626.18	-610.24	2.00	-2.00	0.00	180.00
6,100.00	10.40	340.00	5,722.59	1,738.98	-632.94	-616.82	2.00	-2.00	0.00	180.00
6,200.00	8.40	340.00	5,821.24	1,754.33	-638.52	-622.27	2.00	-2.00	0.00	180.00
6,300.00	6.40	340.00	5,920.40	1,766.43	-642.93	-626.56	2.00	-2.00	0.00	180.00
6,400.00	4.40	340.00	6,019.95	1,775.27	-646.15	-629.70	2.00	-2.00	0.00	180.00
6,500.00	2.40	340.00	6,119.77	1,780.84	-648.17	-631.67	2.00	-2.00	0.00	180.00
6,600.00	0.40	340.00	6,219.74	1,783.14	-649.01	-632.49	2.00	-2.00	0.00	180.00
6,620.00	0.00	0.00	6,239.74	1,783.21	-649.03	-632.51	2.00	-2.00	100.00	180.00
End Drop @ 6620.00 ft										
6,700.00	0.00	0.00	6,319.74	1,783.21	-649.03	-632.51	0.00	0.00	0.00	180.00
6,720.31	0.00	0.00	6,340.05	1,783.21	-649.03	-632.51	0.00	0.00	0.00	0.00
KOP @ 6720.31 ft										
6,800.00	7.97	89.47	6,419.48	1,783.26	-643.50	-626.98	10.00	10.00	0.00	89.47
6,900.00	17.97	89.47	6,516.80	1,783.46	-621.09	-604.56	10.00	10.00	0.00	0.00
7,000.00	27.97	89.47	6,608.76	1,783.82	-582.12	-565.59	10.00	10.00	0.00	0.00
DLS = 10°/100 ft										
7,100.00	37.97	89.47	6,692.55	1,784.33	-527.77	-511.24	10.00	10.00	0.00	0.00
7,200.00	47.97	89.47	6,765.63	1,784.96	-459.70	-443.17	10.00	10.00	0.00	0.00
7,223.50	50.32	89.47	6,781.00	1,785.12	-441.93	-425.39	10.00	10.00	0.00	0.00
SSPG										
7,300.00	57.97	89.47	6,825.78	1,785.69	-379.97	-363.44	10.00	10.00	0.00	0.00
7,327.91	60.76	89.47	6,840.00	1,785.92	-355.96	-339.42	10.00	10.00	0.00	0.00
NBRR										
7,400.00	67.97	89.47	6,871.17	1,786.52	-291.01	-274.47	10.00	10.00	0.00	0.00
7,468.47	74.82	89.47	6,893.00	1,787.12	-226.17	-209.63	10.00	10.00	0.00	0.00
N470_B_CK										
7,500.00	77.97	89.47	6,900.42	1,787.40	-195.52	-178.98	10.00	10.00	0.00	0.00
7,531.10	81.08	89.47	6,906.07	1,787.68	-164.95	-148.41	10.00	10.00	0.00	0.00
VIPER 39N PH										
7,600.00	87.97	89.47	6,912.64	1,788.32	-96.41	-79.86	10.00	10.00	0.00	0.00
7,620.31	90.00	89.47	6,913.00	1,788.50	-76.10	-59.55	10.00	10.00	0.00	0.00
End Build @ 7620.31 ft - Landing Target (Heel) - 7"										
7,700.00	90.00	89.47	6,913.00	1,789.24	3.59	20.14	0.00	0.00	0.00	0.00
7,800.00	90.00	89.47	6,913.00	1,790.17	103.58	120.14	0.00	0.00	0.00	0.00
7,900.00	90.00	89.47	6,913.00	1,791.09	203.58	220.14	0.00	0.00	0.00	0.00
8,000.00	90.00	89.47	6,913.00	1,792.02	303.57	320.14	0.00	0.00	0.00	0.00
8,100.00	90.00	89.47	6,913.00	1,792.94	403.57	420.14	0.00	0.00	0.00	0.00
8,200.00	90.00	89.47	6,913.00	1,793.86	503.56	520.14	0.00	0.00	0.00	0.00
8,300.00	90.00	89.47	6,913.00	1,794.79	603.56	620.14	0.00	0.00	0.00	0.00
8,400.00	90.00	89.47	6,913.00	1,795.71	703.56	720.14	0.00	0.00	0.00	0.00
8,500.00	90.00	89.47	6,913.00	1,796.64	803.55	820.14	0.00	0.00	0.00	0.00
8,600.00	90.00	89.47	6,913.00	1,797.56	903.55	920.14	0.00	0.00	0.00	0.00
8,700.00	90.00	89.47	6,913.00	1,798.49	1,003.54	1,020.14	0.00	0.00	0.00	0.00
8,800.00	90.00	89.47	6,913.00	1,799.41	1,103.54	1,120.14	0.00	0.00	0.00	0.00

Plan Report for VIPER PYRO 39N-10HZ - PERMIT REV-2

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)	Toolface Azimuth (°)
8,900.00	90.00	89.47	6,913.00	1,800.34	1,203.53	1,220.14	0.00	0.00	0.00	0.00
9,000.00	90.00	89.47	6,913.00	1,801.26	1,303.53	1,320.14	0.00	0.00	0.00	0.00
9,100.00	90.00	89.47	6,913.00	1,802.19	1,403.53	1,420.14	0.00	0.00	0.00	0.00
9,200.00	90.00	89.47	6,913.00	1,803.11	1,503.52	1,520.14	0.00	0.00	0.00	0.00
9,300.00	90.00	89.47	6,913.00	1,804.04	1,603.52	1,620.14	0.00	0.00	0.00	0.00
9,400.00	90.00	89.47	6,913.00	1,804.96	1,703.51	1,720.14	0.00	0.00	0.00	0.00
9,500.00	90.00	89.47	6,913.00	1,805.89	1,803.51	1,820.14	0.00	0.00	0.00	0.00
9,600.00	90.00	89.47	6,913.00	1,806.81	1,903.50	1,920.14	0.00	0.00	0.00	0.00
9,700.00	90.00	89.47	6,913.00	1,807.74	2,003.50	2,020.14	0.00	0.00	0.00	0.00
9,800.00	90.00	89.47	6,913.00	1,808.66	2,103.50	2,120.14	0.00	0.00	0.00	0.00
9,900.00	90.00	89.47	6,913.00	1,809.59	2,203.49	2,220.14	0.00	0.00	0.00	0.00
10,000.00	90.00	89.47	6,913.00	1,810.51	2,303.49	2,320.14	0.00	0.00	0.00	0.00
10,100.00	90.00	89.47	6,913.00	1,811.43	2,403.48	2,420.14	0.00	0.00	0.00	0.00
10,200.00	90.00	89.47	6,913.00	1,812.36	2,503.48	2,520.14	0.00	0.00	0.00	0.00
10,300.00	90.00	89.47	6,913.00	1,813.28	2,603.47	2,620.14	0.00	0.00	0.00	0.00
10,400.00	90.00	89.47	6,913.00	1,814.21	2,703.47	2,720.14	0.00	0.00	0.00	0.00
10,500.00	90.00	89.47	6,913.00	1,815.13	2,803.47	2,820.14	0.00	0.00	0.00	0.00
10,600.00	90.00	89.47	6,913.00	1,816.06	2,903.46	2,920.14	0.00	0.00	0.00	0.00
10,700.00	90.00	89.47	6,913.00	1,816.98	3,003.46	3,020.14	0.00	0.00	0.00	0.00
10,800.00	90.00	89.47	6,913.00	1,817.91	3,103.45	3,120.14	0.00	0.00	0.00	0.00
10,900.00	90.00	89.47	6,913.00	1,818.83	3,203.45	3,220.14	0.00	0.00	0.00	0.00
11,000.00	90.00	89.47	6,913.00	1,819.76	3,303.44	3,320.14	0.00	0.00	0.00	0.00
11,100.00	90.00	89.47	6,913.00	1,820.68	3,403.44	3,420.14	0.00	0.00	0.00	0.00
11,200.00	90.00	89.47	6,913.00	1,821.61	3,503.44	3,520.14	0.00	0.00	0.00	0.00
11,300.00	90.00	89.47	6,913.00	1,822.53	3,603.43	3,620.14	0.00	0.00	0.00	0.00
11,400.00	90.00	89.47	6,913.00	1,823.46	3,703.43	3,720.14	0.00	0.00	0.00	0.00
11,500.00	90.00	89.47	6,913.00	1,824.38	3,803.42	3,820.14	0.00	0.00	0.00	0.00
11,600.00	90.00	89.47	6,913.00	1,825.31	3,903.42	3,920.14	0.00	0.00	0.00	0.00
11,700.00	90.00	89.47	6,913.00	1,826.23	4,003.42	4,020.14	0.00	0.00	0.00	0.00
11,800.00	90.00	89.47	6,913.00	1,827.16	4,103.41	4,120.14	0.00	0.00	0.00	0.00
11,900.00	90.00	89.47	6,913.00	1,828.08	4,203.41	4,220.14	0.00	0.00	0.00	0.00
12,000.00	90.00	89.47	6,913.00	1,829.01	4,303.40	4,320.14	0.00	0.00	0.00	0.00
12,100.00	90.00	89.47	6,913.00	1,829.93	4,403.40	4,420.14	0.00	0.00	0.00	0.00
12,200.00	90.00	89.47	6,913.00	1,830.85	4,503.39	4,520.14	0.00	0.00	0.00	0.00
12,300.00	90.00	89.47	6,913.00	1,831.78	4,603.39	4,620.14	0.00	0.00	0.00	0.00
12,400.00	90.00	89.47	6,913.00	1,832.70	4,703.39	4,720.14	0.00	0.00	0.00	0.00
12,500.00	90.00	89.47	6,913.00	1,833.63	4,803.38	4,820.14	0.00	0.00	0.00	0.00
12,600.00	90.00	89.47	6,913.00	1,834.55	4,903.38	4,920.14	0.00	0.00	0.00	0.00
12,636.38	90.00	89.47	6,913.00	1,834.89	4,939.76	4,956.52	0.00	0.00	0.00	0.00

TD Well @ 12636.38 ft - Total Depth (Toe) - VIPER 39N BHL - VIPER 39N PBHL

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
+N/-S (usft)	+E/-W (usft)			
0.00	0.00	0.00	0.00	Tie On to Surface @ 0.00 ft
900.00	900.00	0.00	0.00	Begin Nudge @ 900.00 ft
2,150.00	2,110.71	252.22	-91.80	End Nudge @ 2150.00 ft
5,370.00	5,029.02	1,530.98	-557.23	Begin Drop @ 5370.00 ft
6,620.00	6,239.74	1,783.21	-649.03	End Drop @ 6620.00 ft
6,720.31	6,340.05	1,783.21	-649.03	KOP @ 6720.31 ft
7,000.00	6,608.76	1,783.82	-582.12	DLS = 10°/100 ft
7,620.31	6,913.00	1,788.50	-76.10	End Build @ 7620.31 ft
12,636.38	6,913.00	1,834.89	4,939.76	TD Well @ 12636.38 ft

Plan Report for VIPER PYRO 39N-10HZ - PERMIT REV-2

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/_S (usft)	Origin +E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	89.47	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,620.31	PERMIT REV-2	MWD+IFR+MS
7,620.31	12,636.38	PERMIT REV-2	MWD+IFR+MS

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
743.00	743.00	9 5/8"	9-5/8	13-1/2
7,620.31	6,913.00	7"	7	8-3/4

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,775.59	3,584.00	Parkman		0.00	
4,259.98	4,023.00	Sussex		0.00	
7,223.50	6,781.00	SSPG		0.00	
7,327.91	6,840.00	NBRR		0.00	
7,468.47	6,893.00	N470_B_CK		0.00	
7,620.31	6,913.00	Landing Target (Heel)		0.00	
12,636.38	6,913.00	Total Depth (Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
3N-R67W-Sec. 9_Section Lines	0.00	110.71	509.08	Polygon
VIPER 39N BHL	6,913.00	1,834.89	4,939.76	Point
VIPER 39N PBHL	6,913.00	1,934.89	4,939.76	Point
VIPER 39N SHL	0.00	0.00	0.00	Polygon
3N-R67W-Sec. 15_Section Lines	0.00	110.71	509.08	Polygon
VIPER 39N PH	6,913.00	2,027.98	-168.01	Point
3N-R67W-Sec. 14_Section Lines	0.00	-789.85	4.47	Polygon
3N-R67W-Sec. 10_Section Lines	0.00	110.71	509.08	Polygon

North Reference Sheet for VIPER PAD - VIPER PYRO 39N-10HZ - Plan A

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference .
 Vertical Depths are relative to RKB = 17' @ 4810.00usft (Drilling Rig). Northing and Easting are relative to VIPER PYRO 39N-10HZ
 Coordinate System is Universal Transverse Mercator (US Survey Feet), Zone 13N (108 W to 102 W) using datum North American Datum 1983, ellipsoid
 Projection method is Transverse Mercator (Gauss-Kruger)
 Central Meridian is -105.00°, Longitude Origin:0.000000°, Latitude Origin:0.000000°
 False Easting: 1,640,416.67usft, False Northing: 0.00usft, Scale Reduction: 0.99960117

Grid Coordinates of Well: 14,610,989.18 usft N, 1,672,429.86 usft E
 Geographical Coordinates of Well: 40° 13' 52.76" N, 104° 53' 07.08" W
 Grid Convergence at Surface is: 0.07°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,636.38usft
 the Bottom Hole Displacement is 5,269.54usft in the Direction of 69.62° (True).
 Magnetic Convergence at surface is: -8.36° (30 December 2014, , IGRF2010)

