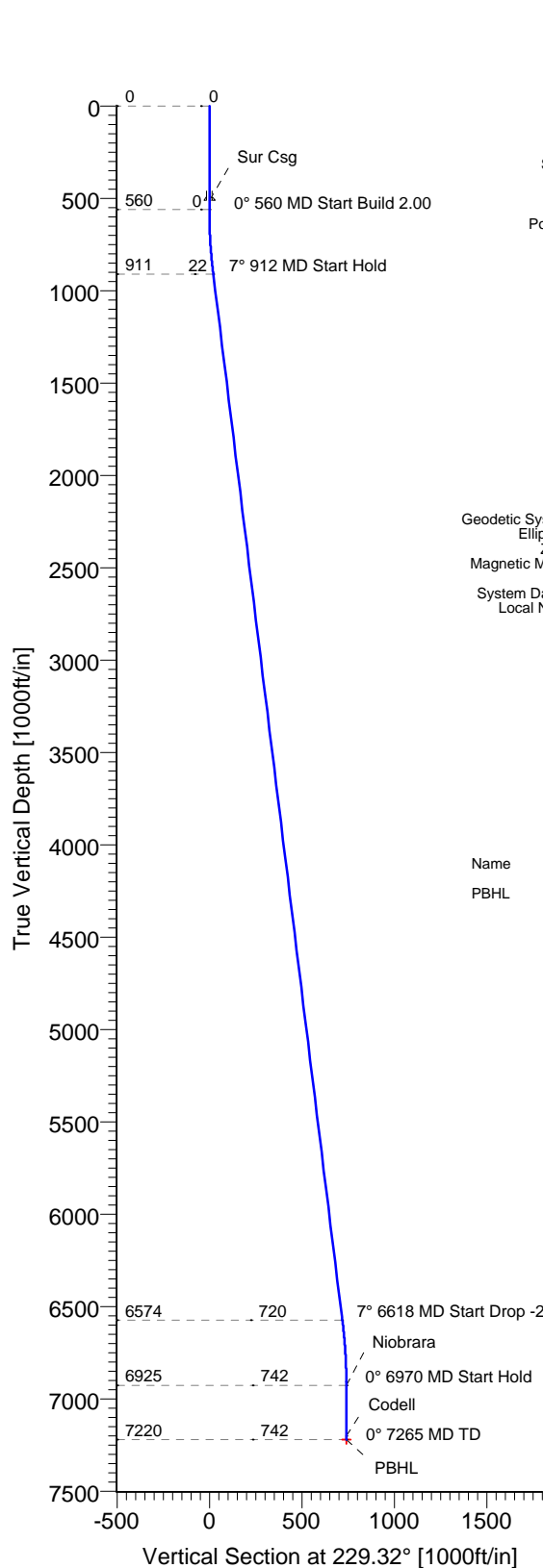
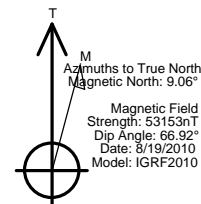




Apollo Operating, LLC.

Field: Weld Co, CO
Site: Martin 45-12D
Well: 45-12D
Wellpath: OH
Plan: Plan #1

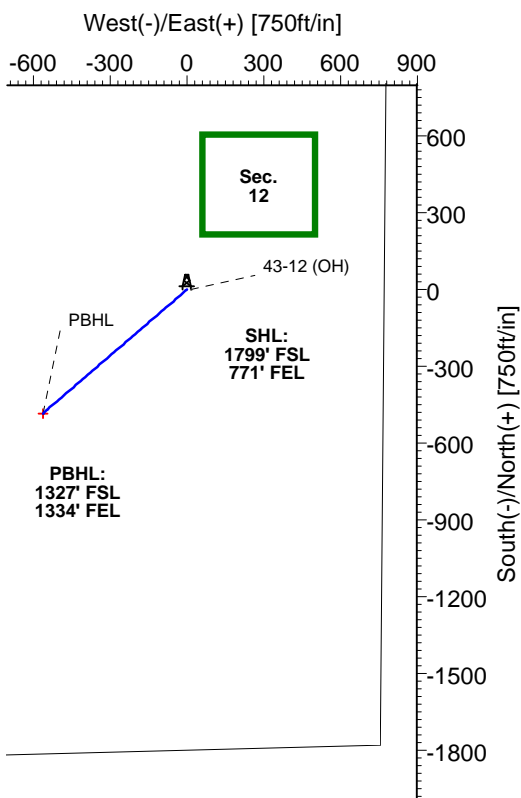


SITE DETAILS

Martin 45-12D
12-3N-68W
Weld Co, CO
Site Centre Latitude: 40°14'19.025N
Longitude: 104°56'40.232W
Ground Level: 4876.00
Positional Uncertainty: 0.00
Convergence: 0.36

FIELD DETAILS

Weld Co, CO
Colorado
U.S.A.
Geodetic System: US State Plane Coordinate System 1983
Ellipsoid: GRS 1980
Zone: Colorado, Northern Zone
Magnetic Model: IGRF2010
System Datum: Mean Sea Level
Local North: True North



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	7220.00	-483.38	-562.31	1329771.91	3154524.33	40°14'14.248N	104°56'47.483W	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	229.32	0.00	0.00	0.00	0.00	0.00	0.00	
2	560.00	0.00	229.32	560.00	0.00	0.00	0.00	0.00	0.00	
3	911.51	7.03	229.32	910.63	-14.04	-16.33	2.00	229.32	21.54	
4	6618.16	7.03	229.32	6574.37	-469.34	-545.98	0.00	0.00	719.98	
5	6969.67	0.00	229.32	6925.00	-483.38	-562.31	2.00	180.00	741.52	
6	7264.67	0.00	229.32	7220.00	-483.38	-562.31	0.00	0.00	741.52	PBHL

WELLPATH DETAILS

OH			
Rig:	SITE	4896.00ft	
Ref. Datum:			
V. Section Angle	Origin +N/-S	Origin +E/-W	Starting From TVD
229.32°	0.00	0.00	0.00



Ryan Energy Technologies

Planning Report



Company: Apollo Operating, LLC.	Date: 8/19/2010	Time: 11:12:37	Page: 1
Field: Weld Co, CO	Co-ordinate(NE) Reference: Site: Martin 45-12D, True North		
Site: Martin 45-12D	Vertical (TVD) Reference: SITE 4896.0		
Well: 45-12D	Section (VS) Reference: Well (0.00N,0.00E,229.32Azi)		
Wellpath: OH	Plan: Plan #1		

Field: Weld Co, CO Colorado U.S.A.	Map Zone: Colorado, Northern Zone
Map System: US State Plane Coordinate System 1983	Coordinate System: Site Centre
Geo Datum: GRS 1980	Geomagnetic Model: IGRF2010
Sys Datum: Mean Sea Level	

Site: Martin 45-12D 12-3N-68W Weld Co, CO	
Site Position:	Northing: 1330258.80 ft
From: Geographic	Easting: 3155083.60 ft
Position Uncertainty: 0.00 ft	Latitude: 40 14 19.025 N
Ground Level: 4876.00 ft	Longitude: 104 56 40.232 W
	North Reference: True
	Grid Convergence: 0.36 deg

Well: 45-12D	Slot Name:
Well Position: +N/-S 0.00 ft	Latitude: 40 14 19.025 N
+E/-W 0.00 ft	Longitude: 104 56 40.232 W
Position Uncertainty: 0.00 ft	

Wellpath: OH	Drilled From: Surface
Current Datum: SITE	Tie-on Depth: 0.00 ft
Magnetic Data: 8/19/2010	Above System Datum: Mean Sea Level
Field Strength: 53153 nT	Declination: 9.06 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 66.92 deg
ft	+N/-S
	+E/-W
	Direction
	deg
0.00	229.32

Plan: Plan #1	Date Composed: 8/19/2010
Principal: Yes	Version: 1
	Tied-to: From Surface

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	229.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
560.00	0.00	229.32	560.00	0.00	0.00	0.00	0.00	0.00	0.00	
911.51	7.03	229.32	910.63	-14.04	-16.33	2.00	2.00	0.00	229.32	
6618.16	7.03	229.32	6574.37	-469.34	-545.98	0.00	0.00	0.00	0.00	
6969.67	0.00	229.32	6925.00	-483.38	-562.31	2.00	-2.00	0.00	180.00	
7264.67	0.00	229.32	7220.00	-483.38	-562.31	0.00	0.00	0.00	0.00	PBHL

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
560.00	0.00	229.32	560.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.80	229.32	600.00	-0.18	-0.21	0.28	2.00	2.00	0.00	
700.00	2.80	229.32	699.94	-2.23	-2.59	3.42	2.00	2.00	0.00	
800.00	4.80	229.32	799.72	-6.55	-7.62	10.05	2.00	2.00	0.00	
900.00	6.80	229.32	899.20	-13.14	-15.28	20.15	2.00	2.00	0.00	
911.51	7.03	229.32	910.63	-14.04	-16.33	21.54	2.00	2.00	0.00	
1000.00	7.03	229.32	998.45	-21.10	-24.55	32.37	0.00	0.00	0.00	
1100.00	7.03	229.32	1097.70	-29.08	-33.83	44.61	0.00	0.00	0.00	
1200.00	7.03	229.32	1196.95	-37.06	-43.11	56.85	0.00	0.00	0.00	
1300.00	7.03	229.32	1296.20	-45.04	-52.39	69.09	0.00	0.00	0.00	
1400.00	7.03	229.32	1395.45	-53.01	-61.67	81.33	0.00	0.00	0.00	
1500.00	7.03	229.32	1494.69	-60.99	-70.95	93.56	0.00	0.00	0.00	
1600.00	7.03	229.32	1593.94	-68.97	-80.23	105.80	0.00	0.00	0.00	
1700.00	7.03	229.32	1693.19	-76.95	-89.51	118.04	0.00	0.00	0.00	
1800.00	7.03	229.32	1792.44	-84.93	-98.80	130.28	0.00	0.00	0.00	

Company: Apollo Operating, LLC.
Field: Weld Co, CO
Site: Martin 45-12D
Well: 45-12D
Wellpath: OH

Date: 8/19/2010
Co-ordinate(NE) Reference: Site: Martin 45-12D, True North
Vertical (TVD) Reference: SITE 4896.0
Section (VS) Reference: Well (0.00N,0.00E,229.32Azi)
Plan: Plan #1

Page: 2

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
1900.00	7.03	229.32	1891.69	-92.91	-108.08	142.52	0.00	0.00	0.00	
2000.00	7.03	229.32	1990.94	-100.88	-117.36	154.76	0.00	0.00	0.00	
2100.00	7.03	229.32	2090.18	-108.86	-126.64	167.00	0.00	0.00	0.00	
2200.00	7.03	229.32	2189.43	-116.84	-135.92	179.24	0.00	0.00	0.00	
2300.00	7.03	229.32	2288.68	-124.82	-145.20	191.48	0.00	0.00	0.00	
2400.00	7.03	229.32	2387.93	-132.80	-154.48	203.72	0.00	0.00	0.00	
2500.00	7.03	229.32	2487.18	-140.78	-163.76	215.96	0.00	0.00	0.00	
2600.00	7.03	229.32	2586.42	-148.76	-173.05	228.20	0.00	0.00	0.00	
2700.00	7.03	229.32	2685.67	-156.73	-182.33	240.43	0.00	0.00	0.00	
2800.00	7.03	229.32	2784.92	-164.71	-191.61	252.67	0.00	0.00	0.00	
2900.00	7.03	229.32	2884.17	-172.69	-200.89	264.91	0.00	0.00	0.00	
3000.00	7.03	229.32	2983.42	-180.67	-210.17	277.15	0.00	0.00	0.00	
3100.00	7.03	229.32	3082.67	-188.65	-219.45	289.39	0.00	0.00	0.00	
3200.00	7.03	229.32	3181.91	-196.63	-228.73	301.63	0.00	0.00	0.00	
3300.00	7.03	229.32	3281.16	-204.60	-238.01	313.87	0.00	0.00	0.00	
3400.00	7.03	229.32	3380.41	-212.58	-247.30	326.11	0.00	0.00	0.00	
3500.00	7.03	229.32	3479.66	-220.56	-256.58	338.35	0.00	0.00	0.00	
3600.00	7.03	229.32	3578.91	-228.54	-265.86	350.59	0.00	0.00	0.00	
3700.00	7.03	229.32	3678.15	-236.52	-275.14	362.83	0.00	0.00	0.00	
3800.00	7.03	229.32	3777.40	-244.50	-284.42	375.06	0.00	0.00	0.00	
3900.00	7.03	229.32	3876.65	-252.47	-293.70	387.30	0.00	0.00	0.00	
4000.00	7.03	229.32	3975.90	-260.45	-302.98	399.54	0.00	0.00	0.00	
4100.00	7.03	229.32	4075.15	-268.43	-312.26	411.78	0.00	0.00	0.00	
4200.00	7.03	229.32	4174.40	-276.41	-321.55	424.02	0.00	0.00	0.00	
4300.00	7.03	229.32	4273.64	-284.39	-330.83	436.26	0.00	0.00	0.00	
4400.00	7.03	229.32	4372.89	-292.37	-340.11	448.50	0.00	0.00	0.00	
4500.00	7.03	229.32	4472.14	-300.35	-349.39	460.74	0.00	0.00	0.00	
4600.00	7.03	229.32	4571.39	-308.32	-358.67	472.98	0.00	0.00	0.00	
4700.00	7.03	229.32	4670.64	-316.30	-367.95	485.22	0.00	0.00	0.00	
4800.00	7.03	229.32	4769.88	-324.28	-377.23	497.46	0.00	0.00	0.00	
4900.00	7.03	229.32	4869.13	-332.26	-386.51	509.70	0.00	0.00	0.00	
5000.00	7.03	229.32	4968.38	-340.24	-395.80	521.93	0.00	0.00	0.00	
5100.00	7.03	229.32	5067.63	-348.22	-405.08	534.17	0.00	0.00	0.00	
5200.00	7.03	229.32	5166.88	-356.19	-414.36	546.41	0.00	0.00	0.00	
5300.00	7.03	229.32	5266.13	-364.17	-423.64	558.65	0.00	0.00	0.00	
5400.00	7.03	229.32	5365.37	-372.15	-432.92	570.89	0.00	0.00	0.00	
5500.00	7.03	229.32	5464.62	-380.13	-442.20	583.13	0.00	0.00	0.00	
5600.00	7.03	229.32	5563.87	-388.11	-451.48	595.37	0.00	0.00	0.00	
5700.00	7.03	229.32	5663.12	-396.09	-460.76	607.61	0.00	0.00	0.00	
5800.00	7.03	229.32	5762.37	-404.06	-470.05	619.85	0.00	0.00	0.00	
5900.00	7.03	229.32	5861.61	-412.04	-479.33	632.09	0.00	0.00	0.00	
6000.00	7.03	229.32	5960.86	-420.02	-488.61	644.33	0.00	0.00	0.00	
6100.00	7.03	229.32	6060.11	-428.00	-497.89	656.57	0.00	0.00	0.00	
6200.00	7.03	229.32	6159.36	-435.98	-507.17	668.80	0.00	0.00	0.00	
6300.00	7.03	229.32	6258.61	-443.96	-516.45	681.04	0.00	0.00	0.00	
6400.00	7.03	229.32	6357.86	-451.94	-525.73	693.28	0.00	0.00	0.00	
6500.00	7.03	229.32	6457.10	-459.91	-535.01	705.52	0.00	0.00	0.00	
6600.00	7.03	229.32	6556.35	-467.89	-544.30	717.76	0.00	0.00	0.00	
6618.16	7.03	229.32	6574.37	-469.34	-545.98	719.98	0.00	0.00	0.00	
6700.00	5.39	229.32	6655.73	-475.11	-552.70	728.84	2.00	-2.00	0.00	
6800.00	3.39	229.32	6755.43	-480.11	-558.50	736.50	2.00	-2.00	0.00	
6900.00	1.39	229.32	6855.34	-482.83	-561.67	740.67	2.00	-2.00	0.00	
6969.67	0.00	229.32	6925.00	-483.38	-562.31	741.52	2.00	-2.00	0.00	Niobrara
7000.00	0.00	229.32	6955.33	-483.38	-562.31	741.52	0.00	0.00	0.00	

Company: Apollo Operating, LLC. Field: Weld Co, CO Site: Martin 45-12D Well: 45-12D Wellpath: OH	Date: 8/19/2010 Co-ordinate(NE) Reference: Site: Martin 45-12D, True North Vertical (TVD) Reference: SITE 4896.0 Section (VS) Reference: Well (0.00N,0.00E,229.32Azi) Plan: Plan #1	Time: 11:12:37 Page: 3
-------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
7100.00	0.00	229.32	7055.33	-483.38	-562.31	741.52	0.00	0.00	0.00	
7200.00	0.00	229.32	7155.33	-483.38	-562.31	741.52	0.00	0.00	0.00	
7244.67	0.00	229.32	7200.00	-483.38	-562.31	741.52	0.00	0.00	0.00	Codell
7264.67	0.00	229.32	7220.00	-483.38	-562.31	741.52	0.00	0.00	0.00	PBHL

Targets

Name	Description	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<---- Latitude ---->			<--- Longitude --->			
	Dip.							Deg	Min	Sec		Deg	Min	Sec
PBHL			7220.00	-483.38	-562.31	1329771.91	3154524.33	40	14	14.248	N	104	56	47.483
-Plan hit target														

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
510.00	510.00	0.000	0.000	Sur Csg

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
6969.67	6925.00	Niobrara		0.00	0.00
7244.67	7200.00	Codell		0.00	0.00