

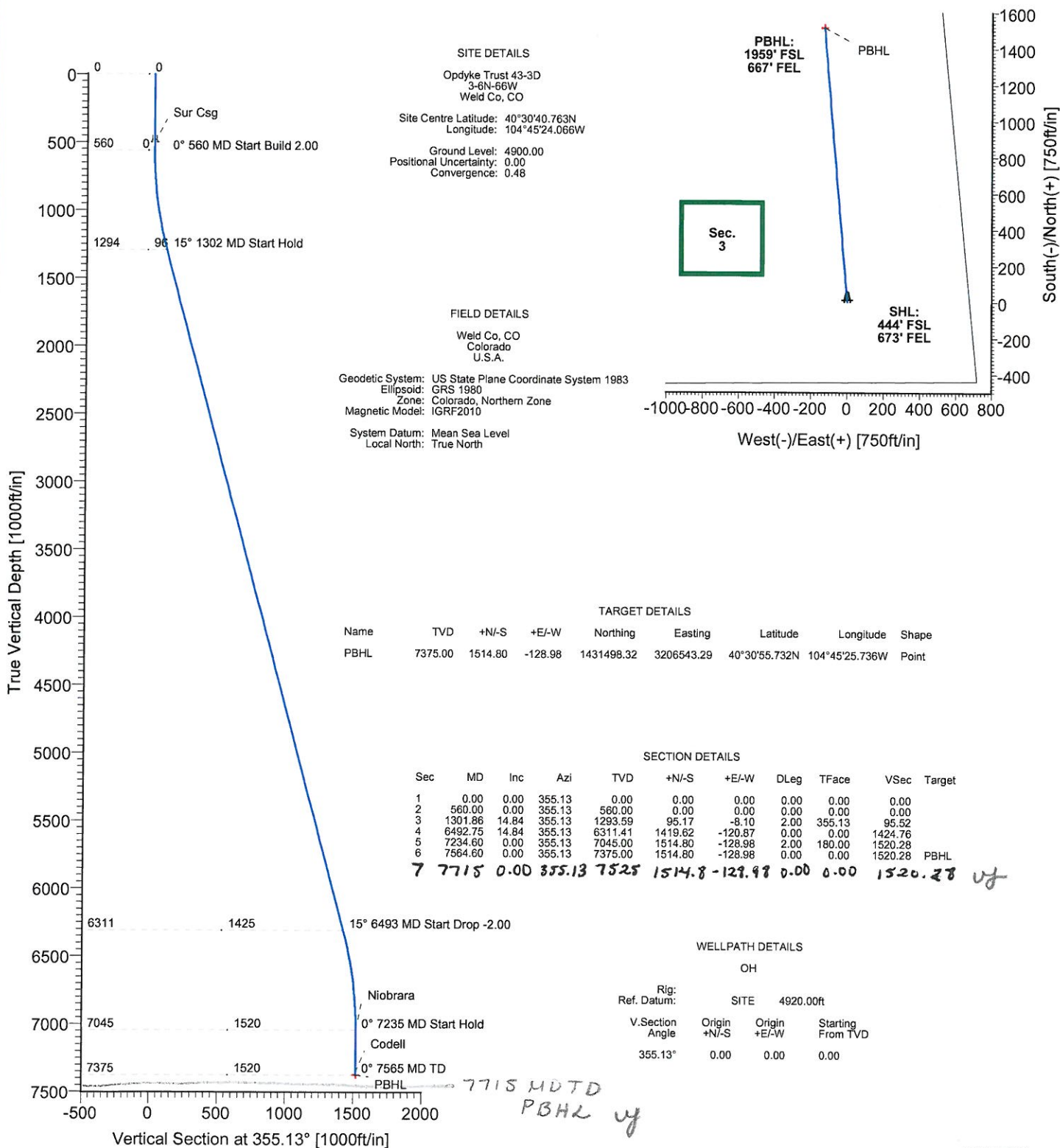


Apollo Operating, LLC.

Field: Weld Co, CO
Site: Opdyke Trust 43-3D
Well: 43-3D
Wellpath: OH
Plan: Plan #1



Azimuths to True North
Magnetic North: 8.97°
Magnetic Field
Strength: 53305nT
Dip Angle: 67.17°
Date: 10/1/2010
Model: IGRF2010





Ryan Energy Technologies Planning Report



Company: Apollo Operating, LLC. **Date:** 10/1/2010 **Time:** 11:18:30 **Page:** 1
Field: Weld Co, CO **Co-ordinate(NE) Reference:** Site: Opdyke Trust 43-3D, True North
Site: Opdyke Trust 43-3D **Vertical (TVD) Reference:** SITE 4920.0
Well: 43-3D **Section (VS) Reference:** Well (0.00N,0.00E,355.13Azi)
Wellpath: OH **Plan:** Plan #1

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

Site: Opdyke Trust 43-3D
 3-6N-66W
 Weld Co, CO
Site Position: Northing: 1429984.66 ft Latitude: 40 30 40.763 N
From: Geographic Easting: 3206684.97 ft Longitude: 104 45 24.066 W
Position Uncertainty: 0.00 ft North Reference: True
Ground Level: 4900.00 ft Grid Convergence: 0.48 deg

Well: 43-3D **Slot Name:**
Well Position: +N/-S 0.00 ft Northing: 1429984.66 ft Latitude: 40 30 40.763 N
 +E/-W 0.00 ft Easting: 3206684.97 ft Longitude: 104 45 24.066 W
Position Uncertainty: 0.00 ft

Wellpath: OH **Drilled From:** Surface
Current Datum: SITE **Height** 4920.00 ft **Tie-on Depth:** 0.00 ft
Magnetic Data: 10/1/2010 **Above System Datum:** Mean Sea Level
Field Strength: 53305 nT **Declination:** 8.97 deg
Vertical Section: Depth From (TVD) +N/-S Mag Dip Angle: 67.17 deg
 ft ft +E/-W Direction
 deg
 0.00 0.00 0.00 355.13

Plan: Plan #1 **Date Composed:** 10/1/2010
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	355.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
560.00	0.00	355.13	560.00	0.00	0.00	0.00	0.00	0.00	0.00	
1301.86	14.84	355.13	1293.59	95.17	-8.10	2.00	2.00	0.00	355.13	
6492.75	14.84	355.13	6311.41	1419.62	-120.87	0.00	0.00	0.00	0.00	
7234.60	0.00	355.13	7045.00	1514.80	-128.98	2.00	-2.00	0.00	180.00	
7564.60	0.00	355.13	7375.00	1514.80	-128.98	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	355.13	560.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	0.80	355.13	600.00	0.28	-0.02	0.28	2.00	2.00	0.00	
700.00	2.80	355.13	699.94	3.41	-0.29	3.42	2.00	2.00	0.00	
800.00	4.80	355.13	799.72	10.01	-0.85	10.05	2.00	2.00	0.00	
900.00	6.80	355.13	899.20	20.08	-1.71	20.15	2.00	2.00	0.00	
1000.00	8.80	355.13	998.27	33.60	-2.86	33.72	2.00	2.00	0.00	
1100.00	10.80	355.13	1096.81	50.56	-4.30	50.74	2.00	2.00	0.00	
1200.00	12.80	355.13	1194.69	70.94	-6.04	71.19	2.00	2.00	0.00	
1301.86	14.84	355.13	1293.59	95.17	-8.10	95.52	2.00	2.00	0.00	
1400.00	14.84	355.13	1388.46	120.22	-10.24	120.65	0.00	0.00	0.00	
1500.00	14.84	355.13	1485.13	145.73	-12.41	146.26	0.00	0.00	0.00	
1600.00	14.84	355.13	1581.80	171.25	-14.58	171.87	0.00	0.00	0.00	
1700.00	14.84	355.13	1678.46	196.76	-16.75	197.47	0.00	0.00	0.00	
1800.00	14.84	355.13	1775.13	222.28	-18.93	223.08	0.00	0.00	0.00	
1900.00	14.84	355.13	1871.79	247.79	-21.10	248.69	0.00	0.00	0.00	



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Date: 10/1/2010 Time: 11:18:30 Page: 2
Co-ordinate(NE) Reference: Site: Opdyke Trust 43-3D, True North
Vertical (TVD) Reference: SITE 4920.0
Section (VS) Reference: Well (0.00N,0.00E,355.13Azi)
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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
2000.00	14.84	355.13	1968.46	273.30	-23.27	274.29	0.00	0.00	0.00	
2100.00	14.84	355.13	2065.12	298.82	-25.44	299.90	0.00	0.00	0.00	
2200.00	14.84	355.13	2161.79	324.33	-27.62	325.51	0.00	0.00	0.00	
2300.00	14.84	355.13	2258.46	349.85	-29.79	351.12	0.00	0.00	0.00	
2400.00	14.84	355.13	2355.12	375.36	-31.96	376.72	0.00	0.00	0.00	
2500.00	14.84	355.13	2451.79	400.88	-34.13	402.33	0.00	0.00	0.00	
2600.00	14.84	355.13	2548.45	426.39	-36.31	427.94	0.00	0.00	0.00	
2700.00	14.84	355.13	2645.12	451.91	-38.48	453.54	0.00	0.00	0.00	
2800.00	14.84	355.13	2741.78	477.42	-40.65	479.15	0.00	0.00	0.00	
2900.00	14.84	355.13	2838.45	502.94	-42.82	504.76	0.00	0.00	0.00	
3000.00	14.84	355.13	2935.12	528.45	-45.00	530.37	0.00	0.00	0.00	
3100.00	14.84	355.13	3031.78	553.97	-47.17	555.97	0.00	0.00	0.00	
3200.00	14.84	355.13	3128.45	579.48	-49.34	581.58	0.00	0.00	0.00	
3300.00	14.84	355.13	3225.11	605.00	-51.51	607.19	0.00	0.00	0.00	
3400.00	14.84	355.13	3321.78	630.51	-53.69	632.79	0.00	0.00	0.00	
3500.00	14.84	355.13	3418.45	656.03	-55.86	658.40	0.00	0.00	0.00	
3600.00	14.84	355.13	3515.11	681.54	-58.03	684.01	0.00	0.00	0.00	
3700.00	14.84	355.13	3611.78	707.06	-60.20	709.62	0.00	0.00	0.00	
3800.00	14.84	355.13	3708.44	732.57	-62.38	735.22	0.00	0.00	0.00	
3900.00	14.84	355.13	3805.11	758.09	-64.55	760.83	0.00	0.00	0.00	
4000.00	14.84	355.13	3901.77	783.60	-66.72	786.44	0.00	0.00	0.00	
4100.00	14.84	355.13	3998.44	809.12	-68.89	812.05	0.00	0.00	0.00	
4200.00	14.84	355.13	4095.11	834.63	-71.07	837.65	0.00	0.00	0.00	
4300.00	14.84	355.13	4191.77	860.15	-73.24	863.26	0.00	0.00	0.00	
4400.00	14.84	355.13	4288.44	885.66	-75.41	888.87	0.00	0.00	0.00	
4500.00	14.84	355.13	4385.10	911.18	-77.58	914.47	0.00	0.00	0.00	
4600.00	14.84	355.13	4481.77	936.69	-79.75	940.08	0.00	0.00	0.00	
4700.00	14.84	355.13	4578.43	962.21	-81.93	965.69	0.00	0.00	0.00	
4800.00	14.84	355.13	4675.10	987.72	-84.10	991.30	0.00	0.00	0.00	
4900.00	14.84	355.13	4771.77	1013.24	-86.27	1016.90	0.00	0.00	0.00	
5000.00	14.84	355.13	4868.43	1038.75	-88.44	1042.51	0.00	0.00	0.00	
5100.00	14.84	355.13	4965.10	1064.27	-90.62	1068.12	0.00	0.00	0.00	
5200.00	14.84	355.13	5061.76	1089.78	-92.79	1093.72	0.00	0.00	0.00	
5300.00	14.84	355.13	5158.43	1115.30	-94.96	1119.33	0.00	0.00	0.00	
5400.00	14.84	355.13	5255.09	1140.81	-97.13	1144.94	0.00	0.00	0.00	
5500.00	14.84	355.13	5351.76	1166.33	-99.31	1170.55	0.00	0.00	0.00	
5600.00	14.84	355.13	5448.43	1191.84	-101.48	1196.15	0.00	0.00	0.00	
5700.00	14.84	355.13	5545.09	1217.36	-103.65	1221.76	0.00	0.00	0.00	
5800.00	14.84	355.13	5641.76	1242.87	-105.82	1247.37	0.00	0.00	0.00	
5900.00	14.84	355.13	5738.42	1268.39	-108.00	1272.97	0.00	0.00	0.00	
6000.00	14.84	355.13	5835.09	1293.90	-110.17	1298.58	0.00	0.00	0.00	
6100.00	14.84	355.13	5931.76	1319.42	-112.34	1324.19	0.00	0.00	0.00	
6200.00	14.84	355.13	6028.42	1344.93	-114.51	1349.80	0.00	0.00	0.00	
6300.00	14.84	355.13	6125.09	1370.44	-116.69	1375.40	0.00	0.00	0.00	
6400.00	14.84	355.13	6221.75	1395.96	-118.86	1401.01	0.00	0.00	0.00	
6492.75	14.84	355.13	6311.41	1419.62	-120.87	1424.76	0.00	0.00	0.00	
6500.00	14.89	355.13	6318.42	1421.47	-121.03	1426.61	2.00	-2.00	0.00	
6600.00	12.69	355.13	6415.57	1445.05	-123.04	1450.28	2.00	-2.00	0.00	
6700.00	10.69	355.13	6513.49	1465.24	-124.76	1470.54	2.00	-2.00	0.00	
6800.00	8.69	355.13	6612.06	1482.01	-126.19	1487.38	2.00	-2.00	0.00	
6900.00	6.69	355.13	6711.16	1495.35	-127.32	1500.76	2.00	-2.00	0.00	
7000.00	4.69	355.13	6810.66	1505.23	-128.16	1510.68	2.00	-2.00	0.00	
7100.00	2.69	355.13	6910.45	1511.65	-128.71	1517.12	2.00	-2.00	0.00	
7200.00	0.69	355.13	7010.40	1514.59	-128.96	1520.07	2.00	-2.00	0.00	

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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
7234.60	0.00	355.13	7045.00	1514.80	-128.98	1520.28	2.00	-2.00	0.00	Niobrara
7300.00	0.00	355.13	7110.40	1514.80	-128.98	1520.28	0.00	0.00	0.00	
7400.00	0.00	355.13	7210.40	1514.80	-128.98	1520.28	0.00	0.00	0.00	
7500.00	0.00	355.13	7310.40	1514.80	-128.98	1520.28	0.00	0.00	0.00	
7544.60	0.00	355.13	7355.00	1514.80	-128.98	1520.28	0.00	0.00	0.00	Codell
7564.60	0.00	355.13	7375.00	1514.80	-128.98	1520.28	0.00	0.00	0.00	PBHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg Min Sec			<--- Longitude ---> Deg Min Sec		
PBHL -Plan hit target			7375.00	1514.80	-128.98	1431498.323206543.29		40	30	55.732 N	104	45	25.736 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
500.00	500.00	0.000	0.000	Sur Csg

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
7234.60	7045.00	Niobrara		0.00	0.00
7544.60	7355.00	Codell		0.00	0.00