



PHOENIX TECHNOLOGY SERVICES



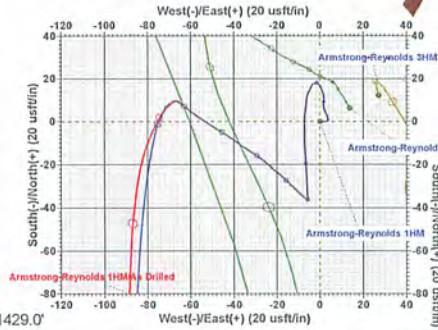
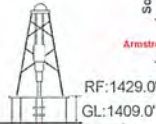
91-01278



Azimuths to Grid North
True North: 0.40°
Magnetic North: -8.50°
Magnetic Field
Strength: 52310.25nT
Dip Angle: 66.81°
Date: 9/25/2013
Model: IGRF2010_14

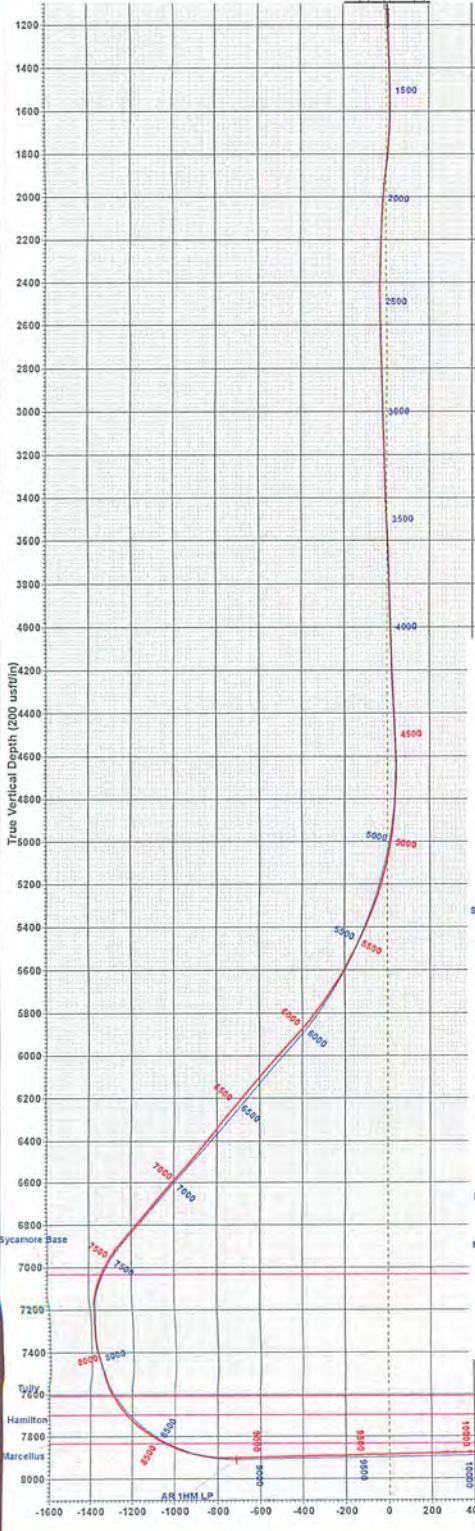
PDC MOUNTAINEER

Armstrong-Reynolds 1HM
Armstrong - Reynolds Unit
20° RKB - 1409° GL @ 1429.0usft (Pioneer 63)
Latitude: 39° 18' 10.774 N
Longitude: 80° 7' 51.764 W
Northing: 293093.32
Easting: 1821424.65
Design #2

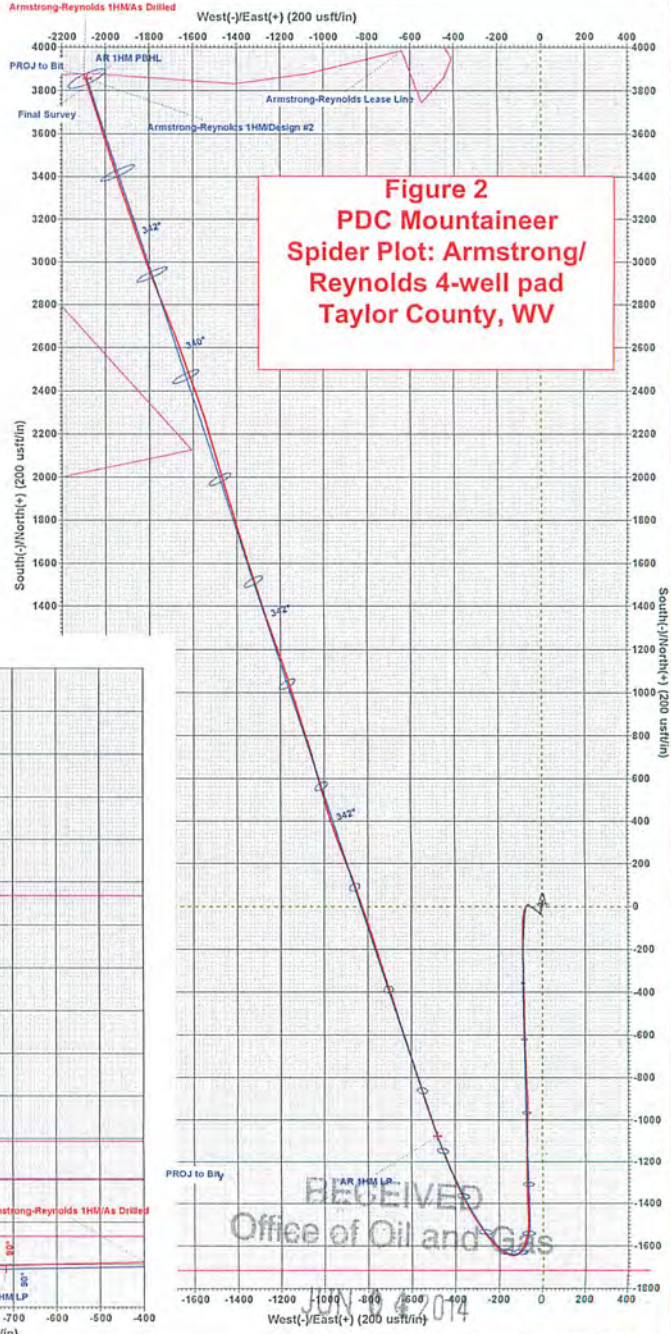
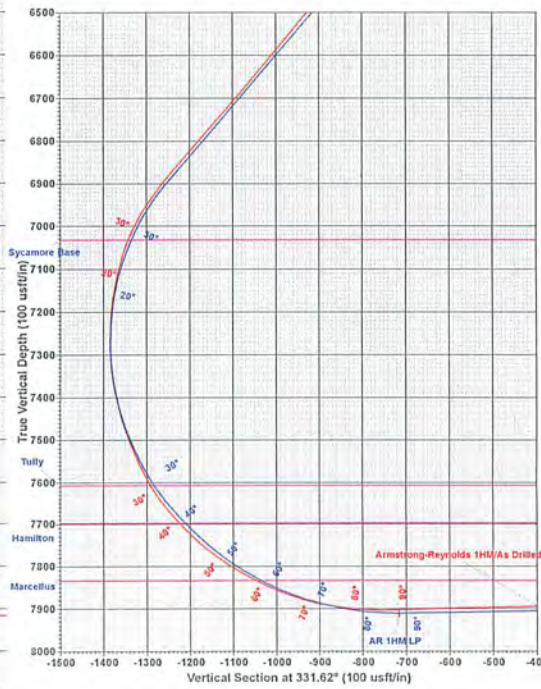


SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Diag	TFace	VFace	Target
1	4452.0	3.09	307.60	4478.1	7.0	-53.1	0.00	0.00	36.2	
2	4532.0	3.09	307.60	4528.0	8.7	-55.2	0.00	0.00	38.6	
3	6052.3	43.61	178.52	5911.3	-518.6	-85.2	3.00	-131.47	-415.8	
4	7405.5	-43.61	178.52	6891.0	-1451.7	-81.1	0.00	0.00	-1248.2	AR 1HM LP
5	8876.2	91.00	342.00	7910.0	-1074.7	-81.0	9.00	187.37	-716.9	AR 1HM PBHL
6	14061.3	91.00	342.00	7819.5	3855.9	-2083.1	0.00	0.00	4382.6	AR 1HM PBHL

DESIGN TARGET DETAILS							
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
AR 1HM PBHL	7819.5	3855.9	-2083.1	296949.19	1819341.5439	18° 48.739 N 80° 8' 18.612 W	
AR 1HM LP	7910.0	-1074.7	-481.0	292018.60	1820943.65	39° 18' 0.118 N 80° 7' 57.766 W	



FORMATION TOP DETAILS			
TVDPath	MDPath	Formation	
7032.0	7581.2	Sycamore Base	
7606.0	8201.3	Tully	
7697.0	8317.5	Hamilton	
7833.0	8542.1	Marcellus	



WV Department of Environmental Protection
06/06/2014
Phoenix Technology Services
Pittsburgh, PA 15220