



A GYRO TECHNOLOGIES INC. COMPANY

PO Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

July 25, 2013

Unit Petroleum Company
P O Box 702500
Tulsa, OK 74170-2500

Attn: Drilling Department

Re: **Loudenback 7 1H**

Please find enclosed a copy of the survey from 0' to 3,860' ran on the above referenced well.

If I can be of any further service, please do not hesitate to call me at 800-606-4976.

Sincerely,

Keith Havelka
Operations



Company: Unit Petroleum
Lease/Well: Loudenback/7 1H

Rig Name: Unit 331
State/County: Kansas/ Reno
Latitude: 37.882, Longitude: -98.457
GRID North is 0.030 Degrees East of True North
VS-Azi: 0.000 Degrees



Depth Reference : RKB = 14'

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: hgyro-de_02.ut
Minimum Curvature Method
Report Date/Time: 7/25/2013 / 16:02
Vaughn Energy Services
Woodward, OK
580-254-5000

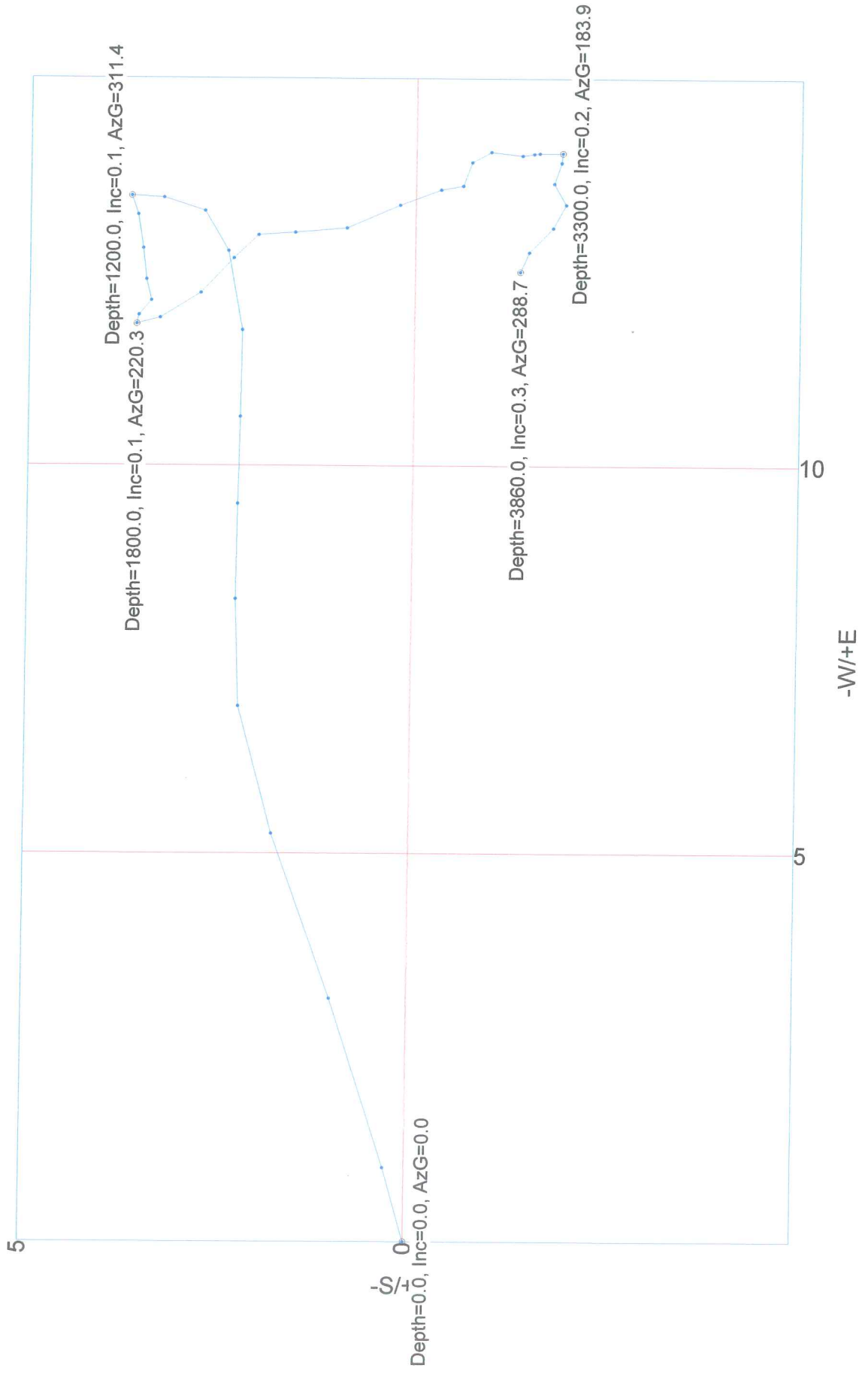
Surveyor: Charles Hines
Loudenback 7 1H / API 15-155-21662

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	****
100.000	1.137	73.810	99.993	0.277	0.953	0.277	0.992	73.810	1.137
200.000	1.493	70.046	199.967	0.998	3.130	0.998	3.285	72.319	0.366
300.000	1.101	69.598	299.941	1.777	5.254	1.777	5.546	71.314	0.392
400.000	0.857	81.033	399.927	2.228	6.893	2.228	7.245	72.086	0.311
500.000	0.740	95.846	499.917	2.279	8.275	2.279	8.583	74.600	0.237
600.000	0.674	84.811	599.909	2.267	9.503	2.267	9.769	76.585	0.151
700.000	0.621	97.754	699.903	2.247	10.625	2.247	10.860	78.061	0.155
800.000	0.668	84.046	799.897	2.234	11.742	2.234	11.953	79.228	0.161
900.000	0.528	73.771	899.891	2.423	12.764	2.423	12.992	79.251	0.176
1000.000	0.225	21.808	999.889	2.734	13.279	2.734	13.558	78.366	0.428
1100.000	0.420	15.574	1099.888	3.270	13.451	3.270	13.842	76.337	0.198
1200.000	0.113	311.429	1199.887	3.688	13.476	3.688	13.971	74.694	0.385
1300.000	0.262	228.507	1299.886	3.602	13.231	3.602	13.712	74.771	0.272
1400.000	0.316	286.687	1399.885	3.530	12.796	3.530	13.274	74.578	0.285
1500.000	0.213	227.973	1499.884	3.484	12.393	3.484	12.874	74.297	0.274
1600.000	0.166	294.351	1599.884	3.419	12.123	3.419	12.596	74.250	0.211
1700.000	0.130	330.720	1699.883	3.578	11.936	3.578	12.461	73.313	0.098
1800.000	0.105	220.294	1799.883	3.607	11.821	3.607	12.359	73.030	0.194

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.000	0.313	149.656	1899.883	3.301	11.900	3.301	12.349	74.494	0.295
2000.000	0.390	147.230	1999.881	2.779	12.222	2.779	12.534	77.190	0.079
2100.000	0.344	117.700	2099.879	2.353	12.672	2.353	12.889	79.481	0.192
2200.000	0.208	169.205	2199.878	2.035	12.973	2.035	13.131	81.086	0.270
2300.000	0.339	180.148	2299.877	1.560	13.006	1.560	13.099	83.160	0.140
2400.000	0.430	170.941	2399.874	0.894	13.064	0.894	13.095	86.087	0.109
2500.000	0.456	143.015	2499.872	0.205	13.363	0.205	13.364	89.120	0.215
2600.000	0.248	191.204	2599.870	-0.325	13.560	-0.325	13.564	91.374	0.345
2700.000	0.138	128.046	2699.869	-0.612	13.613	-0.612	13.627	92.572	0.223
2800.000	0.244	100.417	2799.869	-0.724	13.917	-0.724	13.936	92.979	0.137
2900.000	0.257	199.332	2899.868	-0.975	14.052	-0.975	14.086	93.967	0.381
3000.000	0.224	171.532	2999.867	-1.380	14.006	-1.380	14.074	95.628	0.120
3100.000	0.051	349.586	3099.867	-1.530	14.027	-1.530	14.110	96.225	0.275
3200.000	0.134	172.559	3199.867	-1.603	14.034	-1.603	14.125	96.514	0.185
3300.000	0.211	183.914	3299.867	-1.903	14.037	-1.903	14.165	97.719	0.084
3400.000	0.262	330.552	3399.866	-1.888	13.912	-1.888	14.039	97.727	0.453
3500.000	0.216	236.208	3499.866	-1.794	13.643	-1.794	13.760	97.490	0.352
3600.000	0.146	245.702	3599.865	-1.951	13.370	-1.951	13.511	98.302	0.076
3700.000	0.325	319.657	3699.864	-1.787	13.070	-1.787	13.192	97.787	0.317
3800.000	0.185	304.929	3799.863	-1.479	12.754	-1.479	12.840	96.614	0.153
3850.000	0.346	288.744	3859.863	-1.365	12.503	-1.365	12.578	96.231	0.293



Vaughn Energy Services
Woodward, OK
580-254-5000
Surveyor: Charles Hines
Loudenback 7 1H / API 15-155-21662



VES Survey Date: 07/21/2013