

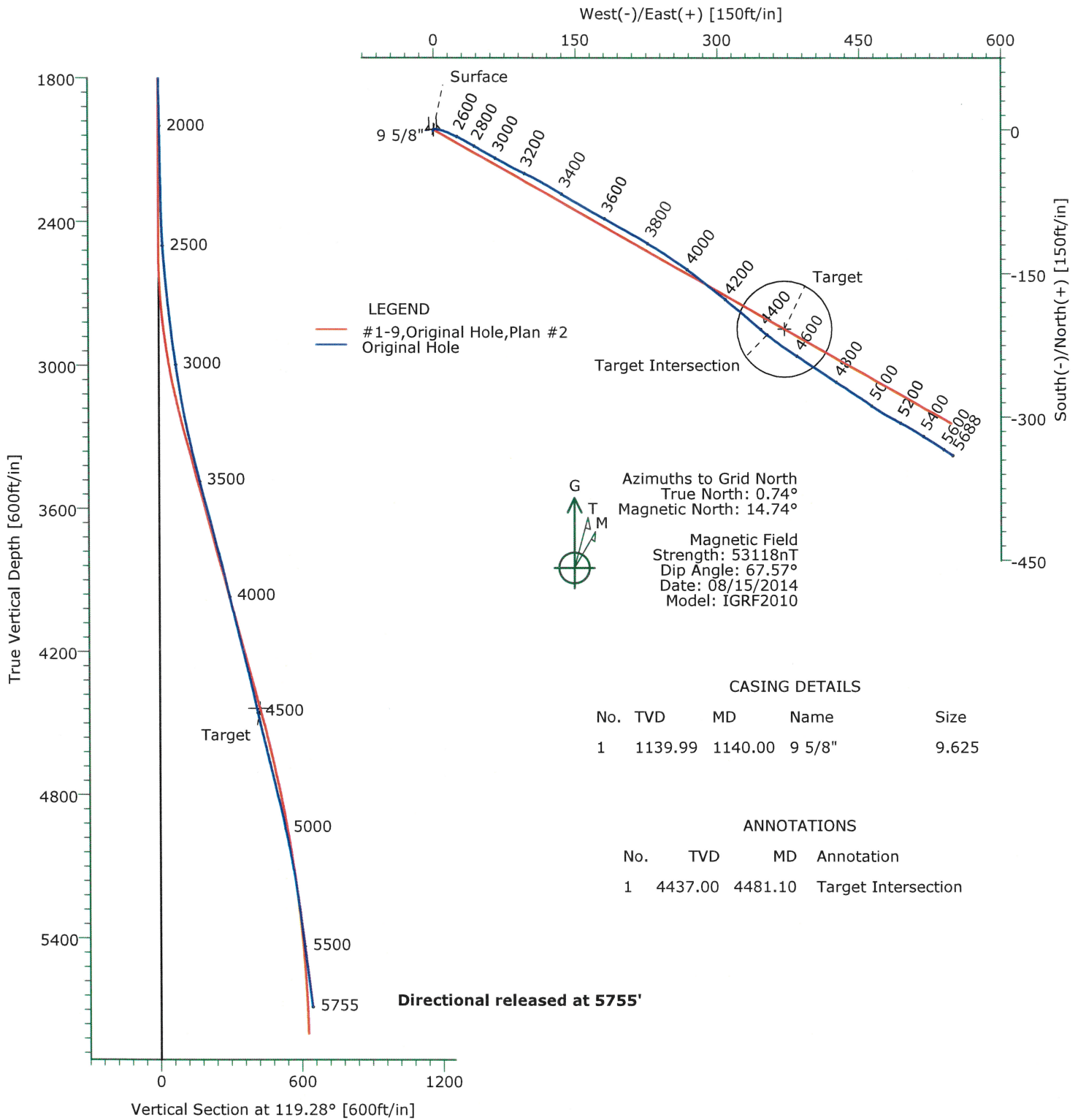


ALTA MESA

ALTA MESA
 Field: Payette County, ID
 Site: Kauffman 1-9
 Well: #1-9
 Wellpath: Original Hole



Precision
 Directional Services



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Surface	0.00	0.00	0.00	871601.00	219707.00	44°03'11.930N	116°48'58.199W	Point
Target	4437.00	-208.00	371.00	871393.00	220078.00	44°03'09.923N	116°48'53.083W	Circle (Radius: 50)

Precision Directional Services, Inc.

Survey Report

Company: ALTA MESA	Date: 10/24/2014	Time: 12:34:06	Page: 1
Field: Payette County, ID	Co-ordinate(NE) Reference: Well: #1-9, Grid North		
Site: Kauffman 1-9	Vertical (TVD) Reference: 2606'GL+12'KB 2618.0		
Well: #1-9	Section (VS) Reference: Well (0.00N,0.00E,119.28Azi)		
Wellpath: Original Hole	Survey Calculation Method: Minimum Curvature	Db: Adapti	

Field: Payette County, ID	
Map System: US State Plane Coordinate System 1927	Map Zone: Idaho, Western Zone
Geo Datum: NAD27 (Clarke 1866)	Coordinate System: Well Centre
Sys Datum: Mean Sea Level	Geomagnetic Model: IGRF2010

Site: Kauffman 1-9		
Section 9 T8N-R4W		
Site Position:	Northing: 871601.00 ft	Latitude: 44 3 11.930 N
From: Map	Easting: 219707.00 ft	Longitude: 116 48 58.199 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 2606.00 ft		Grid Convergence: -0.74 deg

Well: #1-9		Slot Name:	
Well Position:	+N/-S 0.00 ft	Northing: 871601.00 ft	Latitude: 44 3 11.930 N
	+E/-W 0.00 ft	Easting: 219707.00 ft	Longitude: 116 48 58.199 W
Position Uncertainty:	0.00 ft		

Wellpath: Original Hole		Drilled From: Surface	
Current Datum: 2606'GL+12'KB	Height 2618.00 ft	Tie-on Depth: 0.00 ft	
Magnetic Data: 08/15/2014		Above System Datum: Mean Sea Level	
Field Strength: 53118 nT		Declination: 13.99 deg	
Vertical Section:		Mag Dip Angle: 67.57 deg	
Depth From (TVD)	+N/-S	+E/-W	Direction
ft	ft	ft	deg
0.00	0.00	0.00	119.28

Survey Program for Definitive Wellpath				
Date: 10/24/2014	Validated: No	Version: 0		
Actual From	To	Survey	Toolcode	Tool Name
ft	ft			
100.00	1060.00	Survey #1 (100.00-1060.00)	Gyroscope	Gyroscope
1271.00	5580.00	Survey #2 (1271.00-5580.00)	MWD	Std MWD
5755.00	5755.00	Survey #3 (5755.00-5755.00)	Project	Projection

Survey										
MD	Incl	Azim	TVD	+N/-S	+E/-W	VS	DLS	Build	Turn	Tool/Comment
ft	deg	deg	ft	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
100.00	0.22	164.81	100.00	-0.19	0.05	0.14	0.22	0.22	0.00	Gyroscope
200.00	0.29	196.69	200.00	-0.62	0.03	0.33	0.16	0.07	31.88	Gyroscope
300.00	0.28	207.54	300.00	-1.07	-0.16	0.39	0.06	-0.01	10.84	Gyroscope
400.00	0.15	192.58	400.00	-1.41	-0.30	0.43	0.14	-0.13	-14.96	Gyroscope
500.00	0.21	145.01	500.00	-1.69	-0.22	0.63	0.15	0.06	-47.57	Gyroscope
600.00	0.10	283.07	600.00	-1.82	-0.20	0.71	0.29	-0.11	138.06	Gyroscope
700.00	0.22	306.98	700.00	-1.68	-0.44	0.44	0.14	0.12	23.91	Gyroscope
800.00	0.17	1.49	800.00	-1.42	-0.59	0.18	0.19	-0.06	54.52	Gyroscope
900.00	0.24	22.72	899.99	-1.08	-0.51	0.09	0.11	0.08	21.22	Gyroscope
1000.00	0.24	15.42	999.99	-0.68	-0.37	0.01	0.03	0.00	-7.30	Gyroscope
1060.00	0.19	179.41	1059.99	-0.66	-0.33	0.03	0.72	-0.08	273.31	Gyroscope
1271.00	0.10	3.70	1270.99	-0.83	-0.32	0.13	0.14	-0.04	-83.27	MWD
1519.00	0.40	18.40	1518.99	0.21	-0.03	-0.13	0.12	0.12	5.93	MWD
1767.00	0.90	102.10	1766.98	0.62	2.15	1.57	0.38	0.20	33.75	MWD
2015.00	1.10	102.80	2014.94	-0.31	6.37	5.71	0.08	0.08	0.28	MWD
2201.00	1.00	104.90	2200.91	-1.13	9.68	9.00	0.06	-0.05	1.13	MWD
2232.00	1.00	111.20	2231.90	-1.29	10.20	9.53	0.35	0.00	20.32	MWD
2263.00	1.00	107.40	2262.90	-1.47	10.71	10.06	0.21	0.00	-12.26	MWD
2294.00	1.10	112.30	2293.89	-1.67	11.24	10.62	0.43	0.32	15.81	MWD
2325.00	1.20	111.20	2324.89	-1.90	11.82	11.24	0.33	0.32	-3.55	MWD

Precision Directional Services, Inc.

Survey Report

Company: ALTA MESA	Date: 10/24/2014	Time: 12:34:06	Page: 2
Field: Payette County, ID	Co-ordinate(NE) Reference: Well: #1-9, Grid North		
Site: Kauffman 1-9	Vertical (TVD) Reference: 2606'GL+12'KB 2618.0		
Well: #1-9	Section (VS) Reference: Well (0.00N,0.00E,119.28Azi)		
Wellpath: Original Hole	Survey Calculation Method: Minimum Curvature	Db: Adapti	

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
2357.00	1.50	110.40	2356.88	-2.16	12.52	11.98	0.94	0.94	-2.50	MWD
2388.00	1.70	111.40	2387.87	-2.47	13.33	12.84	0.65	0.65	3.23	MWD
2418.00	2.20	111.60	2417.85	-2.85	14.28	13.85	1.67	1.67	0.67	MWD
2450.00	2.70	111.40	2449.82	-3.35	15.55	15.20	1.56	1.56	-0.62	MWD
2481.00	3.20	111.80	2480.78	-3.94	17.04	16.79	1.61	1.61	1.29	MWD
2512.00	3.60	112.70	2511.72	-4.63	18.74	18.61	1.30	1.29	2.90	MWD
2543.00	4.10	113.20	2542.65	-5.44	20.66	20.68	1.62	1.61	1.61	MWD
2574.00	4.60	114.60	2573.56	-6.40	22.80	23.02	1.65	1.61	4.52	MWD
2605.00	5.00	115.80	2604.46	-7.50	25.15	25.61	1.33	1.29	3.87	MWD
2636.00	5.40	117.20	2635.33	-8.76	27.66	28.41	1.35	1.29	4.52	MWD
2667.00	5.60	117.60	2666.19	-10.13	30.30	31.38	0.66	0.65	1.29	MWD
2698.00	5.80	118.60	2697.03	-11.58	33.02	34.46	0.72	0.65	3.23	MWD
2729.00	6.20	119.70	2727.86	-13.16	35.85	37.70	1.34	1.29	3.55	MWD
2760.00	6.40	120.00	2758.68	-14.85	38.80	41.10	0.65	0.65	0.97	MWD
2791.00	6.60	119.30	2789.48	-16.58	41.85	44.61	0.69	0.65	-2.26	MWD
2822.00	7.00	120.00	2820.26	-18.40	45.04	48.28	1.32	1.29	2.26	MWD
2853.00	6.90	119.90	2851.03	-20.27	48.29	52.03	0.32	-0.32	-0.32	MWD
2885.00	7.10	119.50	2882.79	-22.21	51.67	55.93	0.64	0.62	-1.25	MWD
2915.00	7.10	119.50	2912.56	-24.03	54.90	59.64	0.00	0.00	0.00	MWD
2946.00	7.50	119.30	2943.31	-25.97	58.33	63.58	1.29	1.29	-0.65	MWD
2976.00	8.00	118.50	2973.04	-27.92	61.88	67.63	1.70	1.67	-2.67	MWD
3007.00	8.40	118.80	3003.72	-30.04	65.76	72.05	1.30	1.29	0.97	MWD
3038.00	8.80	118.60	3034.37	-32.27	69.82	76.68	1.29	1.29	-0.65	MWD
3069.00	9.50	118.30	3064.98	-34.61	74.16	81.61	2.26	2.26	-0.97	MWD
3100.00	9.80	118.30	3095.54	-37.08	78.73	86.81	0.97	0.97	0.00	MWD
3131.00	10.10	117.60	3126.07	-39.59	83.46	92.16	1.04	0.97	-2.26	MWD
3162.00	10.60	116.20	3156.57	-42.11	88.43	97.73	1.81	1.61	-4.52	MWD
3194.00	10.90	114.80	3188.00	-44.67	93.82	103.68	1.24	0.94	-4.37	MWD
3225.00	11.50	116.30	3218.41	-47.27	99.25	109.69	2.15	1.94	4.84	MWD
3256.00	12.10	116.70	3248.76	-50.10	104.92	116.02	1.95	1.94	1.29	MWD
3287.00	12.20	116.70	3279.06	-53.03	110.75	122.54	0.32	0.32	0.00	MWD
3317.00	13.10	120.00	3308.34	-56.16	116.53	129.11	3.85	3.00	11.00	MWD
3349.00	13.20	120.60	3339.50	-59.83	122.81	136.38	0.53	0.31	1.87	MWD
3380.00	13.50	120.70	3369.66	-63.48	128.97	143.54	0.97	0.97	0.32	MWD
3411.00	13.90	120.70	3399.78	-67.23	135.28	150.88	1.29	1.29	0.00	MWD
3442.00	14.20	120.40	3429.85	-71.05	141.76	158.40	1.00	0.97	-0.97	MWD
3535.00	14.90	119.50	3519.87	-82.71	162.01	181.77	0.79	0.75	-0.97	MWD
3628.00	14.90	118.30	3609.74	-94.27	182.94	205.68	0.33	0.00	-1.29	MWD
3722.00	14.70	119.30	3700.62	-105.84	203.99	229.69	0.35	-0.21	1.06	MWD
3815.00	14.60	120.40	3790.60	-117.54	224.39	253.21	0.32	-0.11	1.18	MWD
3908.00	14.10	122.30	3880.70	-129.53	244.07	276.24	0.74	-0.54	2.04	MWD
4001.00	13.60	125.50	3970.99	-141.93	262.55	298.42	0.98	-0.54	3.44	MWD
4094.00	14.00	127.90	4061.31	-155.19	280.33	320.41	0.75	0.43	2.58	MWD
4187.00	14.60	128.50	4151.43	-169.40	298.38	343.10	0.66	0.65	0.65	MWD
4279.00	14.30	128.80	4240.52	-183.73	316.31	365.76	0.34	-0.33	0.33	MWD
4372.00	13.50	130.10	4330.79	-197.92	333.56	387.75	0.92	-0.86	1.40	MWD
4465.00	13.00	130.10	4421.32	-211.65	349.87	408.68	0.54	-0.54	0.00	MWD
4481.10	13.03	129.14	4437.00	-213.96	352.66	412.25	1.36	0.16	-5.98	Target Intersection
4558.00	13.20	124.60	4511.90	-224.42	366.61	429.53	1.36	0.23	-5.90	MWD
4651.00	13.80	123.00	4602.33	-236.49	384.65	451.17	0.76	0.65	-1.72	MWD
4745.00	14.20	123.40	4693.54	-248.94	403.68	473.86	0.44	0.43	0.43	MWD
4837.00	13.70	123.50	4782.83	-261.17	422.18	495.98	0.54	-0.54	0.11	MWD
4931.00	12.70	122.70	4874.34	-272.90	440.16	517.39	1.08	-1.06	-0.85	MWD
5024.00	12.30	124.80	4965.14	-284.07	456.90	537.46	0.65	-0.43	2.26	MWD

Precision Directional Services, Inc.

Survey Report

Company: ALTA MESA	Date: 10/24/2014	Time: 12:34:06	Page: 3
Field: Payette County, ID	Co-ordinate(NE) Reference: Well: #1-9, Grid North		
Site: Kauffman 1-9	Vertical (TVD) Reference: 2606'GL+12'KB 2618.0		
Well: #1-9	Section (VS) Reference: Well (0.00N,0.00E,119.28Azi)		
Wellpath: Original Hole	Survey Calculation Method: Minimum Curvature	Db: Adapti	

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
5116.00	10.80	122.50	5055.27	-294.30	472.22	555.82	1.71	-1.63	-2.50	MWD
5209.00	9.10	117.20	5146.87	-302.34	486.11	571.87	2.07	-1.83	-5.70	MWD
5301.00	8.30	118.80	5237.81	-308.87	498.40	585.78	0.91	-0.87	1.74	MWD
5394.00	7.70	121.40	5329.91	-315.35	509.60	598.72	0.75	-0.65	2.80	MWD
5487.00	7.70	122.00	5422.07	-321.89	520.20	611.17	0.09	0.00	0.65	MWD
5580.00	7.10	123.20	5514.29	-328.34	530.29	623.13	0.67	-0.65	1.29	MWD
5755.00	7.10	123.20	5687.95	-340.19	548.39	644.71	0.00	0.00	0.00	PROJECTED to TD

Annotation

MD ft	TVD ft	Annotation
4481.10	4437.00	Target Intersection