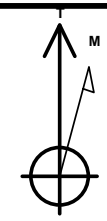




Project: Moffat County, CO NAD83
Site: Bret Grandbouche
Well: Bret Grandbouche 24-02
Wellbore: OH
Design: Plan 1

Quicksilver Resources, Inc.

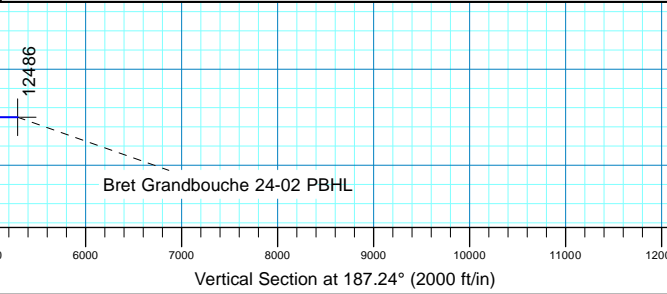
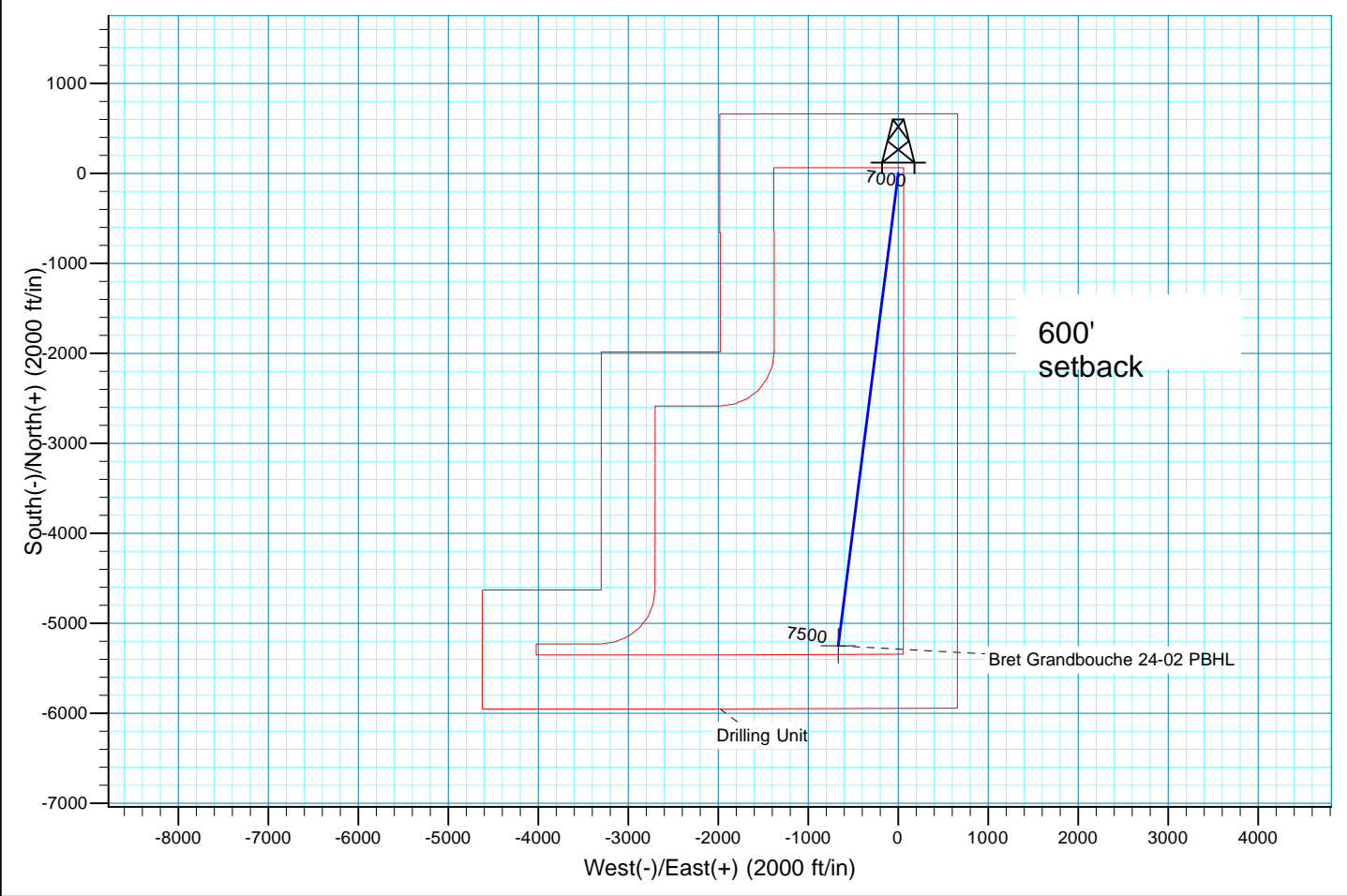
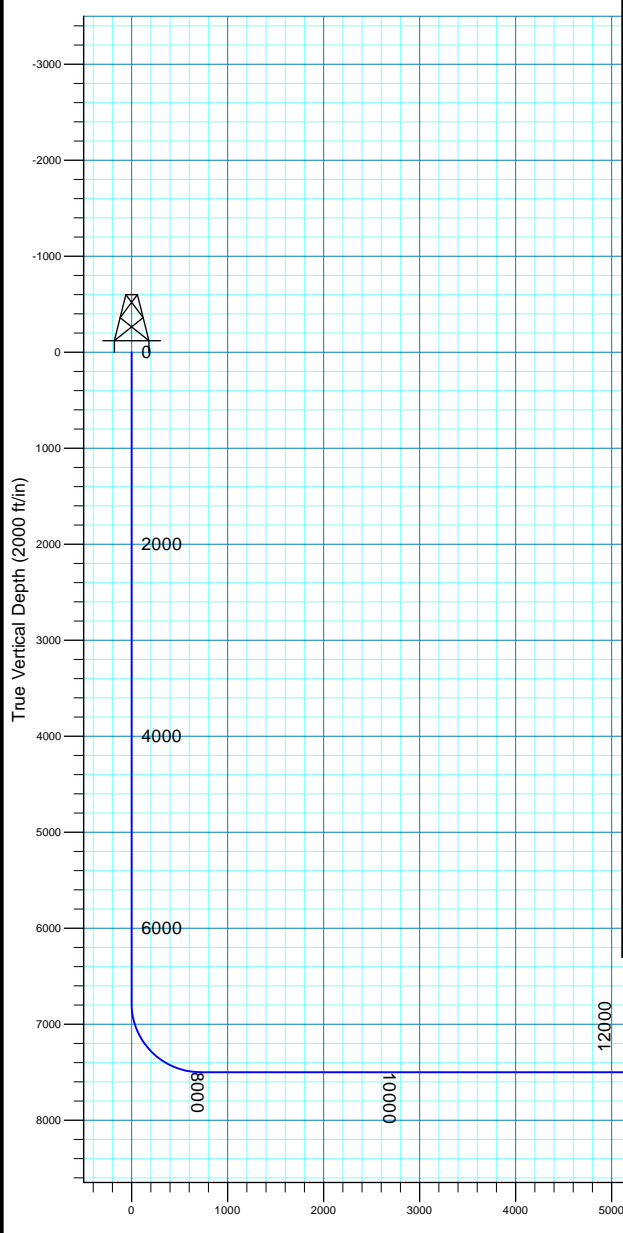


Azimuths to True North
Magnetic North: 10.32°
Magnetic Field
Strength: 52808.4 nT
Dip Angle: 66.61°
Date: 2011-08-03
Model: IGRF2010

WELL DETAILS: Bret Grandbouche 24-02						
GL 6634' & KB 16' @ 6650.00ft (DHS 6)						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	1430462.28	2391175.82	40° 29' 39.800 N	107° 41' 21.380 W	

PROJECT DETAILS: Moffat County, CO NAD83	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	Colorado Northern Zone
System Datum:	Mean Sea Level
Local North:	True

Plan: Plan 1 (Bret Grandbouche 24-02/OH)	
Created By: Julie Cruise	Date: 2011-08-03



SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6784.00	0.00	0.00	6784.00	0.00	0.00	0.00	0.00	0.00
7908.69	90.00	187.24	7500.00	-710.29	-90.23	8.00	187.24	716.00
12485.90	90.00	187.23	7500.00	-5251.04	-666.86	0.00	-90.00	5293.21



Scientific Drilling

Quicksilver Resources, Inc.

Moffat County, CO NAD83

Bret Grandbouche

Bret Grandbouche 24-02

OH

Plan: Plan 1

Standard Planning Report

03 August, 2011

Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well Bret Grandbouche 24-02
Company:	Quicksilver Resources, Inc.	TVD Reference:	GL 6634' & KB 16' @ 6650.00ft (DHS 6)
Project:	Moffat County, CO NAD83	MD Reference:	GL 6634' & KB 16' @ 6650.00ft (DHS 6)
Site:	Bret Grandbouche	North Reference:	True
Well:	Bret Grandbouche 24-02	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

Project	Moffat County, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Bret Grandbouche			
Site Position: From:		Northing:	1,430,462.28 usft	Latitude:	40° 29' 39.800 N
	Lat/Long	Easting:	2,391,175.82 usft	Longitude:	107° 41' 21.380 W
	Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:

Well	Bret Grandbouche 24-02, 664' FSL 1983' FWL Sec 2 T6N R92W					
Well Position	+N/-S	0.00 ft	Northing:	1,430,462.28 usft	Latitude:	40° 29' 39.800 N
	+E/-W	0.00 ft	Easting:	2,391,175.82 usft	Longitude:	107° 41' 21.380 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	6,634.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2011-08-03	10.32	66.61	52,808

Design	Plan 1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	187.24

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,784.00	0.00	0.00	6,784.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,908.69	90.00	187.24	7,500.00	-710.29	-90.23	8.00	8.00	0.00	187.24	
12,485.90	90.00	187.23	7,500.00	-5,251.04	-666.86	0.00	0.00	0.00	-90.00	Bret Grandbouche 24

Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well Bret Grandbouche 24-02
Company:	Quicksilver Resources, Inc.	TVD Reference:	GL 6634' & KB 16' @ 6650.00ft (DHS 6)
Project:	Moffat County, CO NAD83	MD Reference:	GL 6634' & KB 16' @ 6650.00ft (DHS 6)
Site:	Bret Grandbouche	North Reference:	True
Well:	Bret Grandbouche 24-02	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
Mesaverde									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
Mancos									
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well Bret Grandbouche 24-02
Company:	Quicksilver Resources, Inc.	TVD Reference:	GL 6634' & KB 16' @ 6650.00ft (DHS 6)
Project:	Moffat County, CO NAD83	MD Reference:	GL 6634' & KB 16' @ 6650.00ft (DHS 6)
Site:	Bret Grandbouche	North Reference:	True
Well:	Bret Grandbouche 24-02	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,784.00	0.00	0.00	6,784.00	0.00	0.00	0.00	0.00	0.00	0.00
6,790.00	0.48	187.24	6,790.00	-0.02	0.00	0.03	8.00	8.00	0.00
Niobrara									
6,800.00	1.28	187.24	6,800.00	-0.18	-0.02	0.18	8.00	8.00	0.00
Buck Peak									
6,900.00	9.28	187.24	6,899.49	-9.30	-1.18	9.38	8.00	8.00	0.00
7,000.00	17.28	187.24	6,996.74	-32.08	-4.08	32.33	8.00	8.00	0.00
7,100.00	25.29	187.24	7,089.84	-68.06	-8.65	68.61	8.00	8.00	0.00
7,200.00	33.29	187.24	7,176.99	-116.55	-14.81	117.49	8.00	8.00	0.00
7,278.35	39.56	187.24	7,240.00	-162.68	-20.67	163.99	8.00	8.00	0.00
Tow Creek									
7,300.00	41.29	187.24	7,256.48	-176.60	-22.44	178.02	8.00	8.00	0.00
7,400.00	49.29	187.24	7,326.77	-247.05	-31.39	249.04	8.00	8.00	0.00
7,500.00	57.30	187.24	7,386.49	-326.52	-41.48	329.14	8.00	8.00	0.00
7,600.00	65.30	187.24	7,434.48	-413.46	-52.53	416.78	8.00	8.00	0.00
7,700.00	73.30	187.24	7,469.80	-506.18	-64.30	510.25	8.00	8.00	0.00
7,739.06	76.43	187.24	7,480.00	-543.58	-69.06	547.95	8.00	8.00	0.00
Wold Mountain									
7,800.00	81.30	187.24	7,491.77	-602.88	-76.59	607.73	8.00	8.00	0.00
7,900.00	89.30	187.24	7,499.95	-701.67	-89.14	707.31	8.00	8.00	0.00
7,908.69	90.00	187.24	7,500.00	-710.29	-90.23	716.00	8.00	8.00	0.00
8,000.00	90.00	187.24	7,500.00	-800.87	-101.74	807.31	0.00	0.00	0.00
8,100.00	90.00	187.24	7,500.00	-900.08	-114.34	907.31	0.00	0.00	0.00
8,200.00	90.00	187.24	7,500.00	-999.28	-126.95	1,007.31	0.00	0.00	0.00
8,300.00	90.00	187.24	7,500.00	-1,098.48	-139.55	1,107.31	0.00	0.00	0.00
8,400.00	90.00	187.24	7,500.00	-1,197.68	-152.15	1,207.31	0.00	0.00	0.00
8,500.00	90.00	187.24	7,500.00	-1,296.89	-164.75	1,307.31	0.00	0.00	0.00
8,600.00	90.00	187.24	7,500.00	-1,396.09	-177.35	1,407.31	0.00	0.00	0.00
8,700.00	90.00	187.24	7,500.00	-1,495.29	-189.95	1,507.31	0.00	0.00	0.00
8,800.00	90.00	187.24	7,500.00	-1,594.50	-202.55	1,607.31	0.00	0.00	0.00
8,900.00	90.00	187.24	7,500.00	-1,693.70	-215.15	1,707.31	0.00	0.00	0.00
9,000.00	90.00	187.24	7,500.00	-1,792.90	-227.76	1,807.31	0.00	0.00	0.00
9,100.00	90.00	187.24	7,500.00	-1,892.10	-240.36	1,907.31	0.00	0.00	0.00
9,200.00	90.00	187.24	7,500.00	-1,991.31	-252.96	2,007.31	0.00	0.00	0.00
9,300.00	90.00	187.24	7,500.00	-2,090.51	-265.56	2,107.31	0.00	0.00	0.00
9,400.00	90.00	187.24	7,500.00	-2,189.71	-278.16	2,207.31	0.00	0.00	0.00
9,500.00	90.00	187.24	7,500.00	-2,288.92	-290.75	2,307.31	0.00	0.00	0.00

Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well Bret Grandbouche 24-02
Company:	Quicksilver Resources, Inc.	TVD Reference:	GL 6634' & KB 16' @ 6650.00ft (DHS 6)
Project:	Moffat County, CO NAD83	MD Reference:	GL 6634' & KB 16' @ 6650.00ft (DHS 6)
Site:	Bret Grandbouche	North Reference:	True
Well:	Bret Grandbouche 24-02	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,600.00	90.00	187.24	7,500.00	-2,388.12	-303.35	2,407.31	0.00	0.00	0.00	
9,700.00	90.00	187.24	7,500.00	-2,487.32	-315.95	2,507.31	0.00	0.00	0.00	
9,800.00	90.00	187.24	7,500.00	-2,586.53	-328.55	2,607.31	0.00	0.00	0.00	
9,900.00	90.00	187.24	7,500.00	-2,685.73	-341.15	2,707.31	0.00	0.00	0.00	
10,000.00	90.00	187.24	7,500.00	-2,784.93	-353.75	2,807.31	0.00	0.00	0.00	
10,100.00	90.00	187.24	7,500.00	-2,884.14	-366.35	2,907.31	0.00	0.00	0.00	
10,200.00	90.00	187.24	7,500.00	-2,983.34	-378.94	3,007.31	0.00	0.00	0.00	
10,300.00	90.00	187.24	7,500.00	-3,082.54	-391.54	3,107.31	0.00	0.00	0.00	
10,400.00	90.00	187.24	7,500.00	-3,181.75	-404.14	3,207.31	0.00	0.00	0.00	
10,500.00	90.00	187.24	7,500.00	-3,280.95	-416.74	3,307.31	0.00	0.00	0.00	
10,600.00	90.00	187.24	7,500.00	-3,380.15	-429.33	3,407.31	0.00	0.00	0.00	
10,700.00	90.00	187.24	7,500.00	-3,479.36	-441.93	3,507.31	0.00	0.00	0.00	
10,800.00	90.00	187.24	7,500.00	-3,578.56	-454.53	3,607.31	0.00	0.00	0.00	
10,900.00	90.00	187.24	7,500.00	-3,677.76	-467.12	3,707.31	0.00	0.00	0.00	
11,000.00	90.00	187.24	7,500.00	-3,776.97	-479.72	3,807.31	0.00	0.00	0.00	
11,100.00	90.00	187.24	7,500.00	-3,876.17	-492.32	3,907.31	0.00	0.00	0.00	
11,200.00	90.00	187.24	7,500.00	-3,975.37	-504.91	4,007.31	0.00	0.00	0.00	
11,300.00	90.00	187.24	7,500.00	-4,074.58	-517.51	4,107.31	0.00	0.00	0.00	
11,400.00	90.00	187.24	7,500.00	-4,173.78	-530.10	4,207.31	0.00	0.00	0.00	
11,500.00	90.00	187.24	7,500.00	-4,272.98	-542.70	4,307.31	0.00	0.00	0.00	
11,600.00	90.00	187.24	7,500.00	-4,372.19	-555.29	4,407.31	0.00	0.00	0.00	
11,700.00	90.00	187.24	7,500.00	-4,471.39	-567.89	4,507.31	0.00	0.00	0.00	
11,800.00	90.00	187.24	7,500.00	-4,570.60	-580.48	4,607.31	0.00	0.00	0.00	
11,900.00	90.00	187.24	7,500.00	-4,669.80	-593.08	4,707.31	0.00	0.00	0.00	
12,000.00	90.00	187.24	7,500.00	-4,769.00	-605.67	4,807.31	0.00	0.00	0.00	
12,100.00	90.00	187.23	7,500.00	-4,868.21	-618.27	4,907.31	0.00	0.00	0.00	
12,200.00	90.00	187.23	7,500.00	-4,967.41	-630.86	5,007.31	0.00	0.00	0.00	
12,300.00	90.00	187.23	7,500.00	-5,066.61	-643.45	5,107.31	0.00	0.00	0.00	
12,400.00	90.00	187.23	7,500.00	-5,165.82	-656.05	5,207.31	0.00	0.00	0.00	
12,485.90	90.00	187.23	7,500.00	-5,251.04	-666.86	5,293.21	0.00	0.00	0.00	

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Bret Grandbouche 24-02	0.00	0.00	7,500.00	-5,251.04	-666.86	1,425,229.31	2,390,379.53	40° 28' 47.910 N	107° 41' 30.010 W
- plan hits target center									
- Point									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
800.00	800.00	Mesaverde		0.00		
3,500.00	3,500.00	Mancos		0.00		
6,790.00	6,790.00	Niobrara		0.00		
6,800.00	6,800.00	Buck Peak		0.00		
7,278.35	7,240.00	Tow Creek		0.00		
7,739.06	7,480.00	Wold Mountrain		0.00		

Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well Bret Grandbouche 24-02
Company:	Quicksilver Resources, Inc.	TVD Reference:	GL 6634' & KB 16' @ 6650.00ft (DHS 6)
Project:	Moffat County, CO NAD83	MD Reference:	GL 6634' & KB 16' @ 6650.00ft (DHS 6)
Site:	Bret Grandbouche	North Reference:	True
Well:	Bret Grandbouche 24-02	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		