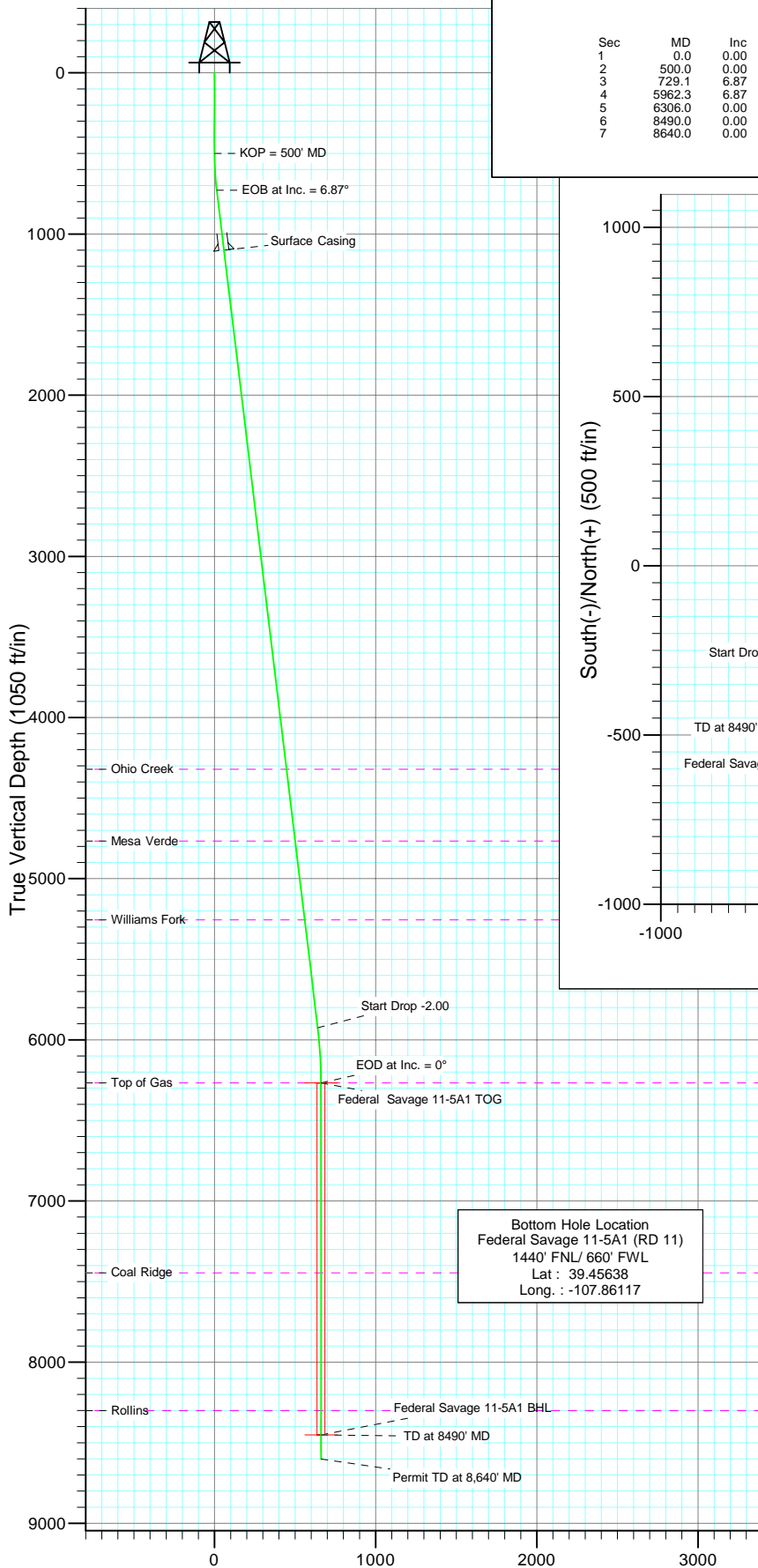
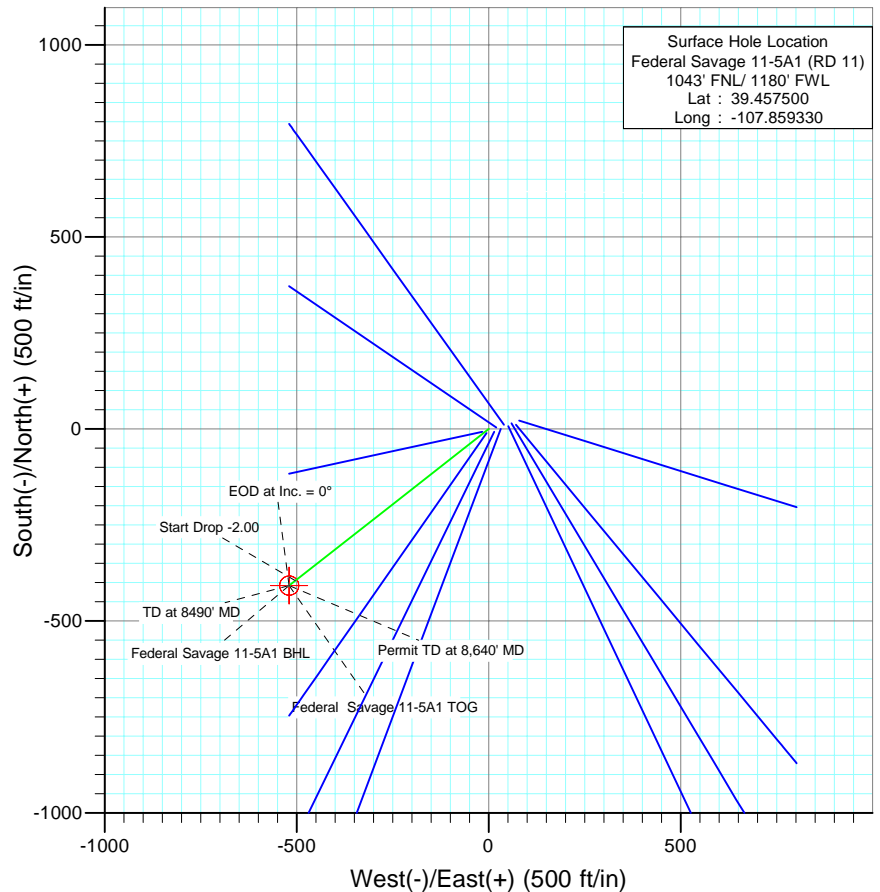




Project: S. Piceance
Site: NWNW S11-T7S-R94W (RD 11 Pad)
Well: Federal Savage 11-5A1 (RD 11)
Wellbore: DD
Design: Plan #1



SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.0	
3	729.1	6.87	231.86	728.6	-8.5	-10.8	3.00	231.86	13.7	
4	5962.3	6.87	231.86	5924.2	-395.2	-503.4	0.00	0.00	640.0	
5	6306.0	0.00	0.00	6267.0	-407.9	-519.6	2.00	180.00	660.6	Federal Savage 11-5A1 TOG
6	8490.0	0.00	0.00	8451.0	-407.9	-519.6	0.00	0.00	660.6	Federal Savage 11-5A1 BHL
7	8640.0	0.00	0.00	8601.0	-407.9	-519.6	0.00	0.00	660.6	



Azimuths to True North
Magnetic North: 10.41°

Magnetic Field
Strength: 52390.3snT
Dip Angle: 65.78°
Date: 4/16/2010
Model: USER DEFINED

FORMATION TOP DETAILS

TVDPath	MDPath	Formation	
4321.0	4347.6	Ohio Creek	0.00
4766.0	4795.8	Mesa Verde	0.00
5256.0	5289.3	Williams Fork	0.00
6267.0	6306.0	Top of Gas	0.00
7446.0	7485.0	Coal Ridge	0.00
8301.0	8340.0	Rollins	0.00

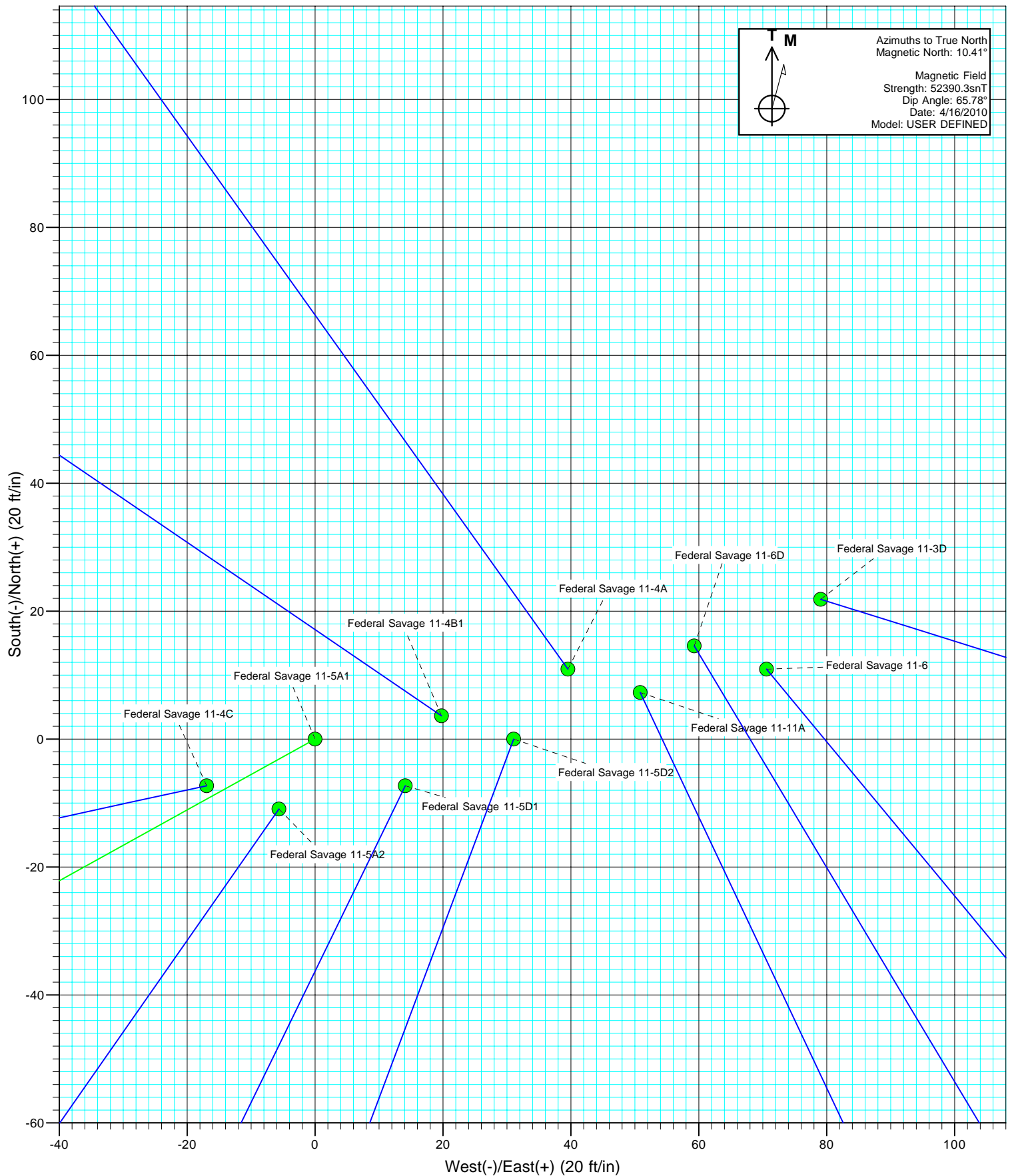
DESIGN DETAILS: Plan #1

105XXX; KR
KBE @ 6405.0ft (Original Well Elev)

Target	Azimuth	Origin	N/S	E/W	From TVD
Federal Savage 11-5A1 BHL	231.86	Slot	0.0	0.0	0.0

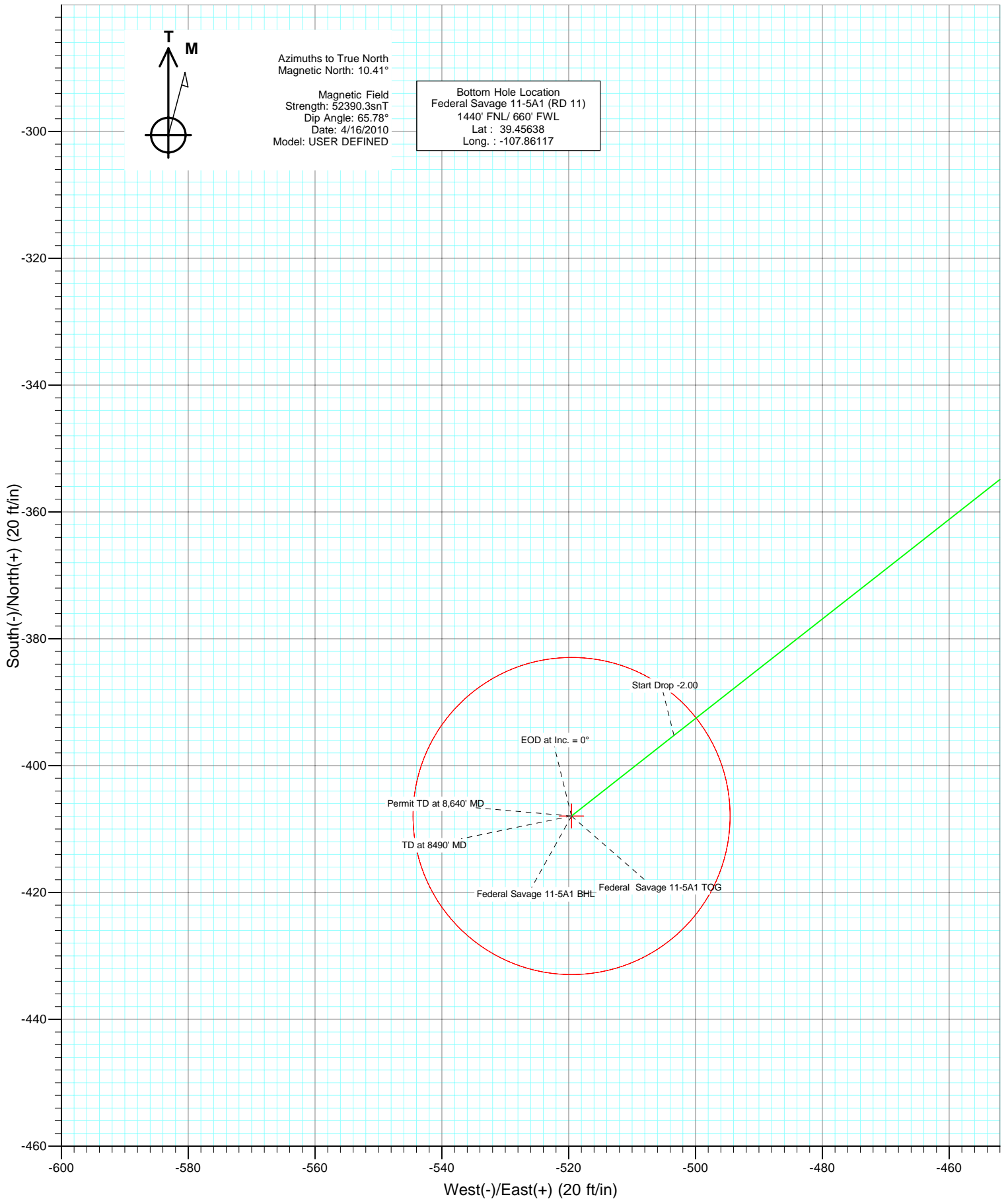


Project: S. Piceance
Site: NWNW S11-T7S-R94W (RD 11 Pad)
Well: Federal Savage 11-5A1 (RD 11)
Wellbore: DD
Design: Plan #1





Project: S. Piceance
Site: NWNW S11-T7S-R94W (RD 11 Pad)
Well: Federal Savage 11-5A1 (RD 11)
Wellbore: DD
Design: Plan #1



Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Federal Savage 11-5A1 (RD 11)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 6405.0ft (Original Well Elev)
Project:	S. Piceance	MD Reference:	KBE @ 6405.0ft (Original Well Elev)
Site:	NWNW S11-T7S-R94W (RD 11 Pad)	North Reference:	True
Well:	Federal Savage 11-5A1 (RD 11)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Project	S. Piceance, Garfield County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site		NWNW S11-T7S-R94W (RD 11 Pad)			
Site Position:		Northing:	1,600,192.72 ft	Latitude:	39.457550
From:	Lat/Long	Easting:	2,333,999.30 ft	Longitude:	-107.859020
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.49 °

Well	Federal Savage 11-5A1 (RD 11)					
Well Position	+N/-S	0.0 ft	Northing:	1,600,176.78 ft	Latitude:	39.457500
	+E/-W	0.0 ft	Easting:	2,333,911.32 ft	Longitude:	-107.859330
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	6,383.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	4/16/2010	10.41	65.78	52,390

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	231.86

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
729.1	6.87	231.86	728.6	-8.5	-10.8	3.00	3.00	0.00	231.86	
5,962.3	6.87	231.86	5,924.2	-395.2	-503.4	0.00	0.00	0.00	0.00	
6,306.0	0.00	0.00	6,267.0	-407.9	-519.6	2.00	-2.00	0.00	180.00	Federal Savage 11-5
8,490.0	0.00	0.00	8,451.0	-407.9	-519.6	0.00	0.00	0.00	0.00	Federal Savage 11-5/
8,640.0	0.00	0.00	8,601.0	-407.9	-519.6	0.00	0.00	0.00	0.00	

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Federal Savage 11-5A1 (RD 11)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 6405.0ft (Original Well Elev)
Project:	S. Piceance	MD Reference:	KBE @ 6405.0ft (Original Well Elev)
Site:	NWNW S11-T7S-R94W (RD 11 Pad)	North Reference:	True
Well:	Federal Savage 11-5A1 (RD 11)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
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)	Comments / Formations
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	KOP = 500' MD
600.0	3.00	231.86	600.0	-1.6	-2.1	2.6	3.00	3.00	
700.0	6.00	231.86	699.6	-6.5	-8.2	10.5	3.00	3.00	
729.1	6.87	231.86	728.6	-8.5	-10.8	13.7	3.00	3.00	EOB at Inc. = 6.87°
800.0	6.87	231.86	798.9	-13.7	-17.5	22.2	0.00	0.00	
900.0	6.87	231.86	898.2	-21.1	-26.9	34.2	0.00	0.00	
1,000.0	6.87	231.86	997.5	-28.5	-36.3	46.1	0.00	0.00	
1,100.0	6.87	231.86	1,096.8	-35.9	-45.7	58.1	0.00	0.00	
1,103.2	6.87	231.86	1,100.0	-36.1	-46.0	58.5	0.00	0.00	Surface Casing
1,200.0	6.87	231.86	1,196.1	-43.3	-55.1	70.1	0.00	0.00	
1,300.0	6.87	231.86	1,295.3	-50.7	-64.5	82.0	0.00	0.00	
1,400.0	6.87	231.86	1,394.6	-58.1	-73.9	94.0	0.00	0.00	
1,500.0	6.87	231.86	1,493.9	-65.4	-83.4	106.0	0.00	0.00	
1,600.0	6.87	231.86	1,593.2	-72.8	-92.8	117.9	0.00	0.00	
1,700.0	6.87	231.86	1,692.5	-80.2	-102.2	129.9	0.00	0.00	
1,800.0	6.87	231.86	1,791.8	-87.6	-111.6	141.9	0.00	0.00	
1,900.0	6.87	231.86	1,891.0	-95.0	-121.0	153.8	0.00	0.00	
2,000.0	6.87	231.86	1,990.3	-102.4	-130.4	165.8	0.00	0.00	
2,100.0	6.87	231.86	2,089.6	-109.8	-139.8	177.8	0.00	0.00	
2,200.0	6.87	231.86	2,188.9	-117.2	-149.2	189.7	0.00	0.00	
2,300.0	6.87	231.86	2,288.2	-124.6	-158.7	201.7	0.00	0.00	
2,400.0	6.87	231.86	2,387.4	-132.0	-168.1	213.7	0.00	0.00	
2,500.0	6.87	231.86	2,486.7	-139.3	-177.5	225.7	0.00	0.00	
2,600.0	6.87	231.86	2,586.0	-146.7	-186.9	237.6	0.00	0.00	
2,700.0	6.87	231.86	2,685.3	-154.1	-196.3	249.6	0.00	0.00	
2,800.0	6.87	231.86	2,784.6	-161.5	-205.7	261.6	0.00	0.00	
2,900.0	6.87	231.86	2,883.8	-168.9	-215.1	273.5	0.00	0.00	
3,000.0	6.87	231.86	2,983.1	-176.3	-224.5	285.5	0.00	0.00	
3,100.0	6.87	231.86	3,082.4	-183.7	-234.0	297.5	0.00	0.00	
3,200.0	6.87	231.86	3,181.7	-191.1	-243.4	309.4	0.00	0.00	
3,300.0	6.87	231.86	3,281.0	-198.5	-252.8	321.4	0.00	0.00	
3,400.0	6.87	231.86	3,380.3	-205.9	-262.2	333.4	0.00	0.00	
3,500.0	6.87	231.86	3,479.5	-213.2	-271.6	345.3	0.00	0.00	
3,600.0	6.87	231.86	3,578.8	-220.6	-281.0	357.3	0.00	0.00	
3,700.0	6.87	231.86	3,678.1	-228.0	-290.4	369.3	0.00	0.00	
3,800.0	6.87	231.86	3,777.4	-235.4	-299.8	381.2	0.00	0.00	
3,900.0	6.87	231.86	3,876.7	-242.8	-309.3	393.2	0.00	0.00	
4,000.0	6.87	231.86	3,975.9	-250.2	-318.7	405.2	0.00	0.00	
4,100.0	6.87	231.86	4,075.2	-257.6	-328.1	417.1	0.00	0.00	
4,200.0	6.87	231.86	4,174.5	-265.0	-337.5	429.1	0.00	0.00	
4,300.0	6.87	231.86	4,273.8	-272.4	-346.9	441.1	0.00	0.00	
4,347.6	6.87	231.86	4,321.0	-275.9	-351.4	446.7	0.00	0.00	Ohio Creek
4,400.0	6.87	231.86	4,373.1	-279.8	-356.3	453.0	0.00	0.00	
4,500.0	6.87	231.86	4,472.4	-287.1	-365.7	465.0	0.00	0.00	
4,600.0	6.87	231.86	4,571.6	-294.5	-375.1	477.0	0.00	0.00	
4,700.0	6.87	231.86	4,670.9	-301.9	-384.6	488.9	0.00	0.00	
4,795.8	6.87	231.86	4,766.0	-309.0	-393.6	500.4	0.00	0.00	Mesa Verde

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Federal Savage 11-5A1 (RD 11)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 6405.0ft (Original Well Elev)
Project:	S. Piceance	MD Reference:	KBE @ 6405.0ft (Original Well Elev)
Site:	NWNW S11-T7S-R94W (RD 11 Pad)	North Reference:	True
Well:	Federal Savage 11-5A1 (RD 11)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
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)	Comments / Formations
4,800.0	6.87	231.86	4,770.2	-309.3	-394.0	500.9	0.00	0.00	
4,900.0	6.87	231.86	4,869.5	-316.7	-403.4	512.9	0.00	0.00	
5,000.0	6.87	231.86	4,968.8	-324.1	-412.8	524.8	0.00	0.00	
5,100.0	6.87	231.86	5,068.0	-331.5	-422.2	536.8	0.00	0.00	
5,200.0	6.87	231.86	5,167.3	-338.9	-431.6	548.8	0.00	0.00	
5,289.3	6.87	231.86	5,256.0	-345.5	-440.0	559.5	0.00	0.00	Williams Fork
5,300.0	6.87	231.86	5,266.6	-346.3	-441.0	560.7	0.00	0.00	
5,400.0	6.87	231.86	5,365.9	-353.7	-450.5	572.7	0.00	0.00	
5,500.0	6.87	231.86	5,465.2	-361.1	-459.9	584.7	0.00	0.00	
5,600.0	6.87	231.86	5,564.4	-368.4	-469.3	596.6	0.00	0.00	
5,700.0	6.87	231.86	5,663.7	-375.8	-478.7	608.6	0.00	0.00	
5,800.0	6.87	231.86	5,763.0	-383.2	-488.1	620.6	0.00	0.00	
5,900.0	6.87	231.86	5,862.3	-390.6	-497.5	632.5	0.00	0.00	
5,962.3	6.87	231.86	5,924.2	-395.2	-503.4	640.0	0.00	0.00	Start Drop -2.00
6,000.0	6.12	231.86	5,961.6	-397.8	-506.7	644.3	2.00	-2.00	
6,100.0	4.12	231.86	6,061.2	-403.4	-513.8	653.2	2.00	-2.00	
6,200.0	2.12	231.86	6,161.0	-406.7	-518.0	658.6	2.00	-2.00	
6,300.0	0.12	231.86	6,261.0	-407.9	-519.6	660.6	2.00	-2.00	
6,306.0	0.00	0.00	6,267.0	-407.9	-519.6	660.6	2.00	-2.00	EOD at Inc. = 0° - Top of Gas - Federal Savage
6,400.0	0.00	0.00	6,361.0	-407.9	-519.6	660.6	0.00	0.00	
6,500.0	0.00	0.00	6,461.0	-407.9	-519.6	660.6	0.00	0.00	
6,600.0	0.00	0.00	6,561.0	-407.9	-519.6	660.6	0.00	0.00	
6,700.0	0.00	0.00	6,661.0	-407.9	-519.6	660.6	0.00	0.00	
6,800.0	0.00	0.00	6,761.0	-407.9	-519.6	660.6	0.00	0.00	
6,900.0	0.00	0.00	6,861.0	-407.9	-519.6	660.6	0.00	0.00	
7,000.0	0.00	0.00	6,961.0	-407.9	-519.6	660.6	0.00	0.00	
7,100.0	0.00	0.00	7,061.0	-407.9	-519.6	660.6	0.00	0.00	
7,200.0	0.00	0.00	7,161.0	-407.9	-519.6	660.6	0.00	0.00	
7,300.0	0.00	0.00	7,261.0	-407.9	-519.6	660.6	0.00	0.00	
7,400.0	0.00	0.00	7,361.0	-407.9	-519.6	660.6	0.00	0.00	
7,485.0	0.00	0.00	7,446.0	-407.9	-519.6	660.6	0.00	0.00	Coal Ridge
7,500.0	0.00	0.00	7,461.0	-407.9	-519.6	660.6	0.00	0.00	
7,600.0	0.00	0.00	7,561.0	-407.9	-519.6	660.6	0.00	0.00	
7,700.0	0.00	0.00	7,661.0	-407.9	-519.6	660.6	0.00	0.00	
7,800.0	0.00	0.00	7,761.0	-407.9	-519.6	660.6	0.00	0.00	
7,900.0	0.00	0.00	7,861.0	-407.9	-519.6	660.6	0.00	0.00	
8,000.0	0.00	0.00	7,961.0	-407.9	-519.6	660.6	0.00	0.00	
8,100.0	0.00	0.00	8,061.0	-407.9	-519.6	660.6	0.00	0.00	
8,200.0	0.00	0.00	8,161.0	-407.9	-519.6	660.6	0.00	0.00	
8,300.0	0.00	0.00	8,261.0	-407.9	-519.6	660.6	0.00	0.00	
8,340.0	0.00	0.00	8,301.0	-407.9	-519.6	660.6	0.00	0.00	Rollins
8,400.0	0.00	0.00	8,361.0	-407.9	-519.6	660.6	0.00	0.00	
8,490.0	0.00	0.00	8,451.0	-407.9	-519.6	660.6	0.00	0.00	TD at 8490' MD - Federal Savage 11-5A1 BHL
8,500.0	0.00	0.00	8,461.0	-407.9	-519.6	660.6	0.00	0.00	
8,600.0	0.00	0.00	8,561.0	-407.9	-519.6	660.6	0.00	0.00	
8,640.0	0.00	0.00	8,601.0	-407.9	-519.6	660.6	0.00	0.00	Permit TD at 8,640' MD

Cathedral Energy Services

Planning Report

Database:	EDM 5000.1 US Multi Users DB	Local Co-ordinate Reference:	Well Federal Savage 11-5A1 (RD 11)
Company:	EnCana Oil & Gas (USA) Inc	TVD Reference:	KBE @ 6405.0ft (Original Well Elev)
Project:	S. Piceance	MD Reference:	KBE @ 6405.0ft (Original Well Elev)
Site:	NWNW S11-T7S-R94W (RD 11 Pad)	North Reference:	True
Well:	Federal Savage 11-5A1 (RD 11)	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #1		

Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
Federal Savage 11-5A1	0.00	0.00	6,267.0	-407.9	-519.6	1,599,782.48	2,333,381.33	39.456380	-107.861170
- plan hits target center									
- Point									
Federal Savage 11-5A1	0.00	0.00	8,451.0	-407.9	-519.5	1,599,782.48	2,333,381.36	39.456380	-107.861170
- plan hits target center									
- Circle (radius 25.0)									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(ft)	(ft)			(in)	(in)
1,103.2	1,100.0	Surface Casing		0.000	0.000

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
4,347.6	4,321.0	Ohio Creek		0.00	
4,795.8	4,766.0	Mesa Verde		0.00	
5,289.3	5,256.0	Williams Fork		0.00	
6,306.0	6,267.0	Top of Gas		0.00	
7,485.0	7,446.0	Coal Ridge		0.00	
8,340.0	8,301.0	Rollins		0.00	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
500.0	500.0	0.0	0.0	KOP = 500' MD
729.1	728.6	-8.5	-10.8	EOB at Inc. = 6.87°
5,962.3	5,924.2	-395.2	-503.4	Start Drop -2.00
6,306.0	6,267.0	-407.9	-519.6	EOD at Inc. = 0°
8,490.0	8,451.0	-407.9	-519.6	TD at 8490' MD
8,640.0	8,601.0	-407.9	-519.6	Permit TD at 8,640' MD