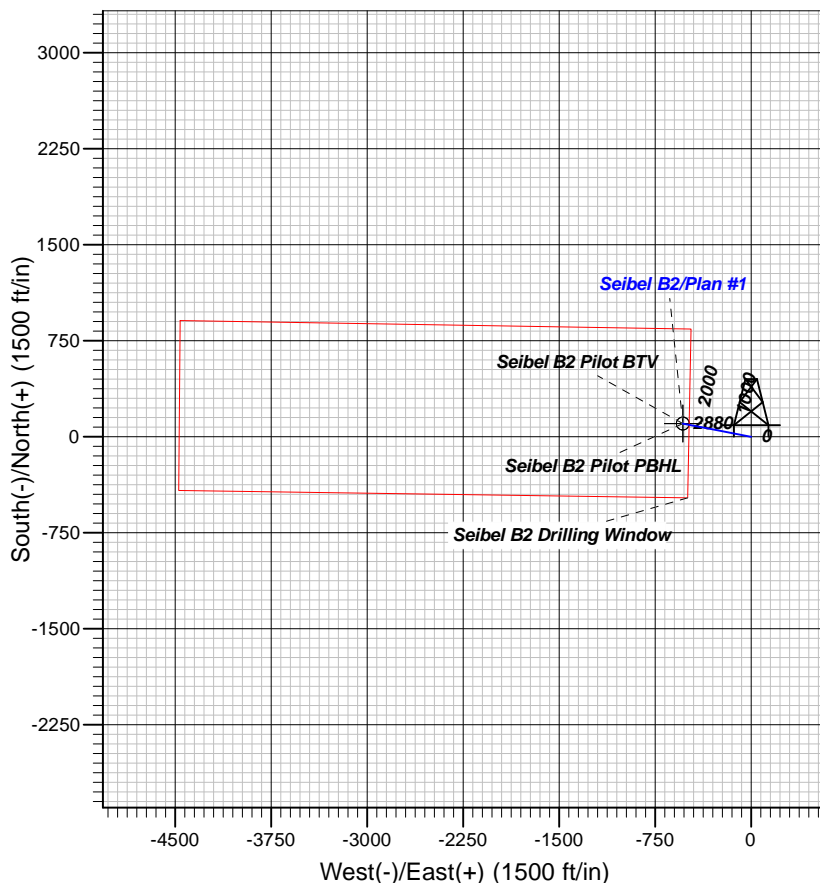
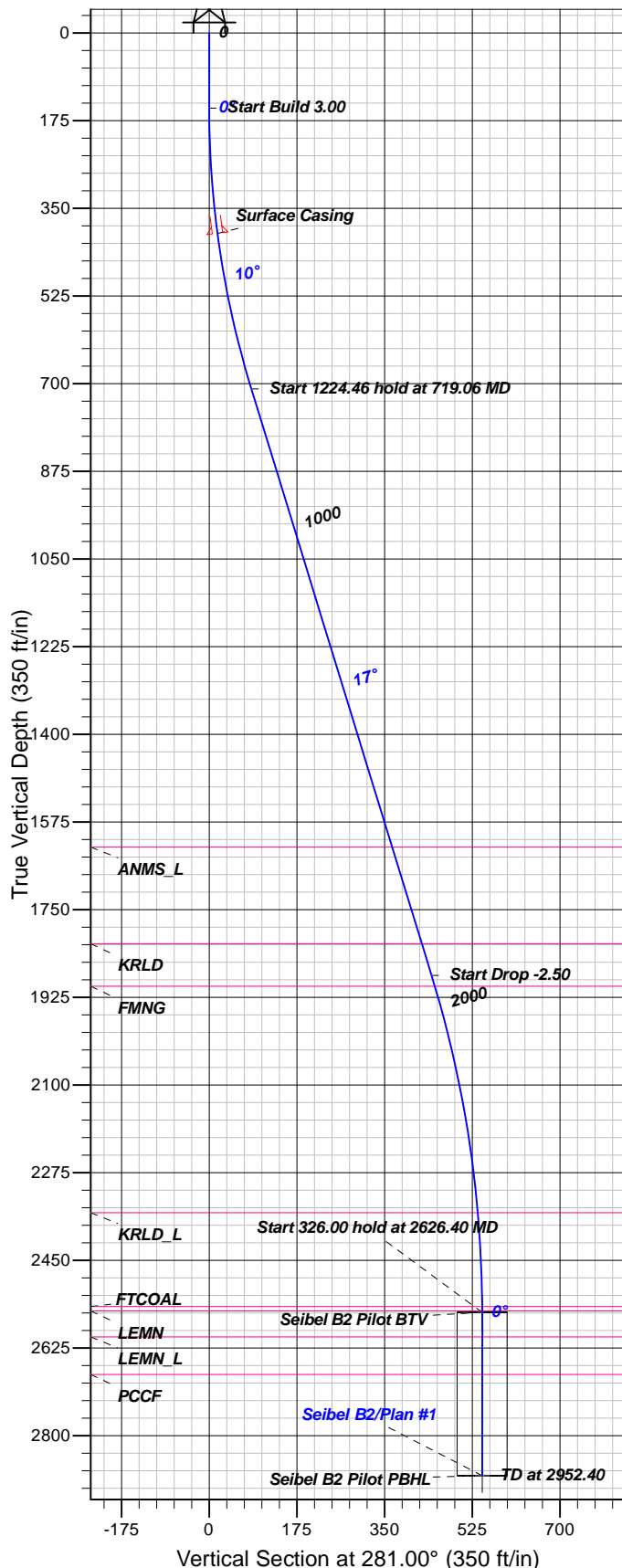


Well Details: Seibel B2

GL 6143' & RKB 11' @ 6154.00ft (Aztec 507)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1134811.52	2443283.97	37.0212951	-107.4069279	

G T
M Magnetic North: 10.58°
 Azimuths to Grid North
 True North: 1.17°
 Magnetic Field
 Strength: 50451.5snT
 Dip Angle: 63.69°
 Date: 4/16/2015
 Model: BGGM2014



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1625.00	1675.53	ANMS_L
1818.00	1877.42	KRLD
1903.00	1966.31	FMNG
2355.00	2427.14	KRLD_L
2542.00	2614.40	FTCOAL
2551.00	2623.40	LEMN
2603.00	2675.40	LEMN_L
2678.00	2750.40	PCCF

Plan: Plan #1

18:33, April 23 2015
Created By: Janie Collins

PROJECT DETAILS: Archuleta County, CO NAD83

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Southern Zone

System Datum: Mean Sea Level

CASING DETAILS

TVD	MD	Name	Size
400.00	400.72	Surface Casing	8.625

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	
3	719.06	17.07	281.00	710.68	16.06	-82.61	3.00	281.00	84.15	
4	1943.52	17.07	281.00	1881.18	84.68	-435.46	0.00	0.00	443.62	
5	2626.40	0.00	0.00	2554.00	103.96	-534.59	2.50	180.00	544.60	Seibel B2 Pilot BTM
6	2952.40	0.00	0.00	2880.00	103.96	-534.59	0.00	0.00	544.60	Seibel B2 Pilot PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Seibel B2 Pilot BTM	2554.00	103.96	-534.59	1134915.48	2442749.38	37.0215505	-107.4087658	Point
- plan hits target center								
Seibel B2 Pilot PBHL	2880.00	103.96	-534.59	1134915.48	2442749.38	37.0215505	-107.4087658	Circle (Radius: 50.00)
- plan hits target center								



B.P.

**Archuleta County, CO NAD83
SEC 8-T32N-R5W
Seibel B2**

Pilot

Plan: Plan #1

Standard Planning Report

23 April, 2015





Database:	Grand Junction District	Local Co-ordinate Reference:	Well Seibel B2
Company:	B.P.	TVD Reference:	GL 6143' & RKB 11' @ 6154.00ft (Aztec 507)
Project:	Archuleta County, CO NAD83	MD Reference:	GL 6143' & RKB 11' @ 6154.00ft (Aztec 507)
Site:	SEC 8-T32N-R5W	North Reference:	Grid
Well:	Seibel B2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Pilot		
Design:	Plan #1		

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

Site	SEC 8-T32N-R5W			
Site Position:		Northing:	1,137,019.43 usft	Latitude: 37.0273181
From:	Lat/Long	Easting:	2,442,581.73 usft	Longitude: -107.4094873
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: -1.17 °

Well	Seibel B2			
Well Position	+N/-S	-2,207.91 ft	Northing:	1,134,811.52 usft
	+E/-W	702.24 ft	Easting:	2,443,283.97 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft
			Ground Level:	6,143.00 ft

Wellbore	Pilot				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	4/16/2015	9.41	63.69	50,452

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	281.00

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	
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00	
719.06	17.07	281.00	710.68	16.06	-82.61	3.00	3.00	0.00	281.00	
1,943.52	17.07	281.00	1,881.18	84.68	-435.46	0.00	0.00	0.00	0.00	
2,626.40	0.00	0.00	2,554.00	103.96	-534.59	2.50	-2.50	0.00	180.00	Seibel B2 Pilot BTV
2,952.40	0.00	0.00	2,880.00	103.96	-534.59	0.00	0.00	0.00	0.00	Seibel B2 Pilot PBHL



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Seibel B2
Company:	B.P.	TVD Reference:	GL 6143' & RKB 11' @ 6154.00ft (Aztec 507)
Project:	Archuleta County, CO NAD83	MD Reference:	GL 6143' & RKB 11' @ 6154.00ft (Aztec 507)
Site:	SEC 8-T32N-R5W	North Reference:	Grid
Well:	Seibel B2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Pilot		
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
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	1.50	281.00	199.99	0.12	-0.64	0.65	3.00	3.00	0.00
300.00	4.50	281.00	299.85	1.12	-5.78	5.89	3.00	3.00	0.00
400.00	7.50	281.00	399.29	3.12	-16.04	16.34	3.00	3.00	0.00
400.72	7.52	281.00	400.00	3.14	-16.13	16.43	3.00	3.00	0.00
Surface Casing									
500.00	10.50	281.00	498.04	6.10	-31.39	31.98	3.00	3.00	0.00
600.00	13.50	281.00	595.85	10.07	-51.80	52.77	3.00	3.00	0.00
700.00	16.50	281.00	692.43	15.01	-77.20	78.65	3.00	3.00	0.00
719.06	17.07	281.00	710.68	16.06	-82.61	84.15	3.00	3.00	0.00
800.00	17.07	281.00	788.05	20.60	-105.93	107.91	0.00	0.00	0.00
900.00	17.07	281.00	883.64	26.20	-134.75	137.27	0.00	0.00	0.00
1,000.00	17.07	281.00	979.24	31.81	-163.56	166.63	0.00	0.00	0.00
1,100.00	17.07	281.00	1,074.83	37.41	-192.38	195.99	0.00	0.00	0.00
1,200.00	17.07	281.00	1,170.43	43.02	-221.20	225.34	0.00	0.00	0.00
1,300.00	17.07	281.00	1,266.02	48.62	-250.02	254.70	0.00	0.00	0.00
1,400.00	17.07	281.00	1,361.61	54.22	-278.83	284.06	0.00	0.00	0.00
1,500.00	17.07	281.00	1,457.21	59.83	-307.65	313.41	0.00	0.00	0.00
1,600.00	17.07	281.00	1,552.80	65.43	-336.47	342.77	0.00	0.00	0.00
1,675.53	17.07	281.00	1,625.00	69.66	-358.23	364.94	0.00	0.00	0.00
ANMS_L									
1,700.00	17.07	281.00	1,648.39	71.03	-365.29	372.13	0.00	0.00	0.00
1,800.00	17.07	281.00	1,743.99	76.64	-394.10	401.49	0.00	0.00	0.00
1,877.42	17.07	281.00	1,818.00	80.98	-416.41	424.22	0.00	0.00	0.00
KRLD									
1,900.00	17.07	281.00	1,839.58	82.24	-422.92	430.84	0.00	0.00	0.00
1,943.52	17.07	281.00	1,881.18	84.68	-435.46	443.62	0.00	0.00	0.00
1,966.31	16.50	281.00	1,903.00	85.94	-441.92	450.20	2.50	-2.50	0.00
FMNG									
2,000.00	15.66	281.00	1,935.37	87.72	-451.08	459.53	2.50	-2.50	0.00
2,100.00	13.16	281.00	2,032.22	92.47	-475.51	484.42	2.50	-2.50	0.00
2,200.00	10.66	281.00	2,130.06	96.41	-495.77	505.05	2.50	-2.50	0.00
2,300.00	8.16	281.00	2,228.71	99.53	-511.81	521.40	2.50	-2.50	0.00
2,400.00	5.66	281.00	2,327.97	101.83	-523.62	533.43	2.50	-2.50	0.00
2,427.14	4.98	281.00	2,355.00	102.31	-526.09	535.95	2.50	-2.50	0.00
KRLD_L									
2,500.00	3.16	281.00	2,427.67	103.29	-531.17	541.12	2.50	-2.50	0.00
2,600.00	0.66	281.00	2,527.61	103.93	-534.44	544.45	2.50	-2.50	0.00
2,614.40	0.30	281.00	2,542.00	103.95	-534.56	544.57	2.50	-2.50	0.00
FTCOAL									
2,623.40	0.08	281.00	2,551.00	103.96	-534.59	544.60	2.50	-2.50	0.00
LEMN									
2,626.40	0.00	0.00	2,554.00	103.96	-534.59	544.60	2.50	-2.50	0.00
Seibel B2 Pilot BTV									
2,675.40	0.00	0.00	2,603.00	103.96	-534.59	544.60	0.00	0.00	0.00
LEMN_L									
2,700.00	0.00	0.00	2,627.60	103.96	-534.59	544.60	0.00	0.00	0.00
2,750.40	0.00	0.00	2,678.00	103.96	-534.59	544.60	0.00	0.00	0.00
PCCF									
2,800.00	0.00	0.00	2,727.60	103.96	-534.59	544.60	0.00	0.00	0.00
2,900.00	0.00	0.00	2,827.60	103.96	-534.59	544.60	0.00	0.00	0.00



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Seibel B2
Company:	B.P.	TVD Reference:	GL 6143' & RKB 11' @ 6154.00ft (Aztec 507)
Project:	Archuleta County, CO NAD83	MD Reference:	GL 6143' & RKB 11' @ 6154.00ft (Aztec 507)
Site:	SEC 8-T32N-R5W	North Reference:	Grid
Well:	Seibel B2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Pilot		
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)
2,952.40	0.00	0.00	2,880.00	103.96	-534.59	544.60	0.00	0.00	0.00
Seibel B2 Pilot PBHL									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Seibel B2 Pilot BTV - plan hits target center - Point	0.00	360.00	2,554.00	103.96	-534.59	1,134,915.48	2,442,749.39	37.0215505	-107.4087659
Seibel B2 Pilot PBHL - plan hits target center - Circle (radius 50.00)	0.00	360.00	2,880.00	103.96	-534.59	1,134,915.48	2,442,749.39	37.0215505	-107.4087659

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
400.72	400.00	Surface Casing	8.625	12.250	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,675.53	1,625.00	ANMS_L		0.00		
1,877.42	1,818.00	KRLD		0.00		
1,966.31	1,903.00	FMNG		0.00		
2,427.14	2,355.00	KRLD_L		0.00		
2,614.40	2,542.00	FTCOAL		0.00		
2,623.40	2,551.00	LEMN		0.00		
2,675.40	2,603.00	LEMN_L		0.00		
2,750.40	2,678.00	PCCF		0.00		