

RCVD OCT 15 '12

OIL CONS. DIV.

DIST. 3

ConocoPhillips SJB

San Juan Basin - New Mexico West Wells

Other Named Wells

Waller #1B 30-045-35196 11-T32N-R11W

Original Hole

Plan: APD Directional Plan

Standard Planning Report

10 October, 2012

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Waller #1B
Company:	ConocoPhillips SJB	TVD Reference:	RKB @ 6578 0usft (AWS Rig Elevation)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	RKB @ 6578 0usft (AWS Rig Elevation)
Site:	Other Named Wells	North Reference:	Grid
Well:	Waller #1B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	APD Directional Plan		

Project:	San Juan Basin - New Mexico West Wells, New Mexico, Directional "S"		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Ground Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		Using geodetic scale factor

Site:	Other Named Wells		
Site Position:		Northing:	2,108,178 26 usft
From:	Lat/Long	Easting:	643,887 63 usft
Position Uncertainty:	15 0 usft	Slot Radius:	6-1/8"
		Latitude:	36° 47' 33 793 N
		Longitude:	107° 20' 30 932 W
		Grid Convergence:	0 29 °

Well:	Waller #1B, Directional S Curve Long Stepout		
Well Position	+N/-S	0 0 usft	Northing: 2,181,374 22 usft
	+E/-W	0 0 usft	Easting: 465,076 13 usft
Position Uncertainty	0 0 usft	Wellhead Elevation:	usft
		Latitude:	36° 59' 41.040 N
		Longitude:	107° 57' 10 516 W
		Ground Level:	6,563 0 usft

Wellbore:	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2012	4/19/2010	10.15	63.70	50,967

Design:	APD Directional Plan			
Audit Notes:				
Version:	1	Phase:	PROTOTYPE	Tie On Depth: 0 0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0 0	319 10

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0 0	0 00	0 00	0 0	0 0	0 0	0 00	0 00	0 00	0 00	
320 0	0 00	0 00	320 0	0 0	0 0	0 00	0 00	0 00	0 00	
1,108.2	23.65	319.10	1,086 1	121 2	-105 0	3 00	3 00	0 00	319 10	
3,552 9	23.65	319 10	3,325 5	862 4	-747 0	0 00	0 00	0 00	0 00	
4,144 1	0 00	0 00	3,900 0	953 3	-825.7	4 00	-4 00	0 00	180 00	Waller #1B ICP
8,159 1	0 00	0.00	7,915.0	953.3	-825 7	0.00	0 00	0 00	0 00	Waller #1B PCP

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Waller #1B
Company:	ConocoPhillips SJBU	TVD Reference:	RKB @ 6578.0usft (AWS Rig Elevation)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	RKB @ 6578.0usft (AWS Rig Elevation)
Site:	Other Named Wells	North Reference:	Grid
Well:	Waller #1B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	APD Directional Plan		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0 0	0 00	0 00	0 0	0 0	0 0	0.0	0 00	0 00	0 00
100 0	0 00	0 00	100 0	0 0	0 0	0.0	0 00	0 00	0 00
200 0	0 00	0 00	200 0	0 0	0 0	0 0	0 00	0 00	0 00
215 0	0 00	0 00	215 0	0 0	0 0	0.0	0 00	0 00	0 00
Surface Casing									
300 0	0 00	0 00	300 0	0 0	0 0	0 0	0 00	0 00	0 00
320 0	0 00	0 00	320 0	0 0	0 0	0.0	0 00	0 00	0 00
400 0	2.40	319 10	400 0	1 3	-1 1	1 7	3 00	3 00	0 00
500 0	5 40	319 10	499 7	6 4	-5 5	8 5	3 00	3 00	0 00
600 0	8 40	319 10	599 0	15 5	-13 4	20 5	3 00	3 00	0 00
700 0	11 40	319 10	697 5	28 5	-24 7	37 7	3 00	3 00	0 00
800 0	14 40	319 10	795 0	45 4	-39 3	60 0	3 00	3 00	0 00
900 0	17 40	319 10	891 1	66 1	-57 2	87 4	3 00	3 00	0 00
1,000 0	20 40	319 10	985 7	90 5	-78 4	119 8	3 00	3 00	0 00
1,100 0	23 40	319 10	1,078 5	118 7	-102 8	157 1	3 00	3 00	0 00
1,108 2	23 65	319 10	1,086 1	121 2	-105 0	160 4	3 00	3 00	0 00
1,200 0	23 65	319 10	1,170 1	149 0	-129 1	197 2	0 00	0 00	0 00
1,300 0	23 65	319 10	1,261 7	179 4	-155 3	237 3	0 00	0 00	0 00
1,400 0	23 65	319 10	1,353 3	209 7	-181 6	277 4	0 00	0 00	0 00
1,480 4	23 65	319 10	1,427 0	234 1	-202 7	309 7	0 00	0 00	0 00
Ojo Alamo									
1,500 0	23 65	319 10	1,444 9	240 0	-207 9	317 5	0 00	0 00	0 00
1,584 1	23 65	319 10	1,522 0	265 5	-230 0	351 3	0 00	0 00	0 00
Kirtland									
1,600 0	23 65	319 10	1,536 5	270 3	-234 1	357 6	0 00	0 00	0 00
1,700 0	23 65	319 10	1,628 1	300 6	-260 4	397 7	0 00	0 00	0 00
1,800 0	23 65	319 10	1,719 7	331 0	-286 6	437 8	0 00	0 00	0 00
1,900 0	23 65	319 10	1,811 3	361 3	-312 9	477 9	0 00	0 00	0 00
2,000 0	23 65	319 10	1,902 9	391 6	-339 2	518 1	0 00	0 00	0 00
2,100 0	23 65	319 10	1,994 5	421 9	-365 4	558 2	0 00	0 00	0 00
2,200 0	23 65	319 10	2,086 1	452 2	-391 7	598 3	0 00	0 00	0 00
2,300 0	23 65	319 10	2,177 7	482 6	-417 9	638 4	0 00	0 00	0 00
2,400 0	23 65	319 10	2,269 3	512 9	-444 2	678 5	0 00	0 00	0 00
2,500 0	23 65	319 10	2,360 9	543 2	-470 5	718 6	0 00	0 00	0 00
2,600 0	23 65	319 10	2,452 6	573 5	-496 7	758 7	0 00	0 00	0 00
2,700 0	23 65	319 10	2,544 2	603 8	-523 0	798 8	0 00	0 00	0 00
2,795 9	23 65	319 10	2,632 0	632 9	-548 2	837 3	0 00	0 00	0 00
Fruitland									
2,800 0	23 65	319 10	2,635 8	634 2	-549 2	838 9	0 00	0 00	0 00
2,900 0	23 65	319 10	2,727 4	664 5	-575 5	879 1	0 00	0 00	0 00
3,000 0	23 65	319 10	2,819 0	694 8	-601 8	919 2	0 00	0 00	0 00
3,100 0	23 65	319 10	2,910 6	725 1	-628 0	959 3	0 00	0 00	0 00
3,200 0	23 65	319 10	3,002 2	755 4	-654 3	999 4	0 00	0 00	0 00
3,300 0	23 65	319 10	3,093 8	785 7	-680 5	1,039 5	0 00	0 00	0 00
3,400 0	23 65	319 10	3,185 4	816 1	-706 8	1,079 6	0 00	0 00	0 00
3,500 0	23 65	319 10	3,277 0	846 4	-733 1	1,119 7	0 00	0 00	0 00
3,501 1	23 65	319 10	3,278 0	846 7	-733 4	1,120 2	0 00	0 00	0 00
Pictured Cliffs									
3,552 9	23 65	319 10	3,325 5	862 4	-747 0	1,140 9	0 00	0 00	0 00
3,600 0	21 76	319 10	3,368 9	876 2	-758 9	1,159 1	4 00	-4 00	0 00
3,639 7	20 17	319 10	3,406 0	886 9	-768 2	1,173 3	4 00	-4 00	0 00
Lewis									
3,700 0	17 76	319 10	3,463 0	901 7	-781 0	1,192 9	4 00	-4 00	0 00

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Waller #1B
Company:	ConocoPhillips SJB	TVD Reference:	RKB @ 6578 0usft (AWS Rig Elevation)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	RKB @ 6578 0usft (AWS Rig Elevation)
Site:	Other Named Wells	North Reference:	Grid
Well:	Waller #1B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	APD Directional Plan		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
3,800.0	13.76	319.10	3,559.2	922.3	-798.8	1,220.1	4.00	-4.00	0.00	
3,900.0	9.76	319.10	3,657.1	937.7	-812.1	1,240.5	4.00	-4.00	0.00	
4,000.0	5.76	319.10	3,756.1	947.9	-821.0	1,254.0	4.00	-4.00	0.00	
4,100.0	1.76	319.10	3,855.9	952.8	-825.3	1,260.5	4.00	-4.00	0.00	
4,144.1	0.00	0.00	3,900.0	953.3	-825.7	1,261.2	4.00	-4.00	92.72	
Intermediate Casing										
4,200.0	0.00	0.00	3,955.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
4,202.1	0.00	0.00	3,958.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Huerf. Bent.										
4,300.0	0.00	0.00	4,055.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
4,400.0	0.00	0.00	4,155.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
4,500.0	0.00	0.00	4,255.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
4,600.0	0.00	0.00	4,355.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
4,690.1	0.00	0.00	4,446.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Chacra										
4,700.0	0.00	0.00	4,455.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
4,800.0	0.00	0.00	4,555.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
4,900.0	0.00	0.00	4,655.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
5,000.0	0.00	0.00	4,755.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
5,099.1	0.00	0.00	4,855.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Upper Cliffhouse										
5,100.0	0.00	0.00	4,855.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
5,200.0	0.00	0.00	4,955.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,055.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,155.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
5,400.1	0.00	0.00	5,156.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Massive Cliffhouse										
5,474.1	0.00	0.00	5,230.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Menefee										
5,500.0	0.00	0.00	5,255.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,355.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,455.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,555.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
5,810.1	0.00	0.00	5,566.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Pt. Lookout										
5,900.0	0.00	0.00	5,655.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,755.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
6,100.0	0.00	0.00	5,855.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
6,179.1	0.00	0.00	5,935.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Mancos Shale										
6,200.0	0.00	0.00	5,955.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,055.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,155.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,255.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,355.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,455.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,555.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,655.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,755.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
7,100.0	0.00	0.00	6,855.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
7,100.1	0.00	0.00	6,856.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Gallup										

ConocoPhillips

Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Waller #1B
Company:	ConocoPhillips SJBU	TVD Reference:	RKB @ 6578.0usft (AWS Rig Elevation)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	RKB @ 6578.0usft (AWS Rig Elevation)
Site:	Other Named Wells	North Reference:	Grid
Well:	Waller #1B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	APD Directional Plan		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
7,200.0	0.00	0.00	6,955.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,055.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,155.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,255.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,355.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,455.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,555.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
7,869.1	0.00	0.00	7,625.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Greenhorn										
7,900.0	0.00	0.00	7,655.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
7,933.1	0.00	0.00	7,689.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Graneros										
8,000.0	0.00	0.00	7,755.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
8,014.1	0.00	0.00	7,770.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Two Wells										
8,045.1	0.00	0.00	7,801.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Paguete										
8,055.1	0.00	0.00	7,811.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Upper Cubero										
8,075.1	0.00	0.00	7,831.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Lower Cubero										
8,100.0	0.00	0.00	7,855.9	953.3	-825.7	1,261.2	0.00	0.00	0.00	
8,129.1	0.00	0.00	7,885.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
Encinal										
8,159.1	0.00	0.00	7,915.0	953.3	-825.7	1,261.2	0.00	0.00	0.00	
TD										

Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
Waller #1B ICP	0.00	0.07	3,900.0	953.3	-825.7	2,182,327.49	464,250.49	36° 59' 50.456 N	107° 57' 20.709 W	
- plan hits target center										
- Circle (radius 50.0)										
Waller #1B PCP	0.00	0.07	7,915.0	953.3	-825.7	2,182,327.49	464,250.49	36° 59' 50.456 N	107° 57' 20.709 W	
- plan hits target center										
- Circle (radius 50.0)										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
4,144.1	3,900.0	Intermediate Casing	7	8-3/4	
	7,928.0	Production Casing	4-1/2	6-1/4	
215.0	215.0	Surface Casing	9-5/8	12-1/4	

ConocoPhillips
Planning Report

Database:	EDM Central Planning	Local Co-ordinate Reference:	Well Waller #1B
Company:	ConocoPhillips SJBU	TVD Reference:	RKB @ 6578 0usft (AWS Rig Elevation)
Project:	San Juan Basin - New Mexico West Wells	MD Reference:	RKB @ 6578 0usft (AWS Rig Elevation)
Site:	Other Named Wells	North Reference:	Grid
Well:	Waller #1B	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	APD Directional Plan		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,795.9	2,632 0	Fruitland		0 00		
5,474.1	5,230 0	Menefee		0 00		
5,099.1	4,855 0	Upper Cliffhouse		0.00		
8,014 1	7,770 0	Two Wells		0 00		
6,179 1	5,935 0	Mancos Shale		0 00		
8,045.1	7,801 0	Paguate		0.00		
7,100 1	6,856.0	Gallup		0 00		
1,584 1	1,522 0	Kirtland		0 00		
8,129 1	7,885 0	Encinal		0 00		
5,810 1	5,566 0	Pt Lookout		0.00		
8,075 1	7,831 0	Lower Cubero		0 00		
8,055 1	7,811 0	Upper Cubero		0 00		
1,480 4	1,427 0	Ojo Alamo		0 00		
4,202 1	3,958 0	Huerf Bent.		0 00		
4,690 1	4,446 0	Chacra		0 00		
3,639 7	3,406 0	Lewis		0 00		
5,400 1	5,156 0	Massive Cliffhouse		0 00		
8,159.1	7,915 0	TD		0 00		
7,869 1	7,625 0	Greenhorn		0 00		
7,933 1	7,689 0	Graneros		0 00		
3,501 1	3,278 0	Pictured Cliffs		0 00		

REFERENCE INFORMATION

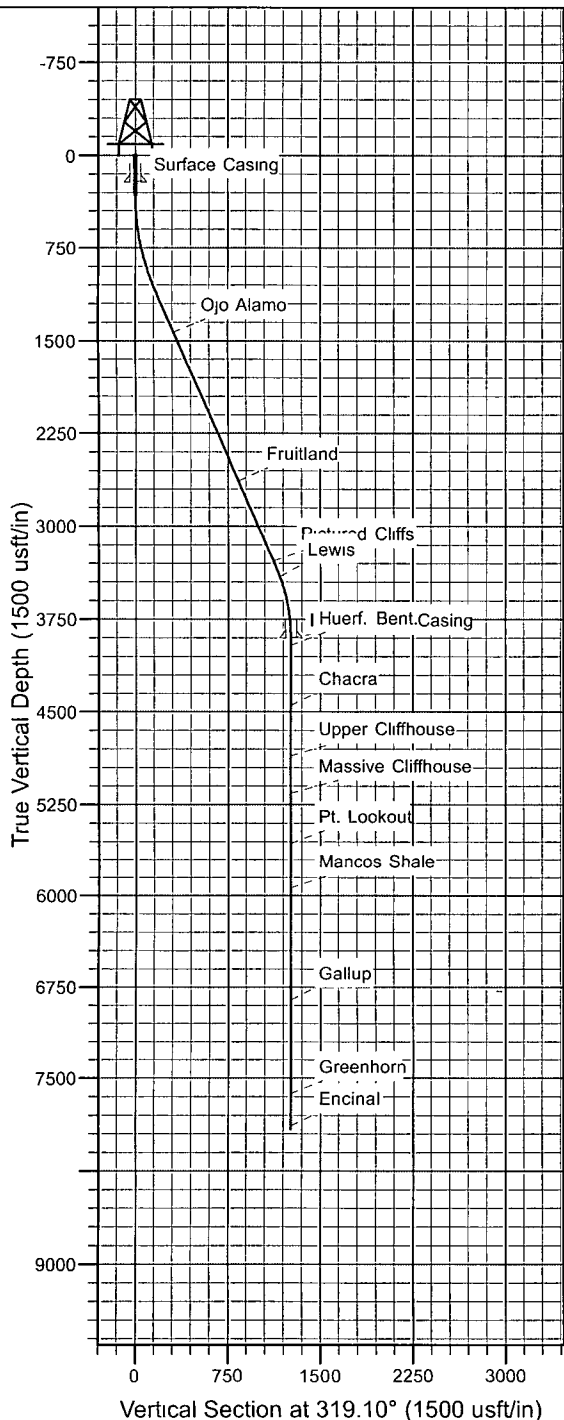
RKB @ 6578.0usft (AWS Rig Elevation)
Ground Elevation 6563.0
Reference Lat: 36° 59' 41.040 N
Reference Long: 107° 57' 10.516 W

Project: San Juan Basin - New Mexico West W
Site: Other Named Wells
Well: Waller #1B
Wellbore: Original Hole
Design: APD Directional Plan



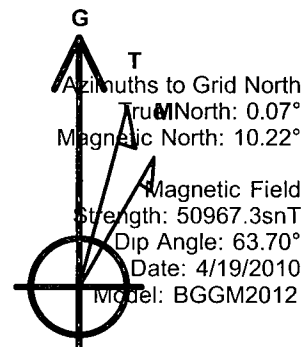
SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	320.0	0.00	0.00	320.0	0.0	0.0	0.00	0.00	0.0	
3	1108.2	23.65	319.10	1086.1	121.2	-105.0	3.00	319.10	160.4	
4	3552.9	23.65	319.10	3325.5	862.4	-747.0	0.00	0.00	1140.9	
5	4144.1	0.00	0.00	3900.0	953.3	-825.7	4.00	180.00	1261.2	Waller #1B ICP
6	8159.1	0.00	0.00	7915.0	953.3	-825.7	0.00	0.00	1261.2	Waller #1B PCP



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1427.0	1480.4	Ojo Alamo
1522.0	1584.1	Kirtland
2632.0	2795.9	Fruitland
3278.0	3501.1	Pictured Cliffs
3406.0	3639.7	Lewis
3958.0	4202.1	Huerf. Bent.
4446.0	4690.1	Chacra
4855.0	5099.1	Upper Cliffhouse
5156.0	5400.1	Massive Cliffhouse
5230.0	5474.1	Menefee
5566.0	5810.1	Pt. Lookout
5935.0	6179.1	Mancos Shale
6856.0	7100.1	Gallup
7625.0	7869.1	Greenhorn
7689.0	7933.1	Graneros
7770.0	8014.1	Two Wells
7801.0	8045.1	Paguate
7811.0	8055.1	Upper Cubero
7831.0	8075.1	Lower Cubero
7885.0	8129.1	Encinal
7915.0	8159.1	TD



RCVD OCT 11 '12
OIL CONS. DIV.
DIST. 3

