

013-06551

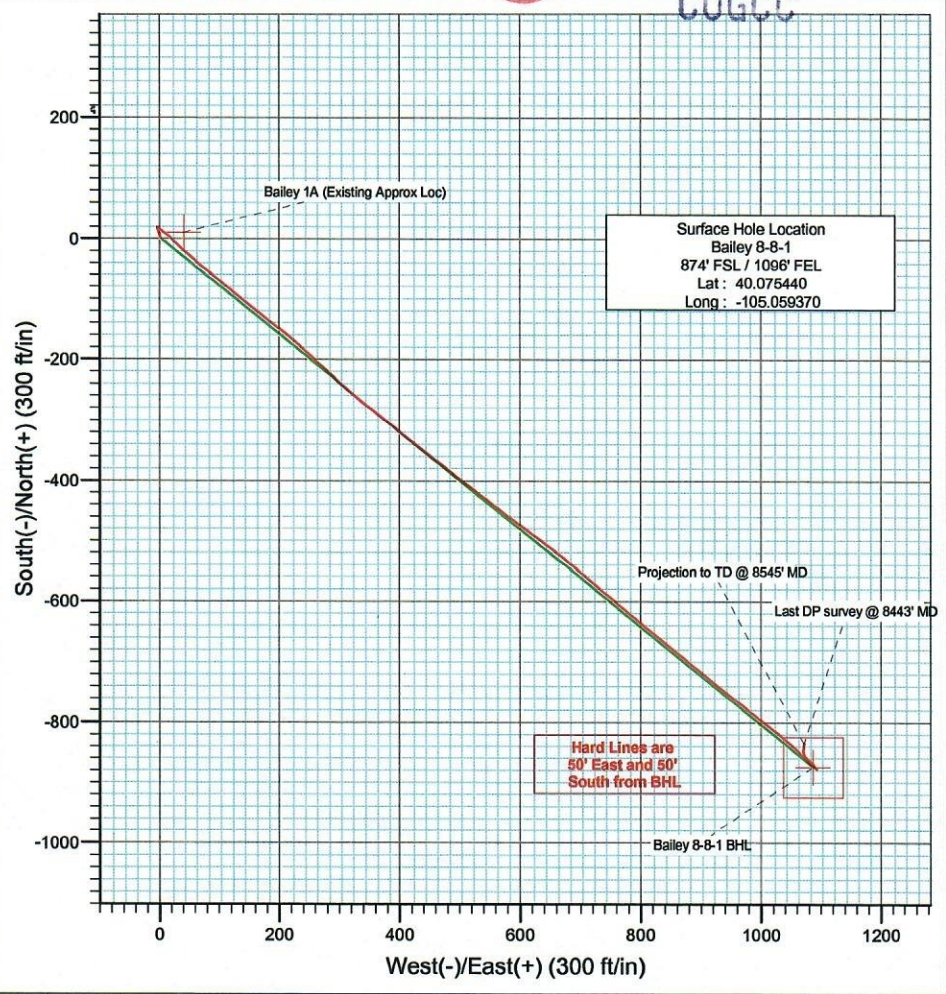
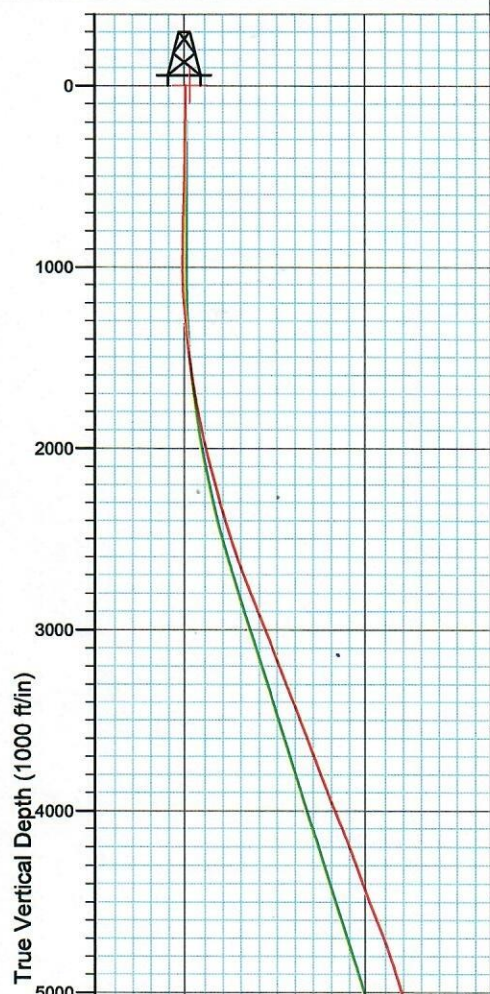


Project: DJ Wattenberg
Site: SESE Sec1-T1N-R69W
Well: Bailey 8-8-1
Wellbore: DD
Design: DD



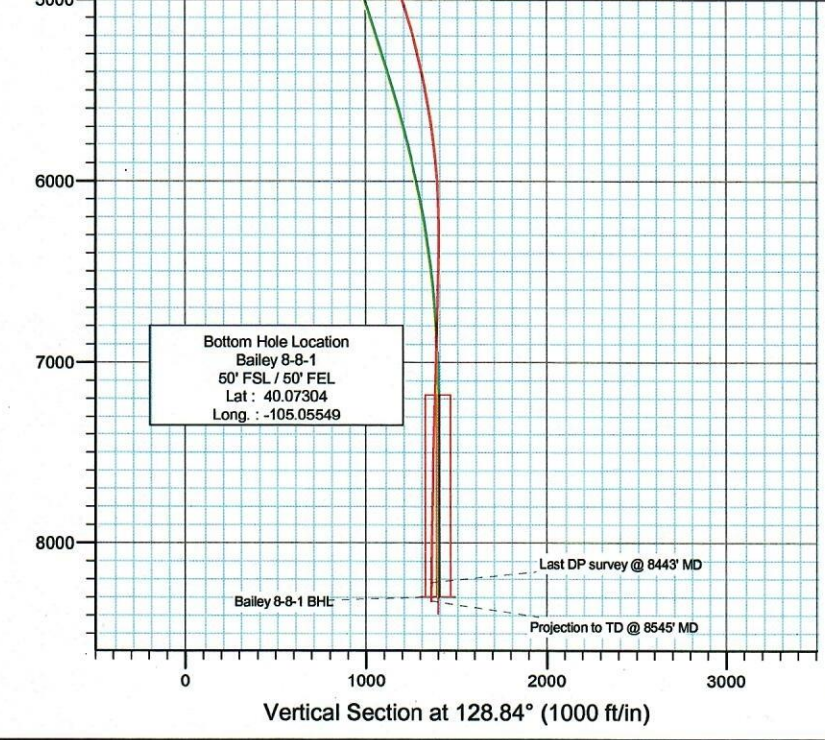
RECEIVED
Directional Plus
A Division of Cathedral Energy Services Ltd.
OCT - 4 ' 07

COGCC



Surface Hole Location
Bailey 8-8-1
874' FSL / 1098' FEL
Lat : 40.076440
Long : -105.059370

Hard Lines are
50' East and 50'
South from BHL



Bottom Hole Location
Bailey 8-8-1
50' FSL / 50' FEL
Lat : 40.07304
Long : -105.05549



Azimuths to True North
Magnetic North: 9.47°
Magnetic Field
Strength: 53343.6snT
Dip Angle: 66.87°
Date: 8/17/2007
Model: IGRF200510

DESIGN DETAILS: DD

Job#: 75349; DS
KBE @ 4996.0ft (Patterson #034)

Target	Azimuth	Origin	N/S	E/W	From TVD
Bailey 8-8-1 BHL	128.84	Slot	0.0	0.0	0.0

Cathedral Energy Services

Survey Report

RECEIVED

OCT - 4 - 07

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Bailey 8-8-1	
Project: DJ Wattenberg	TVD Reference: KBE @ 4996.0ft (Patterson #034)	
Site: SESE Sec1-T1N-R69W	MD Reference: KBE @ 4996.0ft (Patterson #034)	
Well: Bailey 8-8-1	North Reference: True	
Wellbore: DD	Survey Calculation Method: Minimum Curvature	
Design: DD	Database: EDM 2003.16 US Multi Users DB	

Project	DJ Wattenberg		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	SESE Sec1-T1N-R69W				
Site Position:		Northing:	1,270,634.12 ft	Latitude:	40.075440
From:	Lat/Long	Easting:	3,123,307.02 ft	Longitude:	-105.059370
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.28 °

Well	Bailey 8-8-1					
Well Position	+N/-S	0.0 ft	Northing:	1,270,634.10 ft	Latitude:	40.075440
	+E/-W	0.0 ft	Easting:	3,123,307.02 ft	Longitude:	-105.059370
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,980.0 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	8/17/2007	9.47	66.87	53,344

Design	DD				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	128.84	

Survey Program	Date	8/29/2007			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
811.0	8,545.0	Survey #1 (DD)	MWD	Geolink MWD	

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
811.0	2.20	344.70	810.8	15.0	-4.1	-12.6	0.27	0.27	
875.0	1.60	341.70	874.8	17.0	-4.7	-14.4	0.95	-0.94	
937.0	0.50	336.00	936.8	18.1	-5.1	-15.3	1.78	-1.77	
1,001.0	0.80	136.10	1,000.8	18.1	-4.9	-15.1	2.00	0.47	
1,065.0	1.90	119.20	1,064.7	17.2	-3.7	-13.6	1.81	1.72	
1,128.0	2.90	122.60	1,127.7	15.8	-1.4	-11.0	1.60	1.59	
1,192.0	3.90	125.30	1,191.6	13.7	1.7	-7.3	1.58	1.56	
1,255.0	4.90	130.10	1,254.4	10.7	5.5	-2.4	1.69	1.59	
1,351.0	6.00	133.50	1,349.9	4.6	12.3	6.7	1.19	1.15	
1,446.0	6.50	134.30	1,444.4	-2.5	19.8	17.0	0.53	0.53	
1,542.0	7.40	129.40	1,539.7	-10.2	28.4	28.6	1.12	0.94	
1,637.0	9.10	131.40	1,633.7	-19.1	38.8	42.2	1.81	1.79	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Bailey 8-8-1
Project:	DJ Wattenberg	TVD Reference:	KBE @ 4996.0ft (Patterson #034)
Site:	SESE Sec1-T1N-R69W	MD Reference:	KBE @ 4996.0ft (Patterson #034)
Well:	Bailey 8-8-1	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	EDM 2003.16 US Multi Users DB

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
1,732.0	10.40	132.90	1,727.3	-29.9	50.7	58.3	1.39	1.37	
1,828.0	11.50	128.60	1,821.6	-41.8	64.5	76.5	1.43	1.15	
1,923.0	12.00	129.50	1,914.6	-54.0	79.6	95.8	0.56	0.53	
2,019.0	13.40	130.80	2,008.2	-67.6	95.7	116.9	1.49	1.46	
2,114.0	14.50	129.30	2,100.4	-82.3	113.2	139.8	1.22	1.16	
2,210.0	14.70	128.10	2,193.3	-97.4	132.1	164.0	0.38	0.21	
2,305.0	14.90	129.90	2,285.2	-112.7	151.0	188.3	0.53	0.21	
2,369.0	16.10	128.60	2,346.8	-123.5	164.2	205.4	1.95	1.87	
2,464.0	17.20	126.70	2,437.9	-140.1	185.8	232.6	1.29	1.16	
2,528.0	18.00	128.20	2,498.9	-151.9	201.1	251.9	1.44	1.25	
2,623.0	19.60	130.30	2,588.8	-171.3	224.8	282.5	1.83	1.68	
2,750.0	21.00	133.60	2,707.9	-200.8	257.5	326.5	1.42	1.10	
2,846.0	21.00	132.30	2,797.5	-224.2	282.7	360.8	0.49	0.00	
2,942.0	21.50	130.80	2,887.0	-247.3	308.8	395.6	0.77	0.52	
3,069.0	21.80	129.20	3,005.0	-277.4	344.7	442.4	0.52	0.24	
3,133.0	21.80	128.00	3,064.5	-292.2	363.2	466.2	0.70	0.00	
3,196.0	21.50	128.20	3,123.0	-306.6	381.5	489.4	0.49	-0.48	
3,259.0	21.10	127.80	3,181.7	-320.6	399.6	512.3	0.68	-0.63	
3,323.0	21.40	128.60	3,241.4	-335.0	417.8	535.5	0.65	0.47	
3,386.0	21.70	128.10	3,300.0	-349.3	435.9	558.6	0.56	0.48	
3,449.0	21.40	127.60	3,358.6	-363.5	454.2	581.8	0.56	-0.48	
3,514.0	21.40	128.50	3,419.1	-378.2	472.9	605.5	0.51	0.00	
3,578.0	21.20	127.90	3,478.7	-392.5	491.1	628.7	0.46	-0.31	
3,642.0	21.00	126.90	3,538.4	-406.5	509.4	651.8	0.64	-0.31	
3,705.0	20.70	127.20	3,597.3	-420.0	527.3	674.2	0.51	-0.48	
3,801.0	20.10	129.50	3,687.3	-440.8	553.6	707.6	1.04	-0.62	
3,896.0	20.40	126.00	3,776.4	-460.9	579.6	740.5	1.31	0.32	
3,991.0	21.30	126.80	3,865.2	-481.0	606.8	774.3	0.99	0.95	
4,087.0	21.40	125.90	3,954.6	-501.7	634.9	809.2	0.36	0.10	
4,183.0	22.00	130.00	4,043.8	-523.5	662.9	844.7	1.70	0.62	
4,309.0	22.10	130.30	4,160.6	-554.0	699.1	892.0	0.12	0.08	
4,373.0	21.10	130.10	4,220.1	-569.2	717.1	915.5	1.57	-1.56	
4,467.0	20.20	129.30	4,308.0	-590.4	742.6	948.6	1.00	-0.96	
4,531.0	19.80	128.80	4,368.2	-604.2	759.6	970.5	0.68	-0.62	
4,594.0	20.90	129.00	4,427.2	-618.0	776.6	992.4	1.75	1.75	
4,658.0	20.90	128.80	4,487.0	-632.3	794.4	1,015.3	0.11	0.00	
4,722.0	21.60	129.40	4,546.7	-646.9	812.4	1,038.5	1.15	1.09	
4,849.0	21.10	128.90	4,665.0	-676.1	848.2	1,084.7	0.42	-0.39	
4,945.0	18.90	128.80	4,755.2	-696.7	873.8	1,117.5	2.29	-2.29	
5,041.0	18.20	129.40	4,846.2	-716.0	897.5	1,148.1	0.76	-0.73	
5,137.0	17.40	129.30	4,937.6	-734.6	920.2	1,177.4	0.83	-0.83	
5,232.0	17.10	129.20	5,028.3	-752.4	942.0	1,205.6	0.32	-0.32	
5,327.0	16.30	127.00	5,119.3	-769.3	963.5	1,232.9	1.07	-0.84	
5,423.0	15.30	127.40	5,211.7	-785.1	984.3	1,259.0	1.05	-1.04	
5,486.0	14.20	128.70	5,272.6	-794.9	996.9	1,275.1	1.82	-1.75	
5,550.0	13.40	128.70	5,334.8	-804.5	1,008.8	1,290.3	1.25	-1.25	
5,645.0	12.10	128.20	5,427.4	-817.5	1,025.3	1,311.3	1.37	-1.37	
5,741.0	10.70	131.20	5,521.5	-829.6	1,039.9	1,330.2	1.58	-1.46	
5,804.0	10.00	130.00	5,583.5	-837.0	1,048.5	1,341.6	1.16	-1.11	
5,900.0	8.30	132.60	5,678.3	-847.0	1,060.0	1,356.8	1.82	-1.77	
6,027.0	6.90	133.90	5,804.1	-858.5	1,072.2	1,373.6	1.11	-1.10	
6,122.0	5.30	135.60	5,898.6	-865.6	1,079.4	1,383.6	1.69	-1.68	
6,219.0	3.70	130.30	5,995.3	-870.8	1,084.9	1,391.2	1.70	-1.65	

Cathedral Energy Services

Survey Report

Company:	EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference:	Well Bailey 8-8-1
Project:	DJ Wattenberg	TVD Reference:	KBE @ 4996.0ft (Patterson #034)
Site:	SESE Sec1-T1N-R69W	MD Reference:	KBE @ 4996.0ft (Patterson #034)
Well:	Bailey 8-8-1	North Reference:	True
Wellbore:	DD	Survey Calculation Method:	Minimum Curvature
Design:	DD	Database:	EDM 2003.16 US Multi Users DB

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
6,345.0	2.50	136.40	6,121.1	-875.5	1,089.9	1,398.0	0.99	-0.95	
6,409.0	1.50	136.90	6,185.1	-877.1	1,091.4	1,400.2	1.56	-1.56	
6,503.0	0.10	333.20	6,279.1	-877.9	1,092.2	1,401.3	1.70	-1.49	
6,598.0	1.00	315.40	6,374.1	-877.2	1,091.6	1,400.4	0.95	0.95	
6,662.0	1.10	313.20	6,438.1	-876.4	1,090.8	1,399.3	0.17	0.16	
6,726.0	1.30	321.90	6,502.0	-875.4	1,089.9	1,397.9	0.42	0.31	
6,789.0	1.40	327.40	6,565.0	-874.2	1,089.0	1,396.5	0.26	0.16	
6,852.0	1.60	329.30	6,628.0	-872.8	1,088.2	1,395.0	0.33	0.32	
6,916.0	1.80	331.80	6,692.0	-871.2	1,087.2	1,393.2	0.33	0.31	
7,012.0	1.50	330.50	6,787.9	-868.7	1,085.9	1,390.6	0.31	-0.31	
7,075.0	1.60	323.00	6,850.9	-867.3	1,085.0	1,389.0	0.36	0.16	
7,139.0	1.70	313.40	6,914.9	-866.0	1,083.7	1,387.2	0.46	0.16	
7,202.0	1.00	301.60	6,977.9	-865.0	1,082.6	1,385.7	1.19	-1.11	
7,266.0	1.10	300.60	7,041.9	-864.4	1,081.6	1,384.6	0.16	0.16	
7,361.0	1.60	302.90	7,136.8	-863.2	1,079.7	1,382.3	0.53	0.53	
7,425.0	1.90	308.80	7,200.8	-862.1	1,078.1	1,380.4	0.55	0.47	
7,520.0	2.30	311.80	7,295.7	-859.8	1,075.5	1,376.9	0.44	0.42	
7,616.0	1.80	324.20	7,391.7	-857.3	1,073.1	1,373.5	0.69	-0.52	
7,711.0	1.50	332.70	7,486.6	-855.0	1,071.7	1,371.0	0.41	-0.32	
7,807.0	1.50	341.90	7,582.6	-852.7	1,070.7	1,368.8	0.25	0.00	
7,902.0	1.10	352.40	7,677.6	-850.6	1,070.2	1,367.1	0.49	-0.42	
7,997.0	1.10	359.50	7,772.6	-848.8	1,070.1	1,365.8	0.14	0.00	
8,092.0	1.20	11.50	7,867.5	-846.9	1,070.3	1,364.8	0.27	0.11	
8,188.0	1.20	358.90	7,963.5	-844.9	1,070.5	1,363.7	0.27	0.00	
8,252.0	1.40	359.00	8,027.5	-843.5	1,070.4	1,362.7	0.31	0.31	
8,316.0	1.50	1.60	8,091.5	-841.9	1,070.5	1,361.7	0.19	0.16	
8,379.0	1.90	6.00	8,154.5	-840.0	1,070.6	1,360.7	0.67	0.63	
8,443.0	1.90	6.00	8,218.4	-837.9	1,070.8	1,359.5	0.00	0.00	Last DP survey @ 8443' MD
8,545.0	1.90	6.00	8,320.4	-834.5	1,071.2	1,357.7	0.00	0.00	Projection to TD @ 8545' MD

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Bailey 1A (Existing Appr - hit/miss target - Shape - Point	0.00	0.00	0.0	10.0	40.0	1,270,644.32	3,123,346.97	40.075467	-105.059227
- survey misses by 41.2ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E)									
Bailey 8-8-1 BHL - Rectangle (sides W100.0 H100.0 D0.0)	0.00	0.00	8,296.0	-874.2	1,085.8	1,269,765.29	3,124,397.18	40.073040	-105.055490
- survey misses by 41.6ft at 8519.4ft MD (8294.8 TVD, -835.4 N, 1071.1 E)									

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
8,443.0	8,218.4	-837.9	1,070.8	Last DP survey @ 8443' MD
8,545.0	8,320.4	-834.5	1,071.2	Projection to TD @ 8545' MD

Checked By: _____ Approved By: _____ Date: _____

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Cathedral Energy Services Survey Report

Company: EnCana Oil & Gas (USA) Inc	Local Co-ordinate Reference: Well Bailey 8-8-1	
Project: DJ Wattenberg	TVD Reference: KBE @ 4996.0ft (Patterson #034)	
Site: SESE Sec1-T1N-R69W	MD Reference: KBE @ 4996.0ft (Patterson #034)	
Well: Bailey 8-8-1	North Reference: True	
Wellbore: DD	Survey Calculation Method: Minimum Curvature	
Design: DD	Database: EDM 2003.16 US Multi Users DB	

Project: DJ Wattenberg		
Map System: US State Plane 1983	System Datum: Mean Sea Level	
Geo Datum: North American Datum 1983		
Map Zone: Colorado Northern Zone		

Site: SESE Sec1-T1N-R69W

Site Position:		Northing: 1,270,634.12 ft	Latitude: 40.075440		
From:	Lat/Long	Easting: 3,123,307.02 ft	Longitude: -105.059370		
Position Uncertainty:	0.0 ft	Slot Radius: "	Grid Convergence: 0.28 °		

Well: Bailey 8-8-1					
Well Position	+N/-S	0.0 ft	Northing: 1,270,634.10 ft	Latitude: 40.075440	
	+E/-W	0.0 ft	Easting: 3,123,307.02 ft	Longitude: -105.059370	
Position Uncertainty		0.0 ft	Wellhead Elevation: ft	Ground Level: 4,980.0 ft	

Wellbore: DD

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	8/17/2007	9.47	66.87	53,344

Design: DD

Audit Notes:

Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
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Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	128.84

Survey Program: Date 8/29/2007

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
811.0	8,545.0	Survey #1 (DD)	MWD	Geolink MWD

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	
811.0	2.20	344.70	810.8	15.0	-4.1	-12.6	0.27	0.27	
875.0	1.60	341.70	874.8	17.0	-4.7	-14.4	0.95	-0.94	
937.0	0.50	336.00	936.8	18.1	-5.1	-15.3	1.78	-1.77	
1,001.0	0.80	136.10	1,000.8	18.1	-4.9	-15.1	2.00	0.47	
1,065.0	1.90	119.20	1,064.7	17.2	-3.7	-13.6	1.81	1.72	
1,128.0	2.90	122.60	1,127.7	15.8	-1.4	-11.0	1.60	1.59	
1,192.0	3.90	125.30	1,191.6	13.7	1.7	-7.3	1.58	1.56	
1,255.0	4.90	130.10	1,254.4	10.7	5.5	-2.4	1.69	1.59	
1,351.0	6.00	133.50	1,349.9	4.6	12.3	6.7	1.19	1.15	
1,446.0	6.50	134.30	1,444.4	-2.5	19.8	17.0	0.53	0.53	
1,542.0	7.40	129.40	1,539.7	-10.2	28.4	28.6	1.12	0.94	
1,637.0	9.10	131.40	1,633.7	-19.1	38.8	42.2	1.81	1.79	

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
1,732.0	10.40	132.90	1,727.3	-29.9	50.7	58.3	1.39	1.37	
1,828.0	11.50	128.60	1,821.6	-41.8	64.5	76.5	1.43	1.15	
1,923.0	12.00	129.50	1,914.6	-54.0	79.6	95.8	0.56	0.53	
2,019.0	13.40	130.80	2,008.2	-67.6	95.7	116.9	1.49	1.46	
2,114.0	14.50	129.30	2,100.4	-82.3	113.2	139.8	1.22	1.16	
2,210.0	14.70	128.10	2,193.3	-97.4	132.1	164.0	0.38	0.21	
2,305.0	14.90	129.90	2,285.2	-112.7	151.0	188.3	0.53	0.21	
2,369.0	16.10	128.60	2,346.8	-123.5	164.2	205.4	1.95	1.87	
2,464.0	17.20	126.70	2,437.9	-140.1	185.8	232.6	1.29	1.16	
2,528.0	18.00	128.20	2,498.9	-151.9	201.1	251.9	1.44	1.25	
2,623.0	19.60	130.30	2,588.8	-171.3	224.8	282.5	1.83	1.68	
2,750.0	21.00	133.60	2,707.9	-200.8	257.5	326.5	1.42	1.10	
2,846.0	21.00	132.30	2,797.5	-224.2	282.7	360.8	0.49	0.00	
2,942.0	21.50	130.80	2,887.0	-247.3	308.8	395.6	0.77	0.52	
3,069.0	21.80	129.20	3,005.0	-277.4	344.7	442.4	0.52	0.24	
3,133.0	21.80	128.00	3,064.5	-292.2	363.2	466.2	0.70	0.00	
3,196.0	21.50	128.20	3,123.0	-306.6	381.5	489.4	0.49	-0.48	
3,259.0	21.10	127.80	3,181.7	-320.6	399.6	512.3	0.68	-0.63	
3,323.0	21.40	128.60	3,241.4	-335.0	417.8	535.5	0.65	0.47	
3,386.0	21.70	128.10	3,300.0	-349.3	435.9	558.6	0.56	0.48	
3,449.0	21.40	127.60	3,358.6	-363.5	454.2	581.8	0.56	-0.48	
3,514.0	21.40	128.50	3,419.1	-378.2	472.9	605.5	0.51	0.00	
3,578.0	21.20	127.90	3,478.7	-392.5	491.1	628.7	0.46	-0.31	
3,642.0	21.00	126.90	3,538.4	-406.5	509.4	651.8	0.64	-0.31	
3,705.0	20.70	127.20	3,597.3	-420.0	527.3	674.2	0.51	-0.48	
3,801.0	20.10	129.50	3,687.3	-440.8	553.6	707.6	1.04	-0.62	

3,896.0	20.40	126.00	3,776.4	-460.9	579.6	740.5	1.31	0.32
3,991.0	21.30	126.80	3,865.2	-481.0	606.8	774.3	0.99	0.95
4,087.0	21.40	125.90	3,954.6	-501.7	634.9	809.2	0.36	0.10
4,183.0	22.00	130.00	4,043.8	-523.5	662.9	844.7	1.70	0.62
4,309.0	22.10	130.30	4,160.6	-554.0	699.1	892.0	0.12	0.08
4,373.0	21.10	130.10	4,220.1	-569.2	717.1	915.5	1.57	-1.56
4,467.0	20.20	129.30	4,308.0	-590.4	742.6	948.6	1.00	-0.96
4,531.0	19.80	128.80	4,368.2	-604.2	759.6	970.5	0.68	-0.62
4,594.0	20.90	129.00	4,427.2	-618.0	776.6	992.4	1.75	1.75
4,658.0	20.90	128.80	4,487.0	-632.3	794.4	1,015.3	0.11	0.00
4,722.0	21.60	129.40	4,546.7	-646.9	812.4	1,038.5	1.15	1.09
4,849.0	21.10	128.90	4,665.0	-676.1	848.2	1,084.7	0.42	-0.39
4,945.0	18.90	128.80	4,755.2	-696.7	873.8	1,117.5	2.29	-2.29
5,041.0	18.20	129.40	4,846.2	-716.0	897.5	1,148.1	0.76	-0.73
5,137.0	17.40	129.30	4,937.6	-734.6	920.2	1,177.4	0.83	-0.83
5,232.0	17.10	129.20	5,028.3	-752.4	942.0	1,205.6	0.32	-0.32
5,327.0	16.30	127.00	5,119.3	-769.3	963.5	1,232.9	1.07	-0.84
5,423.0	15.30	127.40	5,211.7	-785.1	984.3	1,259.0	1.05	-1.04
5,486.0	14.20	128.70	5,272.6	-794.9	996.9	1,275.1	1.82	-1.75
5,550.0	13.40	128.70	5,334.8	-804.5	1,008.8	1,290.3	1.25	-1.25
5,645.0	12.10	128.20	5,427.4	-817.5	1,025.3	1,311.3	1.37	-1.37
5,741.0	10.70	131.20	5,521.5	-829.6	1,039.9	1,330.2	1.58	-1.46
5,804.0	10.00	130.00	5,583.5	-837.0	1,048.5	1,341.6	1.16	-1.11
5,900.0	8.30	132.60	5,678.3	-847.0	1,060.0	1,356.8	1.82	-1.77
6,027.0	6.90	133.90	5,804.1	-858.5	1,072.2	1,373.6	1.11	-1.10
6,122.0	5.30	135.60	5,898.6	-865.6	1,079.4	1,383.6	1.69	-1.68
6,219.0	3.70	130.30	5,995.3	-870.8	1,084.9	1,391.2	1.70	-1.65

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Formations / Comments
6,345.0	2.50	136.40	6,121.1	-875.5	1,089.9	1,398.0	0.99	-0.95	
6,409.0	1.50	136.90	6,185.1	-877.1	1,091.4	1,400.2	1.56	-1.56	
6,503.0	0.10	333.20	6,279.1	-877.9	1,092.2	1,401.3	1.70	-1.49	
6,598.0	1.00	315.40	6,374.1	-877.2	1,091.6	1,400.4	0.95	0.95	
6,662.0	1.10	313.20	6,438.1	-876.4	1,090.8	1,399.3	0.17	0.16	
6,726.0	1.30	321.90	6,502.0	-875.4	1,089.9	1,397.9	0.42	0.31	
6,789.0	1.40	327.40	6,565.0	-874.2	1,089.0	1,396.5	0.26	0.16	
6,852.0	1.60	329.30	6,628.0	-872.8	1,088.2	1,395.0	0.33	0.32	
6,916.0	1.80	331.80	6,692.0	-871.2	1,087.2	1,393.2	0.33	0.31	
7,012.0	1.50	330.50	6,787.9	-868.7	1,085.9	1,390.6	0.31	-0.31	
7,075.0	1.60	323.00	6,850.9	-867.3	1,085.0	1,389.0	0.36	0.16	
7,139.0	1.70	313.40	6,914.9	-866.0	1,083.7	1,387.2	0.46	0.16	
7,202.0	1.00	301.60	6,977.9	-865.0	1,082.6	1,385.7	1.19	-1.11	
7,266.0	1.10	300.60	7,041.9	-864.4	1,081.6	1,384.6	0.16	0.16	
7,361.0	1.60	302.90	7,136.8	-863.2	1,079.7	1,382.3	0.53	0.53	
7,425.0	1.90	308.80	7,200.8	-862.1	1,078.1	1,380.4	0.55	0.47	
7,520.0	2.30	311.80	7,295.7	-859.8	1,075.5	1,376.9	0.44	0.42	

7,616.0	1.80	324.20	7,391.7	-857.3	1,073.1	1,373.5	0.69	-0.52
7,711.0	1.50	332.70	7,486.6	-855.0	1,071.7	1,371.0	0.41	-0.32
7,807.0	1.50	341.90	7,582.6	-852.7	1,070.7	1,368.8	0.25	0.00
7,902.0	1.10	352.40	7,677.6	-850.6	1,070.2	1,367.1	0.49	-0.42
7,997.0	1.10	359.50	7,772.6	-848.8	1,070.1	1,365.8	0.14	0.00
8,092.0	1.20	11.50	7,867.5	-846.9	1,070.3	1,364.8	0.27	0.11
8,188.0	1.20	358.90	7,963.5	-844.9	1,070.5	1,363.7	0.27	0.00
8,252.0	1.40	359.00	8,027.5	-843.5	1,070.4	1,362.7	0.31	0.31
8,316.0	1.50	1.60	8,091.5	-841.9	1,070.5	1,361.7	0.19	0.16
8,379.0	1.90	6.00	8,154.5	-840.0	1,070.6	1,360.7	0.67	0.63
8,443.0	1.90	6.00	8,218.4	-837.9	1,070.8	1,359.5	0.00	0.00
8,545.0	1.90	6.00	8,320.4	-834.5	1,071.2	1,357.7	0.00	0.00

0.00 Last DP survey @ 8443' MD
0.00 Projection to TD @ 8545' MD

Targets

Target Name

- hit/miss target	Dip	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	Angle	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Bailey 1A (Existing A - survey misses by 41.2ft at 0.0ft MD (0.0 TVD, 0.0 N, 0.0 E) - Point	0.00	0.00	0.0	10.0	40.0	1,270,644.32	3,123,346.97	40.075467	-105.059227
Bailey 8-8-1 BHL - survey misses by 41.6ft at 8519.4ft MD (8294.8 TVD, -835.4 N, 1071.1 E) - Rectangle (sides W100.0 H100.0 D0.0)	0.00	0.00	8,296.0	-874.2	1,085.8	1,269,765.29	3,124,397.18	40.073040	-105.055490

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
8,443.0	8,218.4	-837.9	1,070.8	Last DP survey @ 8443' MD
8,545.0	8,320.4	-834.5	1,071.2	Projection to TD @ 8545' MD

Checked By:

Approved By:

Date: