

ConocoPhillips Piceance Basin

Piceance Basin (Landmark)

PAD E16 596

CP13B-16 E16 596(phase one) - Slot 8

Slot 8

Survey: Gyro Tie on

Standard Survey Report

30 July, 2007

Halliburton Company

Survey Report

Company:	ConocoPhillips Piceance Basin	Local Co-ordinate Reference:	Well CP13B-16 E16 596(phase one) - Slot 8
Project:	Piceance Basin (Landmark)	TVD Reference:	RKB @ 8404.98ft (PD 631)
Site:	PAD E16 596	MD Reference:	RKB @ 8404.98ft (PD 631)
Well:	CP13B-16 E16 596(phase one)	North Reference:	Grid
Wellbore:	Slot 8	Survey Calculation Method:	Minimum Curvature
Design:	CP13B-16	Database:	EDM 2003.16 Single User Db

Project	Piceance Basin (Landmark)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Ground Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Colorado North 501		Using geodetic scale factor

Site	PAD E16 596		
Site Position:		Northing:	114,553.52 ft
From:	Lat/Long	Easting:	1,244,322.42 ft
Position Uncertainty:	0.00 ft	Slot Radius:	in
		Latitude:	39° 36' 59.150 N
		Longitude:	108° 10' 57.440 W
		Grid Convergence:	-1.73 °

Well	CP13B-16 E16 596(phase one) - Slot 8, E16		
Well Position	+N/-S	0.00 ft	Northing: 114,525.40 ft
	+E/-W	0.00 ft	Easting: 1,244,321.60 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	8,380.65 ft
		Latitude:	39° 36' 58.872 N
		Longitude:	108° 10' 57.440 W
		Ground Level:	8,380.65 ft

Wellbore	Slot 8		
Magnetics	Model Name	Sample Date	Declination (°)
	BGGM2007	7/11/2007	10.98
			Dip Angle (°)
			65.93
			Field Strength (nT)
			52,666

Design	CP13B-16		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction (°)
			174.59

Survey Program	Date 7/29/2007		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
147.00	1,538.00	Gyro Tie on (Slot 8)	Good_gyro
			Description
			Good Gyro

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)	
104.00	0.50	130.23	104.00	-0.35	0.23	0.37	0.00	0.00	0.00	
147.00	0.40	121.40	147.00	-0.55	0.50	0.59	0.28	-0.23	-20.53	
254.00	0.90	136.30	253.99	-1.35	1.40	1.48	0.49	0.47	13.93	
290.00	1.30	142.60	289.98	-1.88	1.84	2.05	1.16	1.11	17.50	
322.50	1.80	147.40	322.47	-2.60	2.34	2.81	1.59	1.54	14.77	
392.00	3.20	161.50	391.91	-5.36	3.55	5.67	2.19	2.01	20.29	
461.00	5.10	168.00	460.72	-10.19	4.80	10.60	2.83	2.75	9.42	
495.00	5.90	169.20	494.57	-13.38	5.44	13.84	2.38	2.35	3.53	
529.00	6.40	171.10	528.37	-16.97	6.06	17.47	1.59	1.47	5.59	
564.00	7.10	173.00	563.13	-21.05	6.62	21.58	2.10	2.00	5.43	
599.00	7.90	172.80	597.83	-25.58	7.19	26.14	2.29	2.29	-0.57	
634.00	8.70	174.00	632.46	-30.60	7.77	31.20	2.34	2.29	3.43	
669.00	9.40	174.60	667.02	-36.08	8.31	36.70	2.02	2.00	1.71	

Halliburton Company

Survey Report

Company: ConocoPhillips Piceance Basin
Project: Piceance Basin (Landmark)
Site: PAD E16 596
Well: CP13B-16 E16 596(phase one)
Wellbore: Slot 8
Design: CP13B-16

Local Co-ordinate Reference: Well CP13B-16 E16 596(phase one) - Slot 8
TVD Reference: RKB @ 8404.98ft (PD 631)
MD Reference: RKB @ 8404.98ft (PD 631)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User 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)	Turn Rate (°/100ft)
703.00	10.40	175.00	700.52	-41.90	8.84	42.55	2.95	2.94	1.18
738.00	11.40	175.50	734.89	-48.49	9.39	49.16	2.87	2.86	1.43
773.00	12.50	173.80	769.13	-55.71	10.07	56.41	3.30	3.14	-4.86
808.00	13.60	171.90	803.22	-63.55	11.06	64.31	3.37	3.14	-5.43
878.00	15.40	169.70	870.99	-80.84	13.88	81.79	2.69	2.57	-3.14
949.00	16.50	167.80	939.26	-99.97	17.70	101.20	1.71	1.55	-2.68
1,016.00	17.30	169.70	1,003.36	-119.07	21.49	120.57	1.45	1.19	2.84
1,086.00	17.60	171.70	1,070.14	-139.79	24.88	141.51	0.96	0.43	2.86
1,156.00	18.10	173.70	1,136.77	-161.07	27.60	162.95	1.13	0.71	2.86
1,224.00	18.20	175.10	1,201.39	-182.15	29.66	184.13	0.66	0.15	2.06
1,295.00	18.30	174.90	1,268.82	-204.30	31.60	206.37	0.17	0.14	-0.28
1,364.00	18.40	173.30	1,334.31	-225.90	33.83	228.09	0.74	0.14	-2.32
1,434.00	18.90	172.90	1,400.63	-248.13	36.52	250.47	0.74	0.71	-0.57
1,538.00	21.10	171.20	1,498.36	-283.34	41.47	285.99	2.19	2.12	-1.63
1,608.00	22.40	171.10	1,563.37	-308.97	45.46	311.89	1.86	1.86	-0.14
1,677.00	21.30	170.60	1,627.41	-334.33	49.54	337.51	1.62	-1.59	-0.72
	19.93	173.56	1634	-299	41.46				

Targets

Target Name	- hit/miss target	- Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
CP13B-16 Tg			0.00	0.00	6,763.99	-2,108.70	199.87	112,416.66	1,244,521.47	39° 36' 38.101 N	108° 10' 54.072 W
- survey misses by 5436.48ft at 1677.00ft MD (1627.41 TVD, -334.33 N, 49.54 E)											
- Circle (radius 100.00)											
CP13B-16 TD			0.00	0.00	11,568.98	-2,108.77	199.87	112,416.60	1,244,521.47	39° 36' 38.100 N	108° 10' 54.072 W
- survey misses by 10099.80ft at 1677.00ft MD (1627.41 TVD, -334.33 N, 49.54 E)											
- Circle (radius 100.00)											

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	3,096.00	Wasatch		0.00	
	6,865.00	Williams Fork		0.00	

Checked By: _____ Approved By: _____ Date: _____

Customer : Conoco/Phillips
Well Name : CP13B-16
Rig : 631

Field : Piceance Basin
Slot : CP13B-16 E16 596 (phase one)
Job # : CA-MJ-0005216257

North Ref : Grid Declination : 10.99° VS Dir : 174.59° (from Wellhead)

WELLBORE SURVEY

DRILLING PARAMETERS

Measured Depth (ft)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	E/W (ft)	DLS (°/100')	Build Rate (°/100')	Turn Rate (°/100')	WOB (lbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation From (ft)	To (ft)	Tool Face (deg)	ROP (ft/hr)	BHA No.	Comment
104.00	0.50	130.23	104.0	0.4	-0.3	0.2	0.00	0.00	0.00	5	30	450	1300				60	1	Tieon Scientific Gyro
147.00	0.40	121.40	147.0	0.6	-0.5	0.5	0.28	-0.23	0.00	5	30	450	1300				60	2	
254.00	0.90	136.30	254.0	1.5	-1.4	1.4	0.49	0.47	0.00	5	30	450	1300				60	2	
290.00	1.30	142.60	290.0	2.0	-1.9	1.8	1.16	1.11	0.00	5	30	450	1300	269	279	170R	90	2	
322.50	1.80	147.40	322.5	2.8	-2.6	2.3	1.59	1.54	14.77	7	30	450	1330	308	314	170R	90	2	
392.00	3.20	161.50	391.9	5.7	-5.4	3.5	2.19	2.01	20.29	7	30	450	1330	338	348	175R	90	2	
														373	383	160L		2	
461.00	5.10	168.00	460.7	10.6	-10.2	4.8	2.83	2.75	9.42	7	30	450	1330	408	418	170L	90	2	
														445	453	170L		2	
495.00	5.90	169.20	494.6	13.8	-13.4	5.4	2.38	2.35	3.53	7	30	450	1330	478	485	LS	90	2	
529.00	6.40	171.10	528.4	17.5	-17.0	6.1	1.59	1.47	5.59	7	30	450	1330	514	521	170L	90	2	
564.00	7.10	173.00	563.1	21.6	-21.0	6.6	2.10	2.00	5.43	7	30	450	1330	550	555	HS	70	2	
599.00	7.90	172.80	597.8	26.1	-25.6	7.2	2.29	2.29	-0.57	7	30	450	1330				70	2	
634.00	8.70	174.00	632.5	31.2	-30.6	7.8	2.34	2.29	3.43	7	30	450	1330				70	2	
669.00	9.40	174.60	667.0	36.7	-36.1	8.3	2.02	2.00	1.71	7	30	450	1330				70	2	
703.00	10.40	175.00	700.5	42.5	-41.9	8.8	2.95	2.94	1.18	6	30	450	1325				50	2	
738.00	11.40	175.50	734.9	49.2	-48.5	9.4	2.87	2.86	1.43	6	30	450	1325				50	2	
773.00	12.50	173.80	769.1	56.4	-55.7	10.1	3.30	3.14	-4.86	6		450	1289	769	773	120L	14	2	
808.00	13.60	171.90	803.2	64.3	-63.5	11.1	3.37	3.14	-5.43	6		450	1289	773	774	120L	14	2	
														804	808	120L		2	
878.00	15.40	169.70	871.0	81.8	-80.8	13.9	2.69	2.57	-3.14	7	30	450	1269	808	809	120L	45	2	
														834	844	LS		2	
949.00	16.50	167.80	939.3	101.2	-100.0	17.7	1.71	1.55	-2.68	9	40	450	1269	865	869	LS		2	
														891	903	LS	40	2	
1016.00	17.30	169.70	1003.4	120.6	-119.1	21.5	1.45	1.19	2.84	10	40	450	1269	926	934	LS		2	
														960	972	LS	40	2	
1086.00	17.60	171.70	1070.1	141.5	-139.8	24.9	0.96	0.43	2.86	10	40	450	1269	994	1008	165R		2	
														1028	1043	165R	40	2	
1156.00	18.10	173.70	1136.8	163.0	-161.1	27.6	1.13	0.71	2.86	10	40	450	1500	1062	1077	165R		2	
														1096	1111	165R	40	2	
														1131	1146	165R		2	

Customer : Conoco/Phillips
Well Name : CP13B-16
Rig : 631

Field : Piceance Basin
Slot : CP13B-16 E16 596 (phase one)
Job # : CA-MJ-0005216257

North Ref : Grid Declination : 10.99° VS Dir : 174.59° (from Wellhead)

WELLBORE SURVEY

Measured Depth (ft)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	E/W (ft)	DLS (°/100')	Build Rate (°/100')	Turn Rate (°/100')	WOB (lbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation From (ft)	To (ft)	Tool Face (deg)	ROP (ft/hr)	BHA No. (#)	Comment
1224.00	18.20	175.10	1201.4	184.1	-182.1	29.7	0.66	0.15	2.06	10	40	450	1500	1165	1180	165R	40	2	
1295.00	18.30	174.90	1268.8	206.4	-204.3	31.6	0.17	0.14	-0.28	10	40	450	1500	1200	1216	165R	40	2	
1364.00	18.40	173.30	1334.3	228.1	-225.9	33.8	0.74	0.14	-2.32	10	40	450	1615	1270	1285	LS	40	2	
1434.00	18.90	172.90	1400.6	250.5	-248.1	36.5	0.74	0.71	-0.57	8	40	350	1135	1339	1351	LS	40	2	
1538.00	21.10	171.20	1498.4	286.0	-283.3	41.5	2.19	2.12	-1.63	9		453	1700	1474	1479	170R	40	2	
1608.00	22.40	171.10	1563.4	311.9	-309.0	45.5	1.86	1.86	-0.14	8	40	350	1135	1528	1538	170R	40	2	
1677.00	21.30	170.60	1627.4	337.5	-334.3	49.5	1.62	-1.59	-0.72	8	40	350	1135	1576	1581	170R	55	2	
														1644	1661	170R	1644	2	

DRILLING PARAMETERS

sperry-sun

DRILLING SERVICES

Daily Drilling Report

Customer : Conoco/Phillips
 Well Name : CP13B-16
 Field : Piceance Basin
 Slot : CP13B-16 E16 596 (phase one)
 Rig : 631
 Job # : CA-MJ-0005216257

CURRENT STATUS Report # 4 7/29/2007

Total Depth (ft) :	1684	Casing Depth (ft) :	120.00	Operator Reps :	Chris Barnhill, Charley
Drilled last 24 hrs (ft) :	504	Casing Diameter (in) :	20.000	SSDS Reps :	Bill Haines (4), Charlie Brister (3)
Hole Size (in) :	8.500	Casing ID (in) :	19.000		

LAST SURVEY

Depth (ft)	Inclination	Azimuth	TVD (ft)	Displ (ft)	Direction
1677.00	21.30	170.60	1627.41	337.98	S08.43E

LAST FORMATION TOP

Formation Name	MD Top (ft)	TVD Top (ft)
Green River	120.00	120.00

BHA SUMMARY

BHA 2: 83.70 ft; Bit #2 (55.75 hrs), Other, PDM #1 (56.5 hrs), Sub, Stab, DC, Sub, Sub, Sub

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lb/100ft ²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Gel/Freshwater	8.7	42	10	10.0	4.0 / 7.0	12	9.9	2.80	0.25	

TIME BREAKDOWN

From	To	Hours	TMD (ft)	BHA #	Activity
00:00	00:30	0.50	1304.00	2	Service Rig
00:30	05:15	4.75	1304.00	2	Drilling
05:15	05:45	0.50	1304.00	2	Circ
05:45	11:30	5.75	1453.00	2	Drilling
11:30	12:00	0.50	1453.00	2	Service Rig
12:00	19:00	7.00	1599.00	2	Drilling
19:00	19:15	0.25	1599.00	2	Deviation Survey
19:15	19:45	0.50	1614.00	2	Drilling
19:45	21:30	1.75	1633.00	2	Slide
21:30	21:45	0.25	1633.00	2	Connection
21:45	22:00	0.25	1644.00	2	Drilling
22:00	23:00	1.00	1661.00	2	Slide
23:00	23:15	0.25	1668.00	2	Drilling
23:15	23:30	0.25	1668.00	2	Deviation Survey
23:30	00:00	0.50	1684.00	2	Drilling

COMMENTS

Daily Cost: \$7,688.00
 Cumulative: \$30,752.00

Lost returns @ 1392 regained 1394. Drl w/partial returns from 1424

ConocoPhillips Piceance Basin

Piceance Basin (Landmark)

PAD E16 596

CP13B-16 E16 596(phase one) - Slot 8

Slot 8

Survey: Gyro Tie on

Standard Survey Report

16 August, 2007

Halliburton Company

Survey Report

Company:	ConocoPhillips Piceance Basin	Local Co-ordinate Reference:	Well CP13B-16 E16 596(phase one) - Slot 8
Project:	Piceance Basin (Landmark)	TVD Reference:	RKB @ 8404.98ft (PD 631)
Site:	PAD E16 596	MD Reference:	RKB @ 8404.98ft (PD 631)
Well:	CP13B-16 E16 596(phase one)	North Reference:	Grid
Wellbore:	Slot 8	Survey Calculation Method:	Minimum Curvature
Design:	CP13B-16	Database:	EDM 2003.16 Single User Db

Project	Piceance Basin (Landmark)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Ground Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Colorado North 501		Using geodetic scale factor

Site	PAD E16 596		
Site Position:		Northing:	114,553.52 ft
From:	Lat/Long	Easting:	1,244,322.42 ft
Position Uncertainty:	0.00 ft	Slot Radius:	in
		Latitude:	39° 36' 59.150 N
		Longitude:	108° 10' 57.440 W
		Grid Convergence:	-1.73 °

Well	CP13B-16 E16 596(phase one) - Slot 8, E16		
Well Position	+N/-S	0.00 ft	Northing: 114,525.40 ft
	+E/-W	0.00 ft	Easting: 1,244,321.60 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	8,380.65 ft
		Latitude:	39° 36' 58.872 N
		Longitude:	108° 10' 57.440 W
		Ground Level:	8,380.65 ft

Wellbore	Slot 8		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2007	7/11/2007	10.98	65.93	52,666

Design	CP13B-16		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
		Direction	(°)
			174.59

Survey Program	Date 8/16/2007		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
147.00	5,762.00	Gyro Tie on (Slot 8)	Good_gyro
			Good Gyro

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)
4,423.00	20.10	164.30	4,224.71	-1,208.95	151.35	1,217.83	2.16	-0.42	-6.11
4,516.00	20.90	165.10	4,311.82	-1,240.36	159.94	1,249.92	0.91	0.86	0.86
4,612.00	21.30	167.30	4,401.38	-1,273.92	168.18	1,284.10	0.92	0.42	2.29
4,706.00	22.20	168.10	4,488.69	-1,307.95	175.60	1,318.68	1.01	0.96	0.85
4,801.00	21.00	167.40	4,577.02	-1,342.13	183.01	1,353.41	1.29	-1.26	-0.74
4,896.00	21.00	167.40	4,665.71	-1,375.35	190.44	1,387.18	0.00	0.00	0.00
4,991.00	21.20	167.40	4,754.34	-1,408.73	197.90	1,421.12	0.21	0.21	0.00
5,087.00	21.30	165.60	4,843.81	-1,442.56	206.02	1,455.56	0.69	0.10	-1.87
5,182.00	20.80	163.60	4,932.47	-1,475.45	215.07	1,489.16	0.92	-0.53	-2.11
5,277.00	20.30	164.80	5,021.43	-1,507.53	224.16	1,521.96	0.69	-0.53	1.26
5,371.00	21.40	165.40	5,109.27	-1,539.87	232.76	1,554.96	1.19	1.17	0.64
5,465.00	19.20	167.60	5,197.43	-1,571.56	240.40	1,587.23	2.48	-2.34	2.34
5,558.00	19.60	170.80	5,285.15	-1,601.90	246.18	1,617.98	1.22	0.43	3.44

Halliburton Company

Survey Report

Company: ConocoPhillips Piceance Basin
Project: Piceance Basin (Landmark)
Site: PAD E16 596
Well: CP13B-16 E16 596(phase one)
Wellbore: Slot 8
Design: CP13B-16

Local Co-ordinate Reference: Well CP13B-16 E16 596(phase one) - Slot 8
TVD Reference: RKB @ 8404.98ft (PD 631)
MD Reference: RKB @ 8404.98ft (PD 631)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User 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)	Turn Rate (°/100ft)
5,652.00	19.50	173.60	5,373.73	-1,633.05	250.45	1,649.40	1.00	-0.11	2.98
5,762.00	18.70	174.80	5,477.68	-1,668.86	254.09	1,685.39	0.81	-0.73	1.09

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
CP13B-16 Tg	0.00	0.00	6,763.99	-2,108.70	199.87	112,416.66	1,244,521.47	39° 36' 38.101 N	108° 10' 54.072 W
- survey misses by 1360.51ft at 5762.00ft MD (5477.68 TVD, -1668.86 N, 254.09 E)									
- Circle (radius 100.00)									
CP13B-16 TD	0.00	0.00	11,568.98	-2,108.77	199.87	112,416.60	1,244,521.47	39° 36' 38.100 N	108° 10' 54.072 W
- survey misses by 6107.41ft at 5762.00ft MD (5477.68 TVD, -1668.86 N, 254.09 E)									
- Circle (radius 100.00)									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
120.00	120.00	20"	20.000	26.000
2,311.00	2,224.35	9 5/8"	9.625	12.250

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,226.08	3,096.00	Wasatch	Sandstone, Fine	0.00	
	6,865.00	Williams Fork		0.00	
5,678.79	5,399.00	Wasatch G	Sandstone, Shaly	0.00	

Checked By: _____ Approved By: _____ Date: _____

sperry-sun

DRILLING SERVICES

BHA Report

Customer : Conoco/Phillips
 Well Name : CP13B-16
 Field : Piceance Basin
 Slot : CP13B-16 E16 596 (phase one)
 Rig : 631
 Job # : CA-MJ-0005216257

BHA# 7

BHA# 7 : Date In : 8/15/2007 MD In (ft) : 5743 TVD In (ft) : 5460 Date Cur: 8/15/2007 MD Cur (ft): 5826 TVD Cur (ft): 5538

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in ²)	Dull Condition
7	8.750	Security	FM3555Z	10957815	7x16	1.374	

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (psi)	Cum Circ Hrs
	6.250	National	Hemidrill	62524326h	1.50°		130	1.50

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (ft)	Bit - Center Blade (ft)
1	PDC	10957815	8.750	3.000	8.750	180.84	B 4-1/2" Reg	0.88	
2	6-1/4" National Lobe 7/8 - 2.9 stg	62524326h	6.250	4.278		55.58	B 4" IF	30.10	
3	Integral Blade Stabilizer	SSS784	6.750	2.875	8.500	99.83	B 4-1/2" XH	4.16	32.23
4	Cross Over Sub	FOT30184	6.750	2.750		101.71	B 4-1/2" IF	2.55	
5	Non-Mag Drill collar	10633295	6.500	3.000		88.00	B 4-1/2" IF	30.75	
6	NM PWD Index Sub	237372	6.500	3.000		89.00	B 4-1/2" IF	2.14	
7	Non-Mag Antenna Sub	210497	6.500	3.000		89.00	B 4-1/2" IF	3.32	
8	Non-Mag Drill collar	10735098	6.500	2.630		94.57	B 4-1/2" IF	31.02	
9	Non-Mag Cross Over Sub	C-448	6.130	2.910		77.91	B 4-1/2" XH	3.22	
10	Cross Over Sub	Rig	6.250	2.900		82.05	B XT	1.67	
11	15x HWDP		4.500	2.750		41.00	B XT	458.34	
12	Jar	14201650	4.750	2.250		46.84	B XT	29.43	
13	12x HWDP		4.500	2.750		41.00	B XT	366.65	
								964.23	

Parameter	Min	Max	Ave
WOB (lbs) :	7	9	8
RPM (rpm) :	60	60	60
Flow (gpm) :	363	427	388
SPP (psi) :	1388	1650	1482

Activity	Hrs
Drilling :	1.00
Reaming :	0.00
Circ-Other :	0.50
Total :	1.50

BHA Weight (lb)
in Air (Total) : 44223
in Mud (Total) : 37887
in Air (Bel Jars) : 27812
in Mud (Bel Jars) : 23827

Drill String	OD(in)	Len(ft)

PERFORMANCE

	In	Out
Inclination (deg)	19.44	19.43
Azimuth (deg)	176.33	178.83

	Distance(ft)	ROP (ft/hr)	Build (°/100')	Turn (°/100')	DLS (°/100')
Oriented :	24.00	53			
Rotated :	59.00	95			
Total :	83.00	83	-0.02	3.01	1.00

COMMENTS

PTB=
 Rev/Gallon:

Customer : Conoco/Phillips
Well Name : CP13B-16
Rig : 631

Page : 1

Field : Piceance Basin
Slot : CP13B-16 E16 596 (phase one)
Job # : CA-MJ-0005216257

North Ref : Grid Declination : 10.99° VS Dir : 174.59° (from Wellhead)

WELLBORE SURVEY										DRILLING PARAMETERS									
Measured Depth (ft)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	E/W (ft)	DLS (°/100')	Build Rate (°/100')	Turn Rate (°/100')	WOB (lbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation From (ft)	To (ft)	Tool Face (deg)	ROP (ft/hr)	BHA No.	Comment
104.00	0.50	130.23	104.0	0.4	-0.3	0.2	0.00	0.00	0.00									1	Tieon Scientific Gyro
147.00	0.40	121.40	147.0	0.6	-0.5	0.5	0.28	-0.23	0.00	5	30	450	1300				60	1	
254.00	0.90	136.30	254.0	1.5	-1.4	1.4	0.49	0.47	0.00	5	30	450	1300				60	2	
290.00	1.30	142.60	290.0	2.0	-1.9	1.8	1.16	1.11	0.00	5	30	450	1300	269	279	170R	60	2	
322.50	1.80	147.40	322.5	2.8	-2.6	2.3	1.59	1.54	14.77	7	30	450	1330	308	314	170R	90	2	
392.00	3.20	161.50	391.9	5.7	-5.4	3.5	2.19	2.01	20.29	7	30	450	1330	338	348	175R	90	2	
														373	383	160L		2	
461.00	5.10	168.00	460.7	10.6	-10.2	4.8	2.83	2.75	9.42	7	30	450	1330	408	418	170L	90	2	
														445	453	170L		2	
495.00	5.90	169.20	494.6	13.8	-13.4	5.4	2.38	2.35	3.53	7	30	450	1330	478	485	LS	90	2	
529.00	6.40	171.10	528.4	17.5	-17.0	6.1	1.59	1.47	5.59	7	30	450	1330	514	521	170L	90	2	
564.00	7.10	173.00	563.1	21.6	-21.0	6.6	2.10	2.00	5.43	7	30	450	1330	550	555	HS	70	2	
599.00	7.90	172.80	597.8	26.1	-25.6	7.2	2.29	2.29	-0.57	7	30	450	1330				70	2	
634.00	8.70	174.00	632.5	31.2	-30.6	7.8	2.34	2.29	3.43	7	30	450	1330				70	2	
669.00	9.40	174.60	667.0	36.7	-36.1	8.3	2.02	2.00	1.71	7	30	450	1330				70	2	
703.00	10.40	175.00	700.5	42.5	-41.9	8.8	2.95	2.94	1.18	6	30	450	1325				50	2	
738.00	11.40	175.50	734.9	49.2	-48.5	9.4	2.87	2.86	1.43	6	30	450	1325				50	2	
773.00	12.50	173.80	769.1	56.4	-55.7	10.1	3.30	3.14	-4.86	6		450	1289	769	773	120L	14	2	
808.00	13.60	171.90	803.2	64.3	-63.5	11.1	3.37	3.14	-5.43	6		450	1289	773	774	120L	14	2	
														804	808	120L		2	
878.00	15.40	169.70	871.0	81.8	-80.8	13.9	2.69	2.57	-3.14	7	30	450	1269	808	809	120L	45	2	
														834	844	LS		2	
949.00	16.50	167.80	939.3	101.2	-100.0	17.7	1.71	1.55	-2.68	9	40	450	1269	865	869	LS		2	
														891	903	LS	40	2	
1016.00	17.30	169.70	1003.4	120.6	-119.1	21.5	1.45	1.19	2.84	10	40	450	1269	926	934	LS		2	
														960	972	LS	40	2	
1086.00	17.60	171.70	1070.1	141.5	-139.8	24.9	0.96	0.43	2.86	10	40	450	1269	994	1008	165R		2	
														1028	1043	165R	40	2	
1156.00	18.10	173.70	1136.8	163.0	-161.1	27.6	1.13	0.71	2.86	10	40	450	1500	1062	1077	165R		2	
														1096	1111	165R	40	2	
														1131	1146	165R		2	

Customer : Conoco/Phillips
Well Name : CP13B-16
Rig : 631

Field : Piceance Basin
Slot : CP13B-16 E16 596 (phase one)
Job # : CA-MJ-0005216257

North Ref : Grid Declination : 10.99° VS Dir : 174.59° (from Wellhead)

WELLBORE SURVEY

DRILLING PARAMETERS

Measured Depth (ft)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	DLS (°/100')	Build Rate (°/100')	Turn Rate (°/100')	WOB (lbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation From (ft)	To (ft)	Tool Face (deg)	ROP (ft/hr)	BHA No.	Comment
1224.00	18.20	175.10	1201.4	184.1	-182.1	29.7	0.66	0.15	2.06	40	450	1500	1165	1180	165R	40	2	
1295.00	18.30	174.90	1268.8	206.4	-204.3	31.6	0.17	0.14	-0.28	40	450	1500	1200	1216	165R	40	2	
1364.00	18.40	173.30	1334.3	228.1	-225.9	33.8	0.74	0.14	-2.32	40	450	1615	1270	1285	LS	40	2	
1434.00	18.90	172.90	1400.6	250.5	-248.1	36.5	0.74	0.71	-0.57	40	350	1135	1304	1319	LS	40	2	
1538.00	21.10	171.20	1498.4	286.0	-283.3	41.5	2.19	2.12	-1.63	9	453	1700	1339	1351	LS	40	2	
1608.00	22.40	171.10	1563.4	311.9	-309.0	45.5	1.86	1.86	-0.14	40	350	1135	1374	1384	LS	40	2	
1677.00	21.30	170.60	1627.4	337.5	-334.3	49.5	1.62	-1.59	-0.72	40	350	1135	1389	1394	LS	40	2	
1747.00	19.80	170.90	1693.0	362.0	-358.6	53.5	2.15	-2.14	0.43	40	350	1135	1411	1417	LS	40	2	
1818.00	19.70	170.30	1759.8	386.0	-382.2	57.4	0.32	-0.14	-0.85	40	350	1135	1474	1479	170R	40	2	
1885.00	20.70	169.70	1822.7	409.0	-405.0	61.4	1.52	1.49	-0.90	40	350	1135	1516	1524	170R	40	2	
1961.00	20.40	167.70	1893.8	435.6	-431.2	66.7	1.00	-0.39	-2.63	9	350	965	1528	1538	170R	40	2	
2024.00	19.60	165.60	1953.0	456.9	-452.2	71.6	1.71	-1.27	-3.33	9	350	1135	1576	1581	170R	55	2	
2095.00	19.20	166.00	2020.0	480.2	-475.0	77.4	0.59	-0.56	0.56	40	350	775	1614	1633	170R	50	2	
2165.00	18.90	165.40	2086.2	502.8	-497.2	83.1	0.51	-0.43	-0.86	40	350	775	1644	1661	170R	50	2	
2200.00	19.60	164.90	2119.2	514.2	-508.3	86.0	2.05	2.00	-1.43	40	350	775	1684	1686	170R	50	2	
2233.00	19.70	165.00	2150.3	525.1	-519.0	88.9	0.32	0.30	0.30	40	350	775	1691	1703	170R	50	2	
2411.00	14.06	179.65	2320.6	576.3	-569.7	96.8	3.95	-3.17	8.23	55	250	1530	1715	1735	170R	50	2	
2541.00	12.44	191.06	2447.2	605.4	-599.2	94.2	2.36	-1.25	8.78	50	250	1455	1753	1761	170R	50	2	
										10	250	1455	1792	1807	165R	50	3	
										8	350	1135	1955	1961	165R	18	3	
										9	350	1135	1961	1977	165R	65	3	
										8	350	775	2001	2011	170R	55	3	
										8	350	775	2074	2089	100R	55	3	
										8	350	775				55	3	
										8	350	775				55	3	
										8	350	775				55	3	
										9	250	1530	2257	2283	100R	50	4	
										10	250	1455				35	5	

Customer : Conoco/Phillips
Well Name : CP13B-16
Rig : 631

Field : Piceance Basin
Slot : CP13B-16 E16 596 (phase one)
Job # : CA-MJ-0005216257
North Ref : Grid Declination : 10.99° VS Dir : 174.59° (from Wellhead)

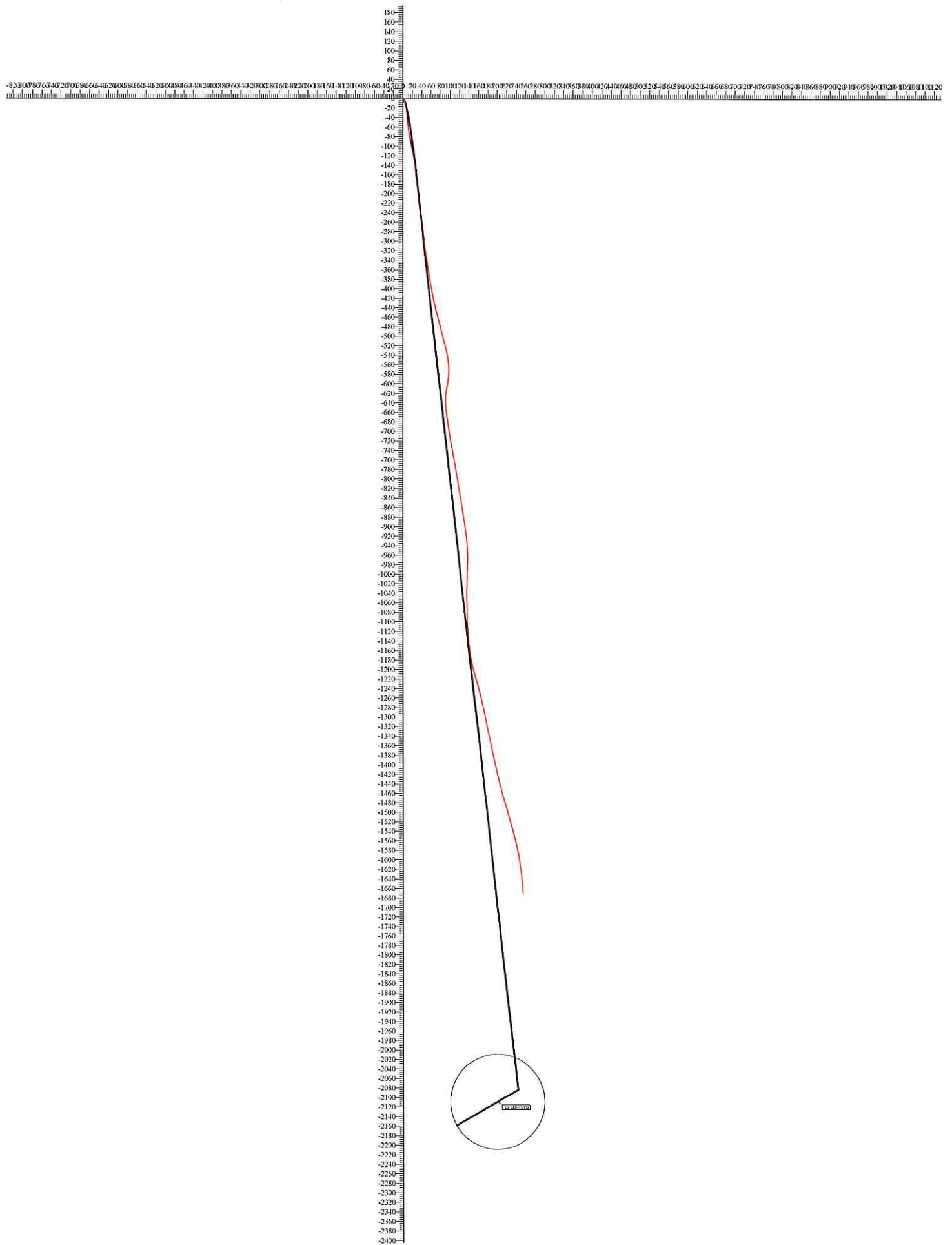
WELLBORE SURVEY

DRILLING PARAMETERS

Measured Depth (ft)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	DLS (°/100')	Build Rate (°/100')	Turn Rate (°/100')	WOB (lbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation From (ft)	To (ft)	Tool Face (deg)	ROP (ft/hr)	BHA No. (#)	Comment
2627.00	14.76	187.40	2530.8	625.0	-619.2	2.88	2.70	-4.26	10	50	250	1455				35	5	
2710.00	16.80	177.62	2610.6	647.3	-641.7	4.03	2.46	-11.78	10	50	250	1455				35	5	
2794.00	20.08	171.48	2690.3	673.8	-668.1	4.53	3.90	-7.31	10	50	250	1455				35	5	
2881.00	19.64	171.57	2772.2	703.3	-697.3	0.51	-0.51	0.10	10	50	250	1455				35	5	
2967.00	19.87	170.02	2853.1	732.3	-726.0	0.67	0.27	-1.80	10	50	250	1455				35	5	
3065.00	20.20	169.80	2945.2	765.8	-759.0	0.35	0.34	-0.22	10	50	250	1455				35	5	
3158.00	21.10	170.40	3032.2	798.5	-791.3	0.99	0.97	0.65	10	60	250	1500				45	6	
3251.00	19.50	169.80	3119.4	830.7	-823.1	1.73	-1.72	-0.65	9	60	435	1925	3210	3224	LS	90	6	
3348.00	18.90	170.80	3211.0	862.5	-854.6	0.71	-0.62	1.03	9	60	435	1925				90	6	
3443.00	17.70	170.30	3301.2	892.2	-884.0	1.27	-1.26	-0.53	9	60	435	1925				90	6	
3536.00	16.50	172.00	3390.1	919.5	-911.0	1.40	-1.29	1.83	9	60	435	1925	3501	3514	10L	90	6	
3663.00	16.20	175.40	3512.0	955.3	-946.5	0.79	-0.24	2.68	4		435	1750	3589	3619	HS	30	6	
													3621	3630	20L		6	
													3635	3663	20L		6	
3757.00	20.10	181.60	3601.3	984.4	-975.8	4.62	4.15	6.60	4		435	1750	3663	3757	20L	30	6	
3852.00	20.60	181.90	3690.3	1017.2	-1008.8	0.54	0.53	0.32	9	80	400	1500	3757	3759	20L	125	6	
													3766	3779	20L		6	
3949.00	21.20	179.80	3781.0	1051.6	-1043.4	0.99	0.62	-2.16	4		400	1445	3820	3847	70L		6	
4043.00	20.40	178.90	3868.8	1084.9	-1076.8	0.92	-0.85	-0.96	9	80	400	1500	3916	3949	70L	45	6	
4138.00	20.50	176.40	3957.8	1118.0	-1109.9	0.93	0.11	-2.63	4		400	1445	3949	3970	70L	125	6	
4233.00	20.50	175.10	4046.8	1151.2	-1143.1	0.48	0.00	-1.37	4		400	1445	4096	4138	70L	56	6	
													4138	4141	70L	46	6	
4328.00	20.50	170.10	4135.8	1184.5	-1176.1	1.84	0.00	-5.26	7		400	1445	4190	4233	70L		6	
													4233	4235	70L	59	6	
4423.00	20.10	164.30	4224.9	1217.1	-1208.2	2.16	-0.42	-6.11	7		363	1445	4286	4328	60L		6	
													4328	4341	60L	45	6	
4568.00	20.90	165.10	4360.7	1267.1	-1257.1	0.58	0.55	0.55	9	80	363	1555	4381	4423	70L	150	6	
													4423	4426	70L		6	
													4447	4477	20L		6	
4612.00	21.30	167.30	4401.8	1282.8	-1272.5	2.02	0.91	5.00	7		363	1445	4477	4517	20R		6	
													4583	4612	20L	45	6	

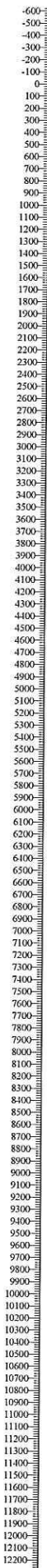
WELLBORE SURVEY										DRILLING PARAMETERS									
Measured Depth (ft)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (ft)	Vertical Section (ft)	Coordinates		DLS (°/100')	Build Rate (°/100')	Turn Rate (°/100')	WOB (lbs)	RPM	Flow Rate (gpm)	Stand Pipe (psi)	Orientation		Tool Face (deg)	ROP (ft/hr)	BHA No. (#)	Comment
					N/S (ft)	E/W (ft)								From (ft)	To (ft)				
4706.00	22.20	168.10	4489.1	1317.4	-1306.6	176.7	1.01	0.96	0.85	9	60	363	1555	4612	4618	20L	150	6	
4801.00	21.00	167.40	4577.4	1352.1	-1340.7	184.1	1.29	-1.26	-0.74	9	60	363	1555	4675	4705	20L	150	6	
4896.00	21.00	167.40	4666.1	1385.9	-1374.0	191.6	0.00	0.00	0.00	9	60	363	1555	4770	4782	80L	150	6	
4991.00	21.20	167.40	4754.8	1419.8	-1407.3	199.0	0.21	0.21	0.00	9	60	363	1555	4865	4895	20L	150	6	
5087.00	21.30	165.60	4844.2	1454.3	-1441.2	207.1	0.69	0.10	-1.87	9	60	363	1555	4960	4990	20L	150	6	
5182.00	20.80	163.60	4932.9	1487.9	-1474.0	216.2	0.92	-0.53	-2.11	9	60	363	1555	5055	5085	80L	150	6	
5277.00	20.30	164.80	5021.8	1520.7	-1506.1	225.3	0.69	-0.53	1.26	9	60	363	1555	5138	5163	45L	150	6	
5371.00	21.40	165.40	5109.7	1553.7	-1538.5	233.9	1.19	1.17	0.64	9	60	363	1555	5237	5262	30L	150	6	
5465.00	19.20	167.60	5197.8	1585.9	-1570.2	241.5	2.48	-2.34	2.34	9	60	363	1555	5330	5356	20L	150	6	
5558.00	19.60	170.80	5285.6	1616.7	-1600.5	247.3	1.22	0.43	3.44	7		363	1445	5534	5544	HS	10	6	
5652.00	19.50	173.60	5374.2	1648.1	-1631.7	251.6	1.00	-0.11	2.98	9	60	363	1555	5554	5558	HS	150	6	
5762.00	18.70	174.80	5478.1	1684.1	-1667.5	255.2	0.81	-0.73	1.09	7		427	1650	5571	5583	HS	40	7	
														5622	5636	HS		6	
														5662	5666	HS		7	
														5721	5728	HS		7	
														5736	5743	HS		7	
														5752	5762	HS		7	

West(-)/East(+) [ft]



South(-)/North(+) [ft]

True Vertical Depth [ft]



CF110-16.116

CF110-16.116



Vertical Section at 174.59° [R]

ConocoPhillips Piceance Basin

Piceance Basin (Landmark)

PAD E16 596

CP13B-16 E16 596(phase one) - Slot 8

Slot 8

Survey: EM MWD Svys

Standard Survey Report

17 August, 2007

Halliburton Company

Survey Report

Company: ConocoPhillips Piceance Basin Project: Piceance Basin (Landmark) Site: PAD E16 596 Well: CP13B-16 E16 596(phase one) Wellbore: Slot 8 Design: CP13B-16	Local Co-ordinate Reference: Well CP13B-16 E16 596(phase one) - Slot 8 TVD Reference: RKB @ 8404.98ft (PD 631) MD Reference: RKB @ 8404.98ft (PD 631) North Reference: Grid Survey Calculation Method: Minimum Curvature Database: EDM 2003.16 Single User Db	
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Project Piceance Basin (Landmark)

Map System: US State Plane 1927 (Exact solution) Geo Datum: NAD 1927 (NADCON CONUS) Map Zone: Colorado North 501	System Datum: Ground Level Using geodetic scale factor	
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Site PAD E16 596

Site Position: From: Lat/Long Position Uncertainty: 0.00 ft	Northing: 114,553.52 ft Easting: 1,244,322.42 ft Slot Radius: in	Latitude: 39° 36' 59.150 N Longitude: 108° 10' 57.440 W Grid Convergence: -1.73 °
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Well CP13B-16 E16 596(phase one) - Slot 8, E16

Well Position +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty 0.00 ft	Northing: 114,525.40 ft Easting: 1,244,321.60 ft Wellhead Elevation: 8,380.65 ft	Latitude: 39° 36' 58.872 N Longitude: 108° 10' 57.440 W Ground Level: 8,380.65 ft
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Wellbore Slot 8

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2007	7/11/2007	10.98	65.93	52,666

Design CP13B-16

Audit Notes:

Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.00
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Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	174.59

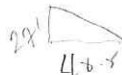
Survey Program Date 8/17/2007

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
147.00	6,139.00	EM MWD Svys (Slot 8)	Good_gyro	Good Gyro

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)
5,558.00	19.60	170.80	5,285.15	-1,601.90	246.18	1,617.98	1.22	0.43	3.44
5,652.00	19.50	173.60	5,373.73	-1,633.05	250.45	1,649.40	1.00	-0.11	2.98
5,762.00	18.70	174.80	5,477.68	-1,668.86	254.09	1,685.39	0.81	-0.73	1.09
5,854.00	18.40	175.60	5,564.90	-1,698.02	256.54	1,714.66	0.43	-0.33	0.87
5,949.00	17.70	174.30	5,655.22	-1,727.34	259.13	1,744.09	0.85	-0.74	-1.37
6,043.00	16.50	175.10	5,745.06	-1,754.86	261.69	1,771.73	1.30	-1.28	0.85
6,139.00	17.30	175.10	5,836.92	-1,782.67	264.07	1,799.63	0.83	0.83	0.00

5929 -1809 215.16



Halliburton Company

Survey Report

Company: ConocoPhillips Piceance Basin
Project: Piceance Basin (Landmark)
Site: PAD E16 596
Well: CP13B-16 E16 596(phase one)
Wellbore: Slot 8
Design: CP13B-16

Local Co-ordinate Reference: Well CP13B-16 E16 596(phase one) - Slot 8
TVD Reference: RKB @ 8404.98ft (PD 631)
MD Reference: RKB @ 8404.98ft (PD 631)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
CP13B-16 Tg	0.00	0.00	6,763.99	-2,108.70	199.87	112,416.66	1,244,521.47	39° 36' 38.101 N	108° 10' 54.072 W
- survey misses by 984.82ft at 6139.00ft MD (5836.92 TVD, -1782.67 N, 264.07 E)									
- Circle (radius 100.00)									
CP13B-16 TD	0.00	0.00	11,568.98	-2,108.77	199.87	112,416.60	1,244,521.47	39° 36' 38.100 N	108° 10' 54.072 W
- survey misses by 5741.69ft at 6139.00ft MD (5836.92 TVD, -1782.67 N, 264.07 E)									
- Circle (radius 100.00)									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
120.00	120.00	20"	20.000	26.000
2,311.00	2,224.35	9 5/8"	9.625	12.250

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,226.08	3,096.00	Wasatch	Sandstone, Fine	0.00	
	6,865.00	Williams Fork		0.00	
5,678.79	5,399.00	Wasatch G	Sandstone, Shaly	0.00	

Checked By: _____ Approved By: _____ Date: _____

sperry-sun

DRILLING SERVICES

Daily Drilling Report

Customer : Conoco/Phillips
 Well Name : CP13B-16
 Field : Piceance Basin
 Slot : CP13B-16 E16 596 (phase one)
 Rig : 631
 Job # : CA-MJ-0005216257

CURRENT STATUS Report # 22 8/16/2007

Total Depth (ft) : 6140	Casing Depth (ft) : 2313.00	Operator Reps : Clifford Sheehan, James Gardner
Drilled last 24 hrs (ft) : 314	Casing Diameter (in) : 9.626	SSDS Reps : R Sledge (14), Charlie Brister (21)
Hole Size (in) : 8.750	Casing ID (in) : 8.921	

LAST SURVEY

Depth (ft)	Inclination	Azimuth	TVD (ft)	Displ (ft)	Direction
6139.00	17.30	175.10	5837.34	1800.90	S08.47E

LAST FORMATION TOP

Formation Name	MD Top (ft)	TVD Top (ft)
Wasatch "G"	5399.00	5135.82

BHA SUMMARY

BHA 7: 964.23 ft; Bit #7 (22.25 hrs), PDM # (24.5 hrs), Stab, Sub, DC, Sub, Sub, DC, Sub, Sub, 15x HWDP, Jar, 12x HWDP

MUD DATA

Type	Weight (ppg)	FV (sec)	PV (cp)	YP (lb/100ft ²)	Gels	Fluid Loss	pH	Solids (%)	Sand (%)	Oil (%)
Gel/Freshwater	9.4	53	20	13.0	2.0 / 7.0	6	10.1	5.80		

TIME BREAKDOWN

From	To	Hours	TMD (ft)	BHA #	Activity
00:00	00:45	0.75	5829.00	7	Drilling
00:45	01:15	0.50	5829.00	7	Air Comp Repair
01:15	07:00	5.75	5877.00	7	Drilling
07:00	16:45	9.75	6074.00	7	Drilling
16:45	18:30	1.75	6074.00	7	Pump Air Bubbles -Regain Circulation
18:30	23:30	5.00	6140.00	7	Drilling
23:30	00:00	0.50	6140.00	7	Service Rig

COMMENTS

Daily Cost: \$ 10,138.00
 Cumulative: \$270,295.00