

Operator BURLINGTON RESOURCES OIL & GAS COMPANY LP	Legal WellName BRUINGTON #1B	API / UWI 3004534957	County SAN JUAN	State/Province NEW MEXICO
Surface Legal Location 025-031N-011W-C	N/S Dist (ft) 977.00	N/S Ref FNL	E/W Dist (ft) 1,777.00	E/W Ref FWL

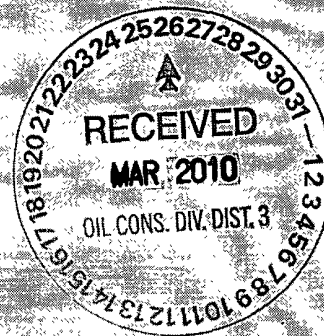
Survey Data				
Date	MD (ftKB)	Incl (°)	Method	Survey Company
1/10/2010	245.00	2.02	IncAzi-MWD	Pathfinder
1/10/2010	271.00	2.11	IncAzi-MWD	Pathfinder
1/10/2010	302.00	2.64	IncAzi-MWD	Pathfinder
1/10/2010	333.00	3.61	IncAzi-MWD	Pathfinder
1/10/2010	363.00	4.40	IncAzi-MWD	Pathfinder
1/10/2010	394.00	5.63	IncAzi-MWD	Pathfinder
1/10/2010	425.00	7.21	IncAzi-MWD	Pathfinder
1/10/2010	456.00	8.97	IncAzi-MWD	Pathfinder
1/10/2010	487.00	10.64	IncAzi-MWD	Pathfinder
1/10/2010	518.00	12.05	IncAzi-MWD	Pathfinder
1/10/2010	549.00	13.28	IncAzi-MWD	Pathfinder
1/10/2010	580.00	14.16	IncAzi-MWD	Pathfinder
1/10/2010	611.00	14.86	IncAzi-MWD	Pathfinder
1/10/2010	641.00	15.65	IncAzi-MWD	Pathfinder
1/10/2010	672.00	15.92	IncAzi-MWD	Pathfinder
1/10/2010	703.00	16.18	IncAzi-MWD	Pathfinder
1/10/2010	734.00	16.53	IncAzi-MWD	Pathfinder
1/10/2010	764.00	17.15	IncAzi-MWD	Pathfinder
1/10/2010	795.00	17.41	IncAzi-MWD	Pathfinder
1/10/2010	826.00	18.11	IncAzi-MWD	Pathfinder
1/10/2010	857.00	19.17	IncAzi-MWD	Pathfinder
1/10/2010	888.00	20.14	IncAzi-MWD	Pathfinder
1/10/2010	919.00	21.10	IncAzi-MWD	Pathfinder
1/10/2010	950.00	22.07	IncAzi-MWD	Pathfinder
1/10/2010	981.00	22.69	IncAzi-MWD	Pathfinder
1/10/2010	1,011.00	22.77	IncAzi-MWD	Pathfinder
1/10/2010	1,077.00	24.01	IncAzi-MWD	Pathfinder
1/10/2010	1,141.00	24.27	IncAzi-MWD	Pathfinder
1/10/2010	1,204.00	24.45	IncAzi-MWD	Pathfinder
1/11/2010	1,267.00	23.92	IncAzi-MWD	Pathfinder
1/11/2010	1,330.00	23.92	IncAzi-MWD	Pathfinder
1/11/2010	1,393.00	24.09	IncAzi-MWD	Pathfinder
1/11/2010	1,457.00	24.27	IncAzi-MWD	Pathfinder
1/11/2010	1,520.00	24.01	IncAzi-MWD	Pathfinder
1/11/2010	1,583.00	24.18	IncAzi-MWD	Pathfinder

I, the undersigned, certify that I acting in my capacity as _____ for ConocoPhillips Company, am authorized by said Company to make this report; and that said report was prepared under my supervision and directions, and that the facts stated herein are true to the best of my knowledge and belief.

Subscribed and sworn to me this _____

Notary Public in and for San Juan County, New Mexico

My Commission expires _____



Survey Data					
Date	MD (ftKB)	Incl (°)	Method	Survey Company	
1/11/2010	1,646.00	24.01	IncAzi-MWD	Pathfinder	
1/11/2010	1,710.00	24.09	IncAzi-MWD	Pathfinder	
1/11/2010	1,773.00	23.83	IncAzi-MWD	Pathfinder	
1/11/2010	1,836.00	24.36	IncAzi-MWD	Pathfinder	
1/11/2010	1,900.00	24.45	IncAzi-MWD	Pathfinder	
1/11/2010	1,963.00	24.71	IncAzi-MWD	Pathfinder	
1/11/2010	2,025.00	24.53	IncAzi-MWD	Pathfinder	
1/11/2010	2,088.00	24.01	IncAzi-MWD	Pathfinder	
1/11/2010	2,151.00	23.30	IncAzi-MWD	Pathfinder	
1/11/2010	2,182.00	23.04	IncAzi-MWD	Pathfinder	
1/11/2010	2,214.00	22.86	IncAzi-MWD	Pathfinder	
1/11/2010	2,246.00	22.60	IncAzi-MWD	Pathfinder	
1/11/2010	2,277.00	21.54	IncAzi-MWD	Pathfinder	
1/11/2010	2,308.00	20.22	IncAzi-MWD	Pathfinder	
1/11/2010	2,340.00	18.47	IncAzi-MWD	Pathfinder	
1/11/2010	2,372.00	17.32	IncAzi-MWD	Pathfinder	
1/11/2010	2,435.00	16.44	IncAzi-MWD	Pathfinder	
1/11/2010	2,498.00	16.00	IncAzi-MWD	Pathfinder	
1/11/2010	2,529.00	15.74	IncAzi-MWD	Pathfinder	
1/11/2010	2,593.00	13.45	IncAzi-MWD	Pathfinder	
1/11/2010	2,656.00	11.70	IncAzi-MWD	Pathfinder	
1/11/2010	2,719.00	9.85	IncAzi-MWD	Pathfinder	
1/11/2010	2,782.00	7.56	IncAzi-MWD	Pathfinder	
1/11/2010	2,845.00	5.36	IncAzi-MWD	Pathfinder	
1/11/2010	2,907.00	3.43	IncAzi-MWD	Pathfinder	
1/11/2010	2,970.00	1.32	IncAzi-MWD	Pathfinder	
1/11/2010	3,033.00	0.53	IncAzi-MWD	Pathfinder	
1/11/2010	3,096.00	0.26	IncAzi-MWD	Pathfinder	
1/12/2010	3,159.00	0.09	IncAzi-MWD	Pathfinder	
1/12/2010	3,222.00	0.18	IncAzi-MWD	Pathfinder	
1/12/2010	3,285.00	0.26	IncAzi-MWD	Pathfinder	
1/12/2010	3,348.00	0.18	IncAzi-MWD	Pathfinder	
1/12/2010	3,411.00	0.35	IncAzi-MWD	Pathfinder	
1/12/2010	3,474.00	0.44	IncAzi-MWD	Pathfinder	
1/12/2010	3,537.00	0.35	IncAzi-MWD	Pathfinder	
1/12/2010	3,600.00	0.53	IncAzi-MWD	Pathfinder	
1/12/2010	3,663.00	0.44	IncAzi-MWD	Pathfinder	
1/12/2010	3,757.00	0.44	IncAzi-MWD	Pathfinder	
1/12/2010	3,852.00	0.53	IncAzi-MWD	Pathfinder	

I, the undersigned, certify that I acting in my capacity as _____ for ConocoPhillips Company, am authorized by said Company to make this report; and that said report was prepared under my supervision and directions, and that the facts stated herein are true to the best of my knowledge and belief.

Subscribed and sworn to me this _____

Notary Public in and for San Juan County, New Mexico

My Commission expires _____

Survey Data

Date	MD (ftKB)	Incl (°)	Method	Survey Company
1/12/2010	3,946.00	0.53	IncAzi-MWD	Pathfinder
1/12/2010	4,041.00	0.53	IncAzi-MWD	Pathfinder
1/12/2010	4,135.00	0.53	IncAzi-MWD	Pathfinder
1/12/2010	4,262.00	0.81	IncAzi-MWD	Pathfinder
1/12/2010	4,388.00	0.93	IncAzi-MWD	Pathfinder
1/12/2010	4,451.00	0.82	IncAzi-MWD	Pathfinder
1/12/2010	4,596.00	0.82	IncAzi-MWD	Pathfinder
1/27/2010	7,086.00	1.00	Inc-WL	PHOENIX

I, the undersigned, certify that I acting in my capacity as _____ for ConocoPhillips Company, am authorized by said Company to make this report; and that said report was prepared under my supervision and directions, and that the facts stated herein are true to the best of my knowledge and belief.

Subscribed and sworn to me this _____

Notary Public in and for San Juan County, New Mexico

My Commission expires _____

DIRECTIONAL SURVEY REPORT

BURLINGTON RESOURCES OIL & GAS.

BRUINGTON #1B

SAN JUAN COUNTY, NM

PREPARED BY: Tom Schmidt

1/14/2009

BURLINGTON RESOURCES OIL & GAS COMPANY LP.
Geneva Blackwater
3401 E 30th Street, Farmington 87402

RE: BURLINGTON RESOURCES OIL & GAS COMPANY LP.
BRUINGTON #1B
SAN JUAN COUNTY, NM
RIG: AZTEC 711
API NO: 30-045-34957
PES FILE NO.: 601001805-NM-NM

We hereby certify that the enclosed Original Field Survey Data contained in this report represents to the best of our knowledge, a true and accurate survey of the well at the time the survey was run.

DIRECTIONAL SURVEY DATA

3 – Directional Survey Report Copies

We appreciate the opportunity to work with you and we look forward to your business support. If you have any questions, I can be reached at (505) 324-0357

Sincerely,



Tom Schmidt
M/LWD Service Coordinator
PathFinder Energy Services

DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) Justin Hawkins
B) Tim Stackhouse
3. POSITION OF SAID PERSON(S): (A-B) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 1/10/2010 TO 1/12/2010
5. STATE IN WHICH SURVEY WAS PERFORMED: NM
6. LOCATION OF WELL: SAN JUAN COUNTY, NM
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

BRUINGTON #1B
SAN JUAN COUNTY, NM
RIG: AZTEC 711
API NO: 30-045-34957

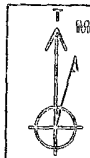
9. SURVEY CERTIFIED FROM: 245 TO 4541 MEASURED DEPTH

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 826.63 FEET, ON A BEARING OF 104.76 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED DEPTH OF 4596 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.



Tom Schmidt
M/LWD SERVICE COORDINATOR

Jamie L Goodwin
Expires 2/28/12



Azimuths to True North
Magnetic North: 10.16°
Magnetic Field
Strength: 51048.0smT
Dip Angle: 65.62°
Date: 12/23/2008
Model: EGGH 2008

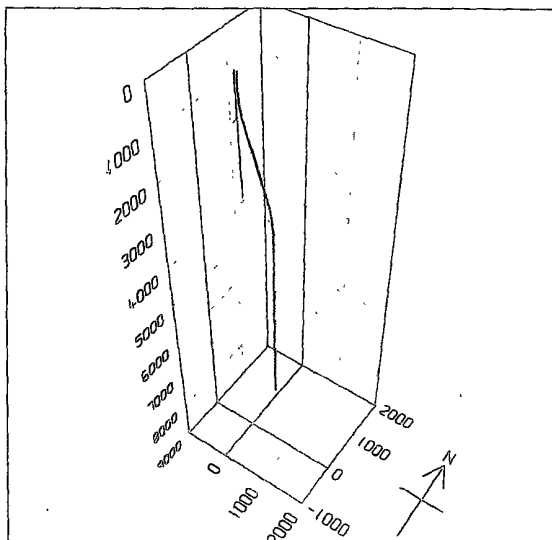
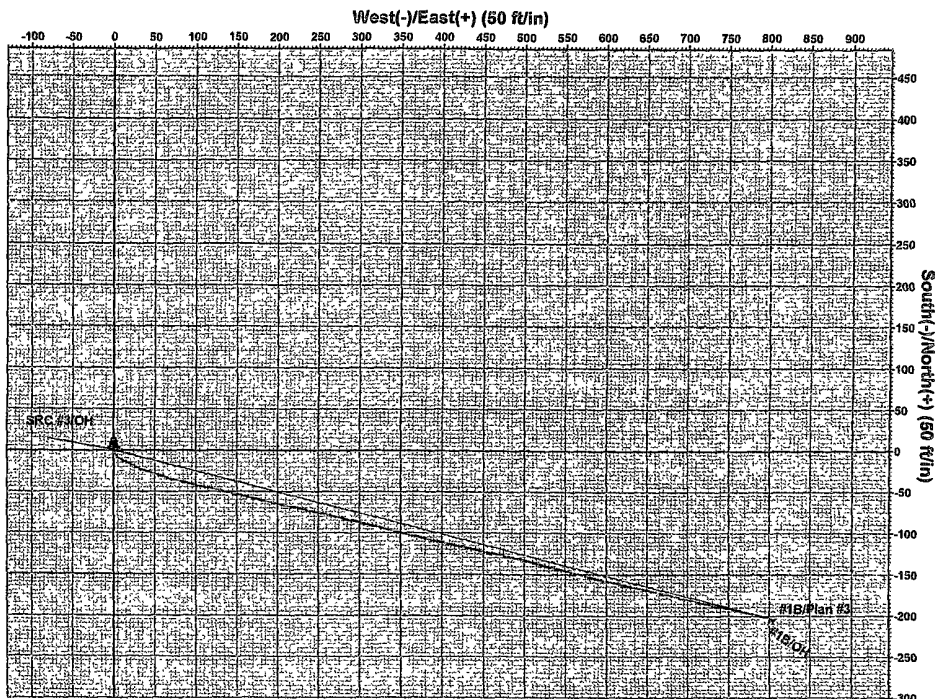
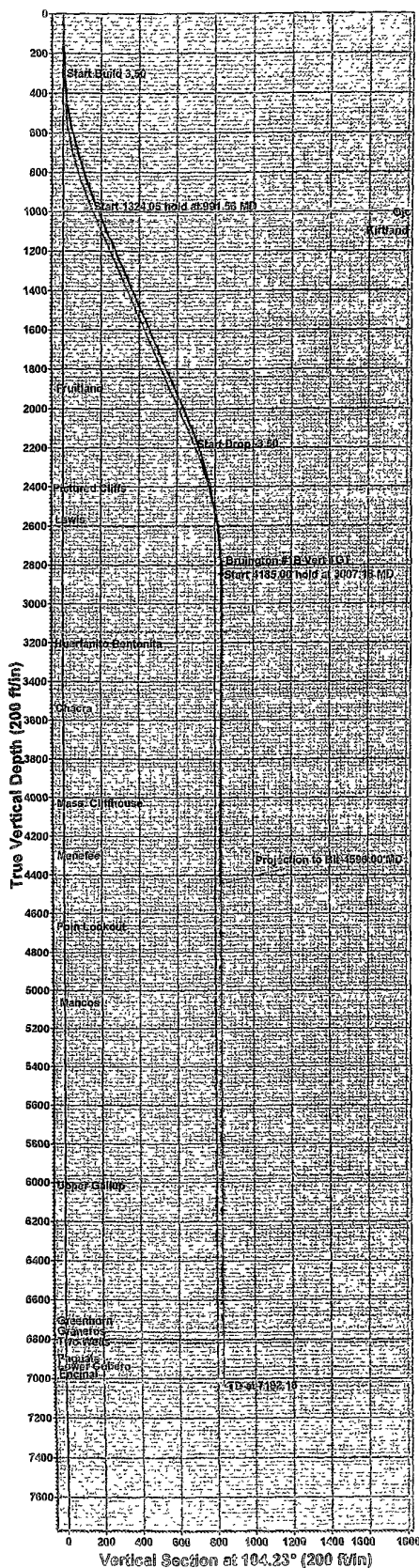
WELL DETAILS: #18

Ground Elevation: 5776.00
RKB Elevation: WELL @ 5790.00ft (HP Rig)
Rig Name: HP Rig

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Stat
0.00	0.00	2137487.423	487443.120	38° 52' 27.891 N	107° 55' 40.768 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	991.56	24.20	104.23	871.17	-35.38	138.50	3.50	104.23	143.92	
4	2315.61	0.00	104.23	2178.83	-168.82	685.70	0.00	0.00	685.77	
5	3007.18	0.00	0.00	2850.00	-204.20	805.20	3.50	180.00	830.69	Bruington #1B Vert TO
6	7192.18	0.00	0.00	7035.00	-204.20	805.20	0.00	0.00	830.69	



PROJECT DETAILS: San Juan County, NM
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico West 3003
System Datum: Mean Sea Level
Local North: No north reference data is available

Plan: Plan #3 (12/8/2011)

Created By: Kate Stigheim Date: 08/30, January 13 2019



ConocoPhillips

San Juan County, NM

Bruington

#1B

S-Well

Survey: OH

Pathfinder X & Y Survey Report

13 January, 2010

PATHFINDER



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: ConocoPhillips
Project: San Juan County, NM
Site: Bruington
Well: #1B
Wellbore: S-Well
Design: S-Well

Local Co-ordinate Reference: Well #1B
TVD Reference: WELL @ 5790.00ft (HP Rig)
MD Reference: WELL @ 5790.00ft (HP Rig)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Project:	San Juan County, NM	System Datum:	Mean Sea Level
Map System:	US State Plane 1927 (Exact solution)		
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		

Site:	Bruington		
Site Position:		Northing:	2,137,487.423 ft
From:	Lat/Long	Easting:	467,443.120 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	36° 52' 27.091 N
		Longitude:	107° 56' 40.706 W
		Grid Convergence:	-0.07 °

Well:	#1B					
Well Position	+N/-S	0.00 ft	Northing:	2,137,487.423 ft	Latitude:	36° 52' 27.091 N
	+E/-W	0.00 ft	Easting:	467,443.120 ft	Longitude:	107° 56' 40.706 W
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,774.00 ft	

Wellbore:	S-Well				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	BGGM2009	12/28/2009	(°)	(°)	(nT)
			10.16	63.62	51,048

Design:	S-Well				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	104.76	

Survey Program	Date	01/13/2010		
From	To	Survey (Wellbore)	Tool Name	Description
(ft)	(ft)			
245.00	4,596.00	OH (S-Well)	MWD	MWD - Standard



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: ConocoPhillips
Project: San Juan County, NM
Site: Bruington
Well: #1B
Wellbore: S-Well
Design: S-Well

Local Co-ordinate Reference: Well #1B
TVD Reference: WELL @ 5790.00ft (HP Rig)
MD Reference: WELL @ 5790.00ft (HP Rig)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
0.00	0.00	0.00	0.00	-5,790.00	0.00	0.00	0.00	0.00	2,137,487.42	467,443.12	
245.00	2.02	158.47	244.95	-5,545.05	-4.02	1.58	2.56	0.82	2,137,483.40	467,444.70	
271.00	2.11	160.87	270.93	-5,519.07	-4.90	1.91	3.09	0.48	2,137,482.53	467,445.02	
302.00	2.64	145.68	301.91	-5,488.09	-6.02	2.50	3.95	2.64	2,137,481.40	467,445.61	
333.00	3.61	137.49	332.86	-5,457.14	-7.33	3.56	5.31	3.44	2,137,480.09	467,446.67	
363.00	4.40	129.18	362.79	-5,427.21	-8.76	5.09	7.15	3.26	2,137,478.66	467,448.20	
394.00	5.63	124.59	393.67	-5,396.33	-10.37	7.27	9.67	4.17	2,137,477.04	467,450.37	
425.00	7.21	117.26	424.47	-5,365.53	-12.13	10.25	13.00	5.73	2,137,475.29	467,453.35	
456.00	8.97	117.21	455.16	-5,334.84	-14.12	14.13	17.26	5.68	2,137,473.28	467,457.23	
487.00	10.64	118.20	485.71	-5,304.29	-16.58	18.80	22.40	5.41	2,137,470.82	467,461.90	
518.00	12.05	116.09	516.10	-5,273.90	-19.36	24.23	28.36	4.74	2,137,468.04	467,467.32	
549.00	13.28	111.99	546.35	-5,243.65	-22.11	30.43	35.06	4.91	2,137,465.28	467,473.53	
580.00	14.16	109.54	576.46	-5,213.54	-24.71	37.31	42.37	3.40	2,137,462.67	467,480.40	
611.00	14.86	108.50	606.47	-5,183.53	-27.24	44.65	50.12	2.41	2,137,460.13	467,487.74	
641.00	15.65	107.87	635.42	-5,154.58	-29.71	52.15	58.00	2.69	2,137,457.66	467,495.24	
672.00	15.92	106.95	665.25	-5,124.75	-32.23	60.20	66.42	1.19	2,137,455.13	467,503.28	
703.00	16.18	105.30	695.04	-5,094.96	-34.61	68.43	74.99	1.69	2,137,452.74	467,511.51	
734.00	16.53	104.09	724.79	-5,065.21	-36.82	76.87	83.72	1.58	2,137,450.51	467,519.95	
764.00	17.15	104.14	753.50	-5,036.50	-38.94	85.30	92.41	2.07	2,137,448.38	467,528.38	
795.00	17.41	103.40	783.10	-5,006.90	-41.13	94.25	101.62	1.10	2,137,446.18	467,537.32	
826.00	18.11	102.61	812.62	-4,977.38	-43.26	103.46	111.07	2.39	2,137,444.04	467,546.53	
857.00	19.17	102.62	842.00	-4,948.00	-45.42	113.13	120.97	3.42	2,137,441.87	467,556.20	
888.00	20.14	102.65	871.19	-4,918.81	-47.70	123.30	131.39	3.13	2,137,439.58	467,566.37	
919.00	21.10	103.01	900.20	-4,889.80	-50.13	133.95	142.30	3.12	2,137,437.14	467,577.01	
950.00	22.07	103.62	929.03	-4,860.97	-52.76	145.04	153.70	3.21	2,137,434.50	467,588.10	
981.00	22.69	102.65	957.69	-4,832.31	-55.44	156.54	165.50	2.33	2,137,431.80	467,599.59	
1,011.00	22.77	102.12	985.36	-4,804.64	-57.92	167.86	177.08	0.73	2,137,429.31	467,610.91	



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: ConocoPhillips
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Site: Bruington
Well: #1B
Wellbore: S-Well
Design: S-Well

Local Co-ordinate Reference: Well #1B
TVD Reference: WELL @ 5790.00ft (HP Rig)
MD Reference: WELL @ 5790.00ft (HP Rig)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
1,077.00	24.01	102.35	1,045.94	-4,744.06	-63.48	193.47	203.25	1.88	2,137,423.72	467,636.51	
1,141.00	24.27	101.98	1,104.34	-4,685.66	-68.99	219.05	229.40	0.47	2,137,418.18	467,662.09	
1,204.00	24.45	101.59	1,161.73	-4,628.27	-74.30	244.49	255.35	0.38	2,137,412.84	467,687.52	
1,267.00	23.92	103.96	1,219.21	-4,570.79	-80.00	269.66	281.14	1.76	2,137,407.11	467,712.68	
1,330.00	23.92	103.77	1,276.79	-4,513.21	-86.12	294.46	306.68	0.12	2,137,400.96	467,737.48	
1,393.00	24.09	103.75	1,334.35	-4,455.65	-92.22	319.35	332.31	0.27	2,137,394.83	467,762.36	
1,457.00	24.27	103.23	1,392.73	-4,397.27	-98.33	344.84	358.51	0.44	2,137,388.69	467,787.85	
1,520.00	24.01	103.22	1,450.22	-4,339.78	-104.23	369.92	384.27	0.41	2,137,382.77	467,812.92	
1,583.00	24.18	102.76	1,507.73	-4,282.27	-110.01	394.99	409.98	0.40	2,137,376.96	467,837.98	
1,646.00	24.01	102.50	1,565.24	-4,224.76	-115.63	420.08	435.68	0.32	2,137,371.30	467,863.07	
1,710.00	24.09	102.36	1,623.69	-4,166.31	-121.24	445.55	461.74	0.15	2,137,365.66	467,888.53	
1,773.00	23.83	101.29	1,681.26	-4,108.74	-126.49	470.59	487.29	0.80	2,137,360.39	467,913.57	
1,836.00	24.36	103.70	1,738.77	-4,051.23	-132.06	495.70	512.99	1.77	2,137,354.79	467,938.66	
1,900.00	24.45	104.34	1,797.05	-3,992.95	-138.46	521.35	539.43	0.44	2,137,348.35	467,964.31	
1,963.00	24.71	104.84	1,854.34	-3,935.66	-145.06	546.71	565.63	0.53	2,137,341.72	467,989.66	
2,025.00	24.53	104.29	1,910.71	-3,879.29	-151.56	571.71	591.46	0.47	2,137,335.20	468,014.66	
2,088.00	24.01	102.97	1,968.14	-3,821.86	-157.67	596.88	617.35	1.19	2,137,329.06	468,039.81	
2,151.00	23.30	102.11	2,025.84	-3,764.16	-163.16	621.55	642.61	1.25	2,137,323.54	468,064.48	
2,182.00	23.04	102.56	2,054.34	-3,735.66	-165.76	633.47	654.79	1.01	2,137,320.92	468,076.39	
2,214.00	22.86	102.16	2,083.81	-3,706.19	-168.43	645.65	667.26	0.74	2,137,318.24	468,088.58	
2,246.00	22.60	101.87	2,113.33	-3,676.67	-171.01	657.75	679.61	0.88	2,137,315.65	468,100.67	
2,277.00	21.54	101.99	2,142.05	-3,647.95	-173.41	669.14	691.24	3.42	2,137,313.23	468,112.06	
2,308.00	20.22	102.99	2,171.02	-3,618.98	-175.80	679.93	702.28	4.41	2,137,310.83	468,122.84	
2,340.00	18.47	103.13	2,201.21	-3,588.79	-178.20	690.26	712.88	5.47	2,137,308.42	468,133.17	
2,372.00	17.32	103.46	2,231.66	-3,558.34	-180.46	699.83	722.71	3.61	2,137,306.15	468,142.73	
2,435.00	16.44	103.17	2,291.95	-3,498.05	-184.67	717.63	740.99	1.40	2,137,301.92	468,160.53	
2,498.00	16.00	102.79	2,352.44	-3,437.56	-188.62	734.77	758.58	0.72	2,137,297.94	468,177.67	



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: ConocoPhillips
Project: San Juan County, NM
Site: Bruington
Well: #1B
Wellbore: S-Well
Design: S-Well

Local Co-ordinate Reference: Well #1B
TVD Reference: WELL @ 5790.00ft (HP Rig)
MD Reference: WELL @ 5790.00ft (HP Rig)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
2,529.00	15.74	102.60	2,382.26	-3,407.74	-190.49	743.04	767.05	0.86	2,137,296.07	468,185.94	
2,593.00	13.45	101.62	2,444.19	-3,345.81	-193.88	758.81	783.16	3.60	2,137,292.66	468,201.70	
2,656.00	11.70	102.58	2,505.67	-3,284.33	-196.75	772.22	796.86	2.80	2,137,289.78	468,215.11	
2,719.00	9.85	100.74	2,567.56	-3,222.44	-199.14	783.75	808.62	2.99	2,137,287.37	468,226.64	
2,782.00	7.56	99.78	2,629.83	-3,160.17	-200.85	793.13	818.13	3.64	2,137,285.65	468,236.01	
2,845.00	5.36	104.52	2,692.43	-3,097.57	-202.29	800.06	825.20	3.59	2,137,284.20	468,242.95	
2,907.00	3.43	101.48	2,754.24	-3,035.76	-203.39	804.68	829.95	3.13	2,137,283.10	468,247.57	
2,970.00	1.32	108.27	2,817.19	-2,972.81	-203.99	807.22	832.55	3.37	2,137,282.49	468,250.10	
3,033.00	0.53	121.45	2,880.18	-2,909.82	-204.37	808.16	833.56	1.29	2,137,282.11	468,251.04	
3,096.00	0.26	122.29	2,943.17	-2,846.83	-204.60	808.53	833.97	0.43	2,137,281.88	468,251.41	
3,159.00	0.09	118.55	3,006.17	-2,783.83	-204.70	808.69	834.16	0.27	2,137,281.78	468,251.57	
3,222.00	0.18	197.11	3,069.17	-2,720.83	-204.82	808.71	834.20	0.29	2,137,281.66	468,251.59	
3,285.00	0.26	204.22	3,132.17	-2,657.83	-205.04	808.62	834.17	0.13	2,137,281.44	468,251.50	
3,348.00	0.18	272.27	3,195.17	-2,594.83	-205.17	808.46	834.05	0.40	2,137,281.31	468,251.34	
3,411.00	0.35	259.46	3,258.17	-2,531.83	-205.20	808.17	833.78	0.28	2,137,281.28	468,251.05	
3,474.00	0.44	268.68	3,321.17	-2,468.83	-205.24	807.74	833.38	0.17	2,137,281.24	468,250.62	
3,537.00	0.35	261.55	3,384.17	-2,405.83	-205.27	807.31	832.97	0.16	2,137,281.21	468,250.19	
3,600.00	0.53	258.25	3,447.17	-2,342.83	-205.36	806.83	832.53	0.29	2,137,281.12	468,249.71	
3,663.00	0.44	248.33	3,510.17	-2,279.83	-205.51	806.32	832.07	0.19	2,137,280.97	468,249.20	
3,757.00	0.44	263.57	3,604.16	-2,185.84	-205.68	805.63	831.45	0.12	2,137,280.80	468,248.51	
3,852.00	0.53	246.48	3,699.16	-2,090.84	-205.90	804.86	830.76	0.18	2,137,280.58	468,247.74	
3,946.00	0.53	245.04	3,793.16	-1,996.84	-206.26	804.07	830.09	0.01	2,137,280.23	468,246.95	
4,041.00	0.53	250.39	3,888.15	-1,901.85	-206.59	803.26	829.39	0.05	2,137,279.90	468,246.14	
4,135.00	0.53	342.95	3,982.15	-1,807.85	-206.32	802.72	828.80	0.81	2,137,280.17	468,245.60	
4,262.00	0.81	219.68	4,109.14	-1,680.86	-206.45	801.98	828.11	0.93	2,137,280.04	468,244.86	
4,388.00	0.93	213.46	4,235.13	-1,554.87	-207.99	800.85	827.41	0.12	2,137,278.50	468,243.72	
4,451.00	0.80	204.80	4,298.12	-1,491.88	-208.81	800.38	827.17	0.29	2,137,277.68	468,243.25	



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: ConocoPhillips
Project: San Juan County, NM
Site: Bruington
Well: #1B
Wellbore: S-Well
Design: S-Well

Local Co-ordinate Reference: Well #1B
TVD Reference: WELL @ 5790.00ft (HP Rig)
MD Reference: WELL @ 5790.00ft (HP Rig)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Midland Database

Survey												
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)		
4,541.00	0.82	212.15	4,388.11	-1,401.89	-209.93	799.77	826.87	0.12	2,137,276.56	468,242.65		
4,596.00	0.82	212.15	4,443.11	-1,346.89	-210.60	799.35	826.63	0.00	2,137,275.90	468,242.23		
Projection to Bit-4596.00'MD,0.82°INC,212.15°AZI, 4443.11'TVD, 826.63'VS, -210.60'N, 799.35'E												

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target - Shape Bruington #1B Vert TC	0.00	0.00	2,850.00	-204.20	805.20	2,137,282.284	468,248.081	36° 52' 25.072 N	107° 56' 30.796 W
- survey misses target center by 2.62ft at 3002.78ft MD (2849.96 TVD, -204.21 N, 807.82 E)									
- Point									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,596.00	4,443.11	-210.60	799.35	Projection to Bit-4596.00'MD,0.82°INC,212.15°AZI, 4443.11'TVD, 826.63'VS, -210.60'N, 799.35'E

Checked By: _____ Approved By: _____ Date: _____

PathFinder Energy Services, Inc.
BHL Report

Page 01/01
Tie-in Date: 01/08/2010
Date Completed: 01/13/2010

BURLINGTON RESOURCES OIL & GAS COMPANY LP
BRUINGTON #1B
SAN JUAN COUNTY, NM
Rig: AWS #711
PathFinder Office Supervisor: TOM SCHMIDT
PathFinder Field Engineers: JUSTIN HAWKINS
TIM STACKHOUSE

Survey Horiz. Reference: WELLHEAD
Ref Coordinates: LAT: 36.52.27.0912 N LON: 107.56.40.7076 W
GRID Reference: NAD27 new mexico west Transverse Mercator
Ref GRID Coord: X: 467442.9896 Y: 2137487.4432
North Aligned To: TRUE NORTH
Total Magnetic Correction: 10.16° EAST TO TRUE
Vertical Section Plane: 104.23
Survey Vert. Reference: 15.00' Rotary Table To Ground
Altitude: 5774.00' Ground To MSL

Measured Depth	4596.00	(feet)
Inclination	0.82	(deg)
Azimuth	212.15	(deg)
True Vertical Depth	4443.11	(feet)
Vertical Section	826.59	(feet)
Survey X cord	468242.33	(feet)
Survey Y cord	2137276.78	(feet)
Survey Lat	36.87361586 N	(deg)
Survey Lon	107.94190736 W	(deg)
Rectangular Corr. N/S	210.60 S	(feet)
Rectangular Corr. E/W	799.35 E	(feet)
Closure Distance	826.63	(feet)
Direction of Closure	104.76	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

BURLINGTON RESOURCES OIL & GAS COMPANY LP
 BRUINGTON #1B
 SAN JUAN COUNTY, NM
 Rig: AWS #711
 PathFinder Office Supervisor: TOM SCHMIDT
 PathFinder Field Engineers: JUSTIN HAWKINS
 TIM STACKHOUSE

Survey Horiz. Reference: WELLHEAD
 Ref Coordinates: LAT: 36.52.27.0912 N LON: 107.56.40.7076 W
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 Total Magnetic Correction: 10.16° EAST TO TRUE
 Vertical Section Plane: 104.23
 Survey Vert. Reference: 15.00' Rotary Table To Ground
 Altitude: 5774.00' Ground To MSL

Survey Calculations by RX4 using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
TIED INTO SURFACE.										
0.00	0.00	0.00	0.00	0.00	-0.00	0.00	0.00	0.00@	0.00	0.00
THE FOLLOWING ARE PATHINDER MWD SURVEYS.										
245.00	2.02	158.47	244.95	245.00	2.52	4.02 S	1.58 E	4.32@	158.47	0.82
271.00	2.11	160.87	270.93	26.00	3.05	4.90 S	1.91 E	5.25@	158.69	0.48
302.00	2.64	145.68	301.91	31.00	3.90	6.02 S	2.50 E	6.52@	157.47	2.64
333.00	3.61	137.49	332.86	31.00	5.25	7.33 S	3.56 E	8.15@	154.10	3.44
363.00	4.40	129.19	362.79	30.00	7.09	8.76 S	5.09 E	10.13@	149.82	3.26
394.00	5.63	124.59	393.67	31.00	9.59	10.37 S	7.27 E	12.66@	144.99	4.17
425.00	7.21	117.26	424.47	31.00	12.91	12.13 S	10.25 E	15.88@	139.80	5.73
456.00	8.97	117.21	455.16	31.00	17.16	14.12 S	14.13 E	19.97@	134.99	5.68
487.00	10.64	118.20	485.71	31.00	22.30	16.58 S	18.80 E	25.06@	131.41	5.41
518.00	12.05	116.09	516.10	31.00	28.24	19.36 S	24.23 E	31.01@	128.62	4.74
549.00	13.28	111.99	546.35	31.00	34.94	22.11 S	30.43 E	37.62@	126.00	4.91
580.00	14.16	109.54	576.46	31.00	42.24	24.71 S	37.31 E	44.75@	123.52	3.40
611.00	14.86	108.50	606.47	31.00	49.98	27.24 S	44.65 E	52.31@	121.39	2.41
641.00	15.65	107.87	635.42	30.00	57.85	29.71 S	52.15 E	60.02@	119.67	2.69
672.00	15.92	106.95	665.25	31.00	66.27	32.23 S	60.20 E	68.28@	118.16	1.19
703.00	16.18	105.30	695.04	31.00	74.84	34.61 S	68.43 E	76.68@	116.83	1.69
734.00	16.53	104.09	724.79	31.00	83.57	36.82 S	76.87 E	85.24@	115.59	1.58
764.00	17.15	104.14	753.50	30.00	92.26	38.94 S	85.30 E	93.77@	114.54	2.07
795.00	17.41	103.40	783.10	31.00	101.47	41.13 S	94.25 E	102.83@	113.58	1.10
826.00	18.11	102.61	812.62	31.00	110.92	43.26 S	103.46 E	112.14@	112.69	2.39
857.00	19.17	102.62	842.00	31.00	120.82	45.42 S	113.13 E	121.91@	111.88	3.42
888.00	20.14	102.65	871.19	31.00	131.25	47.70 S	123.30 E	132.21@	111.15	3.13

PathFinder Energy Services, Inc. Survey Report

BURLINGTON RESOURCES OIL & GAS COMPANY LP
BRUNGTION #1B
SAN JUAN COUNTY, NM
RIG:AWS #711

Page 02/04

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets		Closure Dist Dir (ft) (deg)	DLS (dg/100ft)
						(ft)	(ft)		
919.00	21.10	103.01	900.20	31.00	142.16	50.13 S	133.95 E	143.02@ 110.52	3.12
950.00	22.07	103.62	929.03	31.00	153.56	52.76 S	145.04 E	154.34@ 109.99	3.21
981.00	22.69	102.65	957.69	31.00	165.36	55.44 S	156.54 E	166.07@ 109.50	2.33
1011.00	22.77	102.12	985.36	30.00	176.95	57.92 S	167.86 E	177.57@ 109.04	0.73
1077.00	24.01	102.35	1045.94	66.00	203.13	63.48 S	193.47 E	203.61@ 108.16	1.88
1141.00	24.27	101.98	1104.34	64.00	229.29	68.99 S	219.05 E	229.66@ 107.48	0.47
1204.00	24.45	101.59	1161.73	63.00	255.25	74.30 S	244.49 E	255.53@ 106.90	0.38
1267.00	23.92	103.96	1219.21	63.00	281.05	80.00 S	269.66 E	281.27@ 106.52	1.76
1330.00	23.92	103.77	1276.79	63.00	306.59	86.12 S	294.46 E	306.79@ 106.30	0.12
1393.00	24.09	103.75	1334.35	63.00	332.22	92.22 S	319.35 E	332.40@ 106.11	0.27
1457.00	24.27	103.23	1392.73	64.00	358.43	98.33 S	344.84 E	358.59@ 105.92	0.44
1520.00	24.01	103.22	1450.22	63.00	384.19	104.23 S	369.92 E	384.33@ 105.74	0.41
1583.00	24.18	102.76	1507.73	63.00	409.91	110.01 S	394.99 E	410.02@ 105.56	0.40
1646.00	24.01	102.50	1565.24	63.00	435.62	115.63 S	420.08 E	435.71@ 105.39	0.32
1710.00	24.09	102.36	1623.69	64.00	461.69	121.24 S	445.55 E	461.76@ 105.22	0.15
1773.00	23.83	101.29	1681.26	63.00	487.25	126.49 S	470.59 E	487.30@ 105.04	0.80
1836.00	24.36	103.70	1738.77	63.00	512.95	132.06 S	495.70 E	512.99@ 104.92	1.77
1900.00	24.45	104.34	1797.05	64.00	539.39	138.46 S	521.35 E	539.43@ 104.87	0.44
1963.00	24.71	104.84	1854.34	63.00	565.60	145.07 S	546.71 E	565.63@ 104.86	0.53
2025.00	24.53	104.29	1910.71	62.00	591.43	151.56 S	571.71 E	591.46@ 104.85	0.47
2088.00	24.01	102.97	1968.14	63.00	617.32	157.67 S	596.88 E	617.35@ 104.80	1.19
2151.00	23.30	102.11	2025.84	63.00	642.58	163.16 S	621.55 E	642.61@ 104.71	1.25
2182.00	23.04	102.56	2054.34	31.00	654.77	165.76 S	633.46 E	654.79@ 104.66	1.01
2214.00	22.86	102.16	2083.81	32.00	667.25	168.43 S	645.65 E	667.26@ 104.62	0.74
2246.00	22.60	101.87	2113.33	32.00	679.60	171.01 S	657.75 E	679.61@ 104.57	0.89
2277.00	21.54	101.99	2142.05	31.00	691.24	173.41 S	669.14 E	691.25@ 104.53	3.42
2308.00	20.22	102.99	2171.02	31.00	702.28	175.80 S	679.93 E	702.29@ 104.50	4.41
2340.00	18.47	103.13	2201.21	32.00	712.88	178.20 S	690.26 E	712.89@ 104.48	5.47
2372.00	17.32	103.46	2231.66	32.00	722.71	180.46 S	699.83 E	722.72@ 104.46	3.61
2435.00	16.44	103.17	2291.95	63.00	741.00	184.67 S	717.63 E	741.01@ 104.43	1.40

PathFinder Energy Services, Inc.

Survey Report

BURLINGTON RESOURCES OIL & GAS COMPANY LP
BRUINGTON #1B
SAN JUAN COUNTY, NM
RIG:AWS #711

Page 03/04

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
2498.00	16.00	102.79	2352.44	63.00	758.60	188.62 S	734.77 E	758.60@	104.40	0.72
2529.00	15.74	102.60	2382.26	31.00	767.07	190.49 S	743.04 E	767.07@	104.38	0.86
2593.00	13.45	101.62	2444.19	64.00	783.18	193.88 S	758.81 E	783.19@	104.33	3.60
2656.00	11.70	102.58	2505.67	63.00	796.89	196.75 S	772.22 E	796.89@	104.29	2.80
2719.00	9.85	100.74	2567.56	63.00	808.65	199.14 S	783.75 E	808.65@	104.26	2.99
2782.00	7.56	99.78	2629.83	63.00	818.17	200.85 S	793.13 E	818.17@	104.21	3.64
2845.00	5.36	104.52	2692.43	63.00	825.24	202.29 S	800.06 E	825.24@	104.19	3.59
2907.00	3.43	101.48	2754.24	62.00	829.99	203.39 S	804.68 E	829.99@	104.18	3.13
2970.00	1.32	108.27	2817.18	63.00	832.60	203.99 S	807.22 E	832.60@	104.18	3.37
3033.00	0.53	121.45	2880.18	63.00	833.60	204.37 S	808.16 E	833.60@	104.19	1.29
3096.00	0.26	122.29	2943.17	63.00	834.01	204.60 S	808.53 E	834.01@	104.20	0.43
3159.00	0.09	118.55	3006.17	63.00	834.20	204.70 S	808.69 E	834.20@	104.20	0.27
3222.00	0.18	197.11	3069.17	63.00	834.24	204.82 S	808.71 E	834.24@	104.21	0.29
3285.00	0.26	204.22	3132.17	63.00	834.21	205.04 S	808.62 E	834.21@	104.23	0.13
3348.00	0.18	272.27	3195.17	63.00	834.09	205.17 S	808.46 E	834.09@	104.24	0.41
3411.00	0.35	259.46	3258.17	63.00	833.82	205.20 S	808.17 E	833.82@	104.25	0.28
3474.00	0.44	268.66	3321.17	63.00	833.41	205.24 S	807.74 E	833.41@	104.26	0.17
3537.00	0.35	261.55	3384.17	63.00	833.00	205.27 S	807.31 E	833.00@	104.27	0.16
3600.00	0.53	258.25	3447.17	63.00	832.56	205.36 S	806.83 E	832.56@	104.28	0.29
3663.00	0.44	248.33	3510.17	63.00	832.10	205.51 S	806.32 E	832.10@	104.30	0.20
3757.00	0.44	263.57	3604.16	94.00	831.47	205.68 S	805.63 E	831.47@	104.32	0.12
3852.00	0.53	246.48	3699.16	95.00	830.78	205.90 S	804.86 E	830.78@	104.35	0.18
3946.00	0.53	245.04	3793.16	94.00	830.10	206.26 S	804.07 E	830.10@	104.39	0.01
4041.00	0.53	250.39	3888.15	95.00	829.40	206.59 S	803.26 E	829.40@	104.42	0.05
4135.00	0.53	342.95	3982.15	94.00	828.81	206.32 S	802.72 E	828.81@	104.41	0.82
4262.00	0.81	219.68	4109.14	127.00	828.12	206.45 S	801.98 E	828.12@	104.44	0.93
4388.00	0.93	213.46	4235.13	126.00	827.40	207.99 S	800.84 E	827.41@	104.56	0.12
4451.00	0.80	204.80	4298.12	63.00	827.15	208.81 S	800.38 E	827.17@	104.62	0.29
4541.00	0.82	212.15	4388.11	90.00	826.84	209.93 S	799.77 E	826.87@	104.71	0.12
STRAIGHT LINE PROJECTION TO BIT DEPTH @ 4496' MD										
4596.00	0.82	212.15	4443.11	55.00	826.84	209.93 S	799.77 E	826.87@	104.71	0.12