

KIRKPATRICK OIL COMPANY, INC.

Location: COLORADO Slot: SLOT#01 B&B FARMS 1-19H (200'FNL & 660'FEL, SEC.19)
Field: KIT CARSON COUNTY Well: B&B FARMS 1-19H
Facility: SEC.19-T11S-R44W Wellbore: B&B FARMS 1-19H PWB

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	20.00	0.000	180.000	20.00	0.00	0.00	0.00	0.00
End of Tangent	4668.49	0.000	180.000	4668.49	0.00	0.00	0.00	0.00
End of Build	5543.49	70.000	180.000	5341.50	-471.24	0.00	8.00	471.24
End of Tangent	5693.49	70.000	180.000	5392.80	-612.20	0.00	0.00	612.20
End of Build	5943.49	90.000	180.000	5435.99	-857.15	0.00	8.00	857.15
End of Tangent	9536.34	90.000	180.000	5436.00	-4450.00	0.00	0.00	4450.00

Location Information

Facility Name				Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SEC.19-T11S-R44W				3886569.486	1468495.899	39°04'40.303"N	102°22'34.705"W
Spot		Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
SLOT#01 B&B FARMS 1-19H (200'FNL & 660'FEL, SEC.19)		0.00	-260.00	3886309.657	1468486.962	39°04'40.303"N	102°22'38.002"W
Rig on SLOT#01 B&B FARMS 1-19H (200'FNL & 400'FEL, SEC.19) (RKB) to Mud line (At Slot: SLOT#01 B&B FARMS 1-19H (200'FNL & 660'FEL, SEC.19))							4279ft
Mean Sea Level to Mud line (At Slot: SLOT#01 B&B FARMS 1-19H (200'FNL & 660'FEL, SEC.19))							0ft
Rig on SLOT#01 B&B FARMS 1-19H (200'FNL & 400'FEL, SEC.19) (RKB) to Mean Sea Level							4279ft

Targets

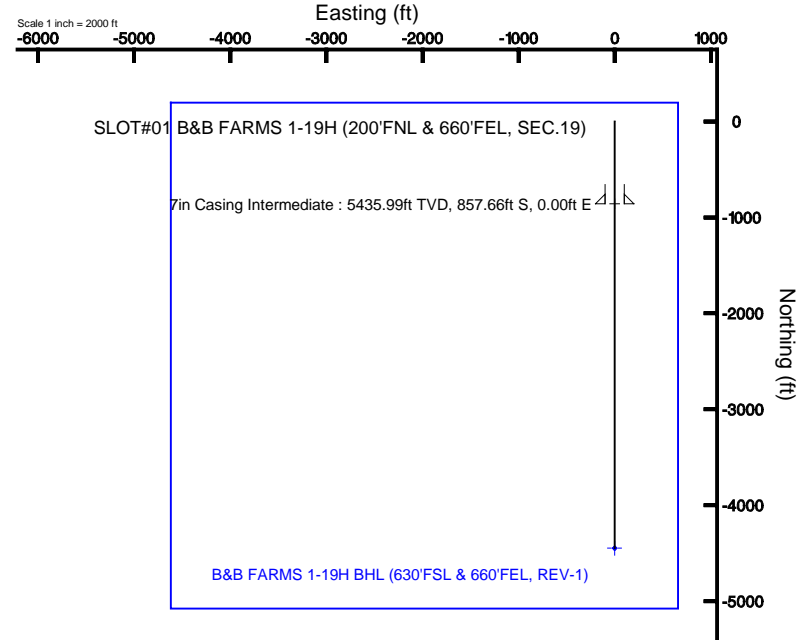
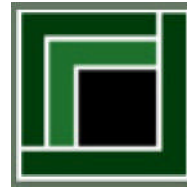
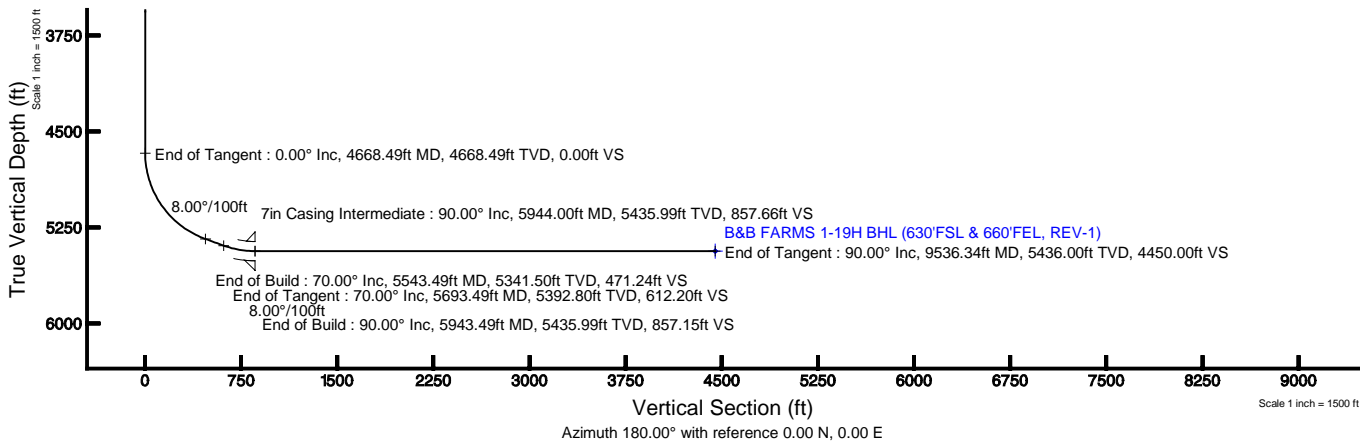
Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
B&B FARMS 1-19H SECTION LINES		0.00	0.00	260.00	3886569.49	1468495.90	39°04'40.303"N	102°22'34.705"W
B&B FARMS 1-19H BHL (630'FSL & 660'FEL, REV-1)	9536.34	5436.00	-4450.00	0.00	3886462.58	1464039.89	39°03'56.320"N	102°22'38.002"W

Plot reference wellpath is B&B FARMS 1-19H (REVISED PERMIT) PWB

True vertical depths are referenced to Rig on SLOT#01 B&B FARMS 1-19H (200'FNL & 400'FEL, SEC.19) (RKB)	Grid System: NAD83 / Lambert Colorado SP, Central Zone (502), US feet
Measured depths are referenced to Rig on SLOT#01 B&B FARMS 1-19H (200'FNL & 400'FEL, SEC.19) (RKB)	North Reference: True north
Rig on SLOT#01 B&B FARMS 1-19H (200'FNL & 400'FEL, SEC.19) (RKB) to Mean Sea Level: 4279 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: SLOT#01 B&B FARMS 1-19H (200'FNL & 660'FEL, SEC.19)): 0 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: cookdamm on 6/21/2012

Survey Program

Start MD (ft)	End MD (ft)	Tool	Model	Log Name/Comment	Wellbore
20.00	9536.34	NaviTrak	NaviTrak (Standard)		B&B FARMS 1-19H PWB



BGGM (1945.0 to 2013.0) Dip: 66.31° Field: 52499.8 nT
Magnetic North is 7.36 degrees East of True North (at 6/1/2012)

To correct azimuth from Magnetic to True add 7.36 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the True North Azimuth = 90 + 7.36 = 97.36



Planned Wellpath Report
B&B FARMS 1-19H (REVISED PERMIT) PWP
 Page 1 of 4



REFERENCE WELLPATH IDENTIFICATION			
Operator	KIRKPATRICK OIL COMPANY, INC.	Slot	SLOT#01 B&B FARMS 1-19H (200'FNL & 660'FEL, SEC.19)
Area	COLORADO	Well	B&B FARMS 1-19H
Field	KIT CARSON COUNTY	Wellbore	B&B FARMS 1-19H PWB
Facility	SEC.19-T11S-R44W		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert Colorado SP, Central Zone (502), US feet	Software System	WellArchitect® 4.0.0
North Reference	True	User	Cookdanm
Scale	0.999936	Report Generated	6/21/2012 at 11:18:12 AM
Convergence at slot	1.97° East	Database/Source file	WA_Denver/B_B_FARMS_1-19H_PWB.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	-260.00	3886309.66	1468486.96	39°04'40.303"N	102°22'38.002"W
Facility Reference Pt			3886569.49	1468495.90	39°04'40.303"N	102°22'34.705"W
Field Reference Pt			3886569.49	1468495.90	39°04'40.303"N	102°22'34.705"W

WELLPATH DATUM		
Calculation method	Minimum curvature	Rig on SLOT#01 B&B FARMS 1-19H (200'FNL & 400'FEL, SEC.19) (RKB) to Facility Vertical Datum
Horizontal Reference Pt	Slot	Rig on SLOT#01 B&B FARMS 1-19H (200'FNL & 400'FEL, SEC.19) (RKB) to Mean Sea Level
Vertical Reference Pt	Rig on SLOT#01 B&B FARMS 1-19H (200'FNL & 400'FEL, SEC.19) (RKB)	Rig on SLOT#01 B&B FARMS 1-19H (200'FNL & 400'FEL, SEC.19) (RKB) to Mud Line at Slot (SLOT#01 B&B FARMS 1-19H)
MD Reference Pt	Rig on SLOT#01 B&B FARMS 1-19H (200'FNL & 400'FEL, SEC.19) (RKB)	Section Origin
Field Vertical Reference	Mean Sea Level	Section Azimuth



Planned Wellpath Report

B&B FARMS 1-19H (REVISED PERMIT) PWP
Page 2 of 4



REFERENCE WELLPATH IDENTIFICATION			
Operator	KIRKPATRICK OIL COMPANY, INC.	Slot	SLOT#01 B&B FARMS 1-19H (200'FNL & 660'FEL, SEC.19)
Area	COLORADO	Well	B&B FARMS 1-19H
Field	KIT CARSON COUNTY	Wellbore	B&B FARMS 1-19H PWB
Facility	SEC.19-T11S-R44W		

WELLPATH DATA (102 stations) † = interpolated/extrapolated station							
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
0.00†	0.000	180.000	0.00	0.00	0.00	0.00	0.00
20.00	0.000	180.000	20.00	0.00	0.00	0.00	0.00
120.00†	0.000	180.000	120.00	0.00	0.00	0.00	0.00
220.00†	0.000	180.000	220.00	0.00	0.00	0.00	0.00
320.00†	0.000	180.000	320.00	0.00	0.00	0.00	0.00
420.00†	0.000	180.000	420.00	0.00	0.00	0.00	0.00
520.00†	0.000	180.000	520.00	0.00	0.00	0.00	0.00
620.00†	0.000	180.000	620.00	0.00	0.00	0.00	0.00
720.00†	0.000	180.000	720.00	0.00	0.00	0.00	0.00
820.00†	0.000	180.000	820.00	0.00	0.00	0.00	0.00
920.00†	0.000	180.000	920.00	0.00	0.00	0.00	0.00
1020.00†	0.000	180.000	1020.00	0.00	0.00	0.00	0.00
1120.00†	0.000	180.000	1120.00	0.00	0.00	0.00	0.00
1220.00†	0.000	180.000	1220.00	0.00	0.00	0.00	0.00
1320.00†	0.000	180.000	1320.00	0.00	0.00	0.00	0.00
1420.00†	0.000	180.000	1420.00	0.00	0.00	0.00	0.00
1520.00†	0.000	180.000	1520.00	0.00	0.00	0.00	0.00
1620.00†	0.000	180.000	1620.00	0.00	0.00	0.00	0.00
1720.00†	0.000	180.000	1720.00	0.00	0.00	0.00	0.00
1820.00†	0.000	180.000	1820.00	0.00	0.00	0.00	0.00
1920.00†	0.000	180.000	1920.00	0.00	0.00	0.00	0.00
2020.00†	0.000	180.000	2020.00	0.00	0.00	0.00	0.00
2120.00†	0.000	180.000	2120.00	0.00	0.00	0.00	0.00
2220.00†	0.000	180.000	2220.00	0.00	0.00	0.00	0.00
2320.00†	0.000	180.000	2320.00	0.00	0.00	0.00	0.00
2420.00†	0.000	180.000	2420.00	0.00	0.00	0.00	0.00
2520.00†	0.000	180.000	2520.00	0.00	0.00	0.00	0.00
2620.00†	0.000	180.000	2620.00	0.00	0.00	0.00	0.00
2720.00†	0.000	180.000	2720.00	0.00	0.00	0.00	0.00
2820.00†	0.000	180.000	2820.00	0.00	0.00	0.00	0.00
2920.00†	0.000	180.000	2920.00	0.00	0.00	0.00	0.00
3020.00†	0.000	180.000	3020.00	0.00	0.00	0.00	0.00
3120.00†	0.000	180.000	3120.00	0.00	0.00	0.00	0.00
3220.00†	0.000	180.000	3220.00	0.00	0.00	0.00	0.00
3320.00†	0.000	180.000	3320.00	0.00	0.00	0.00	0.00
3420.00†	0.000	180.000	3420.00	0.00	0.00	0.00	0.00
3520.00†	0.000	180.000	3520.00	0.00	0.00	0.00	0.00
3620.00†	0.000	180.000	3620.00	0.00	0.00	0.00	0.00
3720.00†	0.000	180.000	3720.00	0.00	0.00	0.00	0.00
3820.00†	0.000	180.000	3820.00	0.00	0.00	0.00	0.00
3920.00†	0.000	180.000	3920.00	0.00	0.00	0.00	0.00
4020.00†	0.000	180.000	4020.00	0.00	0.00	0.00	0.00
4120.00†	0.000	180.000	4120.00	0.00	0.00	0.00	0.00
4220.00†	0.000	180.000	4220.00	0.00	0.00	0.00	0.00
4320.00†	0.000	180.000	4320.00	0.00	0.00	0.00	0.00



Planned Wellpath Report

B&B FARMS 1-19H (REVISED PERMIT) PWP

Page 3 of 4



REFERENCE WELLPATH IDENTIFICATION			
Operator	KIRKPATRICK OIL COMPANY, INC.	Slot	SLOT#01 B&B FARMS 1-19H (200'FNL & 660'FEL, SEC.19)
Area	COLORADO	Well	B&B FARMS 1-19H
Field	KIT CARSON COUNTY	Wellbore	B&B FARMS 1-19H PWB
Facility	SEC.19-T11S-R44W		

WELLPATH DATA (102 stations) † = interpolated/extrapolated station								
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]	
4420.00†	0.000	180.000	4420.00	0.00	0.00	0.00	0.00	0.00
4520.00†	0.000	180.000	4520.00	0.00	0.00	0.00	0.00	0.00
4620.00†	0.000	180.000	4620.00	0.00	0.00	0.00	0.00	0.00
4668.49	0.000	180.000	4668.49	0.00	0.00	0.00	0.00	0.00
4720.00†	4.121	180.000	4719.96	1.85	-1.85	0.00	8.00	8.00
4820.00†	12.121	180.000	4818.87	15.97	-15.97	0.00	8.00	8.00
4920.00†	20.121	180.000	4914.86	43.71	-43.71	0.00	8.00	8.00
5020.00†	28.121	180.000	5006.06	84.54	-84.54	0.00	8.00	8.00
5120.00†	36.121	180.000	5090.68	137.67	-137.67	0.00	8.00	8.00
5220.00†	44.121	180.000	5167.09	202.06	-202.06	0.00	8.00	8.00
5320.00†	52.121	180.000	5233.79	276.45	-276.45	0.00	8.00	8.00
5420.00†	60.121	180.000	5289.49	359.41	-359.41	0.00	8.00	8.00
5520.00†	68.121	180.000	5333.10	449.31	-449.31	0.00	8.00	8.00
5543.49	70.000	180.000	5341.50	471.24	-471.24	0.00	8.00	8.00
5620.00†	70.000	180.000	5367.66	543.14	-543.14	0.00	0.00	0.00
5693.49	70.000	180.000	5392.80	612.20	-612.20	0.00	0.00	0.00
5720.00†	72.121	180.000	5401.40	637.27	-637.27	0.00	8.00	8.00
5820.00†	80.121	180.000	5425.37	734.27	-734.27	0.00	8.00	8.00
5920.00†	88.121	180.000	5435.61	833.67	-833.67	0.00	8.00	8.00
5943.49	90.000	180.000	5435.99	857.15	-857.15	0.00	8.00	8.00
6020.00†	90.000	180.000	5435.99	933.66	-933.66	0.00	0.00	0.00
6120.00†	90.000	180.000	5435.99	1033.66	-1033.66	0.00	0.00	0.00
6220.00†	90.000	180.000	5435.99	1133.66	-1133.66	0.00	0.00	0.00
6320.00†	90.000	180.000	5435.99	1233.66	-1233.66	0.00	0.00	0.00
6420.00†	90.000	180.000	5435.99	1333.66	-1333.66	0.00	0.00	0.00
6520.00†	90.000	180.000	5435.99	1433.66	-1433.66	0.00	0.00	0.00
6620.00†	90.000	180.000	5435.99	1533.66	-1533.66	0.00	0.00	0.00
6720.00†	90.000	180.000	5435.99	1633.66	-1633.66	0.00	0.00	0.00
6820.00†	90.000	180.000	5435.99	1733.66	-1733.66	0.00	0.00	0.00
6920.00†	90.000	180.000	5435.99	1833.66	-1833.66	0.00	0.00	0.00
7020.00†	90.000	180.000	5435.99	1933.66	-1933.66	0.00	0.00	0.00
7120.00†	90.000	180.000	5435.99	2033.66	-2033.66	0.00	0.00	0.00
7220.00†	90.000	180.000	5435.99	2133.66	-2133.66	0.00	0.00	0.00
7320.00†	90.000	180.000	5435.99	2233.66	-2233.66	0.00	0.00	0.00
7420.00†	90.000	180.000	5435.99	2333.66	-2333.66	0.00	0.00	0.00
7520.00†	90.000	180.000	5435.99	2433.66	-2433.66	0.00	0.00	0.00
7620.00†	90.000	180.000	5435.99	2533.66	-2533.66	0.00	0.00	0.00
7720.00†	90.000	180.000	5436.00	2633.66	-2633.66	0.00	0.00	0.00
7820.00†	90.000	180.000	5436.00	2733.66	-2733.66	0.00	0.00	0.00
7920.00†	90.000	180.000	5436.00	2833.66	-2833.66	0.00	0.00	0.00
8020.00†	90.000	180.000	5436.00	2933.66	-2933.66	0.00	0.00	0.00
8120.00†	90.000	180.000	5436.00	3033.66	-3033.66	0.00	0.00	0.00
8220.00†	90.000	180.000	5436.00	3133.66	-3133.66	0.00	0.00	0.00
8320.00†	90.000	180.000	5436.00	3233.66	-3233.66	0.00	0.00	0.00
8420.00†	90.000	180.000	5436.00	3333.66	-3333.66	0.00	0.00	0.00



Planned Wellpath Report

B&B FARMS 1-19H (REVISED PERMIT) PWP

Page 4 of 4



REFERENCE WELLPATH IDENTIFICATION

Operator	KIRKPATRICK OIL COMPANY, INC.	Slot	SLOT#01 B&B FARMS 1-19H (200'FNL & 660'FEL, SEC.19)
Area	COLORADO	Well	B&B FARMS 1-19H
Field	KIT CARSON COUNTY	Wellbore	B&B FARMS 1-19H PWB
Facility	SEC.19-T11S-R44W		

WELLPATH DATA (102 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
8520.00†	90.000	180.000	5436.00	3433.66	-3433.66	0.00	0.00
8620.00†	90.000	180.000	5436.00	3533.66	-3533.66	0.00	0.00
8720.00†	90.000	180.000	5436.00	3633.66	-3633.66	0.00	0.00
8820.00†	90.000	180.000	5436.00	3733.66	-3733.66	0.00	0.00
8920.00†	90.000	180.000	5436.00	3833.66	-3833.66	0.00	0.00
9020.00†	90.000	180.000	5436.00	3933.66	-3933.66	0.00	0.00
9120.00†	90.000	180.000	5436.00	4033.66	-4033.66	0.00	0.00
9220.00†	90.000	180.000	5436.00	4133.66	-4133.66	0.00	0.00
9320.00†	90.000	180.000	5436.00	4233.66	-4233.66	0.00	0.00
9420.00†	90.000	180.000	5436.00	4333.66	-4333.66	0.00	0.00
9520.00†	90.000	180.000	5436.00	4433.66	-4433.66	0.00	0.00
9536.34	90.000	180.000	5436.00 ¹	4450.00	-4450.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: B&B FARMS 1-19H PWB Ref Wellpath: B&B FARMS 1-19H (REVISED PERMIT) PWP

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
7in Casing Intermediate	20.00	5944.00	5924.00	20.00	5435.99	0.00	0.00	-857.66	0.00

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
B&B FARMS 1-19H SECTION LINES		0.00	0.00	260.00	3886569.49	1468495.90	39°04'40.303"N	102°22'34.705"W	polygon
1) B&B FARMS 1-19H BHL (630'FSL & 660'FEL, REV-1)	9536.34	5436.00	-4450.00	0.00	3886462.58	1464039.89	39°03'56.320"N	102°22'38.002"W	point

SURVEY PROGRAM - Ref Wellbore: B&B FARMS 1-19H PWB Ref Wellpath: B&B FARMS 1-19H (REVISED PERMIT) PWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
20.00	9536.34	NaviTrak (Standard)		B&B FARMS 1-19H PWB