

Results of Directional Survey

API number:	30-025-40531		
OGRID:		Operator:	FASKEN OIL & RANCH LTD
		Property:	QUAIL 16 STATE # 4H

surface	ULSTR:	N	16	T	20S	R	34E
				200	FSL	1650	FWL

BH Loc	ULSTR:	C	16	T	20S	R	34E
15605	MD	10942.6	TVD	339	FNL	1601	FWL
				4941	FSL		

Top Perf/OH	ULSTR:	N	16	T	20S	R	34E
11221	MD	10954.3	TVD	559	FSL	1673	FWL

Bot Perf/OH	ULSTR:	C	16	T	20S	R	34E
15530	MD	10944.8	TVD	414	FNL	1602	FWL
				4866	FSL		

	MD	N/S	E/W	VD
	11167	305.40	25.40	10952.4
TOP PERFS/OH	11221	359.31	23.48	10954.32
	11229	367.30	23.20	10954.60
	15475	4611.10	-47.40	10946.00
BOT PERFS/OH	15530	4666.10	-48.28	10944.75
	15550	4686.10	-48.60	10944.30

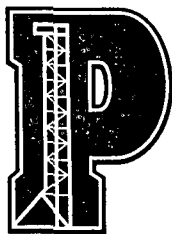
NEXT TO LAST	15550	4686.10	-48.60	10944.30
LAST READING	15605	4741.00	-49.40	10942.60
TD	15605	4741.00	-49.40	10942.60

Surface Location	200	FS	1650	FW
Projected BHL	4941	FS	1601	FW
Location of				
Top Perfs/OH	559	FS	1673	FW
Bottom Perfs/OH	4866	FS	1602	FW

SUMMARY of Subsurface Locations

Surface Location	N-16-20S-34E	200	FS	1650	FW	Vert. Depth
Top Perfs/OH	N-16-20S-34E	559	FS	1673	FW	10954.32
Bottom Perfs/OH	C-16-20S-34E	4866	FS	1602	FW	10944.75
Projected TD	C-16-20S-34E	4941	FS	1601	FW	10942.60

APR 24 2013



PATRIOT DRILLING, LLC

OPERATOR: Fasken Oil and Ranch LTD
WELL/LEASE: Quail State 16 # 4 H
COUNTY: Lea Co., New Mexico
Sec. 16, T20S, R34E

**STATE OF NEW MEXICO
DEVIATION REPORT**

HOBBS OCD

MAR 21 2013

RECEIVED

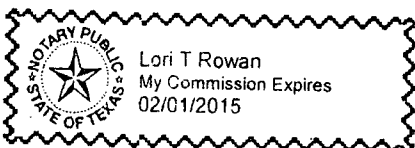
<u>Depth</u>	<u>Deviation</u>	<u>Depth</u>	<u>Deviation</u>
241	1/2	3,572	1 1/2
472	1/2	4,035	1/4
721	1/2	5,155	3/4
977	1/2	5,528	1/2
1,161	1/2	5,794	3/4
1,479	1/4	6,046	1/2
1,788	1/2	6,522	1
2,073	3/4	6,997	3/4
2,358	1/2	7,504	1
2,641	1	7,978	3/4
2,878	2 3/4	8,437	3/4
3,010	3	8,922	1/4
3,207	2 3/4	9,398	1
3,301	2 3/4	9,777	1 1/2
3,394	2 1/4	10,252	1 3/4
3,489	1 1/2		

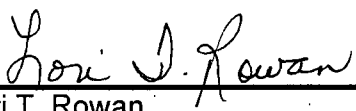
Patriot Drilling, LLC


M. Leroy Peterson, Executive Vice-
President

The foregoing instrument was acknowledged before me on this 28th day of January, 2013 by M. Leroy Peterson, Executive Vice-President of Patriot Drilling, LLC.

My Commission Expires: 02/01/2015




Lori T. Rowan
Notary Public for Ector Co., Texas

Fasken Oil & Ranch, Ltd.-WT

Lea County

Sec 16, T20S, R34E

Quail 16 State #4H

Wellbore #1

Design: Wellbore #1

HOBBS OCD

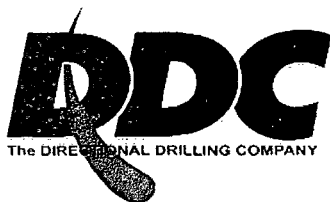
MAR 21 2013

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DDC Survey Report

23 January, 2013





Survey Certification Sheet

Fasken Oil and Ranch, LTD.
Company

WT- 13021
Job Number

1/23/13
Date

Sec16, T20S, R34E
Lease

Quail 16 State # 4H
Well Name

Lea, NM
County & State

API: 30-025-40531

Surveyed from a depth of: 10500 feet to 15605 feet MD

Type of Survey: MWD

Directional Supervisor/Surveyor: Clayton Keck

The data and calculations for this survey have been checked by me and conform to the standards and procedures set forth by **The Directional Drilling Company (DDC)**. This report represents a true and correct Directional survey of this well based on the original data obtained at the well site. Wellbore Coordinates are calculated using minimum curvature.

Digitally signed by Larry
Wright
DN: cn=Larry Wright, o=The
Directional Drilling Company,
ou=GMA of Guidance Services,
email=larryw@directionaldril
ls.com, c=US
Date: 2013.02.01 12:01:30
-06'00'

Larry Wright
MWD General Manager

DDC Survey Report



Company: Fasken Oil & Ranch, Ltd.-WT
Project: Lea County
Site: Sec 16, T20S, R34E
Well: Quail 16 State #4H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Quail 16 State #4H
TVD Reference: WELL @ 3664.0usft (Patriot #5)
MD Reference: WELL @ 3664.0usft (Patriot #5)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project	Lea County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site: Sec 16, T20S, R34E

Site Position: Northing: 570,652.94 usft Latitude: 32° 33' 59.232 N
From: Map Easting: 776,959.15 usft Longitude: 103° 34' 6.616 W
Position Uncertainty: 0.0 usft Slot Radius: 13-3/16 " Grid Convergence: 0.41 °

Well: Quail 16 State #4H

Well Position: +N/-S 0.0 usft Northing: 570,652.94 usft Latitude: 32° 33' 59.232 N
+E/-W 0.0 usft Easting: 776,959.15 usft Longitude: 103° 34' 6.616 W
Position Uncertainty: 0.0 usft Wellhead Elevation: usft Ground Level: 3,639.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/11/2012	7.43	60.47	48,672

Design: Wellbore #1

Audit Notes:

Version: 1.0 Phase: ACTUAL Tie On Depth: 0.0

Vertical Section: Depth From (TVD) (usft) +N/-S (usft) +E/-W (usft) Direction (°)

0.0 0.0 0.0 359.56

Survey Program	Date: 1/23/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
200.0	10,500.0	GYRO (Wellbore #1)	Good_gyro
10,537.0	15,605.0	MWD (Wellbore #1)	MWD default
			Description
			Good Gyro
			MWD - Standard

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Tie In @ 10500' MD / 10498' TVD									
10,500.0	2.50	201.19	10,497.7	-63.8	42.4	-64.1	0.65	0.43	12.46
10,537.0	2.50	182.10	10,534.7	-65.3	42.0	-65.7	2.24	0.00	-51.59
10,568.0	0.80	194.90	10,565.7	-66.2	42.0	-66.5	5.58	-5.48	41.29
10,600.0	3.80	347.90	10,597.7	-65.4	41.7	-65.7	14.15	9.38	478.13
10,632.0	8.50	349.80	10,629.5	-62.0	41.0	-62.3	14.70	14.69	5.94
10,664.0	13.00	347.90	10,660.9	-56.2	39.9	-56.5	14.10	14.06	-5.94
10,696.0	17.60	345.70	10,691.8	-48.0	37.9	-48.3	14.49	14.38	-6.88
10,727.0	22.10	346.10	10,720.9	-37.8	35.3	-38.0	14.52	14.52	1.29

DDC Survey Report



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Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,759.0	26.50	350.00	10,750.1	-24.9	32.7	-25.1	14.63	13.75	12.19
10,791.0	31.00	355.10	10,778.1	-9.6	30.7	-9.9	16.00	14.06	15.94
10,823.0	36.00	357.50	10,804.8	8.0	29.6	7.8	16.16	15.63	7.50
10,855.0	41.20	359.10	10,829.8	27.9	29.0	27.7	16.55	16.25	5.00
10,886.0	46.20	358.90	10,852.2	49.3	28.7	49.1	16.14	16.13	-0.65
10,918.0	51.40	359.10	10,873.3	73.4	28.2	73.2	16.26	16.25	0.63
10,949.0	56.80	359.50	10,891.5	98.5	27.9	98.3	17.45	17.42	1.29
Crossed Hardline @ 10980' MD / 10907' TVD									
10,980.0	62.00	359.50	10,907.2	125.2	27.7	125.0	16.77	16.77	0.00
11,009.0	68.10	359.80	10,919.5	151.5	27.5	151.2	21.06	21.03	1.03
11,040.0	73.10	0.20	10,929.8	180.7	27.5	180.5	16.17	16.13	1.29
11,072.0	76.50	359.60	10,938.1	211.6	27.5	211.4	10.78	10.63	-1.88
11,103.0	79.90	359.10	10,944.5	241.9	27.1	241.7	11.08	10.97	-1.61
11,135.0	82.60	358.20	10,949.4	273.5	26.4	273.3	8.88	8.44	-2.81
11,167.0	86.30	358.20	10,952.4	305.4	25.4	305.2	11.56	11.56	0.00
11,229.0	89.70	357.70	10,954.6	367.3	23.2	367.1	5.54	5.48	-0.81
11,324.0	90.10	357.50	10,954.8	462.2	19.2	462.0	0.47	0.42	-0.21
11,419.0	91.50	358.00	10,953.4	557.1	15.5	557.0	1.56	1.47	0.53
11,513.0	91.60	358.00	10,950.9	651.0	12.2	650.9	0.11	0.11	0.00
11,607.0	91.60	357.70	10,948.3	744.9	8.7	744.8	0.32	0.00	-0.32
11,702.0	91.80	357.70	10,945.5	839.8	4.9	839.7	0.21	0.21	0.00
11,797.0	91.40	359.30	10,942.8	934.7	2.4	934.7	1.74	-0.42	1.68
11,891.0	88.30	0.00	10,943.1	1,028.7	1.8	1,028.7	3.38	-3.30	0.74
11,985.0	88.40	0.30	10,945.8	1,122.7	2.0	1,122.6	0.34	0.11	0.32
12,079.0	89.30	0.20	10,947.6	1,216.6	2.4	1,216.6	0.96	0.96	-0.11
12,173.0	89.40	359.60	10,948.7	1,310.6	2.3	1,310.6	0.65	0.11	-0.64
12,267.0	89.90	359.80	10,949.3	1,404.6	1.8	1,404.6	0.57	0.53	0.21
12,362.0	89.40	0.70	10,949.9	1,499.6	2.2	1,499.6	1.08	-0.53	0.95
12,457.0	90.80	1.90	10,949.7	1,594.6	4.4	1,594.5	1.94	1.47	1.26
12,552.0	90.80	2.30	10,948.4	1,689.5	7.8	1,689.4	0.42	0.00	0.42
12,646.0	90.30	1.70	10,947.5	1,783.5	11.1	1,783.3	0.83	-0.53	-0.64
12,741.0	89.80	1.90	10,947.4	1,878.4	14.1	1,878.2	0.57	-0.53	0.21
12,835.0	87.50	0.70	10,949.6	1,972.4	16.2	1,972.2	2.76	-2.45	-1.28
12,930.0	87.20	359.50	10,954.0	2,067.3	16.4	2,067.1	1.30	-0.32	-1.26
13,023.0	87.50	358.40	10,958.3	2,160.1	14.7	2,160.0	1.22	0.32	-1.18
13,117.0	88.90	358.00	10,961.3	2,254.0	11.8	2,253.9	1.55	1.49	-0.43
13,211.0	90.00	358.00	10,962.2	2,348.0	8.5	2,347.8	1.17	1.17	0.00
13,305.0	90.20	358.00	10,962.0	2,441.9	5.2	2,441.8	0.21	0.21	0.00
13,398.0	90.70	358.60	10,961.3	2,534.9	2.4	2,534.8	0.84	0.54	0.65
13,492.0	90.60	358.40	10,960.2	2,628.8	0.0	2,628.8	0.24	-0.11	-0.21
13,585.0	90.60	357.90	10,959.2	2,721.8	-3.0	2,721.7	0.54	0.00	-0.54
13,680.0	90.20	358.60	10,958.6	2,816.7	-5.9	2,816.7	0.85	-0.42	0.74
13,774.0	90.70	358.80	10,957.8	2,910.7	-8.1	2,910.7	0.57	0.53	0.21
13,868.0	90.80	358.20	10,956.6	3,004.7	-10.5	3,004.7	0.65	0.11	-0.64

DDC Survey Report



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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,963.0	91.10	358.40	10,955.0	3,099.6	-13.3	3,099.6	0.38	0.32	0.21
14,058.0	91.20	358.20	10,953.1	3,194.6	-16.2	3,194.6	0.24	0.11	-0.21
14,152.0	90.70	358.80	10,951.5	3,288.5	-18.6	3,288.6	0.83	-0.53	0.64
14,246.0	90.60	358.90	10,950.5	3,382.5	-20.5	3,382.5	0.15	-0.11	0.11
14,340.0	89.60	357.70	10,950.3	3,476.4	-23.3	3,476.5	1.66	-1.06	-1.28
14,435.0	89.30	358.00	10,951.2	3,571.4	-26.9	3,571.5	0.45	-0.32	0.32
14,529.0	90.50	358.80	10,951.4	3,665.3	-29.5	3,665.4	1.53	1.28	0.85
14,624.0	90.00	358.40	10,951.0	3,760.3	-31.8	3,760.4	0.67	-0.53	-0.42
14,718.0	89.90	359.10	10,951.1	3,854.3	-33.9	3,854.4	0.75	-0.11	0.74
14,813.0	90.10	358.60	10,951.1	3,949.3	-35.8	3,949.4	0.57	0.21	-0.53
14,905.0	90.70	358.60	10,950.4	4,041.2	-38.0	4,041.4	0.65	0.65	0.00
15,000.0	90.00	358.20	10,949.8	4,136.2	-40.7	4,136.4	0.85	-0.74	-0.42
15,096.0	90.50	358.80	10,949.4	4,232.1	-43.2	4,232.4	0.81	0.52	0.63
15,191.0	90.10	359.30	10,948.9	4,327.1	-44.8	4,327.3	0.67	-0.42	0.53
15,285.0	90.20	359.60	10,948.7	4,421.1	-45.7	4,421.3	0.34	0.11	0.32
15,380.0	91.00	359.60	10,947.7	4,516.1	-46.3	4,516.3	0.84	0.84	0.00
15,475.0	91.00	359.10	10,946.0	4,611.1	-47.4	4,611.3	0.53	0.00	-0.53
15,550.0	91.70	359.10	10,944.3	4,686.1	-48.6	4,686.3	0.93	0.93	0.00
TD @ 15605' MD / 10943' TVD									
15,605.0	91.70	359.10	10,942.6	4,741.0	-49.4	4,741.3	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,500.0	10,497.7	-63.8	42.4	Tie In @ 10500' MD / 10498' TVD
10,980.0	10,907.2	125.2	27.7	Crossed Hardline @ 10980' MD / 10907' TVD
15,605.0	10,942.6	4,741.0	-49.4	TD @ 15605' MD / 10943' TVD

Checked By: _____ Approved By: _____ Date: _____