

Results of Directional Survey

API number:	30-025-40680		
OGRID:		Operator:	FASKEN OIL & RANCH LTD
		Property:	LAGUNA 16 STATE # 2H

surface	ULSTR:	P	16	T	20S	R	32E
				475	FSL	610	FEL

BH Loc	ULSTR:	A	16	T	20S	R	32E
13910	MD	9630.6	TVD	367	FNL	439	FEL
				4913	FSL		

Top Perf/OH	ULSTR:	P	16	T	20S	R	32E
10052	MD	9712.4	TVD	1061	FSL	355	FEL

Bot Perf/OH	ULSTR:	A	16	T	20S	R	32E
13837	MD	9630.5	TVD	440	FNL	437	FEL
				4840	FSL		

	MD	N/S	E/W	VD
	10027	560.90	255.10	9712.2
TOP PERFS/OH	10052	585.90	254.79	9712.43
	10059	592.90	254.70	9712.50
	13779	4307.50	175.40	9630.10
BOT PERFS/OH	13837	4365.42	172.81	9630.48
	13855	4383.40	172.00	9630.60

NEXT TO LAST	13855	4383.40	172.00	9630.60
LAST READING	13910	4438.40	171.30	9630.60
TD	13910	4438.40	171.30	9630.60

Surface Location	475	FS	610	FE
Projected BHL	4913	FS	439	FE
Location of				
Top Perfs/OH	1061	FS	355	FE
Bottom Perfs/OH	4840	FS	437	FE

SUMMARY of Subsurface Locations

Surface Location	P-16-20S-32E	475	FS	610	FE	Vert. Depth
Top Perfs/OH	P-16-20S-32E	1061	FS	355	FE	9712.43
Bottom Perfs/OH	A-16-20S-32E	4840	FS	437	FE	9630.48
Projected TD	A-16-20S-32E	4913	FS	439	FE	9630.60

MAY 02 2013



A GYRO TECHNOLOGIES INC. COMPANY

PO Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

CF
K n T
well file

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AUG 29 2012

FASKEN OIL AND
RANCH, LTD.

August 27, 2012

Fasken Oil & Ranch LTD
303 W. Wall Street, STE 1800
Midland, TX 79701

Attn: Clay Lamb

SUR: P-16-20s-32e, 475/S & 610/E
BHL: A-16-20s-32e, 4913/S & 439/E
API # 30-025-40680

Re: **Laguna 16 State 2**

Please find enclosed a copy of the survey from 0' to 8,980' ran on the above referenced well.

If I can be of any further service, please do not hesitate to call me at 800-606-4976.

Sincerely,

Keith Havelka
Operations



Company: FASKEN OIL & RANCH LTD
Lease/Well: LAGUNA 16 STATE/2

Rig Name: PRECISION 75
State/County: NEW MEXICO/LEA

Latitude: 32.57
GRID North is 0.31 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB=21.3 FT

HOBBS OCD

DRILLOG HA GYRO SURVEY CALCULATIONS

APR 16 2013

Filename: laguna 16 state #2h_ed.ut
Minimum Curvature Method
Report Date/Time: 8/27/2012 / 09:54

RECEIVED

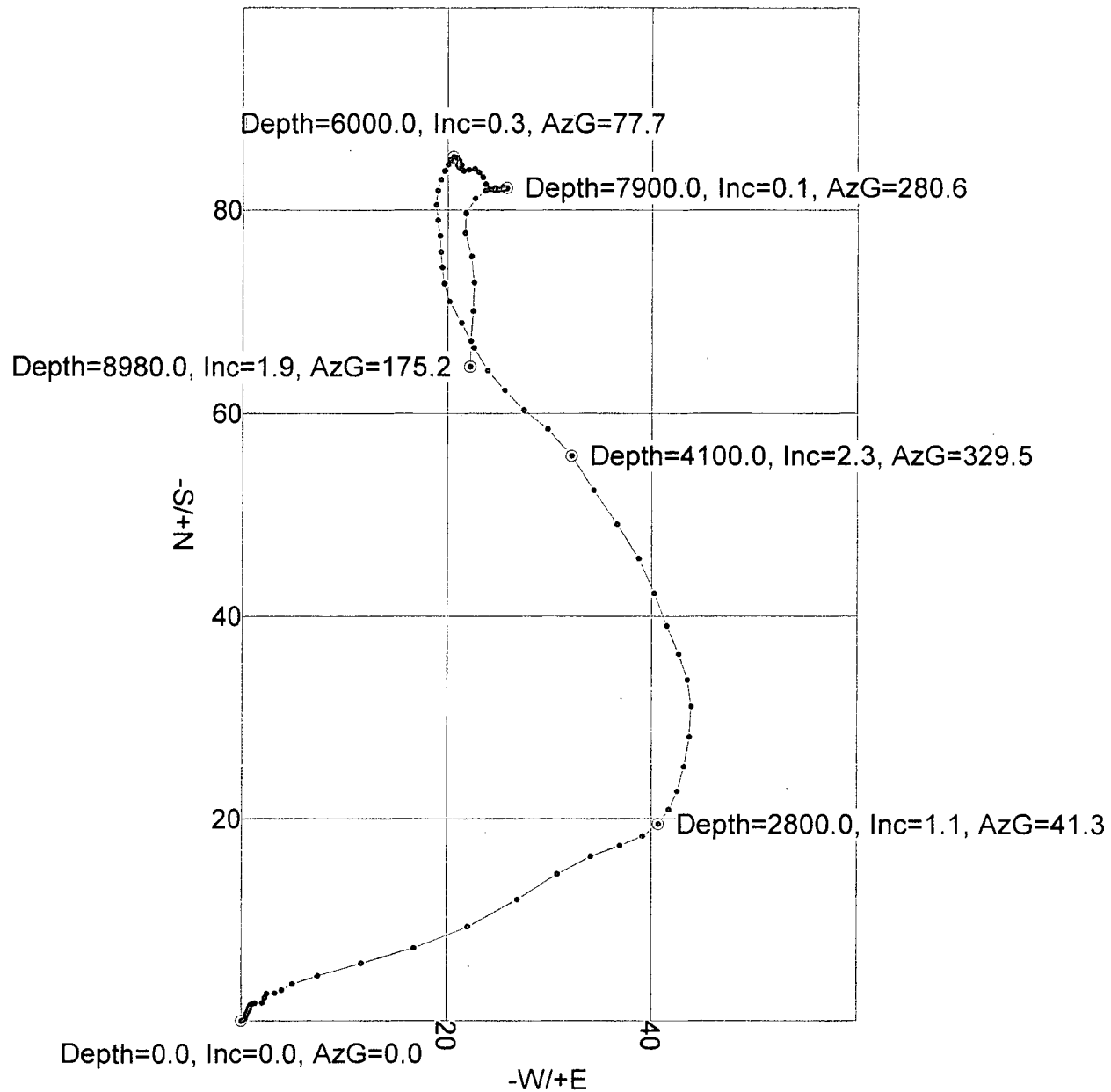
Vaughn Energy Services
Gardendale Texas
432-563-5444

Surveyor: Danny Spring
Laguna 16 State 2 / API 30-025-40680

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.19	57.59	100.00	0.09	0.14	0.09	0.16	57.59	0.19
200.00	0.15	47.65	200.00	0.26	0.37	0.26	0.46	54.72	0.05
300.00	0.13	344.19	300.00	0.46	0.44	0.46	0.64	43.41	0.15
400.00	0.09	35.11	400.00	0.64	0.45	0.64	0.78	35.30	0.10
500.00	0.10	36.90	500.00	0.78	0.55	0.78	0.96	35.43	0.01
600.00	0.08	42.22	600.00	0.90	0.66	0.90	1.12	35.99	0.02
700.00	0.09	350.24	700.00	1.03	0.69	1.03	1.24	33.87	0.07
800.00	0.09	86.37	800.00	1.11	0.76	1.11	1.34	34.24	0.13
900.00	0.24	347.99	900.00	1.32	0.79	1.32	1.54	30.85	0.27
1000.00	0.16	73.42	1000.00	1.56	0.88	1.56	1.79	29.29	0.28
1100.00	0.07	38.49	1100.00	1.65	1.05	1.65	1.96	32.40	0.11
1200.00	0.25	90.95	1200.00	1.70	1.31	1.70	2.14	37.53	0.21
1300.00	0.59	82.39	1299.99	1.76	2.03	1.76	2.69	48.99	0.34
1400.00	0.56	328.39	1399.99	2.25	2.28	2.25	3.20	45.34	0.96
1500.00	0.52	90.53	1499.99	2.66	2.47	2.66	3.63	42.85	0.95
1600.00	0.41	82.08	1599.99	2.71	3.28	2.71	4.26	50.45	0.13
1700.00	0.49	51.76	1699.98	3.02	3.97	3.02	4.99	52.73	0.25
1800.00	0.86	65.75	1799.98	3.60	4.99	3.60	6.15	54.24	0.40

measured Depth FT	inc Angle Deg	Dir Direction Deg	TVD FT	+N/-S FT	+E/-W FT	vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	2.13	74.58	1899.94	4.40	7.47	4.40	8.66	59.50	1.28
2000.00	2.99	73.25	1999.84	5.64	11.75	5.64	13.04	64.35	0.87
2100.00	3.14	72.85	2099.70	7.20	16.87	7.20	18.34	66.88	0.15
2200.00	3.28	63.25	2199.54	9.30	22.04	9.30	23.92	67.13	0.56
2300.00	3.06	57.87	2299.39	12.01	26.86	12.01	29.42	65.91	0.37
2400.00	2.32	57.20	2399.28	14.52	30.82	14.52	34.07	64.77	0.74
2500.00	1.93	68.04	2499.21	16.25	34.09	16.25	37.76	64.51	0.56
2600.00	1.56	70.73	2599.16	17.33	36.94	17.33	40.80	64.86	0.38
2700.00	1.21	62.48	2699.13	18.27	39.15	18.27	43.20	64.99	0.40
2800.00	1.06	41.33	2799.11	19.45	40.70	19.45	45.11	64.46	0.44
2900.00	0.99	28.32	2899.10	20.90	41.72	20.90	46.66	63.39	0.24
3000.00	1.31	20.80	2999.08	22.73	42.53	22.73	48.23	61.88	0.36
3100.00	1.59	10.01	3099.04	25.16	43.18	25.16	49.98	59.77	0.39
3200.00	1.86	10.62	3199.00	28.12	43.72	28.12	51.98	57.25	0.27
3300.00	1.61	354.88	3298.95	31.11	43.89	31.11	53.80	54.67	0.54
3400.00	1.43	348.02	3398.92	33.73	43.51	33.73	55.05	52.22	0.25
3500.00	1.66	336.16	3498.88	36.27	42.67	36.27	56.00	49.63	0.39
3600.00	1.81	338.72	3598.84	39.07	41.51	39.07	57.00	46.74	0.17
3700.00	2.10	339.18	3698.78	42.25	40.28	42.25	58.38	43.63	0.30
3800.00	2.25	332.20	3798.71	45.70	38.72	45.70	59.90	40.27	0.30
3900.00	2.31	324.09	3898.63	49.06	36.62	49.06	61.23	36.74	0.33
4000.00	2.33	325.93	3998.55	52.38	34.31	52.38	62.61	33.23	0.08
4100.00	2.28	329.47	4098.47	55.77	32.16	55.77	64.38	29.97	0.15
4200.00	1.89	305.87	4198.40	58.45	29.81	58.45	65.61	27.03	0.93
4300.00	1.59	312.02	4298.36	60.34	27.45	60.34	66.29	24.46	0.36
4400.00	1.50	319.11	4398.32	62.26	25.56	62.26	67.30	22.32	0.21
4500.00	1.46	320.36	4498.29	64.23	23.89	64.23	68.53	20.40	0.06
4600.00	1.54	336.80	4598.25	66.44	22.55	66.44	70.17	18.75	0.44
4700.00	1.59	330.32	4698.21	68.88	21.34	68.88	72.11	17.21	0.18
4800.00	1.17	332.30	4798.19	70.99	20.17	70.99	73.80	15.86	0.42
4900.00	0.98	356.55	4898.17	72.75	19.65	72.75	75.36	15.11	0.49
5000.00	0.91	349.91	4998.15	74.39	19.46	74.39	76.89	14.66	0.13
5100.00	0.83	0.95	5098.14	75.90	19.33	75.90	78.32	14.29	0.18
5200.00	0.95	352.97	5198.13	77.44	19.24	77.44	79.80	13.95	0.17
5300.00	0.85	350.40	5298.12	79.00	19.02	79.00	81.25	13.53	0.10
5400.00	0.89	357.50	5398.11	80.50	18.86	80.50	82.68	13.18	0.11
5500.00	0.73	17.64	5498.10	81.88	19.02	81.88	84.06	13.08	0.32
5600.00	0.57	12.69	5598.09	82.97	19.32	82.97	85.19	13.11	0.17
5700.00	0.52	31.22	5698.09	83.85	19.66	83.85	86.12	13.20	0.18

measured Depth FT	incl Angle Deg	Dirn Direction Deg	TVD FT	+N/-S FT	+E/-W FT	vertical Section FT	Closure Distance FT	Closure Direction Deg	Logleg Severity Deg/100
5800.00	0.28	26.33	5798.08	84.46	20.01	84.46	86.80	13.33	0.25
5900.00	0.31	24.87	5898.08	84.92	20.23	84.92	87.30	13.40	0.03
6000.00	0.26	77.71	5998.08	85.22	20.57	85.22	87.67	13.57	0.26
6100.00	0.18	157.94	6098.08	85.12	20.84	85.12	87.64	13.76	0.29
6200.00	0.28	127.39	6198.08	84.83	21.10	84.83	87.41	13.97	0.16
6300.00	0.25	175.05	6298.08	84.47	21.31	84.47	87.11	14.16	0.22
6400.00	0.25	306.15	6398.08	84.38	21.15	84.38	86.99	14.07	0.45
6500.00	0.13	191.07	6498.08	84.40	20.95	84.40	86.96	13.94	0.33
6600.00	0.14	116.96	6598.08	84.23	21.04	84.23	86.82	14.03	0.16
6700.00	0.19	139.06	6698.08	84.05	21.26	84.05	86.70	14.20	0.08
6800.00	0.18	123.69	6798.08	83.84	21.50	83.84	86.55	14.38	0.05
6900.00	0.51	60.88	6898.08	83.97	22.02	83.97	86.81	14.70	0.46
7000.00	0.28	125.43	6998.07	84.04	22.61	84.04	87.03	15.06	0.47
7100.00	0.33	137.49	7098.07	83.69	23.00	83.69	86.79	15.37	0.08
7200.00	0.37	145.79	7198.07	83.21	23.38	83.21	86.43	15.69	0.06
7300.00	0.48	165.11	7298.07	82.54	23.67	82.54	85.87	16.00	0.18
7400.00	0.32	109.00	7398.07	82.05	24.03	82.05	85.50	16.33	0.40
7500.00	0.23	91.86	7498.06	81.95	24.50	81.95	85.53	16.64	0.12
7600.00	0.27	77.79	7598.06	81.99	24.93	81.99	85.70	16.91	0.07
7700.00	0.22	94.80	7698.06	82.03	25.35	82.03	85.85	17.17	0.08
7800.00	0.19	60.03	7798.06	82.09	25.69	82.09	86.02	17.37	0.13
7900.00	0.11	280.61	7898.06	82.20	25.74	82.20	86.13	17.39	0.28
8000.00	0.35	282.44	7998.06	82.28	25.35	82.28	86.09	17.12	0.24
8100.00	0.56	253.24	8098.06	82.21	24.58	82.21	85.80	16.65	0.30
8200.00	0.59	249.16	8198.05	81.88	23.63	81.88	85.22	16.10	0.06
8300.00	0.87	220.28	8298.05	81.12	22.66	81.12	84.22	15.60	0.45
8400.00	1.11	206.34	8398.03	79.68	21.74	79.68	82.59	15.26	0.34
8500.00	1.30	161.55	8498.01	77.73	21.67	77.73	80.70	15.58	0.93
8600.00	1.41	166.71	8597.98	75.46	22.31	75.46	78.69	16.47	0.16
8700.00	1.60	180.87	8697.95	72.87	22.57	72.87	76.28	17.21	0.42
8800.00	1.61	182.89	8797.91	70.07	22.48	70.07	73.59	17.79	0.06
8900.00	1.78	186.65	8897.87	67.13	22.23	67.13	70.71	18.32	0.20
8980.00	1.87	175.23	8977.83	64.59	22.20	64.59	68.30	18.96	0.47



Fasken Oil and Ranch, Ltd.-WT

Lea County

Sec 16 T20S R32E

Laguna 16 State #2H

Wellbore #1

SUR: P-16-20s-32e, 475/S & 610/E

BHL: A-16-20s-32e, 4913/S & 439/E

API # 30-025-40680

Survey: MWD

DDC Survey Report

04 September, 2012



DDC Survey Report



Company:	Fasken Oil and Ranch, Ltd.-WT	Local Co-ordinate Reference:	Well Laguna 16 State #2H
Project:	Lea County	TVD Reference:	WELL @ 3537.0usft (Precision #75)
Site:	Sec 16 T20S R32E	MD Reference:	WELL @ 3537.0usft (Precision #75)
Well:	Laguna 16 State #2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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

Site:	Sec 16 T20S R32E		
Site Position:		Northing:	570,576.96 usft
From:	Map	Easting:	716,538.38 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 34' 2.225 N
		Longitude:	103° 45' 52.639 W
		Grid Convergence:	0.31 °

Well:	Laguna 16 State #2H					
Well Position	+N/-S	0.0 usft	Northing:	570,576.96 usft	Latitude:	32° 34' 2.225 N
	+E/-W	0.0 usft	Easting:	716,538.38 usft	Longitude:	103° 45' 52.639 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,516.0 usft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/8/2012	7.56	60.44	48,686

Design:	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	2.66	

Survey Program:	Date	9/4/2012		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
100.0	8,980.0	Gyro Survey (Wellbore #1)	Good_gyro	Good Gyro
9,071.0	13,910.0	MWD (Wellbore #1)	MWD default	MWD - Standard

Survey									
Measured	Vertical	Dogleg	Build	Turn					
Depth	Depth	Rate	Rate	Rate					
(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)					
Inclination	+N/-S	+E/-W	Vertical						
(°)	(usft)	(usft)	Section						
Azimuth			(usft)						
(°)									
TIE IN @ 8980' MD / 8978' TVD									
8,980.0	1.87	175.23	8,977.8	64.6	22.2	65.5	0.00	0.00	0.00
9,071.0	1.50	149.30	9,068.8	62.1	22.9	63.1	0.92	-0.41	-28.49
9,104.0	1.90	154.00	9,101.8	61.2	23.4	62.2	1.28	1.21	14.24
9,136.0	3.20	101.80	9,133.7	60.6	24.5	61.6	7.90	4.06	-163.13
9,168.0	7.20	77.70	9,165.6	60.8	27.3	62.0	13.98	12.50	-75.31
9,199.0	11.60	66.80	9,196.2	62.4	32.1	63.9	15.25	14.19	-35.16
9,231.0	15.60	61.80	9,227.3	65.7	38.8	67.5	13.02	12.50	-15.63
9,263.0	18.70	61.90	9,257.9	70.2	47.2	72.3	9.69	9.69	0.31
9,295.0	21.10	61.70	9,287.9	75.3	56.8	77.9	7.50	7.50	-0.63

DDC Survey Report



Company: Fasken Oil and Ranch, Ltd.-WT
Project: Lea County
Site: Sec 16 T20S R32E
Well: Laguna 16 State #2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Laguna 16 State #2H
TVD Reference: WELL @ 3537.0usft (Precision #75)
MD Reference: WELL @ 3537.0usft (Precision #75)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

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)
9,327.0	25.40	59.50	9,317.3	81.6	67.7	84.6	13.71	13.44	-6.88
9,359.0	29.50	55.80	9,345.7	89.5	80.2	93.1	13.87	12.81	-11.56
9,391.0	31.80	53.10	9,373.3	99.0	93.4	103.2	8.37	7.19	-8.44
9,423.0	34.40	50.10	9,400.1	109.8	107.1	114.7	9.60	8.13	-9.38
9,455.0	36.90	47.90	9,426.1	122.1	121.2	127.6	8.78	7.81	-6.88
9,487.0	39.70	45.10	9,451.2	135.7	135.6	141.9	10.29	8.75	-8.75
9,518.0	42.10	42.80	9,474.6	150.3	149.6	157.1	9.14	7.74	-7.42
9,550.0	44.80	39.30	9,497.8	166.9	164.1	174.4	11.30	8.44	-10.94
9,582.0	47.30	36.30	9,520.1	185.2	178.2	193.2	10.32	7.81	-9.38
9,614.0	49.70	33.10	9,541.3	204.9	191.8	213.5	10.60	7.50	-10.00
9,646.0	51.60	29.20	9,561.6	226.0	204.6	235.3	11.14	5.94	-12.19
9,678.0	53.30	25.10	9,581.1	248.6	216.2	258.4	11.46	5.31	-12.81
9,710.0	55.30	20.80	9,599.7	272.5	226.3	282.7	12.57	6.25	-13.44
9,741.0	57.00	15.90	9,617.0	297.0	234.4	307.5	14.22	5.48	-15.81
9,773.0	58.50	11.50	9,634.1	323.2	240.8	334.1	12.54	4.69	-13.75
9,805.0	60.80	7.50	9,650.3	350.5	245.3	361.5	12.96	7.19	-12.50
9,837.0	62.90	4.80	9,665.4	378.5	248.3	389.6	9.92	6.56	-8.44
9,869.0	67.20	3.70	9,678.9	407.4	250.5	418.6	13.79	13.44	-3.44
9,900.0	71.50	2.70	9,689.8	436.4	252.1	447.6	14.20	13.87	-3.23
9,932.0	75.40	1.60	9,698.9	467.0	253.2	478.3	12.62	12.19	-3.44
9,964.0	79.80	1.20	9,705.8	498.3	254.0	509.5	13.80	13.75	-1.25
9,996.0	84.30	1.30	9,710.2	530.0	254.7	541.2	14.07	14.06	0.31
10,027.0	88.30	0.20	9,712.2	560.9	255.1	572.1	13.38	12.90	-3.55
10,059.0	90.70	358.50	9,712.5	592.9	254.7	604.1	9.19	7.50	-5.31
10,090.0	91.20	357.90	9,712.0	623.9	253.8	635.0	2.52	1.61	-1.94
10,122.0	91.40	357.90	9,711.2	655.8	252.6	666.8	0.63	0.63	0.00
10,154.0	91.80	358.90	9,710.3	687.8	251.7	698.7	3.36	1.25	3.13
10,186.0	90.80	358.00	9,709.6	719.8	250.8	730.6	4.20	-3.13	-2.81
10,218.0	89.10	359.10	9,709.6	751.8	250.0	762.6	6.33	-5.31	3.44
10,249.0	87.70	358.40	9,710.5	782.7	249.3	793.5	5.05	-4.52	-2.26
10,281.0	89.20	357.50	9,711.4	814.7	248.2	825.4	5.47	4.69	-2.81
10,313.0	90.40	357.20	9,711.5	846.7	246.7	857.2	3.87	3.75	-0.94
10,345.0	90.90	356.60	9,711.1	878.6	245.0	889.1	2.44	1.56	-1.88
10,377.0	91.50	358.20	9,710.5	910.6	243.5	920.9	5.34	1.88	5.00
10,409.0	90.30	0.00	9,710.0	942.6	243.0	952.8	6.76	-3.75	5.63
10,441.0	90.30	359.60	9,709.8	974.6	242.9	984.8	1.25	0.00	-1.25
10,473.0	88.50	358.30	9,710.1	1,006.6	242.3	1,016.7	6.94	-5.63	-4.06
10,503.0	88.50	358.50	9,710.9	1,036.5	241.5	1,046.6	0.67	0.00	0.67
10,534.0	90.00	358.90	9,711.3	1,067.5	240.8	1,077.6	5.01	4.84	1.29
10,565.0	90.50	359.20	9,711.2	1,098.5	240.3	1,108.5	1.88	1.61	0.97
10,597.0	91.90	359.70	9,710.5	1,130.5	240.0	1,140.4	4.65	4.38	1.56
10,629.0	92.20	357.90	9,709.4	1,162.5	239.3	1,172.3	5.70	0.94	-5.63
10,660.0	92.40	357.80	9,708.1	1,193.4	238.1	1,203.2	0.72	0.65	-0.32

DDC Survey Report



Company: Fasken Oil and Ranch, Ltd.-WT
Project: Lea County
Site: Sec 16 T20S R32E
Well: Laguna 16 State #2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Laguna 16 State #2H
TVD Reference: WELL @ 3537.0usft (Precision #75)
MD Reference: WELL @ 3537.0usft (Precision #75)
North Reference: Grid
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)
10,692.0	92.40	358.00	9,706.8	1,225.4	237.0	1,235.1	0.62	0.00	0.63
10,724.0	92.80	357.60	9,705.3	1,257.3	235.7	1,266.9	1.77	1.25	-1.25
10,755.0	93.10	356.60	9,703.7	1,288.3	234.2	1,297.7	3.36	0.97	-3.23
10,787.0	93.10	356.70	9,702.0	1,320.2	232.3	1,329.5	0.31	0.00	0.31
10,819.0	92.30	356.40	9,700.5	1,352.1	230.4	1,361.3	2.67	-2.50	-0.94
10,851.0	92.40	357.70	9,699.2	1,384.0	228.7	1,393.1	4.07	0.31	4.06
10,883.0	92.70	357.30	9,697.8	1,415.9	227.3	1,425.0	1.56	0.94	-1.25
10,915.0	92.80	356.20	9,696.2	1,447.8	225.5	1,456.8	3.45	0.31	-3.44
10,947.0	93.00	355.90	9,694.6	1,479.7	223.3	1,488.5	1.13	0.63	-0.94
10,979.0	93.30	357.30	9,692.8	1,511.6	221.4	1,520.3	4.47	0.94	4.38
11,011.0	92.90	357.30	9,691.1	1,543.5	219.9	1,552.1	1.25	-1.25	0.00
11,042.0	92.90	358.50	9,689.5	1,574.5	218.8	1,582.9	3.87	0.00	3.87
11,074.0	93.30	358.50	9,687.8	1,606.4	218.0	1,614.8	1.25	1.25	0.00
11,106.0	93.80	356.90	9,685.8	1,638.3	216.7	1,646.6	5.23	1.56	-5.00
11,138.0	92.30	356.60	9,684.1	1,670.2	214.9	1,678.4	4.78	-4.69	-0.94
11,170.0	92.40	356.60	9,682.8	1,702.2	213.0	1,710.2	0.31	0.31	0.00
11,202.0	92.60	356.80	9,681.4	1,734.1	211.1	1,742.0	0.88	0.63	0.63
11,232.0	92.60	356.80	9,680.1	1,764.0	209.5	1,771.8	0.00	0.00	0.00
11,295.0	92.90	356.40	9,677.0	1,826.8	205.7	1,834.4	0.79	0.48	-0.63
11,359.0	91.90	356.80	9,674.4	1,890.6	201.9	1,898.0	1.68	-1.56	0.63
11,423.0	92.00	356.30	9,672.2	1,954.5	198.1	1,961.6	0.80	0.16	-0.78
11,487.0	92.30	357.40	9,669.8	2,018.3	194.6	2,025.2	1.78	0.47	1.72
11,551.0	92.80	358.10	9,666.9	2,082.2	192.1	2,088.9	1.34	0.78	1.09
11,615.0	93.10	357.10	9,663.6	2,146.1	189.4	2,152.6	1.63	0.47	-1.56
11,647.0	93.60	355.90	9,661.8	2,178.0	187.4	2,184.3	4.06	1.56	-3.75
11,711.0	92.90	357.20	9,658.1	2,241.8	183.6	2,247.9	2.30	-1.09	2.03
11,775.0	93.30	356.60	9,654.7	2,305.6	180.1	2,311.4	1.13	0.63	-0.94
11,838.0	93.90	354.90	9,650.7	2,368.3	175.5	2,373.9	2.86	0.95	-2.70
11,902.0	93.40	356.30	9,646.7	2,431.9	170.6	2,437.2	2.32	-0.78	2.19
11,966.0	92.30	357.40	9,643.5	2,495.8	167.1	2,500.8	2.43	-1.72	1.72
12,029.0	93.20	358.50	9,640.4	2,558.7	164.8	2,563.5	2.25	1.43	1.75
12,092.0	92.60	358.20	9,637.3	2,621.5	163.0	2,626.3	1.06	-0.95	-0.48
12,156.0	92.80	359.00	9,634.2	2,685.5	161.4	2,690.1	1.29	0.31	1.25
12,220.0	92.10	359.20	9,631.5	2,749.4	160.4	2,753.9	1.14	-1.09	0.31
12,282.0	92.70	358.70	9,628.9	2,811.3	159.3	2,815.7	1.26	0.97	-0.81
12,346.0	91.40	0.00	9,626.6	2,875.3	158.6	2,879.5	2.87	-2.03	2.03
12,410.0	92.10	359.60	9,624.7	2,939.2	158.3	2,943.4	1.26	1.09	-0.63
12,473.0	92.80	358.80	9,622.0	3,002.2	157.5	3,006.3	1.69	1.11	-1.27
12,535.0	92.40	0.80	9,619.2	3,064.1	157.3	3,068.1	3.29	-0.65	3.23
12,599.0	92.90	359.90	9,616.2	3,128.0	157.6	3,132.0	1.61	0.78	-1.41
12,661.0	91.80	1.10	9,613.7	3,190.0	158.2	3,193.9	2.62	-1.77	1.94
12,725.0	91.10	1.70	9,612.0	3,253.9	159.7	3,257.9	1.44	-1.09	0.94
12,789.0	89.00	1.90	9,612.0	3,317.9	161.8	3,321.8	3.30	-3.28	0.31

DDC Survey Report



Company: Fasken Oil and Ranch, Ltd.-WT
Project: Lea County
Site: Sec 16 T20S R32E
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Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Laguna 16 State #2H
TVD Reference: WELL @ 3537.0usft (Precision #75)
MD Reference: WELL @ 3537.0usft (Precision #75)
North Reference: Grid
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)
12,852.0	89.00	1.70	9,613.1	3,380.9	163.7	3,384.8	0.32	0.00	-0.32
12,948.0	88.80	1.80	9,614.9	3,476.8	166.7	3,480.8	0.23	-0.21	0.10
13,012.0	88.50	1.40	9,616.4	3,540.8	168.5	3,544.8	0.78	-0.47	-0.63
13,076.0	88.60	1.50	9,618.1	3,604.7	170.1	3,608.7	0.22	0.16	0.16
13,140.0	89.50	1.50	9,619.1	3,668.7	171.7	3,672.7	1.41	1.41	0.00
13,204.0	90.30	0.50	9,619.2	3,732.7	172.9	3,736.7	2.00	1.25	-1.56
13,268.0	88.90	0.20	9,619.7	3,796.7	173.3	3,800.6	2.24	-2.19	-0.47
13,332.0	89.40	359.90	9,620.6	3,860.7	173.3	3,864.5	0.91	0.78	-0.47
13,428.0	88.60	0.60	9,622.3	3,956.6	173.7	3,960.4	1.11	-0.83	0.73
13,491.0	89.20	0.70	9,623.5	4,019.6	174.4	4,023.4	0.97	0.95	0.16
13,587.0	88.10	1.30	9,625.8	4,115.6	176.1	4,119.3	1.31	-1.15	0.63
13,651.0	88.60	0.90	9,627.6	4,179.6	177.3	4,183.3	1.00	0.78	-0.63
13,715.0	88.90	0.00	9,629.0	4,243.5	177.8	4,247.2	1.48	0.47	-1.41
13,779.0	89.20	355.60	9,630.1	4,307.5	175.4	4,311.0	6.89	0.47	-6.88
13,855.0	90.00	359.30	9,630.6	4,383.4	172.0	4,386.6	4.98	1.05	4.87
TD @ 13910' MD / 9631' TVD									
13,910.0	90.00	359.30	9,630.6	4,438.4	171.3	4,441.5	0.00	0.00	0.00

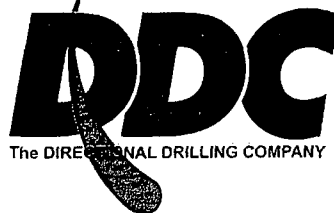
Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,980.0	8,977.8	64.6	22.2	TIE IN @ 8980' MD / 8978' TVD
13,910.0	9,630.6	4,438.4	171.3	TD @ 13910' MD / 9631' TVD

Checked By: _____ Approved By: _____ Date: _____

Company Name: Fasken Oil and Ranch, Ltd.-WT
Laguna 16 State #2H
Lea County
Rig: Precision #75
Created By: DINA CHANCE
Date: 09/04/2012

Laguna 16 State #2H
Lea County
Q120577 & WT-12564
Design #2 - Tied into Gyro



FASKEN OIL AND RANCH, LTD.-WT

PROJECT DETAILS: Lea County

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level



Azimuths to Grid North
True North: -0.31°
Magnetic North: 7.25°

Magnetic Field
Strength: 48686.4snT
Dip Angle: 60.44°
Date: 8/8/2012
Model: IGRF2010

WELL DETAILS: Laguna 16 State #2H

Ground Level: 3516.0	
+N-S	+E-W
Northings	Eastings
570576.96	716539.38
32° 34' 2.225 N	103° 45' 52.639 W

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northings	Eastings	Latitude	Longitude
PBHL Laguna 16 State #2H plan hits target center	9625.0	4426.8	205.5	575063.72	716743.94	32° 34' 46.017 N	103° 45' 49.961 W

ANNOTATIONS

MD	Inc	Azi	TVD	+N-S	+E-W	Vsect	Departure	Annotation
8980.0	1.87	175.23	8977.8	64.6	22.2	65.5	151.4	TIE IN @ 8980' MD / 8978' TVD
13910.0	90.00	359.30	9630.6	4438.4	171.3	4441.5	4628.8	TD @ 13910' MD / 9631' TVD

