

Results of Directional Survey

DD

API number:	30-025-41500			
OGRID:		Operator:	MACK ENERGY CORP	
		Property:	STATE BD 36	# 3

surface

ULSTR:	J	36	T 22S	R 37E
			2250 FSL	1590 FEL

BH Loc

ULSTR:	J	36	T 22S	R 37E
8098 MD	8094.6	TVD	2309 FSL	1657 FEL

Top Perf/OH	ULSTR:	J	36	T 22S	R 37E
6308 MD		6305.0	TVD	2288 FSL	1666 FEL

Bot Perf/OH	ULSTR:	J	36	T	22S	R	37E
6843	MD	6840.1	TVD	2296	FSL	1665	FEL

	MD	N/S	E/W	VD
	6266	37.11	-76.22	6263.18
TOP PERFS/OH	6308	37.66	-75.83	6304.95
	6453	39.54	-74.47	6449.16
	6826	46.61	-74.68	6823.08
BOT PERFS/OH	6843	46.48	-74.81	6840.08
	7013	45.18	-76.09	7010.06

NEXT TO LAST	8056	58.67	-65.63	8052.64
LAST READING	8098	59.09	-66.57	8094.63
TD	8098	59.09	-66.57	8094.63

Surface Location	2250 FS	1590 FE
Projected BHL	2309 FS	1657 FE
Location of		
Top Perfs/OH	2288 FS	1666 FE
Bottom Perfs/OH	2296 FS	1665 FE

SUMMARY of Subsurface Locations

Surface Location	J-36-22S-37E	2250 FS	1590 FE	Vert. Depth
Top Perfs/OH	J-36-22S-37E	2288 FS	1666 FE	6304.95
Bottom Perfs/OH	J-36-22S-37E	2296 FS	1665 FE	6840.08
Projected TD	J-36-22S-37E	2309 FS	1657 FE	8094.63

OCT 20 2014

HOBBS OCD

SEP 30 2014

RECEIVED

PO Box 1370
Artesia, NM 88211-1370
(575) 748-1288



March 3, 2014

Mack Energy Corporation
PO Box 960
Artesia, NM 88211-0960

RE: State BD 36 #3
2310' FSL & 1650' FEL
Sec. 36, T22S, R37E
Lea County, New Mexico

Dear Sir,

The attached is the Deviation Survey for the above captioned well.

Very truly yours,

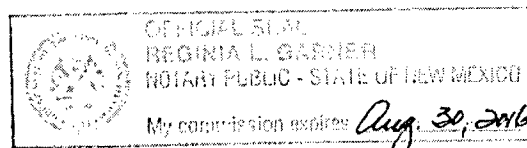
A handwritten signature in cursive script, appearing to read 'Chris Graham'.

Chris Graham
Drilling Superintendent

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 3rd day of March, 2014.

A handwritten signature in cursive script, appearing to read 'Regina L. Garner'.

Notary Public

STATE BD 36 #3

# Date	Depth	Deviation	Direction	TVD	Horiz
2/17/2014	155	0.20	0.00	0.00	0.00
2/17/2014	188	0.60	165.00	0.00	0.00
2/17/2014	346	0.30	279.10	0.00	0.00
2/17/2014	524	0.30	168.00	0.00	0.00
2/17/2014	700	90.00	100.00	0.00	0.00
2/17/2014	888	0.20	283.10	0.00	0.00
2/17/2014	1068	0.10	17.00	1128.00	0.00
2/17/2014	1089	0.00	275.00	1149.00	0.00
2/19/2014	1156	0.20	184.60	1156.00	0.00
2/19/2014	1251	1.40	295.90	0.00	0.00
2/19/2014	1345	3.50	294.90	0.00	0.00
2/19/2014	1440	2.80	292.00	0.00	0.00
2/19/2014	1534	4.30	293.30	0.00	0.00
2/19/2014	1629	4.30	293.30	0.00	0.00
2/19/2014	1755	4.00	294.10	1753.00	24.00
2/19/2014	1818	4.20	297.50	1816.00	36.83
2/19/2014	1913	4.80	294.20	1911.00	44.26
2/19/2014	2007	2.70	284.00	2005.00	50.38
2/19/2014	2102	2.00	301.40	2100.00	54.23
2/19/2014	2196	2.50	296.80	2184.00	57.89
2/19/2014	2385	1.80	310.90	2383.00	64.71
2/19/2014	2479	2.70	294.50	2521.00	0.00
2/19/2014	2574	3.30	291.00	2616.00	0.00
2/19/2014	2669	2.60	296.00	0.00	0.00
2/19/2014	2763	3.50	294.90	2865.00	0.00
2/20/2014	3141	0.10	182.40	3138.00	0.00
2/20/2014	3330	0.20	69.90	3372.00	0.00
2/20/2014	3519	0.30	61.10	3558.00	0.00
2/20/2014	3708	0.50	33.90	3705.00	92.00
2/20/2014	3904	0.80	29.60	3901.00	91.00
2/20/2014	4093	0.80	35.60	4090.00	91.00
2/20/2014	4283	1.10	32.00	4325.00	0.00
2/20/2014	4472	0.50	200.60	4514.00	0.00
2/20/2014	4661	0.60	197.10	4703.00	0.00
2/21/2014	4851	0.70	178.70	4893.00	0.00
2/21/2014	5040	0.50	163.50	5082.00	0.00
2/21/2014	5229	0.50	165.40	5271.00	0.00
2/21/2014	5418	0.70	138.90	5415.00	86.17
2/21/2014	5512	0.70	165.30	0.00	0.00
2/22/2014	5701	0.40	0.00	0.00	0.00
2/22/2014	5890	0.70	0.00	0.00	0.00
2/22/2014	6078	0.80	31.00	6075.00	85.54
2/22/2014	6226	1.10	47.90	6263.00	84.00

Job Number: 14-0039

Company: Nexus Directional Solutions

Lease/Well: State BD 36 #3

Location: Eunice

Rig Name: Silver Oak 6



Rig Name: Silver Oak 6

Location: Eunice

State/Country: New Mexico

Declination: ☐

Grid: ☐

File name: C:\DOCUME~1\XPMUSER\DESKTOP\14-0039\0039.SVY

Date/Time: 27-Feb-14 / 03:14



Date/Time: 27-Feb-14 / 03:14

File name: C:\DOCUME~1\XPMUSER\DESKTOP\14-0039\0039.SVY

Job Number: 14-0039
 Company: Nexus Directional Solutions
 Lease/Well: State BD 36 #3
 Location: Eunice
 Rig Name: Silver Oak 6
 RKB: ☐
 G.L. or M.S.L.: ☐

State/Country: New Mexico
 Declination: ☐
 Grid: ☐
 File name: C:\DOCUME~1\XPMUSER\DESKTOP\14-0039\0039.SVY
 Date/Time: 27-Feb-14 / 03:14
 Curve Name: Surveys

Nexus Directional Solutions

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 291.70
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
Tie In From Teledrift Surveys									
1149.00	.10	17.00	1149.00	-2.30	-.90	-.01	2.47	201.37	.00
1156.00	.20	184.60	1156.00	-2.31	-.90	-.02	2.48	201.30	4.26
1251.00	1.40	295.90	1250.99	-1.96	-1.96	1.09	2.77	224.88	1.56
1345.00	3.50	294.90	1344.90	-.25	-5.59	5.10	5.60	267.39	2.23
1440.00	2.80	292.00	1439.76	1.84	-10.37	10.32	10.54	280.03	.76
1534.00	4.30	293.50	1533.57	4.10	-15.73	16.14	16.26	284.61	1.60
1629.00	4.30	293.30	1628.31	6.93	-22.27	23.26	23.33	287.28	.02
1723.00	4.00	294.10	1722.06	9.66	-28.50	30.05	30.09	288.73	.33
1818.00	4.20	297.50	1816.82	12.62	-34.61	36.83	36.84	290.03	.33
1913.00	4.80	294.20	1911.52	15.86	-41.32	44.26	44.26	290.99	.69
2007.00	2.70	284.00	2005.32	18.01	-47.06	50.38	50.39	290.94	2.34
2102.00	2.00	301.40	2100.24	19.41	-50.65	54.23	54.24	290.97	1.04

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
2196.00	2.50	296.80	2194.16	21.19	-53.88	57.89	57.89	291.47	.57
2290.00	2.10	305.10	2288.09	23.10	-57.11	61.61	61.61	292.02	.55
2385.00	1.80	310.90	2383.03	25.08	-59.67	64.71	64.72	292.80	.38
2.36' Right and 1.59' Above Plan									
2479.00	2.70	294.50	2476.96	26.97	-62.80	68.32	68.34	293.24	1.17
2574.00	3.30	291.00	2571.83	28.87	-67.39	73.29	73.31	293.19	.66
2669.00	2.60	296.40	2666.70	30.81	-71.87	78.17	78.20	293.21	.79
2763.00	3.30	294.90	2760.58	32.90	-76.23	82.99	83.03	293.34	.75
2858.00	2.90	289.10	2855.44	34.84	-80.98	88.12	88.16	293.28	.53
2952.00	1.30	272.50	2949.38	35.66	-84.30	91.51	91.53	292.93	1.80
3141.00	.10	182.40	3138.36	35.59	-86.44	93.48	93.48	292.38	.69
3330.00	.20	69.90	3327.36	35.54	-86.14	93.18	93.18	292.42	.14
3519.00	.30	61.10	3516.36	35.89	-85.40	92.62	92.63	292.80	.06
3708.00	.50	33.90	3705.35	36.82	-84.51	92.13	92.18	293.54	.14
3904.00	.80	29.60	3901.34	38.71	-83.35	91.76	91.90	294.91	.15
4093.00	.80	35.60	4090.32	40.93	-81.93	91.26	91.59	296.55	.04
4283.00	1.10	32.00	4280.29	43.56	-80.19	90.62	91.26	298.51	.16
4472.00	.50	200.60	4469.29	44.33	-79.52	90.28	91.04	299.14	.84
4661.00	.60	197.10	4658.28	42.61	-80.10	90.18	90.73	298.01	.06
4851.00	.70	178.70	4848.27	40.50	-80.37	89.65	90.00	296.74	.12
5040.00	.50	163.50	5037.25	38.55	-80.11	88.69	88.90	295.70	.13
5229.00	.50	165.40	5226.25	36.96	-79.67	87.69	87.83	294.89	.01
5418.00	.70	138.90	5415.24	35.30	-78.70	86.17	86.25	294.16	.18
5512.00	.70	165.30	5509.23	34.31	-78.18	85.32	85.37	293.69	.34
5701.00	.40	151.70	5698.22	32.61	-77.57	84.13	84.15	292.80	.17
5890.00	.70	314.40	5887.22	32.84	-78.08	84.69	84.71	292.81	.58
6078.00	.80	31.00	6075.21	34.77	-78.23	85.54	85.61	293.96	.50
6266.00	1.10	47.49	6263.18	37.11	-76.22	84.54	84.78	295.96	.21
6452.00	.80	19.80	6449.16	39.54	-74.47	83.81	84.31	297.97	.29
6639.00	1.70	2.90	6636.11	43.54	-73.88	84.75	85.76	300.51	.51
6826.00	.60	288.00	6823.08	46.61	-74.68	86.62	88.03	301.97	.88
7013.00	1.10	195.50	7010.06	45.18	-76.09	87.40	88.49	300.70	.68
7199.00	1.00	185.80	7196.03	41.85	-76.73	86.76	87.40	298.61	.11
7386.00	.50	35.10	7383.02	40.89	-76.42	86.13	86.68	298.15	.78

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
7573.00	2.40	37.60	7569.95	44.66	-73.56	84.86	86.06	301.26	1.02
7673.00	1.60	52.20	7669.89	47.18	-71.18	83.58	85.40	303.53	.94
7760.00	2.00	15.10	7756.85	49.39	-69.83	83.14	85.53	305.27	1.39
7933.00	2.90	39.70	7929.70	55.67	-66.25	82.14	86.53	310.04	.79
8056.00	1.40	294.00	8052.64	58.67	-65.63	82.68	88.04	311.80	2.88
SLPTB 18.16' East and 24.90' North of Plan									
8098.00	1.40	294.00	8094.63	59.09	-66.57	83.70	89.01	311.59	.00