

30-025-43294

HOBBS OCD

JUL 11 2018

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RGX ENERGY LLC

Lea County, NM

Jade 19S-39E-S29

Jade 19S-39E-S29 3H

Lateral

Design: Lateral

Standard Survey Report

16 February, 2018



PDD Survey Report



Company:	RGX ENERGY LLC	Local Co-ordinate Reference:	Well Jade 19S-39E-S29 3H
Project:	Lea County, NM	TVD Reference:	3587'+25' @ 3612.00usft (Scan Discover)
Site:	Jade 19S-39E-S29	MD Reference:	3587'+25' @ 3612.00usft (Scan Discover)
Well:	Jade 19S-39E-S29 3H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	EDM 5000 14 Multi User

Project	Lea County, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Jade 19S-39E-S29		
Site Position:		Northing:	597,857.20 usft
From:	Map	Easting:	887,519.10 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	32° 38' 14.28 N
		Longitude:	103° 4' 28.23 W
		Grid Convergence:	0.68 °

Well	Jade 19S-39E-S29 3H		
Well Position	+N/-S	0.00 usft	Northing: 597,857.20 usft
	+E/-W	0.00 usft	Easting: 887,519.10 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 38' 14.28 N
		Longitude:	103° 4' 28.23 W
		Ground Level:	3,587.00 usft

Wellbore	Lateral				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/30/17	6.75	60.78	48,308

Design	Lateral				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	6,720.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	180.09	

Survey Program	Date 02/16/18				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
145.00	6,720.00	Survey #1 (Pilot Hole)	MWD+HRGM	OWSG MWD + HRGM	
6,788.00	13,265.00	Survey #1 (Lateral)	MWD+HRGM	OWSG MWD + HRGM	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.00	0.30	146.10	145.00	-0.32	0.21	0.31	0.21	0.21	0.00
238.00	0.30	90.70	238.00	-0.52	0.59	0.52	0.30	0.00	-59.57
327.00	0.40	147.60	327.00	-0.79	0.99	0.78	0.39	0.11	63.93
416.00	0.40	133.70	415.99	-1.26	1.38	1.26	0.11	0.00	-15.62
474.00	0.60	133.00	473.99	-1.61	1.75	1.61	0.34	0.34	-1.21
534.00	0.50	140.60	533.99	-2.03	2.15	2.02	0.21	-0.17	12.67
600.00	0.40	115.40	599.99	-2.35	2.54	2.34	0.33	-0.15	-38.18
694.00	0.70	124.00	693.98	-2.81	3.31	2.80	0.33	0.32	9.15
787.00	0.50	151.10	786.98	-3.48	3.98	3.48	0.37	-0.22	29.14

PDD Survey Report



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Project:	Lea County, NM	TVD Reference:	3587'+25' @ 3612.00usft (Scan Discover)
Site:	Jade 19S-39E-S29	MD Reference:	3587'+25' @ 3612.00usft (Scan Discover)
Well:	Jade 19S-39E-S29 3H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	EDM 5000 14 Multi User

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
882.00	0.40	156.10	881.98	-4.15	4.31	4.14	0.11	-0.11	5.26
977.00	0.60	163.40	976.97	-4.93	4.59	4.92	0.22	0.21	7.68
1,072.00	0.50	157.10	1,071.97	-5.79	4.89	5.78	0.12	-0.11	-6.63
1,166.00	0.50	177.00	1,165.96	-6.57	5.07	6.57	0.18	0.00	21.17
1,260.00	0.70	169.50	1,259.96	-7.55	5.20	7.54	0.23	0.21	-7.98
1,355.00	0.70	165.00	1,354.95	-8.68	5.45	8.67	0.06	0.00	-4.74
1,449.00	0.70	170.00	1,448.94	-9.80	5.70	9.79	0.06	0.00	5.32
1,545.00	0.60	155.90	1,544.94	-10.84	6.01	10.83	0.20	-0.10	-14.69
1,640.00	0.80	163.00	1,639.93	-11.92	6.41	11.91	0.23	0.21	7.47
1,720.00	0.70	170.20	1,719.92	-12.94	6.65	12.93	0.17	-0.12	9.00
1,826.00	0.40	186.30	1,825.92	-13.95	6.72	13.93	0.32	-0.28	15.19
1,920.00	0.40	162.30	1,919.92	-14.58	6.79	14.57	0.18	0.00	-25.53
2,014.00	0.40	195.20	2,013.92	-15.21	6.80	15.20	0.24	0.00	35.00
2,108.00	0.40	207.10	2,107.91	-15.82	6.56	15.81	0.09	0.00	12.66
2,201.00	0.30	206.00	2,200.91	-16.33	6.31	16.32	0.11	-0.11	-1.18
2,296.00	0.10	152.60	2,295.91	-16.63	6.24	16.62	0.27	-0.21	-56.21
2,390.00	0.30	223.60	2,389.91	-16.88	6.11	16.87	0.30	0.21	75.53
2,484.00	0.30	190.90	2,483.91	-17.30	5.89	17.29	0.18	0.00	-34.79
2,578.00	0.40	211.40	2,577.91	-17.82	5.67	17.81	0.17	0.11	21.81
2,672.00	0.40	194.90	2,671.90	-18.42	5.42	18.41	0.12	0.00	-17.55
2,766.00	0.35	188.09	2,765.90	-19.02	5.29	19.01	0.07	-0.05	-7.24
2,859.00	0.26	184.66	2,858.90	-19.51	5.24	19.50	0.10	-0.10	-3.69
2,952.00	0.26	201.10	2,951.90	-19.92	5.14	19.91	0.08	0.00	17.68
3,046.00	0.26	189.67	3,045.90	-20.33	5.03	20.32	0.06	0.00	-12.16
3,140.00	0.26	240.56	3,139.90	-20.64	4.81	20.63	0.24	0.00	54.14
3,234.00	0.26	228.61	3,233.90	-20.89	4.46	20.88	0.06	0.00	-12.71
3,328.00	0.35	204.97	3,327.90	-21.29	4.18	21.28	0.16	0.10	-25.15
3,422.00	0.44	214.63	3,421.89	-21.85	3.86	21.84	0.12	0.10	10.28
3,517.00	0.53	215.07	3,516.89	-22.51	3.40	22.50	0.09	0.09	0.46
3,611.00	0.44	191.78	3,610.89	-23.21	3.07	23.21	0.23	-0.10	-24.78
3,705.00	0.44	215.60	3,704.88	-23.86	2.79	23.86	0.19	0.00	25.34
3,798.00	0.53	208.31	3,797.88	-24.53	2.38	24.53	0.12	0.10	-7.84
3,891.00	0.53	216.04	3,890.88	-25.26	1.92	25.25	0.08	0.00	8.31
3,985.00	0.44	211.82	3,984.87	-25.91	1.47	25.91	0.10	-0.10	-4.49
4,079.00	0.53	215.34	4,078.87	-26.58	1.03	26.57	0.10	0.10	3.74
4,173.00	0.44	242.06	4,172.87	-27.10	0.46	27.10	0.26	-0.10	28.43
4,267.00	0.44	237.75	4,266.86	-27.46	-0.16	27.46	0.04	0.00	-4.59
4,361.00	0.62	237.40	4,360.86	-27.93	-0.90	27.93	0.19	0.19	-0.37
4,456.00	0.62	225.71	4,455.86	-28.56	-1.70	28.57	0.13	0.00	-12.31
4,550.00	0.70	233.44	4,549.85	-29.26	-2.52	29.27	0.13	0.09	8.22
4,645.00	0.70	230.72	4,644.84	-29.97	-3.44	29.98	0.03	0.00	-2.86
4,739.00	0.70	228.61	4,738.83	-30.72	-4.31	30.72	0.03	0.00	-2.24
4,832.00	0.62	243.11	4,831.83	-31.32	-5.19	31.33	0.20	-0.09	15.59

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Site:	Jade 19S-39E-S29	MD Reference:	3587'+25' @ 3612.00usft (Scan Discover)
Well:	Jade 19S-39E-S29 3H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	EDM 5000 14 Multi User

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,926.00	0.70	241.97	4,925.82	-31.82	-6.15	31.83	0.09	0.09	-1.21
5,008.00	0.79	242.85	5,007.82	-32.31	-7.09	32.33	0.11	0.11	1.07
5,020.00	0.84	235.82	5,019.81	-32.40	-7.24	32.41	0.93	0.42	-58.58
5,113.00	0.75	246.28	5,112.81	-33.03	-8.36	33.04	0.18	-0.10	11.25
5,208.00	0.88	245.04	5,207.80	-33.59	-9.59	33.60	0.14	0.14	-1.31
5,302.00	0.88	241.27	5,301.78	-34.24	-10.88	34.26	0.06	0.00	-4.01
5,396.00	0.88	245.22	5,395.77	-34.89	-12.17	34.91	0.06	0.00	4.20
5,489.00	0.88	248.30	5,488.76	-35.45	-13.48	35.47	0.05	0.00	3.31
5,584.00	0.97	244.43	5,583.75	-36.07	-14.88	36.09	0.12	0.09	-4.07
5,678.00	1.01	235.11	5,677.74	-36.89	-16.28	36.91	0.18	0.04	-9.91
5,771.00	1.05	236.26	5,770.72	-37.83	-17.66	37.86	0.05	0.04	1.24
5,865.00	1.19	241.97	5,864.70	-38.76	-19.24	38.80	0.19	0.15	6.07
5,958.00	1.23	244.34	5,957.68	-39.65	-20.99	39.68	0.07	0.04	2.55
5,974.00	1.23	242.14	5,973.68	-39.81	-21.30	39.84	0.30	0.00	-13.75
6,061.00	1.23	255.68	6,060.66	-40.47	-23.03	40.51	0.33	0.00	15.56
6,155.00	0.53	323.00	6,154.65	-40.37	-24.27	40.41	1.21	-0.74	71.62
6,249.00	0.88	354.47	6,248.64	-39.31	-24.60	39.35	0.54	0.37	33.48
6,343.00	0.79	355.26	6,342.63	-37.94	-24.72	37.99	0.10	-0.10	0.84
6,437.00	0.70	351.66	6,436.62	-36.73	-24.86	36.77	0.11	-0.10	-3.83
6,531.00	0.62	353.41	6,530.62	-35.66	-25.00	35.70	0.09	-0.09	1.86
6,626.00	0.62	344.10	6,625.61	-34.65	-25.20	34.69	0.11	0.00	-9.80
6,720.00	0.53	346.03	6,719.61	-33.74	-25.44	33.78	0.10	-0.10	2.05
Tie Into Pilot Hole @ 6720' MD / 6720' TVD / Start Sidetrack									
6,788.00	4.40	177.72	6,787.55	-36.04	-25.42	36.09	7.24	5.69	-247.51
First ST MWD @ 6788' MD / 6788' TVD / Tangent Section									
6,818.00	4.61	179.13	6,817.46	-38.40	-25.35	38.44	0.79	0.70	4.70
6,848.00	6.83	186.42	6,847.30	-41.38	-25.53	41.42	7.77	7.40	24.30
6,879.00	8.15	187.65	6,878.04	-45.39	-26.03	45.43	4.29	4.26	3.97
6,910.00	8.17	187.30	6,908.73	-49.75	-26.60	49.79	0.17	0.06	-1.13
KOP @ 6910' MD / 6909' TVD									
6,940.00	8.77	182.91	6,938.40	-54.15	-26.99	54.19	2.94	2.00	-14.63
6,971.00	10.37	180.97	6,968.97	-59.30	-27.16	59.34	5.26	5.16	-6.26
7,003.00	13.13	179.13	7,000.29	-65.81	-27.15	65.86	8.70	8.62	-5.75
7,032.00	15.58	179.13	7,028.39	-73.00	-27.04	73.05	8.45	8.45	0.00
7,063.00	17.18	177.81	7,058.13	-81.74	-26.80	81.78	5.30	5.16	-4.26
7,094.00	19.76	176.67	7,087.53	-91.55	-26.33	91.59	8.40	8.32	-3.68
7,127.00	23.03	176.49	7,118.25	-103.56	-25.61	103.61	9.91	9.91	-0.55
7,157.00	25.71	177.02	7,145.57	-115.92	-24.91	115.96	8.96	8.93	1.77
7,185.00	26.94	176.75	7,170.67	-128.32	-24.23	128.36	4.41	4.39	-0.96
7,216.00	27.93	176.58	7,198.18	-142.58	-23.40	142.62	3.20	3.19	-0.55
7,247.00	29.97	177.37	7,225.31	-157.56	-22.61	157.60	6.70	6.58	2.55
7,277.00	32.17	178.07	7,251.00	-173.03	-22.00	173.07	7.43	7.33	2.33
7,308.00	33.60	179.39	7,277.03	-189.86	-21.63	189.89	5.16	4.61	4.26
7,339.00	35.82	180.09	7,302.52	-207.51	-21.55	207.54	7.28	7.16	2.26

PDD Survey Report



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Site: Jade 19S-39E-S29
Well: Jade 19S-39E-S29 3H
Wellbore: Lateral
Design: Lateral

Local Co-ordinate Reference: Well Jade 19S-39E-S29 3H
TVD Reference: 3587'+25' @ 3612.00usft (Scan Discover)
MD Reference: 3587'+25' @ 3612.00usft (Scan Discover)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000 14 Multi User

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,369.00	38.48	180.71	7,326.43	-225.62	-21.68	225.66	8.95	8.87	2.07
7,380.00	38.97	180.83	7,335.01	-232.50	-21.78	232.54	4.51	4.45	1.12
Witchita @ 7380' MD / 7335' TVD									
7,400.00	39.86	181.05	7,350.46	-245.20	-21.98	245.24	4.51	4.45	1.09
7,431.00	41.18	180.88	7,374.02	-265.34	-22.32	265.37	4.27	4.26	-0.55
7,462.00	44.32	180.53	7,396.78	-286.38	-22.58	286.41	10.16	10.13	-1.13
7,495.00	48.48	179.74	7,419.54	-310.27	-22.63	310.31	12.72	12.61	-2.39
7,528.00	52.26	178.77	7,440.58	-335.68	-22.30	335.71	11.68	11.45	-2.94
7,560.00	54.70	177.28	7,459.62	-361.38	-21.40	361.41	8.49	7.62	-4.66
7,589.00	56.85	175.96	7,475.94	-385.31	-19.99	385.34	8.31	7.41	-4.55
7,618.00	57.80	175.61	7,491.59	-409.65	-18.19	409.68	3.43	3.28	-1.21
7,648.00	58.32	175.79	7,507.46	-435.04	-16.28	435.07	1.81	1.73	0.60
58° Tangent Section @ 7648' MD / 7508' TVD									
7,665.61	58.44	175.89	7,516.69	-450.00	-15.20	450.02	0.85	0.69	0.59
FTP @ 7666' MD / 7517' TVD / 58.44° Inc									
7,677.00	58.52	175.96	7,522.65	-459.68	-14.51	459.70	0.85	0.69	0.59
7,706.00	58.72	175.88	7,537.75	-484.38	-12.74	484.40	0.73	0.69	-0.28
7,735.00	58.89	175.79	7,552.77	-509.12	-10.94	509.14	0.64	0.59	-0.31
End of 58° Tangent Section @ 7735' MD / 7553' TVD									
7,765.00	59.16	175.96	7,568.21	-534.77	-9.09	534.79	1.02	0.90	0.57
7,796.00	61.20	175.96	7,583.63	-561.60	-7.20	561.61	6.58	6.58	0.00
7,829.00	64.63	176.96	7,598.65	-590.92	-5.39	590.93	10.74	10.39	3.03
7,856.00	66.23	176.23	7,609.87	-615.43	-3.93	615.44	6.42	5.93	-2.70
7,887.00	68.12	176.40	7,621.90	-643.94	-2.09	643.95	6.12	6.10	0.55
7,917.00	70.23	176.75	7,632.56	-671.93	-0.42	671.93	7.12	7.03	1.17
7,949.00	72.12	178.34	7,642.89	-702.19	0.88	702.19	7.55	5.91	4.97
7,980.00	73.07	179.04	7,652.16	-731.76	1.55	731.76	3.75	3.06	2.26
8,010.00	74.54	179.39	7,660.53	-760.57	1.95	760.56	5.03	4.90	1.17
8,042.00	77.07	179.65	7,668.38	-791.59	2.21	791.58	7.95	7.91	0.81
8,073.00	80.54	179.83	7,674.39	-821.99	2.34	821.99	11.21	11.19	0.58
8,104.00	83.26	180.62	7,678.76	-852.68	2.22	852.68	9.13	8.77	2.55
8,136.00	86.25	180.97	7,681.69	-884.54	1.78	884.54	9.41	9.34	1.09
8,199.00	88.52	180.88	7,684.56	-947.46	0.76	947.46	3.61	3.60	-0.14
8,293.00	90.08	180.71	7,685.71	-1,041.44	-0.54	1,041.44	1.67	1.66	-0.18
EOC @ 8293' MD / 7686' TVD / 90.08° Inc									
8,387.00	92.08	180.88	7,683.94	-1,135.41	-1.84	1,135.41	2.14	2.13	0.18
8,480.00	91.11	180.45	7,681.35	-1,228.37	-2.92	1,228.37	1.14	-1.04	-0.46
8,574.00	89.02	178.69	7,681.24	-1,322.36	-2.22	1,322.36	2.91	-2.22	-1.87
8,668.00	90.36	178.60	7,681.75	-1,416.33	0.01	1,416.33	1.43	1.43	-0.10
8,762.00	92.10	179.04	7,679.73	-1,510.28	1.94	1,510.28	1.91	1.85	0.47
8,855.00	90.47	178.86	7,677.65	-1,603.24	3.65	1,603.23	1.76	-1.75	-0.19
8,948.00	91.73	179.04	7,675.86	-1,696.21	5.35	1,696.19	1.37	1.35	0.19
9,043.00	90.16	178.69	7,674.30	-1,791.17	7.23	1,791.16	1.69	-1.65	-0.37
9,136.00	91.48	178.95	7,672.97	-1,884.14	9.15	1,884.12	1.45	1.42	0.28

PDD Survey Report



Company:	RGX ENERGY LLC	Local Co-ordinate Reference:	Well Jade 19S-39E-S29 3H
Project:	Lea County, NM	TVD Reference:	3587'+25' @ 3612.00usft (Scan Discover)
Site:	Jade 19S-39E-S29	MD Reference:	3587'+25' @ 3612.00usft (Scan Discover)
Well:	Jade 19S-39E-S29 3H	North Reference:	Grid
Wellbore:	Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lateral	Database:	EDM 5000 14 Multi User

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,231.00	89.75	179.57	7,671.95	-1,979.12	10.37	1,979.10	1.93	-1.82	0.65	
9,325.00	90.91	179.39	7,671.40	-2,073.11	11.23	2,073.09	1.25	1.23	-0.19	
9,418.00	92.58	179.30	7,668.57	-2,166.06	12.29	2,166.04	1.80	1.80	-0.10	
9,512.00	90.91	178.85	7,665.71	-2,260.00	13.80	2,259.98	1.84	-1.78	-0.48	
9,605.00	88.01	178.16	7,666.59	-2,352.96	16.23	2,352.93	3.21	-3.12	-0.74	
9,698.00	89.09	177.37	7,668.94	-2,445.85	19.86	2,445.82	1.44	1.16	-0.85	
9,792.00	90.91	176.93	7,668.94	-2,539.73	24.53	2,539.69	1.99	1.94	-0.47	
9,886.00	89.86	177.63	7,668.31	-2,633.62	28.99	2,633.57	1.34	-1.12	0.74	
9,979.00	90.78	177.81	7,667.79	-2,726.55	32.69	2,726.49	1.01	0.99	0.19	
10,073.00	92.21	177.46	7,665.34	-2,820.43	36.57	2,820.37	1.57	1.52	-0.37	
10,167.00	91.31	179.04	7,662.45	-2,914.34	39.44	2,914.27	1.93	-0.96	1.68	
10,261.00	92.76	179.30	7,659.11	-3,008.27	40.80	3,008.20	1.57	1.54	0.28	
10,355.00	91.70	180.36	7,655.45	-3,102.19	41.08	3,102.12	1.59	-1.13	1.13	
10,449.00	92.49	180.36	7,652.02	-3,196.13	40.49	3,196.06	0.84	0.84	0.00	
10,543.00	94.19	180.45	7,646.54	-3,289.96	39.82	3,289.89	1.81	1.81	0.10	
10,638.00	93.48	180.53	7,640.19	-3,384.75	39.01	3,384.68	0.75	-0.75	0.08	
10,732.00	94.30	180.80	7,633.81	-3,478.52	37.92	3,478.46	0.92	0.87	0.29	
10,795.00	93.15	180.88	7,629.72	-3,541.38	37.00	3,541.32	1.83	-1.83	0.13	
10,855.00	92.20	180.88	7,626.92	-3,601.31	36.08	3,601.25	1.58	-1.58	0.00	
10,890.00	89.04	180.45	7,626.54	-3,636.30	35.68	3,636.24	9.11	-9.03	-1.23	
10,921.00	87.73	180.09	7,627.41	-3,667.29	35.53	3,667.22	4.38	-4.23	-1.16	
10,955.00	87.86	179.83	7,628.72	-3,701.26	35.55	3,701.20	0.85	0.38	-0.76	
10,987.00	88.52	179.48	7,629.73	-3,733.25	35.75	3,733.18	2.33	2.06	-1.09	
11,018.00	88.56	180.01	7,630.52	-3,764.23	35.88	3,764.17	1.71	0.13	1.71	
11,080.00	87.18	181.06	7,632.82	-3,826.19	35.30	3,826.12	2.80	-2.23	1.69	
11,112.00	87.07	180.97	7,634.43	-3,858.14	34.74	3,858.08	0.44	-0.34	-0.28	
11,206.00	88.45	181.32	7,638.10	-3,952.05	32.86	3,951.99	1.51	1.47	0.37	
11,301.00	88.91	181.21	7,640.29	-4,047.00	30.77	4,046.94	0.50	0.48	-0.12	
11,391.00	87.22	180.80	7,643.33	-4,136.93	29.19	4,136.88	1.93	-1.88	-0.46	
11,486.00	87.09	181.15	7,648.05	-4,231.80	27.57	4,231.75	0.39	-0.14	0.37	
11,580.00	88.49	181.15	7,651.67	-4,325.71	25.69	4,325.66	1.49	1.49	0.00	
11,675.00	89.81	181.06	7,653.08	-4,420.68	23.86	4,420.63	1.39	1.39	-0.09	
11,769.00	91.42	181.68	7,652.07	-4,514.64	21.61	4,514.60	1.84	1.71	0.66	
11,863.00	89.29	180.45	7,651.49	-4,608.62	19.86	4,608.58	2.62	-2.27	-1.31	
11,958.00	89.73	180.36	7,652.30	-4,703.61	19.19	4,703.57	0.47	0.46	-0.09	
12,052.00	90.23	179.39	7,652.33	-4,797.61	19.40	4,797.57	1.16	0.53	-1.03	
12,146.00	90.01	178.69	7,652.14	-4,891.60	20.97	4,891.56	0.78	-0.23	-0.74	
12,241.00	91.53	177.72	7,650.86	-4,986.54	23.95	4,986.49	1.90	1.60	-1.02	
12,335.00	92.43	177.98	7,647.61	-5,080.41	27.47	5,080.36	1.00	0.96	0.28	
12,429.00	90.78	178.16	7,644.98	-5,174.32	30.63	5,174.26	1.77	-1.76	0.19	
12,523.00	91.53	178.16	7,643.09	-5,268.25	33.65	5,268.19	0.80	0.80	0.00	
12,618.00	92.58	178.16	7,639.68	-5,363.14	36.70	5,363.07	1.11	1.11	0.00	
12,712.00	90.43	177.46	7,637.21	-5,457.03	40.29	5,456.96	2.41	-2.29	-0.74	

PDD Survey Report



Company: RGX ENERGY LLC
Project: Lea County, NM
Site: Jade 19S-39E-S29
Well: Jade 19S-39E-S29 3H
Wellbore: Lateral
Design: Lateral

Local Co-ordinate Reference: Well Jade 19S-39E-S29 3H
TVD Reference: 3587'+25' @ 3612.00usft (Scan Discover)
MD Reference: 3587'+25' @ 3612.00usft (Scan Discover)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000 14 Multi User

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,806.00	89.99	176.40	7,636.87	-5,550.90	45.33	5,550.82	1.22	-0.47	-1.13
12,901.00	93.55	176.40	7,633.93	-5,645.65	51.29	5,645.56	3.75	3.75	0.00
12,995.00	93.02	177.90	7,628.55	-5,739.37	55.95	5,739.28	1.69	-0.56	1.60
13,090.00	93.59	178.95	7,623.07	-5,834.18	58.56	5,834.08	1.26	0.60	1.11
13,136.32	92.97	179.42	7,620.42	-5,880.42	59.22	5,880.31	1.68	-1.34	1.02
LTP/Cross HL @ 13136' MD / 7620' TVD									
13,185.00	92.32	179.92	7,618.17	-5,929.05	59.49	5,928.94	1.68	-1.34	1.02
13,205.00	92.67	179.57	7,617.30	-5,949.03	59.58	5,948.92	2.47	1.75	-1.75
Last MWD @ 13205' MD / 7617' TVD									
13,265.00	92.67	179.57	7,614.51	-6,008.96	60.03	6,008.85	0.00	0.00	0.00
PTB @ 13265' MD / 7615' TVD									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
KOP Jade 19S-39E-S	0.00	0.00	6,908.73	-49.75	-26.60	597,807.45	887,492.50	32° 38' 13.79 N	103° 4' 28.55 W
- actual wellpath hits target center									
- Point									
FTP/Cross HL Jade 1	0.00	0.00	7,516.69	-450.00	-15.20	597,407.21	887,503.90	32° 38' 9.83 N	103° 4' 28.47 W
- actual wellpath hits target center									
- Point									
PTD Jade 19S-39E-S	0.00	0.00	7,614.51	-6,008.96	60.03	591,848.24	887,579.13	32° 37' 14.82 N	103° 4' 28.36 W
- actual wellpath hits target center									
- Point									
LTP/Cross HL Jade 1	0.00	0.00	7,620.42	-5,880.42	59.22	591,976.78	887,578.32	32° 37' 16.10 N	103° 4' 28.35 W
- actual wellpath hits target center									
- Point									
EOC Jade 19S-39E-S	0.00	0.00	7,685.71	-1,041.44	-0.54	596,815.76	887,518.56	32° 38' 3.98 N	103° 4' 28.38 W
- actual wellpath hits target center									
- Point									

RGX ENERGY LLC

Lea County, NM

Jade 19S-39E-S29

Jade 19S-39E-S29 3H

Pilot Hole

Design: Pilot Hole

Standard Survey Report

06 March, 2018



PDD
Survey Report



Company:	RGX ENERGY LLC	Local Co-ordinate Reference:	Well Jade 19S-39E-S29 3H
Project:	Lea County, NM	TVD Reference:	3587'+25' @ 3612.00usft (Scan Discover)
Site:	Jade 19S-39E-S29	MD Reference:	3587'+25' @ 3612.00usft (Scan Discover)
Well:	Jade 19S-39E-S29 3H	North Reference:	Grid
Wellbore:	Pilot Hole	Survey Calculation Method:	Minimum Curvature
Design:	Pilot Hole	Database:	EDM 5000 14 Multi User

Project	Lea County, NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Jade 19S-39E-S29			
Site Position:		Northing:	597,857.20 usft	Latitude:	32° 38' 14.28 N
From:	Map	Easting:	887,519.10 usft	Longitude:	103° 4' 28.23 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.68 °

Well	Jade 19S-39E-S29 3H					
Well Position	+N/-S	0.00 usft	Northing:	597,857.20 usft	Latitude:	32° 38' 14.28 N
	+E/-W	0.00 usft	Easting:	887,519.10 usft	Longitude:	103° 4' 28.23 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,587.00 usft	

Wellbore	Pilot Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/30/17	6.75	60.78	48,308

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

Survey Program		Date 03/06/18		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
145.00	8,658.00	Survey #1 (Pilot Hole)	MWD+HRGM	OWSG MWD + HRGM

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Buidl Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.00	0.30	146.10	145.00	-0.32	0.21	-0.32	0.21	0.21	0.00
First PH MWD @ 145' MD / 145' TVD									
238.00	0.30	90.70	238.00	-0.52	0.59	-0.52	0.30	0.00	-59.57
327.00	0.40	147.60	327.00	-0.79	0.99	-0.79	0.39	0.11	63.93
416.00	0.40	133.70	415.99	-1.26	1.38	-1.26	0.11	0.00	-15.62
474.00	0.60	133.00	473.99	-1.61	1.75	-1.61	0.34	0.34	-1.21
534.00	0.50	140.60	533.99	-2.03	2.15	-2.03	0.21	-0.17	12.67
600.00	0.40	115.40	599.99	-2.35	2.54	-2.35	0.33	-0.15	-38.18
694.00	0.70	124.00	693.98	-2.81	3.31	-2.81	0.33	0.32	9.15
787.00	0.50	151.10	786.98	-3.48	3.98	-3.48	0.37	-0.22	29.14

PDD Survey Report



Company: RGX ENERGY LLC
Project: Lea County, NM
Site: Jade 19S-39E-S29
Well: Jade 19S-39E-S29 3H
Wellbore: Pilot Hole
Design: Pilot Hole

Local Co-ordinate Reference: Well Jade 19S-39E-S29 3H
TVD Reference: 3587'+25' @ 3612.00usft (Scan Discover)
MD Reference: 3587'+25' @ 3612.00usft (Scan Discover)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000 14 Multi User

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
882.00	0.40	156.10	881.98	-4.15	4.31	-4.15	0.11	-0.11	5.26
977.00	0.60	163.40	976.97	-4.93	4.59	-4.93	0.22	0.21	7.68
1,072.00	0.50	157.10	1,071.97	-5.79	4.89	-5.79	0.12	-0.11	-6.63
1,166.00	0.50	177.00	1,165.96	-6.57	5.07	-6.57	0.18	0.00	21.17
1,260.00	0.70	169.50	1,259.96	-7.55	5.20	-7.55	0.23	0.21	-7.98
1,355.00	0.70	165.00	1,354.95	-8.68	5.45	-8.68	0.06	0.00	-4.74
1,449.00	0.70	170.00	1,448.94	-9.80	5.70	-9.80	0.06	0.00	5.32
1,545.00	0.60	155.90	1,544.94	-10.84	6.01	-10.84	0.20	-0.10	-14.69
1,640.00	0.80	163.00	1,639.93	-11.92	6.41	-11.92	0.23	0.21	7.47
1,720.00	0.70	170.20	1,719.92	-12.94	6.65	-12.94	0.17	-0.12	9.00
1,826.00	0.40	186.30	1,825.92	-13.95	6.72	-13.95	0.32	-0.28	15.19
1,920.00	0.40	162.30	1,919.92	-14.58	6.79	-14.58	0.18	0.00	-25.53
2,014.00	0.40	195.20	2,013.92	-15.21	6.80	-15.21	0.24	0.00	35.00
2,108.00	0.40	207.10	2,107.91	-15.82	6.56	-15.82	0.09	0.00	12.66
2,201.00	0.30	206.00	2,200.91	-16.33	6.31	-16.33	0.11	-0.11	-1.18
2,296.00	0.10	152.60	2,295.91	-16.63	6.24	-16.63	0.27	-0.21	-56.21
2,390.00	0.30	223.60	2,389.91	-16.88	6.11	-16.88	0.30	0.21	75.53
2,484.00	0.30	190.90	2,483.91	-17.30	5.89	-17.30	0.18	0.00	-34.79
2,578.00	0.40	211.40	2,577.91	-17.82	5.67	-17.82	0.17	0.11	21.81
2,672.00	0.40	194.90	2,671.90	-18.42	5.42	-18.42	0.12	0.00	-17.55
2,766.00	0.35	188.09	2,765.90	-19.02	5.29	-19.02	0.07	-0.05	-7.24
2,859.00	0.26	184.66	2,858.90	-19.51	5.24	-19.51	0.10	-0.10	-3.69
2,952.00	0.26	201.10	2,951.90	-19.92	5.14	-19.92	0.08	0.00	17.68
3,046.00	0.26	189.67	3,045.90	-20.33	5.03	-20.33	0.06	0.00	-12.16
3,140.00	0.26	240.56	3,139.90	-20.64	4.81	-20.64	0.24	0.00	54.14
3,234.00	0.26	228.61	3,233.90	-20.89	4.46	-20.89	0.06	0.00	-12.71
3,328.00	0.35	204.97	3,327.90	-21.29	4.18	-21.29	0.16	0.10	-25.15
3,422.00	0.44	214.63	3,421.89	-21.85	3.86	-21.85	0.12	0.10	10.28
3,517.00	0.53	215.07	3,516.89	-22.51	3.40	-22.51	0.09	0.09	0.46
3,611.00	0.44	191.78	3,610.89	-23.21	3.07	-23.21	0.23	-0.10	-24.78
3,705.00	0.44	215.60	3,704.88	-23.86	2.79	-23.86	0.19	0.00	25.34
3,798.00	0.53	208.31	3,797.88	-24.53	2.38	-24.53	0.12	0.10	-7.84
3,891.00	0.53	216.04	3,890.88	-25.26	1.92	-25.26	0.08	0.00	8.31
3,985.00	0.44	211.82	3,984.87	-25.91	1.47	-25.91	0.10	-0.10	-4.49
4,079.00	0.53	215.34	4,078.87	-26.58	1.03	-26.58	0.10	0.10	3.74
4,173.00	0.44	242.06	4,172.87	-27.10	0.46	-27.10	0.26	-0.10	28.43
4,267.00	0.44	237.75	4,266.86	-27.46	-0.16	-27.46	0.04	0.00	-4.59
4,361.00	0.62	237.40	4,360.86	-27.93	-0.90	-27.93	0.19	0.19	-0.37
4,456.00	0.62	225.71	4,455.86	-28.56	-1.70	-28.56	0.13	0.00	-12.31
4,550.00	0.70	233.44	4,549.85	-29.26	-2.52	-29.26	0.13	0.09	8.22
4,645.00	0.70	230.72	4,644.84	-29.97	-3.44	-29.97	0.03	0.00	-2.86
4,739.00	0.70	228.61	4,738.83	-30.72	-4.31	-30.72	0.03	0.00	-2.24
4,832.00	0.62	243.11	4,831.83	-31.32	-5.19	-31.32	0.20	-0.09	15.59

PDD Survey Report



Company:	RGX ENERGY LLC	Local Co-ordinate Reference:	Well Jade 19S-39E-S29 3H
Project:	Lea County, NM	TVD Reference:	3587'+25' @ 3612.00usft (Scan Discover)
Site:	Jade 19S-39E-S29	MD Reference:	3587'+25' @ 3612.00usft (Scan Discover)
Well:	Jade 19S-39E-S29 3H	North Reference:	Grid
Wellbore:	Pilot Hole	Survey Calculation Method:	Minimum Curvature
Design:	Pilot Hole	Database:	EDM 5000 14 Multi User

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,926.00	0.70	241.97	4,925.82	-31.82	-6.15	-31.82	0.09	0.09	-1.21
5,008.00	0.79	242.85	5,007.82	-32.31	-7.09	-32.31	0.11	0.11	1.07
5,020.00	0.84	235.82	5,019.81	-32.40	-7.24	-32.40	0.93	0.42	-58.58
5,113.00	0.75	246.28	5,112.81	-33.03	-8.36	-33.03	0.18	-0.10	11.25
5,208.00	0.88	245.04	5,207.80	-33.59	-9.59	-33.59	0.14	0.14	-1.31
5,302.00	0.88	241.27	5,301.78	-34.24	-10.88	-34.24	0.06	0.00	-4.01
5,396.00	0.88	245.22	5,395.77	-34.89	-12.17	-34.89	0.06	0.00	4.20
5,489.00	0.88	248.30	5,488.76	-35.45	-13.48	-35.45	0.05	0.00	3.31
5,584.00	0.97	244.43	5,583.75	-36.07	-14.88	-36.07	0.12	0.09	-4.07
5,678.00	1.01	235.11	5,677.74	-36.89	-16.28	-36.89	0.18	0.04	-9.91
5,771.00	1.05	236.26	5,770.72	-37.83	-17.66	-37.83	0.05	0.04	1.24
5,865.00	1.19	241.97	5,864.70	-38.76	-19.24	-38.76	0.19	0.15	6.07
5,958.00	1.23	244.34	5,957.68	-39.65	-20.99	-39.65	0.07	0.04	2.55
5,974.00	1.23	242.14	5,973.68	-39.81	-21.30	-39.81	0.30	0.00	-13.75
6,061.00	1.23	255.68	6,060.66	-40.47	-23.03	-40.47	0.33	0.00	15.56
6,155.00	0.53	323.00	6,154.65	-40.37	-24.27	-40.37	1.21	-0.74	71.62
6,249.00	0.88	354.47	6,248.64	-39.31	-24.60	-39.31	0.54	0.37	33.48
6,343.00	0.79	355.26	6,342.63	-37.94	-24.72	-37.94	0.10	-0.10	0.84
6,437.00	0.70	351.66	6,436.62	-36.73	-24.86	-36.73	0.11	-0.10	-3.83
6,531.00	0.62	353.41	6,530.62	-35.66	-25.00	-35.66	0.09	-0.09	1.86
6,626.00	0.62	344.10	6,625.61	-34.65	-25.20	-34.65	0.11	0.00	-9.80
6,720.00	0.53	346.03	6,719.61	-33.74	-25.44	-33.74	0.10	-0.10	2.05
6,775.00	0.70	339.70	6,774.60	-33.18	-25.62	-33.18	0.33	0.31	-11.51
6,814.00	0.62	345.33	6,813.60	-32.75	-25.76	-32.75	0.26	-0.21	14.44
6,908.00	0.88	339.70	6,907.59	-31.58	-26.14	-31.58	0.29	0.28	-5.99
7,002.00	0.70	337.15	7,001.59	-30.38	-26.61	-30.38	0.20	-0.19	-2.71
7,096.00	0.79	340.58	7,095.58	-29.24	-27.05	-29.24	0.11	0.10	3.65
7,190.00	0.88	345.15	7,189.57	-27.93	-27.45	-27.93	0.12	0.10	4.86
7,284.00	0.79	340.23	7,283.56	-26.62	-27.85	-26.62	0.12	-0.10	-5.23
7,378.00	0.79	343.22	7,377.55	-25.39	-28.26	-25.39	0.04	0.00	3.18
7,437.00	0.79	329.95	7,436.54	-24.65	-28.58	-24.65	0.31	0.00	-22.49
7,472.00	0.79	331.44	7,471.54	-24.23	-28.82	-24.23	0.06	0.00	4.26
7,565.00	0.62	326.17	7,564.53	-23.25	-29.40	-23.25	0.20	-0.18	-5.67
7,660.00	0.79	332.76	7,659.53	-22.24	-29.99	-22.24	0.20	0.18	6.94
7,753.00	0.70	326.34	7,752.52	-21.19	-30.60	-21.19	0.13	-0.10	-6.90
7,847.00	0.53	328.98	7,846.51	-20.34	-31.14	-20.34	0.18	-0.18	2.81
7,940.00	0.70	353.77	7,939.51	-19.41	-31.42	-19.41	0.34	0.18	26.66
8,034.00	0.97	7.04	8,033.50	-18.05	-31.39	-18.05	0.35	0.29	14.12
8,128.00	0.97	3.78	8,127.48	-16.47	-31.24	-16.47	0.06	0.00	-3.47
8,222.00	1.06	0.53	8,221.47	-14.80	-31.18	-14.80	0.11	0.10	-3.46
8,316.00	0.97	359.83	8,315.45	-13.14	-31.17	-13.14	0.10	-0.10	-0.74
8,410.00	0.88	330.83	8,409.44	-11.71	-31.53	-11.71	0.50	-0.10	-30.85
8,503.00	1.49	280.38	8,502.42	-10.87	-33.06	-10.87	1.24	0.66	-54.25

PDD Survey Report



Company: RGX ENERGY LLC
Project: Lea County, NM
Site: Jade 19S-39E-S29
Well: Jade 19S-39E-S29 3H
Wellbore: Pilot Hole
Design: Pilot Hole

Local Co-ordinate Reference: Well Jade 19S-39E-S29 3H
TVD Reference: 3587'+25' @ 3612.00usft (Scan Discover)
MD Reference: 3587'+25' @ 3612.00usft (Scan Discover)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000 14 Multi User

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,595.00	1.49	277.83	8,594.39	-10.49	-35.43	-10.49	0.07	0.00	-2.77
Last MWD PH @ 8595' MD / 8594' TVD									
8,658.00	1.49	277.83	8,657.37	-10.27	-37.05	-10.27	0.00	0.00	0.00
PTD PH @ 8658' MD / 8657' TVD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
145.00	145.00	-0.32	0.21	First PH MWD @ 145' MD / 145' TVD
8,595.00	8,594.39	-10.49	-35.43	Last MWD PH @ 8595' MD / 8594' TVD
8,658.00	8,657.37	-10.27	-37.05	PTD PH @ 8658' MD / 8657' TVD

Checked By: _____ Approved By: _____ Date: _____

PDD
Survey Report



Company: RGX ENERGY LLC
Project: Lea County, NM
Site: Jade 19S-39E-S29
Well: Jade 19S-39E-S29 3H
Wellbore: Lateral
Design: Lateral

Local Co-ordinate Reference: Well Jade 19S-39E-S29 3H
TVD Reference: 3587'+25' @ 3612.00usft (Scan Discover)
MD Reference: 3587'+25' @ 3612.00usft (Scan Discover)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000 14 Multi User

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,720.00	6,719.61	-33.74	-25.44	Tie Into Pilot Hole @ 6720' MD / 6720' TVD / Start Sidetrack
6,788.00	6,787.55	-36.04	-25.42	First ST MWD @ 6788' MD / 6788' TVD / Tangent Section
6,910.00	6,908.73	-49.75	-26.60	KOP @ 6910' MD / 6909' TVD
7,380.00	7,335.01	-232.50	-21.78	Wichita @ 7380' MD / 7335' TVD
7,648.00	7,507.46	-435.04	-16.28	58° Tangent Section @ 7648' MD / 7508' TVD
7,665.61	7,516.69	-450.00	-15.20	FTP @ 7666' MD / 7517' TVD / 58.44° Inc
7,735.00	7,552.77	-509.12	-10.94	End of 58° Tangent Section @ 7735' MD / 7553' TVD
8,293.00	7,685.71	-1,041.44	-0.54	EOC @ 8293' MD / 7686' TVD / 90.08° Inc
13,136.32	7,620.42	-5,880.42	59.22	LTP/Cross HL @ 13136' MD / 7620' TVD
13,205.00	7,617.30	-5,949.03	59.58	Last MWD @ 13205' MD / 7617' TVD
13,265.00	7,614.51	-6,008.96	60.03	PTB @ 13265' MD / 7615' TVD

Checked By: _____ Approved By: _____ Date: _____

I, Connor G. Brown, New Mexico Professional Surveyor No. 23391, true and correct to the best of my knowledge, do hereby certify the above plat to be correct and true.

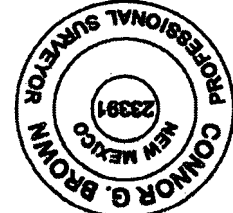
EL.S. SURVEYING & MAPPING, INC.
HARRY L. JOHNSON & ASSOCIATES
Tyler, Texas

Date: June 13, 2018

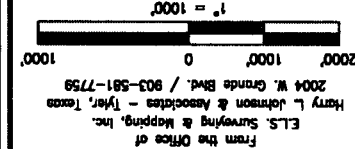
Discrepancies shown are not intended to be definitive in establishing actual title boundaries. This is not a title survey.

State Plane Coordinate System, N.A.D. 83 (2011) (East Zone) derived from GPS Observations.

FOR THE EXCLUSIVE USE OF
RG EXPLORATION LLC

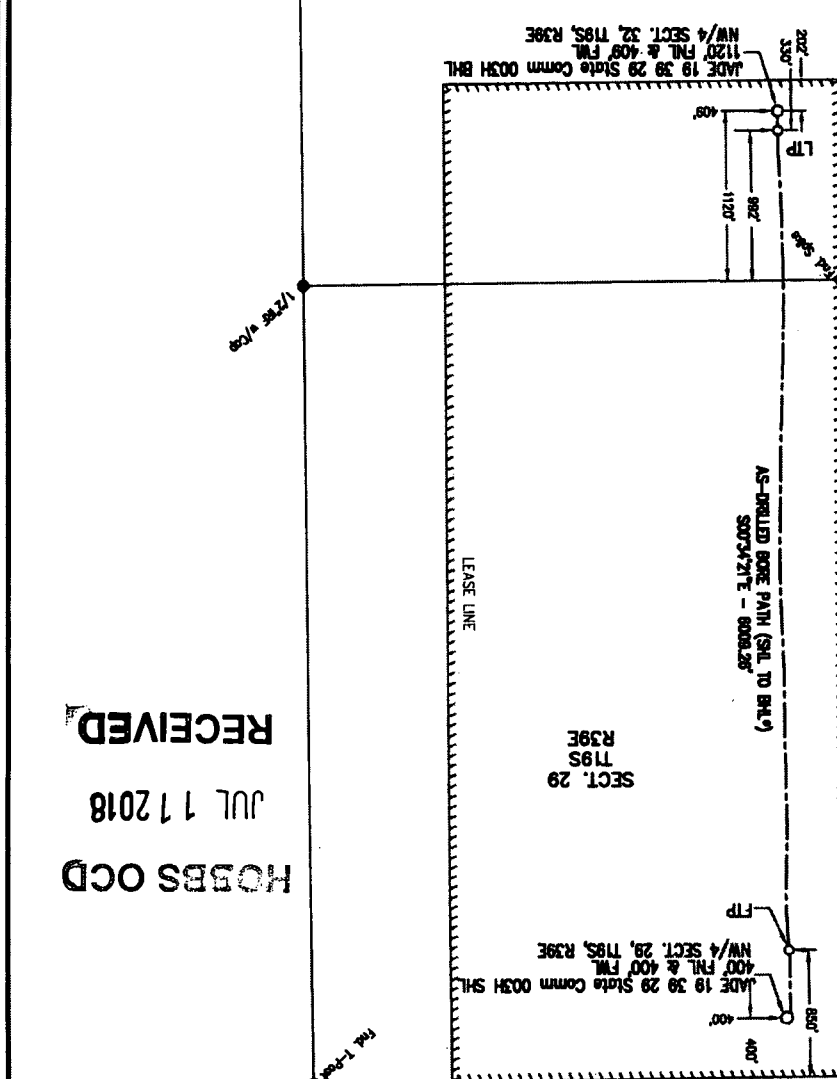
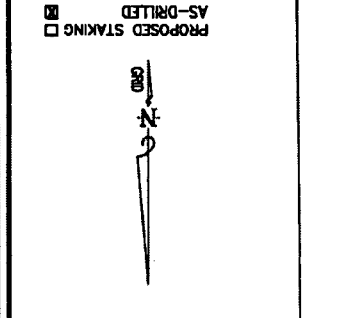


JADE 19 39 29 STATE COMM 003H NM-EAST ZONE 3001 892' FUL, 408' FUL-SECTION 32 NM-408' FUL-SECTION 32 NAD 27 LAT.=32°37'16.1081" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336"	JADE 19 39 29 STATE COMM 003H NM-EAST ZONE 3001 892' FUL, 408' FUL-SECTION 32 NM-408' FUL-SECTION 32 NAD 27 LAT.=32°37'16.1081" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336"	JADE 19 39 29 STATE COMM 003H NM-EAST ZONE 3001 892' FUL, 408' FUL-SECTION 32 NM-408' FUL-SECTION 32 NAD 27 LAT.=32°37'16.1081" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336" NAD 27 LAT.=32°37'16.507" NAD 27 LONG.=103°04'28.336"
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LEA COUNTY, NEW MEXICO
NW/4, SECT. 29, T19S, R39E
400' FUL & 400' FUL
STATE COMM 003H
JADE 19 39 29
RG EXPLORATION LLC
AS-DRILED PLAT

DATE SURVEYED: 4/19/2018
* As-Drilled Information shown hereon
provided by RG Exploration, LLC.
"Hobbs NE" Quadrangle
Surface location is approximately
3.0 miles NNE of Hobbs, NM



HOBBES OCD
JUL 11 2018
RECEIVED