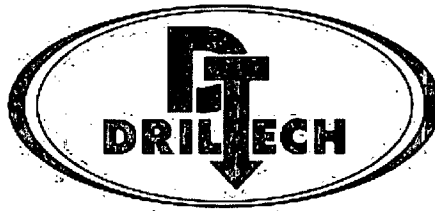


NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 5 2015

RECEIVED



State of New Mexico

County of Eddy

I, Paul Miller, certify that I am employed by DrilTech MWD Rentals, LLC. I did on the day(s) of 05/02/2015 through 05/10/2015 conduct or supervise the taking of the 84 survey(s) from a measured depth of 525 feet to a measured depth of 7,470 feet. The data is true, correct, complete, and within the limitations of the tool as set forth by DrilTech MWD Rentals, LLC. I am authorized and qualified to make this report, and this/these survey(s) was/were conducted at the request of RKL Exploration & Production LLC for the RDX Federal 28-14, API No. 30-015-43013 in Eddy County, Texas. I have reviewed this report, and find that it conforms to the principles and procedures as set forth by DrilTech MWD Rentals, LLC.

30-015-43013

Accepted for record
AD NMOC 8/14/15



DrilTech, LLC

MWD Survey Report

Job No: 2015-054-RDDT-NM

Operator: **RKI Exploration & Production LLC**
Well Name: **RDX Federal 28 14**
Location: **Eddy Co, NM**
Rig: **Silver Oak 14**
Directional Drilling Co: **Ranger Directional**
Well API #: **30-015-43013**
Tie Into: **MS Gyro**
Tie-In Date: **5/2/2015**
Date Completed: **5/10/2015**

Reference Coordinates: LAT:

32	°	1
103	°	52

3.4794	"	N
50.0635	"	W

Reference Grid Coordinates: X: **640327.80 (ft)**
Y: **370435.80 (ft)**

Reference Grid: **NAD 27**
Zone: **New Mexico East 3001**
(UTM or Lambert): **UTM**

Survey Vertical Reference: **18.00 (ft)** RKB to Ground Level
Elevation: **3000.00 (ft)** Ground Level to Mean Sea Level
Vertical Section Plane: **9.89 (deg)**

North Alignment: **Grid North**

<u>Magnetic Data</u>	<u>Section 1</u>	<u>Section 2</u>	<u>Section 3</u>	<u>Section 4</u>
Magnetic Declination (deg)	7.25			
Grid (deg)	-0.24			
TOTAL CORRECTION (deg)	7.01			
Depth Start (MD Ft)	525.00			
Depth End (MD Ft)	7470.00			

REMARKS:

DRILTECH MWD SURVEY REPORT



Company: RKI Exploration & Production LLC
 Well: RDX Federal 28 14
 Location: Eddy Co, NM
 Rig: Silver Oak 14

Job Number: 2015-054-RDDT-NM
 Vertical Section Plane: 9.89
 WELL API #: 30-015-43013
 Tie Into: MS Gyro

Calculation Method Minimum Curvature

Survey #	Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')
								N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)		
1	Gyro	525.00	2.01	311.52	25	524.94	0.18	1.18 N	5.69 W	5.81	281.71	0.48	0.48
2	MWD	640.00	2.20	309.20	115	639.86	2.32	3.91 N	8.91 W	9.73	293.70	0.18	0.17
3	MWD	701.00	2.30	328.70	61	700.81	3.82	5.70 N	10.45 W	11.91	298.59	1.26	0.16
4	MWD	792.00	2.60	359.00	91	791.73	7.22	9.32 N	11.44 W	14.76	309.17	1.44	0.33
5	MWD	823.00	3.20	10.50	31	822.69	8.77	10.87 N	11.29 W	15.68	313.92	2.69	1.94
6	MWD	854.00	3.80	19.10	31	853.64	10.65	12.70 N	10.80 W	16.67	319.61	2.57	1.94
7	MWD	884.00	4.10	19.10	30	883.56	12.69	14.65 N	10.12 W	17.81	325.35	1.00	1.00
8	MWD	915.00	4.30	18.00	31	914.48	14.94	16.80 N	9.40 W	19.25	330.77	0.70	0.65
9	MWD	946.00	4.30	20.50	31	945.39	17.23	19.00 N	8.64 W	20.87	335.55	0.60	0.00
10	MWD	976.00	4.30	19.10	30	975.31	19.45	21.11 N	7.87 W	22.53	339.55	0.35	0.00
11	MWD	1006.00	4.50	20.80	30	1005.22	21.71	23.27 N	7.09 W	24.33	343.06	0.80	0.67
12	MWD	1036.00	4.70	24.60	30	1035.12	24.06	25.49 N	6.16 W	26.23	346.42	1.21	0.67
13	MWD	1067.00	4.90	23.70	31	1066.02	26.57	27.86 N	5.10 W	28.32	349.63	0.69	0.65
14	MWD	1097.00	5.20	21.00	30	1095.90	29.15	30.30 N	4.10 W	30.58	352.30	1.28	1.00
15	MWD	1127.00	5.50	22.20	30	1125.77	31.89	32.90 N	3.07 W	33.04	354.68	1.07	1.00
16	MWD	1157.00	5.80	22.90	30	1155.62	34.77	35.63 N	1.93 W	35.68	356.90	1.03	1.00
17	MWD	1218.00	7.10	27.10	61	1216.24	41.37	41.83 N	0.98 E	41.84	1.35	2.27	2.13
18	MWD	1279.00	9.40	24.10	61	1276.60	49.80	49.73 N	4.74 E	49.95	5.44	3.83	3.77
19	MWD	1374.00	11.60	19.60	95	1370.01	66.74	65.81 N	11.11 E	66.74	9.58	2.47	2.32
20	MWD	1469.00	12.00	9.60	95	1463.01	86.03	84.55 N	15.96 E	86.04	10.69	2.19	0.42
21	MWD	1564.00	11.90	5.40	95	1555.95	105.67	104.04 N	18.53 E	105.68	10.10	0.92	-0.11
22	MWD	1658.00	10.90	5.10	94	1648.09	124.19	122.54 N	20.23 E	124.20	9.38	1.07	-1.06
23	MWD	1754.00	11.10	15.20	96	1742.34	142.44	140.50 N	23.46 E	142.44	9.48	2.02	0.21
24	MWD	1849.00	11.10	17.80	95	1835.56	160.60	158.03 N	28.66 E	160.61	10.28	0.53	0.00
25	MWD	1944.00	10.10	15.50	95	1928.94	177.95	174.77 N	33.68 E	177.98	10.91	1.14	-1.05
26	MWD	2038.00	10.00	12.80	94	2021.50	194.31	190.67 N	37.69 E	194.36	11.18	0.51	-0.11
27	MWD	2133.00	10.10	11.50	95	2115.04	210.87	206.87 N	41.18 E	210.93	11.26	0.26	0.11
28	MWD	2228.00	10.20	12.00	95	2208.56	227.60	223.26 N	44.59 E	227.67	11.29	0.14	0.11
29	MWD	2323.00	10.30	10.40	95	2302.04	244.50	239.84 N	47.87 E	244.57	11.29	0.32	0.11
30	MWD	2417.00	10.20	8.10	94	2394.54	261.22	256.35 N	50.56 E	261.29	11.16	0.45	-0.11
31	MWD	2512.00	9.90	14.60	95	2488.08	277.77	272.58 N	53.80 E	277.84	11.17	1.23	-0.32
32	MWD	2606.00	10.10	14.80	94	2580.66	294.04	288.37 N	57.94 E	294.13	11.36	0.22	0.21
33	MWD	2701.00	10.40	15.10	95	2674.14	310.88	304.70 N	62.30 E	311.01	11.56	0.32	0.32
34	MWD	2796.00	10.70	17.50	95	2767.53	328.16	321.39 N	67.19 E	328.34	11.81	0.56	0.32



DRILTECH MWD SURVEY REPORT

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Job Number: 2015-054-RDDT-NM

Well: RDX Federal 28 14

Vertical Section Plane: 9.89

Location: Eddy Co, NM

WELL API #: 30-015-43013

Rig: Silver Oak 14

Tie Into: MS Gyro

Calculation Method Minimum Curvature

Survey #	Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')
								N/S (ft)	E/W (ft)	Distance (ft)	Angle (deg)		
35	MWD	2891.00	11.10	18.10	95	2860.82	345.95	338.50 N	72.68 E	346.21	12.12	0.44	0.42
36	MWD	2986.00	11.50	18.60	95	2953.98	364.36	356.16 N	78.55 E	364.72	12.44	0.43	0.42
37	MWD	3081.00	12.20	19.80	95	3046.95	383.61	374.58 N	84.97 E	384.10	12.78	0.78	0.74
38	MWD	3176.00	13.20	22.90	95	3139.63	404.07	394.02 N	92.59 E	404.75	13.22	1.27	1.05
39	MWD	3271.00	13.80	23.40	95	3232.00	425.65	414.41 N	101.31 E	426.61	13.74	0.64	0.63
40	MWD	3366.00	14.60	24.10	95	3324.10	448.28	435.74 N	110.70 E	449.58	14.25	0.86	0.84
41	MWD	3457.00	14.00	21.10	91	3412.28	470.19	456.48 N	119.34 E	471.82	14.65	1.05	-0.66
42	MWD	3552.00	11.70	10.00	95	3504.91	491.10	476.69 N	125.15 E	492.85	14.71	3.54	-2.42
43	MWD	3647.00	9.70	10.90	95	3598.25	508.74	494.04 N	128.34 E	510.44	14.56	2.11	-2.11
44	MWD	3742.00	7.70	7.40	95	3692.16	523.10	508.21 N	130.67 E	524.74	14.42	2.18	-2.11
45	MWD	3836.00	5.80	358.70	94	3785.50	534.05	519.20 N	131.38 E	535.57	14.20	2.29	-2.02
46	MWD	3931.00	4.10	342.40	95	3880.15	541.78	527.24 N	130.24 E	543.09	13.88	2.31	-1.79
47	MWD	4026.00	1.90	330.40	95	3975.02	546.00	531.85 N	128.44 E	547.14	13.58	2.40	-2.32
48	MWD	4121.00	1.10	318.80	95	4069.98	547.79	533.90 N	127.06 E	548.81	13.39	0.90	-0.84
49	MWD	4216.00	1.10	320.20	95	4164.96	548.96	535.29 N	125.87 E	549.89	13.23	0.03	0.00
50	MWD	4311.00	2.60	255.20	95	4259.92	548.65	535.44 N	123.21 E	549.43	12.96	2.48	1.58
51	MWD	4406.00	2.50	250.40	95	4354.83	546.73	534.20 N	119.17 E	547.33	12.58	0.25	-0.11
52	MWD	4502.00	1.30	190.20	96	4450.78	544.61	532.42 N	117.01 E	545.13	12.39	2.26	-1.25
53	MWD	4597.00	1.70	181.40	95	4545.75	542.13	529.95 N	116.78 E	542.67	12.43	0.48	0.42
54	MWD	4691.00	0.40	11.10	94	4639.74	541.08	528.88 N	116.81 E	541.63	12.45	2.23	-1.38
55	MWD	4786.00	0.50	2.40	95	4734.73	541.83	529.62 N	116.89 E	542.36	12.45	0.13	0.11
56	MWD	4881.00	0.60	16.60	95	4829.73	542.73	530.51 N	117.05 E	543.27	12.44	0.18	0.11
57	MWD	4976.00	0.50	13.90	95	4924.72	543.64	531.39 N	117.29 E	544.18	12.45	0.11	-0.11
58	MWD	5071.00	0.60	3.80	95	5019.72	544.55	532.29 N	117.42 E	545.09	12.44	0.15	0.11
59	MWD	5165.00	0.70	345.60	94	5113.71	545.56	533.33 N	117.31 E	546.08	12.41	0.24	0.11
60	MWD	5260.00	0.80	350.80	95	5208.71	546.71	534.55 N	117.06 E	547.22	12.35	0.13	0.11
61	MWD	5354.00	1.00	343.90	94	5302.69	548.07	535.99 N	116.73 E	548.55	12.29	0.24	0.21
62	MWD	5449.00	1.00	328.90	95	5397.68	549.44	537.49 N	116.07 E	549.88	12.19	0.27	0.00
63	MWD	5544.00	0.80	331.90	95	5492.67	550.59	538.79 N	115.33 E	550.99	12.08	0.22	-0.21
64	MWD	5639.00	0.60	288.80	95	5587.66	551.19	539.53 N	114.55 E	551.56	11.99	0.58	-0.21
65	MWD	5734.00	0.40	263.00	95	5682.66	551.17	539.65 N	113.75 E	551.51	11.90	0.31	-0.21
66	MWD	5829.00	0.40	295.70	95	5777.66	551.17	539.76 N	113.12 E	551.48	11.84	0.24	0.00
67	MWD	5924.00	1.80	209.90	95	5872.64	549.85	538.61 N	112.08 E	550.15	11.75	1.91	1.47
68	MWD	6019.00	1.90	211.70	95	5967.59	546.99	535.97 N	110.51 E	547.25	11.65	0.12	0.11
69	MWD	6114.00	2.00	213.50	95	6062.53	544.01	533.25 N	108.76 E	544.23	11.53	0.12	0.11
70	MWD	6209.00	2.00	217.90	95	6157.48	541.03	530.56 N	106.83 E	541.21	11.38	0.16	0.00

DRILTECH MWD SURVEY REPORT

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Well: RDX Federal 28 14

Vertical Section Plane: 9.89

Location: Eddy Co, NM

WELL API #: 30-015-43013

Rig: Silver Oak 14

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Calculation Method Minimum Curvature

[illegible]