

NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 06 2018

RECEIVED

Lime Rock Resources

Eddy County, NM
SEC 12 T18S R26E
Brainard 12-2H

30-015-45364

Original Wellbore

Plan: Plan 1

Standard Planning Report

23 August, 2018

Planning Report

Database:	EDM Server Database	Local Co-ordinate Reference:	Well Brainerd 12-2H
Company:	Lime Rock Resources	TVD Reference:	KB @ 3313.0usft
Project:	Eddy County, NM	MD Reference:	KB @ 3313.0usft
Site:	SEC 12 T18S R26E	North Reference:	Grid
Well:	Brainerd 12-2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Plan 1		

Project	Eddy County, NM		
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 12 T18S R26E				
Site Position:		Northing:	638,920.77 usft	Latitude:	32° 45' 23.143 N	
From:	Lat/Long	Easting:	538,424.28 usft	Longitude:	104° 20' 34.115 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.01 °

Well	Brainard 12-2H					
Well Position	+N/-S	1,401.5 usft	Northing:	640,322.27 usft	Latitude:	32° 45' 37.012 N
	+E/-W	1,248.4 usft	Easting:	539,672.65 usft	Longitude:	104° 20' 19.497 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,295.5 usft

Wellbore	Original Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	8/23/2018	7.22	60.41	48,051.93702184

Design	Plan 1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.0	0.0	0.0	272.58

Plan Survey Tool Program	Date 8/23/2018			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	9,172.7 Plan 1 (Original Wellbore)	MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,942.0	0.00	0.00	1,942.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,597.9	52.47	291.00	2,510.0	100.3	-281.3	8.00	8.00	0.00	291.00	
2,697.9	52.47	291.00	2,570.9	128.7	-335.4	0.00	0.00	0.00	0.00	
3,113.5	89.99	271.63	2,703.4	196.7	-713.7	10.00	9.03	-4.66	-30.00	
9,172.7	89.98	270.42	2,705.0	305.0	-6,771.8	0.02	0.00	-0.02	-80.51	Brainerd 12-2H

Planning Report

Database: EDM Server Database
Company: Lime Rock Resources
Project: Eddy County, NM
Site: SEC 12 T18S R26E
Well: Brainard 12-2H
Wellbore: Original Wellbore
Design: Plan 1

Local Co-ordinate Reference: Well Brainard 12-2H
TVD Reference: KB @ 3313.0usft
MD Reference: KB @ 3313.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned 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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,230.0	0.00	0.00	1,230.0	0.0	0.0	0.0	0.00	0.00	0.00
Surface									
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,942.0	0.00	0.00	1,942.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	4.64	291.00	1,999.9	0.8	-2.2	2.2	8.00	8.00	0.00
2,100.0	12.84	291.00	2,098.7	6.2	-16.2	16.5	8.00	8.00	0.00
2,200.0	20.64	291.00	2,194.5	16.5	-42.9	43.6	8.00	8.00	0.00
2,300.0	28.64	291.00	2,285.3	31.4	-81.8	83.1	8.00	8.00	0.00
2,400.0	36.64	291.00	2,369.4	50.7	-132.1	134.3	8.00	8.00	0.00
2,500.0	44.64	291.00	2,445.2	74.0	-192.9	196.0	8.00	8.00	0.00
2,597.9	52.47	291.00	2,510.0	100.3	-261.3	265.6	8.00	8.00	0.00
2,600.0	52.47	291.00	2,511.3	100.9	-262.9	267.2	0.00	0.00	0.00
2,697.9	52.47	291.00	2,570.9	129.7	-335.4	340.8	0.00	0.00	0.00
Build & Turn									
2,700.0	52.65	290.87	2,572.2	129.3	-336.9	342.4	10.12	8.77	-6.36
2,800.0	61.48	285.21	2,626.5	155.1	-416.7	423.2	10.00	8.81	-5.66
2,900.0	70.47	280.44	2,667.2	175.2	-505.6	513.0	10.00	9.00	-4.77
3,000.0	79.58	276.18	2,693.1	189.1	-601.1	609.0	10.00	9.12	-4.26
3,100.0	88.75	272.16	2,703.2	196.2	-700.2	708.3	10.00	9.17	-4.02
3,113.5	89.99	271.63	2,703.4	196.7	-713.7	721.8	10.00	9.18	-3.96
EOC									
3,200.0	89.99	271.61	2,703.4	199.1	-800.1	808.3	0.02	0.00	-0.02
3,300.0	89.99	271.59	2,703.4	201.9	-900.1	908.3	0.02	0.00	-0.02
3,400.0	89.99	271.57	2,703.4	204.7	-1,000.1	1,008.3	0.02	0.00	-0.02
3,500.0	89.99	271.55	2,703.4	207.4	-1,100.0	1,108.2	0.02	0.00	-0.02
3,600.0	89.99	271.53	2,703.5	210.1	-1,200.0	1,208.2	0.02	0.00	-0.02
3,700.0	89.99	271.51	2,703.5	212.8	-1,300.0	1,308.2	0.02	0.00	-0.02
3,800.0	89.99	271.49	2,703.5	215.4	-1,399.9	1,408.2	0.02	0.00	-0.02
3,900.0	89.99	271.47	2,703.5	218.0	-1,499.9	1,508.2	0.02	0.00	-0.02
4,000.0	89.99	271.45	2,703.5	220.5	-1,599.9	1,608.2	0.02	0.00	-0.02
4,090.5	89.99	271.43	2,703.6	222.8	-1,690.3	1,698.6	0.02	0.00	-0.02
FTP - 100' FEL									
4,100.0	89.99	271.43	2,703.6	223.0	-1,699.8	1,708.1	0.02	0.00	-0.02
4,200.0	89.99	271.41	2,703.6	225.5	-1,799.8	1,808.1	0.02	0.00	-0.02

Planning Report

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Site: SEC 12 T18S R26E
Well: Brainard 12-2H
Wellbore: Original Wellbore
Design: Plan 1

Local Co-ordinate Reference: Well Brainard 12-2H
TVD Reference: KB @ 3313 0usft
MD Reference: KB @ 3313 0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned 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)
4,300.0	89.99	271.39	2,703.6	227.9	-1,899.8	1,908.1	0.02	0.00	-0.02
4,400.0	89.99	271.37	2,703.8	230.4	-1,999.7	2,008.1	0.02	0.00	-0.02
4,500.0	89.99	271.35	2,703.6	232.7	-2,099.7	2,108.0	0.02	0.00	-0.02
4,600.0	89.99	271.33	2,703.7	235.1	-2,199.7	2,208.0	0.02	0.00	-0.02
4,700.0	89.99	271.31	2,703.7	237.4	-2,299.6	2,308.0	0.02	0.00	-0.02
4,800.0	89.99	271.29	2,703.7	239.6	-2,399.6	2,408.0	0.02	0.00	-0.02
4,900.0	89.99	271.27	2,703.7	241.9	-2,499.6	2,508.0	0.02	0.00	-0.02
5,000.0	89.99	271.25	2,703.8	244.1	-2,599.6	2,607.9	0.02	0.00	-0.02
5,100.0	89.99	271.23	2,703.8	246.2	-2,699.6	2,707.9	0.02	0.00	-0.02
5,200.0	89.99	271.21	2,703.8	248.4	-2,799.5	2,807.9	0.02	0.00	-0.02
5,300.0	89.99	271.19	2,703.8	250.5	-2,899.5	2,907.8	0.02	0.00	-0.02
5,400.0	89.99	271.17	2,703.9	252.5	-2,999.5	3,007.8	0.02	0.00	-0.02
5,500.0	89.99	271.15	2,703.9	254.6	-3,099.5	3,107.8	0.02	0.00	-0.02
5,600.0	89.99	271.13	2,703.9	256.6	-3,199.4	3,207.7	0.02	0.00	-0.02
5,700.0	89.99	271.11	2,703.9	258.5	-3,299.4	3,307.7	0.02	0.00	-0.02
5,800.0	89.99	271.09	2,704.0	260.4	-3,399.4	3,407.7	0.02	0.00	-0.02
5,900.0	89.99	271.07	2,704.0	262.3	-3,499.4	3,507.6	0.02	0.00	-0.02
6,000.0	89.98	271.05	2,704.0	264.2	-3,599.4	3,607.6	0.02	0.00	-0.02
6,100.0	89.98	271.03	2,704.0	266.0	-3,699.4	3,707.6	0.02	0.00	-0.02
6,200.0	89.98	271.01	2,704.1	267.8	-3,799.3	3,807.5	0.02	0.00	-0.02
6,300.0	89.98	270.99	2,704.1	269.5	-3,899.3	3,907.5	0.02	0.00	-0.02
6,400.0	89.98	270.97	2,704.1	271.3	-3,999.3	4,007.5	0.02	0.00	-0.02
6,500.0	89.98	270.95	2,704.1	272.9	-4,099.3	4,107.4	0.02	0.00	-0.02
6,600.0	89.98	270.93	2,704.2	274.6	-4,199.3	4,207.4	0.02	0.00	-0.02
6,700.0	89.98	270.91	2,704.2	276.2	-4,299.3	4,307.3	0.02	0.00	-0.02
6,800.0	89.98	270.89	2,704.2	277.8	-4,399.3	4,407.3	0.02	0.00	-0.02
6,900.0	89.98	270.87	2,704.3	279.3	-4,499.2	4,507.3	0.02	0.00	-0.02
7,000.0	89.98	270.85	2,704.3	280.8	-4,599.2	4,607.2	0.02	0.00	-0.02
7,100.0	89.98	270.83	2,704.3	282.3	-4,699.2	4,707.2	0.02	0.00	-0.02
7,200.0	89.98	270.81	2,704.3	283.7	-4,799.2	4,807.1	0.02	0.00	-0.02
7,300.0	89.98	270.79	2,704.4	285.1	-4,899.2	4,907.1	0.02	0.00	-0.02
7,400.0	89.98	270.77	2,704.4	286.5	-4,999.2	5,007.0	0.02	0.00	-0.02
7,500.0	89.98	270.75	2,704.4	287.8	-5,099.2	5,107.0	0.02	0.00	-0.02
7,600.0	89.98	270.73	2,704.5	289.1	-5,199.2	5,206.9	0.02	0.00	-0.02
7,700.0	89.98	270.71	2,704.5	290.4	-5,299.2	5,306.8	0.02	0.00	-0.02
7,800.0	89.98	270.69	2,704.5	291.6	-5,399.2	5,406.8	0.02	0.00	-0.02
7,900.0	89.98	270.67	2,704.6	292.8	-5,499.2	5,506.8	0.02	0.00	-0.02
8,000.0	89.98	270.65	2,704.6	294.0	-5,599.1	5,606.7	0.02	0.00	-0.02
8,100.0	89.98	270.63	2,704.6	295.1	-5,699.1	5,706.6	0.02	0.00	-0.02
8,200.0	89.98	270.61	2,704.7	296.2	-5,799.1	5,806.6	0.02	0.00	-0.02
8,300.0	89.98	270.59	2,704.7	297.2	-5,899.1	5,906.5	0.02	0.00	-0.02
8,400.0	89.98	270.57	2,704.7	298.3	-5,999.1	6,006.5	0.02	0.00	-0.02
8,500.0	89.98	270.55	2,704.8	299.3	-6,099.1	6,106.4	0.02	0.00	-0.02
8,600.0	89.98	270.53	2,704.8	300.2	-6,199.1	6,206.3	0.02	0.00	-0.02
8,700.0	89.98	270.51	2,704.8	301.1	-6,299.1	6,306.3	0.02	0.00	-0.02
8,800.0	89.98	270.50	2,704.9	302.0	-6,399.1	6,406.2	0.02	0.00	-0.02
8,900.0	89.98	270.48	2,704.9	302.8	-6,499.1	6,506.1	0.02	0.00	-0.02
9,000.0	89.98	270.46	2,704.9	303.7	-6,599.1	6,606.1	0.02	0.00	-0.02
Production									
9,100.0	89.98	270.44	2,705.0	304.4	-6,699.1	6,706.0	0.02	0.00	-0.02
9,172.7	89.98	270.42	2,705.0	305.0	-6,771.8	6,778.7	0.02	0.00	-0.02
End of Lateral									

Planning Report

Database: EDM Server Database
Company: Lime Rock Resources
Project: Eddy County, NM
Site: SEC 12 T18S R28E
Well: Brainard 12-2H
Wellbore: Original Wellbore
Design: Plan 1

Local Co-ordinate Reference: Well Brainard 12-2H
TVD Reference: KB @ 3313.0usft
MD Reference: KB @ 3313.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Design Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
Brainard 12-2H	0.00	360.00	2,705.0	305.0	-8,771.8	840,627.24	532,800.86	32° 45' 40.020 N	104° 21' 38.803 W
- plan hits target center									
- Point									

Casing Points

Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(usft)	(usft)		(")	(")
1,230.0	1,230.0	Surface	9-5/8	9-5/8
9,000.0	2,704.9	Production	5-1/2	5-1/2

Plan Annotations

Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
2,897.9	2,570.9	128.7	-335.4	Build & Turn
3,113.5	2,703.4	198.7	-713.7	EOC
4,090.5	2,703.8	222.8	-1,690.3	FTP - 100' FEL
9,172.7	2,705.0	305.0	-8,771.8	End of Lateral



Project: Eddy County, NM
 Site: SEC 12 T18S R26E
 Well: Brainard 12-2H
 Wellbore: Original Wellbore
 Design: Plan 1

Reference Details

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Latitude: 32° 45' 37.012 N
 Longitude: 104° 20' 19.497 W
 Grid Convergence: Format error - failed to convert parameters to correct type: East
 Ground Elevation: 3295.5
 KB Elevation: KB @ 3313.0usft



RPM Consulting, Inc.
 1600 Broadway, Suite 1510
 Denver, CO 80013
 303-595-7625

SECTION DETAILS

CASING DETAILS

MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSecl
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
1942.0	0.00	0.00	1942.0	0.0	0.0	0.00	0.00	0.0
2597.9	52.47	291.00	2510.0	100.3	-261.3	8.00	291.00	265.6
2697.9	52.47	291.00	2570.9	128.7	-335.4	0.00	0.00	340.8
3113.5	89.99	271.63	2703.4	196.7	-713.7	10.00	-30.00	721.8
9172.7	89.98	270.42	2705.0	305.0	-6771.8	0.02	-90.51	8778.7

TVD	MD	Name	Size
1230.0	1230.0	Surface	9-5/8
2704.9	9000.0	Production	5-1/2

