

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Form C-104
Revised August 1, 2011

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address Colgate Operating, LLC 300 N Marienfeld Street, Suite 1000 Midland, Tx 79701		² OGRID Number 371449	
		³ Reason for Filing Code/ Effective Date NW	
⁴ API Number 30 – 015 – 47744	⁵ Pool Name WINCHESTER; BONE SPRING, WEST		⁶ Pool Code 97569
⁷ Property Code 329864	⁸ Property Name DAKOTA 32 STATE FEDERAL COM		⁹ Well Number 134H

II. ¹⁰ Surface Location

UL or lot no. P	Section 32	Township 19S	Range 28E	Lot Idn	Feet from the 1,297	North/South Line South	Feet from the 300	East/West line East	County Eddy
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¹¹ Bottom Hole Location

UL or lot no. M	Section 31	Township 19S	Range 28E	Lot Idn	Feet from the 335	North/South line South	Feet from the 13	East/West line West	County Eddy
¹² Lse Code F	¹³ Producing Method Code P		¹⁴ Gas Connection Date 09/01/2021		¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date		¹⁷ C-129 Expiration Date	

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
329097	LM TOUCHDOWN, LLC	O
329097	LM TOUCHDOWN, LLC	G

IV. Well Completion Data

²¹ Spud Date 04/30/2021	²² Ready Date 09/21/2021	²³ TD 18,895 MD 8,490 TVD 8121	²⁴ PBTD 18,784 MD 8,129 TVD	²⁵ Perforations 9,053-18,668	²⁶ DHC, MC
²⁷ Hole Size		²⁸ Casing & Tubing Size		²⁹ Depth Set	³⁰ Sacks Cement
17.5		13.375		295	300
12.25		9.625		2,914	773 Lead 199 Tail
8.75		5.5		18,880	691 Lead 1,786 Tail

V. Well Test Data

³¹ Date New Oil 10/08/2021	³² Gas Delivery Date 10/08/2021	³³ Test Date 10/10/2021	³⁴ Test Length 24 hours	³⁵ Tbg. Pressure 2552	³⁶ Csg. Pressure 710
³⁷ Choke Size 56/88	³⁸ Oil 1,672	³⁹ Water 3,580	⁴⁰ Gas 4,241		⁴¹ Test Method P
⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. Signature: 			OIL CONSERVATION DIVISION		
Printed name: Mikah Thomas			Approved by: <i>PATRICIA MARTINEZ</i>		
Title: Operations Tech			Title: <i>PETROLEUM SPECIALIST</i>		
E-mail Address: mthomas@colgateenergy.com			Approval Date: <i>12/10/2021</i>		
Date: 12/09/2021		Phone: 432-695-4272			

District I

1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

District III

1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-015-47744	2 Pool Code 97569	3 Pool Name WINCHESTER; BONE SPRING, WEST
4 Property Code 329864	5 Property Name DAKOTA 32 STATE FED COM	6 Well Number 134H
7 OGRID No. 371449	8 Operator Name COLGATE OPERATING, LLC	9 Elevation 3341'

¹⁰ Surface Location

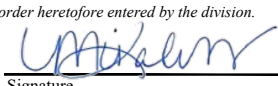
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	32	19-S	28-E		1297'	SOUTH	300'	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	31	19-S	28-E		335'	SOUTH	13'	WEST	EDDY

12 Dedicated Acres 322.98	13 Joint or Infill	14 Consolidation Code	15 Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

16 SURFACE HOLE LOCATION (SHL) NEW MEXICO EAST - NAD 83 X=584984.94 LAT.= 32.61346442° N Y=586938.24 LONG.= 104.19157783° W NEW MEXICO EAST - NAD 27 X=543804.92 LAT.= 32.61334744° N Y=586876.59 LONG.= -104.19106965° W 1297' FSL, 300' FEL - SECTION 32 19' FNL, 300' FEL - LEASE LINE FIRST TAKE POINT (FTP) NEW MEXICO EAST - NAD 83 X=585131.31 LAT.= 32.61115936° N Y=586099.84 LONG.= 104.19110610° W NEW MEXICO EAST - NAD 27 X=543951.28 LAT.= 32.61104235° N Y=586038.21 LONG.= -104.19059799° W 458' FSL, 100' FEL - SECTION 32 458' FSL, 100' FEL - LEASE LINE MD = 8,128.98' LAST TAKE POINT (LTP) NEW MEXICO EAST - NAD 83 X=574646.38 LAT.= 32.61069476° N Y=585918.47 LONG.= 104.22515808° W NEW MEXICO EAST - NAD 27 X=533466.37 LAT.= 32.61057812° N Y=585856.93 LONG.= -104.22484913° W 336' FSL, 100' FWL - SECTION 31 336' FSL, 100' FWL - LEASE LINE MD = 18,805.51' BOTTOM HOLE LOCATION (BHL) NEW MEXICO EAST - NAD 83 X=574556.77 LAT.= 32.61069022° N Y=585916.73 LONG.= 104.22544911° W NEW MEXICO EAST - NAD 27 X=533376.75 LAT.= 32.61057357° N Y=585855.18 LONG.= -104.22494015° W 335' FSL, 13' FWL - SECTION 31 335' FSL, 13' FWL - LEASE LINE MD = 18,895.38' CORNER DATA NEW MEXICO EAST - NAD 83 A - FOUND IRON PIPE W/ BRASS CAP N:590726.48' E:575003.78' B - FOUND IRON PIPE W/ BRASS CAP N:590725.96' E:577724.25' C - FOUND IRON PIPE W/ BRASS CAP N:590871.20' E:580314.74' D - FOUND IRON PIPE W/ BRASS CAP N:590848.94' E:582920.61' E - FOUND IRON PIPE W/ BRASS CAP N:590907.03' E:585541.35' F - FOUND IRON PIPE W/ BRASS CAP N:588276.86' E:585371.95' G - FOUND IRON PIPE W/ BRASS CAP N:585641.97' E:585202.31' H - FOUND IRON PIPE W/ BRASS CAP N:585627.24' E:582544.32' I - FOUND IRON PIPE W/ BRASS CAP N:585612.31' E:579886.02' J - FOUND IRON PIPE W/ BRASS CAP N:585597.11' E:577229.43' K - FOUND IRON PIPE W/ BRASS CAP N:585581.74' E:574473.78' L - CALCULATED CORNER N:588089.02' E:574998.43' M - FOUND IRON PIPE W/ BRASS CAP N:588240.05' E:580095.84'	17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.  09.10.2021 Signature Date Mikah Thomas Printed Name mthomas@colgateenergy.com E-mail Address 18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.  Date of Survey Signature and Seal of Professional Surveyor 6/17/2021 Certificate Number
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Colgate Energy

Eddy County, NM (N83-NME)

Dakota 32 State Fed Com

03 Dakota 32 State Fed Com 134H

30-015-47744

134H

Design: 134H

Standard Survey Report

21 May, 2021



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 Single User Db

Project	Eddy County, NM (N83-NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Dakota 32 State Fed Com		
Site Position:		Northing:	586,983.29 usft
From:	Map	Easting:	584,987.91 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.61358824
		Longitude:	-104.19156799

Well	03 Dakota 32 State Fed Com 134H		
Well Position	+N/-S	0.00 usft	Northing: 586,938.24 usft
	+E/-W	0.00 usft	Easting: 584,984.94 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
Grid Convergence:	0.08 °	Ground Level:	3,341.00 usft

Wellbore	134H		
Magnetics	Model Name	Sample Date	Declination (°)
	User Defined	4/28/2021	7.13
			Dip Angle (°)
			60.32
			Field Strength (nT)
			47,744.70000000

Design	134H		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
			Direction (°)
			269.68

Survey Program	Date	5/21/2021		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
14.00	18,836.00	Survey #1 - Gordon MWD+SQC (134H)	MWD+IFR1+SAG+FDIR (SQ OWSG MWD + IFR1 + Sag + FDIR Correction	
18,895.00	18,895.38	Survey #2 - PTB (134H)	BLIND	BLIND

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14.00	0.03	118.92	14.00	0.00	0.00	0.00	0.21	0.21	0.00	
28.00	0.05	118.90	28.00	-0.01	0.01	-0.01	0.14	0.14	-0.14	
42.00	0.08	118.88	42.00	-0.01	0.03	-0.03	0.21	0.21	-0.14	
56.00	0.11	118.86	56.00	-0.03	0.05	-0.05	0.21	0.21	-0.14	
70.00	0.13	118.84	70.00	-0.04	0.07	-0.07	0.14	0.14	-0.14	
84.00	0.16	118.82	84.00	-0.06	0.10	-0.10	0.21	0.21	-0.14	
98.00	0.19	118.80	98.00	-0.08	0.14	-0.14	0.21	0.21	-0.14	
112.00	0.21	118.78	112.00	-0.10	0.18	-0.18	0.14	0.14	-0.14	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
126.00	0.24	118.75	126.00	-0.13	0.23	-0.23	0.21	0.21	-0.21
140.00	0.27	118.73	140.00	-0.16	0.29	-0.28	0.21	0.21	-0.14
154.00	0.30	118.71	154.00	-0.19	0.35	-0.35	0.21	0.21	-0.14
168.00	0.32	118.69	168.00	-0.23	0.41	-0.41	0.14	0.14	-0.14
171.00	0.33	116.10	171.00	-0.23	0.43	-0.43	0.57	0.29	-86.19
Rustler									
180.60	0.36	108.74	180.60	-0.26	0.48	-0.48	0.56	0.33	-76.71
193.20	0.40	100.67	193.20	-0.28	0.56	-0.56	0.53	0.32	-64.05
205.80	0.45	94.23	205.80	-0.29	0.65	-0.65	0.55	0.40	-51.11
218.40	0.50	89.10	218.40	-0.29	0.76	-0.76	0.52	0.40	-40.71
226.00	0.53	86.52	226.00	-0.29	0.83	-0.83	0.50	0.39	-33.93
Top of Salt									
231.00	0.55	84.98	231.00	-0.29	0.87	-0.87	0.50	0.40	-30.83
244.83	0.57	88.35	244.83	-0.28	1.01	-1.01	0.28	0.14	24.37
258.67	0.58	91.58	258.67	-0.28	1.15	-1.15	0.25	0.07	23.34
272.50	0.59	94.68	272.50	-0.29	1.29	-1.29	0.24	0.07	22.42
286.33	0.61	97.63	286.32	-0.30	1.43	-1.43	0.27	0.14	21.33
300.17	0.62	100.42	300.16	-0.32	1.58	-1.58	0.23	0.07	20.16
314.00	0.64	103.06	313.99	-0.36	1.73	-1.73	0.25	0.14	19.09
327.83	0.66	105.54	327.82	-0.39	1.88	-1.88	0.25	0.14	17.93
341.67	0.69	107.87	341.66	-0.44	2.04	-2.03	0.29	0.22	16.84
355.50	0.71	110.06	355.49	-0.50	2.20	-2.19	0.24	0.14	15.84
369.33	0.73	112.10	369.32	-0.56	2.36	-2.36	0.24	0.14	14.75
383.17	0.76	114.02	383.16	-0.63	2.52	-2.52	0.28	0.22	13.87
397.00	0.78	115.81	396.99	-0.71	2.69	-2.69	0.23	0.14	12.94
411.54	0.77	118.44	411.53	-0.80	2.87	-2.86	0.25	-0.07	18.09
426.08	0.76	121.14	426.06	-0.89	3.04	-3.03	0.26	-0.07	18.57
440.62	0.76	123.89	440.60	-1.00	3.20	-3.19	0.25	0.00	18.91
455.15	0.75	126.69	455.13	-1.11	3.35	-3.35	0.26	-0.07	19.27
469.69	0.75	129.51	469.67	-1.23	3.50	-3.50	0.25	0.00	19.39
484.23	0.75	132.34	484.21	-1.35	3.65	-3.64	0.25	0.00	19.46
498.77	0.75	135.18	498.75	-1.48	3.79	-3.78	0.26	0.00	19.53
513.31	0.75	137.99	513.29	-1.62	3.92	-3.91	0.25	0.00	19.33
527.85	0.75	140.78	527.83	-1.76	4.04	-4.03	0.25	0.00	19.19
533.03	0.75	141.76	533.00	-1.82	4.08	-4.07	0.26	0.06	18.99
Base of Salt									
542.38	0.76	143.52	542.35	-1.92	4.16	-4.15	0.26	0.07	18.79
556.92	0.77	146.20	556.89	-2.07	4.27	-4.26	0.26	0.07	18.43
571.46	0.78	148.82	571.43	-2.24	4.38	-4.36	0.25	0.07	18.02
586.00	0.79	151.36	585.97	-2.41	4.47	-4.46	0.25	0.07	17.47
600.00	0.79	150.74	599.97	-2.58	4.57	-4.55	0.06	0.00	-4.43
614.00	0.80	150.13	613.97	-2.75	4.66	-4.65	0.09	0.07	-4.36
628.00	0.80	149.51	627.97	-2.92	4.76	-4.75	0.06	0.00	-4.43
642.00	0.81	148.90	641.96	-3.09	4.86	-4.85	0.09	0.07	-4.36



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
656.00	0.81	148.29	655.96	-3.26	4.97	-4.95	0.06	0.00	-4.36
670.00	0.82	147.69	669.96	-3.43	5.07	-5.05	0.09	0.07	-4.29
684.00	0.82	147.08	683.96	-3.59	5.18	-5.16	0.06	0.00	-4.36
698.00	0.83	146.48	697.96	-3.76	5.29	-5.27	0.09	0.07	-4.29
712.00	0.83	145.88	711.96	-3.93	5.40	-5.38	0.06	0.00	-4.29
726.00	0.84	145.29	725.96	-4.10	5.52	-5.49	0.09	0.07	-4.21
740.54	0.82	143.82	740.49	-4.27	5.64	-5.62	0.20	-0.14	-10.11
751.05	0.80	142.70	751.00	-4.39	5.73	-5.70	0.26	-0.21	-10.68
Yates									
755.08	0.79	142.25	755.03	-4.44	5.76	-5.74	0.26	-0.20	-11.10
769.62	0.77	140.60	769.57	-4.59	5.89	-5.86	0.21	-0.14	-11.35
784.15	0.75	138.83	784.10	-4.74	6.01	-5.98	0.21	-0.14	-12.18
798.69	0.73	136.96	798.64	-4.88	6.14	-6.11	0.22	-0.14	-12.86
813.23	0.71	134.99	813.18	-5.01	6.26	-6.24	0.22	-0.14	-13.55
827.77	0.69	132.89	827.72	-5.13	6.39	-6.36	0.22	-0.14	-14.44
842.31	0.67	130.68	842.26	-5.25	6.52	-6.49	0.23	-0.14	-15.20
856.85	0.66	128.35	856.79	-5.35	6.65	-6.62	0.20	-0.07	-16.02
871.38	0.64	125.90	871.32	-5.45	6.78	-6.75	0.24	-0.14	-16.86
885.92	0.63	123.33	885.86	-5.54	6.91	-6.88	0.21	-0.07	-17.68
900.46	0.61	120.64	900.40	-5.63	7.05	-7.02	0.24	-0.14	-18.50
915.00	0.60	117.85	914.94	-5.70	7.18	-7.15	0.21	-0.07	-19.19
929.54	0.64	118.41	929.48	-5.78	7.32	-7.29	0.28	0.28	3.85
944.08	0.68	118.90	944.02	-5.86	7.47	-7.43	0.28	0.28	3.37
958.62	0.72	119.34	958.56	-5.94	7.62	-7.59	0.28	0.28	3.03
973.15	0.75	119.73	973.09	-6.04	7.78	-7.75	0.21	0.21	2.68
987.69	0.79	120.08	987.63	-6.13	7.95	-7.92	0.28	0.28	2.41
1,002.23	0.83	120.40	1,002.16	-6.24	8.13	-8.10	0.28	0.28	2.20
1,016.77	0.87	120.68	1,016.70	-6.35	8.32	-8.28	0.28	0.28	1.93
1,031.31	0.91	120.94	1,031.24	-6.46	8.51	-8.47	0.28	0.28	1.79
1,045.85	0.95	121.18	1,045.78	-6.58	8.71	-8.68	0.28	0.28	1.65
1,060.38	0.99	121.40	1,060.31	-6.71	8.92	-8.89	0.28	0.28	1.51
1,074.92	1.03	121.60	1,074.84	-6.85	9.14	-9.10	0.28	0.28	1.38
1,089.46	1.06	121.78	1,089.38	-6.98	9.37	-9.33	0.21	0.21	1.24
1,104.00	1.10	121.95	1,103.92	-7.13	9.60	-9.56	0.28	0.28	1.17
1,118.46	1.10	122.02	1,118.38	-7.28	9.84	-9.80	0.01	0.00	0.48
1,132.92	1.09	122.06	1,132.83	-7.42	10.07	-10.03	0.07	-0.07	0.28
1,147.38	1.08	122.08	1,147.29	-7.57	10.30	-10.26	0.07	-0.07	0.14
1,161.85	1.07	122.09	1,161.76	-7.71	10.53	-10.49	0.07	-0.07	0.07
1,176.31	1.06	122.11	1,176.22	-7.86	10.76	-10.72	0.07	-0.07	0.14
1,190.77	1.05	122.15	1,190.67	-8.00	10.99	-10.94	0.07	-0.07	0.28
1,205.23	1.04	122.20	1,205.13	-8.14	11.21	-11.16	0.07	-0.07	0.35
1,219.69	1.03	122.28	1,219.59	-8.28	11.43	-11.38	0.07	-0.07	0.55
1,234.15	1.02	122.41	1,234.05	-8.42	11.65	-11.60	0.07	-0.07	0.90



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)	
1,248.62	1.01	122.58	1,248.52	-8.55	11.86	-11.82	0.07	-0.07	1.17	
1,263.08	1.00	122.83	1,262.97	-8.69	12.08	-12.03	0.08	-0.07	1.73	
1,277.54	1.00	123.17	1,277.43	-8.83	12.29	-12.24	0.04	0.00	2.35	
1,292.00	0.99	123.65	1,291.89	-8.97	12.50	-12.45	0.09	-0.07	3.32	
1,306.54	0.99	124.35	1,306.43	-9.11	12.71	-12.66	0.08	0.00	4.81	
1,321.08	0.98	125.90	1,320.96	-9.25	12.91	-12.86	0.20	-0.07	10.66	
1,335.62	0.97	127.13	1,335.50	-9.40	13.11	-13.06	0.16	-0.07	8.46	
1,350.15	0.96	128.37	1,350.03	-9.55	13.30	-13.25	0.16	-0.07	8.53	
1,364.69	0.95	129.63	1,364.57	-9.70	13.49	-13.44	0.16	-0.07	8.67	
1,379.23	0.94	130.92	1,379.11	-9.85	13.68	-13.62	0.16	-0.07	8.87	
1,393.77	0.94	132.23	1,393.64	-10.01	13.85	-13.80	0.15	0.00	9.01	
1,408.31	0.93	133.55	1,408.18	-10.17	14.03	-13.97	0.16	-0.07	9.08	
1,422.85	0.92	134.89	1,422.72	-10.34	14.20	-14.14	0.16	-0.07	9.22	
1,437.38	0.92	136.25	1,437.25	-10.50	14.36	-14.30	0.15	0.00	9.36	
1,451.92	0.91	137.62	1,451.79	-10.67	14.52	-14.46	0.17	-0.07	9.42	
1,466.46	0.91	139.00	1,466.32	-10.85	14.67	-14.61	0.15	0.00	9.49	
1,481.00	0.90	140.39	1,480.86	-11.02	14.82	-14.76	0.17	-0.07	9.56	
1,494.43	0.99	144.75	1,494.29	-11.20	14.95	-14.89	0.86	0.67	32.46	
1,507.86	1.08	148.40	1,507.72	-11.40	15.09	-15.02	0.83	0.67	27.18	
1,521.29	1.17	151.48	1,521.15	-11.63	15.22	-15.15	0.81	0.67	22.93	
1,534.71	1.26	154.09	1,534.56	-11.88	15.35	-15.28	0.79	0.67	19.45	
1,548.14	1.36	156.33	1,547.99	-12.16	15.48	-15.41	0.84	0.74	16.68	
1,561.57	1.46	158.27	1,561.42	-12.47	15.60	-15.53	0.82	0.74	14.45	
1,575.00	2.28	164.87	1,574.84	-12.88	15.74	-15.67	6.30	6.11	49.14	
1,588.57	3.35	168.56	1,588.39	-13.53	15.89	-15.81	7.99	7.89	27.19	
1,591.18	3.44	168.83	1,591.00	-13.68	15.92	-15.84	3.66	3.61	10.19	
Capitan										
1,602.14	3.84	169.80	1,601.94	-14.37	16.05	-15.97	3.66	3.61	8.89	
1,615.71	3.92	170.38	1,615.47	-15.27	16.20	-16.12	0.66	0.59	4.27	
1,629.29	3.99	171.00	1,629.02	-16.20	16.36	-16.26	0.60	0.52	4.57	
1,642.86	4.07	171.66	1,642.56	-17.14	16.50	-16.40	0.68	0.59	4.86	
1,656.43	4.16	172.36	1,656.09	-18.10	16.63	-16.53	0.76	0.66	5.16	
1,670.00	4.23	173.12	1,669.63	-19.09	16.76	-16.65	0.66	0.52	5.60	
1,683.43	4.52	174.03	1,683.02	-20.11	16.87	-16.76	2.22	2.16	6.78	
1,696.86	5.59	174.47	1,696.40	-21.28	16.99	-16.87	7.97	7.97	3.28	
1,710.29	6.66	174.79	1,709.75	-22.71	17.13	-17.00	7.97	7.97	2.38	
1,723.71	6.72	175.68	1,723.08	-24.27	17.26	-17.12	0.89	0.45	6.63	
1,737.14	6.77	176.61	1,736.41	-25.84	17.36	-17.22	0.89	0.37	6.92	
1,750.57	6.82	177.48	1,749.75	-27.43	17.44	-17.29	0.85	0.37	6.48	
1,764.00	6.85	178.17	1,763.08	-29.03	17.50	-17.34	0.65	0.22	5.14	
1,777.57	6.86	178.53	1,776.56	-30.64	17.55	-17.38	0.33	0.07	2.65	
1,791.14	6.85	178.67	1,790.03	-32.26	17.59	-17.41	0.14	-0.07	1.03	
1,804.71	6.83	178.67	1,803.50	-33.88	17.63	-17.44	0.15	-0.15	0.00	
1,818.29	6.81	178.58	1,816.99	-35.49	17.67	-17.47	0.17	-0.15	-0.66	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
1,831.86	6.78	178.44	1,830.46	-37.10	17.71	-17.50	0.25	-0.22	-1.03
1,845.43	6.76	178.28	1,843.94	-38.70	17.75	-17.54	0.20	-0.15	-1.18
1,859.00	6.74	178.13	1,857.41	-40.29	17.80	-17.58	0.20	-0.15	-1.11
1,872.43	6.73	178.03	1,870.75	-41.86	17.86	-17.62	0.11	-0.07	-0.74
1,885.86	6.73	177.96	1,884.09	-43.44	17.91	-17.67	0.06	0.00	-0.52
1,899.29	6.73	177.89	1,897.43	-45.01	17.97	-17.72	0.06	0.00	-0.52
1,912.71	6.74	177.83	1,910.75	-46.58	18.03	-17.77	0.09	0.07	-0.45
1,926.14	6.75	177.77	1,924.09	-48.16	18.09	-17.82	0.09	0.07	-0.45
1,939.57	6.77	177.70	1,937.43	-49.74	18.15	-17.87	0.16	0.15	-0.52
1,953.00	6.78	177.63	1,950.76	-51.32	18.22	-17.93	0.10	0.07	-0.52
1,967.54	6.80	177.54	1,965.20	-53.04	18.29	-17.99	0.16	0.14	-0.62
1,982.08	6.83	177.45	1,979.64	-54.76	18.36	-18.06	0.22	0.21	-0.62
1,996.62	6.85	177.34	1,994.07	-56.49	18.44	-18.13	0.16	0.14	-0.76
2,011.15	6.88	177.23	2,008.50	-58.23	18.52	-18.20	0.23	0.21	-0.76
2,025.69	6.91	177.11	2,022.94	-59.97	18.61	-18.28	0.23	0.21	-0.83
2,040.23	6.94	176.99	2,037.37	-61.72	18.70	-18.36	0.23	0.21	-0.83
2,054.77	6.98	176.86	2,051.80	-63.48	18.80	-18.44	0.30	0.28	-0.89
2,069.31	7.01	176.73	2,066.23	-65.25	18.89	-18.53	0.23	0.21	-0.89
2,083.85	7.05	176.59	2,080.66	-67.03	19.00	-18.62	0.30	0.28	-0.96
2,098.38	7.08	176.44	2,095.08	-68.81	19.11	-18.72	0.24	0.21	-1.03
2,112.92	7.12	176.29	2,109.51	-70.60	19.22	-18.83	0.30	0.28	-1.03
2,127.46	7.17	176.13	2,123.94	-72.41	19.34	-18.94	0.37	0.34	-1.10
2,142.00	7.22	175.96	2,138.37	-74.22	19.47	-19.05	0.37	0.34	-1.17
2,156.54	7.28	175.75	2,152.79	-76.05	19.60	-19.17	0.45	0.41	-1.44
2,171.08	7.34	175.54	2,167.21	-77.90	19.74	-19.30	0.45	0.41	-1.44
2,185.62	7.40	175.33	2,181.63	-79.76	19.89	-19.44	0.45	0.41	-1.44
2,200.15	7.47	175.11	2,196.04	-81.63	20.04	-19.59	0.52	0.48	-1.51
2,214.69	7.54	174.89	2,210.45	-83.52	20.21	-19.74	0.52	0.48	-1.51
2,229.23	7.61	174.68	2,224.87	-85.43	20.38	-19.91	0.52	0.48	-1.44
2,243.77	7.69	174.47	2,239.28	-87.36	20.57	-20.08	0.58	0.55	-1.44
2,258.31	7.76	174.26	2,253.69	-89.30	20.76	-20.26	0.52	0.48	-1.44
2,272.85	7.84	174.05	2,268.09	-91.27	20.96	-20.45	0.58	0.55	-1.44
2,287.38	7.91	173.85	2,282.48	-93.25	21.17	-20.65	0.52	0.48	-1.38
2,301.92	7.99	173.66	2,296.88	-95.25	21.39	-20.86	0.58	0.55	-1.31
2,316.46	8.07	173.47	2,311.28	-97.26	21.62	-21.07	0.58	0.55	-1.31
2,331.00	8.14	173.28	2,325.68	-99.30	21.85	-21.30	0.52	0.48	-1.31
2,345.54	8.22	173.08	2,340.07	-101.35	22.10	-21.53	0.58	0.55	-1.38
2,360.08	8.29	172.88	2,354.46	-103.43	22.35	-21.78	0.52	0.48	-1.38
2,374.62	8.37	172.69	2,368.84	-105.52	22.62	-22.03	0.58	0.55	-1.31
2,389.15	8.44	172.52	2,383.22	-107.62	22.89	-22.29	0.51	0.48	-1.17
2,403.69	8.52	172.34	2,397.60	-109.75	23.17	-22.56	0.58	0.55	-1.24
2,418.23	8.59	172.18	2,411.98	-111.89	23.46	-22.84	0.51	0.48	-1.10
2,432.77	8.67	172.02	2,426.35	-114.05	23.76	-23.13	0.57	0.55	-1.10



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
2,447.31	8.74	171.87	2,440.73	-116.23	24.07	-23.42	0.51	0.48	-1.03
2,461.85	8.81	171.72	2,455.10	-118.43	24.39	-23.73	0.51	0.48	-1.03
2,476.38	8.88	171.57	2,469.45	-120.64	24.71	-24.04	0.51	0.48	-1.03
2,490.92	8.95	171.42	2,483.82	-122.87	25.05	-24.36	0.51	0.48	-1.03
2,505.46	9.02	171.25	2,498.18	-125.11	25.39	-24.69	0.51	0.48	-1.17
2,520.00	9.08	171.07	2,512.54	-127.37	25.74	-25.03	0.46	0.41	-1.24
2,534.54	9.14	170.85	2,526.89	-129.64	26.10	-25.38	0.48	0.41	-1.51
2,549.08	9.19	170.61	2,541.25	-131.93	26.48	-25.74	0.43	0.34	-1.65
2,563.62	9.23	170.36	2,555.60	-134.22	26.86	-26.11	0.39	0.28	-1.72
2,578.15	9.28	170.11	2,569.94	-136.53	27.26	-26.49	0.44	0.34	-1.72
2,592.69	9.32	169.87	2,584.29	-138.84	27.67	-26.89	0.38	0.28	-1.65
2,607.23	9.36	169.64	2,598.64	-141.16	28.09	-27.30	0.38	0.28	-1.58
2,621.77	9.40	169.42	2,612.98	-143.49	28.52	-27.71	0.37	0.28	-1.51
2,636.31	9.45	169.21	2,627.33	-145.83	28.96	-28.14	0.42	0.34	-1.44
2,650.85	9.49	169.01	2,641.67	-148.18	29.41	-28.58	0.36	0.28	-1.38
2,665.38	9.53	168.84	2,656.00	-150.54	29.87	-29.03	0.34	0.28	-1.17
2,679.92	9.57	168.69	2,670.34	-152.90	30.34	-29.49	0.32	0.28	-1.03
2,694.46	9.61	168.57	2,684.68	-155.28	30.82	-29.95	0.31	0.28	-0.83
2,709.00	9.11	167.93	2,699.02	-157.59	31.30	-30.42	3.51	-3.44	-4.40
2,722.80	8.04	166.52	2,712.67	-159.60	31.75	-30.86	7.90	-7.75	-10.22
2,736.60	8.08	166.53	2,726.33	-161.48	32.20	-31.30	0.29	0.29	0.07
2,750.40	8.13	166.59	2,739.99	-163.38	32.66	-31.74	0.37	0.36	0.43
2,764.20	8.18	166.67	2,753.65	-165.28	33.11	-32.18	0.37	0.36	0.58
2,778.00	8.23	166.77	2,767.31	-167.20	33.56	-32.63	0.38	0.36	0.72
2,791.80	8.28	166.88	2,780.97	-169.13	34.01	-33.07	0.38	0.36	0.80
2,805.60	8.33	166.99	2,794.62	-171.07	34.46	-33.51	0.38	0.36	0.80
2,819.40	8.38	167.10	2,808.28	-173.02	34.91	-33.95	0.38	0.36	0.80
2,833.20	8.43	167.21	2,821.93	-174.99	35.36	-34.38	0.38	0.36	0.80
2,847.00	8.47	167.29	2,835.58	-176.97	35.81	-34.82	0.30	0.29	0.58
2,862.00	8.52	167.34	2,850.42	-179.13	36.30	-35.29	0.34	0.33	0.33
2,877.00	8.57	167.38	2,865.25	-181.30	36.78	-35.77	0.34	0.33	0.27
2,892.00	8.62	167.40	2,880.08	-183.49	37.27	-36.25	0.33	0.33	0.13
2,907.00	8.67	167.41	2,894.91	-185.69	37.76	-36.73	0.33	0.33	0.07
2,922.00	8.71	167.43	2,909.74	-187.90	38.26	-37.21	0.27	0.27	0.13
2,937.00	8.76	167.44	2,924.56	-190.13	38.75	-37.69	0.33	0.33	0.07
2,952.00	8.80	167.46	2,939.39	-192.36	39.25	-38.18	0.27	0.27	0.13
2,967.00	8.85	167.47	2,954.21	-194.61	39.75	-38.66	0.33	0.33	0.07
2,981.54	8.89	167.49	2,968.58	-196.80	40.24	-39.14	0.28	0.28	0.14
2,989.05	8.92	167.50	2,976.00	-197.93	40.49	-39.38	0.34	0.34	0.14
DLWR Mnt. Group									
2,996.08	8.94	167.51	2,982.94	-199.00	40.72	-39.61	0.35	0.34	0.14
3,010.62	8.62	168.75	2,997.31	-201.17	41.18	-40.06	2.56	-2.20	8.53
3,025.15	8.67	168.75	3,011.68	-203.31	41.61	-40.47	0.34	0.34	0.00



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)	
3,039.69	8.71	168.74	3,026.05	-205.46	42.04	-40.89	0.28	0.28	-0.07	
3,054.23	8.75	168.73	3,040.42	-207.63	42.47	-41.31	0.28	0.28	-0.07	
3,068.77	8.79	168.72	3,054.79	-209.80	42.90	-41.73	0.28	0.28	-0.07	
3,083.31	8.82	168.70	3,069.16	-211.99	43.34	-42.15	0.21	0.21	-0.14	
3,097.85	8.86	168.68	3,083.53	-214.18	43.77	-42.58	0.28	0.28	-0.14	
3,112.38	8.89	168.66	3,097.88	-216.37	44.21	-43.01	0.21	0.21	-0.14	
3,126.92	8.92	168.62	3,112.25	-218.58	44.66	-43.44	0.21	0.21	-0.28	
3,141.46	8.95	168.57	3,126.61	-220.80	45.10	-43.87	0.21	0.21	-0.34	
3,156.00	8.97	168.50	3,140.97	-223.01	45.55	-44.31	0.16	0.14	-0.48	
3,170.54	8.99	168.40	3,155.33	-225.24	46.01	-44.75	0.17	0.14	-0.69	
3,185.08	9.01	168.27	3,169.70	-227.47	46.47	-45.20	0.20	0.14	-0.89	
3,199.62	9.02	168.13	3,184.06	-229.70	46.93	-45.65	0.17	0.07	-0.96	
3,214.15	9.03	167.98	3,198.41	-231.93	47.41	-46.11	0.18	0.07	-1.03	
3,228.69	9.03	167.83	3,212.77	-234.16	47.88	-46.58	0.16	0.00	-1.03	
3,243.23	9.04	167.66	3,227.13	-236.39	48.37	-47.05	0.20	0.07	-1.17	
3,257.77	9.03	167.49	3,241.49	-238.62	48.86	-47.53	0.20	-0.07	-1.17	
3,272.31	9.03	167.31	3,255.85	-240.85	49.36	-48.01	0.19	0.00	-1.24	
3,286.85	9.01	167.13	3,270.21	-243.07	49.86	-48.50	0.24	-0.14	-1.24	
3,301.38	8.99	166.93	3,284.56	-245.28	50.37	-49.00	0.26	-0.14	-1.38	
3,315.92	8.96	166.72	3,298.92	-247.49	50.89	-49.51	0.31	-0.21	-1.44	
3,330.46	8.92	166.48	3,313.28	-249.69	51.41	-50.02	0.38	-0.28	-1.65	
3,345.00	8.86	166.22	3,327.65	-251.87	51.94	-50.54	0.50	-0.41	-1.79	
3,359.46	8.77	165.93	3,341.94	-254.02	52.48	-51.06	0.69	-0.62	-2.01	
3,373.92	8.66	165.62	3,356.23	-256.15	53.02	-51.58	0.83	-0.76	-2.14	
3,388.38	8.54	165.28	3,370.53	-258.24	53.56	-52.12	0.90	-0.83	-2.35	
3,402.85	8.41	164.92	3,384.84	-260.30	54.11	-52.65	0.97	-0.90	-2.49	
3,403.01	8.41	164.92	3,385.00	-260.33	54.11	-52.66	0.00	0.00	0.00	
Lower Brushy Canyon										
3,417.31	8.28	164.54	3,399.15	-262.33	54.66	-53.19	0.99	-0.91	-2.66	
3,431.77	8.14	164.13	3,413.46	-264.31	55.22	-53.74	1.05	-0.97	-2.84	
3,446.23	8.01	163.71	3,427.77	-266.27	55.78	-54.29	0.99	-0.90	-2.90	
3,460.69	7.87	163.27	3,442.10	-268.18	56.35	-54.85	1.06	-0.97	-3.04	
3,475.15	7.73	162.82	3,456.42	-270.06	56.92	-55.41	1.06	-0.97	-3.11	
3,489.62	7.60	162.35	3,470.76	-271.90	57.50	-55.98	1.00	-0.90	-3.25	
3,504.08	7.48	161.87	3,485.10	-273.71	58.08	-56.55	0.94	-0.83	-3.32	
3,518.54	7.36	161.38	3,499.44	-275.48	58.67	-57.13	0.94	-0.83	-3.39	
3,533.00	7.25	160.90	3,513.78	-277.22	59.26	-57.71	0.87	-0.76	-3.32	
3,547.54	7.17	160.50	3,528.20	-278.94	59.87	-58.31	0.65	-0.55	-2.75	
3,562.08	7.10	160.10	3,542.63	-280.64	60.47	-58.91	0.59	-0.48	-2.75	
3,576.62	7.03	159.69	3,557.06	-282.32	61.09	-59.51	0.59	-0.48	-2.82	
3,591.15	6.98	159.27	3,571.48	-283.98	61.71	-60.12	0.49	-0.34	-2.89	
3,605.69	6.93	158.84	3,585.92	-285.62	62.34	-60.74	0.50	-0.34	-2.96	
3,620.23	6.89	158.40	3,600.35	-287.25	62.98	-61.37	0.46	-0.28	-3.03	
3,634.77	6.84	157.94	3,614.79	-288.87	63.62	-62.01	0.51	-0.34	-3.16	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
3,649.31	6.80	157.47	3,629.22	-290.46	64.28	-62.65	0.47	-0.28	-3.23
3,663.85	6.77	156.98	3,643.66	-292.05	64.94	-63.31	0.45	-0.21	-3.37
3,678.38	6.73	156.47	3,658.09	-293.62	65.62	-63.98	0.50	-0.28	-3.51
3,692.92	6.69	155.96	3,672.53	-295.17	66.30	-64.65	0.49	-0.28	-3.51
3,707.46	6.66	155.43	3,686.97	-296.71	67.00	-65.34	0.47	-0.21	-3.65
3,722.00	6.62	154.88	3,701.41	-298.24	67.71	-66.04	0.52	-0.28	-3.78
3,735.57	6.59	154.38	3,714.89	-299.65	68.37	-66.70	0.48	-0.22	-3.68
3,749.14	6.55	153.87	3,728.38	-301.04	69.05	-67.37	0.52	-0.29	-3.76
3,762.71	6.51	153.32	3,741.86	-302.43	69.74	-68.05	0.55	-0.29	-4.05
3,776.29	6.47	152.74	3,755.35	-303.79	70.43	-68.74	0.57	-0.29	-4.27
3,789.86	6.43	152.11	3,768.83	-305.15	71.14	-69.43	0.60	-0.29	-4.64
3,803.43	6.39	151.40	3,782.32	-306.48	71.86	-70.14	0.65	-0.29	-5.23
3,817.00	6.35	150.58	3,795.81	-307.80	72.59	-70.87	0.73	-0.29	-6.04
3,830.43	6.31	149.61	3,809.15	-309.08	73.32	-71.60	0.85	-0.30	-7.22
3,842.35	6.27	148.66	3,821.00	-310.20	73.99	-72.26	0.92	-0.30	-7.96
Bone Spring Lime									
3,843.86	6.27	148.54	3,822.50	-310.34	74.08	-72.35	0.92	-0.29	-8.01
3,857.29	6.22	147.44	3,835.85	-311.58	74.86	-73.11	0.97	-0.37	-8.19
3,870.71	6.19	146.39	3,849.19	-312.80	75.65	-73.90	0.87	-0.22	-7.82
3,884.14	6.16	145.45	3,862.55	-313.99	76.46	-74.70	0.79	-0.22	-7.00
3,897.57	6.14	144.71	3,875.90	-315.17	77.28	-75.52	0.61	-0.15	-5.51
3,911.00	6.12	144.31	3,889.25	-316.34	78.11	-76.34	0.35	-0.15	-2.98
3,924.57	6.13	144.46	3,902.75	-317.52	78.96	-77.18	0.14	0.07	1.11
3,938.14	6.14	144.94	3,916.24	-318.70	79.79	-78.01	0.39	0.07	3.54
3,951.71	6.16	145.62	3,929.73	-319.90	80.62	-78.83	0.56	0.15	5.01
3,965.29	6.19	146.41	3,943.23	-321.11	81.44	-79.64	0.66	0.22	5.82
3,978.86	6.21	147.24	3,956.72	-322.33	82.24	-80.44	0.68	0.15	6.12
3,992.43	6.22	148.05	3,970.21	-323.58	83.03	-81.22	0.65	0.07	5.97
4,006.00	6.22	148.76	3,983.70	-324.83	83.80	-81.98	0.57	0.00	5.23
4,019.43	6.81	154.01	3,997.04	-326.17	84.52	-82.70	6.24	4.39	39.09
4,032.86	7.59	161.40	4,010.37	-327.72	85.15	-83.32	9.01	5.81	55.03
4,046.29	7.50	161.71	4,023.68	-329.39	85.71	-83.87	0.74	-0.67	2.31
4,059.71	7.39	161.98	4,036.99	-331.05	86.25	-84.40	0.86	-0.82	2.01
4,073.14	7.28	162.21	4,050.31	-332.68	86.78	-84.92	0.85	-0.82	1.71
4,086.57	7.18	162.38	4,063.63	-334.29	87.30	-85.43	0.76	-0.74	1.27
4,100.00	7.10	162.44	4,076.96	-335.88	87.80	-85.92	0.60	-0.60	0.45
4,113.57	7.04	162.31	4,090.43	-337.47	88.31	-86.42	0.46	-0.44	-0.96
4,127.14	7.01	162.07	4,103.89	-339.05	88.81	-86.92	0.31	-0.22	-1.77
4,140.71	6.99	161.75	4,117.36	-340.62	89.33	-87.42	0.32	-0.15	-2.36
4,154.29	6.97	161.38	4,130.84	-342.19	89.85	-87.94	0.36	-0.15	-2.72
4,167.86	6.95	160.97	4,144.31	-343.75	90.38	-88.46	0.39	-0.15	-3.02
4,181.43	6.92	160.53	4,157.78	-345.29	90.92	-88.99	0.45	-0.22	-3.24
4,195.00	6.87	160.03	4,171.25	-346.83	91.47	-89.53	0.58	-0.37	-3.68



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
4,208.43	6.79	159.53	4,184.59	-348.32	92.02	-90.07	0.74	-0.60	-3.72
4,221.86	6.69	159.01	4,197.93	-349.80	92.58	-90.62	0.87	-0.74	-3.87
4,235.29	6.59	158.53	4,211.27	-351.25	93.14	-91.18	0.85	-0.74	-3.57
4,248.71	6.48	158.13	4,224.60	-352.67	93.71	-91.73	0.89	-0.82	-2.98
4,262.14	6.38	157.88	4,237.94	-354.06	94.27	-92.29	0.77	-0.74	-1.86
4,275.57	6.30	157.87	4,251.29	-355.43	94.83	-92.84	0.60	-0.60	-0.07
4,289.00	6.24	158.25	4,264.64	-356.79	95.38	-93.38	0.54	-0.45	2.83
4,302.57	6.24	159.25	4,278.13	-358.17	95.91	-93.91	0.80	0.00	7.37
4,316.14	6.26	160.60	4,291.62	-359.56	96.42	-94.41	1.09	0.15	9.95
4,329.71	6.30	162.14	4,305.11	-360.96	96.89	-94.87	1.28	0.29	11.35
4,343.29	6.36	163.74	4,318.61	-362.39	97.33	-95.30	1.37	0.44	11.78
4,356.86	6.41	165.32	4,332.09	-363.85	97.73	-95.70	1.35	0.37	11.64
4,370.43	6.44	166.79	4,345.58	-365.32	98.10	-96.06	1.23	0.22	10.83
4,384.00	6.75	169.25	4,359.06	-366.85	98.42	-96.37	3.09	2.28	18.13
4,397.43	7.89	173.61	4,372.38	-368.54	98.67	-96.61	9.44	8.49	32.46
4,410.86	8.54	176.14	4,385.67	-370.45	98.84	-96.77	5.54	4.84	18.84
4,424.29	8.37	176.67	4,398.95	-372.42	98.96	-96.88	1.39	-1.27	3.95
4,437.71	8.17	177.15	4,412.24	-374.35	99.07	-96.98	1.58	-1.49	3.58
4,451.14	7.96	177.58	4,425.53	-376.23	99.16	-97.05	1.63	-1.56	3.20
4,464.57	7.76	177.97	4,438.84	-378.06	99.23	-97.11	1.54	-1.49	2.90
4,478.00	7.57	178.29	4,452.15	-379.86	99.28	-97.16	1.45	-1.41	2.38
4,491.57	7.41	178.46	4,465.60	-381.62	99.34	-97.20	1.19	-1.18	1.25
4,505.14	7.28	178.56	4,479.06	-383.36	99.38	-97.24	0.96	-0.96	0.74
4,518.71	7.17	178.59	4,492.52	-385.06	99.42	-97.27	0.81	-0.81	0.22
4,532.29	7.06	178.59	4,506.00	-386.75	99.46	-97.30	0.81	-0.81	0.00
4,545.86	6.95	178.55	4,519.47	-388.40	99.51	-97.33	0.81	-0.81	-0.29
4,559.43	6.84	178.50	4,532.94	-390.03	99.55	-97.37	0.81	-0.81	-0.37
4,573.00	6.73	178.45	4,546.41	-391.63	99.59	-97.40	0.81	-0.81	-0.37
4,586.43	6.60	178.48	4,559.75	-393.19	99.63	-97.43	0.97	-0.97	0.22
4,599.86	6.47	178.52	4,573.09	-394.72	99.67	-97.47	0.97	-0.97	0.30
4,613.29	6.34	178.56	4,586.44	-396.21	99.71	-97.50	0.97	-0.97	0.30
4,626.71	6.20	178.60	4,599.78	-397.68	99.75	-97.52	1.04	-1.04	0.30
4,640.14	6.07	178.63	4,613.13	-399.11	99.78	-97.55	0.97	-0.97	0.22
4,653.57	5.94	178.66	4,626.49	-400.52	99.81	-97.58	0.97	-0.97	0.22
4,667.00	5.82	178.69	4,639.85	-401.89	99.85	-97.60	0.89	-0.89	0.22
4,680.57	5.70	178.76	4,653.35	-403.26	99.88	-97.62	0.89	-0.88	0.52
4,694.14	5.60	178.82	4,666.85	-404.59	99.90	-97.64	0.74	-0.74	0.44
4,707.71	5.51	178.84	4,680.36	-405.91	99.93	-97.66	0.66	-0.66	0.15
4,721.29	5.44	178.82	4,693.88	-407.20	99.96	-97.68	0.52	-0.52	-0.15
4,734.86	5.39	178.73	4,707.39	-408.48	99.99	-97.70	0.37	-0.37	-0.66
4,748.43	5.37	178.55	4,720.90	-409.75	100.02	-97.73	0.19	-0.15	-1.33
4,762.00	5.39	178.25	4,734.41	-411.03	100.05	-97.75	0.25	0.15	-2.21
4,775.43	5.49	177.78	4,747.78	-412.30	100.10	-97.79	0.82	0.74	-3.50
4,788.86	5.94	177.47	4,761.14	-413.63	100.15	-97.84	3.36	3.35	-2.31



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
4,802.29	7.21	177.70	4,774.48	-415.17	100.22	-97.89	9.46	9.46	1.71
4,815.71	8.55	177.60	4,787.78	-417.01	100.29	-97.96	9.99	9.99	-0.75
4,829.14	8.98	177.21	4,801.05	-419.05	100.38	-98.04	3.23	3.20	-2.90
4,842.57	9.13	176.96	4,814.31	-421.16	100.49	-98.14	1.15	1.12	-1.86
4,856.00	9.26	176.73	4,827.57	-423.31	100.61	-98.24	1.01	0.97	-1.71
4,869.57	9.31	176.52	4,840.96	-425.49	100.74	-98.36	0.45	0.37	-1.55
4,883.14	9.31	176.35	4,854.35	-427.68	100.87	-98.48	0.20	0.00	-1.25
4,896.71	9.28	176.20	4,867.74	-429.87	101.02	-98.61	0.28	-0.22	-1.11
4,910.29	9.22	176.09	4,881.15	-432.05	101.16	-98.75	0.46	-0.44	-0.81
4,923.86	9.16	176.00	4,894.54	-434.21	101.31	-98.89	0.45	-0.44	-0.66
4,937.43	9.09	175.94	4,907.94	-436.36	101.46	-99.03	0.52	-0.52	-0.44
4,951.00	9.02	175.92	4,921.34	-438.49	101.62	-99.17	0.52	-0.52	-0.15
4,964.43	8.96	175.98	4,934.61	-440.58	101.76	-99.30	0.45	-0.45	0.45
4,977.86	8.90	176.06	4,947.87	-442.66	101.91	-99.44	0.46	-0.45	0.60
4,991.29	8.85	176.16	4,961.14	-444.73	102.05	-99.56	0.39	-0.37	0.74
5,004.71	8.79	176.26	4,974.41	-446.78	102.19	-99.69	0.46	-0.45	0.75
5,018.14	8.73	176.34	4,987.68	-448.82	102.32	-99.81	0.46	-0.45	0.60
5,031.57	8.67	176.38	5,000.95	-450.85	102.45	-99.93	0.45	-0.45	0.30
5,045.00	8.60	176.35	5,014.23	-452.86	102.57	-100.04	0.52	-0.52	-0.22
5,058.43	8.52	176.21	5,027.51	-454.86	102.70	-100.16	0.62	-0.60	-1.04
5,071.86	8.43	176.01	5,040.80	-456.83	102.84	-100.29	0.71	-0.67	-1.49
5,085.29	8.33	175.76	5,054.08	-458.78	102.98	-100.41	0.79	-0.74	-1.86
5,098.71	8.24	175.49	5,067.36	-460.71	103.13	-100.55	0.73	-0.67	-2.01
5,112.14	8.14	175.24	5,080.65	-462.62	103.28	-100.70	0.79	-0.74	-1.86
5,125.57	8.06	175.02	5,093.95	-464.50	103.44	-100.85	0.64	-0.60	-1.64
5,139.00	7.98	174.89	5,107.25	-466.37	103.61	-101.00	0.61	-0.60	-0.97
5,152.57	7.91	174.93	5,120.69	-468.24	103.77	-101.16	0.52	-0.52	0.29
5,166.14	7.86	175.05	5,134.13	-470.09	103.94	-101.31	0.39	-0.37	0.88
5,179.71	7.81	175.22	5,147.57	-471.94	104.09	-101.45	0.41	-0.37	1.25
5,193.29	7.76	175.39	5,161.03	-473.77	104.24	-101.60	0.41	-0.37	1.25
5,206.86	7.70	175.54	5,174.48	-475.59	104.39	-101.73	0.47	-0.44	1.11
5,220.43	7.64	175.63	5,187.92	-477.39	104.53	-101.86	0.45	-0.44	0.66
5,234.00	7.57	175.62	5,201.38	-479.19	104.66	-101.99	0.52	-0.52	-0.07
5,247.43	7.47	175.42	5,214.69	-480.94	104.80	-102.11	0.77	-0.74	-1.49
5,260.86	7.36	175.10	5,228.01	-482.66	104.94	-102.25	0.87	-0.82	-2.38
5,274.29	7.24	174.68	5,241.33	-484.36	105.10	-102.39	0.98	-0.89	-3.13
5,287.71	7.11	174.20	5,254.64	-486.03	105.26	-102.54	1.07	-0.97	-3.58
5,301.14	6.97	173.66	5,267.97	-487.67	105.43	-102.71	1.15	-1.04	-4.02
5,314.57	6.81	173.07	5,281.31	-489.27	105.62	-102.88	1.30	-1.19	-4.39
5,328.00	6.63	172.43	5,294.64	-490.83	105.82	-103.07	1.45	-1.34	-4.77
5,341.57	6.41	171.88	5,308.13	-492.36	106.03	-103.28	1.69	-1.62	-4.05
5,355.14	6.17	171.30	5,321.61	-493.83	106.24	-103.48	1.83	-1.77	-4.27
5,368.71	5.94	170.67	5,335.11	-495.24	106.47	-103.70	1.76	-1.69	-4.64



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
5,382.29	5.71	169.98	5,348.62	-496.60	106.70	-103.92	1.77	-1.69	-5.08
5,395.86	5.52	169.23	5,362.12	-497.90	106.94	-104.16	1.50	-1.40	-5.53
5,409.43	5.37	168.42	5,375.63	-499.17	107.19	-104.40	1.24	-1.11	-5.97
5,423.00	5.31	167.59	5,389.14	-500.40	107.45	-104.65	0.72	-0.44	-6.12
5,436.43	5.36	166.77	5,402.51	-501.62	107.73	-104.92	0.68	0.37	-6.11
5,449.86	5.48	165.96	5,415.88	-502.85	108.03	-105.22	1.06	0.89	-6.03
5,463.29	5.64	165.19	5,429.25	-504.11	108.35	-105.53	1.31	1.19	-5.73
5,476.71	5.83	164.46	5,442.60	-505.41	108.70	-105.88	1.52	1.42	-5.44
5,490.14	6.02	163.80	5,455.96	-506.74	109.08	-106.25	1.50	1.41	-4.91
5,503.57	6.19	163.20	5,469.32	-508.11	109.49	-106.65	1.35	1.27	-4.47
5,517.00	6.32	162.68	5,482.67	-509.51	109.92	-107.07	1.06	0.97	-3.87
5,530.57	7.47	163.32	5,496.14	-511.07	110.39	-107.54	8.49	8.47	4.72
5,544.14	8.59	163.22	5,509.57	-512.88	110.94	-108.07	8.25	8.25	-0.74
5,557.71	8.54	163.00	5,522.99	-514.82	111.53	-108.65	0.44	-0.37	-1.62
5,571.29	8.47	162.81	5,536.42	-516.74	112.12	-109.23	0.56	-0.52	-1.40
5,584.86	8.38	162.65	5,549.85	-518.63	112.71	-109.81	0.69	-0.66	-1.18
5,598.43	8.28	162.51	5,563.27	-520.51	113.29	-110.39	0.75	-0.74	-1.03
5,612.00	8.18	162.38	5,576.70	-522.36	113.88	-110.96	0.75	-0.74	-0.96
5,625.43	8.09	162.25	5,590.00	-524.17	114.46	-111.53	0.68	-0.67	-0.97
5,638.86	8.00	162.13	5,603.30	-525.96	115.03	-112.09	0.68	-0.67	-0.89
5,652.29	7.91	162.01	5,616.60	-527.73	115.60	-112.66	0.68	-0.67	-0.89
5,665.71	7.82	161.89	5,629.89	-529.48	116.17	-113.21	0.68	-0.67	-0.89
5,679.14	7.73	161.77	5,643.20	-531.20	116.74	-113.77	0.68	-0.67	-0.89
5,692.57	7.64	161.65	5,656.51	-532.91	117.30	-114.33	0.68	-0.67	-0.89
5,706.00	7.54	161.53	5,669.82	-534.59	117.86	-114.88	0.75	-0.74	-0.89
5,720.54	7.43	161.39	5,684.24	-536.39	118.47	-115.47	0.77	-0.76	-0.96
5,735.08	7.31	161.24	5,698.66	-538.15	119.06	-116.06	0.84	-0.83	-1.03
5,749.62	7.19	161.10	5,713.08	-539.89	119.66	-116.64	0.83	-0.83	-0.96
5,764.15	7.07	160.95	5,727.50	-541.60	120.24	-117.22	0.84	-0.83	-1.03
5,778.69	6.95	160.81	5,741.93	-543.27	120.82	-117.79	0.83	-0.83	-0.96
5,793.23	6.82	160.68	5,756.36	-544.92	121.40	-118.35	0.90	-0.89	-0.89
5,797.90	6.78	160.64	5,761.00	-545.44	121.58	-118.53	0.83	-0.83	-0.88
1st Bone Spring SD									
5,807.77	6.70	160.55	5,770.80	-546.53	121.97	-118.91	0.83	-0.83	-0.90
5,822.31	6.58	160.44	5,785.24	-548.12	122.53	-119.46	0.83	-0.83	-0.76
5,836.85	6.46	160.35	5,799.69	-549.67	123.08	-120.01	0.83	-0.83	-0.62
5,851.38	6.35	160.29	5,814.13	-551.20	123.63	-120.55	0.76	-0.76	-0.41
5,858.29	6.30	160.29	5,821.00	-551.92	123.88	-120.80	0.69	-0.69	-0.07
2nd Bone Spring LM									
5,865.92	6.25	160.28	5,828.58	-552.70	124.17	-121.08	0.69	-0.69	-0.07
5,880.46	6.17	160.33	5,843.04	-554.18	124.70	-121.60	0.55	-0.55	0.34
5,895.00	6.10	160.47	5,857.49	-555.65	125.22	-122.11	0.49	-0.48	0.96
5,909.54	6.08	160.77	5,871.95	-557.10	125.73	-122.62	0.26	-0.14	2.06
5,924.08	6.07	161.16	5,886.41	-558.56	126.23	-123.11	0.29	-0.07	2.68



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)	
5,938.62	6.08	161.61	5,900.87	-560.01	126.72	-123.59	0.33	0.07	3.09	
5,953.15	6.08	162.11	5,915.32	-561.48	127.20	-124.06	0.36	0.00	3.44	
5,967.69	6.09	162.65	5,929.77	-562.95	127.67	-124.52	0.40	0.07	3.71	
5,982.23	6.36	163.96	5,944.23	-564.46	128.12	-124.97	2.10	1.86	9.01	
5,996.77	7.78	167.03	5,958.66	-566.19	128.56	-125.40	10.10	9.77	21.11	
6,011.31	9.22	166.70	5,973.04	-568.28	129.05	-125.88	9.91	9.90	-2.27	
6,025.85	9.20	167.34	5,987.39	-570.55	129.58	-126.39	0.72	-0.14	4.40	
6,040.38	9.18	168.05	6,001.73	-572.82	130.07	-126.87	0.79	-0.14	4.89	
6,054.92	9.14	168.80	6,016.09	-575.08	130.53	-127.32	0.87	-0.28	5.16	
6,069.46	9.08	169.56	6,030.45	-577.35	130.97	-127.74	0.92	-0.41	5.23	
6,084.00	8.97	170.31	6,044.81	-579.59	131.37	-128.13	1.11	-0.76	5.16	
6,098.54	8.79	170.90	6,059.17	-581.81	131.73	-128.48	1.39	-1.24	4.06	
6,113.08	8.57	171.45	6,073.54	-583.97	132.07	-128.80	1.62	-1.51	3.78	
6,127.62	8.31	171.98	6,087.93	-586.09	132.38	-129.10	1.87	-1.79	3.65	
6,142.15	8.04	172.51	6,102.31	-588.13	132.66	-129.37	1.93	-1.86	3.65	
6,156.69	7.76	173.05	6,116.71	-590.11	132.91	-129.61	1.99	-1.93	3.71	
6,171.23	7.47	173.62	6,131.12	-592.03	133.13	-129.82	2.06	-1.99	3.92	
6,185.77	7.17	174.22	6,145.54	-593.87	133.33	-130.01	2.13	-2.06	4.13	
6,200.31	6.88	174.86	6,159.98	-595.64	133.50	-130.17	2.07	-1.99	4.40	
6,214.85	6.59	175.54	6,174.42	-597.34	133.64	-130.30	2.07	-1.99	4.68	
6,229.38	6.31	176.26	6,188.85	-598.97	133.76	-130.41	2.01	-1.93	4.96	
6,243.92	6.05	177.01	6,203.31	-600.53	133.85	-130.49	1.87	-1.79	5.16	
6,258.46	5.81	177.78	6,217.77	-602.03	133.92	-130.55	1.74	-1.65	5.30	
6,273.00	6.97	175.60	6,232.22	-603.65	134.01	-130.64	8.15	7.98	-14.99	
6,287.54	8.34	172.71	6,246.63	-605.57	134.21	-130.83	9.78	9.42	-19.88	
6,302.08	8.50	172.46	6,261.01	-607.68	134.49	-131.09	1.13	1.10	-1.72	
6,316.62	8.38	172.81	6,275.40	-609.80	134.76	-131.35	0.90	-0.83	2.41	
6,331.15	8.28	173.16	6,289.77	-611.89	135.02	-131.60	0.77	-0.69	2.41	
6,345.69	8.18	173.49	6,304.16	-613.96	135.26	-131.83	0.76	-0.69	2.27	
6,360.23	8.08	173.82	6,318.56	-616.00	135.49	-132.05	0.76	-0.69	2.27	
6,374.77	7.98	174.14	6,332.95	-618.02	135.70	-132.25	0.75	-0.69	2.20	
6,389.31	7.89	174.45	6,347.36	-620.02	135.90	-132.44	0.69	-0.62	2.13	
6,403.85	7.79	174.78	6,361.76	-621.99	136.09	-132.61	0.75	-0.69	2.27	
6,418.38	7.69	175.12	6,376.16	-623.94	136.26	-132.77	0.76	-0.69	2.34	
6,432.92	7.59	175.50	6,390.57	-625.87	136.42	-132.92	0.77	-0.69	2.61	
6,447.46	7.48	175.94	6,404.98	-627.77	136.56	-133.05	0.85	-0.76	3.03	
6,462.00	8.76	173.00	6,419.38	-629.81	136.76	-133.24	9.25	8.80	-20.22	
6,476.54	9.96	169.61	6,433.72	-632.15	137.12	-133.59	9.08	8.25	-23.31	
6,491.08	10.50	169.06	6,448.03	-634.69	137.60	-134.06	3.77	3.71	-3.78	
6,505.62	10.31	169.76	6,462.33	-637.27	138.08	-134.52	1.57	-1.31	4.81	
6,520.15	10.12	170.54	6,476.63	-639.81	138.53	-134.95	1.62	-1.31	5.37	
6,534.69	9.92	171.39	6,490.95	-642.30	138.92	-135.33	1.71	-1.38	5.85	
6,549.23	9.72	172.29	6,505.28	-644.76	139.28	-135.67	1.73	-1.38	6.19	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
6,563.77	9.52	173.23	6,519.61	-647.17	139.58	-135.97	1.75	-1.38	6.46
6,578.31	9.32	174.20	6,533.96	-649.53	139.84	-136.21	1.76	-1.38	6.67
6,592.85	9.12	175.18	6,548.31	-651.85	140.06	-136.42	1.75	-1.38	6.74
6,607.38	8.93	176.16	6,562.66	-654.13	140.23	-136.58	1.68	-1.31	6.74
6,621.92	8.75	177.12	6,577.03	-656.36	140.36	-136.69	1.60	-1.24	6.60
6,636.46	8.58	178.04	6,591.40	-658.55	140.45	-136.77	1.51	-1.17	6.33
6,651.00	8.43	178.85	6,605.78	-660.69	140.51	-136.82	1.32	-1.03	5.57
6,665.54	8.29	179.34	6,620.17	-662.81	140.55	-136.84	1.08	-0.96	3.37
6,680.08	8.16	179.71	6,634.56	-664.89	140.56	-136.85	0.97	-0.89	2.54
6,694.62	8.05	180.00	6,648.95	-666.94	140.57	-136.84	0.81	-0.76	1.99
6,709.15	7.94	180.24	6,663.34	-668.96	140.56	-136.83	0.79	-0.76	1.65
6,723.69	7.84	180.45	6,677.74	-670.96	140.55	-136.80	0.72	-0.69	1.44
6,738.23	7.82	180.26	6,692.15	-672.94	140.54	-136.78	0.22	-0.14	-1.31
6,752.77	8.91	175.15	6,706.53	-675.05	140.63	-136.86	9.07	7.50	-35.14
6,767.31	10.29	172.82	6,720.87	-677.46	140.89	-137.10	9.86	9.49	-16.02
6,781.85	10.36	172.87	6,735.17	-680.04	141.21	-137.41	0.49	0.48	0.34
6,796.38	10.29	173.16	6,749.47	-682.63	141.53	-137.72	0.60	-0.48	2.00
6,810.92	10.22	173.44	6,763.77	-685.20	141.83	-138.00	0.59	-0.48	1.93
6,825.46	10.15	173.71	6,778.09	-687.75	142.12	-138.28	0.58	-0.48	1.86
6,840.00	10.08	173.94	6,792.40	-690.29	142.39	-138.54	0.56	-0.48	1.58
6,853.43	10.00	174.11	6,805.62	-692.62	142.64	-138.77	0.64	-0.60	1.27
6,866.86	9.93	174.25	6,818.85	-694.93	142.87	-138.99	0.55	-0.52	1.04
6,880.29	9.85	174.39	6,832.08	-697.23	143.10	-139.21	0.62	-0.60	1.04
6,893.71	9.76	174.52	6,845.31	-699.50	143.32	-139.41	0.69	-0.67	0.97
6,907.14	9.67	174.69	6,858.54	-701.76	143.54	-139.61	0.70	-0.67	1.27
6,920.57	9.58	174.91	6,871.78	-704.00	143.74	-139.81	0.72	-0.67	1.64
6,934.00	9.48	175.24	6,885.03	-706.21	143.93	-139.98	0.85	-0.74	2.46
6,947.43	9.36	175.76	6,898.28	-708.40	144.10	-140.14	1.10	-0.89	3.87
6,960.86	9.25	176.36	6,911.53	-710.57	144.25	-140.28	1.09	-0.82	4.47
6,974.29	9.12	176.98	6,924.79	-712.71	144.38	-140.39	1.22	-0.97	4.62
6,987.71	9.00	177.53	6,938.04	-714.82	144.48	-140.48	1.10	-0.89	4.10
6,995.77	8.93	177.77	6,946.00	-716.07	144.53	-140.53	1.01	-0.89	2.96
2nd Bone Spring SD									
7,001.14	8.88	177.93	6,951.31	-716.91	144.56	-140.55	1.01	-0.89	3.00
7,014.57	8.77	178.06	6,964.58	-718.96	144.63	-140.62	0.83	-0.82	0.97
7,028.00	8.66	177.76	6,977.85	-721.00	144.71	-140.68	0.89	-0.82	-2.23
7,041.57	8.57	176.72	6,991.27	-723.03	144.81	-140.76	1.33	-0.66	-7.66
7,055.14	8.49	175.22	7,004.69	-725.04	144.95	-140.89	1.74	-0.59	-11.05
7,068.71	8.43	173.45	7,018.11	-727.02	145.14	-141.08	1.97	-0.44	-13.04
7,082.29	8.38	171.54	7,031.55	-728.99	145.40	-141.33	2.09	-0.37	-14.06
7,095.86	8.34	169.63	7,044.97	-730.94	145.73	-141.64	2.07	-0.29	-14.08
7,109.43	8.30	167.84	7,058.40	-732.86	146.11	-142.01	1.93	-0.29	-13.19
7,123.00	8.38	165.06	7,071.83	-734.77	146.57	-142.46	3.03	0.59	-20.49
7,136.43	8.99	158.31	7,085.10	-736.70	147.21	-143.09	8.84	4.54	-50.26



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
7,149.86	9.17	155.89	7,098.37	-738.65	148.03	-143.91	3.14	1.34	-18.02
7,163.29	9.04	155.53	7,111.63	-740.58	148.91	-144.77	1.06	-0.97	-2.68
7,176.71	8.91	155.32	7,124.88	-742.49	149.78	-145.63	1.00	-0.97	-1.56
7,190.14	8.79	155.28	7,138.15	-744.37	150.64	-146.48	0.89	-0.89	-0.30
7,203.57	8.68	155.41	7,151.43	-746.22	151.49	-147.32	0.83	-0.82	0.97
7,217.00	8.60	155.77	7,164.70	-748.06	152.33	-148.15	0.72	-0.60	2.68
7,230.57	8.56	156.44	7,178.12	-749.91	153.15	-148.96	0.79	-0.29	4.94
7,244.14	8.55	157.32	7,191.54	-751.76	153.94	-149.74	0.97	-0.07	6.48
7,257.71	8.56	158.29	7,204.96	-753.63	154.70	-150.49	1.07	0.07	7.15
7,271.29	8.57	159.30	7,218.39	-755.52	155.43	-151.21	1.11	0.07	7.44
7,284.86	8.58	160.28	7,231.81	-757.42	156.13	-151.90	1.08	0.07	7.22
7,298.43	8.57	161.19	7,245.23	-759.33	156.80	-152.56	1.00	-0.07	6.71
7,312.00	8.53	161.97	7,258.64	-761.24	157.44	-153.18	0.90	-0.29	5.75
7,325.57	8.42	162.41	7,272.07	-763.14	158.05	-153.79	0.94	-0.81	3.24
7,339.14	8.28	162.68	7,285.49	-765.02	158.64	-154.37	1.07	-1.03	1.99
7,352.71	8.11	162.81	7,298.92	-766.87	159.22	-154.93	1.26	-1.25	0.96
7,366.29	7.93	162.85	7,312.37	-768.68	159.77	-155.48	1.33	-1.33	0.29
7,379.86	7.74	162.80	7,325.81	-770.45	160.32	-156.02	1.40	-1.40	-0.37
7,393.43	7.55	162.69	7,339.26	-772.17	160.86	-156.54	1.40	-1.40	-0.81
7,407.00	7.37	162.51	7,352.72	-773.85	161.38	-157.06	1.34	-1.33	-1.33
7,420.43	7.19	162.30	7,366.04	-775.48	161.90	-157.56	1.35	-1.34	-1.56
7,433.86	7.02	162.03	7,379.37	-777.06	162.41	-158.06	1.29	-1.27	-2.01
7,447.29	6.86	161.72	7,392.70	-778.60	162.91	-158.56	1.22	-1.19	-2.31
7,460.71	6.71	161.40	7,406.02	-780.10	163.41	-159.05	1.15	-1.12	-2.38
7,474.14	6.56	161.08	7,419.36	-781.57	163.91	-159.54	1.15	-1.12	-2.38
7,487.57	6.43	160.81	7,432.71	-783.01	164.41	-160.03	0.99	-0.97	-2.01
7,501.00	6.33	160.63	7,446.06	-784.42	164.90	-160.52	0.76	-0.74	-1.34
7,514.43	6.25	160.67	7,459.40	-785.81	165.39	-161.00	0.60	-0.60	0.30
7,527.86	6.19	160.81	7,472.76	-787.18	165.87	-161.47	0.46	-0.45	1.04
7,541.29	6.15	161.02	7,486.11	-788.54	166.34	-161.93	0.34	-0.30	1.56
7,546.21	6.14	161.11	7,491.00	-789.04	166.51	-162.10	0.29	-0.22	1.77
3rd Bone Spring LM									
7,554.71	6.12	161.26	7,499.45	-789.90	166.80	-162.39	0.29	-0.22	1.80
7,568.14	6.10	161.52	7,512.80	-791.26	167.26	-162.84	0.25	-0.15	1.94
7,581.57	6.09	161.79	7,526.16	-792.61	167.71	-163.28	0.23	-0.07	2.01
7,595.00	6.08	162.05	7,539.51	-793.96	168.15	-163.71	0.22	-0.07	1.94
7,608.57	6.54	163.93	7,553.00	-795.39	168.59	-164.14	3.72	3.39	13.85
7,622.14	7.23	166.06	7,566.47	-796.96	169.01	-164.55	5.42	5.08	15.70
7,635.71	7.26	166.26	7,579.93	-798.62	169.41	-164.95	0.29	0.22	1.47
7,649.29	7.29	166.41	7,593.41	-800.29	169.82	-165.35	0.26	0.22	1.10
7,662.86	7.31	166.49	7,606.87	-801.97	170.22	-165.74	0.17	0.15	0.59
7,676.43	7.30	166.44	7,620.33	-803.65	170.63	-166.14	0.09	-0.07	-0.37
7,690.00	7.26	166.19	7,633.79	-805.32	171.04	-166.53	0.38	-0.29	-1.84



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
7,704.13	7.14	165.57	7,647.80	-807.04	171.47	-166.96	1.01	-0.85	-4.39
7,718.25	6.98	164.70	7,661.82	-808.71	171.91	-167.39	1.36	-1.13	-6.16
7,732.38	6.80	163.66	7,675.85	-810.34	172.37	-167.85	1.55	-1.27	-7.36
7,746.50	6.61	162.50	7,689.87	-811.92	172.85	-168.32	1.65	-1.35	-8.22
7,760.63	6.41	161.27	7,703.91	-813.44	173.35	-168.81	1.73	-1.42	-8.70
7,774.75	6.23	160.05	7,717.94	-814.91	173.87	-169.31	1.59	-1.27	-8.64
7,788.88	6.07	158.93	7,731.99	-816.33	174.40	-169.83	1.42	-1.13	-7.93
7,803.00	5.95	158.06	7,746.03	-817.70	174.94	-170.37	1.07	-0.85	-6.16
7,817.57	5.89	157.77	7,760.53	-819.10	175.50	-170.93	0.46	-0.41	-1.99
7,832.14	5.87	157.76	7,775.02	-820.48	176.07	-171.48	0.14	-0.14	-0.07
7,846.71	5.86	157.94	7,789.51	-821.86	176.63	-172.04	0.14	-0.07	1.24
7,861.29	5.83	158.27	7,804.02	-823.23	177.18	-172.58	0.31	-0.21	2.26
7,875.86	5.78	158.71	7,818.51	-824.61	177.72	-173.12	0.46	-0.34	3.02
7,890.43	5.66	159.29	7,833.01	-825.96	178.24	-173.63	0.91	-0.82	3.98
7,905.00	5.43	160.05	7,847.51	-827.28	178.73	-174.11	1.66	-1.58	5.22
7,918.57	5.03	160.80	7,861.02	-828.45	179.15	-174.52	2.99	-2.95	5.53
7,932.14	4.55	161.80	7,874.55	-829.52	179.51	-174.88	3.59	-3.54	7.37
7,945.71	4.04	163.19	7,888.08	-830.49	179.82	-175.18	3.84	-3.76	10.24
7,959.29	3.55	165.11	7,901.63	-831.35	180.06	-175.42	3.73	-3.61	14.14
7,965.00	3.46	174.11	7,907.33	-831.70	180.13	-175.48	9.75	-1.51	157.60
KOP: 7965.00' MD, -175.48' VS, 7907.33' TVD									
7,972.86	3.49	186.76	7,915.17	-832.17	180.12	-175.47	9.75	0.33	160.95
7,986.43	4.62	214.35	7,928.71	-833.03	179.77	-175.11	16.38	8.33	203.32
8,000.00	6.38	230.22	7,942.22	-833.96	178.88	-174.22	17.03	12.97	116.95
8,013.43	8.27	240.04	7,955.54	-834.92	177.47	-172.80	16.83	14.07	73.12
8,026.86	10.37	246.93	7,968.79	-835.88	175.52	-170.85	17.68	15.64	51.30
8,040.29	12.23	253.26	7,981.96	-836.76	173.04	-168.37	16.63	13.85	47.13
8,053.71	14.27	257.17	7,995.02	-837.54	170.07	-165.39	16.60	15.20	29.14
8,067.14	16.01	261.84	8,007.99	-838.17	166.62	-161.94	15.81	12.96	34.77
8,080.57	17.41	265.83	8,020.85	-838.58	162.79	-158.10	13.47	10.42	29.71
8,094.00	17.85	268.44	8,033.65	-838.78	158.72	-154.04	6.74	3.28	19.43
8,107.57	20.00	270.92	8,046.49	-838.80	154.32	-149.64	16.91	15.84	18.28
8,121.14	22.10	273.41	8,059.15	-838.61	149.45	-144.77	16.82	15.48	18.35
8,128.98	23.39	274.02	8,066.38	-838.42	146.43	-141.75	16.70	16.42	7.80
100'FEL: 8128.98' MD, -141.75' VS, 8066.38' TVD									
8,134.71	24.33	274.43	8,071.62	-838.24	144.12	-139.44	16.70	16.45	7.13
8,148.29	26.47	275.88	8,083.89	-837.72	138.32	-133.64	16.41	15.76	10.68
8,161.86	27.42	274.56	8,095.98	-837.16	132.20	-127.52	8.27	7.00	-9.73
8,175.43	28.36	272.54	8,107.98	-836.77	125.86	-121.19	9.82	6.93	-14.89
8,189.00	30.11	271.28	8,119.82	-836.55	119.24	-114.56	13.67	12.90	-9.29
8,202.57	31.71	269.37	8,131.46	-836.51	112.27	-107.59	13.83	11.79	-14.08
8,216.14	33.53	269.67	8,142.89	-836.57	104.95	-100.28	13.46	13.41	2.21
8,229.71	35.00	267.97	8,154.11	-836.73	97.32	-92.64	12.93	10.83	-12.53
8,243.29	34.72	268.12	8,165.25	-837.00	89.56	-84.88	2.16	-2.06	1.10



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
8,256.86	34.81	267.68	8,176.40	-837.28	81.83	-77.15	1.96	0.66	-3.24
8,270.43	35.37	267.00	8,187.50	-837.64	74.03	-69.35	5.03	4.13	-5.01
8,284.00	36.89	265.69	8,198.46	-838.16	66.05	-61.37	12.56	11.20	-9.65
8,297.43	38.20	264.17	8,209.11	-838.88	57.90	-53.21	11.95	9.75	-11.32
8,310.86	39.74	264.19	8,219.55	-839.74	49.50	-44.80	11.47	11.47	0.15
8,324.29	39.74	264.33	8,229.88	-840.60	40.95	-36.26	0.67	0.00	1.04
8,337.71	39.07	264.69	8,240.25	-841.41	32.47	-27.77	5.27	-4.99	2.68
8,351.14	39.33	264.90	8,250.65	-842.18	24.02	-19.32	2.17	1.94	1.56
8,351.59	39.36	264.91	8,251.00	-842.21	23.74	-19.03	7.34	7.30	1.22
3rd Bone Spring SD									
8,364.57	40.31	265.06	8,260.97	-842.93	15.45	-10.74	7.34	7.30	1.19
8,378.00	41.47	265.01	8,271.12	-843.69	6.69	-1.98	8.64	8.64	-0.37
8,391.43	42.77	264.17	8,281.08	-844.54	-2.27	6.99	10.55	9.68	-6.25
8,404.86	44.19	262.90	8,290.83	-845.59	-11.45	16.18	12.41	10.57	-9.46
8,418.29	45.28	262.12	8,300.37	-846.82	-20.83	25.55	9.09	8.12	-5.81
8,431.71	45.61	262.17	8,309.78	-848.13	-30.30	35.04	2.47	2.46	0.37
8,441.61	46.78	261.03	8,316.64	-849.17	-37.37	42.11	14.46	11.82	-11.55
L07-01-FTP (Dak32-134H)									
8,445.14	47.20	260.63	8,319.04	-849.58	-39.91	44.66	14.46	11.90	-11.25
8,458.57	48.90	259.26	8,328.02	-851.33	-49.75	54.50	14.76	12.66	-10.20
8,472.00	50.57	258.04	8,336.70	-853.34	-59.80	64.56	14.24	12.43	-9.08
8,485.57	52.56	257.11	8,345.14	-855.63	-70.17	74.95	15.62	14.66	-6.85
8,499.14	54.29	256.71	8,353.22	-858.10	-80.79	85.58	12.97	12.75	-2.95
8,512.71	56.23	255.88	8,360.95	-860.74	-91.62	96.43	15.15	14.30	-6.12
8,526.29	58.15	255.08	8,368.31	-863.61	-102.67	107.49	14.98	14.14	-5.89
8,539.86	59.09	255.29	8,375.38	-866.57	-113.87	118.71	7.05	6.93	1.55
8,553.43	60.81	255.59	8,382.17	-869.52	-125.24	130.09	12.82	12.68	2.21
8,567.00	62.53	255.98	8,388.61	-872.45	-136.82	141.69	12.92	12.68	2.87
8,580.43	64.26	255.83	8,394.63	-875.38	-148.46	153.35	12.92	12.88	-1.12
8,593.86	65.98	255.47	8,400.28	-878.40	-160.27	165.17	13.04	12.81	-2.68
8,607.29	67.63	254.99	8,405.57	-881.55	-172.20	177.12	12.72	12.29	-3.57
8,620.71	69.16	254.39	8,410.51	-884.84	-184.24	189.17	12.13	11.40	-4.47
8,634.14	70.51	253.89	8,415.14	-888.29	-196.36	201.32	10.64	10.05	-3.72
8,647.57	71.90	253.29	8,419.46	-891.88	-208.56	213.54	11.18	10.35	-4.47
8,661.00	73.27	252.86	8,423.48	-895.61	-220.82	225.81	10.65	10.20	-3.20
8,674.57	73.64	253.16	8,427.35	-899.41	-233.26	238.28	3.45	2.73	2.21
8,688.14	74.08	253.46	8,431.12	-903.15	-245.74	250.78	3.88	3.24	2.21
8,701.71	74.52	253.78	8,434.79	-906.84	-258.28	263.34	3.96	3.24	2.36
8,715.29	74.92	254.09	8,438.37	-910.46	-270.86	275.95	3.68	2.95	2.28
8,728.86	75.84	253.79	8,441.80	-914.09	-283.48	288.58	7.11	6.78	-2.21
8,742.43	77.40	253.04	8,444.94	-917.86	-296.13	301.26	12.69	11.50	-5.53
8,756.00	79.06	252.63	8,447.70	-921.78	-308.83	313.97	12.59	12.23	-3.02
8,769.43	80.67	252.14	8,450.07	-925.78	-321.43	326.59	12.51	11.99	-3.65



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
8,782.86	80.63	252.59	8,452.25	-929.80	-334.06	339.24	3.32	-0.30	3.35
8,796.29	80.54	253.06	8,454.45	-933.71	-346.71	351.92	3.52	-0.67	3.50
8,809.71	80.43	253.51	8,456.66	-937.52	-359.39	364.62	3.41	-0.82	3.35
8,823.14	80.33	254.21	8,458.91	-941.20	-372.11	377.36	5.19	-0.74	5.21
8,836.57	80.75	255.89	8,461.12	-944.62	-384.91	390.18	12.73	3.13	12.51
8,850.00	81.21	257.72	8,463.22	-947.64	-397.82	403.11	13.89	3.43	13.63
8,863.43	81.32	259.60	8,465.26	-950.25	-410.84	416.14	13.86	0.82	14.00
8,876.86	81.12	261.52	8,467.31	-952.43	-423.93	429.24	14.21	-1.49	14.30
8,890.29	80.63	262.55	8,469.44	-954.27	-437.06	442.38	8.41	-3.65	7.67
8,903.71	79.86	262.57	8,471.72	-955.98	-450.17	455.51	5.74	-5.74	0.15
8,917.14	79.25	263.54	8,474.15	-957.58	-463.28	468.63	8.43	-4.54	7.22
8,930.57	78.95	265.51	8,476.69	-958.84	-476.41	481.76	14.58	-2.23	14.67
8,944.00	78.76	267.54	8,479.29	-959.63	-489.56	494.91	14.90	-1.41	15.12
8,957.57	78.58	269.63	8,481.95	-959.96	-502.86	508.22	15.16	-1.33	15.40
8,971.14	79.89	271.08	8,484.49	-959.88	-516.19	521.55	14.26	9.65	10.69
8,984.71	81.67	272.18	8,486.66	-959.50	-529.58	534.93	15.36	13.12	8.11
8,998.29	83.78	272.47	8,488.38	-958.95	-543.04	548.39	15.68	15.54	2.14
9,011.86	85.55	272.53	8,489.64	-958.36	-556.54	561.88	13.05	13.04	0.44
9,025.43	87.33	272.65	8,490.49	-957.75	-570.07	575.41	13.15	13.12	0.88
9,039.00	89.49	272.62	8,490.86	-957.13	-583.62	588.95	15.92	15.92	-0.22
9,052.43	91.57	272.15	8,490.74	-956.57	-597.03	602.37	15.88	15.49	-3.50
9,064.00	93.21	271.76	8,490.26	-956.17	-608.59	613.92	14.54	14.15	-3.35
EOC: 9064.00' MD, 613.92' VS, 8490.26' TVD									
9,065.86	93.47	271.70	8,490.15	-956.12	-610.44	615.77	14.54	14.15	-3.36
9,079.29	93.27	271.90	8,489.36	-955.70	-623.84	629.17	2.10	-1.49	1.49
9,092.71	93.07	272.11	8,488.62	-955.23	-637.24	642.56	2.16	-1.49	1.56
9,106.14	92.87	272.30	8,487.92	-954.71	-650.64	655.96	2.05	-1.49	1.41
9,119.57	92.69	272.46	8,487.27	-954.15	-664.04	669.36	1.79	-1.34	1.19
9,133.00	92.56	272.56	8,486.65	-953.57	-677.44	682.76	1.22	-0.97	0.74
9,146.57	92.49	272.56	8,486.06	-952.96	-690.99	696.30	0.52	-0.52	0.00
9,160.14	92.48	272.50	8,485.47	-952.36	-704.53	709.84	0.45	-0.07	-0.44
9,173.71	92.49	272.39	8,484.88	-951.78	-718.07	723.38	0.81	0.07	-0.81
9,187.29	92.53	272.26	8,484.28	-951.23	-731.63	736.93	1.00	0.29	-0.96
9,200.86	92.59	272.13	8,483.68	-950.71	-745.18	750.48	1.05	0.44	-0.96
9,214.43	92.66	272.00	8,483.06	-950.23	-758.72	764.02	1.09	0.52	-0.96
9,228.00	92.73	271.90	8,482.42	-949.76	-772.27	777.56	0.90	0.52	-0.74
9,241.43	92.81	271.85	8,481.77	-949.33	-785.68	790.97	0.70	0.60	-0.37
9,254.86	92.89	271.82	8,481.10	-948.90	-799.08	804.37	0.64	0.60	-0.22
9,268.29	92.98	271.81	8,480.41	-948.47	-812.49	817.78	0.67	0.67	-0.07
9,281.71	93.07	271.80	8,479.71	-948.05	-825.89	831.17	0.67	0.67	-0.07
9,295.14	93.15	271.80	8,478.98	-947.63	-839.29	844.57	0.60	0.60	0.00
9,308.57	93.23	271.79	8,478.23	-947.21	-852.69	857.97	0.60	0.60	-0.07
9,322.00	93.30	271.77	8,477.47	-946.79	-866.09	871.37	0.54	0.52	-0.15
9,335.43	93.34	271.73	8,476.69	-946.38	-879.49	884.77	0.42	0.30	-0.30



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)	
9,348.86	93.38	271.68	8,475.90	-945.98	-892.90	898.16	0.48	0.30	-0.37	
9,362.29	93.41	271.61	8,475.10	-945.60	-906.30	911.56	0.57	0.22	-0.52	
9,375.71	93.45	271.54	8,474.30	-945.23	-919.69	924.95	0.60	0.30	-0.52	
9,389.14	93.48	271.47	8,473.49	-944.88	-933.09	938.35	0.57	0.22	-0.52	
9,402.57	93.53	271.40	8,472.67	-944.54	-946.49	951.75	0.64	0.37	-0.52	
9,416.00	93.59	271.33	8,471.84	-944.22	-959.89	965.15	0.69	0.45	-0.52	
9,429.57	93.67	271.27	8,470.98	-943.92	-973.43	978.68	0.74	0.59	-0.44	
9,443.14	93.76	271.20	8,470.10	-943.62	-986.97	992.22	0.84	0.66	-0.52	
9,456.71	93.87	271.14	8,469.19	-943.35	-1,000.50	1,005.76	0.92	0.81	-0.44	
9,470.29	93.97	271.08	8,468.27	-943.09	-1,014.05	1,019.30	0.86	0.74	-0.44	
9,483.86	94.08	271.01	8,467.31	-942.84	-1,027.58	1,032.83	0.96	0.81	-0.52	
9,497.43	94.19	270.94	8,466.33	-942.61	-1,041.12	1,046.36	0.96	0.81	-0.52	
9,511.00	94.30	270.85	8,465.33	-942.40	-1,054.65	1,059.89	1.05	0.81	-0.66	
9,524.43	94.39	270.73	8,464.31	-942.21	-1,068.04	1,073.28	1.11	0.67	-0.89	
9,537.86	94.48	270.61	8,463.27	-942.06	-1,081.43	1,086.67	1.11	0.67	-0.89	
9,551.29	94.56	270.49	8,462.22	-941.93	-1,094.81	1,100.06	1.07	0.60	-0.89	
9,564.71	94.66	270.37	8,461.14	-941.83	-1,108.19	1,113.43	1.16	0.75	-0.89	
9,578.14	94.46	270.22	8,460.07	-941.76	-1,121.58	1,126.82	1.86	-1.49	-1.12	
9,591.57	93.22	269.95	8,459.17	-941.74	-1,134.98	1,140.22	9.45	-9.23	-2.01	
9,605.00	93.38	269.89	8,458.40	-941.76	-1,148.38	1,153.63	1.27	1.19	-0.45	
9,618.44	93.57	269.87	8,457.58	-941.78	-1,161.80	1,167.04	1.42	1.41	-0.15	
9,631.89	93.80	269.87	8,456.72	-941.82	-1,175.22	1,180.46	1.71	1.71	0.00	
9,645.33	94.03	269.89	8,455.80	-941.84	-1,188.63	1,193.87	1.72	1.71	0.15	
9,658.78	94.26	269.91	8,454.83	-941.87	-1,202.05	1,207.29	1.72	1.71	0.15	
9,672.22	94.49	269.94	8,453.80	-941.88	-1,215.45	1,220.69	1.73	1.71	0.22	
9,685.67	93.65	269.60	8,452.85	-941.94	-1,228.86	1,234.10	6.74	-6.25	-2.53	
9,699.11	92.63	269.20	8,452.11	-942.08	-1,242.28	1,247.52	8.15	-7.59	-2.98	
9,712.56	92.78	269.19	8,451.48	-942.27	-1,255.71	1,260.96	1.12	1.12	-0.07	
9,726.00	92.88	269.16	8,450.81	-942.46	-1,269.14	1,274.38	0.78	0.74	-0.22	
9,739.43	92.89	269.10	8,450.14	-942.66	-1,282.55	1,287.79	0.45	0.07	-0.45	
9,752.86	92.86	269.01	8,449.46	-942.89	-1,295.96	1,301.21	0.71	-0.22	-0.67	
9,766.29	92.79	268.90	8,448.80	-943.13	-1,309.37	1,314.62	0.97	-0.52	-0.82	
9,779.71	92.72	268.79	8,448.16	-943.40	-1,322.77	1,328.02	0.97	-0.52	-0.82	
9,793.14	92.67	268.68	8,447.53	-943.70	-1,336.18	1,341.43	0.90	-0.37	-0.82	
9,806.57	91.42	268.57	8,447.05	-944.02	-1,349.60	1,354.85	9.34	-9.31	-0.82	
9,820.00	91.03	268.46	8,446.76	-944.37	-1,363.02	1,368.28	3.02	-2.90	-0.82	
9,833.57	91.13	268.37	8,446.50	-944.74	-1,376.59	1,381.84	0.99	0.74	-0.66	
9,847.14	91.28	268.28	8,446.22	-945.14	-1,390.15	1,395.41	1.29	1.11	-0.66	
9,860.71	91.46	268.19	8,445.89	-945.56	-1,403.71	1,408.97	1.48	1.33	-0.66	
9,874.29	91.66	268.11	8,445.52	-945.99	-1,417.28	1,422.54	1.59	1.47	-0.59	
9,887.86	91.87	268.03	8,445.11	-946.45	-1,430.83	1,436.10	1.66	1.55	-0.59	
9,901.43	92.08	267.96	8,444.64	-946.93	-1,444.39	1,449.65	1.63	1.55	-0.52	
9,915.00	92.29	267.90	8,444.12	-947.42	-1,457.94	1,463.21	1.61	1.55	-0.44	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)	
9,928.43	92.49	267.86	8,443.56	-947.91	-1,471.35	1,476.62	1.52	1.49	-0.30	
9,941.86	92.67	267.83	8,442.96	-948.42	-1,484.75	1,490.03	1.36	1.34	-0.22	
9,955.29	92.85	267.80	8,442.31	-948.93	-1,498.16	1,503.43	1.36	1.34	-0.22	
9,968.71	93.01	267.76	8,441.62	-949.45	-1,511.55	1,516.83	1.23	1.19	-0.30	
9,982.14	93.15	267.72	8,440.90	-949.98	-1,524.95	1,530.23	1.08	1.04	-0.30	
9,995.57	93.26	267.65	8,440.15	-950.52	-1,538.35	1,543.63	0.97	0.82	-0.52	
10,009.00	93.31	267.55	8,439.38	-951.08	-1,551.74	1,557.03	0.83	0.37	-0.74	
10,022.57	93.29	267.40	8,438.60	-951.68	-1,565.28	1,570.57	1.11	-0.15	-1.11	
10,036.14	93.23	267.22	8,437.83	-952.31	-1,578.81	1,584.11	1.40	-0.44	-1.33	
10,049.71	93.16	267.02	8,437.07	-952.99	-1,592.34	1,597.64	1.56	-0.52	-1.47	
10,063.29	93.09	266.83	8,436.33	-953.72	-1,605.88	1,611.18	1.49	-0.52	-1.40	
10,076.86	93.06	266.63	8,435.60	-954.49	-1,619.41	1,624.72	1.49	-0.22	-1.47	
10,090.43	91.38	267.68	8,435.08	-955.17	-1,632.95	1,638.26	14.60	-12.38	7.74	
10,104.00	91.46	267.52	8,434.74	-955.73	-1,646.51	1,651.82	1.32	0.59	-1.18	
10,117.43	91.65	267.38	8,434.38	-956.33	-1,659.92	1,665.24	1.76	1.41	-1.04	
10,130.86	91.90	267.26	8,433.96	-956.96	-1,673.33	1,678.65	2.06	1.86	-0.89	
10,144.29	92.18	267.15	8,433.48	-957.61	-1,686.73	1,692.06	2.24	2.08	-0.82	
10,157.71	92.47	267.06	8,432.94	-958.29	-1,700.13	1,705.45	2.26	2.16	-0.67	
10,171.14	92.67	267.11	8,432.34	-958.97	-1,713.53	1,718.85	1.53	1.49	0.37	
10,184.57	91.72	268.70	8,431.82	-959.46	-1,726.94	1,732.27	13.78	-7.07	11.84	
10,198.00	91.88	268.78	8,431.40	-959.76	-1,740.36	1,745.69	1.33	1.19	0.60	
10,211.57	92.07	268.77	8,430.93	-960.05	-1,753.91	1,759.25	1.40	1.40	-0.07	
10,225.14	92.24	268.78	8,430.42	-960.34	-1,767.47	1,772.81	1.25	1.25	0.07	
10,238.71	92.39	268.80	8,429.88	-960.62	-1,781.03	1,786.37	1.12	1.11	0.15	
10,252.29	92.53	268.81	8,429.29	-960.91	-1,794.59	1,799.93	1.03	1.03	0.07	
10,265.86	92.68	268.81	8,428.68	-961.19	-1,808.15	1,813.49	1.11	1.11	0.00	
10,279.43	92.84	268.78	8,428.02	-961.47	-1,821.70	1,827.04	1.20	1.18	-0.22	
10,293.00	93.01	268.72	8,427.33	-961.77	-1,835.25	1,840.59	1.33	1.25	-0.44	
10,306.43	93.21	268.59	8,426.60	-962.08	-1,848.65	1,854.00	1.78	1.49	-0.97	
10,319.86	93.43	268.43	8,425.82	-962.43	-1,862.06	1,867.40	2.02	1.64	-1.19	
10,333.29	93.68	268.26	8,424.99	-962.82	-1,875.45	1,880.80	2.25	1.86	-1.27	
10,346.71	93.95	268.09	8,424.10	-963.25	-1,888.84	1,894.19	2.38	2.01	-1.27	
10,360.14	94.24	267.94	8,423.14	-963.71	-1,902.23	1,907.58	2.43	2.16	-1.12	
10,373.57	92.85	268.61	8,422.31	-964.11	-1,915.62	1,920.98	11.49	-10.35	4.99	
10,387.00	91.60	269.09	8,421.79	-964.38	-1,929.04	1,934.40	9.97	-9.31	3.57	
10,400.57	92.10	269.10	8,421.35	-964.60	-1,942.60	1,947.96	3.69	3.68	0.07	
10,414.14	92.67	269.15	8,420.78	-964.80	-1,956.16	1,961.52	4.22	4.20	0.37	
10,427.71	93.26	269.21	8,420.08	-965.00	-1,969.71	1,975.07	4.37	4.35	0.44	
10,441.29	93.85	269.29	8,419.24	-965.18	-1,983.26	1,988.62	4.38	4.34	0.59	
10,454.86	94.43	269.36	8,418.26	-965.34	-1,996.79	2,002.15	4.30	4.27	0.52	
10,468.43	94.95	269.41	8,417.15	-965.48	-2,010.32	2,015.68	3.85	3.83	0.37	
10,482.00	95.40	269.44	8,415.93	-965.62	-2,023.83	2,029.19	3.32	3.32	0.22	
10,495.43	95.70	269.42	8,414.63	-965.75	-2,037.20	2,042.56	2.24	2.23	-0.15	
10,508.86	94.24	269.63	8,413.46	-965.86	-2,050.58	2,055.94	10.98	-10.87	1.56	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
10,522.29	92.30	269.77	8,412.70	-965.93	-2,063.98	2,069.35	14.48	-14.45	1.04
10,535.71	91.08	269.88	8,412.30	-965.97	-2,077.40	2,082.76	9.13	-9.09	0.82
10,549.14	91.16	269.77	8,412.04	-966.01	-2,090.83	2,096.19	1.01	0.60	-0.82
10,562.57	91.20	269.66	8,411.76	-966.08	-2,104.25	2,109.62	0.87	0.30	-0.82
10,576.00	91.23	269.55	8,411.48	-966.17	-2,117.68	2,123.04	0.85	0.22	-0.82
10,589.57	91.26	269.44	8,411.18	-966.29	-2,131.25	2,136.61	0.84	0.22	-0.81
10,603.14	89.58	269.63	8,411.08	-966.40	-2,144.81	2,150.18	12.46	-12.38	1.40
10,616.71	88.32	269.82	8,411.33	-966.47	-2,158.38	2,163.75	9.39	-9.29	1.40
10,630.29	88.33	269.72	8,411.73	-966.52	-2,171.96	2,177.32	0.74	0.07	-0.74
10,643.86	88.32	269.63	8,412.13	-966.60	-2,185.52	2,190.88	0.67	-0.07	-0.66
10,657.43	88.32	269.53	8,412.52	-966.70	-2,199.08	2,204.45	0.74	0.00	-0.74
10,671.00	88.32	269.45	8,412.92	-966.82	-2,212.65	2,218.01	0.59	0.00	-0.59
10,684.43	88.33	269.37	8,413.31	-966.96	-2,226.07	2,231.44	0.60	0.07	-0.60
10,697.86	88.34	269.30	8,413.71	-967.11	-2,239.49	2,244.86	0.53	0.07	-0.52
10,711.29	88.36	269.24	8,414.09	-967.28	-2,252.92	2,258.28	0.47	0.15	-0.45
10,724.71	88.39	269.19	8,414.47	-967.47	-2,266.33	2,271.70	0.43	0.22	-0.37
10,738.14	88.42	269.14	8,414.85	-967.66	-2,279.75	2,285.12	0.43	0.22	-0.37
10,751.57	88.46	269.10	8,415.21	-967.87	-2,293.18	2,298.55	0.42	0.30	-0.30
10,765.00	88.50	269.08	8,415.57	-968.08	-2,306.60	2,311.97	0.33	0.30	-0.15
10,778.43	88.57	269.08	8,415.91	-968.30	-2,320.02	2,325.40	0.52	0.52	0.00
10,791.86	88.64	269.09	8,416.24	-968.51	-2,333.45	2,338.82	0.53	0.52	0.07
10,805.29	88.72	269.11	8,416.55	-968.72	-2,346.87	2,352.25	0.61	0.60	0.15
10,818.71	88.80	269.13	8,416.84	-968.93	-2,360.29	2,365.66	0.61	0.60	0.15
10,832.14	88.88	269.16	8,417.11	-969.13	-2,373.71	2,379.09	0.64	0.60	0.22
10,845.57	88.96	269.19	8,417.36	-969.32	-2,387.14	2,392.52	0.64	0.60	0.22
10,859.00	89.03	269.21	8,417.60	-969.51	-2,400.57	2,405.95	0.54	0.52	0.15
10,872.57	89.10	269.23	8,417.82	-969.69	-2,414.13	2,419.51	0.54	0.52	0.15
10,886.14	89.15	269.24	8,418.03	-969.88	-2,427.70	2,433.08	0.38	0.37	0.07
10,899.71	89.20	269.25	8,418.22	-970.05	-2,441.27	2,446.65	0.38	0.37	0.07
10,913.29	89.25	269.26	8,418.41	-970.23	-2,454.85	2,460.23	0.38	0.37	0.07
10,926.86	89.29	269.27	8,418.58	-970.41	-2,468.41	2,473.80	0.30	0.29	0.07
10,940.43	89.32	269.28	8,418.74	-970.58	-2,481.98	2,487.36	0.23	0.22	0.07
10,954.00	89.34	269.30	8,418.90	-970.75	-2,495.55	2,500.93	0.21	0.15	0.15
10,967.43	89.35	269.33	8,419.06	-970.91	-2,508.98	2,514.36	0.24	0.07	0.22
10,980.86	89.36	269.37	8,419.21	-971.06	-2,522.41	2,527.79	0.31	0.07	0.30
10,994.29	89.37	269.40	8,419.36	-971.20	-2,535.84	2,541.22	0.24	0.07	0.22
11,007.71	89.38	269.43	8,419.50	-971.34	-2,549.25	2,554.64	0.24	0.07	0.22
11,021.14	89.40	269.45	8,419.65	-971.47	-2,562.68	2,568.07	0.21	0.15	0.15
11,034.57	90.46	269.81	8,419.66	-971.56	-2,576.11	2,581.50	8.34	7.89	2.68
11,048.00	91.40	270.11	8,419.44	-971.57	-2,589.54	2,594.93	7.35	7.00	2.23
11,061.57	91.49	270.08	8,419.10	-971.54	-2,603.11	2,608.49	0.70	0.66	-0.22
11,075.14	91.59	270.03	8,418.74	-971.53	-2,616.67	2,622.06	0.82	0.74	-0.37
11,088.71	91.71	269.98	8,418.35	-971.53	-2,630.24	2,635.62	0.96	0.88	-0.37



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
11,102.29	91.83	269.91	8,417.93	-971.54	-2,643.81	2,649.19	1.02	0.88	-0.52
11,115.86	91.96	269.85	8,417.48	-971.57	-2,657.37	2,662.76	1.06	0.96	-0.44
11,129.43	92.09	269.79	8,417.00	-971.61	-2,670.93	2,676.32	1.05	0.96	-0.44
11,143.00	92.23	269.73	8,416.49	-971.67	-2,684.49	2,689.88	1.12	1.03	-0.44
11,156.43	92.37	269.69	8,415.95	-971.74	-2,697.91	2,703.30	1.08	1.04	-0.30
11,169.86	92.50	269.64	8,415.38	-971.82	-2,711.33	2,716.71	1.04	0.97	-0.37
11,183.29	92.63	269.60	8,414.78	-971.91	-2,724.75	2,730.13	1.01	0.97	-0.30
11,196.71	92.76	269.56	8,414.15	-972.00	-2,738.15	2,743.54	1.01	0.97	-0.30
11,210.14	92.87	269.51	8,413.49	-972.11	-2,751.56	2,756.95	0.90	0.82	-0.37
11,223.57	92.96	269.45	8,412.80	-972.23	-2,764.98	2,770.36	0.81	0.67	-0.45
11,237.00	93.03	269.39	8,412.10	-972.37	-2,778.39	2,783.77	0.69	0.52	-0.45
11,250.57	93.04	269.30	8,411.38	-972.53	-2,791.94	2,797.33	0.67	0.07	-0.66
11,264.14	93.03	269.21	8,410.66	-972.70	-2,805.49	2,810.88	0.67	-0.07	-0.66
11,277.71	93.01	269.11	8,409.95	-972.90	-2,819.04	2,824.43	0.75	-0.15	-0.74
11,291.29	92.98	269.01	8,409.24	-973.12	-2,832.60	2,837.99	0.77	-0.22	-0.74
11,304.86	92.94	268.91	8,408.54	-973.37	-2,846.15	2,851.54	0.79	-0.29	-0.74
11,318.43	92.20	269.25	8,407.93	-973.59	-2,859.70	2,865.09	6.00	-5.45	2.51
11,332.00	91.22	269.74	8,407.53	-973.71	-2,873.26	2,878.66	8.07	-7.22	3.61
11,345.43	91.23	269.69	8,407.24	-973.77	-2,886.69	2,892.08	0.38	0.07	-0.37
11,358.86	91.24	269.64	8,406.95	-973.85	-2,900.12	2,905.51	0.38	0.07	-0.37
11,372.29	91.25	269.60	8,406.66	-973.94	-2,913.54	2,918.94	0.31	0.07	-0.30
11,385.71	91.28	269.56	8,406.36	-974.04	-2,926.96	2,932.35	0.37	0.22	-0.30
11,399.14	91.31	269.52	8,406.06	-974.15	-2,940.39	2,945.78	0.37	0.22	-0.30
11,412.57	91.36	269.49	8,405.74	-974.26	-2,953.81	2,959.21	0.43	0.37	-0.22
11,426.00	91.43	269.45	8,405.42	-974.39	-2,967.24	2,972.63	0.60	0.52	-0.30
11,439.57	91.52	269.42	8,405.07	-974.52	-2,980.80	2,986.20	0.70	0.66	-0.22
11,453.14	91.64	269.38	8,404.69	-974.66	-2,994.37	2,999.76	0.93	0.88	-0.29
11,466.71	91.76	269.34	8,404.29	-974.81	-3,007.93	3,013.33	0.93	0.88	-0.29
11,480.29	91.88	269.31	8,403.86	-974.97	-3,021.50	3,026.90	0.91	0.88	-0.22
11,493.86	92.00	269.27	8,403.40	-975.14	-3,035.06	3,040.46	0.93	0.88	-0.29
11,507.43	92.10	269.23	8,402.92	-975.32	-3,048.62	3,054.02	0.79	0.74	-0.29
11,521.00	92.19	269.19	8,402.41	-975.51	-3,062.18	3,067.58	0.73	0.66	-0.29
11,534.43	92.25	269.15	8,401.89	-975.70	-3,075.60	3,081.00	0.54	0.45	-0.30
11,547.86	92.29	269.10	8,401.36	-975.91	-3,089.02	3,094.42	0.48	0.30	-0.37
11,561.29	92.30	269.05	8,400.82	-976.12	-3,102.44	3,107.84	0.38	0.07	-0.37
11,574.71	92.29	269.00	8,400.28	-976.35	-3,115.84	3,121.25	0.38	-0.07	-0.37
11,588.14	92.25	268.94	8,399.75	-976.59	-3,129.26	3,134.67	0.54	-0.30	-0.45
11,601.57	92.18	268.86	8,399.23	-976.85	-3,142.68	3,148.08	0.79	-0.52	-0.60
11,615.00	92.04	268.77	8,398.74	-977.13	-3,156.10	3,161.50	1.24	-1.04	-0.67
11,628.57	91.83	268.64	8,398.28	-977.43	-3,169.66	3,175.06	1.82	-1.55	-0.96
11,642.14	91.56	268.50	8,397.88	-977.77	-3,183.21	3,188.63	2.24	-1.99	-1.03
11,655.71	91.27	268.34	8,397.54	-978.15	-3,196.78	3,202.19	2.44	-2.14	-1.18
11,669.29	90.97	268.18	8,397.27	-978.56	-3,210.35	3,215.76	2.50	-2.21	-1.18



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
11,682.86	90.69	268.02	8,397.08	-979.01	-3,223.91	3,229.33	2.38	-2.06	-1.18
11,696.43	90.44	267.87	8,396.94	-979.49	-3,237.47	3,242.89	2.15	-1.84	-1.11
11,710.00	90.26	267.73	8,396.86	-980.02	-3,251.03	3,256.45	1.68	-1.33	-1.03
11,723.43	90.19	267.61	8,396.81	-980.56	-3,264.45	3,269.87	1.03	-0.52	-0.89
11,736.86	90.18	267.51	8,396.77	-981.13	-3,277.86	3,283.29	0.75	-0.07	-0.74
11,750.29	90.22	267.42	8,396.72	-981.73	-3,291.28	3,296.71	0.73	0.30	-0.67
11,763.71	90.30	267.34	8,396.66	-982.34	-3,304.69	3,310.12	0.84	0.60	-0.60
11,777.14	90.40	267.28	8,396.58	-982.97	-3,318.10	3,323.54	0.87	0.74	-0.45
11,790.57	90.78	268.92	8,396.44	-983.42	-3,331.52	3,336.96	12.53	2.83	12.21
11,804.00	91.10	269.76	8,396.22	-983.57	-3,344.95	3,350.39	6.69	2.38	6.25
11,817.57	91.33	269.78	8,395.93	-983.63	-3,358.52	3,363.96	1.70	1.69	0.15
11,831.14	91.60	269.81	8,395.58	-983.67	-3,372.08	3,377.52	2.00	1.99	0.22
11,844.71	91.88	269.85	8,395.17	-983.71	-3,385.65	3,391.09	2.08	2.06	0.29
11,858.29	92.16	269.90	8,394.69	-983.74	-3,399.22	3,404.66	2.09	2.06	0.37
11,871.86	92.43	269.95	8,394.15	-983.76	-3,412.78	3,418.22	2.02	1.99	0.37
11,885.43	92.67	269.99	8,393.54	-983.77	-3,426.33	3,431.77	1.79	1.77	0.29
11,899.00	92.86	270.02	8,392.89	-983.77	-3,439.89	3,445.33	1.42	1.40	0.22
11,912.43	92.96	270.03	8,392.21	-983.76	-3,453.30	3,458.74	0.75	0.74	0.07
11,925.86	93.02	270.02	8,391.51	-983.76	-3,466.71	3,472.15	0.45	0.45	-0.07
11,939.29	93.03	269.99	8,390.80	-983.75	-3,480.12	3,485.56	0.24	0.07	-0.22
11,952.71	93.00	269.96	8,390.09	-983.76	-3,493.53	3,498.97	0.32	-0.22	-0.22
11,966.14	92.95	269.92	8,389.40	-983.77	-3,506.94	3,512.38	0.48	-0.37	-0.30
11,979.57	91.89	270.19	8,388.83	-983.76	-3,520.35	3,525.79	8.14	-7.89	2.01
11,993.00	90.83	270.35	8,388.51	-983.70	-3,533.78	3,539.22	7.98	-7.89	1.19
12,006.57	90.64	270.29	8,388.34	-983.62	-3,547.35	3,552.79	1.47	-1.40	-0.44
12,020.14	90.41	270.21	8,388.21	-983.56	-3,560.92	3,566.36	1.79	-1.69	-0.59
12,033.71	90.16	270.13	8,388.14	-983.52	-3,574.49	3,579.93	1.93	-1.84	-0.59
12,047.29	89.91	270.05	8,388.14	-983.50	-3,588.07	3,593.51	1.93	-1.84	-0.59
12,060.86	89.68	269.97	8,388.18	-983.50	-3,601.64	3,607.08	1.79	-1.69	-0.59
12,074.43	89.47	269.89	8,388.29	-983.52	-3,615.21	3,620.64	1.66	-1.55	-0.59
12,088.00	89.32	269.81	8,388.43	-983.55	-3,628.78	3,634.21	1.25	-1.11	-0.59
12,101.43	89.26	269.74	8,388.59	-983.60	-3,642.21	3,647.64	0.69	-0.45	-0.52
12,114.86	89.26	269.68	8,388.77	-983.67	-3,655.63	3,661.07	0.45	0.00	-0.45
12,128.29	89.30	269.61	8,388.94	-983.76	-3,669.06	3,674.50	0.60	0.30	-0.52
12,141.71	89.35	269.55	8,389.10	-983.85	-3,682.48	3,687.92	0.58	0.37	-0.45
12,155.14	89.41	269.48	8,389.24	-983.97	-3,695.91	3,701.35	0.69	0.45	-0.52
12,168.57	89.47	269.42	8,389.37	-984.10	-3,709.34	3,714.78	0.63	0.45	-0.45
12,182.00	89.51	269.35	8,389.49	-984.24	-3,722.77	3,728.21	0.60	0.30	-0.52
12,195.57	89.53	269.28	8,389.60	-984.40	-3,736.34	3,741.78	0.54	0.15	-0.52
12,209.14	89.52	269.20	8,389.72	-984.58	-3,749.91	3,755.35	0.59	-0.07	-0.59
12,222.71	89.51	269.12	8,389.83	-984.78	-3,763.47	3,768.91	0.59	-0.07	-0.59
12,236.29	89.51	269.05	8,389.95	-985.00	-3,777.05	3,782.49	0.52	0.00	-0.52
12,249.86	89.52	268.99	8,390.06	-985.23	-3,790.62	3,796.06	0.45	0.07	-0.44
12,263.43	89.57	268.93	8,390.17	-985.48	-3,804.19	3,809.63	0.58	0.37	-0.44



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
12,277.00	90.69	269.60	8,390.14	-985.65	-3,817.75	3,823.20	9.62	8.25	4.94
12,290.57	90.98	269.67	8,389.94	-985.74	-3,831.32	3,836.77	2.20	2.14	0.52
12,304.14	91.19	269.65	8,389.69	-985.82	-3,844.89	3,850.34	1.55	1.55	-0.15
12,317.71	91.41	269.64	8,389.38	-985.90	-3,858.46	3,863.90	1.62	1.62	-0.07
12,331.29	91.64	269.63	8,389.02	-985.99	-3,872.03	3,877.48	1.70	1.69	-0.07
12,344.86	91.84	269.62	8,388.60	-986.08	-3,885.59	3,891.04	1.48	1.47	-0.07
12,358.43	91.99	269.60	8,388.15	-986.17	-3,899.16	3,904.60	1.12	1.11	-0.15
12,372.00	92.06	269.58	8,387.67	-986.27	-3,912.72	3,918.17	0.54	0.52	-0.15
12,385.43	91.99	269.53	8,387.20	-986.37	-3,926.14	3,931.59	0.64	-0.52	-0.37
12,398.86	91.85	269.48	8,386.75	-986.49	-3,939.56	3,945.01	1.11	-1.04	-0.37
12,412.29	91.65	269.41	8,386.34	-986.62	-3,952.98	3,958.43	1.58	-1.49	-0.52
12,425.71	91.43	269.34	8,385.98	-986.76	-3,966.40	3,971.85	1.72	-1.64	-0.52
12,439.14	91.20	269.27	8,385.67	-986.93	-3,979.82	3,985.27	1.79	-1.71	-0.52
12,452.57	90.98	269.20	8,385.41	-987.11	-3,993.25	3,998.70	1.72	-1.64	-0.52
12,466.00	91.84	269.45	8,385.08	-987.26	-4,006.68	4,012.13	6.67	6.40	1.86
12,479.57	93.33	269.81	8,384.47	-987.35	-4,020.23	4,025.68	11.30	10.98	2.65
12,493.14	93.18	269.72	8,383.70	-987.41	-4,033.78	4,039.23	1.29	-1.11	-0.66
12,506.71	93.04	269.63	8,382.96	-987.48	-4,047.33	4,052.78	1.23	-1.03	-0.66
12,520.29	92.90	269.53	8,382.26	-987.58	-4,060.89	4,066.34	1.27	-1.03	-0.74
12,533.86	92.78	269.44	8,381.59	-987.70	-4,074.44	4,079.90	1.10	-0.88	-0.66
12,547.43	92.67	269.34	8,380.94	-987.85	-4,088.00	4,093.45	1.09	-0.81	-0.74
12,561.00	92.58	269.26	8,380.32	-988.01	-4,101.55	4,107.01	0.89	-0.66	-0.59
12,574.43	92.52	269.18	8,379.72	-988.20	-4,114.97	4,120.42	0.74	-0.45	-0.60
12,587.86	92.48	269.11	8,379.14	-988.40	-4,128.38	4,133.84	0.60	-0.30	-0.52
12,601.29	92.45	269.04	8,378.56	-988.61	-4,141.80	4,147.26	0.57	-0.22	-0.52
12,614.71	92.44	268.97	8,377.99	-988.85	-4,155.20	4,160.66	0.53	-0.07	-0.52
12,628.14	92.42	268.91	8,377.42	-989.10	-4,168.62	4,174.08	0.47	-0.15	-0.45
12,641.57	92.42	268.83	8,376.85	-989.36	-4,182.04	4,187.50	0.60	0.00	-0.60
12,655.00	92.42	268.76	8,376.28	-989.64	-4,195.45	4,200.91	0.52	0.00	-0.52
12,668.57	92.43	268.67	8,375.71	-989.95	-4,209.00	4,214.47	0.67	0.07	-0.66
12,682.14	92.44	268.58	8,375.13	-990.27	-4,222.56	4,228.02	0.67	0.07	-0.66
12,695.71	92.44	268.48	8,374.56	-990.62	-4,236.11	4,241.58	0.74	0.00	-0.74
12,709.29	92.44	268.39	8,373.98	-990.99	-4,249.67	4,255.14	0.66	0.00	-0.66
12,722.86	92.41	268.30	8,373.40	-991.38	-4,263.23	4,268.70	0.70	-0.22	-0.66
12,736.43	92.21	269.66	8,372.86	-991.62	-4,276.78	4,282.25	10.12	-1.47	10.02
12,750.00	92.08	270.37	8,372.35	-991.62	-4,290.34	4,295.81	5.32	-0.96	5.23
12,763.43	91.94	270.29	8,371.88	-991.54	-4,303.76	4,309.24	1.20	-1.04	-0.60
12,776.86	91.76	270.20	8,371.44	-991.48	-4,317.19	4,322.66	1.50	-1.34	-0.67
12,790.29	91.57	270.12	8,371.05	-991.45	-4,330.61	4,336.08	1.53	-1.41	-0.60
12,803.71	91.37	270.05	8,370.71	-991.43	-4,344.03	4,349.50	1.58	-1.49	-0.52
12,817.14	91.17	269.99	8,370.41	-991.42	-4,357.45	4,362.92	1.55	-1.49	-0.45
12,830.57	90.98	269.97	8,370.16	-991.43	-4,370.88	4,376.35	1.42	-1.41	-0.15
12,844.00	90.82	269.98	8,369.95	-991.43	-4,384.31	4,389.78	1.19	-1.19	0.07



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
12,857.57	90.70	270.05	8,369.77	-991.43	-4,397.88	4,403.35	1.02	-0.88	0.52
12,871.14	90.60	270.16	8,369.61	-991.40	-4,411.45	4,416.92	1.10	-0.74	0.81
12,884.71	90.52	270.29	8,369.48	-991.35	-4,425.02	4,430.49	1.12	-0.59	0.96
12,898.29	90.45	270.42	8,369.37	-991.27	-4,438.60	4,444.06	1.09	-0.52	0.96
12,911.86	90.38	270.55	8,369.27	-991.15	-4,452.17	4,457.63	1.09	-0.52	0.96
12,925.43	90.37	271.27	8,369.18	-990.94	-4,465.73	4,471.20	5.31	-0.07	5.31
12,939.00	90.29	271.35	8,369.10	-990.63	-4,479.30	4,484.76	0.83	-0.59	0.59
12,952.57	90.18	271.38	8,369.05	-990.30	-4,492.87	4,498.33	0.84	-0.81	0.22
12,966.14	90.07	271.37	8,369.02	-989.98	-4,506.43	4,511.89	0.81	-0.81	-0.07
12,979.71	89.96	271.35	8,369.01	-989.66	-4,520.00	4,525.45	0.82	-0.81	-0.15
12,993.29	89.86	271.32	8,369.03	-989.34	-4,533.57	4,539.03	0.77	-0.74	-0.22
13,006.86	89.80	271.28	8,369.07	-989.03	-4,547.14	4,552.59	0.53	-0.44	-0.29
13,020.43	90.41	271.49	8,369.05	-988.70	-4,560.71	4,566.16	4.75	4.50	1.55
13,034.00	90.98	271.46	8,368.88	-988.35	-4,574.27	4,579.72	4.21	4.20	-0.22
13,047.43	91.15	271.44	8,368.64	-988.01	-4,587.69	4,593.14	1.27	1.27	-0.15
13,060.86	91.37	271.42	8,368.34	-987.68	-4,601.12	4,606.56	1.64	1.64	-0.15
13,074.29	91.63	271.41	8,367.99	-987.35	-4,614.54	4,619.98	1.94	1.94	-0.07
13,087.71	91.90	271.41	8,367.57	-987.02	-4,627.95	4,633.39	2.01	2.01	0.00
13,101.14	92.17	271.41	8,367.10	-986.69	-4,641.37	4,646.80	2.01	2.01	0.00
13,114.57	92.40	271.43	8,366.56	-986.35	-4,654.78	4,660.22	1.72	1.71	0.15
13,128.00	92.58	271.47	8,365.98	-986.02	-4,668.19	4,673.63	1.37	1.34	0.30
13,141.57	92.67	271.53	8,365.36	-985.66	-4,681.74	4,687.18	0.80	0.66	0.44
13,155.14	92.69	271.60	8,364.72	-985.29	-4,695.30	4,700.72	0.54	0.15	0.52
13,168.71	92.67	271.68	8,364.09	-984.90	-4,708.84	4,714.27	0.61	-0.15	0.59
13,182.29	92.63	271.76	8,363.46	-984.50	-4,722.40	4,727.83	0.66	-0.29	0.59
13,195.86	92.58	271.83	8,362.84	-984.07	-4,735.95	4,741.38	0.63	-0.37	0.52
13,209.43	92.53	271.88	8,362.24	-983.63	-4,749.50	4,754.92	0.52	-0.37	0.37
13,223.00	92.48	271.90	8,361.65	-983.18	-4,763.05	4,768.47	0.40	-0.37	0.15
13,236.43	92.45	271.86	8,361.07	-982.74	-4,776.46	4,781.88	0.37	-0.22	-0.30
13,249.86	92.44	271.80	8,360.50	-982.32	-4,789.87	4,795.29	0.45	-0.07	-0.45
13,263.29	92.43	271.71	8,359.92	-981.90	-4,803.29	4,808.69	0.67	-0.07	-0.67
13,276.71	92.43	271.62	8,359.36	-981.52	-4,816.69	4,822.09	0.67	0.00	-0.67
13,290.14	92.42	271.52	8,358.79	-981.15	-4,830.10	4,835.50	0.75	-0.07	-0.74
13,303.57	92.41	271.42	8,358.22	-980.80	-4,843.51	4,848.92	0.75	-0.07	-0.74
13,317.00	92.39	271.33	8,357.66	-980.48	-4,856.93	4,862.33	0.69	-0.15	-0.67
13,330.57	92.36	271.25	8,357.10	-980.18	-4,870.48	4,875.88	0.63	-0.22	-0.59
13,344.14	92.31	271.19	8,356.54	-979.89	-4,884.04	4,889.44	0.58	-0.37	-0.44
13,357.71	92.27	271.13	8,356.00	-979.61	-4,897.60	4,902.99	0.53	-0.29	-0.44
13,371.29	92.22	271.08	8,355.47	-979.35	-4,911.16	4,916.56	0.52	-0.37	-0.37
13,384.86	92.19	271.02	8,354.95	-979.10	-4,924.72	4,930.11	0.49	-0.22	-0.44
13,398.43	92.17	270.96	8,354.43	-978.87	-4,938.28	4,943.67	0.47	-0.15	-0.44
13,412.00	92.16	270.89	8,353.92	-978.65	-4,951.84	4,957.23	0.52	-0.07	-0.52
13,425.43	92.19	270.80	8,353.41	-978.45	-4,965.26	4,970.64	0.71	0.22	-0.67



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)	
13,438.86	92.24	270.71	8,352.89	-978.27	-4,978.67	4,984.06	0.77	0.37	-0.67	
13,452.29	92.31	270.61	8,352.36	-978.12	-4,992.09	4,997.48	0.91	0.52	-0.74	
13,465.71	92.38	270.52	8,351.81	-977.99	-5,005.50	5,010.89	0.85	0.52	-0.67	
13,479.14	92.46	270.43	8,351.24	-977.88	-5,018.92	5,024.30	0.90	0.60	-0.67	
13,492.57	92.54	270.34	8,350.66	-977.79	-5,032.34	5,037.72	0.90	0.60	-0.67	
13,506.00	92.61	270.27	8,350.05	-977.72	-5,045.75	5,051.13	0.74	0.52	-0.52	
13,519.57	92.68	270.21	8,349.43	-977.66	-5,059.31	5,064.69	0.68	0.52	-0.44	
13,533.14	92.75	270.18	8,348.78	-977.61	-5,072.86	5,078.24	0.56	0.52	-0.22	
13,546.71	92.81	270.15	8,348.12	-977.57	-5,086.42	5,091.80	0.49	0.44	-0.22	
13,560.29	92.87	270.13	8,347.45	-977.54	-5,099.98	5,105.36	0.47	0.44	-0.15	
13,573.86	92.93	270.12	8,346.77	-977.51	-5,113.53	5,118.91	0.45	0.44	-0.07	
13,587.43	93.00	270.11	8,346.06	-977.48	-5,127.08	5,132.46	0.52	0.52	-0.07	
13,601.00	93.07	270.11	8,345.34	-977.46	-5,140.63	5,146.01	0.52	0.52	0.00	
13,614.43	93.15	270.12	8,344.62	-977.43	-5,154.04	5,159.42	0.60	0.60	0.07	
13,627.86	93.23	270.14	8,343.87	-977.40	-5,167.45	5,172.83	0.61	0.60	0.15	
13,641.29	93.32	270.15	8,343.10	-977.37	-5,180.86	5,186.24	0.67	0.67	0.07	
13,654.71	93.40	270.17	8,342.32	-977.33	-5,194.26	5,199.64	0.61	0.60	0.15	
13,668.14	93.47	270.19	8,341.51	-977.29	-5,207.66	5,213.04	0.54	0.52	0.15	
13,681.57	93.54	270.21	8,340.69	-977.24	-5,221.07	5,226.45	0.54	0.52	0.15	
13,695.00	93.59	270.22	8,339.85	-977.19	-5,234.47	5,239.85	0.38	0.37	0.07	
13,708.43	93.61	270.22	8,339.01	-977.14	-5,247.88	5,253.25	0.15	0.15	0.00	
13,721.86	93.62	270.21	8,338.16	-977.09	-5,261.28	5,266.65	0.11	0.07	-0.07	
13,735.29	93.61	270.20	8,337.32	-977.04	-5,274.68	5,280.06	0.11	-0.07	-0.07	
13,748.71	93.61	270.19	8,336.47	-976.99	-5,288.08	5,293.45	0.07	0.00	-0.07	
13,762.14	93.60	270.18	8,335.63	-976.95	-5,301.48	5,306.85	0.11	-0.07	-0.07	
13,775.57	93.59	270.17	8,334.79	-976.91	-5,314.88	5,320.26	0.11	-0.07	-0.07	
13,789.00	93.58	270.16	8,333.95	-976.87	-5,328.29	5,333.66	0.11	-0.07	-0.07	
13,802.57	93.59	270.16	8,333.10	-976.83	-5,341.83	5,347.20	0.07	0.07	0.00	
13,816.14	93.60	270.17	8,332.25	-976.79	-5,355.37	5,360.75	0.10	0.07	0.07	
13,829.71	93.62	270.18	8,331.39	-976.75	-5,368.92	5,374.29	0.16	0.15	0.07	
13,843.29	93.65	270.18	8,330.53	-976.71	-5,382.47	5,387.84	0.22	0.22	0.00	
13,856.86	93.68	270.19	8,329.66	-976.67	-5,396.01	5,401.38	0.23	0.22	0.07	
13,870.43	93.71	270.20	8,328.79	-976.62	-5,409.55	5,414.92	0.23	0.22	0.07	
13,884.00	93.75	270.20	8,327.91	-976.57	-5,423.09	5,428.46	0.29	0.29	0.00	
13,897.43	93.80	270.19	8,327.02	-976.53	-5,436.50	5,441.86	0.38	0.37	-0.07	
13,910.86	93.86	270.18	8,326.13	-976.48	-5,449.89	5,455.26	0.45	0.45	-0.07	
13,924.29	93.92	270.16	8,325.21	-976.44	-5,463.29	5,468.66	0.47	0.45	-0.15	
13,937.71	93.98	270.15	8,324.29	-976.41	-5,476.68	5,482.05	0.45	0.45	-0.07	
13,951.14	94.04	270.13	8,323.35	-976.38	-5,490.08	5,495.45	0.47	0.45	-0.15	
13,964.57	93.70	270.11	8,322.44	-976.35	-5,503.48	5,508.85	2.54	-2.53	-0.15	
13,978.00	91.94	270.12	8,321.78	-976.32	-5,516.89	5,522.26	13.11	-13.10	0.07	
13,991.43	91.96	270.10	8,321.33	-976.30	-5,530.31	5,535.68	0.21	0.15	-0.15	
14,004.86	91.97	270.07	8,320.87	-976.28	-5,543.74	5,549.10	0.24	0.07	-0.22	
14,018.29	91.98	270.05	8,320.40	-976.26	-5,557.16	5,562.52	0.17	0.07	-0.15	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
14,031.71	91.98	270.03	8,319.94	-976.25	-5,570.57	5,575.94	0.15	0.00	-0.15
14,045.14	91.99	270.00	8,319.47	-976.25	-5,583.99	5,589.36	0.24	0.07	-0.22
14,058.57	92.01	269.98	8,319.01	-976.25	-5,597.41	5,602.78	0.21	0.15	-0.15
14,072.00	92.03	269.97	8,318.53	-976.26	-5,610.84	5,616.20	0.17	0.15	-0.07
14,085.57	92.07	269.95	8,318.05	-976.27	-5,624.40	5,629.76	0.33	0.29	-0.15
14,099.14	92.12	269.94	8,317.55	-976.28	-5,637.96	5,643.32	0.38	0.37	-0.07
14,112.71	92.19	269.94	8,317.04	-976.29	-5,651.52	5,656.88	0.52	0.52	0.00
14,126.29	92.26	269.93	8,316.51	-976.31	-5,665.09	5,670.45	0.52	0.52	-0.07
14,139.86	92.33	269.93	8,315.97	-976.33	-5,678.65	5,684.01	0.52	0.52	0.00
14,153.43	92.42	269.93	8,315.41	-976.34	-5,692.21	5,697.57	0.66	0.66	0.00
14,167.00	92.53	269.93	8,314.82	-976.36	-5,705.76	5,711.13	0.81	0.81	0.00
14,180.43	92.66	269.94	8,314.21	-976.37	-5,719.18	5,724.54	0.97	0.97	0.07
14,193.86	92.80	269.94	8,313.57	-976.39	-5,732.59	5,737.96	1.04	1.04	0.00
14,207.29	92.94	269.95	8,312.90	-976.40	-5,746.01	5,751.37	1.05	1.04	0.07
14,220.71	93.07	269.95	8,312.20	-976.41	-5,759.41	5,764.77	0.97	0.97	0.00
14,234.14	93.18	269.95	8,311.47	-976.42	-5,772.82	5,778.18	0.82	0.82	0.00
14,247.57	93.26	269.94	8,310.71	-976.44	-5,786.23	5,791.59	0.60	0.60	-0.07
14,261.00	93.28	269.92	8,309.95	-976.45	-5,799.64	5,805.00	0.21	0.15	-0.15
14,274.43	93.21	269.87	8,309.18	-976.48	-5,813.04	5,818.41	0.64	-0.52	-0.37
14,287.86	93.10	269.81	8,308.45	-976.52	-5,826.45	5,831.82	0.93	-0.82	-0.45
14,301.29	92.95	269.74	8,307.74	-976.57	-5,839.86	5,845.23	1.23	-1.12	-0.52
14,314.71	92.80	269.67	8,307.06	-976.64	-5,853.27	5,858.63	1.23	-1.12	-0.52
14,328.14	92.66	269.60	8,306.42	-976.72	-5,866.68	5,872.05	1.17	-1.04	-0.52
14,341.57	91.58	269.49	8,305.93	-976.83	-5,880.10	5,885.47	8.08	-8.04	-0.82
14,355.00	91.39	269.41	8,305.58	-976.96	-5,893.53	5,898.89	1.53	-1.41	-0.60
14,368.57	91.37	269.34	8,305.25	-977.11	-5,907.09	5,912.46	0.54	-0.15	-0.52
14,382.14	91.39	269.28	8,304.93	-977.27	-5,920.66	5,926.02	0.47	0.15	-0.44
14,395.71	91.43	269.22	8,304.59	-977.45	-5,934.22	5,939.59	0.53	0.29	-0.44
14,409.29	91.49	269.15	8,304.25	-977.64	-5,947.80	5,953.16	0.68	0.44	-0.52
14,422.86	91.55	269.09	8,303.89	-977.85	-5,961.36	5,966.73	0.63	0.44	-0.44
14,436.43	91.62	269.04	8,303.51	-978.07	-5,974.92	5,980.29	0.63	0.52	-0.37
14,450.00	91.67	268.98	8,303.12	-978.30	-5,988.48	5,993.86	0.58	0.37	-0.44
14,463.43	91.71	268.93	8,302.72	-978.55	-6,001.91	6,007.28	0.48	0.30	-0.37
14,476.86	91.75	268.89	8,302.32	-978.80	-6,015.33	6,020.70	0.42	0.30	-0.30
14,490.29	91.77	268.85	8,301.91	-979.07	-6,028.75	6,034.12	0.33	0.15	-0.30
14,503.71	91.80	268.81	8,301.49	-979.34	-6,042.16	6,047.54	0.37	0.22	-0.30
14,517.14	91.82	268.77	8,301.06	-979.63	-6,055.58	6,060.96	0.33	0.15	-0.30
14,530.57	91.85	268.74	8,300.63	-979.92	-6,069.00	6,074.38	0.32	0.22	-0.22
14,544.00	91.89	268.72	8,300.20	-980.22	-6,082.42	6,087.80	0.33	0.30	-0.15
14,557.57	91.93	268.71	8,299.74	-980.52	-6,095.98	6,101.36	0.30	0.29	-0.07
14,571.14	91.98	268.70	8,299.28	-980.83	-6,109.54	6,114.92	0.38	0.37	-0.07
14,584.71	92.04	268.69	8,298.81	-981.13	-6,123.10	6,128.48	0.45	0.44	-0.07
14,598.29	92.10	268.69	8,298.31	-981.45	-6,136.66	6,142.05	0.44	0.44	0.00



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
14,611.86	92.17	268.69	8,297.81	-981.76	-6,150.22	6,155.61	0.52	0.52	0.00
14,625.43	92.24	268.69	8,297.29	-982.07	-6,163.78	6,169.17	0.52	0.52	0.00
14,639.00	92.32	268.69	8,296.75	-982.38	-6,177.33	6,182.72	0.59	0.59	0.00
14,652.43	92.41	268.69	8,296.19	-982.68	-6,190.75	6,196.14	0.67	0.67	0.00
14,665.86	92.51	268.69	8,295.62	-982.99	-6,204.16	6,209.55	0.74	0.74	0.00
14,679.29	92.61	268.70	8,295.02	-983.29	-6,217.57	6,222.97	0.75	0.74	0.07
14,692.71	92.70	268.69	8,294.40	-983.60	-6,230.98	6,236.37	0.67	0.67	-0.07
14,706.14	92.79	268.69	8,293.75	-983.91	-6,244.39	6,249.79	0.67	0.67	0.00
14,719.57	92.87	268.68	8,293.09	-984.21	-6,257.80	6,263.20	0.60	0.60	-0.07
14,733.00	92.94	268.67	8,292.41	-984.52	-6,271.21	6,276.61	0.53	0.52	-0.07
14,746.43	92.97	268.64	8,291.72	-984.84	-6,284.62	6,290.02	0.32	0.22	-0.22
14,759.86	93.00	268.61	8,291.02	-985.16	-6,298.02	6,303.43	0.32	0.22	-0.22
14,773.29	93.01	268.57	8,290.31	-985.49	-6,311.43	6,316.84	0.31	0.07	-0.30
14,786.71	93.02	268.54	8,289.61	-985.83	-6,324.83	6,330.24	0.24	0.07	-0.22
14,800.14	93.03	268.50	8,288.90	-986.18	-6,338.24	6,343.64	0.31	0.07	-0.30
14,813.57	93.05	268.47	8,288.19	-986.53	-6,351.64	6,357.05	0.27	0.15	-0.22
14,827.00	93.09	268.44	8,287.47	-986.89	-6,365.05	6,370.46	0.37	0.30	-0.22
14,840.57	93.15	268.42	8,286.73	-987.26	-6,378.59	6,384.01	0.47	0.44	-0.15
14,854.14	93.24	268.41	8,285.97	-987.64	-6,392.14	6,397.55	0.67	0.66	-0.07
14,867.71	93.33	268.40	8,285.19	-988.01	-6,405.68	6,411.10	0.67	0.66	-0.07
14,881.29	93.43	268.40	8,284.39	-988.39	-6,419.23	6,424.65	0.74	0.74	0.00
14,894.86	93.55	268.40	8,283.57	-988.77	-6,432.77	6,438.19	0.88	0.88	0.00
14,908.43	92.85	268.51	8,282.81	-989.14	-6,446.31	6,451.74	5.22	-5.16	0.81
14,922.00	91.05	268.76	8,282.35	-989.46	-6,459.87	6,465.30	13.39	-13.26	1.84
14,935.43	91.20	268.78	8,282.08	-989.75	-6,473.29	6,478.72	1.13	1.12	0.15
14,948.86	91.37	268.80	8,281.78	-990.03	-6,486.72	6,492.15	1.27	1.27	0.15
14,962.29	91.54	268.83	8,281.44	-990.31	-6,500.14	6,505.57	1.29	1.27	0.22
14,975.71	91.72	268.85	8,281.06	-990.58	-6,513.55	6,518.98	1.35	1.34	0.15
14,989.14	91.88	268.88	8,280.64	-990.85	-6,526.97	6,532.41	1.21	1.19	0.22
15,002.57	92.03	268.89	8,280.18	-991.11	-6,540.39	6,545.83	1.12	1.12	0.07
15,016.00	92.16	268.89	8,279.69	-991.37	-6,553.81	6,559.25	0.97	0.97	0.00
15,029.43	92.24	268.88	8,279.17	-991.63	-6,567.23	6,572.67	0.60	0.60	-0.07
15,042.86	92.30	268.85	8,278.64	-991.89	-6,580.65	6,586.08	0.50	0.45	-0.22
15,056.29	92.34	268.82	8,278.10	-992.17	-6,594.06	6,599.50	0.37	0.30	-0.22
15,069.71	92.37	268.77	8,277.55	-992.45	-6,607.47	6,612.91	0.43	0.22	-0.37
15,083.14	92.39	268.73	8,276.99	-992.74	-6,620.88	6,626.32	0.33	0.15	-0.30
15,096.57	92.40	268.67	8,276.43	-993.05	-6,634.30	6,639.74	0.45	0.07	-0.45
15,110.00	92.42	268.61	8,275.86	-993.36	-6,647.71	6,653.16	0.47	0.15	-0.45
15,123.57	92.43	268.54	8,275.29	-993.70	-6,661.27	6,666.71	0.52	0.07	-0.52
15,137.14	92.45	268.46	8,274.71	-994.06	-6,674.82	6,680.27	0.61	0.15	-0.59
15,150.71	92.47	268.38	8,274.13	-994.43	-6,688.37	6,693.82	0.61	0.15	-0.59
15,164.29	92.48	268.29	8,273.54	-994.82	-6,701.93	6,707.38	0.67	0.07	-0.66
15,177.86	92.49	268.20	8,272.95	-995.24	-6,715.48	6,720.94	0.67	0.07	-0.66



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
15,191.43	92.49	268.10	8,272.36	-995.68	-6,729.03	6,734.49	0.74	0.00	-0.74
15,205.00	92.49	267.99	8,271.78	-996.14	-6,742.58	6,748.04	0.81	0.00	-0.81
15,218.43	92.47	267.86	8,271.19	-996.63	-6,755.99	6,761.45	0.98	-0.15	-0.97
15,231.86	92.45	267.73	8,270.62	-997.14	-6,769.40	6,774.86	0.98	-0.15	-0.97
15,245.29	92.42	267.59	8,270.05	-997.69	-6,782.81	6,788.27	1.07	-0.22	-1.04
15,258.71	92.38	267.44	8,269.48	-998.27	-6,796.20	6,801.67	1.16	-0.30	-1.12
15,272.14	92.31	267.27	8,268.94	-998.89	-6,809.61	6,815.08	1.37	-0.52	-1.27
15,285.57	92.23	267.09	8,268.40	-999.55	-6,823.01	6,828.49	1.47	-0.60	-1.34
15,299.00	92.12	266.89	8,267.89	-1,000.26	-6,836.41	6,841.89	1.70	-0.82	-1.49
15,312.57	91.95	266.65	8,267.41	-1,001.02	-6,849.95	6,855.44	2.17	-1.25	-1.77
15,326.14	91.76	266.39	8,266.97	-1,001.84	-6,863.49	6,868.98	2.37	-1.40	-1.92
15,339.71	91.56	266.12	8,266.58	-1,002.73	-6,877.02	6,882.52	2.48	-1.47	-1.99
15,353.29	91.37	265.87	8,266.23	-1,003.68	-6,890.57	6,896.07	2.31	-1.40	-1.84
15,366.86	91.20	265.64	8,265.93	-1,004.68	-6,904.10	6,909.60	2.11	-1.25	-1.69
15,380.43	91.13	266.86	8,265.65	-1,005.57	-6,917.63	6,923.14	9.00	-0.52	8.99
15,394.00	91.10	268.64	8,265.39	-1,006.10	-6,931.19	6,936.70	13.12	-0.22	13.12
15,407.43	91.04	268.78	8,265.14	-1,006.40	-6,944.61	6,950.13	1.13	-0.45	1.04
15,420.86	91.00	268.67	8,264.90	-1,006.70	-6,958.04	6,963.55	0.87	-0.30	-0.82
15,434.29	90.96	268.58	8,264.67	-1,007.02	-6,971.46	6,976.98	0.73	-0.30	-0.67
15,447.71	90.93	268.52	8,264.45	-1,007.36	-6,984.88	6,990.39	0.50	-0.22	-0.45
15,461.14	90.91	268.49	8,264.23	-1,007.71	-6,998.30	7,003.82	0.27	-0.15	-0.22
15,474.57	90.87	268.51	8,264.02	-1,008.07	-7,011.72	7,017.25	0.33	-0.30	0.15
15,488.00	90.84	268.61	8,263.82	-1,008.40	-7,025.15	7,030.67	0.78	-0.22	0.74
15,501.57	90.78	268.82	8,263.63	-1,008.71	-7,038.71	7,044.24	1.61	-0.44	1.55
15,515.14	90.71	269.10	8,263.45	-1,008.95	-7,052.28	7,057.81	2.13	-0.52	2.06
15,528.71	90.65	269.41	8,263.29	-1,009.13	-7,065.85	7,071.37	2.33	-0.44	2.28
15,542.29	90.58	269.73	8,263.15	-1,009.23	-7,079.43	7,084.95	2.41	-0.52	2.36
15,555.86	90.51	270.03	8,263.02	-1,009.26	-7,093.00	7,098.52	2.27	-0.52	2.21
15,569.43	91.13	270.83	8,262.82	-1,009.16	-7,106.57	7,112.09	7.46	4.57	5.90
15,583.00	91.07	271.03	8,262.56	-1,008.94	-7,120.13	7,125.65	1.54	-0.44	1.47
15,596.43	91.03	271.11	8,262.32	-1,008.69	-7,133.56	7,139.08	0.67	-0.30	0.60
15,609.86	90.99	271.13	8,262.08	-1,008.43	-7,146.98	7,152.50	0.33	-0.30	0.15
15,623.29	90.97	271.10	8,261.85	-1,008.16	-7,160.41	7,165.93	0.27	-0.15	-0.22
15,636.71	90.97	271.06	8,261.62	-1,007.91	-7,173.82	7,179.34	0.30	0.00	-0.30
15,650.14	90.98	271.01	8,261.40	-1,007.67	-7,187.25	7,192.76	0.38	0.07	-0.37
15,663.57	91.02	270.96	8,261.16	-1,007.44	-7,200.67	7,206.19	0.48	0.30	-0.37
15,677.00	91.11	270.93	8,260.91	-1,007.22	-7,214.10	7,219.61	0.71	0.67	-0.22
15,690.57	91.27	270.94	8,260.63	-1,007.00	-7,227.67	7,233.18	1.18	1.18	0.07
15,704.14	91.46	270.97	8,260.31	-1,006.77	-7,241.23	7,246.74	1.42	1.40	0.22
15,717.71	91.68	271.01	8,259.93	-1,006.53	-7,254.79	7,260.30	1.65	1.62	0.29
15,731.29	91.90	271.07	8,259.51	-1,006.29	-7,268.36	7,273.87	1.68	1.62	0.44
15,744.86	92.13	271.12	8,259.03	-1,006.03	-7,281.92	7,287.43	1.73	1.69	0.37
15,758.43	92.33	271.17	8,258.51	-1,005.76	-7,295.48	7,300.98	1.52	1.47	0.37
15,772.00	92.50	271.22	8,257.93	-1,005.48	-7,309.04	7,314.54	1.31	1.25	0.37



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
15,785.57	92.61	271.25	8,257.33	-1,005.18	-7,322.59	7,328.09	0.84	0.81	0.22
15,799.14	92.68	271.28	8,256.70	-1,004.88	-7,336.14	7,341.64	0.56	0.52	0.22
15,812.71	92.73	271.29	8,256.06	-1,004.58	-7,349.69	7,355.19	0.38	0.37	0.07
15,826.29	92.77	271.31	8,255.41	-1,004.27	-7,363.25	7,368.75	0.33	0.29	0.15
15,839.86	92.80	271.32	8,254.75	-1,003.96	-7,376.80	7,382.30	0.23	0.22	0.07
15,853.43	92.84	271.32	8,254.08	-1,003.65	-7,390.35	7,395.84	0.29	0.29	0.00
15,867.00	92.88	271.33	8,253.41	-1,003.34	-7,403.90	7,409.39	0.30	0.29	0.07
15,880.43	92.95	271.34	8,252.72	-1,003.02	-7,417.31	7,422.80	0.53	0.52	0.07
15,893.86	93.03	271.35	8,252.02	-1,002.71	-7,430.72	7,436.20	0.60	0.60	0.07
15,907.29	93.13	271.36	8,251.30	-1,002.39	-7,444.13	7,449.61	0.75	0.74	0.07
15,920.71	93.22	271.36	8,250.56	-1,002.07	-7,457.52	7,463.00	0.67	0.67	0.00
15,934.14	93.33	271.36	8,249.79	-1,001.75	-7,470.93	7,476.41	0.82	0.82	0.00
15,947.57	93.43	271.34	8,249.00	-1,001.44	-7,484.33	7,489.81	0.76	0.74	-0.15
15,961.00	93.54	271.31	8,248.18	-1,001.13	-7,497.73	7,503.21	0.85	0.82	-0.22
15,974.57	93.66	271.26	8,247.33	-1,000.83	-7,511.27	7,516.74	0.96	0.88	-0.37
15,988.14	93.78	271.19	8,246.45	-1,000.54	-7,524.81	7,530.28	1.02	0.88	-0.52
16,001.71	93.90	271.11	8,245.54	-1,000.26	-7,538.35	7,543.82	1.06	0.88	-0.59
16,015.29	94.03	271.03	8,244.60	-1,000.01	-7,551.89	7,557.36	1.12	0.96	-0.59
16,028.86	94.17	270.96	8,243.63	-999.78	-7,565.42	7,570.89	1.15	1.03	-0.52
16,042.43	92.42	270.58	8,242.85	-999.59	-7,578.97	7,584.43	13.20	-12.90	-2.80
16,056.00	92.03	270.34	8,242.33	-999.49	-7,592.53	7,597.99	3.37	-2.87	-1.77
16,069.57	92.25	270.31	8,241.82	-999.41	-7,606.09	7,611.55	1.64	1.62	-0.22
16,083.14	92.49	270.28	8,241.26	-999.34	-7,619.65	7,625.11	1.78	1.77	-0.22
16,096.71	92.74	270.26	8,240.64	-999.27	-7,633.20	7,638.67	1.85	1.84	-0.15
16,110.29	92.99	270.23	8,239.96	-999.22	-7,646.77	7,652.23	1.85	1.84	-0.22
16,123.86	93.22	270.20	8,239.22	-999.17	-7,660.32	7,665.78	1.71	1.69	-0.22
16,137.43	93.42	270.15	8,238.44	-999.12	-7,673.86	7,679.32	1.52	1.47	-0.37
16,151.00	93.56	270.08	8,237.61	-999.10	-7,687.41	7,692.87	1.15	1.03	-0.52
16,164.43	93.62	269.96	8,236.77	-999.09	-7,700.81	7,706.27	1.00	0.45	-0.89
16,177.86	93.63	269.83	8,235.92	-999.12	-7,714.22	7,719.68	0.97	0.07	-0.97
16,191.29	93.60	269.69	8,235.08	-999.17	-7,727.62	7,733.08	1.06	-0.22	-1.04
16,204.71	93.57	269.54	8,234.24	-999.26	-7,741.01	7,746.47	1.14	-0.22	-1.12
16,218.14	93.53	269.41	8,233.40	-999.39	-7,754.42	7,759.88	1.01	-0.30	-0.97
16,231.57	92.81	269.43	8,232.66	-999.52	-7,767.82	7,773.29	5.36	-5.36	0.15
16,245.00	90.91	269.44	8,232.23	-999.65	-7,781.25	7,786.71	14.15	-14.15	0.07
16,258.57	90.92	269.40	8,232.01	-999.79	-7,794.81	7,800.28	0.30	0.07	-0.29
16,272.14	90.94	269.37	8,231.79	-999.94	-7,808.38	7,813.84	0.27	0.15	-0.22
16,285.71	90.96	269.36	8,231.56	-1,000.09	-7,821.95	7,827.41	0.16	0.15	-0.07
16,299.29	90.99	269.34	8,231.33	-1,000.24	-7,835.53	7,840.99	0.27	0.22	-0.15
16,312.86	91.01	269.33	8,231.10	-1,000.40	-7,849.09	7,854.56	0.16	0.15	-0.07
16,326.43	91.04	269.30	8,230.85	-1,000.56	-7,862.66	7,868.12	0.31	0.22	-0.22
16,340.00	91.06	269.26	8,230.61	-1,000.73	-7,876.23	7,881.69	0.33	0.15	-0.29
16,353.57	91.07	269.18	8,230.35	-1,000.92	-7,889.79	7,895.26	0.59	0.07	-0.59



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
16,367.14	91.08	269.08	8,230.10	-1,001.12	-7,903.36	7,908.83	0.74	0.07	-0.74
16,380.71	91.09	268.98	8,229.84	-1,001.35	-7,916.92	7,922.39	0.74	0.07	-0.74
16,394.29	91.09	268.87	8,229.58	-1,001.61	-7,930.50	7,935.97	0.81	0.00	-0.81
16,407.86	91.09	268.76	8,229.32	-1,001.89	-7,944.06	7,949.54	0.81	0.00	-0.81
16,421.43	91.09	268.65	8,229.07	-1,002.19	-7,957.63	7,963.10	0.81	0.00	-0.81
16,435.00	91.09	268.56	8,228.81	-1,002.52	-7,971.19	7,976.67	0.66	0.00	-0.66
16,448.43	91.08	268.49	8,228.55	-1,002.87	-7,984.61	7,990.09	0.53	-0.07	-0.52
16,461.86	91.07	268.43	8,228.30	-1,003.23	-7,998.04	8,003.52	0.45	-0.07	-0.45
16,475.29	91.07	268.38	8,228.05	-1,003.60	-8,011.46	8,016.94	0.37	0.00	-0.37
16,488.71	91.06	268.33	8,227.80	-1,003.99	-8,024.87	8,030.35	0.38	-0.07	-0.37
16,502.14	91.06	268.29	8,227.55	-1,004.39	-8,038.29	8,043.78	0.30	0.00	-0.30
16,515.57	91.06	268.24	8,227.31	-1,004.79	-8,051.72	8,057.20	0.37	0.00	-0.37
16,529.00	91.07	268.18	8,227.06	-1,005.21	-8,065.14	8,070.62	0.45	0.07	-0.45
16,542.57	91.10	268.11	8,226.80	-1,005.65	-8,078.70	8,084.19	0.56	0.22	-0.52
16,556.14	91.13	268.03	8,226.53	-1,006.11	-8,092.26	8,097.75	0.63	0.22	-0.59
16,569.71	91.15	267.95	8,226.26	-1,006.58	-8,105.82	8,111.31	0.61	0.15	-0.59
16,583.29	91.15	267.88	8,225.99	-1,007.08	-8,119.38	8,124.88	0.52	0.00	-0.52
16,596.86	91.12	267.83	8,225.72	-1,007.59	-8,132.94	8,138.44	0.43	-0.22	-0.37
16,610.43	91.03	267.80	8,225.47	-1,008.10	-8,146.50	8,152.00	0.70	-0.66	-0.22
16,624.00	90.86	267.81	8,225.24	-1,008.62	-8,160.06	8,165.56	1.25	-1.25	0.07
16,637.43	90.55	267.88	8,225.08	-1,009.13	-8,173.48	8,178.99	2.37	-2.31	0.52
16,650.86	90.18	267.99	8,224.99	-1,009.61	-8,186.90	8,192.41	2.87	-2.76	0.82
16,664.29	89.77	268.12	8,225.00	-1,010.07	-8,200.32	8,205.83	3.20	-3.05	0.97
16,677.71	89.37	268.27	8,225.10	-1,010.49	-8,213.73	8,219.25	3.18	-2.98	1.12
16,691.14	89.02	268.41	8,225.29	-1,010.88	-8,227.16	8,232.67	2.81	-2.61	1.04
16,704.57	89.36	269.68	8,225.48	-1,011.10	-8,240.58	8,246.10	9.79	2.53	9.46
16,718.00	89.56	270.56	8,225.61	-1,011.07	-8,254.01	8,259.53	6.72	1.49	6.55
16,731.57	89.51	270.70	8,225.72	-1,010.93	-8,267.58	8,273.10	1.10	-0.37	1.03
16,745.14	89.54	270.84	8,225.83	-1,010.74	-8,281.15	8,286.66	1.06	0.22	1.03
16,758.71	89.63	270.97	8,225.93	-1,010.53	-8,294.72	8,300.23	1.17	0.66	0.96
16,772.29	89.75	271.09	8,226.00	-1,010.28	-8,308.29	8,313.81	1.25	0.88	0.88
16,785.86	89.88	271.21	8,226.04	-1,010.01	-8,321.86	8,327.37	1.30	0.96	0.88
16,799.43	91.22	271.25	8,225.91	-1,009.72	-8,335.43	8,340.94	9.88	9.87	0.29
16,813.00	92.17	271.30	8,225.51	-1,009.42	-8,348.99	8,354.50	7.01	7.00	0.37
16,826.43	92.33	271.38	8,224.98	-1,009.11	-8,362.40	8,367.91	1.33	1.19	0.60
16,839.86	92.50	271.45	8,224.42	-1,008.77	-8,375.82	8,381.32	1.37	1.27	0.52
16,853.29	92.69	271.52	8,223.81	-1,008.43	-8,389.23	8,394.73	1.51	1.41	0.52
16,866.71	92.88	271.58	8,223.16	-1,008.06	-8,402.63	8,408.13	1.48	1.42	0.45
16,880.14	93.08	271.63	8,222.46	-1,007.69	-8,416.04	8,421.53	1.53	1.49	0.37
16,893.57	93.27	271.67	8,221.72	-1,007.30	-8,429.44	8,434.93	1.45	1.41	0.30
16,907.00	93.47	271.70	8,220.93	-1,006.91	-8,442.84	8,448.33	1.51	1.49	0.22
16,920.57	93.66	271.71	8,220.08	-1,006.50	-8,456.38	8,461.87	1.40	1.40	0.07
16,934.14	93.85	271.70	8,219.19	-1,006.10	-8,469.91	8,475.40	1.40	1.40	-0.07



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
16,947.71	94.03	271.69	8,218.26	-1,005.70	-8,483.45	8,488.93	1.33	1.33	-0.07
16,961.29	94.20	271.66	8,217.29	-1,005.31	-8,496.98	8,502.47	1.27	1.25	-0.22
16,974.86	94.35	271.62	8,216.28	-1,004.92	-8,510.51	8,515.99	1.14	1.11	-0.29
16,988.43	94.46	271.56	8,215.23	-1,004.54	-8,524.04	8,529.51	0.92	0.81	-0.44
17,002.00	94.53	271.50	8,214.17	-1,004.18	-8,537.56	8,543.03	0.68	0.52	-0.44
17,015.43	94.53	271.41	8,213.11	-1,003.84	-8,550.94	8,556.42	0.67	0.00	-0.67
17,028.86	94.48	271.31	8,212.06	-1,003.52	-8,564.33	8,569.80	0.83	-0.37	-0.74
17,042.29	94.40	271.19	8,211.02	-1,003.23	-8,577.71	8,583.18	1.07	-0.60	-0.89
17,055.71	94.30	271.06	8,210.00	-1,002.97	-8,591.09	8,596.56	1.22	-0.75	-0.97
17,069.14	94.19	270.92	8,209.00	-1,002.74	-8,604.48	8,609.95	1.32	-0.82	-1.04
17,082.57	93.45	271.13	8,208.11	-1,002.50	-8,617.88	8,623.35	5.73	-5.51	1.56
17,096.00	92.78	271.05	8,207.38	-1,002.24	-8,631.29	8,636.75	5.02	-4.99	-0.60
17,109.43	92.59	270.84	8,206.75	-1,002.02	-8,644.70	8,650.16	2.11	-1.41	-1.56
17,122.86	92.39	270.60	8,206.17	-1,001.85	-8,658.12	8,663.58	2.32	-1.49	-1.79
17,136.29	92.19	270.35	8,205.63	-1,001.74	-8,671.54	8,677.00	2.38	-1.49	-1.86
17,149.71	92.01	270.12	8,205.14	-1,001.69	-8,684.95	8,690.41	2.18	-1.34	-1.71
17,163.14	91.88	269.91	8,204.68	-1,001.68	-8,698.37	8,703.83	1.84	-0.97	-1.56
17,176.57	91.15	270.05	8,204.33	-1,001.69	-8,711.80	8,717.26	5.53	-5.44	1.04
17,190.00	91.19	269.93	8,204.05	-1,001.69	-8,725.22	8,730.68	0.94	0.30	-0.89
17,203.57	91.39	269.90	8,203.75	-1,001.71	-8,738.79	8,744.25	1.49	1.47	-0.22
17,217.14	91.69	269.92	8,203.38	-1,001.73	-8,752.36	8,757.81	2.22	2.21	0.15
17,230.71	92.03	269.97	8,202.94	-1,001.74	-8,765.92	8,771.38	2.53	2.51	0.37
17,244.29	92.38	270.03	8,202.42	-1,001.74	-8,779.49	8,784.95	2.61	2.58	0.44
17,257.86	92.72	270.10	8,201.82	-1,001.73	-8,793.04	8,798.50	2.56	2.51	0.52
17,271.43	92.99	270.15	8,201.14	-1,001.70	-8,806.60	8,812.05	2.02	1.99	0.37
17,285.00	93.15	270.17	8,200.41	-1,001.66	-8,820.15	8,825.60	1.19	1.18	0.15
17,298.43	93.13	270.13	8,199.68	-1,001.63	-8,833.56	8,839.01	0.33	-0.15	-0.30
17,311.86	93.00	270.06	8,198.96	-1,001.60	-8,846.97	8,852.42	1.10	-0.97	-0.52
17,325.29	92.81	269.97	8,198.28	-1,001.60	-8,860.38	8,865.84	1.57	-1.41	-0.67
17,338.71	92.60	269.87	8,197.65	-1,001.62	-8,873.79	8,879.24	1.73	-1.56	-0.75
17,352.14	92.41	269.77	8,197.06	-1,001.66	-8,887.20	8,892.66	1.60	-1.41	-0.74
17,365.57	91.39	270.03	8,196.61	-1,001.69	-8,900.63	8,906.08	7.84	-7.59	1.94
17,379.00	91.33	269.96	8,196.29	-1,001.69	-8,914.05	8,919.51	0.69	-0.45	-0.52
17,392.57	91.39	269.91	8,195.97	-1,001.70	-8,927.62	8,933.07	0.58	0.44	-0.37
17,406.14	91.55	269.89	8,195.62	-1,001.73	-8,941.18	8,946.64	1.19	1.18	-0.15
17,419.71	91.75	269.88	8,195.23	-1,001.75	-8,954.75	8,960.20	1.48	1.47	-0.07
17,433.29	91.99	269.87	8,194.79	-1,001.78	-8,968.32	8,973.78	1.77	1.77	-0.07
17,446.86	92.24	269.87	8,194.29	-1,001.81	-8,981.88	8,987.34	1.84	1.84	0.00
17,460.43	92.49	269.86	8,193.73	-1,001.85	-8,995.44	9,000.90	1.84	1.84	-0.07
17,474.00	92.72	269.86	8,193.11	-1,001.88	-9,009.00	9,014.45	1.69	1.69	0.00
17,487.43	92.92	269.85	8,192.45	-1,001.91	-9,022.41	9,027.86	1.49	1.49	-0.07
17,500.86	93.10	269.83	8,191.75	-1,001.95	-9,035.82	9,041.28	1.35	1.34	-0.15
17,514.29	93.26	269.82	8,191.00	-1,001.99	-9,049.23	9,054.69	1.19	1.19	-0.07
17,527.71	93.39	269.80	8,190.22	-1,002.04	-9,062.63	9,068.08	0.98	0.97	-0.15



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
17,541.14	93.51	269.78	8,189.42	-1,002.08	-9,076.03	9,081.49	0.91	0.89	-0.15
17,554.57	93.60	269.75	8,188.58	-1,002.14	-9,089.44	9,094.89	0.71	0.67	-0.22
17,568.00	93.66	269.73	8,187.73	-1,002.20	-9,102.84	9,108.30	0.47	0.45	-0.15
17,581.57	93.66	269.70	8,186.87	-1,002.27	-9,116.38	9,121.84	0.22	0.00	-0.22
17,595.14	93.63	269.66	8,186.00	-1,002.34	-9,129.92	9,135.38	0.37	-0.22	-0.29
17,608.71	93.58	269.63	8,185.15	-1,002.43	-9,143.47	9,148.92	0.43	-0.37	-0.22
17,622.29	93.54	269.60	8,184.31	-1,002.52	-9,157.02	9,162.48	0.37	-0.29	-0.22
17,635.86	93.50	269.57	8,183.47	-1,002.62	-9,170.57	9,176.02	0.37	-0.29	-0.22
17,649.43	92.62	269.56	8,182.75	-1,002.72	-9,184.12	9,189.57	6.49	-6.48	-0.07
17,663.00	92.21	269.54	8,182.18	-1,002.83	-9,197.67	9,203.13	3.02	-3.02	-0.15
17,676.43	92.28	269.53	8,181.65	-1,002.93	-9,211.09	9,216.55	0.53	0.52	-0.07
17,689.86	92.38	269.53	8,181.11	-1,003.04	-9,224.51	9,229.97	0.74	0.74	0.00
17,703.29	92.50	269.53	8,180.53	-1,003.15	-9,237.93	9,243.39	0.89	0.89	0.00
17,716.71	92.63	269.53	8,179.93	-1,003.26	-9,251.33	9,256.79	0.97	0.97	0.00
17,730.14	92.76	269.52	8,179.30	-1,003.38	-9,264.75	9,270.21	0.97	0.97	-0.07
17,743.57	92.88	269.52	8,178.64	-1,003.49	-9,278.16	9,283.62	0.89	0.89	0.00
17,757.00	92.98	269.51	8,177.95	-1,003.60	-9,291.57	9,297.03	0.75	0.74	-0.07
17,770.57	93.06	269.49	8,177.24	-1,003.72	-9,305.12	9,310.59	0.61	0.59	-0.15
17,784.14	93.12	269.46	8,176.51	-1,003.84	-9,318.67	9,324.14	0.49	0.44	-0.22
17,797.71	93.17	269.43	8,175.76	-1,003.98	-9,332.22	9,337.68	0.43	0.37	-0.22
17,811.29	93.21	269.40	8,175.01	-1,004.11	-9,345.78	9,351.24	0.37	0.29	-0.22
17,824.86	93.25	269.36	8,174.24	-1,004.26	-9,359.33	9,364.79	0.42	0.29	-0.29
17,838.43	93.28	269.33	8,173.47	-1,004.42	-9,372.88	9,378.34	0.31	0.22	-0.22
17,852.00	93.30	269.30	8,172.69	-1,004.58	-9,386.42	9,391.89	0.27	0.15	-0.22
17,865.43	93.32	269.27	8,171.92	-1,004.74	-9,399.83	9,405.29	0.27	0.15	-0.22
17,878.86	93.34	269.24	8,171.14	-1,004.92	-9,413.24	9,418.70	0.27	0.15	-0.22
17,892.29	93.37	269.21	8,170.35	-1,005.10	-9,426.64	9,432.11	0.32	0.22	-0.22
17,905.71	93.41	269.19	8,169.56	-1,005.29	-9,440.04	9,445.50	0.33	0.30	-0.15
17,919.14	93.47	269.17	8,168.75	-1,005.48	-9,453.44	9,458.91	0.47	0.45	-0.15
17,932.57	93.56	269.16	8,167.93	-1,005.67	-9,466.84	9,472.31	0.67	0.67	-0.07
17,946.00	92.85	269.19	8,167.18	-1,005.87	-9,480.25	9,485.72	5.29	-5.29	0.22
17,959.43	91.92	269.25	8,166.62	-1,006.05	-9,493.67	9,499.14	6.94	-6.92	0.45
17,972.86	92.18	269.26	8,166.14	-1,006.22	-9,507.09	9,512.56	1.94	1.94	0.07
17,986.29	92.47	269.28	8,165.59	-1,006.40	-9,520.51	9,525.98	2.16	2.16	0.15
17,999.71	92.79	269.31	8,164.98	-1,006.56	-9,533.91	9,539.38	2.39	2.38	0.22
18,013.14	93.10	269.33	8,164.29	-1,006.72	-9,547.32	9,552.80	2.31	2.31	0.15
18,026.57	93.41	269.36	8,163.52	-1,006.87	-9,560.73	9,566.20	2.32	2.31	0.22
18,040.00	93.68	269.38	8,162.69	-1,007.02	-9,574.13	9,579.61	2.02	2.01	0.15
18,053.57	93.91	269.40	8,161.80	-1,007.16	-9,587.67	9,593.15	1.70	1.69	0.15
18,067.14	94.10	269.42	8,160.85	-1,007.30	-9,601.21	9,606.69	1.41	1.40	0.15
18,080.71	94.26	269.43	8,159.86	-1,007.44	-9,614.74	9,620.22	1.18	1.18	0.07
18,094.29	94.41	269.44	8,158.83	-1,007.57	-9,628.28	9,633.76	1.11	1.10	0.07
18,107.86	94.54	269.44	8,157.77	-1,007.71	-9,641.81	9,647.29	0.96	0.96	0.00



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
18,121.43	94.67	269.44	8,156.68	-1,007.84	-9,655.34	9,660.81	0.96	0.96	0.00
18,135.00	94.78	269.42	8,155.57	-1,007.97	-9,668.86	9,674.34	0.82	0.81	-0.15
18,148.43	94.88	269.39	8,154.44	-1,008.11	-9,682.24	9,687.72	0.78	0.74	-0.22
18,161.86	94.97	269.34	8,153.28	-1,008.26	-9,695.62	9,701.10	0.77	0.67	-0.37
18,175.29	95.05	269.29	8,152.11	-1,008.42	-9,709.00	9,714.48	0.70	0.60	-0.37
18,188.71	95.13	269.24	8,150.92	-1,008.59	-9,722.36	9,727.85	0.70	0.60	-0.37
18,202.14	94.34	269.22	8,149.81	-1,008.77	-9,735.75	9,741.23	5.88	-5.88	-0.15
18,215.57	92.89	269.21	8,148.96	-1,008.95	-9,749.15	9,754.63	10.80	-10.80	-0.07
18,229.00	91.75	269.61	8,148.42	-1,009.09	-9,762.57	9,768.05	8.99	-8.49	2.98
18,242.57	91.60	269.57	8,148.02	-1,009.19	-9,776.13	9,781.61	1.14	-1.11	-0.29
18,256.14	91.65	269.52	8,147.64	-1,009.30	-9,789.70	9,795.18	0.52	0.37	-0.37
18,269.71	91.70	269.46	8,147.24	-1,009.42	-9,803.26	9,808.74	0.58	0.37	-0.44
18,283.29	91.74	269.40	8,146.83	-1,009.55	-9,816.83	9,822.32	0.53	0.29	-0.44
18,296.86	91.79	269.34	8,146.42	-1,009.70	-9,830.39	9,835.88	0.58	0.37	-0.44
18,310.43	91.83	269.27	8,145.99	-1,009.87	-9,843.96	9,849.44	0.59	0.29	-0.52
18,324.00	91.86	269.19	8,145.55	-1,010.05	-9,857.52	9,863.01	0.63	0.22	-0.59
18,337.43	91.90	269.10	8,145.11	-1,010.25	-9,870.94	9,876.43	0.73	0.30	-0.67
18,350.86	91.93	268.99	8,144.66	-1,010.47	-9,884.36	9,889.85	0.85	0.22	-0.82
18,364.29	91.96	268.89	8,144.21	-1,010.72	-9,897.78	9,903.27	0.78	0.22	-0.74
18,377.71	92.00	268.78	8,143.74	-1,010.99	-9,911.19	9,916.68	0.87	0.30	-0.82
18,391.14	92.05	268.68	8,143.27	-1,011.29	-9,924.61	9,930.10	0.83	0.37	-0.74
18,404.57	92.11	268.58	8,142.78	-1,011.61	-9,938.03	9,943.52	0.87	0.45	-0.74
18,418.00	90.86	269.02	8,142.43	-1,011.89	-9,951.45	9,956.94	9.87	-9.31	3.28
18,431.57	90.65	269.07	8,142.25	-1,012.12	-9,965.01	9,970.51	1.59	-1.55	0.37
18,445.14	90.78	269.00	8,142.08	-1,012.35	-9,978.58	9,984.08	1.09	0.96	-0.52
18,458.71	90.91	268.93	8,141.88	-1,012.59	-9,992.15	9,997.65	1.09	0.96	-0.52
18,472.29	91.05	268.86	8,141.65	-1,012.86	-10,005.72	10,011.22	1.15	1.03	-0.52
18,485.86	91.19	268.80	8,141.39	-1,013.13	-10,019.29	10,024.79	1.12	1.03	-0.44
18,499.43	91.32	268.75	8,141.09	-1,013.42	-10,032.85	10,038.36	1.03	0.96	-0.37
18,513.00	91.44	268.71	8,140.76	-1,013.72	-10,046.41	10,051.92	0.93	0.88	-0.29
18,526.43	91.52	268.69	8,140.42	-1,014.03	-10,059.84	10,065.34	0.61	0.60	-0.15
18,539.86	91.60	268.67	8,140.05	-1,014.34	-10,073.26	10,078.77	0.61	0.60	-0.15
18,553.29	91.66	268.67	8,139.67	-1,014.65	-10,086.68	10,092.19	0.45	0.45	0.00
18,566.71	91.73	268.67	8,139.27	-1,014.96	-10,100.09	10,105.60	0.52	0.52	0.00
18,580.14	91.79	268.68	8,138.86	-1,015.27	-10,113.51	10,119.02	0.45	0.45	0.07
18,593.57	91.87	268.69	8,138.43	-1,015.58	-10,126.93	10,132.44	0.60	0.60	0.07
18,607.00	91.95	268.72	8,137.98	-1,015.88	-10,140.35	10,145.86	0.64	0.60	0.22
18,620.57	92.07	268.75	8,137.51	-1,016.18	-10,153.91	10,159.42	0.91	0.88	0.22
18,634.14	92.20	268.78	8,137.00	-1,016.47	-10,167.46	10,172.98	0.98	0.96	0.22
18,647.71	92.35	268.82	8,136.46	-1,016.76	-10,181.02	10,186.54	1.14	1.11	0.29
18,661.29	92.49	268.86	8,135.89	-1,017.03	-10,194.59	10,200.11	1.07	1.03	0.29
18,674.86	92.64	268.90	8,135.28	-1,017.30	-10,208.14	10,213.66	1.14	1.11	0.29
18,688.43	92.78	268.93	8,134.64	-1,017.55	-10,221.69	10,227.22	1.06	1.03	0.22



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 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)
18,702.00	92.92	268.95	8,133.96	-1,017.80	-10,235.24	10,240.77	1.04	1.03	0.15
18,715.43	93.04	268.95	8,133.27	-1,018.05	-10,248.65	10,254.18	0.89	0.89	0.00
18,728.86	93.15	268.94	8,132.54	-1,018.30	-10,262.06	10,267.59	0.82	0.82	-0.07
18,742.29	93.26	268.92	8,131.79	-1,018.55	-10,275.47	10,281.00	0.83	0.82	-0.15
18,755.71	93.37	268.91	8,131.01	-1,018.80	-10,288.86	10,294.39	0.82	0.82	-0.07
18,769.14	93.47	268.89	8,130.21	-1,019.06	-10,302.27	10,307.80	0.76	0.74	-0.15
18,782.57	93.58	268.88	8,129.39	-1,019.32	-10,315.67	10,321.20	0.82	0.82	-0.07
18,796.00	93.70	268.87	8,128.53	-1,019.58	-10,329.07	10,334.60	0.90	0.89	-0.07
18,799.61	93.74	268.87	8,128.30	-1,019.65	-10,332.67	10,338.20	0.98	0.98	0.00
L07-02-LTP (Dak32-134H)									
18,805.51	93.79	268.87	8,127.91	-1,019.77	-10,338.56	10,344.09	0.98	0.98	0.00
100'FWL: 18805.51' MD, 10344.09' VS, 8127.91' TVD									
18,809.33	93.83	268.87	8,127.66	-1,019.84	-10,342.37	10,347.90	0.98	0.98	0.00
18,822.67	93.96	268.88	8,126.75	-1,020.11	-10,355.67	10,361.21	0.98	0.97	0.07
18,836.00	94.08	268.89	8,125.82	-1,020.36	-10,368.97	10,374.50	0.90	0.90	0.08
Final MWD Survey: 18836.00' MD, 94.08°INC, 268.97°AZ									
18,892.55	94.44	268.89	8,121.62	-1,021.46	-10,425.35	10,430.89	0.64	0.64	0.00
L07-03-PBHL(Dak32-134H)									
18,895.00	94.46	268.89	8,121.43	-1,021.50	-10,427.79	10,433.34	0.64	0.64	0.00
18,895.38	94.46	268.89	8,121.40	-1,021.51	-10,428.17	10,433.71	0.00	0.00	0.00
PTB: 18895.38' MD, 94.46°INC, 268.89°AZ									

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
171.00	171.00	Rustler				
226.00	226.00	Top of Salt				
533.03	533.00	Base of Salt				
751.05	751.00	Yates				
1,591.18	1,591.00	Capitan				
2,989.05	2,976.00	DLWR Mnt. Group				
3,403.01	3,385.00	Lower Brushy Canyon				
3,842.35	3,821.00	Bone Spring Lime				
5,797.90	5,761.00	1st Bone Spring SD				
5,858.29	5,821.00	2nd Bone Spring LM				
6,995.77	6,946.00	2nd Bone Spring SD				
7,546.21	7,491.00	3rd Bone Spring LM				
8,351.59	8,251.00	3rd Bone Spring SD				



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well 03 Dakota 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3341+30 @ 3371.00usft
Site:	Dakota 32 State Fed Com	MD Reference:	3341+30 @ 3371.00usft
Well:	03 Dakota 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	134H	Database:	EDM 5000.14 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,965.00	7,907.33	-831.70	180.13	KOP: 7965.00' MD, -175.48' VS, 7907.33' TVD
8,128.98	8,066.38	-838.42	146.43	100'FEL: 8128.98' MD, -141.75' VS, 8066.38' TVD
9,064.00	8,490.26	-956.17	-608.59	EOC: 9064.00' MD, 613.92' VS, 8490.26' TVD
18,805.51	8,127.91	-1,019.77	-10,338.56	100'FWL: 18805.51' MD, 10344.09' VS, 8127.91' TVD
18,836.00	8,125.82	-1,020.36	-10,368.97	Final MWD Survey: 18836.00' MD, 94.08°INC, 268.97°AZ
18,895.38	8,121.40	-1,021.51	-10,428.17	PTB: 18895.38' MD, 94.46°INC, 268.89°AZ

Checked By: _____ Approved By: _____ Date: _____

Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM
87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-015-47744
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Dakota 32 State Federal Com
8. Well Number 134H
9. OGRID Number 371449
10. Pool name or Wildcat Winchester; Bone Spring, West
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3,341 GL

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other

2. Name of Operator
Colgate Operating, LLC

3. Address of Operator
300 North Marienfeld, Suite 1,000 – Midland, Tx 79701

4. Well Location

Unit Letter: P 1,297 feet from the South line and 300 feet from the East line

Section: 32 Township: 19S Range: 28E NMPM County: Eddy

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐
CLOSED-LOOP SYSTEM ☐
OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐
OTHER: New Well Completion ☒

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Colgate Operating, LLC has completed the following:

08/21/2021- Pressured up casing to 7,250 psi with a 15 minute test
09/09/2021- Perf and frac stages 1-55.
Perfs 9,038 – 18,668
Frac with 394,228 bbl liquid and 21,902,861 lbs of proppant
09/21/2021- Drilled out plugs
Turn over to production.
TD 18,895 - PBTD 18,784

Spud Date: 04/30/2021

Rig Release Date: 05/21/2021

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE: 

TITLE: Operations Tech

DATE: 12/09/2021

Type or print name Mikah Thomas

E-mail address: mthomas@colgateenergy.com

PHONE: 432-695-4272

For State Use Only

APPROVED BY: _____ TITLE: _____ DATE: _____

Conditions of Approval (if any):

Submit To Appropriate District Office Two Copies <u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 811 S. First St., Artesia, NM 88210 <u>District III</u> 1000 Rio Brazos Rd., Aztec, NM 87410 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505		State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505			Form C-105 Revised April 3, 2017					
WELL COMPLETION OR RECOMPLETION REPORT AND LOG								1. WELL API NO. 30-015-47744		
4. Reason for filing: ☒ COMPLETION REPORT (Fill in boxes #1 through #31 for State and Fee wells only) ☐ C-144 CLOSURE ATTACHMENT (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC)								2. Type of Lease ☒ STATE ☐ FEE ☐ FED/INDIAN		
								3. State Oil & Gas Lease No.		
5. Lease Name or Unit Agreement Name Dakota 32 State Federal Com										
6. Well Number: 134H										
7. Type of Completion: ☒ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR ☐ OTHER										
8. Name of Operator Colgate Operating, LLC						9. OGRID 371449				
10. Address of Operator 300 North Marcienfeld, Suite 1,000 Midland, Texas 79705						11. Pool name or Wildcat Winchester; Bone Spring, West				
12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:	P	32	19S	28E		1,297	South	300	East	Eddy
BH:	M	31	19S	28E		335	South	13	West	Eddy
13. Date Spudded 04/30/2021		14. Date T.D. Reached 05/20/2021		15. Date Rig Released 05/21/2021		16. Date Completed (Ready to Produce) 09/21/2021		17. Elevations (DF and RKB, RT, GR, etc.) 3,341		
18. Total Measured Depth of Well 18,895			19. Plug Back Measured Depth 18,784			20. Was Directional Survey Made? Yes		21. Type Electric and Other Logs Run Gamma Ray		
22. Producing Interval(s), of this completion - Top, Bottom, Name 9,053-18,668 Bone Spring										
23. CASING RECORD (Report all strings set in well)										
CASING SIZE		WEIGHT LB./FT.		DEPTH SET		HOLE SIZE		CEMENTING RECORD		AMOUNT PULLED
13.375		54.5		295		17.5		Prem Plus 300 sx 1.35		
9.625		36		2,914		12.25		Prem Plus 773 sx 1.82, 199 sx 1.33		
5.5		17		18,880		8.75		Prem 691 sx 2.72, 1,786 sx 1.95		
24. LINER RECORD										
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	25. TUBING RECORD					
					SIZE	DEPTH SET	PACKER SET			
26. Perforation record (interval, size, and number) 9,053-18,668 3.0 1,821 holes					27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.					
					DEPTH INTERVAL		AMOUNT AND KIND MATERIAL USED			
					9,038-18,668		Total Proppant 21,902,861 – Total Fluid 394,228			
28. PRODUCTION										
Date First Production 10/08/2021		Production Method (<i>Flowing, gas lift, pumping - Size and type pump</i>) Gas Lift				Well Status (<i>Prod. or Shut-in</i>) Producing				
Date of Test 10/10/2021	Hours Tested 24	Choke Size 56/88	Prod'n For Test Period	Oil – Bbl 1,672	Gas – MCF 4,241	Water – Bbl. 3,580	Gas - Oil Ratio			
Flow Tubing Press. 2,552	Casing Pressure 710	Calculated 24- Hour Rate	Oil - Bbl. 1,672	Gas - MCF 4,241	Water - Bbl. 3,580	Oil Gravity - API - (<i>Corr.</i>) 45.6				
29. Disposition of Gas (<i>Sold, used for fuel, vented, etc.</i>) Sold							30. Test Witnessed By Colgate Operating, LLC			
31. List Attachments C-102, C-104, Directionnel Survey										
32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit.							33. Rig Release Date:			
34. If an on-site burial was used at the well, report the exact location of the on-site burial: Latitude Longitude NAD83										

I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief

Signature

Printed

Name: Mikah Thomas

Title: Operations Tech

Date: 12/09/2021

E-mail Address: mthomas@colgateenergy.com

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico		Northwestern New Mexico	
T. Rustler- 171	T. Canyon	T. Ojo Alamo	T. Penn A"
T. Salt- 226	T. Strawn	T. Kirtland	T. Penn. "B"
B. Salt- 533	T. Atoka	T. Fruitland	T. Penn. "C"
T. Yates- 751	T. Miss	T. Pictured Cliffs	T. Penn. "D"
T. DLWR Mnt. Group- 2,976	T. Devonian	T. Cliff House	T. Leadville
T. L Brushy Canyon- 3,385	T. Silurian	T. Menefee	T. Madison
T. BS Lime- 3,821	T. Montoya	T. Point Lookout	T. Elbert
T. 1 st Bone Spring SD- 5,761	T. Simpson	T. Mancos	T. McCracken
T. 2 nd Bone Spring LM- 5,821	T. McKee	T. Gallup	T. Ignacio Otzte
T. 2 nd Bone Spring SD- 6,946	T. Ellenburger	Base Greenhorn	T. Granite
T. 3 rd Bone Spring LM-	T. Gr. Wash	T. Dakota	
T. 3 rd Bone Spring SD-	T. Delaware Sand	T. Morrison	
T. Drinkard	T. Bone Springs	T. Todilto	
T. Abo	T.	T. Entrada	
T. Wolfcamp	T.	T. Wingate	
T. Penn	T.	T. Chinle	
T. Cisco (Bough C)	T.	T. Permian	

OIL OR GAS SANDS OR ZONES

No. 1, from.....to.....

No. 3, from.....to.....

No. 2, from.....to.....

No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....

No. 2, from.....to.....feet.....

No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology	From	To	Thickness In Feet	Lithology
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District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

ACKNOWLEDGMENTS

Action 66068

ACKNOWLEDGMENTS

Operator: COLGATE OPERATING, LLC 300 North Marienfeld Street Midland, TX 79701	OGRID: 371449
	Action Number: 66068
	Action Type: [C-104] Completion Packet (C-104C)

ACKNOWLEDGMENTS

☒	I hereby certify that the required Water Use Report has been, or will be, submitted for this wells completion.
☒	I hereby certify that the required FracFocus disclosure has been, or will be, submitted for this wells completion.

District I

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 66068

CONDITIONS

Operator: COLGATE OPERATING, LLC 300 North Marienfeld Street Midland, TX 79701	OGRID: 371449
	Action Number: 66068
	Action Type: [C-104] Completion Packet (C-104C)

CONDITIONS

Created By	Condition	Condition Date
plmartinez	File 3160-4 Completion Report and 3160-5 Completion Sundry within 10 days to NMOCD after BLM approval.	12/10/2021