

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

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 RT	
⁴ API Number 30 – 015 – 48114	⁵ Pool Name WINCHESTER; BONE SPRING, WEST		⁶ Pool Code 97569
⁷ Property Code 329347 X 330326	⁸ Property Name TORO 22 FED STATE COM		⁹ Well Number 121H

II. ¹⁰ Surface Location

UL or lot no. E	Section 22	Township 19S	Range 28E	Lot Idn	Feet from the 1433	North/South Line North	Feet from the 375	East/West line West	County Eddy
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¹¹ Bottom Hole Location

UL or lot no. A	Section 22	Township 19S	Range 28E	Lot Idn	Feet from the 961	North/South line North	Feet from the 15	East/West line East	County Eddy
¹² Lse Code F	¹³ Producing Method Code P	¹⁴ Gas Connection Date 03/01/2021	¹⁵ C-129 Permit Number		¹⁶ C-129 Effective Date		¹⁷ C-129 Expiration Date		

III. Oil and Gas Transporters

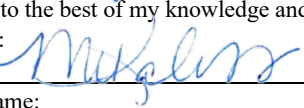
¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
329097	LM TOUCHDOWN, LLC	O
329097	LM TOUCHDOWN, LLC	G

IV. Well Completion Data

²¹ Spud Date 03/14/2022	²² Ready Date 07/01/2022	²³ TD 12,185 MD 7,326 TVD	²⁴ PBTD 12,164 MD 7,315 TVD	²⁵ Perforations 7,769 – 11,944	²⁶ DHC, MC
²⁷ Hole Size		²⁸ Casing & Tubing Size		²⁹ Depth Set	³⁰ Sacks Cement
17.5		13.375		254	305
12.25		9.625		2,870	Lead 460 Tail 205
7.875		5.5		12,164	Lead 655 Tail 660

V. Well Test Data

³¹ Date New Oil	³² Gas Delivery Date	³³ Test Date	³⁴ Test Length	³⁵ Tbg. Pressure	³⁶ Csg. Pressure
³⁷ Choke Size	³⁸ Oil	³⁹ Water	⁴⁰ Gas		⁴¹ Test Method

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: John Garcia	
Title: Sr. Regulatory Analyst		Title: Petroleum Engineer	
E-mail Address: mthomas@colgateenergy.com		Approval Date: 7/5/2022	
Date: 06/15/2022	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 30-015-48114	2 Pool Code 97569	3 Pool Name WINCHESTER; BONE SPRING, WEST
4 Property Code 330326	5 Property Name TORO 22 FED STATE COM	6 Well Number 121H
7 OGRID No. 371449	8 Operator Name COLGATE OPERATING, LLC	9 Elevation 3422.05'

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
E	22	19-S	28-E		1433'	NORTH	375'	WEST	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
A	22	19-S	28-E		961'	NORTH	15'	EAST	EDDY

12 Dedicated Acres 160	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.

CORNER DATA NEW MEXICO EAST - NAD 83 A - FOUND MONUMENT N:601487.49' E:590787.58' B - FOUND IRON PIPE W/ BRASS CAP N:601512.46' E:593384.47' C - CALCULATED CORNER N:601537.44' E:595981.36' D - FOUND IRON PIPE W/ BRASS CAP N:598897.79' E:595983.55' E - FOUND IRON PIPE W/ BRASS CAP N:596258.72' E:595984.31' F - FOUND IRON PIPE W/ BRASS CAP N:596236.89' E:593385.18' G - FOUND IRON PIPE W/ BRASS CAP N:596216.35' E:590789.98' H - FOUND MONUMENT N:598852.66' E:590787.16'	SURFACE HOLE LOCATION (SHL) ELEV. = 3422.05' NEW MEXICO EAST - NAD 83 X=591162.00 LAT.= 32.64950188° N Y=600057.70 LONG.= 104.17145149° W NEW MEXICO EAST - NAD 27 X=549982.19 LAT.= 32.64938500° N Y=599995.71 LONG.= 104.17094289° W 1433' FNL, 375' FWL - SECTION 22 POINT OF PENETRATION (POP) NEW MEXICO EAST - NAD 83 X=590867.59 LAT.= 32.65084819° N Y=600547.05 LONG.= 104.17240562° W NEW MEXICO EAST - NAD 27 X=549687.79 LAT.= 32.65073134° N Y=600485.05 LONG.= 104.17189696° W 941' FNL, 80' FWL - SECTION 22 MD = 6,781.00' FIRST TAKE POINT (FTP) NEW MEXICO EAST - NAD 83 X=591077.28 LAT.= 32.65078549° N Y=600524.56 LONG.= 104.17172444° W NEW MEXICO EAST - NAD 27 X=549897.48 LAT.= 32.65066863° N Y=600462.56 LONG.= 104.17121579° W 966' FNL, 290' FWL - SECTION 22 MD = 7,234.53' BOTTOM HOLE LOCATION (BHL) NEW MEXICO EAST - NAD 83 X=595967.15 LAT.= 32.65090625° N Y=600576.30 LONG.= 104.15583661° W NEW MEXICO EAST - NAD 27 X=554787.35 LAT.= 32.65078923° N Y=600514.26 LONG.= 104.15532833° W 990' FNL, 10' FEL - SECTION 22 MD = 12,185.00' LAST TAKE POINT (LTP) NEW MEXICO EAST - NAD 83 X=595880.61 LAT.= 32.65089084° N Y=600570.55 LONG.= 104.15611784° W NEW MEXICO EAST - NAD 27 X=554700.80 LAT.= 32.65077382° N Y=600508.51 LONG.= 104.15560955° W 990' FNL, 100' FEL - SECTION 22 MD = 12,098.27'	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. Signature: <i>Mikah Thomas</i> Date: 4/14/2022 Printed Name: Mikah Thomas E-mail Address: mthomas@colgateenergy.com 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: 4/14/2022 Signature and Seal of Professional Surveyor: <i>Mark J. Murray</i> Certificate Number: 12177
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Colgate Energy

Eddy County, NM (N83-NME)

Toro 22 Fed State Com

(A03) Toro 22 Fed State Com 121H

30-015-48114

121H

Design: DRL

Standard Survey Report

09 April, 2022



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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	Toro 22 Fed State Com		
Site Position:		Northing:	600,057.66 usft
From:	Map	Easting:	591,132.01 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.64950189
		Longitude:	-104.17154894

Well	(A03) Toro 22 Fed State Com 121H					
Well Position	+N/-S	0.00 usft	Northing:	600,057.70 usft	Latitude:	32.64950187
	+E/-W	0.00 usft	Easting:	591,162.00 usft	Longitude:	-104.17145150
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,422.00 usft
Grid Convergence:		0.09 °				

Wellbore	121H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IFR	3/12/2022	7.11	60.37	47,653.70000000

Design	DRL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	89.45	

Survey Program	Date	4/9/2022			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
15.00	12,128.00	Survey #1_Gordon (121H)	MWD+IFR1+SAG+FDIR (SQ OWSG MWD + IFR1 + Sag + FDIR Correction		
12,185.00	12,185.00	Survey #2_PTB (121H)	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	
15.00	0.06	137.05	15.00	-0.01	0.01	0.01	0.40	0.40	0.00	
30.00	0.11	137.14	30.00	-0.02	0.02	0.02	0.33	0.33	0.60	
45.00	0.17	137.23	45.00	-0.05	0.05	0.04	0.40	0.40	0.60	
60.00	0.22	137.32	60.00	-0.09	0.08	0.08	0.33	0.33	0.60	
75.00	0.27	137.42	75.00	-0.13	0.12	0.12	0.33	0.33	0.67	
90.00	0.33	137.51	90.00	-0.19	0.18	0.17	0.40	0.40	0.60	
105.00	0.47	327.79	105.00	-0.17	0.17	0.17	5.31	0.93	-1,131.47	
120.00	0.43	335.46	120.00	-0.07	0.12	0.12	0.48	-0.27	51.13	



Survey Report

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Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)
135.00	0.40	344.48	135.00	0.03	0.08	0.08	0.48	-0.20	60.13
150.00	0.38	354.65	150.00	0.13	0.06	0.06	0.48	-0.13	67.80
165.00	0.37	5.44	165.00	0.23	0.06	0.06	0.47	-0.07	71.93
180.00	0.38	16.07	180.00	0.33	0.08	0.08	0.47	0.07	70.87
195.00	0.40	25.85	195.00	0.42	0.12	0.12	0.46	0.13	65.20
209.44	0.41	14.38	209.44	0.52	0.15	0.16	0.56	0.07	-79.43
223.89	0.43	3.64	223.89	0.62	0.17	0.17	0.56	0.14	-74.33
229.00	0.44	0.11	229.00	0.66	0.17	0.17	0.58	0.25	-69.06
Rustler									
238.33	0.47	354.21	238.33	0.73	0.16	0.17	0.58	0.29	-63.24
252.78	0.52	346.29	252.78	0.86	0.14	0.15	0.59	0.35	-54.81
267.22	0.58	339.78	267.21	0.99	0.10	0.11	0.60	0.42	-45.08
281.67	0.64	334.48	281.66	1.13	0.04	0.05	0.57	0.42	-36.68
285.01	0.66	333.40	285.00	1.17	0.03	0.04	0.60	0.47	-32.50
Top of Salt									
296.11	0.71	330.14	296.10	1.28	-0.04	-0.03	0.60	0.49	-29.32
310.56	0.86	333.31	310.55	1.46	-0.13	-0.12	1.08	1.04	21.94
325.00	1.09	336.51	324.99	1.68	-0.23	-0.22	1.64	1.59	22.16
338.14	1.12	335.30	338.13	1.91	-0.34	-0.32	0.29	0.23	-9.21
351.29	1.15	333.93	351.27	2.15	-0.45	-0.43	0.31	0.23	-10.42
364.43	1.19	332.64	364.41	2.39	-0.57	-0.55	0.36	0.30	-9.82
377.57	1.23	331.67	377.55	2.63	-0.70	-0.67	0.34	0.30	-7.38
390.71	1.28	331.22	390.69	2.88	-0.84	-0.81	0.39	0.38	-3.42
403.86	1.33	331.54	403.83	3.15	-0.98	-0.95	0.38	0.38	2.43
417.00	1.39	332.93	416.97	3.42	-1.13	-1.09	0.52	0.46	10.58
430.14	1.47	335.66	430.10	3.72	-1.27	-1.23	0.80	0.61	20.78
443.29	1.56	338.95	443.25	4.04	-1.40	-1.36	0.95	0.68	25.02
456.43	1.66	342.25	456.38	4.39	-1.52	-1.48	1.04	0.76	25.11
469.57	1.77	345.24	469.52	4.76	-1.63	-1.59	1.08	0.84	22.75
482.71	1.88	347.69	482.65	5.17	-1.73	-1.68	1.03	0.84	18.65
495.86	1.98	349.46	495.79	5.60	-1.82	-1.76	0.89	0.76	13.46
509.00	2.11	357.74	508.93	6.07	-1.87	-1.81	2.45	0.99	63.01
522.14	2.47	15.54	522.06	6.58	-1.80	-1.74	6.03	2.74	135.46
535.29	2.52	14.90	535.19	7.14	-1.65	-1.58	0.44	0.38	-4.87
548.43	2.56	13.81	548.32	7.70	-1.51	-1.43	0.48	0.30	-8.30
561.57	2.60	12.57	561.45	8.28	-1.37	-1.29	0.52	0.30	-9.44
570.13	2.63	11.82	570.00	8.66	-1.29	-1.21	0.50	0.30	-8.80
Base of Salt									
574.71	2.64	11.42	574.57	8.86	-1.25	-1.16	0.50	0.31	-8.66
587.86	2.67	10.61	587.71	9.46	-1.13	-1.04	0.37	0.23	-6.16
601.00	2.68	10.41	600.84	10.06	-1.02	-0.92	0.10	0.08	-1.52
614.00	2.69	11.23	613.82	10.66	-0.91	-0.80	0.31	0.08	6.31
627.00	2.70	12.70	626.81	11.26	-0.78	-0.67	0.54	0.08	11.31
640.00	2.70	14.55	639.79	11.86	-0.64	-0.52	0.67	0.00	14.23



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)
653.00	2.71	16.58	652.78	12.45	-0.47	-0.35	0.74	0.08	15.62
666.00	2.72	18.61	665.76	13.03	-0.29	-0.16	0.74	0.08	15.62
679.00	2.73	20.46	678.75	13.62	-0.08	0.05	0.68	0.08	14.23
692.00	2.74	21.93	691.73	14.19	0.15	0.28	0.55	0.08	11.31
705.14	3.08	30.42	704.86	14.79	0.44	0.58	4.17	2.59	64.61
718.29	3.16	32.19	717.99	15.40	0.81	0.96	0.95	0.61	13.46
731.43	3.15	32.16	731.11	16.01	1.20	1.35	0.08	-0.08	-0.23
744.57	3.13	31.95	744.23	16.62	1.58	1.74	0.18	-0.15	-1.60
757.71	3.10	31.65	757.35	17.23	1.96	2.12	0.26	-0.23	-2.28
770.86	3.06	31.35	770.48	17.83	2.33	2.50	0.33	-0.30	-2.28
781.40	3.01	31.17	781.00	18.31	2.62	2.79	0.47	-0.46	-1.74
Yates									
784.00	3.00	31.12	783.60	18.43	2.69	2.86	0.47	-0.46	-1.78
797.14	2.92	31.24	796.72	19.01	3.04	3.22	0.61	-0.61	0.91
810.29	2.82	31.54	809.86	19.57	3.38	3.57	0.77	-0.76	2.28
823.43	2.71	31.94	822.98	20.11	3.71	3.91	0.85	-0.84	3.04
836.57	2.59	32.43	836.11	20.62	4.04	4.24	0.93	-0.91	3.73
849.71	2.48	32.93	849.23	21.11	4.35	4.55	0.85	-0.84	3.81
862.86	2.37	33.40	862.37	21.58	4.66	4.86	0.85	-0.84	3.57
876.00	2.27	33.73	875.50	22.02	4.95	5.16	0.77	-0.76	2.51
889.29	2.20	33.70	888.78	22.45	5.24	5.45	0.53	-0.53	-0.23
902.57	2.13	33.47	902.05	22.87	5.52	5.73	0.53	-0.53	-1.73
915.86	2.09	33.14	915.33	23.28	5.78	6.01	0.31	-0.30	-2.48
929.14	2.04	32.81	928.60	23.68	6.04	6.27	0.39	-0.38	-2.48
942.43	2.01	32.61	941.89	24.08	6.30	6.53	0.23	-0.23	-1.50
955.71	1.99	32.69	955.16	24.47	6.55	6.78	0.15	-0.15	0.60
969.00	1.97	33.29	968.44	24.85	6.80	7.04	0.22	-0.15	4.51
982.00	1.97	34.75	981.43	25.22	7.05	7.29	0.39	0.00	11.23
995.00	1.99	36.65	994.42	25.59	7.31	7.56	0.53	0.15	14.62
1,008.00	2.01	38.75	1,007.42	25.94	7.59	7.84	0.58	0.15	16.15
1,021.00	2.04	40.88	1,020.41	26.30	7.88	8.13	0.62	0.23	16.38
1,034.00	2.07	42.91	1,033.40	26.64	8.19	8.45	0.61	0.23	15.62
1,047.00	2.10	44.70	1,046.39	26.99	8.52	8.78	0.55	0.23	13.77
1,060.00	2.13	46.16	1,059.38	27.32	8.86	9.12	0.47	0.23	11.23
1,073.14	2.13	47.15	1,072.51	27.66	9.22	9.48	0.28	0.00	7.53
1,086.29	2.12	47.78	1,085.65	27.99	9.58	9.84	0.19	-0.08	4.79
1,099.43	2.11	48.19	1,098.79	28.31	9.94	10.21	0.14	-0.08	3.12
1,112.57	2.09	48.50	1,111.92	28.63	10.30	10.57	0.18	-0.15	2.36
1,125.71	2.07	48.80	1,125.05	28.95	10.65	10.93	0.17	-0.15	2.28
1,138.86	2.06	49.20	1,138.19	29.26	11.01	11.29	0.13	-0.08	3.04
1,152.00	2.04	49.83	1,151.32	29.56	11.37	11.65	0.23	-0.15	4.79
1,165.57	2.02	51.00	1,164.88	29.87	11.74	12.03	0.34	-0.15	8.62
1,179.14	2.01	52.43	1,178.44	30.17	12.11	12.40	0.38	-0.07	10.54



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
1,192.71	2.01	54.00	1,192.01	30.45	12.50	12.79	0.41	0.00	11.57	
1,206.29	2.00	55.58	1,205.58	30.72	12.88	13.18	0.41	-0.07	11.63	
1,219.86	2.00	57.10	1,219.14	30.99	13.28	13.58	0.39	0.00	11.20	
1,233.43	2.01	58.46	1,232.70	31.24	13.68	13.98	0.36	0.07	10.02	
1,247.00	2.02	59.52	1,246.26	31.49	14.09	14.39	0.28	0.07	7.81	
1,260.43	2.03	60.18	1,259.68	31.72	14.50	14.80	0.19	0.07	4.91	
1,273.86	2.04	60.56	1,273.11	31.96	14.91	15.22	0.13	0.07	2.83	
1,287.29	2.06	60.76	1,286.53	32.19	15.33	15.64	0.16	0.15	1.49	
1,300.71	2.07	60.85	1,299.94	32.43	15.75	16.07	0.08	0.07	0.67	
1,314.14	2.08	60.86	1,313.36	32.67	16.18	16.49	0.07	0.07	0.07	
1,327.57	2.09	60.86	1,326.78	32.91	16.61	16.92	0.07	0.07	0.00	
1,341.00	2.08	60.89	1,340.20	33.14	17.03	17.35	0.07	-0.07	0.22	
1,354.57	2.07	61.09	1,353.76	33.38	17.46	17.78	0.09	-0.07	1.47	
1,368.14	2.04	61.36	1,367.32	33.62	17.89	18.21	0.23	-0.22	1.99	
1,381.71	2.01	61.65	1,380.89	33.84	18.31	18.63	0.23	-0.22	2.14	
1,395.29	1.98	61.92	1,394.46	34.07	18.73	19.05	0.23	-0.22	1.99	
1,408.86	1.95	62.11	1,408.02	34.29	19.14	19.47	0.23	-0.22	1.40	
1,422.43	1.92	62.17	1,421.58	34.50	19.54	19.87	0.22	-0.22	0.44	
1,436.00	1.90	62.01	1,435.14	34.71	19.94	20.28	0.15	-0.15	-1.18	
1,449.43	1.88	61.53	1,448.57	34.92	20.33	20.67	0.19	-0.15	-3.57	
1,462.86	1.88	60.83	1,461.99	35.13	20.72	21.06	0.17	0.00	-5.21	
1,476.29	1.88	60.00	1,475.41	35.35	21.10	21.44	0.20	0.00	-6.18	
1,489.71	1.88	59.09	1,488.83	35.57	21.48	21.82	0.22	0.00	-6.78	
1,503.14	1.88	58.18	1,502.25	35.80	21.86	22.20	0.22	0.00	-6.78	
1,516.57	1.88	57.32	1,515.67	36.04	22.23	22.58	0.21	0.00	-6.40	
1,530.00	1.87	56.60	1,529.09	36.28	22.60	22.95	0.19	-0.07	-5.36	
1,543.43	1.84	56.23	1,542.52	36.52	22.96	23.31	0.24	-0.22	-2.76	
1,556.86	1.81	56.06	1,555.94	36.76	23.32	23.67	0.23	-0.22	-1.27	
1,570.29	1.78	56.03	1,569.36	36.99	23.67	24.02	0.22	-0.22	-0.22	
1,583.71	1.75	56.10	1,582.78	37.22	24.01	24.36	0.22	-0.22	0.52	
1,597.14	1.73	56.27	1,596.20	37.45	24.35	24.71	0.15	-0.15	1.27	
1,610.57	1.71	56.55	1,609.62	37.67	24.68	25.04	0.16	-0.15	2.08	
1,624.00	1.70	56.96	1,623.05	37.89	25.02	25.38	0.12	-0.07	3.05	
1,637.57	1.71	57.58	1,636.61	38.11	25.36	25.72	0.15	0.07	4.57	
1,651.14	1.73	58.27	1,650.18	38.33	25.70	26.07	0.21	0.15	5.08	
1,664.71	1.76	58.92	1,663.74	38.54	26.05	26.42	0.26	0.22	4.79	
1,678.29	1.79	59.49	1,677.31	38.76	26.42	26.79	0.26	0.22	4.20	
1,691.86	1.83	59.89	1,690.88	38.97	26.79	27.16	0.31	0.29	2.95	
1,705.43	1.86	60.08	1,704.44	39.19	27.16	27.54	0.23	0.22	1.40	
1,719.00	1.89	59.95	1,718.00	39.41	27.55	27.93	0.22	0.22	-0.96	
1,732.43	1.91	59.42	1,731.43	39.64	27.93	28.31	0.20	0.15	-3.95	
1,745.86	1.93	58.59	1,744.85	39.87	28.32	28.70	0.26	0.15	-6.18	
1,759.29	1.94	57.54	1,758.27	40.11	28.70	29.09	0.27	0.07	-7.82	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)
1,772.71	1.95	56.32	1,771.68	40.36	29.09	29.47	0.32	0.07	-9.09
1,786.14	1.96	54.94	1,785.10	40.62	29.46	29.85	0.36	0.07	-10.28
1,799.57	1.96	53.39	1,798.53	40.89	29.84	30.23	0.39	0.00	-11.54
1,813.00	1.95	51.62	1,811.95	41.17	30.20	30.59	0.46	-0.07	-13.18
1,826.57	1.93	49.61	1,825.51	41.46	30.55	30.95	0.52	-0.15	-14.81
1,840.14	1.89	47.41	1,839.07	41.76	30.89	31.29	0.62	-0.29	-16.21
1,853.71	1.86	45.11	1,852.64	42.06	31.21	31.62	0.60	-0.22	-16.95
1,867.29	1.83	42.79	1,866.21	42.38	31.52	31.92	0.59	-0.22	-17.08
1,880.86	1.80	40.59	1,879.77	42.70	31.80	32.21	0.56	-0.22	-16.21
1,894.43	1.78	38.70	1,893.34	43.03	32.07	32.48	0.46	-0.15	-13.93
1,908.00	1.78	37.37	1,906.90	43.36	32.33	32.75	0.30	0.00	-9.80
1,921.43	1.91	19.62	1,920.32	43.73	32.53	32.95	4.34	0.97	-132.17
1,934.86	2.63	3.40	1,933.74	44.25	32.63	33.05	7.13	5.36	-120.77
1,948.29	3.15	359.14	1,947.16	44.93	32.64	33.07	4.19	3.87	-31.72
1,961.71	3.20	0.19	1,960.55	45.67	32.64	33.07	0.57	0.37	7.82
1,975.14	3.25	1.35	1,973.96	46.43	32.65	33.09	0.61	0.37	8.64
1,988.57	3.31	2.38	1,987.37	47.20	32.67	33.12	0.63	0.45	7.67
2,002.00	3.77	359.12	2,000.78	48.02	32.68	33.14	3.74	3.43	-24.27
2,015.57	4.62	353.36	2,014.31	49.01	32.61	33.08	6.98	6.26	-42.45
2,029.14	5.07	350.92	2,027.83	50.15	32.45	32.93	3.65	3.32	-17.98
2,042.71	5.11	350.85	2,041.35	51.34	32.26	32.75	0.30	0.29	-0.52
2,056.29	5.16	350.71	2,054.87	52.54	32.07	32.57	0.38	0.37	-1.03
2,069.86	5.19	350.54	2,068.39	53.74	31.87	32.38	0.25	0.22	-1.25
2,083.43	5.22	350.38	2,081.90	54.96	31.66	32.19	0.25	0.22	-1.18
2,097.00	5.24	350.27	2,095.41	56.18	31.46	31.99	0.16	0.15	-0.81
2,110.43	5.74	348.10	2,108.78	57.44	31.21	31.76	4.03	3.72	-16.16
2,123.86	6.58	345.49	2,122.14	58.84	30.88	31.45	6.59	6.25	-19.43
2,137.29	6.56	345.62	2,135.48	60.33	30.50	31.08	0.19	-0.15	0.97
2,150.71	6.52	345.80	2,148.81	61.81	30.12	30.71	0.33	-0.30	1.34
2,164.14	6.48	345.99	2,162.15	63.28	29.75	30.36	0.34	-0.30	1.41
2,177.57	6.45	346.16	2,175.50	64.75	29.39	30.01	0.26	-0.22	1.27
2,191.00	6.43	346.26	2,188.84	66.22	29.03	29.66	0.17	-0.15	0.74
2,204.43	6.43	346.23	2,202.19	67.68	28.67	29.32	0.03	0.00	-0.22
2,217.86	6.45	346.13	2,215.53	69.14	28.31	28.97	0.17	0.15	-0.74
2,231.29	6.47	345.99	2,228.88	70.61	27.95	28.62	0.19	0.15	-1.04
2,244.71	6.49	345.84	2,242.21	72.07	27.58	28.27	0.20	0.15	-1.12
2,258.14	6.52	345.71	2,255.56	73.55	27.21	27.91	0.25	0.22	-0.97
2,271.57	6.54	345.62	2,268.90	75.03	26.83	27.55	0.17	0.15	-0.67
2,285.00	6.56	345.60	2,282.24	76.51	26.45	27.18	0.15	0.15	-0.15
2,298.57	6.56	345.72	2,295.72	78.02	26.06	26.81	0.10	0.00	0.88
2,312.14	6.57	345.91	2,309.20	79.52	25.68	26.44	0.18	0.07	1.40
2,325.71	6.57	346.14	2,322.69	81.03	25.31	26.08	0.19	0.00	1.69
2,339.29	6.56	346.38	2,336.18	82.53	24.94	25.73	0.22	-0.07	1.77
2,352.86	6.57	346.62	2,349.66	84.04	24.58	25.38	0.22	0.07	1.77



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
2,366.43	6.58	346.82	2,363.14	85.55	24.22	25.04	0.18	0.07	1.47	
2,380.00	6.60	346.94	2,376.62	87.07	23.87	24.70	0.18	0.15	0.88	
2,393.43	6.63	346.95	2,389.96	88.58	23.52	24.37	0.22	0.22	0.07	
2,406.86	6.68	346.88	2,403.30	90.09	23.16	24.03	0.38	0.37	-0.52	
2,420.29	6.73	346.76	2,416.64	91.62	22.81	23.68	0.39	0.37	-0.89	
2,433.71	6.78	346.60	2,429.96	93.16	22.44	23.34	0.40	0.37	-1.19	
2,447.14	6.82	346.41	2,443.30	94.70	22.07	22.98	0.34	0.30	-1.41	
2,460.57	6.87	346.21	2,456.63	96.26	21.69	22.62	0.41	0.37	-1.49	
2,474.00	6.90	345.97	2,469.97	97.82	21.31	22.24	0.31	0.22	-1.79	
2,487.43	6.91	345.71	2,483.30	99.39	20.91	21.86	0.24	0.07	-1.94	
2,500.86	6.90	345.43	2,496.63	100.95	20.51	21.48	0.26	-0.07	-2.08	
2,514.29	6.89	345.16	2,509.96	102.51	20.10	21.08	0.25	-0.07	-2.01	
2,527.71	6.88	344.91	2,523.29	104.06	19.68	20.68	0.24	-0.07	-1.86	
2,541.14	6.87	344.69	2,536.62	105.62	19.26	20.28	0.21	-0.07	-1.64	
2,554.57	6.86	344.53	2,549.95	107.16	18.84	19.86	0.16	-0.07	-1.19	
2,568.00	6.86	344.44	2,563.29	108.71	18.41	19.45	0.08	0.00	-0.67	
2,581.57	6.86	344.48	2,576.76	110.27	17.97	19.03	0.04	0.00	0.29	
2,595.14	6.88	344.60	2,590.23	111.84	17.54	18.61	0.18	0.15	0.88	
2,608.71	6.90	344.77	2,603.71	113.41	17.11	18.20	0.21	0.15	1.25	
2,622.29	6.92	344.98	2,617.19	114.98	16.68	17.79	0.24	0.15	1.55	
2,635.86	6.95	345.19	2,630.66	116.57	16.26	17.38	0.29	0.22	1.55	
2,649.43	6.98	345.42	2,644.13	118.16	15.84	16.98	0.30	0.22	1.69	
2,663.00	7.01	345.64	2,657.60	119.76	15.43	16.58	0.30	0.22	1.62	
2,676.43	7.03	345.86	2,670.93	121.35	15.03	16.19	0.25	0.15	1.64	
2,689.86	7.06	346.07	2,684.25	122.95	14.63	15.81	0.29	0.22	1.56	
2,703.29	7.08	346.27	2,697.58	124.55	14.23	15.43	0.24	0.15	1.49	
2,716.71	7.11	346.46	2,710.90	126.16	13.84	15.05	0.28	0.22	1.42	
2,730.14	7.13	346.62	2,724.23	127.78	13.46	14.68	0.21	0.15	1.19	
2,743.57	7.16	346.75	2,737.55	129.41	13.07	14.31	0.25	0.22	0.97	
2,757.00	7.20	346.85	2,750.88	131.04	12.69	13.94	0.31	0.30	0.74	
2,768.50	7.24	346.88	2,762.29	132.45	12.36	13.63	0.35	0.35	0.26	
2,780.00	7.27	346.88	2,773.69	133.86	12.03	13.31	0.26	0.26	0.00	
2,791.50	7.31	346.86	2,785.10	135.28	11.70	13.00	0.35	0.35	-0.17	
2,803.00	7.34	346.83	2,796.51	136.71	11.36	12.68	0.26	0.26	-0.26	
2,817.20	7.37	346.78	2,810.59	138.48	10.95	12.28	0.22	0.21	-0.35	
2,831.40	7.39	346.72	2,824.67	140.26	10.53	11.88	0.15	0.14	-0.42	
2,845.60	7.40	346.64	2,838.75	142.04	10.11	11.47	0.10	0.07	-0.56	
2,859.80	7.41	346.55	2,852.84	143.82	9.69	11.07	0.11	0.07	-0.63	
2,874.00	7.42	346.43	2,866.92	145.60	9.26	10.65	0.13	0.07	-0.85	
2,888.20	7.43	346.27	2,881.00	147.38	8.82	10.24	0.16	0.07	-1.13	
2,902.40	7.44	346.06	2,895.08	149.17	8.38	9.82	0.20	0.07	-1.48	
2,916.60	7.47	345.79	2,909.16	150.95	7.94	9.39	0.32	0.21	-1.90	
2,930.80	7.50	345.41	2,923.24	152.74	7.48	8.94	0.41	0.21	-2.68	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
2,945.00	7.55	344.87	2,937.32	154.54	7.00	8.48	0.61	0.35	-3.80	
2,958.43	7.63	344.11	2,950.63	156.25	6.53	8.03	0.96	0.60	-5.66	
2,971.86	7.72	343.24	2,963.94	157.97	6.02	7.54	1.09	0.67	-6.48	
2,985.29	7.82	342.33	2,977.24	159.71	5.48	7.02	1.18	0.74	-6.78	
2,998.71	7.93	341.43	2,990.54	161.45	4.91	6.46	1.23	0.82	-6.71	
3,012.14	8.03	340.59	3,003.84	163.22	4.31	5.87	1.14	0.74	-6.25	
3,025.57	8.13	339.86	3,017.13	164.99	3.67	5.25	1.07	0.74	-5.44	
3,039.00	8.66	335.35	3,030.42	166.80	2.92	4.52	6.29	3.95	-33.58	
3,052.57	9.39	330.05	3,043.82	168.69	1.94	3.56	8.15	5.38	-39.06	
3,066.14	9.44	329.74	3,057.21	170.61	0.83	2.46	0.52	0.37	-2.28	
3,079.71	9.49	329.51	3,070.59	172.54	-0.30	1.35	0.46	0.37	-1.69	
3,086.20	9.51	329.41	3,077.00	173.46	-0.85	0.82	0.44	0.37	-1.48	
DLWR Mnt. Group										
3,093.29	9.54	329.31	3,083.99	174.47	-1.45	0.23	0.44	0.37	-1.47	
3,106.86	9.59	329.16	3,097.37	176.41	-2.60	-0.91	0.41	0.37	-1.11	
3,120.43	9.64	329.02	3,110.75	178.35	-3.76	-2.05	0.41	0.37	-1.03	
3,134.00	9.69	328.90	3,124.13	180.30	-4.94	-3.21	0.40	0.37	-0.88	
3,147.43	9.75	328.79	3,137.36	182.24	-6.11	-4.36	0.47	0.45	-0.82	
3,160.86	9.80	328.69	3,150.60	184.19	-7.29	-5.53	0.39	0.37	-0.74	
3,174.29	9.86	328.60	3,163.83	186.15	-8.49	-6.70	0.46	0.45	-0.67	
3,187.71	9.90	328.51	3,177.05	188.12	-9.69	-7.88	0.32	0.30	-0.67	
3,201.14	9.94	328.44	3,190.28	190.09	-10.90	-9.07	0.31	0.30	-0.52	
3,214.57	9.96	328.37	3,203.51	192.06	-12.11	-10.27	0.17	0.15	-0.52	
3,228.00	9.95	328.31	3,216.74	194.04	-13.33	-11.47	0.11	-0.07	-0.45	
3,241.57	9.91	328.25	3,230.10	196.03	-14.56	-12.68	0.30	-0.29	-0.44	
3,255.14	9.84	328.18	3,243.47	198.01	-15.79	-13.89	0.52	-0.52	-0.52	
3,268.71	9.75	328.11	3,256.85	199.97	-17.01	-15.09	0.67	-0.66	-0.52	
3,282.29	9.65	328.02	3,270.23	201.91	-18.22	-16.28	0.74	-0.74	-0.66	
3,295.86	9.54	327.89	3,283.61	203.83	-19.42	-17.46	0.83	-0.81	-0.96	
3,309.43	9.41	327.72	3,297.00	205.72	-20.61	-18.63	0.98	-0.96	-1.25	
3,323.00	9.27	327.46	3,310.39	207.58	-21.79	-19.79	1.08	-1.03	-1.92	
3,336.43	9.12	327.05	3,323.64	209.38	-22.95	-20.94	1.22	-1.12	-3.05	
3,349.86	8.96	326.55	3,336.91	211.15	-24.10	-22.08	1.33	-1.19	-3.72	
3,363.29	8.79	325.96	3,350.18	212.87	-25.25	-23.21	1.44	-1.27	-4.39	
3,376.71	8.63	325.29	3,363.44	214.55	-26.40	-24.34	1.41	-1.19	-4.99	
3,385.37	8.52	324.83	3,372.00	215.61	-27.14	-25.07	1.50	-1.27	-5.32	
Bone Sping Lime										
3,390.14	8.46	324.57	3,376.72	216.18	-27.55	-25.47	1.50	-1.26	-5.43	
3,403.57	8.30	323.79	3,390.01	217.77	-28.69	-26.60	1.46	-1.19	-5.81	
3,417.00	8.16	322.97	3,403.30	219.31	-29.84	-27.73	1.36	-1.04	-6.11	
3,430.57	8.26	320.43	3,416.73	220.83	-31.04	-28.92	2.77	0.74	-18.72	
3,444.14	8.90	314.95	3,430.15	222.33	-32.41	-30.27	7.65	4.72	-40.38	
3,457.71	8.85	313.70	3,443.56	223.79	-33.90	-31.75	1.47	-0.37	-9.21	
3,471.29	8.74	312.84	3,456.98	225.21	-35.41	-33.25	1.26	-0.81	-6.33	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
3,484.86	8.64	311.96	3,470.39	226.59	-36.93	-34.75	1.23	-0.74	-6.48	
3,498.43	8.53	311.11	3,483.81	227.94	-38.45	-36.26	1.24	-0.81	-6.26	
3,512.00	8.42	310.36	3,497.23	229.24	-39.96	-37.76	1.15	-0.81	-5.53	
3,525.43	8.28	309.86	3,510.52	230.50	-41.45	-39.24	1.17	-1.04	-3.72	
3,538.86	8.14	309.49	3,523.81	231.72	-42.93	-40.70	1.11	-1.04	-2.76	
3,552.29	8.00	309.20	3,537.11	232.92	-44.39	-42.15	1.09	-1.04	-2.16	
3,565.71	7.86	308.98	3,550.40	234.09	-45.82	-43.57	1.07	-1.04	-1.64	
3,579.14	7.72	308.82	3,563.71	235.23	-47.24	-44.98	1.05	-1.04	-1.19	
3,592.57	7.58	308.73	3,577.02	236.35	-48.63	-46.36	1.05	-1.04	-0.67	
3,606.00	7.44	308.71	3,590.33	237.45	-50.00	-47.72	1.04	-1.04	-0.15	
3,619.57	7.31	308.79	3,603.79	238.54	-51.36	-49.07	0.96	-0.96	0.59	
3,633.14	7.17	308.94	3,617.25	239.61	-52.69	-50.39	1.04	-1.03	1.11	
3,646.71	7.05	309.12	3,630.72	240.67	-54.00	-51.69	0.90	-0.88	1.33	
3,660.29	6.92	309.31	3,644.20	241.71	-55.28	-52.95	0.97	-0.96	1.40	
3,673.86	6.80	309.49	3,657.67	242.74	-56.53	-54.20	0.90	-0.88	1.33	
3,687.43	6.68	309.64	3,671.14	243.76	-57.76	-55.42	0.89	-0.88	1.11	
3,701.00	6.57	309.73	3,684.62	244.76	-58.96	-56.61	0.81	-0.81	0.66	
3,714.43	6.46	309.64	3,697.97	245.73	-60.14	-57.77	0.82	-0.82	-0.67	
3,727.86	6.35	309.47	3,711.31	246.68	-61.29	-58.92	0.83	-0.82	-1.27	
3,741.29	6.25	309.24	3,724.66	247.62	-62.43	-60.05	0.77	-0.74	-1.71	
3,754.71	6.14	308.97	3,738.00	248.53	-63.55	-61.16	0.85	-0.82	-2.01	
3,768.14	6.04	308.69	3,751.36	249.42	-64.66	-62.27	0.78	-0.74	-2.08	
3,781.57	5.94	308.42	3,764.72	250.30	-65.76	-63.35	0.77	-0.74	-2.01	
3,795.00	5.83	308.20	3,778.07	251.15	-66.84	-64.43	0.84	-0.82	-1.64	
3,808.57	5.72	308.11	3,791.58	252.00	-67.91	-65.49	0.81	-0.81	-0.66	
3,822.14	5.61	308.09	3,805.08	252.82	-68.97	-66.54	0.81	-0.81	-0.15	
3,835.71	5.50	308.10	3,818.59	253.63	-70.00	-67.56	0.81	-0.81	0.07	
3,849.29	5.39	308.15	3,832.10	254.43	-71.02	-68.57	0.81	-0.81	0.37	
3,862.86	5.28	308.22	3,845.62	255.21	-72.01	-69.55	0.81	-0.81	0.52	
3,876.43	5.19	308.32	3,859.13	255.97	-72.98	-70.52	0.67	-0.66	0.74	
3,890.00	5.10	308.46	3,872.64	256.73	-73.93	-71.46	0.67	-0.66	1.03	
3,903.57	5.02	308.63	3,886.16	257.48	-74.87	-72.39	0.60	-0.59	1.25	
3,917.14	4.96	308.84	3,899.68	258.21	-75.79	-73.31	0.46	-0.44	1.55	
3,930.71	4.90	309.07	3,913.20	258.95	-76.70	-74.21	0.47	-0.44	1.69	
3,944.29	4.85	309.32	3,926.73	259.68	-77.59	-75.09	0.40	-0.37	1.84	
3,957.86	4.80	309.60	3,940.25	260.40	-78.47	-75.97	0.41	-0.37	2.06	
3,971.43	4.76	309.91	3,953.78	261.13	-79.34	-76.83	0.35	-0.29	2.28	
3,985.00	4.71	310.28	3,967.30	261.85	-80.20	-77.68	0.43	-0.37	2.73	
3,998.43	4.65	310.74	3,980.68	262.56	-81.03	-78.51	0.53	-0.45	3.43	
4,011.86	4.60	311.25	3,994.07	263.27	-81.85	-79.32	0.48	-0.37	3.80	
4,025.29	4.55	311.77	4,007.46	263.98	-82.65	-80.11	0.48	-0.37	3.87	
4,038.71	4.51	312.28	4,020.84	264.69	-83.44	-80.89	0.42	-0.30	3.80	
4,052.14	4.47	312.73	4,034.22	265.40	-84.21	-81.66	0.40	-0.30	3.35	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
4,065.57	4.46	313.09	4,047.61	266.11	-84.98	-82.42	0.22	-0.07	2.68	
4,079.00	4.46	313.30	4,061.00	266.83	-85.74	-83.18	0.12	0.00	1.56	
4,092.57	4.51	313.29	4,074.53	267.55	-86.51	-83.94	0.37	0.37	-0.07	
4,106.14	4.58	313.16	4,088.06	268.29	-87.30	-84.72	0.52	0.52	-0.96	
4,119.71	4.65	312.96	4,101.58	269.04	-88.09	-85.51	0.53	0.52	-1.47	
4,133.29	4.73	312.73	4,115.12	269.79	-88.91	-86.31	0.61	0.59	-1.69	
4,146.86	4.80	312.51	4,128.64	270.55	-89.74	-87.14	0.53	0.52	-1.62	
4,160.43	5.62	312.49	4,142.16	271.39	-90.65	-88.04	6.04	6.04	-0.15	
4,174.00	6.90	312.79	4,155.65	272.39	-91.73	-89.12	9.44	9.43	2.21	
4,187.43	8.01	312.93	4,168.96	273.57	-93.01	-90.38	8.27	8.27	1.04	
4,200.86	8.01	312.90	4,182.26	274.85	-94.38	-91.74	0.03	0.00	-0.22	
4,214.29	8.01	312.88	4,195.56	276.12	-95.75	-93.10	0.02	0.00	-0.15	
4,227.71	7.99	312.86	4,208.85	277.39	-97.12	-94.46	0.15	-0.15	-0.15	
4,241.14	7.98	312.85	4,222.15	278.66	-98.49	-95.81	0.08	-0.07	-0.07	
4,254.57	7.95	312.84	4,235.45	279.93	-99.85	-97.16	0.22	-0.22	-0.07	
4,268.00	7.91	312.83	4,248.75	281.19	-101.21	-98.51	0.30	-0.30	-0.07	
4,281.57	7.86	312.82	4,262.19	282.45	-102.58	-99.86	0.37	-0.37	-0.07	
4,295.14	7.80	312.80	4,275.64	283.71	-103.93	-101.21	0.44	-0.44	-0.15	
4,308.71	7.73	312.78	4,289.08	284.95	-105.28	-102.54	0.52	-0.52	-0.15	
4,322.29	7.66	312.74	4,302.54	286.19	-106.62	-103.86	0.52	-0.52	-0.29	
4,335.86	7.59	312.69	4,315.99	287.41	-107.94	-105.17	0.52	-0.52	-0.37	
4,349.43	7.52	312.62	4,329.44	288.62	-109.25	-106.47	0.52	-0.52	-0.52	
4,363.00	7.45	312.51	4,342.90	289.81	-110.55	-107.77	0.53	-0.52	-0.81	
4,376.43	7.38	312.34	4,356.21	290.98	-111.83	-109.03	0.55	-0.52	-1.27	
4,389.86	7.32	312.13	4,369.53	292.14	-113.10	-110.29	0.49	-0.45	-1.56	
4,403.29	7.26	311.90	4,382.85	293.28	-114.37	-111.55	0.50	-0.45	-1.71	
4,416.71	7.20	311.66	4,396.17	294.40	-115.63	-112.80	0.50	-0.45	-1.79	
4,430.14	7.15	311.43	4,409.49	295.52	-116.88	-114.04	0.43	-0.37	-1.71	
4,443.57	7.10	311.22	4,422.82	296.62	-118.14	-115.28	0.42	-0.37	-1.56	
4,457.00	7.05	311.06	4,436.15	297.71	-119.38	-116.52	0.40	-0.37	-1.19	
4,470.57	7.00	311.00	4,449.61	298.79	-120.63	-117.76	0.37	-0.37	-0.44	
4,484.14	6.95	310.99	4,463.08	299.88	-121.88	-118.99	0.37	-0.37	-0.07	
4,497.71	6.91	311.03	4,476.56	300.95	-123.11	-120.22	0.30	-0.29	0.29	
4,511.29	6.86	311.10	4,490.04	302.02	-124.34	-121.44	0.37	-0.37	0.52	
4,524.86	6.80	311.20	4,503.51	303.08	-125.56	-122.64	0.45	-0.44	0.74	
4,538.43	6.74	311.35	4,516.99	304.14	-126.76	-123.83	0.46	-0.44	1.11	
4,552.00	6.66	311.54	4,530.46	305.18	-127.94	-125.01	0.61	-0.59	1.40	
4,565.43	6.55	311.79	4,543.80	306.21	-129.10	-126.15	0.85	-0.82	1.86	
4,578.86	6.43	312.09	4,557.15	307.23	-130.23	-127.27	0.93	-0.89	2.23	
4,592.29	6.30	312.43	4,570.50	308.23	-131.33	-128.36	1.01	-0.97	2.53	
4,605.71	6.18	312.81	4,583.84	309.21	-132.40	-129.43	0.95	-0.89	2.83	
4,619.14	6.08	313.24	4,597.19	310.19	-133.45	-130.47	0.82	-0.74	3.20	
4,632.57	6.00	313.70	4,610.54	311.17	-134.48	-131.48	0.70	-0.60	3.43	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
4,646.00	5.96	314.22	4,623.90	312.14	-135.48	-132.48	0.50	-0.30	3.87	
4,659.57	5.99	314.80	4,637.40	313.13	-136.49	-133.48	0.50	0.22	4.27	
4,673.14	6.05	315.40	4,650.89	314.14	-137.50	-134.47	0.64	0.44	4.42	
4,686.71	6.15	315.98	4,664.39	315.17	-138.50	-135.47	0.87	0.74	4.27	
4,700.29	6.26	316.53	4,677.89	316.23	-139.52	-136.48	0.92	0.81	4.05	
4,713.86	6.36	317.01	4,691.37	317.31	-140.54	-137.49	0.83	0.74	3.54	
4,727.43	6.46	317.42	4,704.86	318.43	-141.57	-138.51	0.81	0.74	3.02	
4,741.00	7.28	318.25	4,718.33	319.63	-142.66	-139.58	6.09	6.04	6.12	
4,754.43	8.41	320.70	4,731.64	321.02	-143.85	-140.76	8.77	8.41	18.24	
4,767.86	9.66	322.96	4,744.90	322.68	-145.15	-142.04	9.67	9.31	16.83	
4,781.29	10.01	323.22	4,758.13	324.52	-146.52	-143.40	2.63	2.61	1.94	
4,794.71	10.08	323.29	4,771.35	326.39	-147.92	-144.78	0.53	0.52	0.52	
4,808.14	10.15	323.36	4,784.57	328.29	-149.33	-146.18	0.53	0.52	0.52	
4,821.57	10.21	323.46	4,797.79	330.19	-150.75	-147.57	0.47	0.45	0.74	
4,835.00	10.24	323.62	4,811.00	332.11	-152.17	-148.97	0.31	0.22	1.19	
4,848.57	10.23	323.89	4,824.36	334.05	-153.59	-150.38	0.36	-0.07	1.99	
4,862.14	10.20	324.23	4,837.71	336.00	-155.00	-151.77	0.50	-0.22	2.51	
4,875.71	10.16	324.62	4,851.07	337.95	-156.40	-153.15	0.59	-0.29	2.87	
4,889.29	10.10	325.03	4,864.44	339.90	-157.77	-154.50	0.69	-0.44	3.02	
4,902.86	10.04	325.44	4,877.80	341.85	-159.13	-155.84	0.69	-0.44	3.02	
4,916.43	9.98	325.85	4,891.16	343.80	-160.46	-157.15	0.69	-0.44	3.02	
4,930.00	9.93	326.22	4,904.53	345.75	-161.77	-158.44	0.60	-0.37	2.73	
4,943.43	9.89	326.51	4,917.76	347.67	-163.05	-159.70	0.48	-0.30	2.16	
4,956.86	9.85	326.74	4,930.99	349.59	-164.32	-160.95	0.42	-0.30	1.71	
4,970.29	9.82	326.94	4,944.22	351.51	-165.57	-162.19	0.34	-0.22	1.49	
4,983.71	9.79	327.11	4,957.44	353.43	-166.81	-163.41	0.31	-0.22	1.27	
4,997.14	9.76	327.25	4,970.68	355.35	-168.05	-164.63	0.28	-0.22	1.04	
5,010.57	9.73	327.37	4,983.92	357.26	-169.28	-165.84	0.27	-0.22	0.89	
5,024.00	9.69	327.47	4,997.15	359.17	-170.50	-167.04	0.32	-0.30	0.74	
5,038.40	9.65	327.55	5,011.35	361.21	-171.80	-168.32	0.29	-0.28	0.56	
5,052.80	9.60	327.60	5,025.55	363.24	-173.09	-169.59	0.35	-0.35	0.35	
5,067.20	9.55	327.63	5,039.74	365.26	-174.37	-170.86	0.35	-0.35	0.21	
5,081.60	9.50	327.62	5,053.95	367.28	-175.65	-172.11	0.35	-0.35	-0.07	
5,096.00	9.44	327.57	5,068.15	369.28	-176.92	-173.36	0.42	-0.42	-0.35	
5,110.40	9.38	327.49	5,082.36	371.26	-178.18	-174.61	0.43	-0.42	-0.56	
5,124.80	9.31	327.34	5,096.57	373.23	-179.44	-175.85	0.51	-0.49	-1.04	
5,139.20	9.25	327.13	5,110.78	375.19	-180.70	-177.09	0.48	-0.42	-1.46	
5,153.60	9.18	326.83	5,124.99	377.12	-181.95	-178.32	0.59	-0.49	-2.08	
5,168.00	9.11	326.39	5,139.21	379.03	-183.21	-179.57	0.69	-0.49	-3.06	
5,181.43	9.04	325.81	5,152.47	380.79	-184.39	-180.73	0.86	-0.52	-4.32	
5,194.86	8.98	325.10	5,165.73	382.52	-185.59	-181.91	0.94	-0.45	-5.29	
5,208.29	8.91	324.30	5,179.00	384.23	-186.79	-183.10	1.06	-0.52	-5.96	
5,221.71	8.83	323.43	5,192.26	385.90	-188.01	-184.30	1.16	-0.60	-6.48	
5,235.14	8.75	322.50	5,205.53	387.54	-189.25	-185.52	1.21	-0.60	-6.92	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
5,248.57	8.64	321.52	5,218.81	389.14	-190.50	-186.75	1.37	-0.82	-7.30	
5,262.00	8.52	320.51	5,232.09	390.69	-191.76	-188.00	1.43	-0.89	-7.52	
5,275.57	8.33	319.58	5,245.51	392.22	-193.04	-189.26	1.72	-1.40	-6.85	
5,289.14	8.12	318.63	5,258.94	393.68	-194.31	-190.52	1.84	-1.55	-7.00	
5,302.71	7.91	317.68	5,272.38	395.09	-195.57	-191.77	1.83	-1.55	-7.00	
5,316.29	7.70	316.75	5,285.83	396.45	-196.82	-193.01	1.80	-1.55	-6.85	
5,329.86	7.50	315.86	5,299.28	397.75	-198.06	-194.23	1.71	-1.47	-6.56	
5,343.43	7.33	315.12	5,312.74	398.99	-199.29	-195.45	1.44	-1.25	-5.45	
5,357.00	7.21	314.62	5,326.20	400.21	-200.51	-196.65	1.00	-0.88	-3.68	
5,370.43	7.16	314.62	5,339.53	401.39	-201.70	-197.84	0.37	-0.37	0.00	
5,383.86	7.15	314.84	5,352.85	402.56	-202.89	-199.02	0.22	-0.07	1.64	
5,397.29	7.17	315.13	5,366.18	403.75	-204.07	-200.19	0.31	0.15	2.16	
5,410.71	7.19	315.37	5,379.49	404.94	-205.25	-201.36	0.27	0.15	1.79	
5,424.14	7.19	315.45	5,392.82	406.13	-206.43	-202.53	0.07	0.00	0.60	
5,437.57	7.82	320.07	5,406.13	407.43	-207.61	-203.69	6.49	4.69	34.40	
5,451.00	9.49	329.35	5,419.41	409.09	-208.76	-204.82	16.17	12.43	69.10	
5,464.57	9.78	330.63	5,432.79	411.05	-209.90	-205.94	2.66	2.14	9.43	
5,478.14	9.64	329.57	5,446.16	413.04	-211.04	-207.06	1.67	-1.03	-7.81	
5,491.71	9.48	328.32	5,459.54	414.97	-212.20	-208.21	1.93	-1.18	-9.21	
5,505.29	9.31	326.93	5,472.94	416.84	-213.39	-209.38	2.09	-1.25	-10.24	
5,518.86	9.12	325.47	5,486.34	418.65	-214.60	-210.57	2.22	-1.40	-10.76	
5,532.43	8.92	323.96	5,499.74	420.38	-215.82	-211.78	2.28	-1.47	-11.13	
5,546.00	8.70	322.46	5,513.15	422.05	-217.07	-213.01	2.34	-1.62	-11.05	
5,559.57	8.42	321.36	5,526.57	423.64	-218.31	-214.24	2.39	-2.06	-8.11	
5,573.14	8.11	320.36	5,540.00	425.15	-219.54	-215.45	2.52	-2.28	-7.37	
5,586.71	7.80	319.39	5,553.44	426.59	-220.75	-216.65	2.49	-2.28	-7.15	
5,600.29	7.48	318.46	5,566.90	427.95	-221.94	-217.82	2.53	-2.36	-6.85	
5,613.86	7.16	317.57	5,580.36	429.23	-223.10	-218.97	2.50	-2.36	-6.56	
5,627.43	6.86	316.76	5,593.82	430.45	-224.22	-220.08	2.33	-2.21	-5.97	
5,641.00	6.57	316.10	5,607.30	431.60	-225.32	-221.16	2.21	-2.14	-4.86	
5,654.57	6.30	315.86	5,620.78	432.69	-226.37	-222.21	2.00	-1.99	-1.77	
5,668.14	6.05	315.78	5,634.28	433.74	-227.39	-223.22	1.84	-1.84	-0.59	
5,681.71	5.81	315.73	5,647.77	434.74	-228.37	-224.19	1.77	-1.77	-0.37	
5,695.29	5.58	315.57	5,661.29	435.71	-229.31	-225.12	1.70	-1.69	-1.18	
5,708.86	5.34	315.15	5,674.80	436.63	-230.22	-226.02	1.79	-1.77	-3.10	
5,722.43	6.37	322.60	5,688.29	437.67	-231.12	-226.91	9.42	7.59	54.90	
5,736.00	8.28	331.06	5,701.75	439.12	-232.05	-227.82	16.13	14.08	62.34	
5,749.57	8.00	329.62	5,715.19	440.79	-233.00	-228.76	2.55	-2.06	-10.61	
5,763.14	7.70	327.81	5,728.63	442.38	-233.96	-229.71	2.86	-2.21	-13.34	
5,776.71	7.41	325.72	5,742.08	443.87	-234.94	-230.67	2.94	-2.14	-15.40	
5,790.29	7.14	323.42	5,755.55	445.27	-235.94	-231.65	2.92	-1.99	-16.94	
5,803.86	6.89	321.03	5,769.02	446.58	-236.95	-232.65	2.83	-1.84	-17.61	
5,817.43	7.71	323.45	5,782.48	447.95	-238.00	-233.69	6.45	6.04	17.83	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
5,831.00	9.65	329.08	5,795.89	449.65	-239.13	-234.80	15.59	14.30	41.49	
5,844.57	9.45	327.96	5,809.28	451.57	-240.31	-235.96	2.01	-1.47	-8.25	
5,858.14	9.27	326.85	5,822.67	453.43	-241.50	-237.13	1.88	-1.33	-8.18	
5,871.71	9.10	325.72	5,836.06	455.23	-242.70	-238.32	1.83	-1.25	-8.33	
5,885.29	8.92	324.56	5,849.47	456.98	-243.91	-239.52	1.88	-1.33	-8.54	
5,898.86	8.74	323.34	5,862.88	458.66	-245.14	-240.72	1.91	-1.33	-8.99	
5,912.43	8.52	322.04	5,876.30	460.28	-246.37	-241.94	2.17	-1.62	-9.58	
5,926.00	8.26	320.62	5,889.72	461.83	-247.61	-243.16	2.45	-1.92	-10.46	
5,939.43	7.90	319.22	5,903.02	463.27	-248.82	-244.37	3.05	-2.68	-10.42	
5,952.86	7.50	317.66	5,916.33	464.62	-250.02	-245.55	3.36	-2.98	-11.62	
5,966.29	7.08	315.91	5,929.65	465.86	-251.18	-246.70	3.54	-3.13	-13.03	
5,979.71	6.65	313.93	5,942.98	467.00	-252.32	-247.82	3.66	-3.20	-14.75	
5,993.14	6.24	311.70	5,956.32	468.02	-253.42	-248.92	3.58	-3.05	-16.60	
6,006.57	5.85	309.23	5,969.68	468.94	-254.50	-249.99	3.49	-2.90	-18.39	
6,020.00	5.52	306.55	5,983.04	469.76	-255.55	-251.03	3.15	-2.46	-19.96	
6,033.57	5.21	304.38	5,996.55	470.49	-256.58	-252.05	2.73	-2.28	-15.99	
6,047.14	4.94	302.10	6,010.07	471.15	-257.58	-253.05	2.48	-1.99	-16.80	
6,060.71	4.70	299.69	6,023.59	471.74	-258.56	-254.02	2.31	-1.77	-17.76	
6,074.29	4.47	297.15	6,037.13	472.26	-259.52	-254.97	2.26	-1.69	-18.70	
6,087.86	4.25	294.47	6,050.66	472.70	-260.44	-255.89	2.21	-1.62	-19.75	
6,101.43	5.20	308.10	6,064.18	473.29	-261.39	-256.83	10.79	7.00	100.44	
6,115.00	6.75	313.39	6,077.68	474.22	-262.45	-257.89	12.11	11.42	38.98	
6,128.57	6.43	311.66	6,091.16	475.27	-263.60	-259.02	2.77	-2.36	-12.75	
6,142.14	6.09	309.72	6,104.65	476.24	-264.72	-260.13	2.95	-2.51	-14.30	
6,155.71	5.75	307.57	6,118.14	477.11	-265.81	-261.22	2.99	-2.51	-15.84	
6,169.29	5.42	305.24	6,131.66	477.90	-266.87	-262.27	2.95	-2.43	-17.16	
6,182.86	5.11	302.79	6,145.17	478.59	-267.90	-263.30	2.82	-2.28	-18.05	
6,196.43	4.84	300.38	6,158.69	479.21	-268.91	-264.29	2.52	-1.99	-17.76	
6,210.00	4.62	298.26	6,172.21	479.76	-269.88	-265.26	2.07	-1.62	-15.62	
6,223.43	4.45	297.25	6,185.60	480.25	-270.82	-266.20	1.40	-1.27	-7.52	
6,229.85	4.39	296.99	6,192.00	480.48	-271.26	-266.64	0.95	-0.89	-4.11	
1st Bone Spring SD										
6,236.86	4.33	296.69	6,198.99	480.72	-271.74	-267.11	0.95	-0.89	-4.22	
6,250.29	4.25	296.43	6,212.39	481.17	-272.64	-268.01	0.61	-0.60	-1.94	
6,263.71	4.19	296.38	6,225.77	481.61	-273.52	-268.89	0.45	-0.45	-0.37	
6,277.14	4.13	296.44	6,239.16	482.04	-274.39	-269.75	0.45	-0.45	0.45	
6,290.57	4.08	296.58	6,252.56	482.47	-275.25	-270.61	0.38	-0.37	1.04	
6,304.00	4.02	296.76	6,265.96	482.90	-276.10	-271.45	0.46	-0.45	1.34	
6,317.57	3.94	296.74	6,279.49	483.32	-276.94	-272.29	0.59	-0.59	-0.15	
6,331.14	3.84	296.69	6,293.03	483.73	-277.76	-273.11	0.74	-0.74	-0.37	
6,344.71	3.74	296.59	6,306.57	484.14	-278.57	-273.91	0.74	-0.74	-0.74	
6,358.29	3.63	296.47	6,320.12	484.53	-279.35	-274.68	0.81	-0.81	-0.88	
6,371.86	3.52	296.31	6,333.67	484.90	-280.11	-275.44	0.81	-0.81	-1.18	
6,380.21	3.46	296.19	6,342.00	485.13	-280.56	-275.89	0.74	-0.74	-1.46	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)
2nd Bone Spring LM									
6,385.43	3.42	296.11	6,347.21	485.27	-280.84	-276.17	0.74	-0.74	-1.50
6,399.00	3.31	295.86	6,360.76	485.61	-281.56	-276.88	0.82	-0.81	-1.84
6,412.57	3.21	295.47	6,374.31	485.95	-282.25	-277.58	0.75	-0.74	-2.87
6,426.14	3.11	295.01	6,387.86	486.27	-282.93	-278.25	0.76	-0.74	-3.39
6,439.71	3.01	294.49	6,401.41	486.57	-283.59	-278.90	0.76	-0.74	-3.83
6,453.29	2.91	293.90	6,414.97	486.86	-284.23	-279.54	0.77	-0.74	-4.34
6,466.86	2.81	293.24	6,428.52	487.13	-284.85	-280.16	0.78	-0.74	-4.86
6,480.43	2.71	292.50	6,442.08	487.38	-285.45	-280.76	0.78	-0.74	-5.45
6,494.00	2.61	291.68	6,455.63	487.62	-286.03	-281.34	0.79	-0.74	-6.04
6,507.43	2.50	290.74	6,469.05	487.84	-286.59	-281.90	0.88	-0.82	-7.00
6,520.86	2.38	289.67	6,482.47	488.03	-287.13	-282.43	0.96	-0.89	-7.97
6,534.29	2.26	288.47	6,495.89	488.21	-287.64	-282.94	0.96	-0.89	-8.94
6,547.71	2.15	287.12	6,509.30	488.37	-288.13	-283.43	0.91	-0.82	-10.06
6,561.14	2.05	285.60	6,522.72	488.51	-288.61	-283.90	0.85	-0.74	-11.32
6,574.57	1.96	283.91	6,536.14	488.63	-289.06	-284.36	0.80	-0.67	-12.58
6,588.00	1.89	282.05	6,549.56	488.73	-289.50	-284.79	0.70	-0.52	-13.85
6,601.57	1.84	280.12	6,563.12	488.82	-289.93	-285.23	0.59	-0.37	-14.22
6,615.14	1.82	278.15	6,576.69	488.88	-290.36	-285.65	0.49	-0.15	-14.52
6,628.71	1.80	276.24	6,590.25	488.94	-290.79	-286.08	0.47	-0.15	-14.08
6,642.29	1.79	274.50	6,603.82	488.98	-291.21	-286.50	0.41	-0.07	-12.81
6,655.86	1.77	273.03	6,617.39	489.01	-291.63	-286.92	0.37	-0.15	-10.83
6,669.43	1.73	271.99	6,630.95	489.02	-292.04	-287.34	0.38	-0.29	-7.66
6,683.00	1.67	271.60	6,644.51	489.04	-292.45	-287.74	0.45	-0.44	-2.87
6,696.57	1.57	272.29	6,658.08	489.05	-292.83	-288.12	0.75	-0.74	5.08
6,710.14	1.43	273.92	6,671.64	489.07	-293.18	-288.48	1.08	-1.03	12.01
6,723.71	1.29	276.51	6,685.21	489.10	-293.51	-288.80	1.13	-1.03	19.09
6,737.29	1.14	280.20	6,698.79	489.14	-293.79	-289.08	1.25	-1.10	27.17
6,750.86	0.99	285.18	6,712.36	489.19	-294.04	-289.33	1.30	-1.11	36.70
6,764.43	0.86	291.64	6,725.92	489.26	-294.24	-289.53	1.23	-0.96	47.61
6,778.00	0.74	299.52	6,739.49	489.34	-294.41	-289.70	1.20	-0.88	58.07
6,781.00	0.45	312.78	6,742.49	489.36	-294.44	-289.73	10.77	-9.82	441.94
KOP: 6781.00' MD, -289.73' VS, 6742.49' TVD									
6,789.30	0.57	76.66	6,750.80	489.39	-294.42	-289.71	10.77	1.45	1,491.88
00-EON(Toro-121H)									
6,791.43	0.78	83.63	6,752.92	489.39	-294.40	-289.69	10.77	10.07	327.97
6,804.86	3.07	97.31	6,766.34	489.36	-293.95	-289.24	17.27	17.05	101.86
6,818.29	5.48	99.85	6,779.73	489.20	-292.96	-288.25	18.00	17.94	18.91
6,831.71	7.84	101.48	6,793.06	488.91	-291.43	-286.73	17.64	17.59	12.15
6,845.14	9.88	101.90	6,806.33	488.49	-289.41	-284.71	15.20	15.19	3.13
6,858.57	11.56	101.08	6,819.53	488.00	-286.96	-282.26	12.56	12.51	-6.11
6,872.00	13.58	104.72	6,832.64	487.34	-284.12	-279.42	16.15	15.04	27.10
6,885.57	15.59	103.14	6,845.77	486.52	-280.80	-276.12	15.10	14.81	-11.64



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
6,899.14	17.64	102.98	6,858.77	485.64	-277.02	-272.34	15.11	15.11	-1.18	
6,908.45	19.02	103.72	6,867.61	484.96	-274.17	-269.50	15.02	14.81	7.99	
100FWL: 6908.45' MD, -269.50' VS, 6867.61' TVD										
6,912.71	19.65	104.03	6,871.63	484.63	-272.80	-268.14	15.02	14.83	7.20	
6,926.29	21.45	104.15	6,884.34	483.46	-268.18	-263.52	13.26	13.25	0.88	
6,939.86	22.95	102.75	6,896.91	482.27	-263.19	-258.55	11.72	11.05	-10.32	
6,953.43	24.56	101.22	6,909.33	481.14	-257.84	-253.21	12.70	11.86	-11.27	
6,967.00	26.22	100.85	6,921.59	480.03	-252.13	-247.51	12.29	12.23	-2.73	
6,980.43	28.15	100.17	6,933.53	478.91	-246.10	-241.49	14.56	14.37	-5.06	
6,993.86	29.56	97.52	6,945.29	477.92	-239.70	-235.10	14.17	10.50	-19.73	
7,007.29	31.11	95.31	6,956.89	477.16	-232.96	-228.37	14.22	11.54	-16.46	
7,020.71	32.96	93.88	6,968.26	476.59	-225.86	-221.28	14.90	13.79	-10.66	
7,034.14	34.91	93.70	6,979.40	476.10	-218.38	-213.80	14.54	14.52	-1.34	
7,047.57	36.91	93.58	6,990.28	475.60	-210.52	-205.95	14.90	14.89	-0.89	
7,061.00	38.95	93.57	7,000.87	475.08	-202.28	-197.71	15.19	15.19	-0.07	
7,074.57	40.57	93.94	7,011.30	474.52	-193.62	-189.06	12.06	11.94	2.73	
7,088.14	40.93	94.04	7,021.58	473.90	-184.79	-180.23	2.70	2.65	0.74	
7,101.71	40.65	94.03	7,031.86	473.28	-175.94	-171.39	2.06	-2.06	-0.07	
7,115.29	40.37	94.02	7,042.18	472.66	-167.14	-162.60	2.06	-2.06	-0.07	
7,128.86	41.35	94.16	7,052.45	472.02	-158.29	-153.75	7.25	7.22	1.03	
7,142.43	42.99	94.37	7,062.50	471.35	-149.20	-144.67	12.13	12.09	1.55	
7,156.00	43.93	94.46	7,072.35	470.63	-139.90	-135.37	6.94	6.93	0.66	
7,169.57	43.76	94.36	7,082.14	469.90	-130.53	-126.01	1.35	-1.25	-0.74	
7,183.14	44.69	94.05	7,091.86	469.21	-121.09	-116.58	7.04	6.85	-2.28	
7,196.71	44.58	93.93	7,101.52	468.55	-111.58	-107.07	1.02	-0.81	-0.88	
7,210.29	44.47	93.82	7,111.20	467.90	-102.07	-97.58	0.99	-0.81	-0.81	
7,223.86	45.81	93.43	7,120.77	467.30	-92.48	-87.99	10.08	9.87	-2.87	
7,234.53	47.28	93.08	7,128.11	466.86	-84.75	-80.26	13.98	13.78	-3.26	
01-FTP(Toro-121H)										
7,237.43	47.68	92.99	7,130.07	466.74	-82.61	-78.12	13.98	13.79	-3.17	
7,251.00	49.61	92.61	7,139.04	466.25	-72.43	-67.96	14.38	14.22	-2.80	
7,264.43	51.18	92.30	7,147.60	465.80	-62.10	-57.62	11.82	11.69	-2.31	
7,277.86	51.03	92.26	7,156.03	465.39	-51.65	-47.18	1.14	-1.12	-0.30	
7,291.29	51.01	92.23	7,164.48	464.98	-41.22	-36.76	0.23	-0.15	-0.22	
7,304.71	51.14	92.21	7,172.91	464.57	-30.79	-26.33	0.98	0.97	-0.15	
7,318.14	52.42	91.90	7,181.22	464.20	-20.24	-15.79	9.70	9.53	-2.31	
7,331.57	54.42	91.54	7,189.22	463.87	-9.47	-5.01	15.05	14.89	-2.68	
7,336.39	55.16	91.40	7,192.00	463.77	-5.53	-1.08	15.59	15.41	-2.87	
2nd Bone Spring SD										
7,345.00	56.49	91.16	7,196.84	463.61	1.59	6.04	15.59	15.41	-2.80	
7,358.57	58.50	90.68	7,204.13	463.43	13.04	17.48	15.11	14.81	-3.54	
7,369.77	58.20	90.93	7,210.01	463.30	22.57	27.01	3.25	-2.65	2.21	
00-0VS(Toro-121H)										
7,372.14	58.14	90.98	7,211.26	463.26	24.58	29.03	3.25	-2.65	2.22	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
7,385.71	57.72	91.28	7,218.46	463.04	36.08	40.52	3.62	-3.10	2.21	
7,399.29	57.34	91.59	7,225.75	462.75	47.53	51.97	3.40	-2.80	2.28	
7,412.86	58.42	92.55	7,232.97	462.33	59.02	63.45	9.96	7.96	7.07	
7,426.43	60.18	93.44	7,239.90	461.72	70.67	75.10	14.14	12.97	6.56	
7,440.00	61.20	93.93	7,246.54	460.96	82.48	86.90	8.15	7.52	3.61	
7,453.57	61.18	94.19	7,253.08	460.12	94.34	98.75	1.69	-0.15	1.92	
7,467.14	61.17	94.44	7,259.62	459.23	106.19	110.60	1.62	-0.07	1.84	
7,480.71	61.31	94.69	7,266.15	458.28	118.05	122.44	1.92	1.03	1.84	
7,494.29	61.65	94.91	7,272.63	457.28	129.94	134.32	2.88	2.50	1.62	
7,507.86	63.13	94.98	7,278.92	456.24	141.92	146.29	10.92	10.91	0.52	
7,521.43	65.09	94.85	7,284.85	455.20	154.08	158.45	14.47	14.44	-0.96	
7,535.00	67.15	94.60	7,290.34	454.18	166.45	170.80	15.27	15.18	-1.84	
7,548.43	69.29	94.44	7,295.32	453.19	178.88	183.22	15.97	15.93	-1.19	
7,561.86	71.42	94.56	7,299.84	452.20	191.49	195.82	15.88	15.86	0.89	
7,575.29	73.29	95.51	7,303.91	451.08	204.24	208.56	15.47	13.92	7.07	
7,588.71	75.23	95.92	7,307.55	449.79	217.09	221.40	14.75	14.46	3.06	
7,602.14	77.24	96.00	7,310.74	448.44	230.06	234.36	14.98	14.97	0.60	
7,615.57	79.02	95.51	7,313.51	447.12	243.14	247.42	13.73	13.25	-3.65	
7,629.00	80.71	95.24	7,315.87	445.88	256.30	260.57	12.74	12.58	-2.01	
7,642.57	82.11	95.71	7,317.90	444.60	269.66	273.91	10.87	10.32	3.46	
7,656.14	82.24	96.02	7,319.74	443.23	283.03	287.27	2.46	0.96	2.28	
7,669.71	82.45	96.34	7,321.55	441.78	296.40	300.63	2.80	1.55	2.36	
7,683.29	82.73	96.63	7,323.30	440.26	309.78	313.99	2.96	2.06	2.14	
7,696.86	84.21	95.53	7,324.85	438.83	323.19	327.38	13.56	10.91	-8.11	
7,710.43	86.04	94.38	7,326.00	437.66	336.66	340.84	15.91	13.49	-8.47	
7,724.00	88.06	93.72	7,326.70	436.71	350.17	354.35	15.66	14.89	-4.86	
7,731.00	88.77	93.63	7,326.89	436.26	357.16	361.33	10.21	10.13	-1.34	
EOC: 7731.00' MD, 361.33' VS, 7326.89' TVD										
7,737.43	89.42	93.54	7,326.99	435.85	363.57	367.74	10.21	10.13	-1.34	
7,750.86	89.44	93.63	7,327.13	435.02	376.98	381.13	0.69	0.15	0.67	
7,764.29	89.44	93.70	7,327.26	434.16	390.38	394.53	0.52	0.00	0.52	
7,777.71	89.43	93.75	7,327.39	433.28	403.77	407.91	0.38	-0.07	0.37	
7,791.14	89.42	93.78	7,327.53	432.40	417.17	421.30	0.24	-0.07	0.22	
7,804.57	89.42	93.78	7,327.66	431.52	430.57	434.69	0.00	0.00	0.00	
7,818.00	89.45	93.74	7,327.79	430.64	443.97	448.08	0.37	0.22	-0.30	
7,831.57	89.52	93.63	7,327.92	429.77	457.51	461.62	0.96	0.52	-0.81	
7,845.14	89.59	93.49	7,328.02	428.92	471.05	475.15	1.15	0.52	-1.03	
7,858.71	89.63	93.32	7,328.11	428.12	484.60	488.69	1.29	0.29	-1.25	
7,872.29	89.66	93.14	7,328.20	427.35	498.16	502.24	1.34	0.22	-1.33	
7,885.86	89.68	92.96	7,328.28	426.63	511.71	515.78	1.33	0.15	-1.33	
7,899.43	89.71	92.79	7,328.35	425.95	525.26	529.33	1.27	0.22	-1.25	
7,913.00	89.74	92.65	7,328.41	425.30	538.82	542.87	1.06	0.22	-1.03	
7,926.43	89.78	92.56	7,328.47	424.69	552.23	556.28	0.73	0.30	-0.67	
7,939.86	89.82	92.50	7,328.52	424.10	565.65	569.69	0.54	0.30	-0.45	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)
7,953.29	89.86	92.46	7,328.55	423.52	579.07	583.10	0.42	0.30	-0.30
7,966.71	89.91	92.42	7,328.58	422.95	592.47	596.51	0.48	0.37	-0.30
7,980.14	89.99	92.39	7,328.59	422.39	605.89	609.92	0.64	0.60	-0.22
7,993.57	90.09	92.34	7,328.58	421.83	619.31	623.33	0.83	0.74	-0.37
8,007.00	90.19	92.28	7,328.55	421.29	632.73	636.74	0.87	0.74	-0.45
8,020.57	90.30	92.19	7,328.49	420.76	646.29	650.30	1.05	0.81	-0.66
8,034.14	90.38	92.08	7,328.41	420.26	659.85	663.85	1.00	0.59	-0.81
8,047.71	90.39	91.96	7,328.32	419.78	673.41	677.41	0.89	0.07	-0.88
8,061.29	90.37	91.83	7,328.23	419.33	686.98	690.98	0.97	-0.15	-0.96
8,074.86	90.31	91.71	7,328.15	418.91	700.55	704.54	0.99	-0.44	-0.88
8,088.43	89.73	90.84	7,328.15	418.61	714.11	718.10	7.71	-4.27	-6.41
8,102.00	89.00	89.66	7,328.30	418.55	727.68	731.67	10.22	-5.38	-8.70
8,115.43	88.85	89.56	7,328.55	418.64	741.11	745.09	1.34	-1.12	-0.74
8,128.86	88.71	89.46	7,328.83	418.75	754.54	758.52	1.28	-1.04	-0.74
8,142.29	88.64	89.37	7,329.14	418.89	767.96	771.95	0.85	-0.52	-0.67
8,155.71	88.58	89.28	7,329.47	419.05	781.38	785.36	0.81	-0.45	-0.67
8,169.14	88.54	89.19	7,329.81	419.23	794.80	798.79	0.73	-0.30	-0.67
8,182.57	88.50	89.12	7,330.15	419.43	808.22	812.21	0.60	-0.30	-0.52
8,196.00	88.49	89.06	7,330.51	419.64	821.65	825.64	0.45	-0.07	-0.45
8,209.57	88.50	89.03	7,330.86	419.87	835.21	839.20	0.23	0.07	-0.22
8,223.14	88.51	89.01	7,331.22	420.10	848.78	852.77	0.16	0.07	-0.15
8,236.71	88.53	89.00	7,331.57	420.33	862.34	866.33	0.16	0.15	-0.07
8,250.29	88.54	88.99	7,331.92	420.57	875.91	879.91	0.10	0.07	-0.07
8,263.86	88.55	88.98	7,332.26	420.81	889.48	893.47	0.10	0.07	-0.07
8,277.43	88.55	88.97	7,332.60	421.05	903.04	907.04	0.07	0.00	-0.07
8,291.00	88.55	88.94	7,332.95	421.30	916.60	920.60	0.22	0.00	-0.22
8,304.43	88.55	88.89	7,333.29	421.56	930.03	934.03	0.37	0.00	-0.37
8,317.86	88.54	88.83	7,333.63	421.82	943.45	947.45	0.45	-0.07	-0.45
8,331.29	88.54	88.76	7,333.97	422.11	956.87	960.88	0.52	0.00	-0.52
8,344.71	88.54	88.69	7,334.31	422.40	970.28	974.29	0.52	0.00	-0.52
8,358.14	88.54	88.62	7,334.65	422.72	983.71	987.72	0.52	0.00	-0.52
8,371.57	88.53	88.56	7,335.00	423.05	997.13	1,001.14	0.45	-0.07	-0.45
8,385.00	88.52	88.50	7,335.34	423.39	1,010.55	1,014.57	0.45	-0.07	-0.45
8,398.57	88.51	88.46	7,335.69	423.75	1,024.11	1,028.13	0.30	-0.07	-0.29
8,412.14	88.50	88.43	7,336.05	424.12	1,037.67	1,041.69	0.23	-0.07	-0.22
8,425.71	88.50	88.41	7,336.40	424.50	1,051.23	1,055.26	0.15	0.00	-0.15
8,439.29	88.51	88.38	7,336.76	424.88	1,064.80	1,068.83	0.23	0.07	-0.22
8,452.86	88.51	88.37	7,337.11	425.26	1,078.36	1,082.39	0.07	0.00	-0.07
8,466.43	88.50	88.35	7,337.46	425.65	1,091.92	1,095.96	0.16	-0.07	-0.15
8,480.00	88.49	88.33	7,337.82	426.04	1,105.48	1,109.52	0.16	-0.07	-0.15
8,493.43	88.46	88.31	7,338.18	426.44	1,118.90	1,122.94	0.27	-0.22	-0.15
8,506.86	88.43	88.28	7,338.54	426.83	1,132.32	1,136.36	0.32	-0.22	-0.22
8,520.29	88.38	88.26	7,338.92	427.24	1,145.74	1,149.78	0.40	-0.37	-0.15



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
8,533.71	88.35	88.24	7,339.30	427.65	1,159.14	1,163.20	0.27	-0.22	-0.15	
8,547.14	88.31	88.22	7,339.69	428.06	1,172.56	1,176.62	0.33	-0.30	-0.15	
8,560.57	88.28	88.21	7,340.09	428.48	1,185.98	1,190.04	0.24	-0.22	-0.07	
8,574.00	88.26	88.21	7,340.50	428.90	1,199.40	1,203.46	0.15	-0.15	0.00	
8,587.57	88.24	88.22	7,340.91	429.32	1,212.95	1,217.02	0.16	-0.15	0.07	
8,601.14	88.23	88.25	7,341.33	429.74	1,226.51	1,230.58	0.23	-0.07	0.22	
8,614.71	88.23	88.29	7,341.75	430.15	1,240.07	1,244.14	0.29	0.00	0.29	
8,628.29	88.24	88.32	7,342.17	430.55	1,253.64	1,257.71	0.23	0.07	0.22	
8,641.86	88.26	88.35	7,342.58	430.95	1,267.19	1,271.27	0.27	0.15	0.22	
8,655.43	88.29	88.37	7,342.99	431.34	1,280.75	1,284.83	0.27	0.22	0.15	
8,669.00	88.33	88.37	7,343.39	431.72	1,294.31	1,298.40	0.29	0.29	0.00	
8,682.57	88.39	88.35	7,343.78	432.11	1,307.87	1,311.96	0.47	0.44	-0.15	
8,696.14	88.45	88.32	7,344.15	432.50	1,321.43	1,325.52	0.49	0.44	-0.22	
8,709.71	88.52	88.27	7,344.51	432.91	1,334.99	1,339.08	0.63	0.52	-0.37	
8,723.29	88.59	88.22	7,344.85	433.32	1,348.56	1,352.66	0.63	0.52	-0.37	
8,736.86	88.64	88.16	7,345.18	433.75	1,362.12	1,366.22	0.58	0.37	-0.44	
8,750.43	88.66	88.10	7,345.50	434.19	1,375.68	1,379.78	0.47	0.15	-0.44	
8,764.00	88.65	88.04	7,345.82	434.65	1,389.23	1,393.34	0.45	-0.07	-0.44	
8,777.57	88.65	87.98	7,346.14	435.12	1,402.79	1,406.91	0.44	0.00	-0.44	
8,791.14	88.65	87.92	7,346.46	435.61	1,416.35	1,420.47	0.44	0.00	-0.44	
8,804.71	88.64	87.86	7,346.78	436.11	1,429.91	1,434.03	0.45	-0.07	-0.44	
8,818.29	88.67	87.80	7,347.10	436.62	1,443.47	1,447.60	0.49	0.22	-0.44	
8,831.86	88.70	87.74	7,347.41	437.15	1,457.03	1,461.16	0.49	0.22	-0.44	
8,845.43	88.76	87.67	7,347.71	437.69	1,470.59	1,474.72	0.68	0.44	-0.52	
8,859.00	88.80	87.60	7,348.00	438.25	1,484.14	1,488.28	0.59	0.29	-0.52	
8,872.43	88.82	87.53	7,348.28	438.82	1,497.56	1,501.70	0.54	0.15	-0.52	
8,885.86	88.81	87.46	7,348.56	439.41	1,510.97	1,515.12	0.53	-0.07	-0.52	
8,899.29	88.80	87.38	7,348.84	440.01	1,524.38	1,528.54	0.60	-0.07	-0.60	
8,912.71	88.78	87.30	7,349.12	440.64	1,537.79	1,541.95	0.61	-0.15	-0.60	
8,926.14	88.75	87.22	7,349.41	441.28	1,551.20	1,555.36	0.64	-0.22	-0.60	
8,939.57	88.71	87.14	7,349.71	441.94	1,564.61	1,568.78	0.67	-0.30	-0.60	
8,953.00	88.66	87.06	7,350.01	442.62	1,578.02	1,582.19	0.70	-0.37	-0.60	
8,966.57	88.61	86.96	7,350.34	443.33	1,591.57	1,595.75	0.82	-0.37	-0.74	
8,980.14	88.56	86.87	7,350.67	444.06	1,605.11	1,609.30	0.76	-0.37	-0.66	
8,993.71	88.50	86.79	7,351.02	444.81	1,618.66	1,622.85	0.74	-0.44	-0.59	
9,007.29	88.44	86.71	7,351.38	445.58	1,632.21	1,636.41	0.74	-0.44	-0.59	
9,020.86	88.39	86.66	7,351.76	446.36	1,645.75	1,649.96	0.52	-0.37	-0.37	
9,034.43	88.34	86.63	7,352.15	447.15	1,659.29	1,663.51	0.43	-0.37	-0.22	
9,048.00	88.29	86.66	7,352.55	447.95	1,672.83	1,677.06	0.43	-0.37	0.22	
9,061.57	88.23	86.75	7,352.96	448.73	1,686.38	1,690.61	0.80	-0.44	0.66	
9,075.14	88.17	86.89	7,353.38	449.48	1,699.92	1,704.15	1.12	-0.44	1.03	
9,088.71	88.13	87.05	7,353.82	450.20	1,713.46	1,717.70	1.21	-0.29	1.18	
9,102.29	88.09	87.21	7,354.27	450.88	1,727.02	1,731.27	1.21	-0.29	1.18	
9,115.86	88.04	87.36	7,354.73	451.52	1,740.56	1,744.82	1.16	-0.37	1.11	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
9,129.43	88.68	88.30	7,355.12	452.03	1,754.12	1,758.38	8.38	4.72	6.93	
9,143.00	89.32	89.37	7,355.35	452.31	1,767.68	1,771.94	9.19	4.72	7.89	
9,156.57	89.33	89.39	7,355.51	452.45	1,781.25	1,785.51	0.16	0.07	0.15	
9,170.14	89.35	89.38	7,355.67	452.60	1,794.82	1,799.08	0.16	0.15	-0.07	
9,183.71	89.36	89.35	7,355.82	452.75	1,808.39	1,812.65	0.23	0.07	-0.22	
9,197.29	89.38	89.32	7,355.97	452.91	1,821.97	1,826.23	0.27	0.15	-0.22	
9,210.86	89.39	89.29	7,356.12	453.07	1,835.54	1,839.80	0.23	0.07	-0.22	
9,224.43	89.40	89.28	7,356.26	453.24	1,849.10	1,853.37	0.10	0.07	-0.07	
9,238.00	89.41	89.28	7,356.40	453.41	1,862.67	1,866.94	0.07	0.07	0.00	
9,251.43	89.41	89.33	7,356.54	453.58	1,876.10	1,880.37	0.37	0.00	0.37	
9,264.86	89.41	89.41	7,356.68	453.72	1,889.53	1,893.80	0.60	0.00	0.60	
9,278.29	89.43	89.49	7,356.81	453.85	1,902.96	1,907.23	0.61	0.15	0.60	
9,291.71	89.48	89.58	7,356.94	453.96	1,916.38	1,920.65	0.77	0.37	0.67	
9,305.14	89.54	89.65	7,357.06	454.05	1,929.81	1,934.07	0.69	0.45	0.52	
9,318.57	89.61	89.70	7,357.16	454.13	1,943.23	1,947.50	0.64	0.52	0.37	
9,332.00	89.66	89.72	7,357.24	454.20	1,956.66	1,960.93	0.40	0.37	0.15	
9,345.57	89.70	89.68	7,357.32	454.27	1,970.23	1,974.50	0.42	0.29	-0.29	
9,359.14	89.75	89.60	7,357.38	454.35	1,983.80	1,988.07	0.70	0.37	-0.59	
9,372.71	89.79	89.49	7,357.44	454.46	1,997.37	2,001.64	0.86	0.29	-0.81	
9,386.29	89.81	89.37	7,357.48	454.59	2,010.95	2,015.22	0.90	0.15	-0.88	
9,399.86	89.84	89.25	7,357.53	454.76	2,024.52	2,028.79	0.91	0.22	-0.88	
9,413.43	89.86	89.13	7,357.56	454.95	2,038.09	2,042.36	0.90	0.15	-0.88	
9,427.00	89.88	89.01	7,357.59	455.17	2,051.66	2,055.93	0.90	0.15	-0.88	
9,440.57	89.88	88.92	7,357.62	455.42	2,065.23	2,069.50	0.66	0.00	-0.66	
9,454.14	89.89	88.84	7,357.65	455.68	2,078.79	2,083.07	0.59	0.07	-0.59	
9,467.71	89.90	88.76	7,357.67	455.96	2,092.36	2,096.64	0.59	0.07	-0.59	
9,481.29	89.94	88.69	7,357.69	456.27	2,105.94	2,110.22	0.59	0.29	-0.52	
9,494.86	89.99	88.61	7,357.70	456.59	2,119.50	2,123.79	0.70	0.37	-0.59	
9,508.43	90.02	88.53	7,357.70	456.93	2,133.07	2,137.36	0.63	0.22	-0.59	
9,522.00	90.05	88.43	7,357.69	457.29	2,146.63	2,150.92	0.77	0.22	-0.74	
9,535.43	90.06	88.32	7,357.68	457.67	2,160.06	2,164.35	0.82	0.07	-0.82	
9,548.86	90.07	88.20	7,357.66	458.07	2,173.48	2,177.78	0.90	0.07	-0.89	
9,562.29	90.08	88.07	7,357.64	458.51	2,186.90	2,191.21	0.97	0.07	-0.97	
9,575.71	90.10	87.94	7,357.62	458.98	2,200.32	2,204.62	0.98	0.15	-0.97	
9,589.14	90.13	87.81	7,357.60	459.48	2,213.74	2,218.05	0.99	0.22	-0.97	
9,602.57	90.15	87.68	7,357.56	460.00	2,227.16	2,231.47	0.98	0.15	-0.97	
9,616.00	90.18	87.56	7,357.53	460.56	2,240.58	2,244.89	0.92	0.22	-0.89	
9,629.57	90.20	87.45	7,357.48	461.15	2,254.13	2,258.46	0.82	0.15	-0.81	
9,643.14	90.24	87.35	7,357.43	461.77	2,267.69	2,272.02	0.79	0.29	-0.74	
9,656.71	90.27	87.26	7,357.37	462.41	2,281.24	2,285.58	0.70	0.22	-0.66	
9,670.29	90.32	87.17	7,357.30	463.07	2,294.81	2,299.15	0.76	0.37	-0.66	
9,683.86	90.38	87.09	7,357.21	463.75	2,308.36	2,312.70	0.74	0.44	-0.59	
9,697.43	90.43	87.00	7,357.12	464.45	2,321.91	2,326.26	0.76	0.37	-0.66	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)
9,711.00	90.45	86.93	7,357.01	465.16	2,335.46	2,339.82	0.54	0.15	-0.52
9,724.43	90.41	86.86	7,356.91	465.89	2,348.87	2,353.24	0.60	-0.30	-0.52
9,737.86	90.30	86.79	7,356.83	466.64	2,362.28	2,366.65	0.97	-0.82	-0.52
9,751.29	90.15	86.73	7,356.78	467.39	2,375.69	2,380.07	1.20	-1.12	-0.45
9,764.71	89.92	86.67	7,356.77	468.17	2,389.09	2,393.47	1.77	-1.71	-0.45
9,778.14	89.62	86.62	7,356.82	468.95	2,402.49	2,406.88	2.26	-2.23	-0.37
9,791.57	89.25	87.27	7,356.96	469.67	2,415.90	2,420.30	5.57	-2.76	4.84
9,805.00	88.60	89.08	7,357.21	470.10	2,429.32	2,433.72	14.32	-4.84	13.48
9,818.57	88.47	89.07	7,357.55	470.31	2,442.89	2,447.29	0.96	-0.96	-0.07
9,832.14	88.40	89.07	7,357.93	470.54	2,456.45	2,460.85	0.52	-0.52	0.00
9,845.71	88.37	89.08	7,358.31	470.75	2,470.01	2,474.42	0.23	-0.22	0.07
9,859.29	88.36	89.08	7,358.70	470.97	2,483.59	2,487.99	0.07	-0.07	0.00
9,870.90	88.35	89.07	7,359.03	471.16	2,495.19	2,499.60	0.10	-0.07	-0.07
02-v2500(Toro-121H)									
9,872.86	88.35	89.07	7,359.09	471.19	2,497.15	2,501.56	0.10	-0.07	-0.07
9,886.43	88.35	89.04	7,359.48	471.41	2,510.71	2,515.12	0.22	0.00	-0.22
9,900.00	88.32	88.97	7,359.87	471.65	2,524.27	2,528.69	0.56	-0.22	-0.52
9,913.43	88.28	88.86	7,360.27	471.90	2,537.70	2,542.11	0.87	-0.30	-0.82
9,926.86	88.24	88.72	7,360.68	472.19	2,551.12	2,555.53	1.08	-0.30	-1.04
9,940.29	88.20	88.57	7,361.09	472.51	2,564.54	2,568.95	1.16	-0.30	-1.12
9,953.71	88.15	88.40	7,361.52	472.86	2,577.94	2,582.37	1.32	-0.37	-1.27
9,967.14	88.11	88.23	7,361.96	473.25	2,591.36	2,595.79	1.30	-0.30	-1.27
9,980.57	88.05	88.06	7,362.41	473.69	2,604.78	2,609.20	1.34	-0.45	-1.27
9,994.00	87.99	87.91	7,362.87	474.16	2,618.19	2,622.62	1.20	-0.45	-1.12
10,007.57	87.88	87.78	7,363.36	474.67	2,631.74	2,636.18	1.25	-0.81	-0.96
10,021.14	87.76	87.67	7,363.88	475.21	2,645.29	2,649.73	1.20	-0.88	-0.81
10,034.71	87.66	87.56	7,364.42	475.77	2,658.84	2,663.28	1.10	-0.74	-0.81
10,048.29	87.58	87.45	7,364.98	476.36	2,672.40	2,676.84	1.00	-0.59	-0.81
10,061.86	87.49	87.34	7,365.57	476.98	2,685.94	2,690.39	1.05	-0.66	-0.81
10,075.43	87.58	87.74	7,366.15	477.56	2,699.48	2,703.94	3.02	0.66	2.95
10,089.00	88.24	89.37	7,366.65	477.90	2,713.04	2,717.50	12.95	4.86	12.01
10,102.57	88.62	89.66	7,367.02	478.02	2,726.60	2,731.07	3.52	2.80	2.14
10,116.14	88.60	89.42	7,367.35	478.13	2,740.17	2,744.63	1.77	-0.15	-1.77
10,129.71	88.60	89.17	7,367.68	478.29	2,753.73	2,758.20	1.84	0.00	-1.84
10,143.29	88.60	88.91	7,368.01	478.52	2,767.31	2,771.77	1.91	0.00	-1.91
10,156.86	88.55	88.67	7,368.35	478.81	2,780.87	2,785.34	1.81	-0.37	-1.77
10,170.43	88.47	88.44	7,368.70	479.15	2,794.43	2,798.90	1.79	-0.59	-1.69
10,184.00	88.36	88.26	7,369.08	479.54	2,807.99	2,812.47	1.55	-0.81	-1.33
10,197.43	88.23	88.16	7,369.48	479.96	2,821.41	2,825.89	1.22	-0.97	-0.74
10,210.86	88.11	88.10	7,369.90	480.40	2,834.82	2,839.31	1.00	-0.89	-0.45
10,224.29	88.01	88.06	7,370.36	480.85	2,848.24	2,852.72	0.80	-0.74	-0.30
10,237.71	87.93	88.04	7,370.83	481.30	2,861.64	2,866.13	0.61	-0.60	-0.15
10,251.14	87.87	88.02	7,371.33	481.77	2,875.06	2,879.55	0.47	-0.45	-0.15



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
10,264.57	88.56	88.79	7,371.75	482.14	2,888.47	2,892.97	7.70	5.14	5.73	
10,278.00	89.81	90.20	7,371.94	482.26	2,901.90	2,906.40	14.03	9.31	10.50	
10,291.57	89.85	90.16	7,371.98	482.22	2,915.47	2,919.97	0.42	0.29	-0.29	
10,305.14	89.94	90.12	7,372.00	482.18	2,929.04	2,933.54	0.73	0.66	-0.29	
10,318.71	90.03	90.07	7,372.01	482.16	2,942.61	2,947.10	0.76	0.66	-0.37	
10,332.29	90.10	90.02	7,371.99	482.15	2,956.19	2,960.68	0.63	0.52	-0.37	
10,345.86	90.13	89.96	7,371.96	482.15	2,969.76	2,974.25	0.49	0.22	-0.44	
10,359.43	90.13	89.89	7,371.93	482.17	2,983.33	2,987.82	0.52	0.00	-0.52	
10,373.00	90.10	89.80	7,371.90	482.21	2,996.90	3,001.39	0.70	-0.22	-0.66	
10,386.43	90.07	89.70	7,371.88	482.26	3,010.33	3,014.82	0.78	-0.22	-0.74	
10,399.86	90.02	89.58	7,371.87	482.35	3,023.76	3,028.25	0.97	-0.37	-0.89	
10,413.29	89.95	89.46	7,371.88	482.46	3,037.19	3,041.68	1.03	-0.52	-0.89	
10,426.71	89.87	89.36	7,371.90	482.60	3,050.61	3,055.10	0.95	-0.60	-0.75	
10,440.14	89.81	89.28	7,371.94	482.76	3,064.04	3,068.53	0.74	-0.45	-0.60	
10,453.57	89.73	89.26	7,371.99	482.93	3,077.47	3,081.96	0.61	-0.60	-0.15	
10,467.00	89.66	89.30	7,372.06	483.10	3,090.90	3,095.39	0.60	-0.52	0.30	
10,480.43	89.63	89.46	7,372.14	483.24	3,104.33	3,108.82	1.21	-0.22	1.19	
10,493.86	89.59	89.68	7,372.24	483.35	3,117.75	3,122.25	1.66	-0.30	1.64	
10,507.29	89.53	89.94	7,372.34	483.39	3,131.18	3,135.68	1.99	-0.45	1.94	
10,520.71	89.43	90.19	7,372.46	483.37	3,144.60	3,149.10	2.01	-0.75	1.86	
10,534.14	89.31	90.42	7,372.61	483.30	3,158.03	3,162.53	1.93	-0.89	1.71	
10,547.57	90.31	91.61	7,372.65	483.07	3,171.46	3,175.95	11.57	7.45	8.86	
10,561.00	91.68	92.64	7,372.42	482.57	3,184.88	3,189.36	12.76	10.20	7.67	
10,574.57	91.70	92.75	7,372.02	481.93	3,198.43	3,202.91	0.82	0.15	0.81	
10,588.14	91.84	92.84	7,371.60	481.27	3,211.98	3,216.45	1.23	1.03	0.66	
10,601.71	91.93	92.92	7,371.15	480.59	3,225.52	3,229.99	0.89	0.66	0.59	
10,615.29	92.00	92.98	7,370.69	479.89	3,239.07	3,243.53	0.68	0.52	0.44	
10,628.86	92.12	93.03	7,370.20	479.18	3,252.62	3,257.07	0.96	0.88	0.37	
10,642.43	92.92	93.13	7,369.60	478.45	3,266.15	3,270.60	5.94	5.90	0.74	
10,656.00	94.36	93.29	7,368.74	477.69	3,279.68	3,284.11	10.68	10.61	1.18	
10,669.43	94.44	93.27	7,367.71	476.92	3,293.04	3,297.47	0.61	0.60	-0.15	
10,682.86	94.59	93.23	7,366.66	476.17	3,306.41	3,310.83	1.16	1.12	-0.30	
10,696.29	94.70	93.18	7,365.57	475.42	3,319.78	3,324.19	0.90	0.82	-0.37	
10,709.71	94.80	93.12	7,364.46	474.68	3,333.13	3,337.53	0.87	0.75	-0.45	
10,723.14	94.90	93.05	7,363.32	473.96	3,346.49	3,350.89	0.91	0.74	-0.52	
10,736.57	95.00	92.98	7,362.16	473.26	3,359.85	3,364.24	0.91	0.74	-0.52	
10,750.00	95.12	92.91	7,360.98	472.57	3,373.21	3,377.59	1.03	0.89	-0.52	
10,763.57	95.21	92.84	7,359.76	471.89	3,386.71	3,391.08	0.84	0.66	-0.52	
10,777.14	95.31	92.78	7,358.51	471.23	3,400.21	3,404.57	0.86	0.74	-0.44	
10,790.71	95.40	92.71	7,357.25	470.58	3,413.70	3,418.06	0.84	0.66	-0.52	
10,804.29	95.48	92.63	7,355.96	469.95	3,427.21	3,431.56	0.83	0.59	-0.59	
10,817.86	95.50	92.55	7,354.66	469.34	3,440.70	3,445.05	0.61	0.15	-0.59	
10,831.43	95.44	92.47	7,353.37	468.75	3,454.20	3,458.54	0.73	-0.44	-0.59	
10,845.00	95.43	92.37	7,352.08	468.18	3,467.69	3,472.03	0.74	-0.07	-0.74	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
10,858.57	95.52	92.26	7,350.79	467.64	3,481.19	3,485.52	1.04	0.66	-0.81	
10,872.14	95.72	92.13	7,349.46	467.12	3,494.69	3,499.01	1.76	1.47	-0.96	
10,885.71	95.94	92.00	7,348.08	466.63	3,508.18	3,512.49	1.88	1.62	-0.96	
10,899.29	96.06	91.86	7,346.66	466.18	3,521.67	3,525.99	1.35	0.88	-1.03	
10,912.86	95.93	91.70	7,345.24	465.76	3,535.16	3,539.47	1.51	-0.96	-1.18	
10,926.43	95.78	91.53	7,343.86	465.38	3,548.66	3,552.96	1.67	-1.11	-1.25	
10,940.00	95.63	91.34	7,342.51	465.04	3,562.16	3,566.46	1.78	-1.11	-1.40	
10,953.43	95.55	91.11	7,341.20	464.75	3,575.52	3,579.82	1.81	-0.60	-1.71	
10,966.86	94.05	90.41	7,340.08	464.58	3,588.90	3,593.19	12.32	-11.17	-5.21	
10,980.29	93.93	90.10	7,339.14	464.52	3,602.30	3,606.59	2.47	-0.89	-2.31	
10,993.71	93.99	89.83	7,338.22	464.52	3,615.69	3,619.98	2.06	0.45	-2.01	
11,007.14	93.99	89.55	7,337.28	464.60	3,629.08	3,633.38	2.08	0.00	-2.08	
11,020.57	93.79	89.29	7,336.37	464.73	3,642.48	3,646.77	2.44	-1.49	-1.94	
11,034.00	93.20	89.05	7,335.55	464.93	3,655.88	3,660.18	4.74	-4.39	-1.79	
11,047.57	92.64	88.84	7,334.86	465.18	3,669.43	3,673.73	4.41	-4.13	-1.55	
11,061.14	92.22	88.67	7,334.28	465.47	3,682.99	3,687.29	3.34	-3.10	-1.25	
11,074.71	92.12	88.51	7,333.77	465.80	3,696.55	3,700.85	1.39	-0.74	-1.18	
11,088.29	92.10	88.37	7,333.27	466.17	3,710.11	3,714.41	1.04	-0.15	-1.03	
11,101.86	92.04	88.24	7,332.78	466.58	3,723.67	3,727.97	1.05	-0.44	-0.96	
11,115.43	91.34	88.25	7,332.38	466.99	3,737.22	3,741.53	5.16	-5.16	0.07	
11,129.00	90.32	88.32	7,332.18	467.40	3,750.79	3,755.10	7.53	-7.52	0.52	
11,142.43	89.89	88.24	7,332.16	467.80	3,764.21	3,768.53	3.26	-3.20	-0.60	
11,155.86	89.62	88.17	7,332.22	468.22	3,777.63	3,781.95	2.08	-2.01	-0.52	
11,169.29	89.42	88.10	7,332.33	468.66	3,791.06	3,795.38	1.58	-1.49	-0.52	
11,182.71	89.29	88.04	7,332.48	469.11	3,804.47	3,808.80	1.07	-0.97	-0.45	
11,196.14	89.23	87.99	7,332.65	469.57	3,817.89	3,822.22	0.58	-0.45	-0.37	
11,209.57	89.20	87.95	7,332.84	470.05	3,831.31	3,835.64	0.37	-0.22	-0.30	
11,223.00	89.18	87.92	7,333.03	470.53	3,844.73	3,849.07	0.27	-0.15	-0.22	
11,236.57	89.10	87.91	7,333.23	471.03	3,858.29	3,862.63	0.59	-0.59	-0.07	
11,250.14	89.01	87.90	7,333.46	471.52	3,871.85	3,876.19	0.67	-0.66	-0.07	
11,263.71	88.94	87.90	7,333.70	472.02	3,885.41	3,889.76	0.52	-0.52	0.00	
11,277.29	88.93	87.89	7,333.95	472.52	3,898.97	3,903.33	0.10	-0.07	-0.07	
11,290.86	88.96	87.88	7,334.20	473.02	3,912.53	3,916.89	0.23	0.22	-0.07	
11,304.43	89.29	87.88	7,334.41	473.52	3,926.09	3,930.46	2.43	2.43	0.00	
11,318.00	91.18	88.04	7,334.35	474.01	3,939.65	3,944.02	13.98	13.93	1.18	
11,331.43	91.56	88.03	7,334.03	474.47	3,953.07	3,957.44	2.83	2.83	-0.07	
11,344.86	91.69	87.94	7,333.65	474.94	3,966.49	3,970.86	1.18	0.97	-0.67	
11,358.29	91.83	87.84	7,333.24	475.43	3,979.90	3,984.28	1.28	1.04	-0.74	
11,371.71	91.96	87.74	7,332.79	475.95	3,993.30	3,997.69	1.22	0.97	-0.75	
11,385.14	92.07	87.63	7,332.32	476.49	4,006.71	4,011.10	1.16	0.82	-0.82	
11,398.57	92.18	87.53	7,331.82	477.06	4,020.12	4,024.52	1.11	0.82	-0.74	
11,412.00	92.27	87.42	7,331.30	477.65	4,033.53	4,037.93	1.06	0.67	-0.82	
11,425.43	92.33	87.31	7,330.76	478.27	4,046.94	4,051.34	0.93	0.45	-0.82	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
11,438.86	92.35	87.21	7,330.21	478.91	4,060.34	4,064.75	0.76	0.15	-0.74	
11,452.29	92.33	87.10	7,329.67	479.57	4,073.74	4,078.16	0.83	-0.15	-0.82	
11,465.71	92.29	87.00	7,329.13	480.26	4,087.13	4,091.55	0.80	-0.30	-0.75	
11,479.14	92.26	86.90	7,328.59	480.98	4,100.53	4,104.96	0.78	-0.22	-0.74	
11,492.57	92.25	86.80	7,328.06	481.72	4,113.93	4,118.37	0.75	-0.07	-0.74	
11,506.00	92.31	86.71	7,327.53	482.48	4,127.33	4,131.77	0.80	0.45	-0.67	
11,519.57	92.43	86.62	7,326.97	483.26	4,140.87	4,145.31	1.11	0.88	-0.66	
11,533.14	92.56	86.53	7,326.38	484.07	4,154.40	4,158.85	1.16	0.96	-0.66	
11,546.71	92.62	86.45	7,325.76	484.90	4,167.93	4,172.39	0.74	0.44	-0.59	
11,560.29	92.56	86.38	7,325.15	485.75	4,181.47	4,185.94	0.68	-0.44	-0.52	
11,573.86	92.46	86.30	7,324.56	486.62	4,195.00	4,199.48	0.94	-0.74	-0.59	
11,587.43	92.43	86.24	7,323.98	487.50	4,208.53	4,213.01	0.49	-0.22	-0.44	
11,601.00	92.42	86.17	7,323.40	488.40	4,222.06	4,226.55	0.52	-0.07	-0.52	
11,614.43	92.39	86.12	7,322.84	489.30	4,235.44	4,239.94	0.43	-0.22	-0.37	
11,627.86	92.33	86.07	7,322.29	490.21	4,248.83	4,253.34	0.58	-0.45	-0.37	
11,641.29	92.30	86.02	7,321.74	491.14	4,262.22	4,266.74	0.43	-0.22	-0.37	
11,654.71	92.15	85.98	7,321.22	492.07	4,275.59	4,280.12	1.16	-1.12	-0.30	
11,668.14	91.89	85.93	7,320.75	493.02	4,288.98	4,293.52	1.97	-1.94	-0.37	
11,681.57	91.48	86.66	7,320.36	493.89	4,302.38	4,306.92	6.23	-3.05	5.44	
11,695.00	91.01	88.31	7,320.06	494.48	4,315.79	4,320.34	12.77	-3.50	12.29	
11,708.43	90.71	88.26	7,319.86	494.88	4,329.21	4,333.77	2.26	-2.23	-0.37	
11,721.86	90.54	88.21	7,319.72	495.29	4,342.64	4,347.19	1.32	-1.27	-0.37	
11,735.29	90.48	88.16	7,319.60	495.72	4,356.06	4,360.62	0.58	-0.45	-0.37	
11,748.71	90.47	88.10	7,319.48	496.16	4,369.47	4,374.03	0.45	-0.07	-0.45	
11,762.14	90.47	88.05	7,319.37	496.61	4,382.89	4,387.46	0.37	0.00	-0.37	
11,775.57	90.45	87.99	7,319.27	497.07	4,396.32	4,400.89	0.47	-0.15	-0.45	
11,789.00	90.42	87.93	7,319.16	497.55	4,409.74	4,414.31	0.50	-0.22	-0.45	
11,802.57	90.36	87.86	7,319.07	498.05	4,423.30	4,427.87	0.68	-0.44	-0.52	
11,816.14	90.32	87.78	7,318.99	498.56	4,436.86	4,441.44	0.66	-0.29	-0.59	
11,829.71	90.31	87.71	7,318.92	499.10	4,450.42	4,455.00	0.52	-0.07	-0.52	
11,843.29	90.35	87.63	7,318.84	499.65	4,463.99	4,468.58	0.66	0.29	-0.59	
11,856.86	90.40	87.56	7,318.75	500.22	4,477.54	4,482.14	0.63	0.37	-0.52	
11,870.43	90.46	87.50	7,318.65	500.80	4,491.10	4,495.70	0.63	0.44	-0.44	
11,884.00	90.49	87.44	7,318.54	501.40	4,504.66	4,509.26	0.49	0.22	-0.44	
11,897.43	90.49	87.40	7,318.42	502.01	4,518.07	4,522.68	0.30	0.00	-0.30	
11,910.86	90.48	87.37	7,318.31	502.62	4,531.49	4,536.10	0.24	-0.07	-0.22	
11,924.29	90.48	87.34	7,318.19	503.24	4,544.90	4,549.52	0.22	0.00	-0.22	
11,937.71	90.49	87.31	7,318.08	503.87	4,558.31	4,562.93	0.24	0.07	-0.22	
11,951.14	90.51	87.27	7,317.96	504.50	4,571.72	4,576.35	0.33	0.15	-0.30	
11,964.57	90.52	87.22	7,317.84	505.15	4,585.14	4,589.77	0.38	0.07	-0.37	
11,978.00	90.53	87.16	7,317.72	505.80	4,598.55	4,603.19	0.45	0.07	-0.45	
11,991.43	90.54	87.05	7,317.59	506.48	4,611.96	4,616.61	0.82	0.07	-0.82	
12,004.86	90.56	86.93	7,317.47	507.19	4,625.37	4,630.03	0.91	0.15	-0.89	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	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)	
12,018.29	90.55	86.81	7,317.34	507.92	4,638.78	4,643.44	0.90	-0.07	-0.89	
12,031.71	90.51	86.67	7,317.21	508.68	4,652.18	4,656.85	1.08	-0.30	-1.04	
12,045.14	90.44	86.55	7,317.10	509.48	4,665.59	4,670.26	1.03	-0.52	-0.89	
12,058.57	90.37	86.43	7,317.01	510.30	4,678.99	4,683.67	1.03	-0.52	-0.89	
12,072.00	90.30	86.34	7,316.93	511.15	4,692.39	4,697.08	0.85	-0.52	-0.67	
12,086.00	90.23	86.28	7,316.86	512.05	4,706.36	4,711.06	0.66	-0.50	-0.43	
12,098.27	90.20	86.24	7,316.82	512.85	4,718.61	4,723.32	0.36	-0.21	-0.29	
03-LTP(Toro-121H)										
12,099.64	90.20	86.24	7,316.81	512.94	4,719.98	4,724.68	0.36	-0.21	-0.29	
100FEL: 12099.64' MD, 4724.68' VS, 7316.81' TVD										
12,100.00	90.20	86.24	7,316.81	512.96	4,720.33	4,725.04	0.36	-0.21	-0.29	
12,114.00	90.19	86.21	7,316.76	513.88	4,734.30	4,739.02	0.23	-0.07	-0.21	
12,128.00	90.21	86.19	7,316.71	514.81	4,748.27	4,753.00	0.20	0.14	-0.14	
Final MWD Survey: 12128.00' MD, 90.21°INC, 86.19°AZ										
12,185.00	90.21	86.19	7,316.50	518.60	4,805.15	4,809.90	0.00	0.00	0.00	
PTB: 12185.00' MD, 90.21°INC, 86.19°AZ - 04-PBHL(Toro-121H) - 05-v5000(Toro-121H)										

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
03-LTP(Toro-121H) - actual wellpath misses target center by 24.24usft at 12098.27usft MD (7316.82 TVD, 512.85 N, 4718.61 E) - Point	0.00	0.00	7,314.85	488.74	4,720.18	600,546.44	595,882.18	32.65082456	-104.15611286	
04-PBHL(Toro-121H) - actual wellpath misses target center by 29.43usft at 12185.00usft MD (7316.50 TVD, 518.60 N, 4805.15 E) - Point	0.75	89.45	7,316.03	489.61	4,810.18	600,547.31	595,972.18	32.65082654	-104.15582043	
01-FTP(Toro-121H) - actual wellpath misses target center by 276.91usft at 7234.52usft MD (7128.11 TVD, 466.86 N, -84.75 E) - Point	0.00	0.00	7,328.00	440.70	-274.58	600,498.40	590,887.42	32.65071438	-104.17234145	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
229.00	229.00	Rustler				
285.01	285.00	Top of Salt				
570.13	570.00	Base of Salt				
781.40	781.00	Yates				
3,086.20	3,077.00	DLWR Mnt. Group				
3,385.37	3,372.00	Bone Spring Lime				
6,229.85	6,192.00	1st Bone Spring SD				
6,380.21	6,342.00	2nd Bone Spring LM				
7,336.39	7,192.00	2nd Bone Spring SD				



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well (A03) Toro 22 Fed State Com 121H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3422+30 @ 3452.00usft
Site:	Toro 22 Fed State Com	MD Reference:	3422+30 @ 3452.00usft
Well:	(A03) Toro 22 Fed State Com 121H	North Reference:	Grid
Wellbore:	121H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	Database:	EDM 5000.14 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,781.00	6,742.49	489.36	-294.44	KOP: 6781.00' MD, -289.73' VS, 6742.49' TVD
6,908.45	6,867.61	484.96	-274.17	100FWL: 6908.45' MD, -269.50' VS, 6867.61' TVD
7,731.00	7,326.89	436.26	357.16	EOC: 7731.00' MD, 361.33' VS, 7326.89' TVD
12,099.64	7,316.81	512.94	4,719.98	100FEL: 12099.64' MD, 4724.68' VS, 7316.81' TVD
12,128.00	7,316.71	514.81	4,748.27	Final MWD Survey: 12128.00' MD, 90.21°INC, 86.19°AZ
12,185.00	7,316.50	518.60	4,805.15	PTB: 12185.00' MD, 90.21°INC, 86.19°AZ

Checked By: _____ Approved By: _____ Date: _____

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 122109

ACKNOWLEDGMENTS

Operator: COLGATE OPERATING, LLC 300 North Marienfeld Street Midland, TX 79701	OGRID: 371449
	Action Number: 122109
	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
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
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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

CONDITIONS

Action 122109

CONDITIONS

Operator: COLGATE OPERATING, LLC 300 North Marienfeld Street Midland, TX 79701	OGRID: 371449
	Action Number: 122109
	Action Type: [C-104] Completion Packet (C-104C)

CONDITIONS

Created By	Condition	Condition Date
jagarcia	See corrected property code	7/5/2022
jagarcia	RT approved for 90 days from 7/1/2022	7/5/2022