

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 – 47707	⁵ Pool Name OLD MILLMAN RANCH; BS		⁶ Pool Code 48035
⁷ Property Code 329804	⁸ Property Name SHAMROCK 34 FED COM		⁹ Well Number 122H

II. ¹⁰ Surface Location

UL or lot no. H	Section 34	Township 19S	Range 28E	Lot Idn	Feet from the 2632	North/South Line North	Feet from the 340	East/West line East	County Eddy
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¹¹ Bottom Hole Location

UL or lot no. E	Section 33	Township 19S	Range 28E	Lot Idn	Feet from the 2290	North/South line North	Feet from the 35	East/West line West	County Eddy
¹² Lse Code F	¹³ Producing Method Code	¹⁴ Gas Connection Date 05/01/2022	¹⁵ C-129 Permit Number		¹⁶ C-129 Effective Date		¹⁷ C-129 Expiration Date		

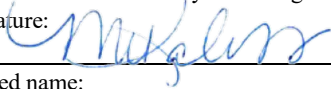
III. Oil and Gas Transporters

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 12/02/2021	²² Ready Date 05/01/2022	²³ TD 17,635 MD 7,472 TVD	²⁴ PBTD 17,180 MD 7,214 TVD	²⁵ Perforations 12,599-17,399 7,799-12,599	²⁶ DHC, MC
²⁷ Hole Size		²⁸ Casing & Tubing Size		²⁹ Depth Set	³⁰ Sacks Cement
17.5		13.375		356	525 Tail
12.25		9.625		3,005	550 Lead 210 Tail
7.875		5.5		17,611	650 Lead 1,200 Tail

V. Well Test Data

³¹ Date New Oil 05/24/2022	³² Gas Delivery Date 05/24/2022	³³ Test Date 06/07/2022	³⁴ Test Length 24	³⁵ Tbg. Pressure 2100	³⁶ Csg. Pressure 400
³⁷ Choke Size 88/88	³⁸ Oil 2778	³⁹ Water 2186	⁴⁰ Gas 2202		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: PATRICIA MARTINEZ		
Title: Sr. Regulatory Analyst			Title: PETROLEUM SPECIALIST		
E-mail Address: mthomas@colgateenergy.com			Approval Date: 8/12/2022		
Date: 06/08/2022		Phone: 432-695-4272			

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		³ Reason for Filing Code/ Effective Date NW	
⁴ API Number 30 – 015 – 47707	⁵ Pool Name WINCHESTER; BONE SPRING		⁶ Pool Code 65010
⁷ Property Code 329804	⁸ Property Name SHAMROCK 34 FED COM		⁹ Well Number 122H

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UL or lot no. H	Section 34	Township 19S	Range 28E	Lot Idn	Feet from the 2632	North/South Line North	Feet from the 340	East/West line East	County Eddy
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¹¹ Bottom Hole Location

UL or lot no. E	Section 33	Township 19S	Range 28E	Lot Idn	Feet from the 2290	North/South line North	Feet from the 35	East/West line West	County Eddy
¹² Lse Code F	¹³ Producing Method Code	¹⁴ Gas Connection Date 05/01/2022	¹⁵ C-129 Permit Number		¹⁶ C-129 Effective Date		¹⁷ C-129 Expiration Date		

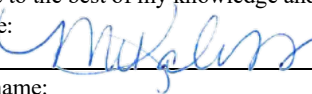
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²⁷ Hole Size		²⁸ Casing & Tubing Size		²⁹ Depth Set	
17.5		13.375		356	
12.25		9.625		3,005	
7.875		5.5		17,611	

V. Well Test Data

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³⁷ Choke Size 88/88	³⁸ Oil 2778	³⁹ Water 2186	⁴⁰ Gas 2202	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: PATRICIA MARTINEZ		
Title: Sr. Regulatory Analyst			Title: PETROLEUM SPECIALIST		
E-mail Address: mthomas@colgateenergy.com			Approval Date: 8/12/2022		
Date: 06/08/2022		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 30-015-47707	2 Pool Code 48035	3 Pool Name OLD MILLMAN RANCH; BS
4 Property Code 32984	5 Property Name SHAMROCK 34 FED COM	6 Well Number 122H
7 OGRID No. 371449	8 Operator Name COLGATE OPERATING, LLC	9 Elevation 3310.3'

10 Surface Location

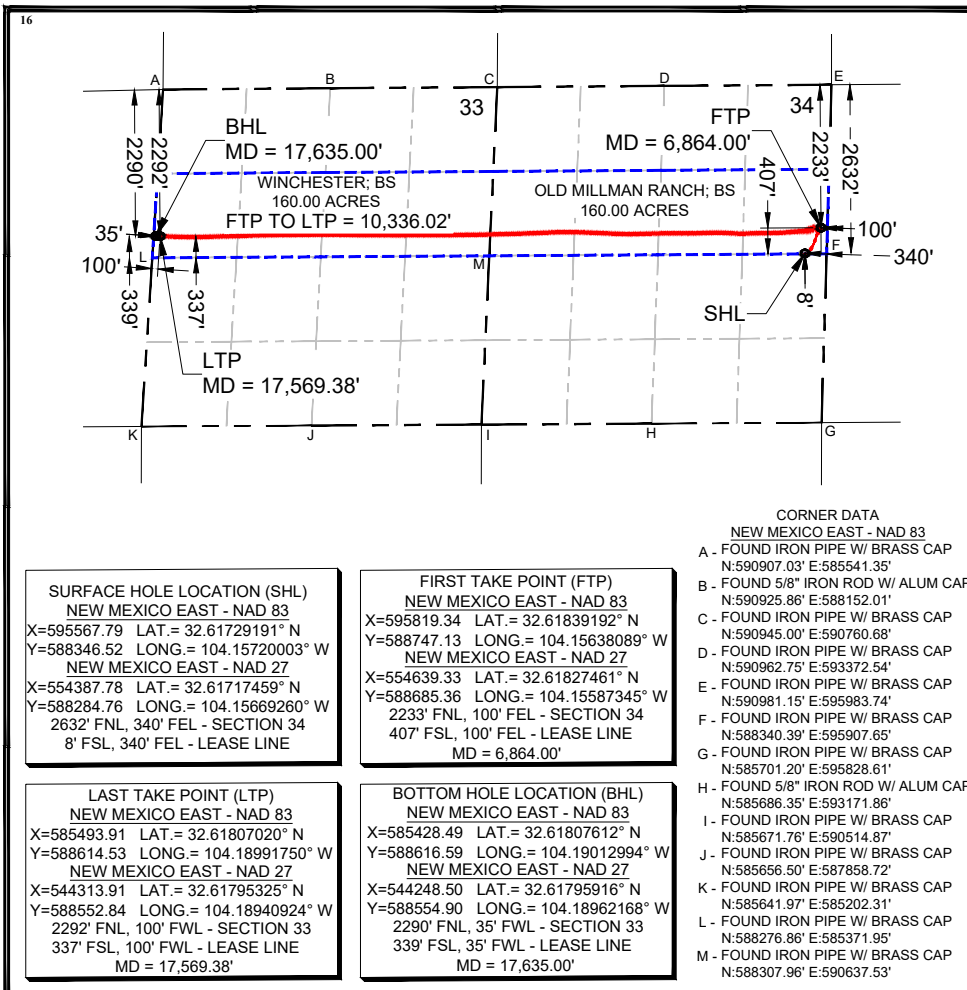
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	34	19-S	28-E		2632'	NORTH	340'	EAST	EDDY

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
E	33	19-S	28-E		2290'	NORTH	35'	WEST	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.



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] 03.14.2022
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:



Certificate Number

2/23/2022

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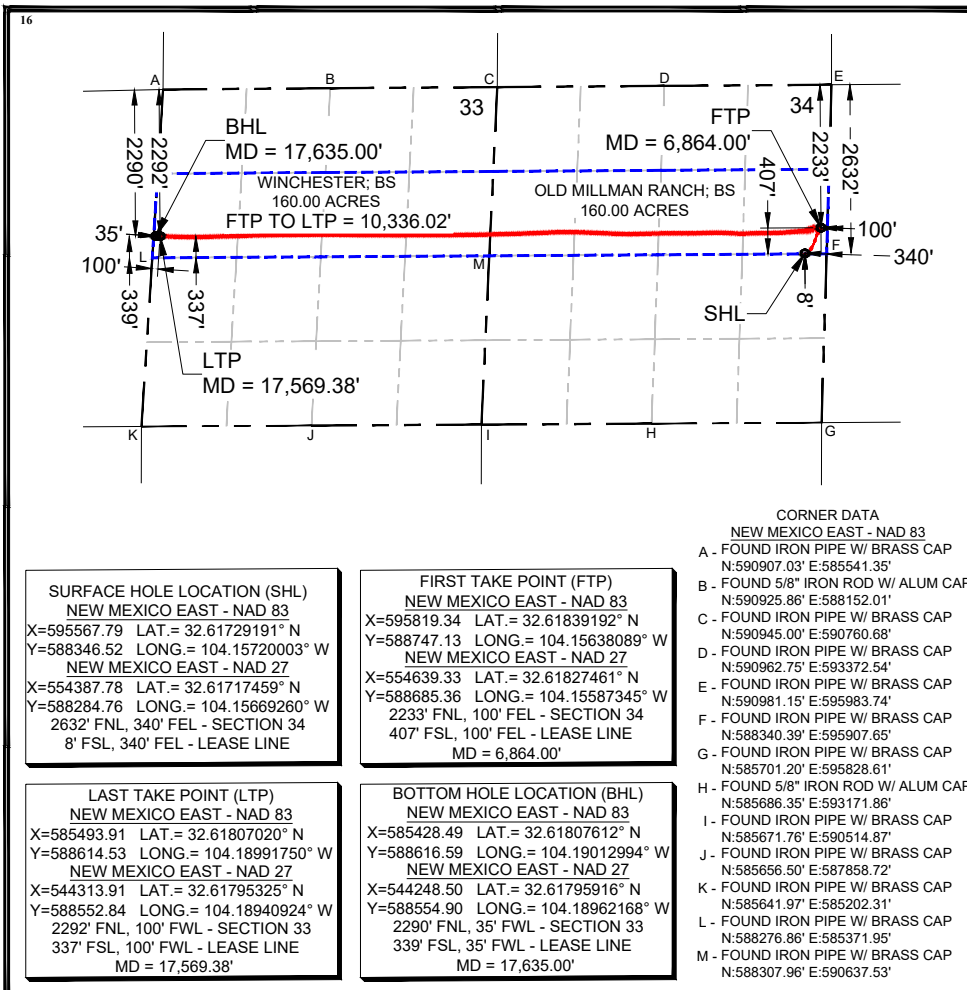
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[Signature] 03.14.2022
Signature Date

Mikah Thomas

Printed Name

mthomas@colgateenergy.com

E-mail Address

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Date of Survey
Signature and Seal of Professional Surveyor:



Certificate Number

2/23/2022



Colgate Energy

Eddy County, NM (N83-NME)

Shamrock 34 Fed State Com

Shamrock 34 Fed Com 122H

30-015-47707

122H

Design: DRL

Standard Survey Report

30 January, 2022



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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	Shamrock 34 Fed State Com		
Site Position:		Northing:	590,282.94 usft
From:	Map	Easting:	596,293.88 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.62261125
		Longitude:	-104.15483124

Well	Shamrock 34 Fed Com 122H		
Well Position	+N/-S	0.00 usft	Northing: 588,346.52 usft
	+E/-W	0.00 usft	Easting: 595,567.79 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
Grid Convergence:	0.09 °	Ground Level:	3,310.00 usft

Wellbore	122H		
Magnetics	Model Name	Sample Date	Declination (°)
	IFR	1/18/2022	7.10
			Dip Angle (°)
			60.34
			Field Strength (nT)
			47,721.70000000

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)
	0.00	0.00	0.00
			Direction (°)
			269.68

Survey Program	Date	1/30/2022		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
14.21	17,579.00	Survey #1_Gordon (122H)	MWD+IFR1+SAG+FDIR (SQ OWSG MWD + IFR1 + Sag + FDIR Correction	
17,635.00	17,635.00	Survey #2_PTB (122H)	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	
14.21	0.05	165.63	14.21	-0.01	0.00	0.00	0.35	0.35	0.00	
28.43	0.11	165.63	28.43	-0.03	0.01	-0.01	0.42	0.42	0.00	
42.64	0.16	165.63	42.64	-0.06	0.01	-0.01	0.35	0.35	0.00	
56.86	0.21	165.62	56.86	-0.10	0.03	-0.03	0.35	0.35	-0.07	
71.07	0.26	165.62	71.07	-0.16	0.04	-0.04	0.35	0.35	0.00	
85.29	0.32	165.62	85.29	-0.23	0.06	-0.06	0.42	0.42	0.00	
99.50	0.37	165.62	99.50	-0.31	0.08	-0.08	0.35	0.35	0.00	
113.71	0.42	165.62	113.71	-0.41	0.10	-0.10	0.35	0.35	0.00	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
127.93	0.48	165.61	127.93	-0.51	0.13	-0.13	0.42	0.42	-0.07	
142.14	0.53	165.61	142.14	-0.64	0.16	-0.16	0.35	0.35	0.00	
156.36	0.58	165.61	156.36	-0.77	0.20	-0.19	0.35	0.35	0.00	
170.57	0.63	165.61	170.57	-0.91	0.23	-0.23	0.35	0.35	0.00	
184.79	0.69	165.61	184.79	-1.07	0.28	-0.27	0.42	0.42	0.00	
199.00	0.74	165.61	198.99	-1.24	0.32	-0.31	0.35	0.35	0.00	
212.14	0.76	167.17	212.13	-1.41	0.36	-0.35	0.22	0.15	11.87	
225.29	0.78	168.65	225.28	-1.58	0.40	-0.39	0.21	0.15	11.25	
238.43	0.79	170.07	238.42	-1.76	0.43	-0.42	0.17	0.08	10.81	
251.57	0.81	171.43	251.56	-1.94	0.46	-0.45	0.21	0.15	10.35	
264.71	0.83	172.72	264.70	-2.13	0.49	-0.47	0.21	0.15	9.82	
277.86	0.85	173.95	277.85	-2.32	0.51	-0.49	0.20	0.15	9.35	
291.00	0.87	175.12	290.99	-2.52	0.53	-0.51	0.20	0.15	8.90	
305.50	0.80	174.73	305.48	-2.73	0.55	-0.53	0.48	-0.48	-2.69	
320.00	0.72	174.26	319.98	-2.92	0.56	-0.55	0.55	-0.55	-3.24	
334.50	0.64	173.68	334.48	-3.09	0.58	-0.56	0.55	-0.55	-4.00	
349.00	0.57	172.94	348.98	-3.24	0.60	-0.58	0.49	-0.48	-5.10	
363.50	0.49	171.97	363.48	-3.37	0.62	-0.60	0.56	-0.55	-6.69	
378.00	0.41	170.64	377.98	-3.49	0.63	-0.61	0.56	-0.55	-9.17	
392.50	0.53	172.35	392.48	-3.61	0.65	-0.63	0.83	0.83	11.79	
407.00	0.45	156.42	406.98	-3.72	0.68	-0.66	1.08	-0.55	-109.86	
421.50	0.57	160.58	421.48	-3.84	0.73	-0.71	0.87	0.83	28.69	
436.00	0.68	163.30	435.98	-3.99	0.78	-0.76	0.79	0.76	18.76	
450.50	0.80	165.21	450.48	-4.17	0.83	-0.81	0.84	0.83	13.17	
465.00	0.92	166.63	464.97	-4.39	0.88	-0.86	0.84	0.83	9.79	
480.00	0.93	159.43	479.97	-4.62	0.95	-0.93	0.78	0.07	-48.00	
495.00	0.96	152.48	494.97	-4.84	1.05	-1.03	0.79	0.20	-46.33	
510.00	0.99	145.94	509.97	-5.06	1.18	-1.16	0.77	0.20	-43.60	
525.00	1.04	139.94	524.97	-5.27	1.34	-1.31	0.78	0.33	-40.00	
540.00	1.10	134.52	539.96	-5.48	1.53	-1.50	0.78	0.40	-36.13	
555.00	1.17	129.69	554.96	-5.68	1.75	-1.72	0.79	0.47	-32.20	
570.00	1.24	125.41	569.96	-5.87	2.00	-1.97	0.76	0.47	-28.53	
583.43	1.34	124.23	583.38	-6.04	2.25	-2.22	0.77	0.74	-8.79	
596.86	1.45	123.11	596.81	-6.22	2.53	-2.49	0.84	0.82	-8.34	
610.29	1.57	122.07	610.23	-6.41	2.82	-2.79	0.92	0.89	-7.74	
623.71	1.68	121.09	623.65	-6.61	3.15	-3.11	0.85	0.82	-7.30	
637.14	1.80	120.14	637.07	-6.82	3.50	-3.46	0.92	0.89	-7.07	
650.57	1.90	119.17	650.50	-7.03	3.88	-3.84	0.78	0.74	-7.22	
664.00	1.98	118.09	663.92	-7.25	4.27	-4.23	0.65	0.60	-8.04	
677.57	2.03	116.61	677.48	-7.47	4.70	-4.65	0.53	0.37	-10.91	
691.14	2.05	115.05	691.04	-7.68	5.13	-5.09	0.43	0.15	-11.50	
704.71	2.05	113.47	704.60	-7.88	5.57	-5.53	0.42	0.00	-11.64	
718.29	2.05	111.91	718.17	-8.07	6.02	-5.98	0.41	0.00	-11.49	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
731.86	2.04	110.43	731.74	-8.24	6.47	-6.43	0.40	-0.07	-10.91	
745.43	2.02	109.09	745.30	-8.40	6.93	-6.88	0.38	-0.15	-9.87	
759.00	2.00	107.98	758.86	-8.56	7.38	-7.33	0.32	-0.15	-8.18	
772.43	1.97	107.43	772.28	-8.70	7.82	-7.77	0.26	-0.22	-4.10	
785.86	1.93	107.16	785.70	-8.83	8.26	-8.21	0.31	-0.30	-2.01	
799.29	1.90	107.10	799.13	-8.97	8.69	-8.64	0.22	-0.22	-0.45	
812.71	1.86	107.20	812.54	-9.09	9.11	-9.06	0.30	-0.30	0.75	
826.14	1.83	107.43	825.96	-9.22	9.52	-9.47	0.23	-0.22	1.71	
839.57	1.80	107.75	839.38	-9.35	9.92	-9.87	0.24	-0.22	2.38	
853.00	1.79	108.14	852.81	-9.48	10.32	-10.27	0.12	-0.07	2.90	
867.43	1.79	108.59	867.23	-9.62	10.75	-10.70	0.10	0.00	3.12	
881.86	1.80	109.09	881.65	-9.77	11.18	-11.13	0.13	0.07	3.47	
896.29	1.81	109.62	896.08	-9.92	11.61	-11.55	0.13	0.07	3.67	
910.71	1.82	110.16	910.49	-10.08	12.04	-11.98	0.14	0.07	3.74	
925.14	1.83	110.70	924.91	-10.24	12.47	-12.41	0.14	0.07	3.74	
939.57	1.83	111.25	939.33	-10.40	12.90	-12.84	0.12	0.00	3.81	
954.00	1.81	111.81	953.76	-10.57	13.33	-13.27	0.19	-0.14	3.88	
967.57	1.76	112.20	967.32	-10.73	13.72	-13.66	0.38	-0.37	2.87	
981.14	1.69	112.55	980.88	-10.88	14.10	-14.03	0.52	-0.52	2.58	
994.71	1.62	112.88	994.45	-11.03	14.46	-14.39	0.52	-0.52	2.43	
1,008.29	1.54	113.21	1,008.02	-11.18	14.80	-14.74	0.59	-0.59	2.43	
1,021.86	1.46	113.51	1,021.59	-11.32	15.13	-15.06	0.59	-0.59	2.21	
1,035.43	1.38	113.78	1,035.16	-11.46	15.44	-15.37	0.59	-0.59	1.99	
1,049.00	1.32	113.98	1,048.72	-11.59	15.73	-15.66	0.44	-0.44	1.47	
1,062.43	1.27	113.99	1,062.15	-11.71	16.01	-15.94	0.37	-0.37	0.07	
1,075.86	1.24	113.87	1,075.57	-11.83	16.27	-16.21	0.22	-0.22	-0.89	
1,089.29	1.21	113.62	1,089.00	-11.94	16.54	-16.47	0.23	-0.22	-1.86	
1,102.71	1.18	113.23	1,102.42	-12.06	16.79	-16.73	0.23	-0.22	-2.91	
1,116.14	1.15	112.68	1,115.85	-12.16	17.04	-16.98	0.24	-0.22	-4.10	
1,129.57	1.13	111.92	1,129.27	-12.26	17.29	-17.22	0.19	-0.15	-5.66	
1,143.00	1.09	110.87	1,142.70	-12.36	17.53	-17.47	0.33	-0.30	-7.82	
1,156.57	1.05	109.46	1,156.27	-12.45	17.77	-17.70	0.35	-0.29	-10.39	
1,170.14	1.00	107.71	1,169.84	-12.52	18.00	-17.93	0.43	-0.37	-12.90	
1,183.71	0.96	105.64	1,183.40	-12.59	18.22	-18.15	0.39	-0.29	-15.25	
1,197.29	0.91	103.32	1,196.98	-12.65	18.44	-18.37	0.46	-0.37	-17.08	
1,210.86	0.86	100.83	1,210.55	-12.69	18.64	-18.57	0.46	-0.37	-18.35	
1,224.43	0.82	98.32	1,224.12	-12.72	18.84	-18.77	0.40	-0.29	-18.50	
1,238.00	0.78	93.82	1,237.69	-12.74	19.03	-18.96	0.55	-0.29	-33.16	
1,251.57	0.78	94.67	1,251.26	-12.76	19.21	-19.14	0.09	0.00	6.26	
1,265.14	0.77	95.53	1,264.83	-12.77	19.40	-19.32	0.11	-0.07	6.34	
1,278.71	0.77	96.39	1,278.39	-12.79	19.58	-19.50	0.09	0.00	6.34	
1,292.29	0.77	97.26	1,291.97	-12.81	19.76	-19.69	0.09	0.00	6.41	
1,305.86	0.77	98.12	1,305.54	-12.84	19.94	-19.87	0.09	0.00	6.34	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
1,319.43	0.77	98.99	1,319.11	-12.86	20.12	-20.05	0.09	0.00	6.41	
1,333.00	0.77	99.86	1,332.68	-12.89	20.30	-20.23	0.09	0.00	6.41	
1,346.43	0.80	97.88	1,346.11	-12.92	20.48	-20.41	0.30	0.22	-14.74	
1,359.86	0.82	96.04	1,359.54	-12.95	20.67	-20.60	0.24	0.15	-13.70	
1,373.29	0.85	94.30	1,372.97	-12.96	20.86	-20.79	0.29	0.22	-12.96	
1,386.71	0.88	92.68	1,386.38	-12.98	21.07	-20.99	0.29	0.22	-12.07	
1,400.14	0.91	91.16	1,399.81	-12.98	21.28	-21.20	0.28	0.22	-11.32	
1,413.57	0.94	89.74	1,413.24	-12.98	21.49	-21.42	0.28	0.22	-10.57	
1,427.00	0.97	88.40	1,426.67	-12.98	21.72	-21.64	0.28	0.22	-9.98	
1,440.57	0.96	88.22	1,440.24	-12.97	21.94	-21.87	0.08	-0.07	-1.33	
1,454.14	0.96	88.04	1,453.80	-12.97	22.17	-22.10	0.02	0.00	-1.33	
1,467.71	0.96	87.86	1,467.37	-12.96	22.40	-22.33	0.02	0.00	-1.33	
1,481.29	0.95	87.68	1,480.95	-12.95	22.63	-22.55	0.08	-0.07	-1.33	
1,494.86	0.95	87.50	1,494.52	-12.94	22.85	-22.78	0.02	0.00	-1.33	
1,508.43	0.94	87.31	1,508.09	-12.93	23.07	-23.00	0.08	-0.07	-1.40	
1,522.00	0.94	87.13	1,521.66	-12.92	23.30	-23.22	0.02	0.00	-1.33	
1,535.43	0.95	87.54	1,535.08	-12.91	23.52	-23.44	0.09	0.07	3.05	
1,548.86	0.96	87.94	1,548.51	-12.90	23.74	-23.67	0.09	0.07	2.98	
1,562.29	0.96	88.34	1,561.94	-12.89	23.97	-23.89	0.05	0.00	2.98	
1,575.71	0.97	88.73	1,575.36	-12.89	24.19	-24.12	0.09	0.07	2.91	
1,589.14	0.98	89.12	1,588.79	-12.88	24.42	-24.35	0.09	0.07	2.90	
1,602.57	0.99	89.49	1,602.21	-12.88	24.65	-24.58	0.09	0.07	2.76	
1,616.00	1.00	89.87	1,615.64	-12.88	24.88	-24.81	0.09	0.07	2.83	
1,629.57	0.99	92.69	1,629.21	-12.88	25.12	-25.05	0.37	-0.07	20.78	
1,643.14	0.99	95.61	1,642.78	-12.90	25.35	-25.28	0.37	0.00	21.52	
1,656.71	1.00	98.50	1,656.35	-12.93	25.59	-25.51	0.38	0.07	21.30	
1,670.29	1.00	101.35	1,669.92	-12.97	25.82	-25.75	0.37	0.00	20.99	
1,683.86	1.02	104.14	1,683.49	-13.02	26.05	-25.98	0.39	0.15	20.56	
1,697.43	1.03	106.86	1,697.06	-13.09	26.29	-26.21	0.37	0.07	20.04	
1,711.00	1.05	109.50	1,710.63	-13.17	26.52	-26.45	0.38	0.15	19.45	
1,724.43	1.04	108.90	1,724.06	-13.25	26.75	-26.68	0.11	-0.07	-4.47	
1,737.86	1.04	108.27	1,737.48	-13.32	26.98	-26.91	0.09	0.00	-4.69	
1,751.29	1.03	107.57	1,750.91	-13.40	27.21	-27.14	0.12	-0.07	-5.21	
1,764.71	1.02	106.81	1,764.33	-13.47	27.44	-27.37	0.13	-0.07	-5.66	
1,778.14	1.04	106.27	1,777.76	-13.54	27.68	-27.60	0.17	0.15	-4.02	
1,791.57	1.07	106.36	1,791.18	-13.61	27.91	-27.84	0.22	0.22	0.67	
1,805.00	1.10	106.44	1,804.61	-13.68	28.16	-28.08	0.22	0.22	0.60	
1,818.43	1.06	105.14	1,818.04	-13.75	28.40	-28.32	0.35	-0.30	-9.68	
1,831.86	1.02	103.60	1,831.47	-13.81	28.64	-28.56	0.36	-0.30	-11.47	
1,845.29	0.98	101.85	1,844.90	-13.86	28.87	-28.79	0.37	-0.30	-13.03	
1,858.71	0.94	99.90	1,858.31	-13.90	29.09	-29.01	0.38	-0.30	-14.53	
1,872.14	0.89	97.79	1,871.74	-13.94	29.30	-29.22	0.45	-0.37	-15.71	
1,885.57	0.86	95.60	1,885.17	-13.96	29.50	-29.42	0.33	-0.22	-16.31	
1,899.00	0.83	93.45	1,898.60	-13.98	29.70	-29.62	0.32	-0.22	-16.01	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
1,912.57	0.84	91.52	1,912.17	-13.98	29.90	-29.82	0.22	0.07	-14.22	
1,926.14	0.86	89.68	1,925.74	-13.99	30.10	-30.02	0.25	0.15	-13.56	
1,939.71	0.88	87.91	1,939.30	-13.98	30.30	-30.23	0.25	0.15	-13.04	
1,953.29	0.90	86.23	1,952.88	-13.97	30.51	-30.44	0.24	0.15	-12.37	
1,966.86	0.93	84.62	1,966.45	-13.95	30.73	-30.65	0.29	0.22	-11.86	
1,980.43	0.95	83.09	1,980.02	-13.93	30.95	-30.87	0.24	0.15	-11.27	
1,994.00	0.97	81.63	1,993.59	-13.90	31.18	-31.10	0.23	0.15	-10.76	
2,007.43	0.98	80.76	2,007.01	-13.86	31.40	-31.32	0.13	0.07	-6.48	
2,020.86	0.99	79.90	2,020.44	-13.83	31.63	-31.55	0.13	0.07	-6.40	
2,034.29	1.00	79.07	2,033.87	-13.78	31.86	-31.78	0.13	0.07	-6.18	
2,047.71	1.01	78.25	2,047.29	-13.74	32.09	-32.01	0.13	0.07	-6.11	
2,061.14	1.02	77.45	2,060.72	-13.69	32.32	-32.25	0.13	0.07	-5.96	
2,074.57	1.03	76.66	2,074.14	-13.63	32.56	-32.48	0.13	0.07	-5.88	
2,088.00	1.05	75.90	2,087.57	-13.58	32.79	-32.72	0.18	0.15	-5.66	
2,101.57	1.05	75.52	2,101.14	-13.51	33.03	-32.96	0.05	0.00	-2.80	
2,115.14	1.05	75.21	2,114.71	-13.45	33.28	-33.20	0.04	0.00	-2.28	
2,128.71	1.06	74.92	2,128.28	-13.39	33.52	-33.44	0.08	0.07	-2.14	
2,142.29	1.06	74.63	2,141.85	-13.32	33.76	-33.68	0.04	0.00	-2.14	
2,155.86	1.07	74.30	2,155.42	-13.25	34.00	-33.93	0.09	0.07	-2.43	
2,169.43	1.10	74.93	2,168.99	-13.19	34.25	-34.18	0.24	0.22	4.64	
2,183.00	1.13	75.61	2,182.56	-13.12	34.51	-34.43	0.24	0.22	5.01	
2,196.43	1.11	75.22	2,195.98	-13.05	34.76	-34.69	0.16	-0.15	-2.90	
2,209.86	1.09	74.81	2,209.41	-12.99	35.01	-34.94	0.16	-0.15	-3.05	
2,223.29	1.07	74.37	2,222.84	-12.92	35.25	-35.18	0.16	-0.15	-3.28	
2,236.71	1.05	73.88	2,236.26	-12.85	35.49	-35.42	0.16	-0.15	-3.65	
2,250.14	1.03	73.33	2,249.68	-12.78	35.73	-35.65	0.17	-0.15	-4.10	
2,263.57	1.01	72.70	2,263.11	-12.71	35.95	-35.88	0.17	-0.15	-4.69	
2,277.00	0.99	71.95	2,276.54	-12.64	36.18	-36.11	0.18	-0.15	-5.58	
2,290.57	0.97	71.78	2,290.11	-12.57	36.40	-36.33	0.15	-0.15	-1.25	
2,304.14	0.96	71.86	2,303.68	-12.50	36.61	-36.54	0.07	-0.07	0.59	
2,317.71	0.95	71.94	2,317.24	-12.43	36.83	-36.76	0.07	-0.07	0.59	
2,331.29	0.94	72.02	2,330.82	-12.36	37.04	-36.97	0.07	-0.07	0.59	
2,344.86	0.92	72.10	2,344.39	-12.29	37.25	-37.18	0.15	-0.15	0.59	
2,358.43	0.91	72.19	2,357.96	-12.22	37.46	-37.39	0.07	-0.07	0.66	
2,372.00	0.90	72.27	2,371.53	-12.16	37.66	-37.59	0.07	-0.07	0.59	
2,385.43	0.94	74.08	2,384.96	-12.10	37.87	-37.80	0.37	0.30	13.48	
2,398.86	0.97	75.75	2,398.38	-12.04	38.09	-38.02	0.30	0.22	12.43	
2,412.29	1.01	77.28	2,411.81	-11.98	38.31	-38.24	0.36	0.30	11.39	
2,425.71	1.06	78.70	2,425.23	-11.93	38.55	-38.48	0.42	0.37	10.58	
2,439.14	1.10	80.02	2,438.66	-11.89	38.80	-38.73	0.35	0.30	9.83	
2,452.57	1.14	81.23	2,452.08	-11.84	39.06	-38.99	0.35	0.30	9.01	
2,466.00	1.18	82.36	2,465.51	-11.80	39.32	-39.26	0.34	0.30	8.41	
2,479.57	1.21	78.10	2,479.08	-11.76	39.60	-39.54	0.69	0.22	-31.39	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
2,493.14	1.25	73.49	2,492.65	-11.68	39.89	-39.82	0.79	0.29	-33.97	
2,506.71	1.30	68.95	2,506.21	-11.59	40.17	-40.11	0.83	0.37	-33.46	
2,520.29	1.35	64.75	2,519.79	-11.46	40.46	-40.40	0.80	0.37	-30.93	
2,533.86	1.42	61.07	2,533.35	-11.31	40.75	-40.69	0.83	0.52	-27.12	
2,547.43	1.47	58.02	2,546.92	-11.14	41.05	-40.98	0.68	0.37	-22.48	
2,561.00	1.61	52.75	2,560.49	-10.93	41.35	-41.28	1.47	1.03	-38.84	
2,574.43	2.13	41.59	2,573.91	-10.63	41.66	-41.60	4.71	3.87	-83.10	
2,587.86	2.81	37.52	2,587.33	-10.18	42.03	-41.97	5.23	5.06	-30.31	
2,601.29	3.03	36.34	2,600.74	-9.64	42.44	-42.38	1.70	1.64	-8.79	
2,614.71	3.01	36.71	2,614.14	-9.07	42.86	-42.81	0.21	-0.15	2.76	
2,628.14	2.98	37.28	2,627.55	-8.51	43.28	-43.23	0.31	-0.22	4.24	
2,641.57	2.96	37.94	2,640.96	-7.96	43.71	-43.66	0.29	-0.15	4.91	
2,655.00	2.93	38.58	2,654.38	-7.42	44.13	-44.09	0.33	-0.22	4.77	
2,668.57	2.91	39.02	2,667.93	-6.88	44.57	-44.53	0.22	-0.15	3.24	
2,682.14	2.90	39.34	2,681.48	-6.34	45.00	-44.96	0.14	-0.07	2.36	
2,695.71	2.88	39.58	2,695.03	-5.82	45.44	-45.40	0.17	-0.15	1.77	
2,709.29	2.87	39.73	2,708.60	-5.29	45.87	-45.84	0.09	-0.07	1.10	
2,722.86	2.86	39.79	2,722.15	-4.77	46.30	-46.28	0.08	-0.07	0.44	
2,736.43	2.85	39.73	2,735.70	-4.25	46.74	-46.71	0.08	-0.07	-0.44	
2,750.00	2.85	39.50	2,749.26	-3.73	47.17	-47.15	0.08	0.00	-1.69	
2,763.57	2.85	39.00	2,762.81	-3.21	47.59	-47.58	0.18	0.00	-3.68	
2,777.14	2.84	38.34	2,776.36	-2.68	48.01	-48.00	0.25	-0.07	-4.86	
2,790.71	2.84	37.60	2,789.92	-2.15	48.43	-48.42	0.27	0.00	-5.45	
2,804.29	2.84	36.82	2,803.48	-1.62	48.84	-48.83	0.28	0.00	-5.74	
2,817.86	2.84	36.03	2,817.03	-1.08	49.23	-49.23	0.29	0.00	-5.82	
2,831.43	2.83	35.28	2,830.59	-0.53	49.63	-49.62	0.28	-0.07	-5.53	
2,845.00	2.83	34.61	2,844.14	0.02	50.01	-50.01	0.24	0.00	-4.94	
2,858.43	2.81	34.11	2,857.55	0.56	50.38	-50.38	0.24	-0.15	-3.72	
2,871.86	2.78	33.71	2,870.97	1.11	50.75	-50.75	0.27	-0.22	-2.98	
2,885.29	2.76	33.36	2,884.38	1.65	51.11	-51.11	0.20	-0.15	-2.61	
2,898.71	2.72	33.05	2,897.79	2.19	51.46	-51.47	0.32	-0.30	-2.31	
2,912.14	2.69	32.76	2,911.20	2.72	51.80	-51.82	0.25	-0.22	-2.16	
2,925.57	2.65	32.47	2,924.62	3.24	52.14	-52.16	0.31	-0.30	-2.16	
2,939.00	2.61	32.14	2,938.03	3.77	52.47	-52.49	0.32	-0.30	-2.46	
2,954.00	2.55	31.72	2,953.02	4.34	52.83	-52.85	0.42	-0.40	-2.80	
2,969.00	2.49	31.25	2,968.00	4.90	53.17	-53.20	0.42	-0.40	-3.13	
2,984.00	2.42	30.80	2,982.99	5.45	53.50	-53.53	0.48	-0.47	-3.00	
2,999.00	2.37	30.38	2,997.98	5.99	53.82	-53.85	0.35	-0.33	-2.80	
3,014.00	2.33	30.08	3,012.96	6.52	54.13	-54.17	0.28	-0.27	-2.00	
3,029.00	2.31	29.95	3,027.95	7.05	54.43	-54.47	0.14	-0.13	-0.87	
3,044.00	2.32	30.13	3,042.94	7.57	54.74	-54.78	0.08	0.07	1.20	
3,059.00	2.38	30.73	3,057.93	8.10	55.05	-55.09	0.43	0.40	4.00	
3,074.00	2.53	31.90	3,072.91	8.65	55.38	-55.43	1.05	1.00	7.80	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
3,087.43	2.78	33.76	3,086.33	9.17	55.72	-55.77	1.97	1.86	13.85	
3,100.86	3.10	35.64	3,099.74	9.74	56.11	-56.17	2.49	2.38	14.00	
3,114.29	3.45	37.30	3,113.15	10.36	56.57	-56.63	2.70	2.61	12.36	
3,127.71	3.81	38.67	3,126.54	11.03	57.09	-57.15	2.76	2.68	10.21	
3,141.14	4.15	39.75	3,139.94	11.75	57.68	-57.75	2.59	2.53	8.04	
3,154.57	4.43	40.56	3,153.33	12.52	58.33	-58.40	2.13	2.08	6.03	
3,168.00	5.75	40.26	3,166.71	13.42	59.10	-59.18	9.83	9.83	-2.23	
3,181.43	7.26	38.87	3,180.05	14.60	60.07	-60.15	11.30	11.24	-10.35	
3,194.86	8.64	36.87	3,193.35	16.07	61.21	-61.30	10.48	10.28	-14.89	
3,208.29	8.61	36.98	3,206.63	17.68	62.42	-62.52	0.25	-0.22	0.82	
3,221.71	8.53	37.02	3,219.90	19.27	63.62	-63.73	0.60	-0.60	0.30	
3,235.14	8.43	37.02	3,233.18	20.85	64.81	-64.93	0.74	-0.74	0.00	
3,248.57	8.32	36.98	3,246.47	22.42	65.99	-66.11	0.82	-0.82	-0.30	
3,262.00	8.21	36.91	3,259.76	23.96	67.15	-67.28	0.82	-0.82	-0.52	
3,275.57	8.12	36.83	3,273.19	25.50	68.31	-68.45	0.67	-0.66	-0.59	
3,289.14	8.05	36.72	3,286.63	27.03	69.45	-69.60	0.53	-0.52	-0.81	
3,302.71	7.97	36.60	3,300.06	28.55	70.58	-70.74	0.60	-0.59	-0.88	
3,316.29	7.91	36.45	3,313.51	30.05	71.70	-71.86	0.47	-0.44	-1.10	
3,329.86	7.84	36.29	3,326.96	31.55	72.80	-72.97	0.54	-0.52	-1.18	
3,343.43	7.77	36.10	3,340.40	33.04	73.89	-74.07	0.55	-0.52	-1.40	
3,357.00	7.71	35.88	3,353.85	34.52	74.96	-75.15	0.49	-0.44	-1.62	
3,370.57	7.64	35.62	3,367.30	35.99	76.02	-76.22	0.58	-0.52	-1.92	
3,384.14	7.57	35.33	3,380.75	37.45	77.06	-77.27	0.59	-0.52	-2.14	
3,397.71	7.50	35.02	3,394.20	38.90	78.09	-78.30	0.60	-0.52	-2.28	
3,411.29	7.43	34.69	3,407.66	40.35	79.09	-79.32	0.60	-0.52	-2.43	
3,424.86	7.35	34.35	3,421.12	41.79	80.08	-80.32	0.67	-0.59	-2.51	
3,438.43	7.27	34.02	3,434.58	43.22	81.05	-81.29	0.67	-0.59	-2.43	
3,452.00	7.17	33.70	3,448.04	44.64	82.00	-82.25	0.79	-0.74	-2.36	
3,465.43	7.06	33.45	3,461.37	46.02	82.92	-83.18	0.85	-0.82	-1.86	
3,478.86	6.94	33.22	3,474.70	47.39	83.82	-84.09	0.92	-0.89	-1.71	
3,492.29	6.83	33.01	3,488.03	48.74	84.70	-84.97	0.84	-0.82	-1.56	
3,505.71	6.72	32.80	3,501.36	50.07	85.56	-85.84	0.84	-0.82	-1.56	
3,519.14	6.63	32.60	3,514.70	51.38	86.41	-86.69	0.69	-0.67	-1.49	
3,532.57	6.57	32.41	3,528.04	52.68	87.24	-87.53	0.48	-0.45	-1.41	
3,546.00	6.55	32.24	3,541.38	53.98	88.06	-88.36	0.21	-0.15	-1.27	
3,559.43	6.61	32.10	3,554.72	55.28	88.88	-89.18	0.46	0.45	-1.04	
3,572.86	6.72	31.98	3,568.06	56.60	89.70	-90.02	0.83	0.82	-0.89	
3,586.29	6.85	31.88	3,581.40	57.95	90.54	-90.86	0.97	0.97	-0.74	
3,599.71	7.00	31.81	3,594.72	59.32	91.40	-91.73	1.12	1.12	-0.52	
3,613.14	7.14	31.77	3,608.05	60.73	92.27	-92.60	1.04	1.04	-0.30	
3,626.57	7.28	31.77	3,621.37	62.16	93.15	-93.50	1.04	1.04	0.00	
3,640.00	8.68	31.95	3,634.67	63.74	94.14	-94.49	10.43	10.42	1.34	
3,653.43	9.94	29.52	3,647.92	65.61	95.25	-95.61	9.83	9.38	-18.09	
3,666.86	10.67	27.13	3,661.14	67.73	96.38	-96.76	6.30	5.44	-17.80	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
3,680.29	10.81	27.42	3,674.33	69.95	97.53	-97.92	1.12	1.04	2.16	
3,693.71	10.95	27.73	3,687.51	72.20	98.70	-99.11	1.13	1.04	2.31	
3,707.14	11.09	28.02	3,700.69	74.47	99.90	-100.32	1.12	1.04	2.16	
3,720.57	11.20	28.24	3,713.87	76.76	101.13	-101.55	0.88	0.82	1.64	
3,734.00	11.26	28.33	3,727.04	79.06	102.37	-102.81	0.47	0.45	0.67	
3,747.57	11.25	28.19	3,740.35	81.39	103.62	-104.07	0.21	-0.07	-1.03	
3,761.14	11.19	27.91	3,753.66	83.72	104.86	-105.33	0.60	-0.44	-2.06	
3,774.71	11.09	27.55	3,766.98	86.04	106.08	-106.56	0.90	-0.74	-2.65	
3,788.29	10.96	27.12	3,780.31	88.35	107.28	-107.77	1.13	-0.96	-3.17	
3,801.86	10.82	26.67	3,793.63	90.64	108.43	-108.94	1.21	-1.03	-3.32	
3,815.43	10.67	26.22	3,806.96	92.90	109.56	-110.08	1.27	-1.11	-3.32	
3,829.00	10.50	25.80	3,820.30	95.14	110.65	-111.18	1.38	-1.25	-3.10	
3,842.43	10.31	25.53	3,833.51	97.33	111.71	-112.25	1.46	-1.41	-2.01	
3,855.86	10.12	25.30	3,846.73	99.48	112.73	-113.28	1.45	-1.41	-1.71	
3,869.29	9.93	25.12	3,859.95	101.59	113.72	-114.29	1.43	-1.41	-1.34	
3,882.71	9.74	24.96	3,873.18	103.67	114.69	-115.27	1.43	-1.42	-1.19	
3,896.14	9.55	24.83	3,886.42	105.71	115.64	-116.23	1.42	-1.41	-0.97	
3,909.57	9.38	24.74	3,899.66	107.72	116.57	-117.17	1.27	-1.27	-0.67	
3,923.00	9.23	24.69	3,912.92	109.69	117.47	-118.09	1.12	-1.12	-0.37	
3,936.43	9.12	24.70	3,926.18	111.64	118.37	-118.99	0.82	-0.82	0.07	
3,949.86	9.03	24.77	3,939.44	113.56	119.26	-119.89	0.68	-0.67	0.52	
3,963.29	8.96	24.86	3,952.70	115.47	120.14	-120.78	0.53	-0.52	0.67	
3,976.71	8.90	25.00	3,965.96	117.35	121.01	-121.67	0.48	-0.45	1.04	
3,990.14	8.85	25.17	3,979.23	119.23	121.89	-122.56	0.42	-0.37	1.27	
4,003.57	8.80	25.40	3,992.50	121.09	122.77	-123.45	0.46	-0.37	1.71	
4,017.00	8.76	25.70	4,005.77	122.94	123.66	-124.34	0.45	-0.30	2.23	
4,018.73	8.75	25.75	4,007.48	123.18	123.77	-124.46	0.56	-0.30	3.16	
00-S132H(S-122H)										
4,030.57	8.72	26.13	4,019.19	124.80	124.56	-125.25	0.56	-0.29	3.17	
4,044.14	8.69	26.63	4,032.60	126.64	125.47	-126.18	0.60	-0.22	3.68	
4,057.71	8.66	27.16	4,046.01	128.46	126.40	-127.11	0.63	-0.22	3.91	
4,071.29	8.63	27.69	4,059.44	130.28	127.34	-128.06	0.63	-0.22	3.90	
4,084.86	8.61	28.18	4,072.86	132.07	128.29	-129.03	0.56	-0.15	3.61	
4,098.43	8.59	28.60	4,086.27	133.86	129.25	-130.00	0.49	-0.15	3.10	
4,112.00	8.57	28.90	4,099.69	135.63	130.23	-130.98	0.36	-0.15	2.21	
4,125.43	8.57	28.99	4,112.97	137.38	131.20	-131.96	0.10	0.00	0.67	
4,138.86	8.57	28.95	4,126.25	139.13	132.17	-132.94	0.04	0.00	-0.30	
4,152.29	8.57	28.80	4,139.53	140.89	133.13	-133.92	0.17	0.00	-1.12	
4,165.71	8.56	28.56	4,152.80	142.64	134.09	-134.89	0.28	-0.07	-1.79	
4,179.14	8.54	28.22	4,166.08	144.40	135.04	-135.85	0.40	-0.15	-2.53	
4,192.57	8.50	27.76	4,179.37	146.15	135.98	-136.79	0.59	-0.30	-3.43	
4,206.00	8.43	27.15	4,192.65	147.91	136.89	-137.71	0.85	-0.52	-4.54	
4,219.57	8.31	26.34	4,206.07	149.67	137.78	-138.61	1.24	-0.88	-5.97	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
4,233.14	8.15	25.38	4,219.50	151.42	138.62	-139.47	1.55	-1.18	-7.07	
4,246.71	7.98	24.31	4,232.94	153.15	139.42	-140.28	1.67	-1.25	-7.89	
4,260.29	7.80	23.15	4,246.39	154.85	140.17	-141.04	1.77	-1.33	-8.54	
4,273.86	7.63	21.95	4,259.84	156.54	140.87	-141.74	1.73	-1.25	-8.84	
4,287.43	7.46	20.75	4,273.29	158.20	141.52	-142.40	1.71	-1.25	-8.84	
4,301.00	7.31	19.63	4,286.75	159.83	142.12	-143.01	1.53	-1.11	-8.25	
4,314.43	7.16	18.83	4,300.07	161.43	142.68	-143.58	1.35	-1.12	-5.96	
4,327.86	7.04	18.15	4,313.40	163.00	143.21	-144.12	1.09	-0.89	-5.06	
4,341.29	6.94	17.57	4,326.73	164.56	143.71	-144.63	0.91	-0.74	-4.32	
4,354.71	6.86	17.11	4,340.05	166.10	144.19	-145.11	0.72	-0.60	-3.43	
4,368.14	6.81	16.78	4,353.39	167.63	144.65	-145.59	0.47	-0.37	-2.46	
4,381.57	6.81	16.62	4,366.72	169.15	145.11	-146.05	0.14	0.00	-1.19	
4,395.00	6.86	16.72	4,380.06	170.68	145.57	-146.52	0.38	0.37	0.74	
4,408.57	7.01	17.20	4,393.53	172.25	146.05	-147.01	1.19	1.11	3.54	
4,422.14	7.22	17.86	4,406.99	173.85	146.56	-147.52	1.66	1.55	4.86	
4,435.71	7.44	18.58	4,420.45	175.50	147.10	-148.07	1.76	1.62	5.31	
4,449.29	7.67	19.30	4,433.91	177.19	147.68	-148.66	1.83	1.69	5.30	
4,462.86	7.88	19.97	4,447.36	178.92	148.29	-149.29	1.69	1.55	4.94	
4,476.43	8.03	20.54	4,460.80	180.68	148.94	-149.95	1.25	1.11	4.20	
4,490.00	9.52	21.55	4,474.21	182.61	149.69	-150.71	11.04	10.98	7.44	
4,503.43	10.88	20.62	4,487.43	184.83	150.54	-151.57	10.20	10.13	-6.92	
4,516.86	11.82	22.05	4,500.59	187.29	151.51	-152.55	7.31	7.00	10.65	
4,530.29	11.65	22.32	4,513.74	189.82	152.54	-153.59	1.33	-1.27	2.01	
4,543.71	11.43	22.59	4,526.89	192.30	153.56	-154.63	1.69	-1.64	2.01	
4,557.14	11.18	22.85	4,540.06	194.73	154.58	-155.66	1.90	-1.86	1.94	
4,570.57	10.94	23.04	4,553.24	197.10	155.58	-156.68	1.81	-1.79	1.41	
4,584.00	10.71	23.12	4,566.43	199.42	156.57	-157.68	1.72	-1.71	0.60	
4,597.57	10.52	22.96	4,579.77	201.72	157.55	-158.67	1.42	-1.40	-1.18	
4,611.14	10.35	22.67	4,593.12	203.99	158.50	-159.64	1.31	-1.25	-2.14	
4,624.71	10.21	22.26	4,606.47	206.22	159.43	-160.58	1.16	-1.03	-3.02	
4,638.29	10.08	21.79	4,619.84	208.44	160.33	-161.49	1.13	-0.96	-3.46	
4,651.86	9.95	21.27	4,633.20	210.64	161.19	-162.37	1.17	-0.96	-3.83	
4,665.43	9.84	20.72	4,646.57	212.81	162.03	-163.21	1.07	-0.81	-4.05	
4,679.00	9.73	20.18	4,659.94	214.98	162.83	-164.03	1.06	-0.81	-3.98	
4,692.43	9.63	19.70	4,673.18	217.10	163.60	-164.81	0.96	-0.74	-3.57	
4,705.86	9.53	19.25	4,686.42	219.21	164.35	-165.57	0.93	-0.74	-3.35	
4,719.29	9.44	18.81	4,699.67	221.30	165.07	-166.30	0.86	-0.67	-3.28	
4,732.71	9.35	18.38	4,712.91	223.37	165.77	-167.01	0.85	-0.67	-3.20	
4,746.14	9.26	17.98	4,726.16	225.44	166.45	-167.70	0.83	-0.67	-2.98	
4,759.57	9.19	17.61	4,739.42	227.49	167.10	-168.37	0.68	-0.52	-2.76	
4,773.00	9.12	17.29	4,752.68	229.52	167.75	-169.02	0.64	-0.52	-2.38	
4,786.43	9.07	17.09	4,765.94	231.55	168.37	-169.66	0.44	-0.37	-1.49	
4,799.86	9.02	16.93	4,779.20	233.57	168.99	-170.29	0.42	-0.37	-1.19	
4,813.29	8.98	16.81	4,792.47	235.58	169.60	-170.91	0.33	-0.30	-0.89	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)
4,826.71	8.94	16.71	4,805.72	237.58	170.20	-171.53	0.32	-0.30	-0.75
4,840.14	8.90	16.60	4,818.99	239.58	170.80	-172.14	0.32	-0.30	-0.82
4,853.57	8.87	16.48	4,832.26	241.57	171.39	-172.74	0.26	-0.22	-0.89
4,867.00	8.83	16.32	4,845.53	243.55	171.97	-173.33	0.35	-0.30	-1.19
4,880.57	8.79	16.10	4,858.94	245.55	172.55	-173.92	0.39	-0.29	-1.62
4,894.14	8.75	15.84	4,872.35	247.53	173.12	-174.50	0.42	-0.29	-1.92
4,907.71	8.71	15.54	4,885.76	249.52	173.68	-175.07	0.45	-0.29	-2.21
4,921.29	8.67	15.22	4,899.19	251.50	174.22	-175.63	0.46	-0.29	-2.36
4,934.86	8.63	14.88	4,912.60	253.47	174.75	-176.17	0.48	-0.29	-2.51
4,948.43	8.59	14.50	4,926.02	255.43	175.27	-176.69	0.51	-0.29	-2.80
4,962.00	8.56	14.09	4,939.44	257.39	175.77	-177.20	0.50	-0.22	-3.02
4,975.43	8.52	13.63	4,952.72	259.33	176.25	-177.69	0.59	-0.30	-3.43
4,988.86	8.50	13.15	4,966.00	261.26	176.71	-178.16	0.55	-0.15	-3.57
5,002.29	8.47	12.73	4,979.28	263.19	177.15	-178.62	0.51	-0.22	-3.13
5,015.71	8.46	12.39	4,992.56	265.12	177.58	-179.06	0.38	-0.07	-2.53
5,029.14	8.45	12.23	5,005.84	267.05	178.00	-179.49	0.19	-0.07	-1.19
5,042.57	8.45	12.33	5,019.13	268.98	178.42	-179.92	0.11	0.00	0.74
5,056.00	8.48	12.82	5,032.41	270.91	178.85	-180.36	0.58	0.22	3.65
5,069.57	8.54	13.93	5,045.83	272.86	179.32	-180.84	1.29	0.44	8.18
5,083.14	8.63	15.38	5,059.25	274.82	179.83	-181.36	1.73	0.66	10.69
5,096.71	8.73	16.98	5,072.66	276.79	180.40	-181.94	1.93	0.74	11.79
5,110.29	8.83	18.58	5,086.08	278.76	181.03	-182.59	1.94	0.74	11.78
5,123.86	8.93	20.05	5,099.49	280.74	181.73	-183.29	1.83	0.74	10.83
5,137.43	9.00	21.29	5,112.89	282.72	182.47	-184.05	1.51	0.52	9.14
5,151.00	10.03	27.15	5,126.28	284.76	183.40	-184.98	10.41	7.59	43.18
5,164.43	10.90	31.39	5,139.48	286.88	184.59	-186.19	8.65	6.48	31.57
5,177.86	10.82	31.50	5,152.67	289.04	185.91	-187.52	0.62	-0.60	0.82
5,191.29	10.72	31.45	5,165.87	291.18	187.22	-188.85	0.75	-0.74	-0.37
5,204.71	10.60	31.32	5,179.06	293.30	188.51	-190.15	0.91	-0.89	-0.97
5,218.14	10.48	31.16	5,192.26	295.40	189.79	-191.44	0.92	-0.89	-1.19
5,231.57	10.35	31.04	5,205.47	297.48	191.04	-192.70	0.98	-0.97	-0.89
5,245.00	10.22	31.02	5,218.68	299.53	192.28	-193.95	0.97	-0.97	-0.15
5,258.57	10.09	31.26	5,232.04	301.58	193.52	-195.20	1.01	-0.96	1.77
5,272.14	9.98	31.64	5,245.40	303.60	194.75	-196.44	0.95	-0.81	2.80
5,285.71	9.86	32.12	5,258.77	305.58	195.98	-197.69	1.07	-0.88	3.54
5,299.29	9.76	32.68	5,272.15	307.54	197.22	-198.94	1.02	-0.74	4.12
5,312.86	9.66	33.28	5,285.53	309.46	198.47	-200.20	1.05	-0.74	4.42
5,326.43	9.58	34.25	5,298.91	311.34	199.73	-201.47	1.33	-0.59	7.15
5,340.00	9.64	39.42	5,312.29	313.15	201.09	-202.83	6.37	0.44	38.10
5,353.43	9.63	41.39	5,325.53	314.87	202.54	-204.30	2.46	-0.07	14.67
5,366.86	9.59	42.31	5,338.77	316.54	204.04	-205.80	1.18	-0.30	6.85
5,380.29	9.55	43.26	5,352.01	318.17	205.56	-207.33	1.21	-0.30	7.07
5,393.71	9.52	44.20	5,365.25	319.78	207.09	-208.88	1.18	-0.22	7.00



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
5,407.14	9.48	45.05	5,378.49	321.36	208.65	-210.44	1.09	-0.30	6.33	
5,420.57	9.43	45.77	5,391.74	322.91	210.22	-212.02	0.96	-0.37	5.36	
5,434.00	9.69	50.88	5,404.98	324.39	211.89	-213.69	6.61	1.94	38.05	
5,447.57	10.01	55.58	5,418.35	325.77	213.75	-215.56	6.37	2.36	34.64	
5,461.14	9.90	55.53	5,431.72	327.10	215.68	-217.50	0.81	-0.81	-0.37	
5,474.71	9.78	55.32	5,445.09	328.42	217.59	-219.42	0.92	-0.88	-1.55	
5,488.29	9.65	54.98	5,458.47	329.73	219.47	-221.31	1.05	-0.96	-2.50	
5,501.86	9.51	54.52	5,471.85	331.03	221.31	-223.16	1.18	-1.03	-3.39	
5,515.43	9.36	53.96	5,485.24	332.33	223.12	-224.97	1.30	-1.11	-4.13	
5,529.00	9.19	53.29	5,498.63	333.63	224.88	-226.74	1.48	-1.25	-4.94	
5,542.57	8.98	52.59	5,512.03	334.92	226.59	-228.46	1.75	-1.55	-5.16	
5,556.14	8.76	51.77	5,525.44	336.20	228.24	-230.12	1.87	-1.62	-6.04	
5,569.71	8.53	50.84	5,538.86	337.48	229.84	-231.72	1.98	-1.69	-6.85	
5,583.29	8.30	49.76	5,552.29	338.75	231.36	-233.25	2.05	-1.69	-7.95	
5,596.86	8.07	48.52	5,565.72	340.01	232.83	-234.72	2.14	-1.69	-9.14	
5,610.43	7.84	47.07	5,579.16	341.27	234.22	-236.12	2.25	-1.69	-10.69	
5,624.00	7.63	45.35	5,592.61	342.53	235.54	-237.45	2.30	-1.55	-12.68	
5,637.43	7.39	43.52	5,605.92	343.79	236.76	-238.68	2.52	-1.79	-13.63	
5,650.86	7.18	41.43	5,619.24	345.04	237.91	-239.84	2.52	-1.56	-15.56	
5,664.29	6.97	39.18	5,632.57	346.30	238.98	-240.92	2.59	-1.56	-16.75	
5,677.71	6.78	36.85	5,645.90	347.57	239.97	-241.91	2.51	-1.42	-17.36	
5,691.14	6.61	34.55	5,659.23	348.84	240.89	-242.83	2.36	-1.27	-17.13	
5,704.57	6.46	32.45	5,672.58	350.11	241.73	-243.68	2.10	-1.12	-15.64	
5,718.00	6.32	30.78	5,685.92	351.39	242.52	-244.47	1.73	-1.04	-12.43	
5,731.57	6.16	30.22	5,699.41	352.66	243.26	-245.23	1.26	-1.18	-4.13	
5,745.14	6.03	30.19	5,712.91	353.90	243.99	-245.96	0.96	-0.96	-0.22	
5,758.71	5.90	30.47	5,726.40	355.12	244.70	-246.68	0.98	-0.96	2.06	
5,772.29	5.78	30.89	5,739.91	356.31	245.41	-247.39	0.94	-0.88	3.09	
5,785.86	5.65	31.31	5,753.42	357.46	246.10	-248.10	1.01	-0.96	3.10	
5,799.43	5.51	31.56	5,766.92	358.59	246.79	-248.79	1.05	-1.03	1.84	
5,813.00	5.79	40.07	5,780.43	359.67	247.57	-249.58	6.50	2.06	62.71	
5,826.43	6.46	50.38	5,793.78	360.67	248.59	-250.60	9.57	4.99	76.77	
5,839.86	6.23	49.10	5,807.13	361.63	249.72	-251.74	2.01	-1.71	-9.53	
5,853.29	5.98	47.45	5,820.48	362.58	250.79	-252.81	2.27	-1.86	-12.29	
5,866.71	5.74	45.50	5,833.83	363.52	251.78	-253.81	2.32	-1.79	-14.53	
5,880.14	5.51	43.35	5,847.20	364.46	252.71	-254.74	2.32	-1.71	-16.01	
5,893.57	5.32	41.17	5,860.57	365.40	253.56	-255.60	2.08	-1.41	-16.23	
5,907.00	5.17	39.15	5,873.94	366.34	254.35	-256.39	1.77	-1.12	-15.04	
5,920.57	5.07	37.84	5,887.46	367.28	255.10	-257.15	1.13	-0.74	-9.65	
5,934.14	5.02	36.79	5,900.97	368.23	255.83	-257.88	0.77	-0.37	-7.74	
5,947.71	4.99	35.91	5,914.49	369.19	256.53	-258.59	0.61	-0.22	-6.48	
5,961.29	4.98	35.13	5,928.02	370.15	257.22	-259.28	0.50	-0.07	-5.74	
5,974.86	4.97	34.38	5,941.54	371.11	257.89	-259.95	0.48	-0.07	-5.53	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
5,988.43	4.95	33.62	5,955.06	372.09	258.54	-260.62	0.51	-0.15	-5.60	
6,002.00	4.90	32.80	5,968.58	373.06	259.18	-261.26	0.64	-0.37	-6.04	
6,015.43	4.80	31.82	5,981.96	374.02	259.79	-261.87	0.97	-0.74	-7.30	
6,028.86	4.67	30.70	5,995.34	374.97	260.36	-262.45	1.19	-0.97	-8.34	
6,042.29	4.53	29.43	6,008.73	375.90	260.90	-263.00	1.29	-1.04	-9.46	
6,055.71	4.37	28.02	6,022.11	376.81	261.40	-263.50	1.44	-1.19	-10.51	
6,069.14	4.21	26.43	6,035.50	377.71	261.86	-263.97	1.48	-1.19	-11.84	
6,082.57	4.06	24.64	6,048.90	378.58	262.28	-264.39	1.47	-1.12	-13.33	
6,096.00	3.92	22.63	6,062.30	379.44	262.66	-264.77	1.47	-1.04	-14.97	
6,109.43	3.78	20.57	6,075.69	380.27	262.99	-265.11	1.47	-1.04	-15.34	
6,122.86	3.65	18.31	6,089.10	381.09	263.28	-265.40	1.46	-0.97	-16.83	
6,136.29	3.53	15.88	6,102.50	381.90	263.52	-265.65	1.44	-0.89	-18.09	
6,149.71	3.43	13.34	6,115.90	382.69	263.73	-265.86	1.37	-0.75	-18.93	
6,163.14	3.33	10.76	6,129.30	383.46	263.90	-266.03	1.36	-0.74	-19.21	
6,176.57	3.25	8.24	6,142.71	384.22	264.02	-266.16	1.23	-0.60	-18.76	
6,190.00	3.18	5.92	6,156.12	384.97	264.12	-266.26	1.10	-0.52	-17.27	
6,203.57	3.10	4.26	6,169.67	385.71	264.18	-266.33	0.89	-0.59	-12.23	
6,217.14	3.02	2.86	6,183.22	386.43	264.23	-266.38	0.81	-0.59	-10.32	
6,230.71	2.95	1.59	6,196.77	387.14	264.25	-266.41	0.71	-0.52	-9.36	
6,244.29	2.88	0.35	6,210.33	387.83	264.27	-266.43	0.69	-0.52	-9.13	
6,257.86	2.81	359.03	6,223.89	388.50	264.26	-266.43	0.71	-0.52	-9.73	
6,271.43	2.72	357.51	6,237.44	389.16	264.24	-266.41	0.86	-0.66	-11.20	
6,285.00	2.63	355.60	6,251.00	389.79	264.21	-266.38	0.93	-0.66	-14.08	
6,298.43	2.51	352.97	6,264.41	390.39	264.15	-266.32	1.25	-0.89	-19.58	
6,311.86	2.39	349.77	6,277.83	390.95	264.06	-266.24	1.35	-0.89	-23.83	
6,325.29	2.27	346.08	6,291.25	391.49	263.95	-266.13	1.43	-0.89	-27.48	
6,338.71	2.15	342.02	6,304.66	391.99	263.80	-265.99	1.47	-0.89	-30.25	
6,352.14	2.05	337.76	6,318.08	392.45	263.64	-265.82	1.38	-0.74	-31.72	
6,365.57	1.95	333.54	6,331.50	392.87	263.44	-265.63	1.33	-0.74	-31.42	
6,379.00	1.87	329.76	6,344.92	393.27	263.23	-265.42	1.11	-0.60	-28.15	
6,392.57	1.77	328.08	6,358.49	393.64	263.01	-265.20	0.84	-0.74	-12.38	
6,406.14	1.67	327.21	6,372.05	393.98	262.79	-264.99	0.76	-0.74	-6.41	
6,419.71	1.59	326.89	6,385.62	394.31	262.58	-264.78	0.59	-0.59	-2.36	
6,433.29	1.51	326.90	6,399.19	394.61	262.38	-264.58	0.59	-0.59	0.07	
6,446.86	1.44	327.02	6,412.76	394.91	262.19	-264.39	0.52	-0.52	0.88	
6,460.43	1.38	327.01	6,426.32	395.19	262.01	-264.21	0.44	-0.44	-0.07	
6,474.00	1.34	326.53	6,439.89	395.46	261.83	-264.04	0.31	-0.29	-3.54	
6,487.43	1.32	324.74	6,453.31	395.71	261.66	-263.86	0.34	-0.15	-13.33	
6,500.86	1.32	322.48	6,466.74	395.96	261.47	-263.68	0.39	0.00	-16.83	
6,514.29	1.32	319.97	6,480.17	396.20	261.28	-263.49	0.43	0.00	-18.69	
6,527.71	1.33	317.35	6,493.58	396.44	261.07	-263.28	0.46	0.07	-19.52	
6,541.14	1.35	314.70	6,507.01	396.66	260.86	-263.07	0.48	0.15	-19.73	
6,554.57	1.43	311.85	6,520.44	396.88	260.62	-262.83	0.79	0.60	-21.22	
6,568.00	1.50	311.12	6,533.86	397.11	260.36	-262.57	0.54	0.52	-5.44	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)
6,581.43	1.48	308.86	6,547.29	397.34	260.09	-262.31	0.46	-0.15	-16.83
6,594.86	1.46	306.57	6,560.71	397.55	259.82	-262.04	0.46	-0.15	-17.05
6,608.29	1.45	304.26	6,574.14	397.74	259.54	-261.76	0.44	-0.07	-17.20
6,621.71	1.44	301.98	6,587.55	397.93	259.26	-261.48	0.43	-0.07	-16.99
6,635.14	1.43	299.76	6,600.98	398.10	258.97	-261.19	0.42	-0.07	-16.53
6,648.57	1.44	297.71	6,614.41	398.26	258.68	-260.90	0.39	0.07	-15.26
6,662.00	1.47	295.96	6,627.83	398.42	258.37	-260.59	0.40	0.22	-13.03
6,675.57	1.53	294.56	6,641.40	398.57	258.05	-260.27	0.52	0.44	-10.32
6,689.14	1.60	293.43	6,654.96	398.72	257.71	-259.94	0.56	0.52	-8.33
6,702.71	1.69	292.50	6,668.53	398.87	257.35	-259.58	0.69	0.66	-6.85
6,716.29	1.78	291.69	6,682.10	399.03	256.97	-259.20	0.69	0.66	-5.96
6,729.86	1.88	290.95	6,695.66	399.18	256.57	-258.79	0.76	0.74	-5.45
6,743.43	1.97	290.24	6,709.23	399.34	256.14	-258.37	0.69	0.66	-5.23
6,757.00	2.06	289.52	6,722.79	399.51	255.69	-257.92	0.69	0.66	-5.31
6,770.57	2.14	288.92	6,736.35	399.67	255.22	-257.45	0.61	0.59	-4.42
6,784.14	2.19	287.80	6,749.91	399.83	254.74	-256.97	0.48	0.37	-8.25
6,797.71	2.23	286.47	6,763.47	399.99	254.24	-256.47	0.48	0.29	-9.80
6,811.29	2.27	285.04	6,777.04	400.13	253.72	-255.96	0.51	0.29	-10.53
6,824.86	2.33	283.60	6,790.60	400.26	253.20	-255.43	0.61	0.44	-10.61
6,838.43	2.41	282.26	6,804.16	400.39	252.65	-254.88	0.72	0.59	-9.87
6,852.00	2.53	281.11	6,817.71	400.51	252.08	-254.31	0.96	0.88	-8.47
6,864.00	2.69	280.38	6,829.70	400.61	251.54	-253.77	1.37	1.35	-6.10
100FEL: 6864.00' MD, -253.77' VS, 6829.70' TVD									
6,865.38	2.71	280.30	6,831.08	400.62	251.48	-253.71	1.37	1.35	-5.69
6,878.75	2.92	279.69	6,844.43	400.74	250.83	-253.06	1.59	1.57	-4.56
6,892.13	3.14	279.17	6,857.79	400.85	250.13	-252.37	1.66	1.64	-3.89
6,905.50	3.37	278.68	6,871.14	400.97	249.38	-251.62	1.73	1.72	-3.66
6,918.88	3.57	278.16	6,884.50	401.09	248.58	-250.82	1.51	1.49	-3.89
6,927.00	3.86	274.90	6,892.60	401.15	248.06	-250.29	4.40	3.55	-40.17
KOP: 6927.00' MD, -250.29' VS, 6892.60' TVD									
6,932.25	4.05	273.04	6,897.84	401.17	247.70	-249.93	4.40	3.66	-35.40
6,945.63	5.52	263.09	6,911.17	401.12	246.59	-248.82	12.58	10.99	-74.36
6,959.00	7.65	264.08	6,924.45	400.95	245.06	-247.30	15.95	15.93	7.40
6,972.43	9.74	262.67	6,937.73	400.71	243.05	-245.28	15.64	15.56	-10.50
6,985.86	11.86	261.76	6,950.92	400.37	240.55	-242.79	15.84	15.79	-6.78
6,999.29	13.92	262.17	6,964.01	399.95	237.59	-239.82	15.35	15.34	3.05
7,012.71	15.85	263.52	6,976.98	399.53	234.17	-236.39	14.61	14.38	10.06
7,026.14	17.70	265.42	6,989.84	399.16	230.31	-232.53	14.37	13.78	14.15
7,039.57	19.53	266.66	7,002.56	398.86	226.03	-228.26	13.94	13.63	9.23
7,053.00	21.33	266.19	7,015.15	398.57	221.35	-223.58	13.46	13.40	-3.50
7,066.57	23.19	265.04	7,027.71	398.17	216.23	-218.45	14.08	13.71	-8.47
7,080.14	25.00	266.96	7,040.09	397.79	210.70	-212.92	14.53	13.34	14.15
7,093.71	26.72	268.42	7,052.30	397.55	204.79	-207.01	13.51	12.68	10.76



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)
7,107.29	28.51	269.15	7,064.34	397.42	198.50	-200.71	13.41	13.18	5.38
7,120.86	28.26	267.91	7,076.28	397.26	192.05	-194.26	4.72	-1.84	-9.14
7,134.43	28.01	266.60	7,088.24	396.95	185.66	-187.87	4.91	-1.84	-9.65
7,148.00	27.97	264.45	7,100.23	396.45	179.31	-181.52	7.44	-0.29	-15.84
7,161.43	28.54	260.73	7,112.06	395.63	173.01	-175.21	13.78	4.24	-27.70
7,174.86	29.95	257.85	7,123.77	394.41	166.56	-168.76	14.83	10.50	-21.44
7,188.29	31.62	255.73	7,135.31	392.84	159.87	-162.06	14.83	12.43	-15.79
7,201.71	33.50	254.36	7,146.62	390.97	152.90	-155.08	15.05	14.01	-10.21
7,215.14	33.78	254.59	7,157.80	388.98	145.73	-147.90	2.29	2.08	1.71
7,228.57	33.97	254.96	7,168.95	387.01	138.51	-140.66	2.09	1.41	2.76
7,242.00	34.17	255.24	7,180.08	385.08	131.23	-133.38	1.89	1.49	2.08
7,255.57	35.08	254.60	7,191.25	383.07	123.79	-125.93	7.22	6.71	-4.72
7,269.14	37.01	253.45	7,202.22	380.87	116.11	-118.24	15.07	14.22	-8.47
7,282.71	38.65	252.90	7,212.93	378.46	108.15	-110.26	12.34	12.09	-4.05
7,296.29	38.85	252.41	7,223.53	375.93	100.04	-102.13	2.70	1.47	-3.61
7,309.86	38.94	252.08	7,234.09	373.33	91.92	-94.00	1.66	0.66	-2.43
7,323.43	38.96	251.86	7,244.64	370.69	83.81	-85.88	1.03	0.15	-1.62
7,337.00	38.86	251.86	7,255.20	368.04	75.71	-77.76	0.74	-0.74	0.00
7,350.57	38.55	252.30	7,265.79	365.43	67.64	-69.68	3.05	-2.28	3.24
7,364.14	38.53	253.07	7,276.40	362.91	59.56	-61.59	3.54	-0.15	5.67
7,377.71	40.55	254.58	7,286.87	360.51	51.27	-53.28	16.48	14.89	11.13
7,391.29	42.56	253.71	7,297.03	358.04	42.60	-44.60	15.40	14.80	-6.41
7,398.16	43.06	255.18	7,302.07	356.79	38.10	-40.10	16.21	7.24	21.34
00-FTP(S-122H)									
7,404.86	43.56	256.58	7,306.95	355.67	33.65	-35.63	16.21	7.50	20.95
7,418.43	44.93	259.44	7,316.67	353.71	24.39	-26.36	17.84	10.10	21.08
7,432.00	46.79	261.70	7,326.12	352.12	14.78	-16.75	18.18	13.71	16.65
7,445.43	48.97	263.35	7,335.13	350.82	4.91	-6.87	18.61	16.23	12.29
7,458.86	51.30	264.13	7,343.73	349.70	-5.34	3.39	17.91	17.35	5.81
7,472.29	53.74	263.76	7,351.90	348.57	-15.94	13.99	18.30	18.17	-2.76
7,485.71	56.20	263.56	7,359.61	347.36	-26.86	24.92	18.37	18.33	-1.49
7,499.14	56.76	266.04	7,367.02	346.35	-38.01	36.07	15.95	4.17	18.47
7,512.57	58.82	266.87	7,374.18	345.65	-49.35	47.42	16.21	15.34	6.18
7,526.00	59.41	267.20	7,381.08	345.05	-60.86	58.93	4.87	4.39	2.46
7,529.11	59.40	267.18	7,382.66	344.92	-63.53	61.60	0.50	-0.22	-0.52
01-OVS(S-122H)									
7,539.43	59.38	267.13	7,387.91	344.48	-72.40	70.48	0.50	-0.22	-0.52
7,552.86	59.13	267.02	7,394.78	343.89	-83.93	82.01	1.99	-1.86	-0.82
7,566.29	58.85	266.88	7,401.70	343.28	-95.42	93.50	2.27	-2.08	-1.04
7,579.71	58.60	266.75	7,408.67	342.64	-106.88	104.96	2.04	-1.86	-0.97
7,593.14	60.25	266.17	7,415.50	341.92	-118.42	116.50	12.84	12.29	-4.32
7,606.57	62.49	266.45	7,421.93	341.17	-130.18	128.27	16.78	16.68	2.08
7,620.00	64.49	265.73	7,427.93	340.35	-142.17	140.26	15.65	14.89	-5.36
7,633.57	66.49	264.49	7,433.55	339.29	-154.47	152.57	16.92	14.74	-9.14



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)
7,647.14	68.69	263.87	7,438.73	338.02	-166.95	165.06	16.75	16.21	-4.57
7,660.71	69.10	264.30	7,443.61	336.72	-179.54	177.66	4.23	3.02	3.17
7,674.29	68.96	264.79	7,448.47	335.51	-192.16	190.29	3.52	-1.03	3.61
7,687.86	70.74	263.59	7,453.15	334.22	-204.84	202.97	15.52	13.12	-8.84
7,701.43	72.87	264.12	7,457.39	332.84	-217.65	215.79	16.13	15.70	3.91
7,715.00	75.16	265.05	7,461.12	331.61	-230.64	228.78	18.12	16.88	6.85
7,728.43	77.47	265.29	7,464.30	330.51	-243.64	241.79	17.29	17.20	1.79
7,741.86	79.84	265.23	7,466.94	329.42	-256.76	254.92	17.65	17.65	-0.45
7,755.29	82.28	265.87	7,469.03	328.39	-269.99	268.15	18.77	18.17	4.77
7,768.71	84.57	266.85	7,470.56	327.55	-283.29	281.46	18.54	17.06	7.30
7,782.14	86.67	266.43	7,471.59	326.76	-296.66	294.83	15.94	15.64	-3.13
7,795.57	89.11	266.57	7,472.08	325.94	-310.05	308.23	18.20	18.17	1.04
7,806.19	90.49	266.90	7,472.12	325.34	-320.66	318.84	13.40	13.03	3.13
02-LP(D-123H)									
7,809.00	90.86	266.99	7,472.09	325.19	-323.46	321.64	13.40	13.03	3.13
7,822.57	90.88	266.97	7,471.88	324.47	-337.01	335.19	0.21	0.15	-0.15
7,836.14	90.88	266.92	7,471.67	323.75	-350.56	348.75	0.37	0.00	-0.37
7,849.71	90.82	266.84	7,471.47	323.01	-364.11	362.30	0.74	-0.44	-0.59
7,863.29	90.68	266.75	7,471.29	322.25	-377.67	375.86	1.23	-1.03	-0.66
7,876.86	90.30	267.11	7,471.18	321.53	-391.22	389.42	3.86	-2.80	2.65
7,889.00	89.33	268.76	7,471.22	321.09	-403.35	401.55	15.72	-7.96	13.56
EOC: 7889.00' MD, 401.55' VS, 7471.22' TVD									
7,890.43	89.22	268.95	7,471.24	321.06	-404.78	402.98	15.72	-7.96	13.56
7,904.00	89.00	268.88	7,471.45	320.80	-418.34	416.55	1.70	-1.62	-0.52
7,917.57	88.95	268.82	7,471.69	320.53	-431.91	430.11	0.58	-0.37	-0.44
7,931.14	89.05	268.77	7,471.93	320.25	-445.47	443.68	0.82	0.74	-0.37
7,944.71	89.22	268.73	7,472.13	319.95	-459.04	457.25	1.29	1.25	-0.29
7,958.29	89.42	268.67	7,472.29	319.64	-472.62	470.82	1.54	1.47	-0.44
7,971.86	89.65	268.61	7,472.40	319.32	-486.18	484.39	1.75	1.69	-0.44
7,985.43	89.92	268.52	7,472.45	318.98	-499.75	497.96	2.10	1.99	-0.66
7,999.00	90.25	268.40	7,472.43	318.62	-513.31	511.52	2.59	2.43	-0.88
8,012.57	90.52	268.23	7,472.34	318.22	-526.88	525.09	2.35	1.99	-1.25
8,026.14	90.76	268.02	7,472.19	317.77	-540.44	538.65	2.35	1.77	-1.55
8,039.71	90.95	267.81	7,471.99	317.28	-554.00	552.22	2.09	1.40	-1.55
8,053.29	91.05	267.59	7,471.75	316.73	-567.56	565.79	1.78	0.74	-1.62
8,066.86	91.04	267.38	7,471.50	316.14	-581.12	579.34	1.55	-0.07	-1.55
8,080.43	90.11	268.97	7,471.37	315.71	-594.68	592.91	13.57	-6.85	11.72
8,094.00	89.42	270.04	7,471.42	315.59	-608.25	606.48	9.38	-5.08	7.89
8,107.43	89.32	269.91	7,471.57	315.58	-621.68	619.91	1.22	-0.74	-0.97
8,120.86	89.30	269.79	7,471.73	315.55	-635.11	633.34	0.91	-0.15	-0.89
8,134.29	89.39	269.68	7,471.89	315.49	-648.54	646.76	1.06	0.67	-0.82
8,147.71	89.52	269.58	7,472.01	315.40	-661.96	660.18	1.22	0.97	-0.75
8,161.14	89.65	269.48	7,472.11	315.29	-675.38	673.61	1.22	0.97	-0.74
8,174.57	89.77	269.38	7,472.18	315.16	-688.81	687.04	1.16	0.89	-0.74



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)
8,188.00	89.86	269.28	7,472.22	315.00	-702.24	700.47	1.00	0.67	-0.74
8,201.57	89.90	269.19	7,472.25	314.82	-715.81	714.04	0.73	0.29	-0.66
8,215.14	89.92	269.09	7,472.27	314.61	-729.38	727.61	0.75	0.15	-0.74
8,228.71	89.94	268.99	7,472.29	314.39	-742.95	741.18	0.75	0.15	-0.74
8,242.29	89.99	268.89	7,472.30	314.14	-756.53	754.76	0.82	0.37	-0.74
8,255.86	90.06	268.79	7,472.29	313.86	-770.09	768.33	0.90	0.52	-0.74
8,269.43	90.18	268.69	7,472.26	313.56	-783.66	781.90	1.15	0.88	-0.74
8,283.00	90.33	268.58	7,472.20	313.24	-797.23	795.46	1.37	1.11	-0.81
8,296.57	90.46	268.46	7,472.11	312.89	-810.79	809.03	1.30	0.96	-0.88
8,310.14	90.59	268.34	7,471.98	312.51	-824.36	822.60	1.30	0.96	-0.88
8,323.71	90.73	268.22	7,471.83	312.10	-837.92	836.16	1.36	1.03	-0.88
8,337.29	90.86	268.10	7,471.64	311.67	-851.49	849.74	1.30	0.96	-0.88
8,350.86	91.00	267.98	7,471.42	311.20	-865.05	863.30	1.36	1.03	-0.88
8,364.43	91.11	267.87	7,471.17	310.71	-878.61	876.86	1.15	0.81	-0.81
8,378.00	91.19	267.77	7,470.90	310.19	-892.17	890.42	0.94	0.59	-0.74
8,391.43	91.14	267.68	7,470.62	309.66	-905.58	903.84	0.77	-0.37	-0.67
8,404.86	90.97	267.61	7,470.38	309.11	-919.00	917.26	1.37	-1.27	-0.52
8,418.29	90.69	267.55	7,470.18	308.54	-932.42	930.68	2.13	-2.08	-0.45
8,431.71	90.29	267.50	7,470.07	307.96	-945.82	944.09	3.00	-2.98	-0.37
8,445.14	89.79	267.46	7,470.06	307.37	-959.24	957.51	3.73	-3.72	-0.30
8,458.57	88.82	269.00	7,470.22	306.96	-972.66	970.93	13.55	-7.22	11.47
8,472.00	87.83	271.53	7,470.61	307.02	-986.08	984.35	20.22	-7.37	18.84
8,485.57	87.45	272.09	7,471.17	307.45	-999.64	997.90	4.98	-2.80	4.13
8,499.14	87.20	272.09	7,471.81	307.94	-1,013.18	1,011.45	1.84	-1.84	0.00
8,512.71	87.06	272.10	7,472.48	308.44	-1,026.73	1,024.99	1.03	-1.03	0.07
8,526.29	86.98	272.12	7,473.19	308.94	-1,040.28	1,038.54	0.61	-0.59	0.15
8,539.86	86.93	272.16	7,473.91	309.44	-1,053.82	1,052.08	0.47	-0.37	0.29
8,553.43	86.89	272.22	7,474.64	309.96	-1,067.36	1,065.61	0.53	-0.29	0.44
8,567.00	86.86	272.30	7,475.38	310.50	-1,080.90	1,079.15	0.63	-0.22	0.59
8,580.57	86.83	272.43	7,476.13	311.05	-1,094.44	1,092.68	0.98	-0.22	0.96
8,594.14	86.80	272.58	7,476.88	311.65	-1,107.97	1,106.22	1.13	-0.22	1.11
8,607.71	86.79	272.75	7,477.64	312.28	-1,121.51	1,119.75	1.25	-0.07	1.25
8,621.29	86.83	272.91	7,478.40	312.95	-1,135.05	1,133.29	1.21	0.29	1.18
8,634.86	86.93	273.05	7,479.14	313.65	-1,148.58	1,146.81	1.27	0.74	1.03
8,648.43	88.39	273.15	7,479.69	314.38	-1,162.12	1,160.35	10.78	10.76	0.74
8,662.00	90.22	273.22	7,479.85	315.14	-1,175.67	1,173.89	13.50	13.49	0.52
8,675.43	90.43	273.29	7,479.78	315.90	-1,189.08	1,187.29	1.65	1.56	0.52
8,688.86	90.59	273.33	7,479.66	316.68	-1,202.48	1,200.70	1.23	1.19	0.30
8,702.29	90.69	273.36	7,479.51	317.46	-1,215.89	1,214.10	0.78	0.74	0.22
8,715.71	90.74	273.36	7,479.34	318.25	-1,229.29	1,227.49	0.37	0.37	0.00
8,729.14	90.73	273.34	7,479.17	319.03	-1,242.69	1,240.89	0.17	-0.07	-0.15
8,742.57	90.70	273.27	7,479.00	319.80	-1,256.10	1,254.29	0.57	-0.22	-0.52
8,756.00	90.65	273.15	7,478.84	320.56	-1,269.51	1,267.70	0.97	-0.37	-0.89



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
8,769.57	90.62	272.93	7,478.69	321.28	-1,283.06	1,281.24	1.64	-0.22	-1.62	
8,783.14	90.60	272.67	7,478.55	321.94	-1,296.61	1,294.79	1.92	-0.15	-1.92	
8,796.71	90.59	272.38	7,478.41	322.54	-1,310.17	1,308.34	2.14	-0.07	-2.14	
8,810.29	90.65	272.09	7,478.26	323.07	-1,323.73	1,321.91	2.18	0.44	-2.14	
8,823.86	90.86	271.51	7,478.08	323.49	-1,337.30	1,335.47	4.55	1.55	-4.27	
8,837.43	91.42	269.30	7,477.81	323.59	-1,350.86	1,349.03	16.80	4.13	-16.29	
8,851.00	91.65	269.08	7,477.45	323.40	-1,364.43	1,362.60	2.35	1.69	-1.62	
8,864.57	91.78	268.92	7,477.04	323.16	-1,377.99	1,376.16	1.52	0.96	-1.18	
8,878.14	91.85	268.79	7,476.61	322.89	-1,391.55	1,389.72	1.09	0.52	-0.96	
8,891.71	91.86	268.69	7,476.17	322.59	-1,405.11	1,403.28	0.74	0.07	-0.74	
8,905.29	91.89	268.63	7,475.73	322.27	-1,418.68	1,416.85	0.49	0.22	-0.44	
8,918.86	91.96	268.59	7,475.27	321.94	-1,432.24	1,430.41	0.59	0.52	-0.29	
8,932.43	92.11	268.59	7,474.79	321.61	-1,445.79	1,443.97	1.11	1.11	0.00	
8,946.00	92.80	268.45	7,474.21	321.26	-1,459.35	1,457.53	5.19	5.08	-1.03	
8,959.43	93.41	268.38	7,473.48	320.89	-1,472.75	1,470.94	4.57	4.54	-0.52	
8,972.86	93.52	268.53	7,472.67	320.53	-1,486.15	1,484.34	1.38	0.82	1.12	
8,986.29	93.86	268.59	7,471.81	320.19	-1,499.55	1,497.74	2.57	2.53	0.45	
8,999.71	94.09	268.62	7,470.88	319.87	-1,512.93	1,511.12	1.73	1.71	0.22	
9,013.14	94.28	268.63	7,469.90	319.54	-1,526.32	1,524.51	1.42	1.41	0.07	
9,026.57	94.39	268.62	7,468.88	319.22	-1,539.71	1,537.90	0.82	0.82	-0.07	
9,040.00	94.44	268.57	7,467.85	318.89	-1,553.10	1,551.29	0.53	0.37	-0.37	
9,053.57	94.44	268.49	7,466.80	318.55	-1,566.62	1,564.82	0.59	0.00	-0.59	
9,067.14	94.36	268.34	7,465.76	318.17	-1,580.15	1,578.34	1.25	-0.59	-1.11	
9,080.71	94.21	268.09	7,464.74	317.75	-1,593.67	1,591.87	2.14	-1.11	-1.84	
9,094.29	94.06	267.85	7,463.76	317.27	-1,607.21	1,605.41	2.08	-1.10	-1.77	
9,107.86	93.94	267.62	7,462.82	316.74	-1,620.73	1,618.94	1.91	-0.88	-1.69	
9,121.43	93.85	267.44	7,461.89	316.15	-1,634.26	1,632.47	1.48	-0.66	-1.33	
9,135.00	93.79	267.35	7,460.99	315.54	-1,647.79	1,646.00	0.80	-0.44	-0.66	
9,148.57	93.77	267.41	7,460.10	314.92	-1,661.31	1,659.53	0.47	-0.15	0.44	
9,162.14	93.77	267.55	7,459.20	314.32	-1,674.84	1,673.06	1.03	0.00	1.03	
9,175.71	93.75	267.74	7,458.31	313.77	-1,688.37	1,686.59	1.40	-0.15	1.40	
9,189.29	93.72	267.94	7,457.43	313.26	-1,701.91	1,700.14	1.49	-0.22	1.47	
9,202.86	93.96	268.56	7,456.52	312.84	-1,715.44	1,713.67	4.89	1.77	4.57	
9,216.43	94.90	269.97	7,455.47	312.67	-1,728.97	1,727.20	12.46	6.93	10.39	
9,230.00	94.88	270.12	7,454.32	312.68	-1,742.49	1,740.72	1.11	-0.15	1.11	
9,243.29	94.84	270.20	7,453.19	312.72	-1,755.74	1,753.96	0.67	-0.30	0.60	
9,256.57	94.79	270.21	7,452.07	312.76	-1,768.97	1,767.19	0.38	-0.38	0.08	
9,269.86	94.74	270.17	7,450.97	312.81	-1,782.21	1,780.44	0.48	-0.38	-0.30	
9,283.14	94.71	270.10	7,449.88	312.84	-1,795.45	1,793.67	0.57	-0.23	-0.53	
9,296.43	94.68	270.03	7,448.79	312.85	-1,808.69	1,806.92	0.57	-0.23	-0.53	
9,309.71	94.65	269.95	7,447.71	312.85	-1,821.93	1,820.15	0.64	-0.23	-0.60	
9,323.00	94.63	269.89	7,446.63	312.83	-1,835.17	1,833.40	0.47	-0.15	-0.45	
9,336.57	94.62	269.87	7,445.54	312.81	-1,848.70	1,846.92	0.16	-0.07	-0.15	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)
9,350.14	94.60	269.87	7,444.45	312.77	-1,862.23	1,860.45	0.15	-0.15	0.00
9,363.71	94.56	269.88	7,443.37	312.75	-1,875.75	1,873.98	0.30	-0.29	0.07
9,377.29	94.52	269.90	7,442.29	312.72	-1,889.29	1,887.51	0.33	-0.29	0.15
9,390.86	94.47	269.93	7,441.23	312.70	-1,902.82	1,901.04	0.43	-0.37	0.22
9,404.43	94.41	269.96	7,440.18	312.69	-1,916.35	1,914.57	0.49	-0.44	0.22
9,418.00	94.34	269.99	7,439.14	312.68	-1,929.88	1,928.10	0.56	-0.52	0.22
9,431.57	94.25	270.01	7,438.12	312.68	-1,943.41	1,941.63	0.68	-0.66	0.15
9,445.14	94.14	270.04	7,437.13	312.69	-1,956.94	1,955.17	0.84	-0.81	0.22
9,458.71	94.02	270.05	7,436.17	312.70	-1,970.48	1,968.70	0.89	-0.88	0.07
9,472.29	93.90	270.07	7,435.23	312.71	-1,984.03	1,982.25	0.90	-0.88	0.15
9,485.86	93.76	270.07	7,434.32	312.73	-1,997.57	1,995.79	1.03	-1.03	0.00
9,499.43	93.65	270.07	7,433.45	312.74	-2,011.11	2,009.33	0.81	-0.81	0.00
9,513.00	93.58	270.06	7,432.59	312.76	-2,024.65	2,022.87	0.52	-0.52	-0.07
9,526.43	93.53	270.02	7,431.76	312.77	-2,038.06	2,036.28	0.48	-0.37	-0.30
9,539.86	93.50	269.97	7,430.93	312.77	-2,051.46	2,049.68	0.43	-0.22	-0.37
9,553.29	93.46	269.91	7,430.12	312.75	-2,064.87	2,063.09	0.54	-0.30	-0.45
9,566.71	93.42	269.85	7,429.31	312.73	-2,078.26	2,076.48	0.54	-0.30	-0.45
9,580.14	93.34	269.79	7,428.52	312.68	-2,091.67	2,089.89	0.74	-0.60	-0.45
9,593.57	93.25	269.74	7,427.75	312.63	-2,105.08	2,103.30	0.77	-0.67	-0.37
9,607.00	93.13	269.69	7,427.00	312.56	-2,118.48	2,116.71	0.97	-0.89	-0.37
9,620.57	93.01	269.66	7,426.28	312.49	-2,132.04	2,130.26	0.91	-0.88	-0.22
9,634.14	92.90	269.63	7,425.58	312.40	-2,145.59	2,143.81	0.84	-0.81	-0.22
9,647.71	92.81	269.61	7,424.90	312.31	-2,159.14	2,157.36	0.68	-0.66	-0.15
9,661.29	92.72	269.60	7,424.24	312.22	-2,172.70	2,170.93	0.67	-0.66	-0.07
9,674.86	92.64	269.58	7,423.61	312.12	-2,186.26	2,184.48	0.61	-0.59	-0.15
9,688.43	92.56	269.55	7,422.99	312.02	-2,199.81	2,198.04	0.63	-0.59	-0.22
9,702.00	92.47	269.52	7,422.40	311.91	-2,213.37	2,211.59	0.70	-0.66	-0.22
9,715.57	92.35	269.47	7,421.83	311.79	-2,226.93	2,225.15	0.96	-0.88	-0.37
9,729.14	92.24	269.41	7,421.29	311.66	-2,240.49	2,238.71	0.92	-0.81	-0.44
9,742.71	92.13	269.34	7,420.77	311.51	-2,254.05	2,252.27	0.96	-0.81	-0.52
9,756.29	92.04	269.27	7,420.27	311.34	-2,267.62	2,265.84	0.84	-0.66	-0.52
9,769.86	91.95	269.19	7,419.80	311.16	-2,281.18	2,279.40	0.89	-0.66	-0.59
9,783.43	91.87	269.12	7,419.35	310.96	-2,294.74	2,292.96	0.78	-0.59	-0.52
9,797.00	91.78	269.06	7,418.92	310.75	-2,308.30	2,306.53	0.80	-0.66	-0.44
9,810.43	91.70	268.99	7,418.51	310.52	-2,321.72	2,319.95	0.79	-0.60	-0.52
9,823.86	91.61	268.93	7,418.12	310.27	-2,335.14	2,333.37	0.81	-0.67	-0.45
9,837.29	91.52	268.88	7,417.75	310.02	-2,348.57	2,346.80	0.77	-0.67	-0.37
9,850.71	91.44	268.82	7,417.41	309.75	-2,361.98	2,360.21	0.75	-0.60	-0.45
9,864.14	91.35	268.77	7,417.08	309.47	-2,375.40	2,373.64	0.77	-0.67	-0.37
9,877.57	91.27	268.72	7,416.77	309.17	-2,388.82	2,387.06	0.70	-0.60	-0.37
9,891.00	91.20	268.66	7,416.48	308.86	-2,402.25	2,400.49	0.69	-0.52	-0.45
9,904.57	91.15	268.61	7,416.21	308.54	-2,415.81	2,414.05	0.52	-0.37	-0.37
9,918.14	91.10	268.55	7,415.94	308.20	-2,429.37	2,427.61	0.58	-0.37	-0.44
9,931.71	91.07	268.50	7,415.68	307.86	-2,442.94	2,441.18	0.43	-0.22	-0.37



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)
9,945.29	91.06	268.45	7,415.43	307.49	-2,456.51	2,454.75	0.38	-0.07	-0.37
9,958.86	91.05	268.41	7,415.18	307.12	-2,470.07	2,468.32	0.30	-0.07	-0.29
9,972.43	91.04	268.38	7,414.93	306.74	-2,483.64	2,481.88	0.23	-0.07	-0.22
9,986.00	91.02	268.37	7,414.69	306.36	-2,497.20	2,495.45	0.16	-0.15	-0.07
9,990.50	91.01	268.37	7,414.61	306.23	-2,501.70	2,499.95	0.23	-0.22	0.07
03-V2500(S-122H)									
9,999.57	90.99	268.38	7,414.45	305.97	-2,510.76	2,509.01	0.23	-0.22	0.07
10,013.14	90.96	268.41	7,414.22	305.59	-2,524.32	2,522.58	0.31	-0.22	0.22
10,026.71	90.93	268.44	7,414.00	305.22	-2,537.89	2,536.14	0.31	-0.22	0.22
10,040.29	90.91	268.48	7,413.78	304.86	-2,551.46	2,549.72	0.33	-0.15	0.29
10,053.86	90.92	268.52	7,413.56	304.50	-2,565.02	2,563.28	0.30	0.07	0.29
10,067.43	90.93	268.55	7,413.34	304.15	-2,578.59	2,576.85	0.23	0.07	0.22
10,081.00	90.94	268.57	7,413.12	303.81	-2,592.15	2,590.41	0.16	0.07	0.15
10,094.43	90.95	268.57	7,412.90	303.48	-2,605.57	2,603.84	0.07	0.07	0.00
10,107.86	90.97	268.56	7,412.67	303.14	-2,619.00	2,617.26	0.17	0.15	-0.07
10,121.29	90.99	268.55	7,412.44	302.80	-2,632.42	2,630.69	0.17	0.15	-0.07
10,134.71	91.00	268.55	7,412.21	302.46	-2,645.84	2,644.11	0.07	0.07	0.00
10,148.14	91.00	268.56	7,411.98	302.12	-2,659.26	2,657.53	0.07	0.00	0.07
10,161.57	91.02	268.60	7,411.74	301.79	-2,672.68	2,670.96	0.33	0.15	0.30
10,175.00	91.05	268.68	7,411.50	301.47	-2,686.11	2,684.38	0.64	0.22	0.60
10,188.57	91.07	268.83	7,411.25	301.18	-2,699.67	2,697.95	1.11	0.15	1.11
10,202.14	91.11	269.01	7,410.99	300.92	-2,713.24	2,711.51	1.36	0.29	1.33
10,215.71	91.15	269.21	7,410.72	300.71	-2,726.80	2,725.08	1.50	0.29	1.47
10,229.29	91.18	269.41	7,410.45	300.55	-2,740.38	2,738.66	1.49	0.22	1.47
10,242.86	91.22	269.59	7,410.16	300.43	-2,753.95	2,752.22	1.36	0.29	1.33
10,256.43	91.55	270.26	7,409.83	300.41	-2,767.51	2,765.79	5.50	2.43	4.94
10,270.00	91.95	271.49	7,409.42	300.62	-2,781.07	2,779.35	9.53	2.95	9.06
10,283.57	92.02	271.85	7,408.95	301.01	-2,794.63	2,792.90	2.70	0.52	2.65
10,297.14	92.01	271.89	7,408.47	301.46	-2,808.18	2,806.46	0.30	-0.07	0.29
10,310.71	92.02	271.91	7,407.99	301.91	-2,821.74	2,820.01	0.16	0.07	0.15
10,324.29	92.04	271.92	7,407.51	302.36	-2,835.30	2,833.57	0.16	0.15	0.07
10,337.86	92.05	271.93	7,407.03	302.82	-2,848.86	2,847.12	0.10	0.07	0.07
10,351.43	92.07	271.95	7,406.54	303.27	-2,862.41	2,860.67	0.21	0.15	0.15
10,365.00	92.07	271.97	7,406.05	303.74	-2,875.96	2,874.22	0.15	0.00	0.15
10,378.43	92.07	272.01	7,405.57	304.20	-2,889.37	2,887.63	0.30	0.00	0.30
10,391.86	92.05	272.06	7,405.08	304.68	-2,902.79	2,901.04	0.40	-0.15	0.37
10,405.29	92.02	272.11	7,404.61	305.17	-2,916.20	2,914.45	0.43	-0.22	0.37
10,418.71	92.00	272.16	7,404.14	305.67	-2,929.60	2,927.85	0.40	-0.15	0.37
10,432.14	91.97	272.21	7,403.67	306.18	-2,943.02	2,941.26	0.43	-0.22	0.37
10,445.57	91.94	272.25	7,403.21	306.70	-2,956.43	2,954.67	0.37	-0.22	0.30
10,459.00	91.92	272.28	7,402.76	307.23	-2,969.84	2,968.08	0.27	-0.15	0.22
10,472.57	91.90	272.29	7,402.31	307.77	-2,983.39	2,981.63	0.16	-0.15	0.07
10,486.14	91.89	272.28	7,401.86	308.31	-2,996.94	2,995.17	0.10	-0.07	-0.07



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
10,499.71	91.89	272.27	7,401.41	308.85	-3,010.49	3,008.72	0.07	0.00	-0.07	
10,513.29	91.88	272.25	7,400.96	309.39	-3,024.06	3,022.28	0.16	-0.07	-0.15	
10,526.86	91.87	272.24	7,400.52	309.92	-3,037.61	3,035.83	0.10	-0.07	-0.07	
10,540.43	91.87	272.24	7,400.08	310.45	-3,051.16	3,049.38	0.00	0.00	0.00	
10,554.00	91.88	272.25	7,399.63	310.98	-3,064.71	3,062.93	0.10	0.07	0.07	
10,567.57	91.90	272.29	7,399.19	311.52	-3,078.27	3,076.48	0.33	0.15	0.29	
10,581.14	91.93	272.35	7,398.73	312.07	-3,091.82	3,090.03	0.49	0.22	0.44	
10,594.71	91.96	272.41	7,398.27	312.63	-3,105.37	3,103.57	0.49	0.22	0.44	
10,608.29	91.99	272.48	7,397.80	313.21	-3,118.93	3,117.13	0.56	0.22	0.52	
10,621.86	92.01	272.54	7,397.33	313.80	-3,132.48	3,130.67	0.47	0.15	0.44	
10,635.43	92.01	272.60	7,396.85	314.41	-3,146.02	3,144.22	0.44	0.00	0.44	
10,649.00	92.00	272.64	7,396.38	315.03	-3,159.57	3,157.76	0.30	-0.07	0.29	
10,662.57	91.95	272.65	7,395.91	315.66	-3,173.12	3,171.31	0.38	-0.37	0.07	
10,676.14	91.89	272.64	7,395.46	316.28	-3,186.67	3,184.85	0.45	-0.44	-0.07	
10,689.71	91.80	272.62	7,395.02	316.91	-3,200.22	3,198.40	0.68	-0.66	-0.15	
10,703.29	91.71	272.59	7,394.60	317.52	-3,213.77	3,211.95	0.70	-0.66	-0.22	
10,716.86	91.61	272.56	7,394.21	318.13	-3,227.33	3,225.50	0.77	-0.74	-0.22	
10,730.43	91.52	272.53	7,393.84	318.73	-3,240.88	3,239.05	0.70	-0.66	-0.22	
10,744.00	91.41	272.49	7,393.49	319.33	-3,254.43	3,252.60	0.86	-0.81	-0.29	
10,757.57	91.32	272.45	7,393.17	319.91	-3,267.98	3,266.15	0.73	-0.66	-0.29	
10,771.14	91.23	272.40	7,392.87	320.49	-3,281.54	3,279.70	0.76	-0.66	-0.37	
10,784.71	91.15	272.36	7,392.59	321.05	-3,295.09	3,293.25	0.66	-0.59	-0.29	
10,798.29	91.07	272.32	7,392.32	321.60	-3,308.66	3,306.81	0.66	-0.59	-0.29	
10,811.86	91.00	272.28	7,392.08	322.15	-3,322.22	3,320.36	0.59	-0.52	-0.29	
10,825.43	90.94	272.24	7,391.85	322.68	-3,335.77	3,333.92	0.53	-0.44	-0.29	
10,839.00	90.89	272.20	7,391.63	323.21	-3,349.33	3,347.47	0.47	-0.37	-0.29	
10,852.43	90.85	272.16	7,391.43	323.72	-3,362.75	3,360.89	0.42	-0.30	-0.30	
10,865.86	90.82	272.13	7,391.23	324.22	-3,376.17	3,374.31	0.32	-0.22	-0.22	
10,879.29	90.78	272.09	7,391.05	324.72	-3,389.59	3,387.72	0.42	-0.30	-0.30	
10,892.71	90.74	272.05	7,390.87	325.20	-3,403.00	3,401.13	0.42	-0.30	-0.30	
10,906.14	90.70	272.01	7,390.70	325.68	-3,416.42	3,414.55	0.42	-0.30	-0.30	
10,919.57	90.68	271.96	7,390.54	326.14	-3,429.84	3,427.97	0.40	-0.15	-0.37	
10,933.00	90.67	271.89	7,390.38	326.59	-3,443.26	3,441.38	0.53	-0.07	-0.52	
10,946.57	90.70	271.80	7,390.22	327.03	-3,456.82	3,454.94	0.70	0.22	-0.66	
10,960.14	90.75	271.70	7,390.04	327.45	-3,470.39	3,468.50	0.82	0.37	-0.74	
10,973.71	90.83	271.59	7,389.86	327.83	-3,483.95	3,482.06	1.00	0.59	-0.81	
10,987.29	90.94	271.49	7,389.65	328.20	-3,497.52	3,495.64	1.09	0.81	-0.74	
11,000.86	91.07	271.39	7,389.41	328.54	-3,511.09	3,509.20	1.21	0.96	-0.74	
11,014.43	91.23	271.32	7,389.14	328.86	-3,524.65	3,522.76	1.29	1.18	-0.52	
11,028.00	91.52	271.06	7,388.81	329.14	-3,538.21	3,536.32	2.87	2.14	-1.92	
11,041.57	92.35	270.06	7,388.35	329.28	-3,551.77	3,549.88	9.57	6.12	-7.37	
11,055.14	92.34	270.10	7,387.80	329.29	-3,565.33	3,563.44	0.30	-0.07	0.29	
11,068.71	92.32	270.17	7,387.25	329.33	-3,578.89	3,577.00	0.54	-0.15	0.52	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)
11,082.29	92.27	270.25	7,386.70	329.38	-3,592.46	3,590.57	0.69	-0.37	0.59
11,095.86	92.22	270.34	7,386.17	329.45	-3,606.02	3,604.12	0.76	-0.37	0.66
11,109.43	92.17	270.43	7,385.65	329.54	-3,619.58	3,617.68	0.76	-0.37	0.66
11,123.00	92.15	270.51	7,385.14	329.65	-3,633.14	3,631.24	0.61	-0.15	0.59
11,136.57	92.15	270.58	7,384.63	329.78	-3,646.70	3,644.80	0.52	0.00	0.52
11,150.14	92.18	270.64	7,384.12	329.92	-3,660.26	3,658.36	0.49	0.22	0.44
11,163.71	92.21	270.68	7,383.60	330.08	-3,673.82	3,671.92	0.37	0.22	0.29
11,177.29	92.25	270.71	7,383.07	330.24	-3,687.39	3,685.49	0.37	0.29	0.22
11,190.86	92.29	270.73	7,382.53	330.41	-3,700.95	3,699.04	0.33	0.29	0.15
11,204.43	92.32	270.72	7,381.99	330.58	-3,714.50	3,712.60	0.23	0.22	-0.07
11,218.00	92.35	270.68	7,381.43	330.75	-3,728.06	3,726.16	0.37	0.22	-0.29
11,231.57	92.34	270.59	7,380.88	330.90	-3,741.62	3,739.71	0.67	-0.07	-0.66
11,245.14	92.31	270.47	7,380.33	331.03	-3,755.18	3,753.27	0.91	-0.22	-0.88
11,258.71	92.25	270.33	7,379.79	331.12	-3,768.74	3,766.83	1.12	-0.44	-1.03
11,272.29	92.17	270.19	7,379.27	331.18	-3,782.31	3,780.40	1.19	-0.59	-1.03
11,285.86	92.05	270.05	7,378.77	331.21	-3,795.87	3,793.96	1.36	-0.88	-1.03
11,299.43	91.92	269.93	7,378.30	331.21	-3,809.43	3,807.52	1.30	-0.96	-0.88
11,313.00	91.46	268.64	7,377.90	331.04	-3,822.99	3,821.08	10.09	-3.39	-9.51
11,326.43	91.30	268.26	7,377.57	330.68	-3,836.41	3,834.51	3.07	-1.19	-2.83
11,339.86	91.26	268.19	7,377.27	330.26	-3,849.83	3,847.93	0.60	-0.30	-0.52
11,353.29	91.24	268.13	7,376.98	329.83	-3,863.25	3,861.35	0.47	-0.15	-0.45
11,366.71	91.24	268.07	7,376.69	329.38	-3,876.66	3,874.76	0.45	0.00	-0.45
11,380.14	91.25	268.03	7,376.40	328.93	-3,890.08	3,888.18	0.31	0.07	-0.30
11,393.57	91.26	267.98	7,376.10	328.46	-3,903.50	3,901.60	0.38	0.07	-0.37
11,407.00	91.27	267.95	7,375.81	327.98	-3,916.92	3,915.03	0.24	0.07	-0.22
11,420.57	91.23	267.92	7,375.51	327.49	-3,930.48	3,928.59	0.37	-0.29	-0.22
11,434.14	91.18	267.91	7,375.22	327.00	-3,944.03	3,942.15	0.38	-0.37	-0.07
11,447.71	91.13	267.89	7,374.95	326.50	-3,957.59	3,955.71	0.40	-0.37	-0.15
11,461.29	91.09	267.87	7,374.69	326.00	-3,971.16	3,969.28	0.33	-0.29	-0.15
11,474.86	91.05	267.85	7,374.43	325.49	-3,984.72	3,982.84	0.33	-0.29	-0.15
11,488.43	91.01	267.82	7,374.19	324.98	-3,998.28	3,996.40	0.37	-0.29	-0.22
11,502.00	90.94	267.78	7,373.96	324.46	-4,011.83	4,009.96	0.59	-0.52	-0.29
11,515.57	90.83	267.71	7,373.75	323.93	-4,025.39	4,023.52	0.96	-0.81	-0.52
11,529.14	90.71	267.63	7,373.57	323.38	-4,038.95	4,037.08	1.06	-0.88	-0.59
11,542.71	90.58	267.54	7,373.41	322.80	-4,052.51	4,050.64	1.17	-0.96	-0.66
11,556.29	90.43	267.46	7,373.30	322.21	-4,066.07	4,064.21	1.25	-1.10	-0.59
11,569.86	90.29	267.37	7,373.21	321.60	-4,079.63	4,077.77	1.23	-1.03	-0.66
11,583.43	90.15	267.30	7,373.16	320.97	-4,093.18	4,091.33	1.15	-1.03	-0.52
11,597.00	90.01	267.24	7,373.14	320.32	-4,106.74	4,104.89	1.12	-1.03	-0.44
11,610.57	89.92	267.20	7,373.15	319.66	-4,120.29	4,118.44	0.73	-0.66	-0.29
11,624.14	89.88	267.18	7,373.17	319.00	-4,133.85	4,132.00	0.33	-0.29	-0.15
11,637.71	89.88	267.18	7,373.20	318.33	-4,147.40	4,145.56	0.00	0.00	0.00
11,651.29	89.95	267.18	7,373.22	317.66	-4,160.96	4,159.13	0.52	0.52	0.00
11,664.86	90.05	267.19	7,373.22	317.00	-4,174.52	4,172.68	0.74	0.74	0.07



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)
11,678.43	90.18	267.20	7,373.19	316.33	-4,188.07	4,186.24	0.96	0.96	0.07
11,692.00	90.89	267.74	7,373.07	315.73	-4,201.63	4,199.80	6.57	5.23	3.98
11,705.43	91.28	268.00	7,372.81	315.23	-4,215.05	4,213.22	3.49	2.90	1.94
11,718.86	91.46	268.05	7,372.49	314.77	-4,228.46	4,226.64	1.39	1.34	0.37
11,732.29	91.63	268.11	7,372.13	314.32	-4,241.88	4,240.06	1.34	1.27	0.45
11,745.71	91.78	268.17	7,371.73	313.89	-4,255.29	4,253.47	1.20	1.12	0.45
11,759.14	91.91	268.22	7,371.30	313.46	-4,268.70	4,266.89	1.04	0.97	0.37
11,772.57	92.01	268.28	7,370.84	313.05	-4,282.12	4,280.31	0.87	0.74	0.45
11,786.00	92.09	268.31	7,370.36	312.65	-4,295.54	4,293.72	0.64	0.60	0.22
11,799.57	92.14	268.34	7,369.86	312.26	-4,309.09	4,307.28	0.43	0.37	0.22
11,813.14	92.16	268.34	7,369.35	311.87	-4,322.65	4,320.84	0.15	0.15	0.00
11,826.71	92.15	268.34	7,368.84	311.47	-4,336.20	4,334.39	0.07	-0.07	0.00
11,840.29	92.13	268.34	7,368.33	311.08	-4,349.77	4,347.96	0.15	-0.15	0.00
11,853.86	92.10	268.33	7,367.83	310.69	-4,363.32	4,361.52	0.23	-0.22	-0.07
11,867.43	92.06	268.32	7,367.34	310.29	-4,376.88	4,375.07	0.30	-0.29	-0.07
11,881.00	92.02	268.31	7,366.85	309.89	-4,390.43	4,388.63	0.30	-0.29	-0.07
11,894.57	91.98	268.30	7,366.38	309.49	-4,403.99	4,402.19	0.30	-0.29	-0.07
11,908.14	91.95	268.30	7,365.91	309.09	-4,417.54	4,415.75	0.22	-0.22	0.00
11,921.71	91.92	268.29	7,365.46	308.68	-4,431.10	4,429.31	0.23	-0.22	-0.07
11,935.29	91.90	268.28	7,365.00	308.28	-4,444.67	4,442.87	0.16	-0.15	-0.07
11,948.86	91.88	268.28	7,364.56	307.87	-4,458.22	4,456.43	0.15	-0.15	0.00
11,962.43	91.83	268.27	7,364.12	307.46	-4,471.78	4,469.99	0.38	-0.37	-0.07
11,976.00	91.78	268.26	7,363.69	307.05	-4,485.34	4,483.55	0.38	-0.37	-0.07
11,989.57	91.74	268.26	7,363.27	306.64	-4,498.89	4,497.11	0.29	-0.29	0.00
12,003.14	91.71	268.25	7,362.86	306.23	-4,512.45	4,510.67	0.23	-0.22	-0.07
12,016.71	91.67	268.24	7,362.46	305.81	-4,526.01	4,524.23	0.30	-0.29	-0.07
12,030.29	91.65	268.23	7,362.07	305.39	-4,539.58	4,537.80	0.16	-0.15	-0.07
12,043.86	91.65	268.23	7,361.68	304.97	-4,553.13	4,551.36	0.00	0.00	0.00
12,057.43	91.65	268.24	7,361.29	304.56	-4,566.69	4,564.92	0.07	0.00	0.07
12,071.00	91.63	268.26	7,360.90	304.14	-4,580.25	4,578.48	0.21	-0.15	0.15
12,084.43	91.60	268.29	7,360.52	303.74	-4,593.67	4,591.90	0.32	-0.22	0.22
12,097.86	91.55	268.34	7,360.15	303.34	-4,607.09	4,605.32	0.53	-0.37	0.37
12,111.29	91.49	268.39	7,359.80	302.96	-4,620.51	4,618.74	0.58	-0.45	0.37
12,124.71	91.44	268.44	7,359.45	302.59	-4,633.92	4,632.16	0.53	-0.37	0.37
12,138.14	91.39	268.49	7,359.12	302.23	-4,647.34	4,645.58	0.53	-0.37	0.37
12,151.57	91.36	268.54	7,358.80	301.88	-4,660.76	4,659.00	0.43	-0.22	0.37
12,165.00	91.35	268.57	7,358.48	301.54	-4,674.18	4,672.43	0.24	-0.07	0.22
12,178.57	91.36	268.58	7,358.16	301.21	-4,687.75	4,685.99	0.10	0.07	0.07
12,192.14	91.35	268.58	7,357.84	300.87	-4,701.31	4,699.55	0.07	-0.07	0.00
12,205.71	91.31	268.58	7,357.53	300.53	-4,714.87	4,713.12	0.29	-0.29	0.00
12,219.29	91.25	268.57	7,357.22	300.20	-4,728.44	4,726.69	0.45	-0.44	-0.07
12,232.86	91.17	268.56	7,356.94	299.86	-4,742.00	4,740.26	0.59	-0.59	-0.07
12,246.43	91.09	268.54	7,356.67	299.51	-4,755.57	4,753.82	0.61	-0.59	-0.15



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)
12,260.00	91.01	268.54	7,356.42	299.17	-4,769.13	4,767.39	0.59	-0.59	0.00
12,273.57	90.94	268.53	7,356.19	298.82	-4,782.69	4,780.95	0.52	-0.52	-0.07
12,287.14	90.90	268.53	7,355.97	298.47	-4,796.26	4,794.52	0.29	-0.29	0.00
12,300.71	90.90	268.54	7,355.76	298.12	-4,809.82	4,808.08	0.07	0.00	0.07
12,314.29	90.92	268.54	7,355.54	297.78	-4,823.40	4,821.66	0.15	0.15	0.00
12,327.86	90.94	268.54	7,355.32	297.43	-4,836.96	4,835.22	0.15	0.15	0.00
12,341.43	90.95	268.54	7,355.10	297.09	-4,850.52	4,848.79	0.07	0.07	0.00
12,355.00	90.95	268.54	7,354.87	296.74	-4,864.09	4,862.35	0.00	0.00	0.00
12,368.57	90.94	268.53	7,354.65	296.39	-4,877.65	4,875.92	0.10	-0.07	-0.07
12,382.14	90.90	268.51	7,354.43	296.04	-4,891.21	4,889.49	0.33	-0.29	-0.15
12,395.71	90.86	268.49	7,354.22	295.69	-4,904.78	4,903.05	0.33	-0.29	-0.15
12,409.29	90.79	268.47	7,354.03	295.33	-4,918.35	4,916.63	0.54	-0.52	-0.15
12,422.86	90.71	268.46	7,353.85	294.97	-4,931.92	4,930.19	0.59	-0.59	-0.07
12,436.43	90.60	268.44	7,353.69	294.60	-4,945.48	4,943.76	0.82	-0.81	-0.15
12,450.00	90.49	268.44	7,353.56	294.23	-4,959.04	4,957.32	0.81	-0.81	0.00
12,463.43	90.43	268.44	7,353.46	293.86	-4,972.47	4,970.75	0.45	-0.45	0.00
12,476.86	90.41	268.45	7,353.36	293.50	-4,985.89	4,984.18	0.17	-0.15	0.07
12,490.29	90.44	268.46	7,353.26	293.14	-4,999.32	4,997.60	0.24	0.22	0.07
12,492.69	90.46	268.46	7,353.24	293.07	-5,001.72	5,000.00	0.67	0.67	0.07
04-V5000(S-122H)									
12,503.71	90.53	268.47	7,353.15	292.78	-5,012.73	5,011.02	0.67	0.67	0.07
12,517.14	90.65	268.48	7,353.01	292.42	-5,026.16	5,024.45	0.90	0.89	0.07
12,530.57	90.76	268.48	7,352.84	292.06	-5,039.58	5,037.87	0.82	0.82	0.00
12,544.00	91.53	269.36	7,352.57	291.81	-5,053.01	5,051.30	8.71	5.73	6.55
12,557.57	91.98	269.63	7,352.16	291.69	-5,066.57	5,064.86	3.87	3.32	1.99
12,571.14	92.02	269.61	7,351.68	291.60	-5,080.13	5,078.42	0.33	0.29	-0.15
12,584.71	92.05	269.58	7,351.20	291.51	-5,093.69	5,091.99	0.31	0.22	-0.22
12,598.29	92.05	269.55	7,350.72	291.40	-5,107.26	5,105.56	0.22	0.00	-0.22
12,611.86	92.03	269.52	7,350.23	291.29	-5,120.82	5,119.12	0.27	-0.15	-0.22
12,625.43	91.99	269.49	7,349.76	291.17	-5,134.39	5,132.68	0.37	-0.29	-0.22
12,639.00	91.95	269.46	7,349.29	291.05	-5,147.95	5,146.24	0.37	-0.29	-0.22
12,652.57	91.94	269.44	7,348.83	290.92	-5,161.51	5,159.80	0.16	-0.07	-0.15
12,666.14	91.93	269.42	7,348.37	290.79	-5,175.07	5,173.37	0.16	-0.07	-0.15
12,679.71	91.93	269.40	7,347.92	290.65	-5,188.63	5,186.93	0.15	0.00	-0.15
12,693.29	91.94	269.38	7,347.46	290.50	-5,202.20	5,200.50	0.16	0.07	-0.15
12,706.86	91.94	269.36	7,347.00	290.35	-5,215.76	5,214.06	0.15	0.00	-0.15
12,720.43	91.95	269.34	7,346.54	290.20	-5,229.33	5,227.62	0.16	0.07	-0.15
12,734.00	91.95	269.32	7,346.08	290.04	-5,242.89	5,241.19	0.15	0.00	-0.15
12,747.43	91.95	269.29	7,345.62	289.88	-5,256.31	5,254.61	0.22	0.00	-0.22
12,760.86	91.94	269.26	7,345.16	289.71	-5,269.73	5,268.03	0.24	-0.07	-0.22
12,774.29	91.95	269.23	7,344.71	289.53	-5,283.15	5,281.45	0.24	0.07	-0.22
12,787.71	91.95	269.20	7,344.25	289.35	-5,296.56	5,294.86	0.22	0.00	-0.22
12,801.14	91.96	269.18	7,343.79	289.16	-5,309.98	5,308.28	0.17	0.07	-0.15
12,814.57	91.96	269.16	7,343.33	288.96	-5,323.40	5,321.71	0.15	0.00	-0.15



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)
12,828.00	91.96	269.14	7,342.87	288.76	-5,336.82	5,335.13	0.15	0.00	-0.15
12,841.57	91.95	269.14	7,342.41	288.56	-5,350.38	5,348.69	0.07	-0.07	0.00
12,855.14	91.95	269.14	7,341.95	288.36	-5,363.95	5,362.25	0.00	0.00	0.00
12,868.71	91.94	269.15	7,341.49	288.15	-5,377.51	5,375.81	0.10	-0.07	0.07
12,882.29	91.94	269.15	7,341.03	287.95	-5,391.08	5,389.38	0.00	0.00	0.00
12,895.86	91.93	269.15	7,340.57	287.75	-5,404.64	5,402.95	0.07	-0.07	0.00
12,909.43	91.91	269.14	7,340.12	287.55	-5,418.20	5,416.51	0.16	-0.15	-0.07
12,923.00	91.89	269.11	7,339.67	287.34	-5,431.76	5,430.07	0.27	-0.15	-0.22
12,936.57	91.85	269.05	7,339.22	287.12	-5,445.32	5,443.63	0.53	-0.29	-0.44
12,950.14	91.79	268.97	7,338.79	286.89	-5,458.88	5,457.19	0.74	-0.44	-0.59
12,963.71	91.73	268.90	7,338.37	286.64	-5,472.44	5,470.76	0.68	-0.44	-0.52
12,977.29	91.66	268.83	7,337.97	286.37	-5,486.01	5,484.33	0.73	-0.52	-0.52
12,990.86	91.58	268.79	7,337.59	286.09	-5,499.58	5,497.89	0.66	-0.59	-0.29
13,004.43	91.50	268.78	7,337.22	285.80	-5,513.14	5,511.46	0.59	-0.59	-0.07
13,018.00	91.41	268.84	7,336.88	285.52	-5,526.70	5,525.02	0.80	-0.66	0.44
13,031.43	91.36	268.99	7,336.56	285.26	-5,540.12	5,538.44	1.18	-0.37	1.12
13,044.86	91.34	269.20	7,336.24	285.05	-5,553.55	5,551.87	1.57	-0.15	1.56
13,058.29	91.34	269.44	7,335.93	284.89	-5,566.97	5,565.30	1.79	0.00	1.79
13,071.71	91.36	269.69	7,335.61	284.79	-5,580.39	5,578.71	1.87	0.15	1.86
13,085.14	91.38	269.92	7,335.29	284.74	-5,593.82	5,592.14	1.72	0.15	1.71
13,098.57	91.39	270.13	7,334.96	284.75	-5,607.24	5,605.56	1.56	0.07	1.56
13,112.00	91.42	270.36	7,334.63	284.81	-5,620.67	5,618.99	1.73	0.22	1.71
13,125.57	91.44	270.62	7,334.30	284.92	-5,634.23	5,632.55	1.92	0.15	1.92
13,139.14	91.34	270.60	7,333.97	285.07	-5,647.80	5,646.12	0.75	-0.74	-0.15
13,152.71	91.23	270.55	7,333.66	285.20	-5,661.36	5,659.68	0.89	-0.81	-0.37
13,166.29	91.15	270.47	7,333.38	285.33	-5,674.94	5,673.26	0.83	-0.59	-0.59
13,179.86	91.08	270.38	7,333.12	285.43	-5,688.51	5,686.83	0.84	-0.52	-0.66
13,193.43	91.03	270.29	7,332.87	285.51	-5,702.08	5,700.39	0.76	-0.37	-0.66
13,207.00	90.99	270.21	7,332.63	285.56	-5,715.64	5,713.96	0.66	-0.29	-0.59
13,220.57	90.98	270.15	7,332.39	285.61	-5,729.21	5,727.53	0.45	-0.07	-0.44
13,234.14	90.99	270.12	7,332.16	285.64	-5,742.78	5,741.09	0.23	0.07	-0.22
13,247.71	91.02	270.09	7,331.92	285.66	-5,756.35	5,754.66	0.31	0.22	-0.22
13,261.29	91.05	270.08	7,331.68	285.68	-5,769.92	5,768.24	0.23	0.22	-0.07
13,274.86	91.08	270.06	7,331.42	285.70	-5,783.49	5,781.81	0.27	0.22	-0.15
13,288.43	91.10	270.05	7,331.17	285.71	-5,797.06	5,795.37	0.16	0.15	-0.07
13,302.00	91.11	270.05	7,330.90	285.73	-5,810.63	5,808.94	0.07	0.07	0.00
13,315.57	91.12	270.05	7,330.64	285.74	-5,824.19	5,822.51	0.07	0.07	0.00
13,329.14	91.12	270.05	7,330.38	285.75	-5,837.76	5,836.08	0.00	0.00	0.00
13,342.71	91.12	270.04	7,330.11	285.76	-5,851.33	5,849.64	0.07	0.00	-0.07
13,356.29	91.12	270.04	7,329.84	285.77	-5,864.91	5,863.22	0.00	0.00	0.00
13,369.86	91.12	270.03	7,329.58	285.78	-5,878.47	5,876.79	0.07	0.00	-0.07
13,383.43	91.13	270.02	7,329.31	285.78	-5,892.04	5,890.35	0.10	0.07	-0.07
13,397.00	91.15	270.00	7,329.04	285.79	-5,905.61	5,903.92	0.21	0.15	-0.15



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
13,410.43	91.14	269.95	7,328.77	285.78	-5,919.04	5,917.35	0.38	-0.07	-0.37	
13,423.86	91.12	269.90	7,328.51	285.76	-5,932.46	5,930.78	0.40	-0.15	-0.37	
13,437.29	91.08	269.85	7,328.25	285.73	-5,945.89	5,944.20	0.48	-0.30	-0.37	
13,450.71	90.99	269.79	7,328.01	285.69	-5,959.31	5,957.62	0.81	-0.67	-0.45	
13,464.14	90.87	269.74	7,327.79	285.64	-5,972.74	5,971.05	0.97	-0.89	-0.37	
13,477.57	90.72	269.69	7,327.61	285.57	-5,986.17	5,984.48	1.18	-1.12	-0.37	
13,491.00	90.57	269.65	7,327.45	285.49	-5,999.59	5,997.91	1.16	-1.12	-0.30	
13,504.57	90.51	269.62	7,327.33	285.41	-6,013.16	6,011.48	0.49	-0.44	-0.22	
13,518.14	90.50	269.61	7,327.21	285.31	-6,026.73	6,025.05	0.10	-0.07	-0.07	
13,531.71	90.52	269.60	7,327.09	285.22	-6,040.30	6,038.61	0.16	0.15	-0.07	
13,545.29	90.54	269.60	7,326.96	285.13	-6,053.88	6,052.19	0.15	0.15	0.00	
13,558.86	90.51	269.61	7,326.84	285.03	-6,067.45	6,065.76	0.23	-0.22	0.07	
13,572.43	90.48	269.61	7,326.72	284.94	-6,081.02	6,079.33	0.22	-0.22	0.00	
13,586.00	90.46	269.63	7,326.61	284.85	-6,094.59	6,092.90	0.21	-0.15	0.15	
13,599.57	90.44	269.64	7,326.50	284.76	-6,108.16	6,106.47	0.16	-0.15	0.07	
13,613.14	90.44	269.66	7,326.40	284.68	-6,121.73	6,120.04	0.15	0.00	0.15	
13,626.71	90.47	269.68	7,326.29	284.60	-6,135.30	6,133.61	0.27	0.22	0.15	
13,640.29	90.53	269.69	7,326.17	284.53	-6,148.88	6,147.19	0.45	0.44	0.07	
13,653.86	90.66	269.69	7,326.03	284.45	-6,162.44	6,160.76	0.96	0.96	0.00	
13,667.43	90.80	269.68	7,325.86	284.38	-6,176.01	6,174.33	1.03	1.03	-0.07	
13,681.00	90.89	269.65	7,325.66	284.30	-6,189.58	6,187.90	0.70	0.66	-0.22	
13,694.43	90.89	269.58	7,325.45	284.21	-6,203.01	6,201.33	0.52	0.00	-0.52	
13,707.86	90.87	269.50	7,325.24	284.10	-6,216.44	6,214.75	0.61	-0.15	-0.60	
13,721.29	90.81	269.41	7,325.04	283.97	-6,229.87	6,228.18	0.81	-0.45	-0.67	
13,734.71	90.74	269.32	7,324.86	283.83	-6,243.28	6,241.60	0.85	-0.52	-0.67	
13,748.14	90.64	269.25	7,324.70	283.66	-6,256.71	6,255.03	0.91	-0.74	-0.52	
13,761.57	90.51	269.19	7,324.57	283.48	-6,270.14	6,268.46	1.07	-0.97	-0.45	
13,775.00	90.34	269.17	7,324.47	283.28	-6,283.57	6,281.89	1.27	-1.27	-0.15	
13,788.57	90.16	269.21	7,324.41	283.09	-6,297.14	6,295.46	1.36	-1.33	0.29	
13,802.14	90.05	269.29	7,324.38	282.91	-6,310.71	6,309.03	1.00	-0.81	0.59	
13,815.71	90.05	269.38	7,324.37	282.76	-6,324.27	6,322.60	0.66	0.00	0.66	
13,829.29	90.15	269.48	7,324.35	282.62	-6,337.85	6,336.18	1.04	0.74	0.74	
13,842.86	90.29	269.56	7,324.30	282.51	-6,351.42	6,349.75	1.19	1.03	0.59	
13,856.43	90.43	269.61	7,324.21	282.41	-6,364.99	6,363.32	1.10	1.03	0.37	
13,870.00	91.53	270.66	7,323.98	282.44	-6,378.56	6,376.88	11.21	8.11	7.74	
13,883.57	92.50	271.28	7,323.50	282.67	-6,392.12	6,390.44	8.48	7.15	4.57	
13,897.14	92.45	271.19	7,322.91	282.96	-6,405.67	6,403.99	0.76	-0.37	-0.66	
13,910.71	92.46	271.08	7,322.33	283.23	-6,419.23	6,417.55	0.81	0.07	-0.81	
13,924.29	92.40	270.95	7,321.76	283.47	-6,432.79	6,431.11	1.05	-0.44	-0.96	
13,937.86	92.29	270.82	7,321.20	283.68	-6,446.35	6,444.67	1.25	-0.81	-0.96	
13,951.43	92.12	270.70	7,320.68	283.86	-6,459.91	6,458.22	1.53	-1.25	-0.88	
13,965.00	91.88	270.58	7,320.21	284.01	-6,473.47	6,471.78	1.98	-1.77	-0.88	
13,978.57	91.72	270.51	7,319.78	284.14	-6,487.03	6,485.35	1.29	-1.18	-0.52	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
13,992.14	91.64	270.44	7,319.38	284.25	-6,500.60	6,498.91	0.78	-0.59	-0.52	
14,005.71	91.65	270.40	7,318.99	284.35	-6,514.16	6,512.47	0.30	0.07	-0.29	
14,019.29	91.62	270.36	7,318.61	284.44	-6,527.74	6,526.05	0.37	-0.22	-0.29	
14,032.86	91.52	270.32	7,318.23	284.52	-6,541.30	6,539.61	0.79	-0.74	-0.29	
14,046.43	91.31	270.29	7,317.90	284.60	-6,554.87	6,553.17	1.56	-1.55	-0.22	
14,060.00	91.07	270.26	7,317.62	284.66	-6,568.43	6,566.74	1.78	-1.77	-0.22	
14,073.43	90.85	270.23	7,317.39	284.72	-6,581.86	6,580.17	1.65	-1.64	-0.22	
14,086.86	90.66	270.20	7,317.21	284.77	-6,595.29	6,593.60	1.43	-1.41	-0.22	
14,100.29	90.53	270.16	7,317.08	284.81	-6,608.72	6,607.03	1.01	-0.97	-0.30	
14,113.71	90.45	270.13	7,316.96	284.85	-6,622.14	6,620.44	0.64	-0.60	-0.22	
14,127.14	90.37	270.09	7,316.86	284.87	-6,635.57	6,633.87	0.67	-0.60	-0.30	
14,140.57	90.28	270.04	7,316.79	284.89	-6,649.00	6,647.30	0.77	-0.67	-0.37	
14,154.00	90.12	269.99	7,316.74	284.89	-6,662.43	6,660.73	1.25	-1.19	-0.37	
14,167.57	89.96	269.91	7,316.73	284.88	-6,676.00	6,674.30	1.32	-1.18	-0.59	
14,181.14	89.80	269.83	7,316.76	284.85	-6,689.57	6,687.87	1.32	-1.18	-0.59	
14,194.71	89.66	269.74	7,316.82	284.80	-6,703.14	6,701.44	1.23	-1.03	-0.66	
14,208.29	89.56	269.67	7,316.92	284.73	-6,716.72	6,715.02	0.90	-0.74	-0.52	
14,221.86	89.48	269.60	7,317.03	284.64	-6,730.29	6,728.59	0.78	-0.59	-0.52	
14,235.43	89.44	269.56	7,317.16	284.54	-6,743.86	6,742.16	0.42	-0.29	-0.29	
14,249.00	89.42	269.56	7,317.29	284.44	-6,757.42	6,755.73	0.15	-0.15	0.00	
14,262.57	89.39	269.61	7,317.43	284.34	-6,770.99	6,769.30	0.43	-0.22	0.37	
14,276.14	89.37	269.69	7,317.58	284.25	-6,784.56	6,782.87	0.61	-0.15	0.59	
14,289.71	89.35	269.80	7,317.73	284.19	-6,798.13	6,796.44	0.82	-0.15	0.81	
14,303.29	89.33	269.91	7,317.89	284.16	-6,811.71	6,810.02	0.82	-0.15	0.81	
14,316.86	89.30	270.01	7,318.05	284.15	-6,825.28	6,823.59	0.77	-0.22	0.74	
14,330.43	89.56	270.23	7,318.19	284.18	-6,838.85	6,837.15	2.51	1.92	1.62	
14,344.00	90.46	270.70	7,318.18	284.29	-6,852.42	6,850.72	7.48	6.63	3.46	
14,357.57	91.26	270.84	7,317.98	284.47	-6,865.98	6,864.29	5.98	5.90	1.03	
14,371.14	91.47	270.89	7,317.66	284.68	-6,879.55	6,877.85	1.59	1.55	0.37	
14,384.71	91.42	270.89	7,317.31	284.89	-6,893.11	6,891.41	0.37	-0.37	0.00	
14,398.29	91.34	270.88	7,316.99	285.10	-6,906.69	6,904.99	0.59	-0.59	-0.07	
14,411.86	91.25	270.88	7,316.68	285.31	-6,920.25	6,918.55	0.66	-0.66	0.00	
14,425.43	91.15	270.89	7,316.40	285.51	-6,933.82	6,932.12	0.74	-0.74	0.07	
14,439.00	91.07	270.90	7,316.13	285.73	-6,947.38	6,945.68	0.59	-0.59	0.07	
14,452.43	91.09	270.94	7,315.88	285.94	-6,960.81	6,959.10	0.33	0.15	0.30	
14,465.86	91.12	270.99	7,315.62	286.17	-6,974.24	6,972.53	0.43	0.22	0.37	
14,479.29	91.14	271.04	7,315.36	286.41	-6,987.66	6,985.95	0.40	0.15	0.37	
14,492.71	91.16	271.10	7,315.09	286.66	-7,001.08	6,999.37	0.47	0.15	0.45	
14,506.14	91.19	271.14	7,314.81	286.92	-7,014.50	7,012.79	0.37	0.22	0.30	
14,519.57	92.05	271.08	7,314.43	287.18	-7,027.92	7,026.21	6.42	6.40	-0.45	
14,533.00	93.75	271.00	7,313.75	287.42	-7,041.33	7,039.62	12.67	12.66	-0.60	
14,546.57	94.13	271.02	7,312.82	287.66	-7,054.87	7,053.15	2.80	2.80	0.15	
14,560.14	94.13	271.02	7,311.84	287.90	-7,068.40	7,066.68	0.00	0.00	0.00	
14,573.71	94.10	271.02	7,310.87	288.14	-7,081.93	7,080.21	0.22	-0.22	0.00	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)
14,587.29	94.06	271.01	7,309.90	288.38	-7,095.48	7,093.76	0.30	-0.29	-0.07
14,600.86	94.01	271.01	7,308.95	288.62	-7,109.01	7,107.29	0.37	-0.37	0.00
14,614.43	93.97	271.00	7,308.00	288.86	-7,122.55	7,120.82	0.30	-0.29	-0.07
14,628.00	93.93	270.99	7,307.07	289.09	-7,136.08	7,134.36	0.30	-0.29	-0.07
14,641.57	93.89	270.98	7,306.14	289.33	-7,149.62	7,147.89	0.30	-0.29	-0.07
14,655.14	93.86	270.96	7,305.23	289.56	-7,163.16	7,161.43	0.27	-0.22	-0.15
14,668.71	93.84	270.95	7,304.32	289.78	-7,176.69	7,174.96	0.16	-0.15	-0.07
14,682.29	93.81	270.94	7,303.41	290.01	-7,190.24	7,188.51	0.23	-0.22	-0.07
14,695.86	93.78	270.93	7,302.51	290.23	-7,203.78	7,202.05	0.23	-0.22	-0.07
14,709.43	93.75	270.93	7,301.62	290.45	-7,217.32	7,215.58	0.22	-0.22	0.00
14,723.00	93.72	270.92	7,300.74	290.66	-7,230.86	7,229.12	0.23	-0.22	-0.07
14,736.43	93.69	270.92	7,299.87	290.88	-7,244.26	7,242.52	0.22	-0.22	0.00
14,749.86	93.65	270.91	7,299.01	291.09	-7,257.66	7,255.92	0.31	-0.30	-0.07
14,763.29	93.62	270.91	7,298.16	291.31	-7,271.06	7,269.32	0.22	-0.22	0.00
14,776.71	93.57	270.90	7,297.32	291.52	-7,284.45	7,282.71	0.38	-0.37	-0.07
14,790.14	93.53	270.89	7,296.49	291.73	-7,297.85	7,296.11	0.31	-0.30	-0.07
14,803.57	93.47	270.87	7,295.67	291.93	-7,311.26	7,309.51	0.47	-0.45	-0.15
14,817.00	93.42	270.82	7,294.86	292.13	-7,324.66	7,322.92	0.53	-0.37	-0.37
14,830.57	93.32	270.75	7,294.06	292.32	-7,338.21	7,336.46	0.90	-0.74	-0.52
14,844.14	93.21	270.67	7,293.29	292.48	-7,351.75	7,350.01	1.00	-0.81	-0.59
14,857.71	93.08	270.58	7,292.54	292.63	-7,365.30	7,363.55	1.16	-0.96	-0.66
14,871.29	92.94	270.48	7,291.83	292.76	-7,378.86	7,377.11	1.27	-1.03	-0.74
14,884.86	92.82	270.39	7,291.15	292.86	-7,392.42	7,390.67	1.10	-0.88	-0.66
14,898.43	92.72	270.30	7,290.49	292.94	-7,405.97	7,404.22	0.99	-0.74	-0.66
14,912.00	92.65	270.22	7,289.86	293.00	-7,419.53	7,417.77	0.78	-0.52	-0.59
14,925.43	92.62	270.17	7,289.24	293.05	-7,432.94	7,431.19	0.43	-0.22	-0.37
14,938.86	92.60	270.13	7,288.63	293.08	-7,446.36	7,444.60	0.33	-0.15	-0.30
14,952.29	92.60	270.10	7,288.02	293.11	-7,459.77	7,458.02	0.22	0.00	-0.22
14,965.71	92.60	270.07	7,287.41	293.13	-7,473.18	7,471.43	0.22	0.00	-0.22
14,979.14	92.60	270.05	7,286.80	293.15	-7,486.60	7,484.84	0.15	0.00	-0.15
14,992.57	92.59	270.02	7,286.19	293.15	-7,500.01	7,498.26	0.24	-0.07	-0.22
14,994.07	92.59	270.02	7,286.12	293.15	-7,501.50	7,499.75	0.00	0.00	0.00
05-V7500(S-122H)									
15,006.00	92.56	269.99	7,285.59	293.16	-7,513.43	7,511.67	0.36	-0.25	-0.25
15,019.57	92.51	269.95	7,284.99	293.15	-7,526.98	7,525.23	0.47	-0.37	-0.29
15,033.14	92.43	269.91	7,284.40	293.13	-7,540.54	7,538.79	0.66	-0.59	-0.29
15,046.71	92.34	269.86	7,283.84	293.10	-7,554.10	7,552.35	0.76	-0.66	-0.37
15,060.29	92.24	269.80	7,283.30	293.06	-7,567.67	7,565.91	0.86	-0.74	-0.44
15,073.86	92.13	269.75	7,282.78	293.01	-7,581.23	7,579.47	0.89	-0.81	-0.37
15,087.43	92.01	269.69	7,282.29	292.94	-7,594.79	7,593.04	0.99	-0.88	-0.44
15,101.00	91.89	269.64	7,281.83	292.87	-7,608.35	7,606.60	0.96	-0.88	-0.37
15,114.43	91.79	269.58	7,281.40	292.77	-7,621.78	7,620.02	0.87	-0.74	-0.45
15,127.86	91.70	269.52	7,280.99	292.67	-7,635.20	7,633.44	0.81	-0.67	-0.45



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)
15,141.29	91.63	269.46	7,280.60	292.55	-7,648.62	7,646.87	0.69	-0.52	-0.45
15,154.71	91.56	269.40	7,280.22	292.42	-7,662.04	7,660.28	0.69	-0.52	-0.45
15,168.14	91.50	269.34	7,279.86	292.27	-7,675.46	7,673.71	0.63	-0.45	-0.45
15,181.57	91.43	269.29	7,279.52	292.11	-7,688.89	7,687.13	0.64	-0.52	-0.37
15,195.00	91.38	269.25	7,279.19	291.94	-7,702.31	7,700.56	0.48	-0.37	-0.30
15,208.57	91.34	269.22	7,278.87	291.76	-7,715.88	7,714.13	0.37	-0.29	-0.22
15,222.14	91.31	269.20	7,278.56	291.57	-7,729.44	7,727.69	0.27	-0.22	-0.15
15,235.71	91.29	269.19	7,278.25	291.38	-7,743.01	7,741.26	0.16	-0.15	-0.07
15,249.29	91.27	269.18	7,277.95	291.18	-7,756.58	7,754.83	0.16	-0.15	-0.07
15,262.86	91.26	269.18	7,277.65	290.99	-7,770.15	7,768.40	0.07	-0.07	0.00
15,276.43	91.26	269.19	7,277.35	290.80	-7,783.71	7,781.97	0.07	0.00	0.07
15,290.00	91.30	269.21	7,277.04	290.61	-7,797.28	7,795.53	0.33	0.29	0.15
15,303.43	91.35	269.24	7,276.73	290.43	-7,810.70	7,808.96	0.43	0.37	0.22
15,316.86	91.41	269.28	7,276.41	290.25	-7,824.13	7,822.38	0.54	0.45	0.30
15,330.29	91.48	269.33	7,276.07	290.09	-7,837.55	7,835.81	0.64	0.52	0.37
15,343.71	91.55	269.39	7,275.72	289.94	-7,850.97	7,849.22	0.69	0.52	0.45
15,357.14	91.62	269.44	7,275.35	289.80	-7,864.39	7,862.65	0.64	0.52	0.37
15,370.57	91.68	269.48	7,274.96	289.68	-7,877.81	7,876.07	0.54	0.45	0.30
15,384.00	91.73	269.53	7,274.56	289.56	-7,891.24	7,889.50	0.53	0.37	0.37
15,397.57	91.75	269.55	7,274.15	289.45	-7,904.80	7,903.06	0.21	0.15	0.15
15,411.14	91.74	269.57	7,273.73	289.35	-7,918.36	7,916.62	0.16	-0.07	0.15
15,424.71	91.71	269.59	7,273.33	289.25	-7,931.93	7,930.19	0.27	-0.22	0.15
15,438.29	91.68	269.60	7,272.92	289.15	-7,945.50	7,943.76	0.23	-0.22	0.07
15,451.86	91.64	269.60	7,272.53	289.06	-7,959.07	7,957.33	0.29	-0.29	0.00
15,465.43	91.60	269.61	7,272.15	288.96	-7,972.63	7,970.89	0.30	-0.29	0.07
15,479.00	91.58	269.61	7,271.77	288.87	-7,986.19	7,984.46	0.15	-0.15	0.00
15,492.43	91.56	269.61	7,271.40	288.78	-7,999.62	7,997.88	0.15	-0.15	0.00
15,505.86	91.53	269.61	7,271.04	288.69	-8,013.04	8,011.31	0.22	-0.22	0.00
15,519.29	91.50	269.61	7,270.69	288.60	-8,026.47	8,024.73	0.22	-0.22	0.00
15,532.71	91.47	269.61	7,270.34	288.51	-8,039.88	8,038.15	0.22	-0.22	0.00
15,546.14	91.44	269.60	7,270.00	288.41	-8,053.31	8,051.57	0.24	-0.22	-0.07
15,559.57	91.40	269.59	7,269.66	288.32	-8,066.73	8,065.00	0.31	-0.30	-0.07
15,573.00	91.37	269.58	7,269.34	288.22	-8,080.16	8,078.42	0.24	-0.22	-0.07
15,586.57	91.35	269.56	7,269.02	288.12	-8,093.73	8,091.99	0.21	-0.15	-0.15
15,600.14	91.32	269.53	7,268.70	288.01	-8,107.29	8,105.56	0.31	-0.22	-0.22
15,613.71	91.30	269.51	7,268.39	287.90	-8,120.86	8,119.12	0.21	-0.15	-0.15
15,627.29	91.29	269.48	7,268.08	287.78	-8,134.43	8,132.70	0.23	-0.07	-0.22
15,640.86	91.28	269.45	7,267.78	287.65	-8,148.00	8,146.27	0.23	-0.07	-0.22
15,654.43	91.27	269.43	7,267.48	287.52	-8,161.57	8,159.83	0.16	-0.07	-0.15
15,668.00	91.28	269.40	7,267.18	287.38	-8,175.13	8,173.40	0.23	0.07	-0.22
15,681.43	91.29	269.38	7,266.87	287.24	-8,188.56	8,186.83	0.17	0.07	-0.15
15,694.86	91.31	269.37	7,266.57	287.09	-8,201.98	8,200.25	0.17	0.15	-0.07
15,708.29	91.32	269.36	7,266.26	286.94	-8,215.41	8,213.68	0.11	0.07	-0.07



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
15,721.71	91.32	269.34	7,265.95	286.79	-8,228.82	8,227.09	0.15	0.00	-0.15	
15,735.14	91.30	269.32	7,265.64	286.63	-8,242.25	8,240.52	0.21	-0.15	-0.15	
15,748.57	91.24	269.30	7,265.35	286.47	-8,255.68	8,253.95	0.47	-0.45	-0.15	
15,762.00	91.17	269.27	7,265.06	286.30	-8,269.10	8,267.37	0.57	-0.52	-0.22	
15,775.57	91.07	269.23	7,264.80	286.13	-8,282.67	8,280.94	0.79	-0.74	-0.29	
15,789.14	90.98	269.18	7,264.56	285.94	-8,296.23	8,294.51	0.76	-0.66	-0.37	
15,802.71	90.88	269.13	7,264.34	285.74	-8,309.80	8,308.08	0.82	-0.74	-0.37	
15,816.29	90.78	269.07	7,264.14	285.52	-8,323.38	8,321.65	0.86	-0.74	-0.44	
15,829.86	90.69	269.02	7,263.97	285.30	-8,336.95	8,335.22	0.76	-0.66	-0.37	
15,843.43	90.61	268.98	7,263.81	285.06	-8,350.51	8,348.79	0.66	-0.59	-0.29	
15,857.00	90.56	268.95	7,263.67	284.82	-8,364.08	8,362.36	0.43	-0.37	-0.22	
15,870.43	90.54	268.95	7,263.54	284.57	-8,377.51	8,375.79	0.15	-0.15	0.00	
15,883.86	90.54	268.95	7,263.42	284.32	-8,390.93	8,389.22	0.00	0.00	0.00	
15,897.29	90.56	268.97	7,263.29	284.08	-8,404.36	8,402.64	0.21	0.15	0.15	
15,910.71	90.59	268.98	7,263.15	283.84	-8,417.78	8,416.06	0.24	0.22	0.07	
15,924.14	90.63	268.99	7,263.01	283.60	-8,431.21	8,429.49	0.31	0.30	0.07	
15,937.57	91.32	268.94	7,262.78	283.36	-8,444.63	8,442.92	5.15	5.14	-0.37	
15,951.00	92.76	268.85	7,262.30	283.10	-8,458.05	8,456.34	10.74	10.72	-0.67	
15,964.57	93.14	268.84	7,261.61	282.83	-8,471.60	8,469.89	2.80	2.80	-0.07	
15,978.14	93.14	268.82	7,260.86	282.55	-8,485.15	8,483.44	0.15	0.00	-0.15	
15,991.71	93.11	268.81	7,260.12	282.27	-8,498.69	8,496.98	0.23	-0.22	-0.07	
16,005.29	93.06	268.78	7,259.39	281.99	-8,512.25	8,510.54	0.43	-0.37	-0.22	
16,018.86	93.01	268.75	7,258.67	281.69	-8,525.80	8,524.09	0.43	-0.37	-0.22	
16,032.43	92.96	268.72	7,257.97	281.40	-8,539.35	8,537.64	0.43	-0.37	-0.22	
16,046.00	92.90	268.68	7,257.27	281.09	-8,552.89	8,551.19	0.53	-0.44	-0.29	
16,059.43	92.85	268.63	7,256.60	280.77	-8,566.30	8,564.60	0.53	-0.37	-0.37	
16,072.86	92.82	268.57	7,255.94	280.45	-8,579.71	8,578.01	0.50	-0.22	-0.45	
16,086.29	92.78	268.50	7,255.28	280.10	-8,593.12	8,591.43	0.60	-0.30	-0.52	
16,099.71	92.74	268.44	7,254.63	279.74	-8,606.52	8,604.83	0.54	-0.30	-0.45	
16,113.14	92.69	268.37	7,254.00	279.37	-8,619.93	8,618.24	0.64	-0.37	-0.52	
16,126.57	92.61	268.30	7,253.38	278.98	-8,633.34	8,631.65	0.79	-0.60	-0.52	
16,140.00	92.54	268.23	7,252.77	278.57	-8,646.75	8,645.06	0.74	-0.52	-0.52	
16,153.71	92.46	268.16	7,252.18	278.14	-8,660.44	8,658.75	0.78	-0.58	-0.51	
16,167.43	92.39	268.10	7,251.59	277.70	-8,674.14	8,672.46	0.67	-0.51	-0.44	
16,181.14	92.34	268.03	7,251.03	277.23	-8,687.83	8,686.15	0.63	-0.36	-0.51	
16,194.86	92.30	267.96	7,250.47	276.75	-8,701.53	8,699.85	0.59	-0.29	-0.51	
16,208.57	92.27	267.89	7,249.93	276.26	-8,715.22	8,713.55	0.56	-0.22	-0.51	
16,222.29	92.24	267.82	7,249.39	275.74	-8,728.92	8,727.25	0.55	-0.22	-0.51	
16,236.00	92.20	267.74	7,248.86	275.21	-8,742.61	8,740.94	0.65	-0.29	-0.58	
16,249.43	92.16	267.65	7,248.35	274.67	-8,756.02	8,754.35	0.73	-0.30	-0.67	
16,262.86	92.13	267.55	7,247.84	274.11	-8,769.43	8,767.76	0.78	-0.22	-0.74	
16,276.29	92.10	267.46	7,247.35	273.53	-8,782.84	8,781.18	0.71	-0.22	-0.67	
16,289.71	92.09	267.37	7,246.86	272.92	-8,796.24	8,794.58	0.67	-0.07	-0.67	
16,303.14	92.09	267.29	7,246.37	272.30	-8,809.64	8,807.99	0.60	0.00	-0.60	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
16,316.57	92.09	267.23	7,245.88	271.66	-8,823.05	8,821.40	0.45	0.00	-0.45	
16,330.00	92.09	267.20	7,245.39	271.00	-8,836.46	8,834.80	0.22	0.00	-0.22	
16,343.43	92.09	267.21	7,244.90	270.35	-8,849.86	8,848.21	0.07	0.00	0.07	
16,356.86	92.06	267.24	7,244.41	269.70	-8,863.27	8,861.62	0.32	-0.22	0.22	
16,370.29	92.01	267.29	7,243.93	269.06	-8,876.67	8,875.03	0.53	-0.37	0.37	
16,383.71	91.97	267.34	7,243.47	268.43	-8,890.07	8,888.43	0.48	-0.30	0.37	
16,397.14	91.92	267.38	7,243.01	267.81	-8,903.48	8,901.84	0.48	-0.37	0.30	
16,410.57	91.82	267.91	7,242.57	267.26	-8,916.89	8,915.26	4.01	-0.74	3.95	
16,424.00	91.63	269.34	7,242.17	266.94	-8,930.31	8,928.68	10.74	-1.41	10.65	
16,437.57	91.54	269.69	7,241.79	266.82	-8,943.87	8,942.24	2.66	-0.66	2.58	
16,451.14	91.52	269.61	7,241.43	266.74	-8,957.44	8,955.81	0.61	-0.15	-0.59	
16,464.71	91.53	269.52	7,241.07	266.64	-8,971.00	8,969.37	0.67	0.07	-0.66	
16,478.29	91.54	269.42	7,240.71	266.51	-8,984.58	8,982.95	0.74	0.07	-0.74	
16,491.86	91.51	269.32	7,240.35	266.36	-8,998.14	8,996.51	0.77	-0.22	-0.74	
16,505.43	91.48	269.23	7,239.99	266.19	-9,011.71	9,010.08	0.70	-0.22	-0.66	
16,519.00	91.43	269.15	7,239.65	266.00	-9,025.27	9,023.64	0.70	-0.37	-0.59	
16,532.43	91.37	269.10	7,239.32	265.80	-9,038.69	9,037.07	0.58	-0.45	-0.37	
16,545.86	91.31	269.06	7,239.00	265.58	-9,052.12	9,050.49	0.54	-0.45	-0.30	
16,559.29	91.24	269.04	7,238.71	265.36	-9,065.54	9,063.92	0.54	-0.52	-0.15	
16,572.71	91.18	269.01	7,238.42	265.13	-9,078.96	9,077.34	0.50	-0.45	-0.22	
16,586.14	91.13	268.99	7,238.15	264.89	-9,092.38	9,090.76	0.40	-0.37	-0.15	
16,599.57	91.09	268.97	7,237.89	264.66	-9,105.81	9,104.19	0.33	-0.30	-0.15	
16,613.00	91.05	268.93	7,237.64	264.41	-9,119.23	9,117.62	0.42	-0.30	-0.30	
16,626.57	91.02	268.88	7,237.40	264.15	-9,132.80	9,131.18	0.43	-0.22	-0.37	
16,640.14	90.98	268.81	7,237.16	263.88	-9,146.37	9,144.75	0.59	-0.29	-0.52	
16,653.71	90.94	268.74	7,236.93	263.59	-9,159.93	9,158.32	0.59	-0.29	-0.52	
16,667.29	90.90	268.67	7,236.71	263.28	-9,173.50	9,171.89	0.59	-0.29	-0.52	
16,680.86	90.86	268.61	7,236.51	262.96	-9,187.07	9,185.46	0.53	-0.29	-0.44	
16,694.43	90.83	268.55	7,236.31	262.62	-9,200.63	9,199.02	0.49	-0.22	-0.44	
16,708.00	90.83	268.50	7,236.11	262.27	-9,214.20	9,212.59	0.37	0.00	-0.37	
16,721.43	90.85	268.47	7,235.91	261.92	-9,227.62	9,226.02	0.27	0.15	-0.22	
16,734.86	90.89	268.46	7,235.71	261.56	-9,241.05	9,239.44	0.31	0.30	-0.07	
16,748.29	90.93	268.45	7,235.49	261.20	-9,254.47	9,252.87	0.31	0.30	-0.07	
16,761.71	90.99	268.44	7,235.27	260.83	-9,267.88	9,266.28	0.45	0.45	-0.07	
16,775.14	91.04	268.43	7,235.03	260.46	-9,281.30	9,279.71	0.38	0.37	-0.07	
16,788.57	91.10	268.41	7,234.78	260.09	-9,294.73	9,293.13	0.47	0.45	-0.15	
16,802.00	91.15	268.38	7,234.52	259.72	-9,308.15	9,306.55	0.43	0.37	-0.22	
16,815.57	91.18	268.33	7,234.24	259.33	-9,321.71	9,320.12	0.43	0.22	-0.37	
16,829.14	91.18	268.26	7,233.96	258.93	-9,335.27	9,333.68	0.52	0.00	-0.52	
16,842.71	91.18	268.19	7,233.68	258.51	-9,348.83	9,347.24	0.52	0.00	-0.52	
16,856.29	91.20	268.13	7,233.40	258.07	-9,362.40	9,360.82	0.47	0.15	-0.44	
16,869.86	91.26	268.08	7,233.11	257.62	-9,375.96	9,374.38	0.58	0.44	-0.37	
16,883.43	91.33	268.05	7,232.80	257.16	-9,389.52	9,387.94	0.56	0.52	-0.22	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
16,897.00	91.45	268.07	7,232.47	256.70	-9,403.08	9,401.50	0.90	0.88	0.15	
16,910.43	91.57	268.15	7,232.12	256.26	-9,416.50	9,414.92	1.07	0.89	0.60	
16,923.86	91.65	268.26	7,231.74	255.84	-9,429.92	9,428.34	1.01	0.60	0.82	
16,937.29	91.68	268.39	7,231.35	255.45	-9,443.33	9,441.76	0.99	0.22	0.97	
16,950.71	91.66	268.52	7,230.96	255.09	-9,456.74	9,455.17	0.98	-0.15	0.97	
16,964.14	91.63	268.64	7,230.58	254.75	-9,470.16	9,468.59	0.92	-0.22	0.89	
16,977.57	92.56	269.34	7,230.08	254.52	-9,483.58	9,482.01	8.67	6.92	5.21	
16,991.00	93.66	270.31	7,229.36	254.48	-9,496.99	9,495.42	10.91	8.19	7.22	
17,004.57	93.92	270.64	7,228.46	254.59	-9,510.53	9,508.96	3.09	1.92	2.43	
17,018.14	93.87	270.65	7,227.54	254.74	-9,524.07	9,522.50	0.38	-0.37	0.07	
17,031.71	93.86	270.64	7,226.62	254.89	-9,537.61	9,536.04	0.10	-0.07	-0.07	
17,045.29	93.84	270.63	7,225.71	255.04	-9,551.16	9,549.58	0.16	-0.15	-0.07	
17,058.86	93.84	270.61	7,224.80	255.19	-9,564.70	9,563.12	0.15	0.00	-0.15	
17,072.43	93.84	270.59	7,223.89	255.33	-9,578.23	9,576.66	0.15	0.00	-0.15	
17,086.00	93.83	270.57	7,222.99	255.47	-9,591.77	9,590.20	0.16	-0.07	-0.15	
17,099.43	93.85	270.54	7,222.09	255.60	-9,605.17	9,603.60	0.27	0.15	-0.22	
17,112.86	93.89	270.52	7,221.18	255.72	-9,618.57	9,616.99	0.33	0.30	-0.15	
17,126.29	93.92	270.50	7,220.26	255.84	-9,631.97	9,630.39	0.27	0.22	-0.15	
17,139.71	93.95	270.50	7,219.34	255.96	-9,645.36	9,643.78	0.22	0.22	0.00	
17,153.14	93.97	270.51	7,218.42	256.08	-9,658.75	9,657.17	0.17	0.15	0.07	
17,166.57	93.95	270.55	7,217.49	256.20	-9,672.15	9,670.57	0.33	-0.15	0.30	
17,180.00	93.93	270.64	7,216.57	256.34	-9,685.55	9,683.97	0.68	-0.15	0.67	
17,193.71	93.91	270.79	7,215.63	256.51	-9,699.23	9,697.64	1.10	-0.15	1.09	
17,207.43	93.89	270.99	7,214.70	256.72	-9,712.91	9,711.33	1.46	-0.15	1.46	
17,221.14	93.87	271.20	7,213.77	256.98	-9,726.59	9,725.00	1.54	-0.15	1.53	
17,234.86	93.85	271.42	7,212.84	257.30	-9,740.27	9,738.69	1.61	-0.15	1.60	
17,248.57	93.84	271.63	7,211.92	257.66	-9,753.95	9,752.36	1.53	-0.07	1.53	
17,262.29	93.86	271.82	7,211.00	258.07	-9,767.63	9,766.04	1.39	0.15	1.38	
17,276.00	93.87	271.96	7,210.08	258.52	-9,781.30	9,779.71	1.02	0.07	1.02	
17,289.43	93.88	272.01	7,209.17	258.99	-9,794.69	9,793.10	0.38	0.07	0.37	
17,302.86	93.86	272.02	7,208.27	259.46	-9,808.09	9,806.48	0.17	-0.15	0.07	
17,316.29	93.82	271.99	7,207.37	259.93	-9,821.48	9,819.87	0.37	-0.30	-0.22	
17,329.71	93.79	271.95	7,206.48	260.39	-9,834.86	9,833.25	0.37	-0.22	-0.30	
17,343.14	93.75	271.90	7,205.59	260.84	-9,848.25	9,846.64	0.48	-0.30	-0.37	
17,356.57	93.73	271.85	7,204.72	261.28	-9,861.65	9,860.03	0.40	-0.15	-0.37	
17,370.00	93.72	271.81	7,203.84	261.71	-9,875.04	9,873.43	0.31	-0.07	-0.30	
17,383.57	93.72	271.80	7,202.96	262.13	-9,888.58	9,886.96	0.07	0.00	-0.07	
17,397.14	93.73	271.79	7,202.08	262.56	-9,902.11	9,900.49	0.10	0.07	-0.07	
17,410.71	93.74	271.79	7,201.20	262.98	-9,915.65	9,914.02	0.07	0.07	0.00	
17,424.29	93.76	271.80	7,200.31	263.40	-9,929.19	9,927.56	0.16	0.15	0.07	
17,437.86	93.77	271.81	7,199.42	263.83	-9,942.72	9,941.10	0.10	0.07	0.07	
17,451.43	93.79	271.82	7,198.52	264.26	-9,956.26	9,954.63	0.16	0.15	0.07	
17,465.00	93.79	271.83	7,197.63	264.69	-9,969.79	9,968.16	0.07	0.00	0.07	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Shamrock 34 Fed Com 122H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3310+30 @ 3340.00usft
Site:	Shamrock 34 Fed State Com	MD Reference:	3310+30 @ 3340.00usft
Well:	Shamrock 34 Fed Com 122H	North Reference:	Grid
Wellbore:	122H	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)	
17,479.25	93.81	271.83	7,196.68	265.14	-9,984.00	9,982.37	0.14	0.14	0.00	
17,493.50	93.84	271.83	7,195.73	265.60	-9,998.21	9,996.57	0.21	0.21	0.00	
17,494.62	93.84	271.83	7,195.66	265.63	-9,999.33	9,997.69	0.00	0.00	0.00	
06-V10000(S-122H)										
17,507.75	93.88	271.83	7,194.77	266.05	-10,012.42	10,010.78	0.30	0.30	0.00	
17,522.00	93.91	271.82	7,193.80	266.50	-10,026.63	10,024.99	0.22	0.21	-0.07	
17,536.25	93.95	271.82	7,192.83	266.96	-10,040.84	10,039.20	0.28	0.28	0.00	
17,550.50	93.98	271.82	7,191.84	267.41	-10,055.05	10,053.40	0.21	0.21	0.00	
17,564.75	94.02	271.81	7,190.85	267.86	-10,069.26	10,067.61	0.29	0.28	-0.07	
17,566.51	94.02	271.81	7,190.73	267.91	-10,071.01	10,069.36	0.00	0.00	0.00	
07-LTP(S-122H)										
17,569.38	94.03	271.81	7,190.52	268.00	-10,073.88	10,072.22	0.34	0.34	0.00	
100FWL: 17569.38' MD, 10072.22' VS, 7190.52' TVD										
17,579.00	94.05	271.81	7,189.85	268.31	-10,083.47	10,081.81	0.21	0.21	0.00	
Final MWD Survey: 17579.00' MD, 94.05°INC, 271.81°AZ										
17,635.00	94.05	271.81	7,185.89	270.07	-10,139.30	10,137.63	0.00	0.00	0.00	
PTB: 17635.00' MD, 94.05°INC, 271.81°AZ - 08-PBHL(S-122H)										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
6,864.00	6,829.70	400.61	251.54	100FEL: 6864.00' MD, -253.77' VS, 6829.70' TVD	
6,927.00	6,892.60	401.15	248.06	KOP: 6927.00' MD, -250.29' VS, 6892.60' TVD	
7,889.00	7,471.22	321.09	-403.35	EOC: 7889.00' MD, 401.55' VS, 7471.22' TVD	
17,569.38	7,190.52	268.00	-10,073.88	100FWL: 17569.38' MD, 10072.22' VS, 7190.52' TVD	
17,579.00	7,189.85	268.31	-10,083.47	Final MWD Survey: 17579.00' MD, 94.05°INC, 271.81°AZ	
17,635.00	7,185.89	270.07	-10,139.30	PTB: 17635.00' MD, 94.05°INC, 271.81°AZ	

Checked By: _____	Approved By: _____	Date: _____
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Submit a Copy To Appropriate District
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. 30-015-47707
5. Indicate Type of Lease STATE ☐ FEE ☐
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Shamrock 34 Fed State Com
8. Well Number 122H
9. OGRID Number 371449
10. Pool name or Wildcat Winchester; BS & Old Millman Ranch
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3310 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: <u>H</u> <u>2632</u> feet from the <u>North</u> line and <u>340</u> feet from the <u>East</u> line Section: <u>34</u> Township: <u>19S</u> Range: <u>28E</u> NMPM County: <u>Eddy</u>	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3310 GL	

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☐			
OTHER: ☐		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.

3/12/2022- Pressured up casing to 7,100 psi with a 15 minute test and then to 8,100 with an additional 15 minute test
4/14/2022- Perf and frac stages 1-55.
Perfs 7,799-17,399
Frac with 366,683 bbl liquid and 19,130,433 lbs of proppant
05/05/2022- Drilled out plugs
Turn over to production. Tubing 2.875 @ 7,576
TD 17,635 - PBTD 17,180

Spud Date: 12/02/2021

Rig Release Date: 01/31/2022

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

SIGNATURE: Mikah Thomas TITLE: Sr. Regulatory Analyst DATE: 06/08/2022
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										
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)								5. Lease Name or Unit Agreement Name Shamrock 34 Fed State Com		
								6. Well Number: 122H		
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 Mareienfeld, Suite 1,000 Midland, Texas 79705						11. Pool name or Wildcat Winchester; BS & Old Millman Ranch				
12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:	H	34	19S	28E		2632	North	340	East	Eddy
BH:	E	33	19S	28E		2290	North	35	West	Eddy
13. Date Spudded 12/02/2021		14. Date T.D. Reached 01/28/2022		15. Date Rig Released 01/31/2022		16. Date Completed (Ready to Produce) 05/04/2022		17. Elevations (DF and RKB, RT, GR, etc.) 3310		
18. Total Measured Depth of Well 17,635			19. Plug Back Measured Depth 17,180			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 7,799-12,599 Winchester BS and 12,599-17,399 Old Millman Ranch										
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		356		17.5		Prem Plus 525 sx 1.34		
9.625		36		3,005		12.25		Prem Plus 550 sx 2.07, 210 sx 1.34		
5.5		17		17,611		8.75		Prem 650 sx 2.43, 1,200 sx 1.73		
24. LINER RECORD										
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN		25. TUBING RECORD				
						SIZE 2 7/8		DEPTH SET 7,576		PACKER SET
26. Perforation record (interval, size, and number) 7,799-17,399 0.37 1,815 holes						27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.				
						DEPTH INTERVAL		AMOUNT AND KIND MATERIAL USED		
						7,799-17,399		Total Proppant 19,130,433 – Total Fluid 366,683		
28. PRODUCTION										
Date First Production 05/24/2022		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 06/07/2022	Hours Tested 24	Choke Size 88/88	Prod'n For Test Period	Oil – Bbl 2,778	Gas – MCF 2,202	Water - Bbl. 2,186	Gas - Oil Ratio			
Flow Tubing Press. 2,100	Casing Pressure 400	Calculated 24- Hour Rate	Oil - Bbl. 2,778	Gas - MCF 2,202	Water - Bbl. 2,186	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-103, 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: Sr. Regulatory Analyst

Date: 06/08/2022

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- 106	T. Canyon	T. Ojo Alamo	T. Penn A"
T. Salt- 358	T. Strawn	T. Kirtland	T. Penn. "B"
B. Salt- 683	T. Atoka	T. Fruitland	T. Penn. "C"
T. Yates- 960	T. Miss	T. Pictured Cliffs	T. Penn. "D"
T. DLWR Mnt. Group- 3054	T. Devonian	T. Cliff House	T. Leadville
T. L Brushy Canyon- 3837	T. Silurian	T. Menefee	T. Madison
T. BS Lime- 4201	T. Montoya	T. Point Lookout	T. Elbert
T. 1 st Bone Spring SD- 6471	T. Simpson	T. Mancos	T. McCracken
T. 2 nd Bone Spring LM- 6693	T. McKee	T. Gallup	T. Ignacio Otzte
T. 2 nd Bone Spring SD- 7224	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. Capitan- 2520	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 128775

ACKNOWLEDGMENTS

Operator: COLGATE OPERATING, LLC 300 North Marienfeld Street Midland, TX 79701	OGRID: 371449
	Action Number: 128775
	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.

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CONDITIONS

Action 128775

CONDITIONS

Operator: COLGATE OPERATING, LLC 300 North Marienfeld Street Midland, TX 79701	OGRID: 371449
	Action Number: 128775
	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.	8/12/2022