

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

Energy, Minerals & Natural Resources

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

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address Colgate Operating, LLC 300 N Marienfeld Street, Suite 1000 Midland, Tx 79701		² OGRID Number 371449	
		³ Reason for Filing Code/ Effective Date RT NW	
⁴ API Number 30 – 015 – 47999	⁵ Pool Name PARKWAY; BONE SPRING		⁶ Pool Code 49622
⁷ Property Code 330007	⁸ Property Name CRAZY HORSE 32 STATE FED COM		⁹ Well Number 134H

II. ¹⁰ Surface Location

UL or lot no. M	Section 32	Township 19S	Range 30E	Lot Idn	Feet from the 1244 1243	North/South Line South	Feet from the 235	East/West line West	County Eddy
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¹¹ Bottom Hole Location

UL or lot no. P	Section 33	Township 19S	Range 30E	Lot Idn	Feet from the 349	North/South line South	Feet from the 17	East/West line East	County Eddy
¹² Lse Code F	¹³ Producing Method Code		¹⁴ Gas Connection Date 12/01/2021		¹⁵ C-129 Permit Number		¹⁶ C-129 Effective Date		¹⁷ C-129 Expiration Date

III. Oil and Gas Transporters

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

IV. Well Completion Data

²¹ Spud Date 09/14/2021	²² Ready Date 01/05/2022	²³ TD 19,718 MD 9,389 TVD	²⁴ PBDT 19,606 MD 9,542 TVD	²⁵ Perforations 9,883 – 19,483	²⁶ DHC, MC
²⁷ Hole Size		²⁸ Casing & Tubing Size		²⁹ Depth Set	³⁰ Sacks Cement
22.375		18.625		371	375 sx
17.5		13.375		1,584	625 sx Lead 280 sx Tail
12.25		9.625		3,322	520 sx Lead 225 sx Tail
8.75		5.5		19,700	710 sx Lead 1,750 sx Tail

V. Well Test Data

³¹ Date New Oil 01/07/2022	³² Gas Delivery Date 01/11/2022	³³ Test Date 02/26/2022	³⁴ Test Length 24 hours	³⁵ Tbg. Pressure 2025	³⁶ Csg. Pressure 260
³⁷ Choke Size 88/88	³⁸ Oil 286	³⁹ Water 3025	⁴⁰ Gas 1250		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: Operations Tech			Title: PETROLEUM SPECIALIST		
E-mail Address: mthomas@colgateenergy.com			Approval Date: 3/24/2022		
Date: 03/01/2022		Phone: 432-695-4272			

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

DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, N.M. 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, N.M. 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

AS-DRILLED

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-47999	² Pool Code 49622	³ Pool Name Parkway; Bone Spring
⁴ Property Code 330007	⁵ Property Name Crazy Horse 32 State Fed Com	
⁷ OGRID No. 371449	⁶ Operator Name Colgate Operating, LLC	⁸ Well Number 134H
		⁹ Elevation 3263

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
M	32	19 S	30 E		1244	South	235	West	Eddy

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	33	19 S	30 E		349	South	17	East	Eddy

¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16

Legend:

- = Surface Location
- = Bottom Hole Location
- △ = First Take Point (FTP)
- = Last Take Point (LTP)
- ⊙ = Found 1916 USGLO
- ⊕ = Brass Cap
- ⊗ = Found Monument

NOTE:
DOWNHOLE INFORMATION TAKEN
FROM A REPORT FURNISHED
BY COLGATE ENERGY
DATED 10-14-2021

SURFACE LOCATION
NAD 83 NMSPC ZONE 3001
Y= 586932.16 N
X= 643358.57 E
LAT.= 32.6130907° N
LONG.= 104.0019975° W

BOTTOM HOLE LOCATION
NAD 83 NMSPC ZONE 3001
Y= 586048.86 N
X= 653687.75 E
LAT.= 32.6105698° N
LONG.= 103.9684616° W

FIRST TAKE POINT LOCATION
NAD 83 NMSPC ZONE 3001
Y= 585991.44 N
X= 643375.71 E
LAT.= 32.6105048° N
LONG.= 104.0019514° W

LAST TAKE POINT LOCATION
NAD 83 NMSPC ZONE 3001
Y= 586048.74 N
X= 653605.28 E
LAT.= 32.6105702° N
LONG.= 103.9687295° W

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: Mikah Thomas Date: 12/19/2021

Printed Name: Mikah Thomas

E-mail Address: mthomas@colgateenergy.com

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

3/20/21

Date of Survey: 11/16/21
Plat Revised: 11/16/21
Signature and Seal of Professional Surveyor: Marshall W. Lindeen

17078

Certificate Number



Colgate Energy

Eddy County, NM (N83-NME)

Crazy Horse 32 State Fed Com

Crazy Horse 32 State Fed Com 134H

30-015-47999

134H

Design: DRL

Standard Survey Report

14 October, 2021



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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		Crazy Horse 32 State Fed Com				
Site Position:		Northing:	586,991.40	usft	Latitude:	32.61325351
From:	Map	Easting:	643,359.01	usft	Longitude:	-104.00199549
Position Uncertainty:		0.00	usft	Slot Radius:	13-3/16	"

Well	Crazy Horse 32 State Fed Com 134H					
Well Position	+N/-S	0.00 usft	Northing:	586,931.29 usft	Latitude:	32.61308828
	+E/-W	0.00 usft	Easting:	643,359.23 usft	Longitude:	-104.00199538
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,259.00 usft
Grid Convergence:		0.18 °				

Wellbore	134H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IFR	9/13/2021	7.00	60.31	47,829.80000000

Design	DRL				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00		89.94

Survey Program	Date	10/14/2021			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
14.00	19,658.00	Survey #01_Gordon MWD (134H)	MWD+IFR1+SAG+FDIR (SQ OWSG MWD + IFR1 + Sag + FDIR Correction		
19,718.00	19,718.00	Survey #02_PTB (134H)	BLIND	BLIND	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14.00	0.04	81.27	14.00	0.00	0.00	0.00	0.29	0.29	0.00	
28.00	0.08	81.43	28.00	0.00	0.02	0.02	0.29	0.29	1.14	
42.00	0.12	81.52	42.00	0.01	0.04	0.04	0.29	0.29	0.64	
56.00	0.16	81.68	56.00	0.01	0.08	0.08	0.29	0.29	1.14	
70.00	0.20	81.84	70.00	0.02	0.12	0.12	0.29	0.29	1.14	
84.00	0.24	82.00	84.00	0.03	0.17	0.17	0.29	0.29	1.14	
98.00	0.28	82.16	98.00	0.03	0.24	0.24	0.29	0.29	1.14	
112.00	0.32	82.34	112.00	0.04	0.31	0.31	0.29	0.29	1.29	



Survey Report

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Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
126.00	0.36	82.50	126.00	0.05	0.39	0.39	0.29	0.29	1.14
139.00	0.40	82.64	139.00	0.07	0.48	0.48	0.29	0.29	1.08
Rustler									
140.00	0.40	82.65	140.00	0.07	0.48	0.48	0.29	0.29	0.97
154.00	0.45	82.80	154.00	0.08	0.59	0.59	0.36	0.36	1.07
168.00	0.49	82.95	168.00	0.09	0.70	0.70	0.29	0.29	1.07
182.00	0.53	83.10	182.00	0.11	0.82	0.82	0.29	0.29	1.07
196.00	0.57	83.25	196.00	0.13	0.96	0.96	0.29	0.29	1.07
210.43	0.60	80.14	210.43	0.15	1.10	1.10	0.30	0.21	-21.55
224.86	0.62	77.32	224.86	0.18	1.25	1.25	0.25	0.14	-19.54
239.29	0.65	74.77	239.28	0.22	1.41	1.41	0.29	0.21	-17.67
253.71	0.68	72.46	253.70	0.26	1.57	1.57	0.28	0.21	-16.02
268.14	0.71	70.36	268.13	0.32	1.74	1.74	0.27	0.21	-14.55
282.57	0.75	68.47	282.56	0.38	1.91	1.91	0.32	0.28	-13.10
297.00	0.78	66.75	296.99	0.46	2.09	2.09	0.26	0.21	-11.92
312.00	0.70	62.79	311.99	0.54	2.26	2.26	0.63	-0.53	-26.40
327.00	0.62	57.86	326.99	0.62	2.41	2.41	0.65	-0.53	-32.87
342.00	0.55	51.66	341.99	0.71	2.54	2.54	0.63	-0.47	-41.33
357.00	0.49	43.80	356.99	0.80	2.64	2.64	0.62	-0.40	-52.40
372.00	0.44	33.93	371.99	0.90	2.71	2.72	0.63	-0.33	-65.80
379.01	0.42	28.58	379.00	0.94	2.74	2.74	0.62	-0.23	-76.20
Top of Salt									
387.00	0.41	22.05	386.99	0.99	2.77	2.77	0.62	-0.17	-81.83
402.00	0.39	8.67	401.98	1.09	2.79	2.80	0.64	-0.13	-89.20
417.00	0.40	355.07	416.98	1.20	2.80	2.80	0.63	0.07	-90.67
432.00	0.43	342.65	431.98	1.30	2.78	2.78	0.63	0.20	-82.80
447.00	0.47	332.17	446.98	1.41	2.73	2.73	0.61	0.27	-69.87
462.00	0.53	323.78	461.98	1.52	2.66	2.66	0.63	0.40	-55.93
477.00	0.60	317.13	476.98	1.64	2.57	2.57	0.64	0.47	-44.33
490.14	0.54	312.15	490.12	1.73	2.47	2.48	0.59	-0.46	-37.90
503.29	0.48	306.02	503.27	1.80	2.38	2.39	0.62	-0.46	-46.62
516.43	0.43	298.34	516.41	1.86	2.30	2.30	0.60	-0.38	-58.45
529.57	0.39	288.94	529.55	1.89	2.21	2.21	0.59	-0.30	-71.54
542.71	0.37	277.83	542.69	1.92	2.13	2.13	0.58	-0.15	-84.55
555.86	0.35	265.44	555.84	1.92	2.04	2.05	0.61	-0.15	-94.22
569.00	0.84	207.89	568.98	1.83	1.96	1.96	5.45	3.73	-437.98
582.00	1.81	193.27	581.98	1.55	1.87	1.87	7.84	7.46	-112.46
595.00	2.84	187.49	594.96	1.03	1.78	1.78	8.12	7.92	-44.46
608.00	3.82	184.54	607.94	0.28	1.70	1.70	7.65	7.54	-22.69
621.00	3.94	183.81	620.91	-0.60	1.64	1.64	1.00	0.92	-5.62
634.00	4.08	183.06	633.88	-1.51	1.58	1.58	1.15	1.08	-5.77
647.00	4.21	182.38	646.85	-2.45	1.54	1.54	1.07	1.00	-5.23
660.00	4.81	182.43	659.81	-3.47	1.50	1.49	4.62	4.62	0.38



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)	
674.08	5.91	182.79	673.83	-4.78	1.44	1.43	7.82	7.81	2.56	
688.15	7.04	182.46	687.81	-6.37	1.36	1.36	8.04	8.03	-2.35	
702.23	7.95	181.17	701.76	-8.20	1.31	1.30	6.57	6.46	-9.16	
716.31	8.08	181.11	715.71	-10.17	1.27	1.26	0.93	0.92	-0.43	
730.38	8.21	181.10	729.64	-12.16	1.23	1.22	0.92	0.92	-0.07	
744.46	8.34	181.10	743.57	-14.19	1.19	1.17	0.92	0.92	0.00	
758.54	8.47	181.11	757.50	-16.24	1.15	1.13	0.92	0.92	0.07	
772.62	8.61	181.14	771.42	-18.33	1.11	1.09	0.99	0.99	0.21	
786.69	8.75	181.15	785.33	-20.46	1.07	1.05	1.00	1.00	0.07	
800.77	8.88	181.14	799.24	-22.61	1.02	1.00	0.92	0.92	-0.07	
814.85	9.02	181.12	813.15	-24.80	0.98	0.95	0.99	0.99	-0.14	
828.92	9.15	181.05	827.05	-27.03	0.94	0.91	0.93	0.92	-0.50	
843.00	9.28	180.93	840.94	-29.28	0.90	0.87	0.93	0.92	-0.85	
857.44	9.41	180.72	855.19	-31.62	0.87	0.83	0.93	0.90	-1.45	
871.89	9.54	180.46	869.45	-34.00	0.84	0.81	0.95	0.90	-1.80	
886.33	9.66	180.16	883.68	-36.41	0.83	0.79	0.90	0.83	-2.08	
900.78	9.78	179.86	897.93	-38.85	0.83	0.79	0.90	0.83	-2.08	
915.22	9.90	179.54	912.15	-41.32	0.84	0.80	0.91	0.83	-2.22	
929.67	10.03	179.23	926.39	-43.82	0.87	0.82	0.97	0.90	-2.15	
944.11	10.16	178.92	940.60	-46.35	0.91	0.86	0.98	0.90	-2.15	
958.56	10.30	178.63	954.82	-48.92	0.96	0.91	1.03	0.97	-2.01	
973.00	10.46	178.35	969.03	-51.52	1.03	0.98	1.16	1.11	-1.94	
986.57	10.62	178.08	982.37	-54.00	1.11	1.05	1.23	1.18	-1.99	
1,000.14	10.80	177.81	995.70	-56.52	1.20	1.14	1.38	1.33	-1.99	
1,013.71	10.98	177.57	1,009.03	-59.08	1.30	1.24	1.37	1.33	-1.77	
1,027.29	11.16	177.35	1,022.35	-61.68	1.42	1.35	1.36	1.33	-1.62	
1,040.86	11.32	177.16	1,035.66	-64.33	1.55	1.48	1.21	1.18	-1.40	
1,054.43	11.46	176.99	1,048.97	-67.00	1.68	1.61	1.06	1.03	-1.25	
1,068.00	10.62	176.71	1,062.28	-69.60	1.82	1.75	6.20	-6.19	-2.06	
1,081.43	9.77	176.00	1,075.50	-71.97	1.98	1.90	6.40	-6.33	-5.29	
1,094.86	9.82	175.95	1,088.74	-74.25	2.14	2.06	0.38	0.37	-0.37	
1,108.29	9.85	175.92	1,101.97	-76.54	2.30	2.22	0.23	0.22	-0.22	
1,121.71	9.87	175.90	1,115.19	-78.83	2.46	2.38	0.15	0.15	-0.15	
1,135.14	9.88	175.86	1,128.42	-81.13	2.63	2.54	0.09	0.07	-0.30	
1,148.57	9.88	175.78	1,141.65	-83.42	2.80	2.71	0.10	0.00	-0.60	
1,162.00	9.87	175.63	1,154.88	-85.72	2.97	2.88	0.21	-0.07	-1.12	
1,175.57	9.86	175.35	1,168.25	-88.04	3.15	3.06	0.36	-0.07	-2.06	
1,189.14	9.84	174.99	1,181.62	-90.35	3.35	3.25	0.48	-0.15	-2.65	
1,202.71	9.83	174.59	1,194.99	-92.66	3.56	3.46	0.51	-0.07	-2.95	
1,216.29	9.82	174.17	1,208.37	-94.97	3.78	3.68	0.53	-0.07	-3.09	
1,229.86	9.81	173.77	1,221.75	-97.27	4.03	3.92	0.51	-0.07	-2.95	
1,243.43	9.82	173.40	1,235.12	-99.57	4.29	4.18	0.47	0.07	-2.73	
1,257.00	9.86	173.11	1,248.49	-101.87	4.56	4.45	0.47	0.29	-2.14	
1,270.43	9.93	172.92	1,261.72	-104.16	4.84	4.73	0.58	0.52	-1.41	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
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Design:	DRL	Database:	EDM 5000.14 Single User Db

Survey									
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1,283.86	10.02	172.79	1,274.94	-106.47	5.13	5.02	0.69	0.67	-0.97
1,297.29	10.12	172.71	1,288.17	-108.80	5.42	5.31	0.75	0.74	-0.60
1,303.21	10.16	172.68	1,294.00	-109.83	5.56	5.44	0.75	0.75	-0.52
Base of Salt									
1,310.71	10.22	172.64	1,301.38	-111.15	5.73	5.61	0.75	0.75	-0.52
1,324.14	10.33	172.57	1,314.59	-113.52	6.03	5.92	0.82	0.82	-0.52
1,337.57	10.42	172.49	1,327.80	-115.92	6.35	6.23	0.68	0.67	-0.60
1,351.00	10.49	172.36	1,341.01	-118.34	6.67	6.55	0.55	0.52	-0.97
1,364.57	10.53	172.17	1,354.35	-120.79	7.00	6.88	0.39	0.29	-1.40
1,378.14	10.55	171.93	1,367.69	-123.25	7.35	7.22	0.36	0.15	-1.77
1,391.71	10.55	171.64	1,381.03	-125.71	7.70	7.57	0.39	0.00	-2.14
1,405.29	10.53	171.33	1,394.38	-128.16	8.07	7.94	0.44	-0.15	-2.28
1,418.86	10.50	170.97	1,407.73	-130.61	8.45	8.31	0.53	-0.22	-2.65
1,432.43	10.45	170.55	1,421.07	-133.05	8.85	8.71	0.67	-0.37	-3.10
1,446.00	10.36	170.06	1,434.42	-135.46	9.26	9.12	0.93	-0.66	-3.61
1,460.40	10.23	169.43	1,448.59	-137.99	9.72	9.57	1.19	-0.90	-4.38
1,474.80	10.08	168.72	1,462.76	-140.49	10.20	10.05	1.36	-1.04	-4.93
1,476.06	10.06	168.65	1,464.00	-140.70	10.24	10.09	1.55	-1.26	-5.19
Yates									
1,489.20	9.90	167.96	1,476.94	-142.93	10.70	10.55	1.55	-1.25	-5.29
1,503.60	9.72	167.20	1,491.13	-145.33	11.23	11.08	1.54	-1.25	-5.28
1,518.00	9.54	166.45	1,505.33	-147.67	11.78	11.62	1.52	-1.25	-5.21
1,532.63	9.36	165.83	1,519.76	-150.01	12.35	12.20	1.41	-1.23	-4.24
1,547.25	9.17	165.28	1,534.19	-152.29	12.94	12.78	1.43	-1.30	-3.76
1,561.88	8.99	164.79	1,548.64	-154.52	13.54	13.38	1.34	-1.23	-3.35
1,576.50	8.81	164.38	1,563.08	-156.70	14.14	13.97	1.31	-1.23	-2.80
1,591.13	8.64	164.09	1,577.54	-158.83	14.74	14.58	1.20	-1.16	-1.98
1,605.75	8.48	163.96	1,592.00	-160.92	15.34	15.17	1.10	-1.09	-0.89
1,620.38	8.32	164.07	1,606.47	-162.98	15.93	15.76	1.10	-1.09	0.75
1,635.00	8.19	164.57	1,620.94	-165.00	16.50	16.32	1.02	-0.89	3.42
1,648.43	8.08	165.61	1,634.23	-166.84	16.99	16.81	1.37	-0.82	7.74
1,661.86	8.00	166.99	1,647.53	-168.66	17.43	17.25	1.56	-0.60	10.28
1,675.29	7.94	168.58	1,660.83	-170.48	17.82	17.65	1.70	-0.45	11.84
1,688.71	7.89	170.26	1,674.12	-172.30	18.16	17.98	1.76	-0.37	12.52
1,702.14	7.86	171.95	1,687.43	-174.12	18.45	18.27	1.74	-0.22	12.58
1,715.57	7.84	173.53	1,700.73	-175.93	18.68	18.50	1.61	-0.15	11.76
1,729.00	7.83	174.87	1,714.04	-177.76	18.87	18.68	1.36	-0.07	9.98
1,742.57	7.56	178.25	1,727.48	-179.57	18.98	18.79	3.88	-1.99	24.91
1,756.14	7.48	182.52	1,740.94	-181.34	18.96	18.77	4.16	-0.59	31.47
1,769.71	7.49	183.79	1,754.39	-183.11	18.87	18.67	1.22	0.07	9.36
1,783.29	7.53	184.04	1,767.86	-184.88	18.75	18.55	0.38	0.29	1.84
1,796.86	7.56	184.23	1,781.31	-186.66	18.62	18.42	0.29	0.22	1.40
1,810.43	7.58	184.46	1,794.76	-188.44	18.48	18.28	0.27	0.15	1.69



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
1,824.00	7.58	184.81	1,808.21	-190.22	18.34	18.14	0.34	0.00	2.58
1,837.57	7.53	185.47	1,821.66	-192.00	18.18	17.98	0.74	-0.37	4.86
1,850.01	7.46	186.24	1,834.00	-193.61	18.01	17.81	1.00	-0.59	6.18
Capitan									
1,851.14	7.45	186.31	1,835.12	-193.76	18.00	17.79	1.00	-0.58	6.25
1,864.71	7.37	187.29	1,848.57	-195.50	17.79	17.58	1.10	-0.59	7.22
1,878.29	7.27	188.33	1,862.04	-197.21	17.55	17.35	1.22	-0.74	7.66
1,891.86	7.19	189.40	1,875.51	-198.90	17.29	17.08	1.15	-0.59	7.89
1,905.43	7.11	190.45	1,888.97	-200.56	17.00	16.79	1.13	-0.59	7.74
1,919.00	7.00	191.69	1,902.44	-202.20	16.68	16.47	1.38	-0.81	9.14
1,932.43	6.61	194.83	1,915.77	-203.75	16.32	16.10	4.01	-2.90	23.38
1,945.86	6.35	199.46	1,929.12	-205.19	15.87	15.66	4.34	-1.94	34.48
1,959.29	6.30	201.35	1,942.46	-206.58	15.35	15.14	1.59	-0.37	14.07
1,972.71	6.34	201.96	1,955.80	-207.95	14.81	14.59	0.58	0.30	4.55
1,986.14	6.38	202.50	1,969.15	-209.33	14.25	14.03	0.54	0.30	4.02
1,999.57	6.43	202.97	1,982.50	-210.71	13.67	13.45	0.54	0.37	3.50
2,013.00	6.47	203.33	1,995.84	-212.10	13.07	12.85	0.42	0.30	2.68
2,026.43	6.49	203.56	2,009.19	-213.49	12.47	12.25	0.24	0.15	1.71
2,039.86	6.50	203.69	2,022.53	-214.88	11.86	11.64	0.13	0.07	0.97
2,053.29	6.51	203.79	2,035.87	-216.28	11.25	11.02	0.11	0.07	0.74
2,066.71	6.50	203.85	2,049.21	-217.67	10.64	10.41	0.09	-0.07	0.45
2,080.14	6.49	203.93	2,062.55	-219.05	10.02	9.79	0.10	-0.07	0.60
2,093.57	6.47	204.05	2,075.90	-220.44	9.40	9.17	0.18	-0.15	0.89
2,107.00	6.44	204.24	2,089.24	-221.82	8.79	8.55	0.27	-0.22	1.41
2,120.57	6.40	204.60	2,102.72	-223.20	8.16	7.93	0.42	-0.29	2.65
2,134.14	6.35	205.05	2,116.21	-224.57	7.53	7.29	0.52	-0.37	3.32
2,147.71	6.29	205.54	2,129.70	-225.92	6.89	6.65	0.59	-0.44	3.61
2,161.29	6.23	206.07	2,143.20	-227.25	6.24	6.01	0.61	-0.44	3.90
2,174.86	6.18	206.59	2,156.69	-228.56	5.59	5.35	0.55	-0.37	3.83
2,188.43	6.14	207.08	2,170.18	-229.86	4.94	4.70	0.49	-0.29	3.61
2,202.00	6.03	207.65	2,183.67	-231.14	4.28	4.03	0.92	-0.81	4.20
2,215.43	5.45	209.26	2,197.04	-232.32	3.64	3.39	4.48	-4.32	11.99
2,228.86	5.37	209.04	2,210.41	-233.43	3.02	2.78	0.62	-0.60	-1.64
2,242.29	5.39	209.17	2,223.78	-234.53	2.41	2.16	0.17	0.15	0.97
2,255.71	5.41	209.26	2,237.14	-235.63	1.79	1.54	0.16	0.15	0.67
2,269.14	5.45	209.34	2,250.51	-236.74	1.17	0.92	0.30	0.30	0.60
2,282.57	5.48	209.45	2,263.88	-237.85	0.54	0.29	0.24	0.22	0.82
2,296.00	5.52	209.61	2,277.24	-238.97	-0.09	-0.34	0.32	0.30	1.19
2,309.57	5.57	209.89	2,290.75	-240.11	-0.74	-1.00	0.42	0.37	2.06
2,323.14	5.61	210.23	2,304.26	-241.26	-1.41	-1.66	0.38	0.29	2.51
2,336.71	5.65	210.61	2,317.76	-242.40	-2.08	-2.33	0.40	0.29	2.80
2,350.29	5.68	211.01	2,331.27	-243.56	-2.77	-3.02	0.37	0.22	2.95
2,363.86	5.70	211.41	2,344.78	-244.71	-3.46	-3.72	0.33	0.15	2.95
2,377.43	5.70	211.82	2,358.28	-245.85	-4.17	-4.43	0.30	0.00	3.02



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
2,391.00	5.66	212.21	2,371.78	-246.99	-4.88	-5.14	0.41	-0.29	2.87
2,404.43	5.58	212.56	2,385.15	-248.10	-5.59	-5.85	0.65	-0.60	2.61
2,417.86	5.46	212.90	2,398.52	-249.19	-6.29	-6.55	0.93	-0.89	2.53
2,431.29	5.33	213.23	2,411.89	-250.25	-6.97	-7.24	1.00	-0.97	2.46
2,444.71	5.20	213.56	2,425.25	-251.28	-7.65	-7.92	0.99	-0.97	2.46
2,458.14	5.06	213.88	2,438.63	-252.28	-8.32	-8.58	1.06	-1.04	2.38
2,471.57	4.94	214.18	2,452.01	-253.25	-8.97	-9.24	0.91	-0.89	2.23
2,485.00	4.44	213.90	2,465.39	-254.16	-9.59	-9.85	3.73	-3.72	-2.08
2,498.57	3.92	212.59	2,478.92	-254.98	-10.13	-10.40	3.90	-3.83	-9.65
2,512.14	3.87	212.85	2,492.46	-255.76	-10.63	-10.90	0.39	-0.37	1.92
2,525.71	3.82	213.08	2,506.00	-256.52	-11.12	-11.39	0.39	-0.37	1.69
2,539.29	3.79	213.29	2,519.55	-257.28	-11.62	-11.89	0.24	-0.22	1.55
2,552.86	3.75	213.49	2,533.09	-258.02	-12.11	-12.38	0.31	-0.29	1.47
2,566.43	3.73	213.71	2,546.63	-258.76	-12.60	-12.87	0.18	-0.15	1.62
2,580.00	3.71	213.94	2,560.18	-259.49	-13.09	-13.36	0.18	-0.15	1.69
2,593.43	3.69	214.24	2,573.58	-260.21	-13.57	-13.85	0.21	-0.15	2.23
2,606.86	3.68	214.55	2,586.98	-260.92	-14.06	-14.34	0.17	-0.07	2.31
2,620.29	3.67	214.86	2,600.38	-261.63	-14.55	-14.83	0.17	-0.07	2.31
2,633.71	3.67	215.17	2,613.78	-262.33	-15.05	-15.32	0.15	0.00	2.31
2,647.14	3.67	215.44	2,627.18	-263.03	-15.54	-15.82	0.13	0.00	2.01
2,660.57	3.68	215.67	2,640.58	-263.73	-16.04	-16.32	0.13	0.07	1.71
2,674.00	3.70	215.83	2,653.98	-264.43	-16.55	-16.82	0.17	0.15	1.19
2,687.57	3.73	215.88	2,667.52	-265.15	-17.06	-17.34	0.22	0.22	0.37
2,701.14	3.78	215.87	2,681.06	-265.87	-17.58	-17.86	0.37	0.37	-0.07
2,714.71	3.82	215.84	2,694.60	-266.60	-18.11	-18.39	0.30	0.29	-0.22
2,728.29	3.87	215.83	2,708.15	-267.33	-18.64	-18.92	0.37	0.37	-0.07
2,741.86	3.92	215.87	2,721.69	-268.08	-19.18	-19.46	0.37	0.37	0.29
2,755.43	3.96	216.01	2,735.23	-268.84	-19.73	-20.01	0.30	0.29	1.03
2,769.00	4.00	216.30	2,748.77	-269.60	-20.29	-20.57	0.33	0.29	2.14
2,782.43	4.01	216.84	2,762.17	-270.35	-20.84	-21.13	0.29	0.07	4.02
2,795.86	4.02	217.52	2,775.56	-271.10	-21.41	-21.70	0.36	0.07	5.06
2,809.29	4.03	218.29	2,788.96	-271.84	-21.99	-22.28	0.41	0.07	5.73
2,822.71	4.03	219.10	2,802.35	-272.58	-22.58	-22.87	0.42	0.00	6.04
2,836.14	4.04	219.90	2,815.74	-273.31	-23.18	-23.47	0.43	0.07	5.96
2,849.57	4.04	220.64	2,829.14	-274.03	-23.79	-24.08	0.39	0.00	5.51
2,863.00	4.05	221.27	2,842.54	-274.75	-24.42	-24.70	0.34	0.07	4.69
2,876.43	4.06	221.71	2,855.93	-275.46	-25.04	-25.33	0.24	0.07	3.28
2,889.86	4.08	222.03	2,869.33	-276.17	-25.68	-25.97	0.23	0.15	2.38
2,903.29	4.10	222.28	2,882.72	-276.88	-26.32	-26.61	0.20	0.15	1.86
2,916.71	4.12	222.48	2,896.11	-277.59	-26.97	-27.26	0.18	0.15	1.49
2,930.14	4.14	222.66	2,909.50	-278.30	-27.63	-27.92	0.18	0.15	1.34
2,943.57	4.16	222.83	2,922.90	-279.01	-28.29	-28.58	0.17	0.15	1.27
2,957.00	4.18	223.03	2,936.29	-279.73	-28.95	-29.24	0.18	0.15	1.49



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)	
2,970.57	4.21	223.27	2,949.83	-280.45	-29.63	-29.92	0.26	0.22	1.77	
2,984.14	4.24	223.54	2,963.36	-281.18	-30.32	-30.61	0.27	0.22	1.99	
2,997.71	4.27	223.84	2,976.89	-281.91	-31.01	-31.31	0.28	0.22	2.21	
3,011.29	4.30	224.17	2,990.44	-282.64	-31.72	-32.01	0.29	0.22	2.43	
3,024.86	4.33	224.54	3,003.97	-283.37	-32.43	-32.73	0.30	0.22	2.73	
3,038.43	4.37	224.96	3,017.50	-284.10	-33.16	-33.45	0.38	0.29	3.10	
3,052.00	4.41	225.46	3,031.03	-284.83	-33.89	-34.19	0.41	0.29	3.68	
3,065.43	4.46	226.09	3,044.42	-285.55	-34.64	-34.94	0.52	0.37	4.69	
3,078.86	4.52	226.78	3,057.81	-286.28	-35.40	-35.70	0.60	0.45	5.14	
3,092.29	4.58	227.50	3,071.19	-287.00	-36.18	-36.48	0.62	0.45	5.36	
3,105.71	4.64	228.20	3,084.57	-287.73	-36.98	-37.28	0.61	0.45	5.22	
3,119.14	4.70	228.88	3,097.96	-288.45	-37.80	-38.10	0.61	0.45	5.06	
3,132.57	4.76	229.52	3,111.34	-289.17	-38.64	-38.94	0.59	0.45	4.77	
3,146.00	4.81	230.08	3,124.72	-289.90	-39.49	-39.80	0.51	0.37	4.17	
3,159.50	4.86	230.58	3,138.18	-290.62	-40.37	-40.67	0.48	0.37	3.70	
3,173.00	4.90	231.02	3,151.63	-291.35	-41.26	-41.56	0.41	0.30	3.26	
3,186.50	4.94	231.40	3,165.08	-292.07	-42.16	-42.47	0.38	0.30	2.81	
3,200.00	4.97	231.74	3,178.53	-292.80	-43.08	-43.38	0.31	0.22	2.52	
3,213.50	5.01	232.05	3,191.98	-293.52	-44.00	-44.31	0.36	0.30	2.30	
3,227.00	5.04	232.33	3,205.42	-294.25	-44.93	-45.24	0.29	0.22	2.07	
3,240.50	5.07	232.60	3,218.87	-294.97	-45.88	-46.19	0.28	0.22	2.00	
3,254.00	5.10	232.86	3,232.32	-295.70	-46.83	-47.14	0.28	0.22	1.93	
3,268.88	5.13	233.15	3,247.14	-296.50	-47.89	-48.20	0.27	0.20	1.95	
3,283.75	5.17	233.41	3,261.95	-297.29	-48.96	-49.27	0.31	0.27	1.75	
3,298.63	5.20	233.61	3,276.77	-298.09	-50.04	-50.35	0.24	0.20	1.34	
3,313.50	5.23	233.70	3,291.58	-298.89	-51.13	-51.44	0.21	0.20	0.61	
3,328.38	5.27	233.63	3,306.39	-299.70	-52.22	-52.54	0.27	0.27	-0.47	
3,343.25	5.30	233.34	3,321.20	-300.52	-53.33	-53.64	0.27	0.20	-1.95	
3,358.13	5.33	232.72	3,336.02	-301.35	-54.43	-54.74	0.44	0.20	-4.17	
3,373.00	5.36	231.61	3,350.82	-302.20	-55.52	-55.84	0.72	0.20	-7.46	
3,386.43	5.39	229.85	3,364.19	-302.99	-56.49	-56.81	1.25	0.22	-13.10	
3,399.86	5.43	227.73	3,377.56	-303.83	-57.45	-57.76	1.52	0.30	-15.79	
3,411.35	5.48	225.75	3,389.00	-304.57	-58.24	-58.56	1.70	0.44	-17.23	
DLWR Mnt Group										
3,413.29	5.49	225.42	3,390.93	-304.70	-58.37	-58.69	1.70	0.47	-17.04	
3,426.71	5.55	223.11	3,404.29	-305.63	-59.28	-59.60	1.71	0.45	-17.21	
3,440.14	5.63	220.94	3,417.66	-306.60	-60.15	-60.47	1.68	0.60	-16.16	
3,453.57	5.72	219.07	3,431.02	-307.62	-61.00	-61.33	1.53	0.67	-13.92	
3,467.00	5.81	209.49	3,444.38	-308.73	-61.76	-62.08	7.19	0.67	-71.33	
3,480.57	6.13	200.61	3,457.88	-310.00	-62.35	-62.68	7.19	2.36	-65.44	
3,494.14	6.25	199.63	3,471.37	-311.38	-62.86	-63.18	1.18	0.88	-7.22	
3,507.71	6.38	198.82	3,484.86	-312.79	-63.35	-63.68	1.16	0.96	-5.97	
3,521.29	6.52	198.13	3,498.35	-314.23	-63.83	-64.16	1.18	1.03	-5.08	
3,534.86	6.64	197.51	3,511.83	-315.72	-64.31	-64.64	1.03	0.88	-4.57	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
3,548.43	6.73	196.94	3,525.31	-317.22	-64.78	-65.11	0.82	0.66	-4.20
3,562.00	6.77	196.40	3,538.79	-318.75	-65.23	-65.57	0.55	0.29	-3.98
3,575.43	6.72	195.88	3,552.12	-320.27	-65.67	-66.01	0.59	-0.37	-3.87
3,588.86	6.63	195.34	3,565.46	-321.77	-66.09	-66.43	0.82	-0.67	-4.02
3,602.29	6.50	194.79	3,578.80	-323.25	-66.49	-66.83	1.08	-0.97	-4.10
3,615.71	6.37	194.23	3,592.14	-324.71	-66.87	-67.21	1.08	-0.97	-4.17
3,629.14	6.24	193.65	3,605.49	-326.14	-67.22	-67.56	1.08	-0.97	-4.32
3,642.57	6.12	193.06	3,618.84	-327.55	-67.56	-67.90	1.01	-0.89	-4.39
3,656.00	5.45	190.55	3,632.20	-328.87	-67.84	-68.18	5.33	-4.99	-18.69
3,669.43	4.35	188.39	3,645.58	-330.00	-68.03	-68.37	8.30	-8.19	-16.08
3,682.86	4.11	188.46	3,658.98	-330.98	-68.17	-68.52	1.79	-1.79	0.52
3,696.29	4.13	187.51	3,672.37	-331.94	-68.31	-68.65	0.53	0.15	-7.07
3,709.71	4.17	186.57	3,685.76	-332.90	-68.42	-68.77	0.59	0.30	-7.00
3,723.14	4.21	185.67	3,699.15	-333.88	-68.53	-68.88	0.57	0.30	-6.70
3,736.57	4.26	184.85	3,712.54	-334.87	-68.62	-68.97	0.58	0.37	-6.11
3,750.00	4.31	184.14	3,725.94	-335.87	-68.70	-69.05	0.54	0.37	-5.29
3,763.57	4.35	183.57	3,739.47	-336.89	-68.77	-69.12	0.43	0.29	-4.20
3,777.14	4.38	183.10	3,753.00	-337.92	-68.83	-69.18	0.34	0.22	-3.46
3,790.71	4.40	182.69	3,766.53	-338.96	-68.88	-69.24	0.27	0.15	-3.02
3,804.29	4.42	182.32	3,780.07	-340.00	-68.93	-69.28	0.26	0.15	-2.72
3,817.86	4.44	181.97	3,793.60	-341.05	-68.97	-69.32	0.25	0.15	-2.58
3,831.43	4.44	181.59	3,807.13	-342.10	-69.00	-69.36	0.22	0.00	-2.80
3,845.00	4.44	181.17	3,820.66	-343.15	-69.02	-69.38	0.24	0.00	-3.10
3,858.43	4.41	180.66	3,834.05	-344.18	-69.04	-69.40	0.37	-0.22	-3.80
3,871.86	4.38	180.08	3,847.44	-345.21	-69.05	-69.41	0.40	-0.22	-4.32
3,885.29	4.34	179.46	3,860.83	-346.23	-69.04	-69.40	0.46	-0.30	-4.62
3,898.71	4.29	178.79	3,874.21	-347.24	-69.03	-69.39	0.53	-0.37	-4.99
3,912.14	4.24	178.10	3,887.60	-348.24	-69.00	-69.36	0.53	-0.37	-5.14
3,925.57	4.18	177.36	3,901.00	-349.23	-68.96	-69.33	0.60	-0.45	-5.51
3,939.00	4.11	176.59	3,914.39	-350.20	-68.91	-69.28	0.67	-0.52	-5.73
3,952.57	4.04	175.80	3,927.93	-351.16	-68.85	-69.21	0.66	-0.52	-5.82
3,966.14	3.96	174.97	3,941.46	-352.10	-68.77	-69.14	0.73	-0.59	-6.12
3,979.71	3.88	174.10	3,955.00	-353.02	-68.68	-69.05	0.73	-0.59	-6.41
3,993.29	3.80	173.21	3,968.55	-353.93	-68.58	-68.95	0.73	-0.59	-6.55
4,006.86	3.72	172.31	3,982.09	-354.81	-68.47	-68.84	0.73	-0.59	-6.63
4,020.43	3.65	171.41	3,995.63	-355.67	-68.35	-68.72	0.67	-0.52	-6.63
4,034.00	3.59	170.52	4,009.18	-356.52	-68.21	-68.58	0.61	-0.44	-6.56
4,047.43	3.55	169.74	4,022.58	-357.34	-68.07	-68.44	0.47	-0.30	-5.81
4,060.86	3.51	168.99	4,035.99	-358.16	-67.91	-68.29	0.45	-0.30	-5.58
4,074.29	3.49	168.27	4,049.39	-358.96	-67.75	-68.13	0.36	-0.15	-5.36
4,087.71	3.47	167.58	4,062.79	-359.76	-67.58	-67.96	0.35	-0.15	-5.14
4,101.14	3.45	166.90	4,076.19	-360.55	-67.40	-67.78	0.34	-0.15	-5.06
4,114.57	3.44	166.25	4,089.60	-361.33	-67.22	-67.59	0.30	-0.07	-4.84



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
4,128.00	3.42	165.62	4,103.00	-362.11	-67.02	-67.40	0.32	-0.15	-4.69
4,141.57	3.41	165.01	4,116.55	-362.89	-66.82	-67.20	0.28	-0.07	-4.50
4,155.14	3.39	164.43	4,130.09	-363.67	-66.60	-66.99	0.29	-0.15	-4.27
4,168.71	3.38	163.86	4,143.64	-364.44	-66.39	-66.77	0.26	-0.07	-4.20
4,182.29	3.37	163.31	4,157.20	-365.21	-66.16	-66.54	0.25	-0.07	-4.05
4,195.86	3.35	162.76	4,170.74	-365.97	-65.93	-66.31	0.28	-0.15	-4.05
4,209.43	3.33	162.22	4,184.29	-366.72	-65.69	-66.07	0.27	-0.15	-3.98
4,223.00	3.30	161.67	4,197.84	-367.47	-65.45	-65.83	0.32	-0.22	-4.05
4,236.43	3.27	161.08	4,211.25	-368.20	-65.20	-65.59	0.34	-0.22	-4.39
4,249.86	3.23	160.50	4,224.65	-368.92	-64.95	-65.34	0.39	-0.30	-4.32
4,263.29	3.19	159.99	4,238.06	-369.63	-64.70	-65.08	0.37	-0.30	-3.80
4,276.71	3.15	159.61	4,251.46	-370.32	-64.44	-64.83	0.34	-0.30	-2.83
4,290.14	3.12	159.43	4,264.87	-371.01	-64.18	-64.57	0.24	-0.22	-1.34
4,303.57	3.10	159.56	4,278.28	-371.69	-63.93	-64.32	0.16	-0.15	0.97
4,317.00	3.09	160.17	4,291.69	-372.37	-63.68	-64.07	0.26	-0.07	4.54
4,330.57	3.12	161.51	4,305.24	-373.07	-63.44	-63.83	0.58	0.22	9.87
4,344.14	3.16	163.24	4,318.79	-373.78	-63.21	-63.60	0.76	0.29	12.75
4,357.71	3.22	165.15	4,332.34	-374.50	-63.01	-63.40	0.90	0.44	14.08
4,371.29	3.28	167.07	4,345.90	-375.25	-62.82	-63.21	0.92	0.44	14.14
4,384.86	3.35	168.87	4,359.45	-376.02	-62.66	-63.05	0.92	0.52	13.26
4,398.43	3.40	170.46	4,372.99	-376.80	-62.51	-62.91	0.78	0.37	11.72
4,412.00	3.75	173.48	4,386.54	-377.64	-62.40	-62.79	2.93	2.58	22.25
4,425.43	4.52	177.38	4,399.93	-378.61	-62.32	-62.72	6.10	5.73	29.04
4,438.86	5.50	181.28	4,413.31	-379.78	-62.31	-62.71	7.72	7.30	29.04
4,452.29	5.65	182.46	4,426.68	-381.08	-62.36	-62.76	1.41	1.12	8.79
4,465.71	5.55	182.41	4,440.03	-382.39	-62.41	-62.81	0.75	-0.75	-0.37
4,479.14	5.44	182.26	4,453.40	-383.67	-62.46	-62.87	0.83	-0.82	-1.12
4,492.57	5.32	182.01	4,466.77	-384.93	-62.51	-62.91	0.91	-0.89	-1.86
4,506.00	5.22	181.67	4,480.15	-386.17	-62.55	-62.96	0.78	-0.74	-2.53
4,519.57	5.13	181.28	4,493.66	-387.39	-62.58	-62.99	0.71	-0.66	-2.87
4,533.14	5.05	180.85	4,507.18	-388.59	-62.61	-63.01	0.65	-0.59	-3.17
4,546.71	4.98	180.42	4,520.70	-389.78	-62.62	-63.03	0.59	-0.52	-3.17
4,560.29	4.92	180.07	4,534.22	-390.95	-62.62	-63.03	0.49	-0.44	-2.58
4,573.86	4.87	179.85	4,547.75	-392.11	-62.62	-63.03	0.39	-0.37	-1.62
4,587.43	4.82	179.87	4,561.27	-393.26	-62.62	-63.03	0.37	-0.37	0.15
4,601.00	4.79	180.27	4,574.79	-394.39	-62.62	-63.03	0.33	-0.22	2.95
4,614.43	4.78	181.27	4,588.17	-395.51	-62.64	-63.05	0.63	-0.07	7.45
4,627.86	4.79	182.62	4,601.56	-396.63	-62.67	-63.09	0.84	0.07	10.05
4,641.29	4.80	184.17	4,614.94	-397.75	-62.74	-63.16	0.97	0.07	11.54
4,654.71	4.83	185.80	4,628.31	-398.87	-62.84	-63.26	1.04	0.22	12.15
4,668.14	4.85	187.41	4,641.69	-400.00	-62.97	-63.39	1.02	0.15	11.99
4,681.57	4.88	188.93	4,655.07	-401.13	-63.13	-63.55	0.99	0.22	11.32
4,695.00	4.90	190.24	4,668.46	-402.26	-63.32	-63.74	0.84	0.15	9.75



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)	
4,708.57	5.34	197.47	4,681.97	-403.43	-63.61	-64.04	5.75	3.24	53.28	
4,722.14	6.14	200.42	4,695.47	-404.71	-64.06	-64.48	6.28	5.90	21.74	
4,735.71	6.74	202.77	4,708.96	-406.13	-64.62	-65.04	4.83	4.42	17.32	
4,749.29	6.71	203.05	4,722.44	-407.59	-65.24	-65.66	0.33	-0.22	2.06	
4,762.86	6.67	203.31	4,735.92	-409.04	-65.86	-66.29	0.37	-0.29	1.92	
4,776.43	6.62	203.60	4,749.40	-410.48	-66.48	-66.91	0.44	-0.37	2.14	
4,790.00	6.56	204.02	4,762.88	-411.91	-67.11	-67.54	0.57	-0.44	3.10	
4,803.43	6.48	204.71	4,776.22	-413.30	-67.74	-68.18	0.83	-0.60	5.14	
4,816.86	6.40	205.56	4,789.57	-414.66	-68.38	-68.82	0.93	-0.60	6.33	
4,830.29	6.30	206.52	4,802.92	-416.00	-69.03	-69.47	1.09	-0.74	7.15	
4,843.71	6.21	207.55	4,816.26	-417.30	-69.70	-70.14	1.07	-0.67	7.68	
4,857.14	6.13	208.60	4,829.61	-418.57	-70.38	-70.82	1.03	-0.60	7.82	
4,870.57	6.05	209.64	4,842.96	-419.82	-71.07	-71.51	1.01	-0.60	7.74	
4,884.00	5.98	210.61	4,856.32	-421.03	-71.78	-72.22	0.92	-0.52	7.22	
4,897.57	5.92	211.38	4,869.82	-422.24	-72.50	-72.94	0.74	-0.44	5.67	
4,911.14	5.87	212.04	4,883.32	-423.43	-73.23	-73.68	0.62	-0.37	4.86	
4,924.71	5.84	212.63	4,896.81	-424.60	-73.97	-74.42	0.50	-0.22	4.35	
4,938.29	5.81	213.16	4,910.32	-425.75	-74.72	-75.17	0.45	-0.22	3.90	
4,951.86	5.79	213.65	4,923.82	-426.90	-75.48	-75.93	0.39	-0.15	3.61	
4,965.43	5.79	214.08	4,937.33	-428.03	-76.24	-76.69	0.32	0.00	3.17	
4,979.00	5.80	214.46	4,950.83	-429.17	-77.01	-77.46	0.29	0.07	2.80	
4,992.43	5.84	214.78	4,964.19	-430.29	-77.79	-78.24	0.38	0.30	2.38	
5,005.86	5.89	215.06	4,977.55	-431.41	-78.57	-79.02	0.43	0.37	2.08	
5,019.29	5.95	215.31	4,990.91	-432.54	-79.37	-79.82	0.49	0.45	1.86	
5,032.71	6.00	215.52	5,004.25	-433.68	-80.18	-80.63	0.41	0.37	1.56	
5,046.14	6.05	215.70	5,017.61	-434.83	-81.00	-81.46	0.40	0.37	1.34	
5,059.57	6.09	215.86	5,030.96	-435.98	-81.83	-82.29	0.32	0.30	1.19	
5,073.00	6.11	216.00	5,044.32	-437.14	-82.67	-83.13	0.19	0.15	1.04	
5,086.43	6.09	216.12	5,057.67	-438.29	-83.51	-83.97	0.18	-0.15	0.89	
5,099.86	6.04	216.23	5,071.03	-439.44	-84.35	-84.81	0.38	-0.37	0.82	
5,113.29	5.99	216.32	5,084.38	-440.57	-85.18	-85.64	0.38	-0.37	0.67	
5,126.71	5.92	216.39	5,097.73	-441.69	-86.00	-86.47	0.52	-0.52	0.52	
5,140.14	5.84	216.43	5,111.09	-442.80	-86.82	-87.28	0.60	-0.60	0.30	
5,153.57	5.77	216.44	5,124.45	-443.89	-87.63	-88.09	0.52	-0.52	0.07	
5,167.00	5.69	216.41	5,137.81	-444.97	-88.42	-88.89	0.60	-0.60	-0.22	
5,180.57	5.61	216.33	5,151.32	-446.05	-89.22	-89.68	0.59	-0.59	-0.59	
5,194.14	5.54	216.21	5,164.82	-447.11	-90.00	-90.46	0.52	-0.52	-0.88	
5,207.71	5.46	216.06	5,178.33	-448.16	-90.76	-91.23	0.60	-0.59	-1.11	
5,221.29	5.39	215.89	5,191.85	-449.20	-91.52	-91.99	0.53	-0.52	-1.25	
5,234.86	5.33	215.72	5,205.36	-450.23	-92.26	-92.73	0.46	-0.44	-1.25	
5,248.43	5.26	215.57	5,218.87	-451.24	-92.99	-93.46	0.53	-0.52	-1.11	
5,262.00	5.20	215.46	5,232.39	-452.25	-93.71	-94.18	0.45	-0.44	-0.81	
5,275.43	5.15	215.44	5,245.76	-453.24	-94.41	-94.88	0.37	-0.37	-0.15	
5,288.86	5.10	215.49	5,259.14	-454.21	-95.11	-95.58	0.37	-0.37	0.37	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
5,302.29	5.06	215.57	5,272.51	-455.18	-95.80	-96.27	0.30	-0.30	0.60
5,315.71	5.03	215.71	5,285.88	-456.14	-96.48	-96.96	0.24	-0.22	1.04
5,329.14	5.01	215.91	5,299.26	-457.09	-97.17	-97.65	0.20	-0.15	1.49
5,342.57	5.01	216.19	5,312.64	-458.04	-97.86	-98.34	0.18	0.00	2.08
5,356.00	5.03	216.58	5,326.02	-458.99	-98.56	-99.04	0.29	0.15	2.90
5,369.57	5.08	217.17	5,339.54	-459.95	-99.28	-99.76	0.53	0.37	4.35
5,383.14	5.15	217.85	5,353.05	-460.91	-100.01	-100.50	0.68	0.52	5.01
5,396.71	5.23	218.53	5,366.57	-461.87	-100.77	-101.26	0.74	0.59	5.01
5,410.29	5.32	219.18	5,380.09	-462.84	-101.56	-102.04	0.80	0.66	4.79
5,423.86	5.40	219.74	5,393.60	-463.82	-102.36	-102.85	0.70	0.59	4.13
5,437.43	5.47	220.17	5,407.11	-464.81	-103.19	-103.67	0.60	0.52	3.17
5,451.00	6.22	218.34	5,420.61	-465.88	-104.06	-104.55	5.69	5.53	-13.49
5,464.43	7.01	216.92	5,433.95	-467.10	-105.00	-105.49	6.01	5.88	-10.57
5,477.86	7.13	216.70	5,447.28	-468.43	-105.99	-106.48	0.92	0.89	-1.64
5,491.29	7.13	216.53	5,460.60	-469.76	-106.99	-107.48	0.16	0.00	-1.27
5,504.71	7.13	216.27	5,473.92	-471.10	-107.98	-108.47	0.24	0.00	-1.94
5,518.14	7.13	215.95	5,487.24	-472.45	-108.96	-109.45	0.30	0.00	-2.38
5,531.57	7.14	215.54	5,500.57	-473.81	-109.93	-110.43	0.39	0.07	-3.05
5,545.00	7.16	215.04	5,513.90	-475.17	-110.90	-111.40	0.49	0.15	-3.72
5,558.57	7.19	214.41	5,527.36	-476.56	-111.86	-112.36	0.62	0.22	-4.64
5,572.14	7.23	213.71	5,540.82	-477.97	-112.82	-113.32	0.71	0.29	-5.16
5,585.71	7.28	212.98	5,554.28	-479.41	-113.76	-114.26	0.77	0.37	-5.38
5,599.29	7.34	212.28	5,567.75	-480.86	-114.69	-115.20	0.79	0.44	-5.15
5,612.86	7.39	211.63	5,581.21	-482.34	-115.61	-116.12	0.72	0.37	-4.79
5,626.43	7.45	211.08	5,594.67	-483.83	-116.52	-117.03	0.69	0.44	-4.05
5,640.00	7.73	207.91	5,608.12	-485.39	-117.41	-117.91	3.71	2.06	-23.36
5,653.43	8.10	204.35	5,621.42	-487.05	-118.22	-118.73	4.57	2.76	-26.51
5,666.86	8.15	204.32	5,634.72	-488.78	-119.00	-119.51	0.37	0.37	-0.22
5,680.29	8.21	204.38	5,648.01	-490.52	-119.79	-120.30	0.45	0.45	0.45
5,693.71	8.26	204.49	5,661.29	-492.27	-120.58	-121.10	0.39	0.37	0.82
5,707.14	8.30	204.61	5,674.58	-494.03	-121.39	-121.90	0.32	0.30	0.89
5,720.57	8.31	204.73	5,687.87	-495.80	-122.20	-122.72	0.15	0.07	0.89
5,734.00	8.30	204.83	5,701.16	-497.56	-123.01	-123.53	0.13	-0.07	0.74
5,747.57	8.23	204.84	5,714.59	-499.33	-123.83	-124.35	0.52	-0.52	0.07
5,761.14	8.13	204.77	5,728.02	-501.08	-124.64	-125.16	0.74	-0.74	-0.52
5,774.71	8.02	204.58	5,741.46	-502.81	-125.43	-125.96	0.83	-0.81	-1.40
5,788.29	7.90	204.20	5,754.90	-504.52	-126.21	-126.74	0.96	-0.88	-2.80
5,801.86	7.78	203.57	5,768.35	-506.22	-126.96	-127.49	1.09	-0.88	-4.64
5,815.43	7.68	202.53	5,781.79	-507.90	-127.68	-128.21	1.27	-0.74	-7.66
5,829.00	7.61	200.91	5,795.24	-509.57	-128.34	-128.88	1.67	-0.52	-11.94
5,842.43	7.59	198.32	5,808.56	-511.25	-128.94	-129.48	2.55	-0.15	-19.29
5,855.86	7.59	196.14	5,821.87	-512.94	-129.47	-130.00	2.14	0.00	-16.23
5,869.29	7.56	195.87	5,835.18	-514.64	-129.95	-130.49	0.35	-0.22	-2.01



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
5,882.71	7.52	196.06	5,848.49	-516.33	-130.44	-130.98	0.35	-0.30	1.42
5,896.14	7.49	196.48	5,861.80	-518.02	-130.93	-131.47	0.47	-0.22	3.13
5,898.36	7.48	196.55	5,864.00	-518.30	-131.01	-131.55	0.51	-0.30	3.19
Lower Brushy Canyon									
5,909.57	7.45	196.91	5,875.12	-519.69	-131.43	-131.98	0.51	-0.30	3.20
5,923.00	7.53	194.17	5,888.43	-521.38	-131.90	-132.45	2.73	0.60	-20.40
5,936.57	7.74	189.15	5,901.88	-523.14	-132.26	-132.81	5.15	1.55	-36.99
5,950.14	7.66	188.75	5,915.33	-524.94	-132.55	-133.10	0.71	-0.59	-2.95
5,963.71	7.58	188.18	5,928.78	-526.72	-132.81	-133.36	0.81	-0.59	-4.20
5,977.29	7.49	187.50	5,942.24	-528.48	-133.05	-133.61	0.93	-0.66	-5.01
5,990.86	7.40	186.78	5,955.70	-530.23	-133.27	-133.83	0.96	-0.66	-5.31
6,004.43	7.31	186.07	5,969.16	-531.95	-133.47	-134.02	0.94	-0.66	-5.23
6,018.00	7.21	185.44	5,982.62	-533.66	-133.64	-134.20	0.94	-0.74	-4.64
6,031.43	7.11	185.03	5,995.94	-535.33	-133.79	-134.35	0.84	-0.74	-3.05
6,044.86	7.02	184.72	6,009.27	-536.97	-133.93	-134.49	0.73	-0.67	-2.31
6,058.29	6.92	184.49	6,022.60	-538.60	-134.06	-134.63	0.77	-0.74	-1.71
6,071.71	6.83	184.31	6,035.92	-540.20	-134.19	-134.75	0.69	-0.67	-1.34
6,085.14	6.74	184.16	6,049.26	-541.78	-134.30	-134.87	0.68	-0.67	-1.12
6,098.57	6.65	184.01	6,062.60	-543.34	-134.41	-134.98	0.68	-0.67	-1.12
6,112.00	6.57	183.86	6,075.94	-544.88	-134.52	-135.09	0.61	-0.60	-1.12
6,125.43	6.51	183.67	6,089.28	-546.41	-134.62	-135.19	0.47	-0.45	-1.41
6,138.86	6.45	183.47	6,102.63	-547.92	-134.72	-135.29	0.48	-0.45	-1.49
6,152.29	6.40	183.25	6,115.97	-549.42	-134.80	-135.38	0.41	-0.37	-1.64
6,165.71	6.35	183.01	6,129.31	-550.91	-134.88	-135.46	0.42	-0.37	-1.79
6,179.14	6.31	182.75	6,142.66	-552.39	-134.96	-135.54	0.37	-0.30	-1.94
6,185.52	6.29	182.61	6,149.00	-553.09	-134.99	-135.57	0.38	-0.30	-2.15
Bone Spring Lime									
6,192.57	6.27	182.46	6,156.01	-553.86	-135.03	-135.61	0.38	-0.30	-2.16
6,206.00	6.24	182.12	6,169.36	-555.32	-135.08	-135.67	0.35	-0.22	-2.53
6,219.57	6.21	181.70	6,182.85	-556.79	-135.13	-135.72	0.40	-0.22	-3.10
6,233.14	6.19	181.25	6,196.34	-558.26	-135.17	-135.76	0.39	-0.15	-3.32
6,246.71	6.17	180.79	6,209.83	-559.72	-135.20	-135.78	0.39	-0.15	-3.39
6,260.29	6.15	180.36	6,223.33	-561.18	-135.21	-135.80	0.37	-0.15	-3.17
6,273.86	6.13	179.99	6,236.82	-562.63	-135.22	-135.81	0.33	-0.15	-2.73
6,287.43	6.10	179.72	6,250.31	-564.07	-135.21	-135.80	0.31	-0.22	-1.99
6,301.00	6.06	179.59	6,263.81	-565.51	-135.20	-135.80	0.31	-0.29	-0.96
6,314.43	6.02	179.73	6,277.16	-566.92	-135.20	-135.79	0.32	-0.30	1.04
6,327.86	5.96	180.03	6,290.52	-568.32	-135.19	-135.79	0.50	-0.45	2.23
6,341.29	5.90	180.46	6,303.88	-569.71	-135.20	-135.80	0.56	-0.45	3.20
6,354.71	5.83	181.01	6,317.23	-571.08	-135.22	-135.81	0.67	-0.52	4.10
6,368.14	5.75	181.67	6,330.59	-572.44	-135.25	-135.85	0.77	-0.60	4.91
6,381.57	5.66	182.46	6,343.95	-573.77	-135.30	-135.90	0.89	-0.67	5.88
6,395.00	5.55	183.39	6,357.32	-575.08	-135.36	-135.96	1.06	-0.82	6.92
6,408.57	5.40	184.39	6,370.83	-576.37	-135.45	-136.05	1.31	-1.11	7.37



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)	
6,422.14	5.24	185.55	6,384.34	-577.63	-135.56	-136.16	1.42	-1.18	8.55	
6,435.71	5.07	186.84	6,397.85	-578.84	-135.69	-136.30	1.52	-1.25	9.51	
6,449.29	4.89	188.26	6,411.38	-580.01	-135.85	-136.45	1.61	-1.33	10.46	
6,462.86	4.72	189.82	6,424.91	-581.13	-136.02	-136.63	1.58	-1.25	11.50	
6,476.43	4.56	191.49	6,438.43	-582.21	-136.23	-136.84	1.54	-1.18	12.31	
6,490.00	4.42	193.27	6,451.96	-583.25	-136.45	-137.06	1.46	-1.03	13.12	
6,503.43	4.29	194.83	6,465.35	-584.24	-136.70	-137.31	1.31	-0.97	11.62	
6,516.86	4.17	196.44	6,478.74	-585.19	-136.97	-137.58	1.26	-0.89	11.99	
6,530.29	4.07	198.07	6,492.14	-586.11	-137.25	-137.87	1.15	-0.74	12.14	
6,543.71	3.98	199.70	6,505.53	-587.00	-137.56	-138.17	1.08	-0.67	12.15	
6,557.14	3.90	201.29	6,518.92	-587.87	-137.88	-138.50	1.01	-0.60	11.84	
6,570.57	3.83	202.79	6,532.32	-588.70	-138.22	-138.84	0.92	-0.52	11.17	
6,584.00	3.77	204.13	6,545.72	-589.52	-138.58	-139.19	0.80	-0.45	9.98	
6,597.57	3.72	205.11	6,559.26	-590.33	-138.94	-139.56	0.60	-0.37	7.22	
6,611.14	3.68	205.88	6,572.81	-591.12	-139.32	-139.94	0.47	-0.29	5.67	
6,624.71	3.64	206.46	6,586.35	-591.90	-139.70	-140.32	0.40	-0.29	4.27	
6,638.29	3.61	206.84	6,599.90	-592.66	-140.09	-140.71	0.28	-0.22	2.80	
6,651.86	3.57	207.01	6,613.45	-593.42	-140.47	-141.09	0.31	-0.29	1.25	
6,665.43	3.54	206.90	6,626.99	-594.17	-140.85	-141.48	0.23	-0.22	-0.81	
6,679.00	4.27	199.25	6,640.53	-595.02	-141.21	-141.83	6.60	5.38	-56.37	
6,692.43	4.97	193.99	6,653.91	-596.06	-141.52	-142.14	6.09	5.21	-39.17	
6,705.86	4.92	192.96	6,667.29	-597.18	-141.79	-142.41	0.76	-0.37	-7.67	
6,719.29	4.88	191.69	6,680.67	-598.30	-142.03	-142.66	0.86	-0.30	-9.46	
6,732.71	4.85	190.30	6,694.05	-599.42	-142.25	-142.88	0.91	-0.22	-10.36	
6,746.14	4.82	188.90	6,707.43	-600.54	-142.44	-143.07	0.91	-0.22	-10.42	
6,759.57	4.80	187.62	6,720.81	-601.65	-142.60	-143.23	0.81	-0.15	-9.53	
6,773.00	4.78	186.60	6,734.19	-602.76	-142.74	-143.37	0.65	-0.15	-7.59	
6,786.43	4.77	186.10	6,747.58	-603.87	-142.86	-143.49	0.32	-0.07	-3.72	
6,799.86	4.76	185.90	6,760.96	-604.98	-142.98	-143.61	0.14	-0.07	-1.49	
6,813.29	4.76	185.90	6,774.35	-606.09	-143.09	-143.73	0.00	0.00	0.00	
6,826.71	4.76	186.04	6,787.72	-607.20	-143.21	-143.84	0.09	0.00	1.04	
6,840.14	4.75	186.29	6,801.10	-608.31	-143.33	-143.96	0.17	-0.07	1.86	
6,853.57	4.73	186.63	6,814.49	-609.41	-143.45	-144.09	0.26	-0.15	2.53	
6,867.00	4.69	187.05	6,827.87	-610.51	-143.58	-144.22	0.39	-0.30	3.13	
6,880.57	4.62	187.55	6,841.40	-611.60	-143.72	-144.36	0.60	-0.52	3.68	
6,894.14	4.52	188.08	6,854.92	-612.67	-143.87	-144.51	0.80	-0.74	3.91	
6,907.71	4.42	188.63	6,868.45	-613.72	-144.02	-144.67	0.80	-0.74	4.05	
6,921.29	4.31	189.13	6,881.99	-614.74	-144.18	-144.83	0.86	-0.81	3.68	
6,934.86	4.19	189.52	6,895.53	-615.73	-144.35	-144.99	0.91	-0.88	2.87	
6,948.43	4.07	189.71	6,909.06	-616.69	-144.51	-145.16	0.89	-0.88	1.40	
6,962.00	3.94	189.56	6,922.60	-617.63	-144.67	-145.32	0.96	-0.96	-1.11	
6,975.43	3.82	188.75	6,936.00	-618.52	-144.81	-145.46	0.98	-0.89	-6.03	
6,988.86	3.69	187.52	6,949.40	-619.39	-144.94	-145.59	1.14	-0.97	-9.16	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)	
7,002.29	3.57	185.96	6,962.80	-620.24	-145.04	-145.69	1.16	-0.89	-11.62	
7,015.71	3.46	184.18	6,976.20	-621.06	-145.11	-145.76	1.15	-0.82	-13.26	
7,029.14	3.34	182.24	6,989.60	-621.85	-145.16	-145.81	1.24	-0.89	-14.45	
7,042.57	3.23	180.24	7,003.01	-622.62	-145.17	-145.82	1.18	-0.82	-14.89	
7,056.00	3.82	176.55	7,016.41	-623.45	-145.15	-145.80	4.70	4.39	-27.48	
7,069.43	4.81	174.10	7,029.81	-624.45	-145.06	-145.72	7.50	7.37	-18.24	
7,082.86	5.83	173.50	7,043.18	-625.69	-144.93	-145.58	7.61	7.59	-4.47	
7,096.29	6.01	172.87	7,056.54	-627.07	-144.76	-145.42	1.42	1.34	-4.69	
7,109.71	5.83	171.91	7,069.88	-628.44	-144.58	-145.24	1.53	-1.34	-7.15	
7,123.14	5.66	170.97	7,083.25	-629.77	-144.38	-145.04	1.45	-1.27	-7.00	
7,136.57	5.51	170.19	7,096.61	-631.06	-144.17	-144.83	1.25	-1.12	-5.81	
7,150.00	5.41	169.79	7,109.98	-632.32	-143.94	-144.61	0.80	-0.74	-2.98	
7,163.57	5.39	170.12	7,123.49	-633.57	-143.72	-144.38	0.27	-0.15	2.43	
7,177.14	5.43	170.84	7,137.00	-634.84	-143.51	-144.17	0.58	0.29	5.31	
7,190.71	5.50	171.75	7,150.51	-636.11	-143.31	-143.98	0.82	0.52	6.71	
7,204.29	5.58	172.72	7,164.03	-637.41	-143.14	-143.80	0.91	0.59	7.14	
7,217.86	5.67	173.66	7,177.53	-638.73	-142.98	-143.65	0.95	0.66	6.93	
7,231.43	5.74	174.46	7,191.03	-640.07	-142.84	-143.51	0.78	0.52	5.90	
7,245.00	6.57	175.68	7,204.53	-641.52	-142.72	-143.39	6.19	6.12	8.99	
7,258.43	7.64	176.54	7,217.85	-643.18	-142.60	-143.28	8.01	7.97	6.40	
7,271.86	8.74	176.99	7,231.15	-645.09	-142.50	-143.17	8.20	8.19	3.35	
7,285.29	9.77	177.18	7,244.40	-647.25	-142.39	-143.06	7.67	7.67	1.41	
7,298.71	9.77	177.27	7,257.63	-649.52	-142.28	-142.96	0.11	0.00	0.67	
7,312.14	9.75	177.32	7,270.86	-651.80	-142.17	-142.85	0.16	-0.15	0.37	
7,325.57	9.71	177.31	7,284.10	-654.06	-142.06	-142.75	0.30	-0.30	-0.07	
7,339.00	9.62	177.20	7,297.34	-656.32	-141.95	-142.64	0.68	-0.67	-0.82	
7,352.57	9.45	176.95	7,310.72	-658.56	-141.84	-142.53	1.29	-1.25	-1.84	
7,366.14	9.22	176.60	7,324.11	-660.76	-141.72	-142.41	1.75	-1.69	-2.58	
7,379.71	8.96	176.18	7,337.51	-662.90	-141.58	-142.28	1.98	-1.92	-3.10	
7,393.29	8.68	175.75	7,350.93	-664.98	-141.44	-142.13	2.12	-2.06	-3.17	
7,406.86	8.39	175.35	7,364.35	-666.98	-141.28	-141.98	2.18	-2.14	-2.95	
7,420.43	8.10	175.03	7,377.78	-668.92	-141.12	-141.82	2.16	-2.14	-2.36	
7,434.00	7.82	174.91	7,391.22	-670.79	-140.95	-141.65	2.07	-2.06	-0.88	
7,447.43	7.58	175.23	7,404.53	-672.59	-140.80	-141.50	1.82	-1.79	2.38	
7,460.86	7.35	175.79	7,417.84	-674.33	-140.66	-141.37	1.80	-1.71	4.17	
7,474.29	7.14	176.48	7,431.17	-676.02	-140.55	-141.25	1.69	-1.56	5.14	
7,487.71	6.94	177.24	7,444.48	-677.66	-140.46	-141.16	1.64	-1.49	5.66	
7,501.14	6.76	177.97	7,457.82	-679.26	-140.39	-141.10	1.49	-1.34	5.44	
7,514.57	6.59	178.60	7,471.16	-680.82	-140.34	-141.05	1.38	-1.27	4.69	
7,517.43	6.56	178.68	7,474.00	-681.15	-140.33	-141.05	1.16	-1.12	2.78	
1st Bone Spring SD										
7,528.00	6.44	178.98	7,484.50	-682.34	-140.31	-141.02	1.16	-1.12	2.84	
7,541.57	6.31	178.80	7,497.99	-683.85	-140.28	-141.00	0.97	-0.96	-1.33	
7,555.14	6.20	178.32	7,511.48	-685.33	-140.24	-140.96	0.90	-0.81	-3.54	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
7,568.71	6.10	177.61	7,524.97	-686.78	-140.19	-140.91	0.93	-0.74	-5.23
7,582.29	6.01	176.76	7,538.47	-688.21	-140.12	-140.84	0.94	-0.66	-6.26
7,595.86	5.92	175.79	7,551.97	-689.62	-140.03	-140.75	1.00	-0.66	-7.15
7,609.43	5.83	174.76	7,565.47	-691.00	-139.92	-140.64	1.02	-0.66	-7.59
7,623.00	6.32	175.01	7,578.96	-692.43	-139.79	-140.51	3.62	3.61	1.84
7,636.43	7.18	175.76	7,592.30	-694.01	-139.66	-140.39	6.44	6.40	5.58
7,649.86	8.11	176.48	7,605.61	-695.79	-139.54	-140.27	6.96	6.92	5.36
7,663.29	9.00	176.75	7,618.89	-697.78	-139.42	-140.15	6.63	6.63	2.01
7,676.71	8.84	175.48	7,632.15	-699.86	-139.28	-140.02	1.89	-1.19	-9.46
7,678.59	8.82	175.28	7,634.00	-700.15	-139.26	-139.99	2.04	-1.21	-10.70
2nd Bone Spring LM									
7,690.14	8.68	174.02	7,645.42	-701.90	-139.10	-139.83	2.04	-1.19	-10.90
7,703.57	8.52	172.49	7,658.70	-703.89	-138.86	-139.60	2.08	-1.19	-11.39
7,717.00	8.36	171.03	7,671.98	-705.84	-138.58	-139.32	1.99	-1.19	-10.87
7,730.57	8.18	169.96	7,685.41	-707.77	-138.26	-139.00	1.75	-1.33	-7.89
7,744.14	8.01	169.10	7,698.85	-709.64	-137.91	-138.65	1.54	-1.25	-6.34
7,757.71	7.85	168.40	7,712.29	-711.48	-137.54	-138.29	1.38	-1.18	-5.16
7,771.29	7.70	167.84	7,725.74	-713.28	-137.17	-137.91	1.24	-1.10	-4.12
7,784.86	7.56	167.45	7,739.19	-715.04	-136.78	-137.53	1.10	-1.03	-2.87
7,798.43	7.43	167.27	7,752.65	-716.77	-136.39	-137.14	0.97	-0.96	-1.33
7,812.00	7.32	167.39	7,766.10	-718.47	-136.01	-136.76	0.82	-0.81	0.88
7,825.43	7.25	167.95	7,779.43	-720.13	-135.65	-136.40	0.74	-0.52	4.17
7,838.86	7.20	168.78	7,792.75	-721.78	-135.31	-136.06	0.86	-0.37	6.18
7,852.29	7.16	169.77	7,806.07	-723.43	-134.99	-135.75	0.97	-0.30	7.37
7,865.71	7.13	170.84	7,819.39	-725.08	-134.71	-135.47	1.02	-0.22	7.97
7,879.14	7.10	171.92	7,832.72	-726.72	-134.46	-135.22	1.02	-0.22	8.04
7,892.57	7.06	172.91	7,846.04	-728.36	-134.24	-135.01	0.96	-0.30	7.37
7,906.00	7.43	176.69	7,859.37	-730.05	-134.09	-134.86	4.49	2.76	28.15
7,919.57	8.07	181.97	7,872.81	-731.88	-134.07	-134.84	7.05	4.72	38.91
7,933.14	8.46	185.38	7,886.24	-733.82	-134.20	-134.97	4.61	2.87	25.13
7,946.71	8.32	185.66	7,899.67	-735.79	-134.39	-135.16	1.07	-1.03	2.06
7,960.29	8.17	185.92	7,913.11	-737.73	-134.59	-135.36	1.14	-1.10	1.91
7,973.86	8.02	186.20	7,926.54	-739.63	-134.79	-135.56	1.14	-1.11	2.06
7,987.43	7.88	186.53	7,939.98	-741.50	-135.00	-135.77	1.09	-1.03	2.43
8,001.00	7.77	186.96	7,953.42	-743.33	-135.21	-135.99	0.92	-0.81	3.17
8,014.43	7.69	187.53	7,966.73	-745.12	-135.44	-136.22	0.83	-0.60	4.24
8,027.86	7.64	188.20	7,980.04	-746.90	-135.69	-136.47	0.76	-0.37	4.99
8,041.29	7.60	188.92	7,993.35	-748.66	-135.95	-136.74	0.77	-0.30	5.36
8,054.71	7.56	189.66	8,006.66	-750.41	-136.24	-137.02	0.79	-0.30	5.51
8,068.14	7.51	190.38	8,019.97	-752.14	-136.54	-137.33	0.80	-0.37	5.36
8,081.57	7.44	191.07	8,033.29	-753.86	-136.87	-137.66	0.85	-0.52	5.14
8,095.00	7.50	194.39	8,046.60	-755.56	-137.25	-138.05	3.24	0.45	24.72
8,108.57	7.70	201.06	8,060.05	-757.27	-137.80	-138.59	6.66	1.47	49.15



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
8,122.14	7.49	201.49	8,073.50	-758.94	-138.45	-139.25	1.60	-1.55	3.17
8,135.71	7.25	201.90	8,086.96	-760.55	-139.10	-139.89	1.81	-1.77	3.02
8,149.29	7.00	202.32	8,100.44	-762.11	-139.73	-140.53	1.88	-1.84	3.09
8,162.86	6.75	202.75	8,113.91	-763.61	-140.35	-141.15	1.88	-1.84	3.17
8,176.43	6.51	203.21	8,127.39	-765.06	-140.96	-141.76	1.81	-1.77	3.39
8,190.00	6.31	203.70	8,140.87	-766.45	-141.57	-142.37	1.53	-1.47	3.61
8,203.43	6.18	204.21	8,154.22	-767.78	-142.16	-142.96	1.05	-0.97	3.80
8,216.86	6.08	204.74	8,167.58	-769.09	-142.75	-143.56	0.86	-0.74	3.95
8,230.29	6.01	205.25	8,180.93	-770.37	-143.35	-144.16	0.66	-0.52	3.80
8,243.71	5.95	205.73	8,194.28	-771.63	-143.95	-144.76	0.58	-0.45	3.58
8,253.48	5.91	206.03	8,204.00	-772.54	-144.39	-145.20	0.49	-0.37	3.12
2nd Bone Spring SD									
8,257.14	5.90	206.15	8,207.64	-772.88	-144.56	-145.37	0.49	-0.37	3.15
8,270.57	5.84	206.48	8,221.00	-774.11	-145.17	-145.98	0.51	-0.45	2.46
8,284.00	6.32	207.10	8,234.35	-775.38	-145.81	-146.62	3.61	3.57	4.62
8,298.54	7.32	208.08	8,248.79	-776.91	-146.61	-147.42	6.92	6.88	6.74
8,313.08	7.84	208.60	8,263.20	-778.60	-147.52	-148.34	3.61	3.58	3.58
8,327.62	7.74	208.48	8,277.61	-780.33	-148.46	-149.28	0.70	-0.69	-0.83
8,342.15	7.63	208.28	8,292.01	-782.04	-149.39	-150.20	0.78	-0.76	-1.38
8,356.69	7.52	208.03	8,306.42	-783.73	-150.29	-151.11	0.79	-0.76	-1.72
8,371.23	7.41	207.72	8,320.84	-785.40	-151.17	-152.00	0.81	-0.76	-2.13
8,385.77	7.30	207.35	8,335.26	-787.05	-152.03	-152.86	0.82	-0.76	-2.54
8,400.31	7.19	206.93	8,349.68	-788.68	-152.87	-153.70	0.84	-0.76	-2.89
8,414.85	7.08	206.46	8,364.11	-790.29	-153.68	-154.51	0.86	-0.76	-3.23
8,429.38	6.97	205.92	8,378.53	-791.89	-154.47	-155.30	0.88	-0.76	-3.72
8,443.92	6.86	205.33	8,392.96	-793.47	-155.22	-156.05	0.90	-0.76	-4.06
8,458.46	6.76	204.69	8,407.40	-795.03	-155.95	-156.78	0.86	-0.69	-4.40
8,473.00	6.65	203.98	8,421.84	-796.57	-156.65	-157.49	0.95	-0.76	-4.88
8,486.57	6.55	203.37	8,435.32	-798.00	-157.28	-158.11	0.90	-0.74	-4.50
8,500.14	6.44	202.68	8,448.81	-799.42	-157.88	-158.72	0.99	-0.81	-5.08
8,513.71	6.34	201.93	8,462.29	-800.81	-158.45	-159.29	0.96	-0.74	-5.53
8,527.29	6.24	201.08	8,475.79	-802.20	-159.00	-159.84	1.01	-0.74	-6.26
8,540.86	6.16	200.11	8,489.28	-803.57	-159.51	-160.35	0.97	-0.59	-7.15
8,554.43	6.09	199.01	8,502.77	-804.93	-160.00	-160.84	1.01	-0.52	-8.11
8,568.00	6.04	197.71	8,516.27	-806.29	-160.45	-161.29	1.08	-0.37	-9.58
8,581.43	6.01	196.18	8,529.62	-807.64	-160.86	-161.71	1.22	-0.22	-11.39
8,594.86	6.00	194.50	8,542.98	-809.00	-161.23	-162.08	1.31	-0.07	-12.51
8,595.89	6.00	194.37	8,544.00	-809.10	-161.26	-162.11	1.37	0.06	-13.12
3rd Bone Spring LM									
8,608.29	6.01	192.74	8,556.34	-810.36	-161.56	-162.41	1.37	0.08	-13.10
8,621.71	6.02	190.97	8,569.68	-811.74	-161.85	-162.70	1.38	0.07	-13.19
8,635.14	6.03	189.25	8,583.04	-813.13	-162.10	-162.95	1.35	0.07	-12.81
8,640.00	6.35	189.23	8,587.87	-813.64	-162.18	-163.03	6.63	6.63	-0.41
KOP: 8640.00' MD, -163.04' VS, 8587.87' TVD									



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)	
8,648.57	6.92	189.20	8,596.38	-814.62	-162.34	-163.19	6.63	6.63	-0.35	
8,662.00	8.38	192.24	8,609.69	-816.38	-162.68	-163.53	11.28	10.87	22.64	
8,675.43	8.33	191.14	8,622.98	-818.29	-163.07	-163.93	1.25	-0.37	-8.19	
8,688.86	8.27	190.03	8,636.27	-820.19	-163.43	-164.29	1.27	-0.45	-8.27	
8,702.29	8.21	188.94	8,649.56	-822.09	-163.75	-164.61	1.25	-0.45	-8.12	
8,715.71	8.14	187.89	8,662.84	-823.98	-164.03	-164.89	1.23	-0.52	-7.82	
8,729.14	8.08	186.95	8,676.14	-825.86	-164.27	-165.14	1.08	-0.45	-7.00	
8,742.57	8.01	186.16	8,689.44	-827.72	-164.49	-165.35	0.97	-0.52	-5.88	
8,756.00	7.93	185.63	8,702.74	-829.58	-164.68	-165.55	0.81	-0.60	-3.95	
8,769.57	7.84	185.57	8,716.18	-831.43	-164.86	-165.73	0.67	-0.66	-0.44	
8,783.14	7.75	185.74	8,729.62	-833.26	-165.04	-165.91	0.68	-0.66	1.25	
8,796.71	7.67	185.99	8,743.07	-835.07	-165.23	-166.10	0.64	-0.59	1.84	
8,810.29	7.59	186.17	8,756.53	-836.87	-165.42	-166.29	0.61	-0.59	1.33	
8,823.86	7.52	186.11	8,769.98	-838.64	-165.61	-166.49	0.52	-0.52	-0.44	
8,837.43	7.48	185.60	8,783.44	-840.40	-165.79	-166.67	0.57	-0.29	-3.76	
8,851.00	7.46	184.34	8,796.89	-842.16	-165.94	-166.82	1.22	-0.15	-9.29	
8,864.43	7.51	181.85	8,810.21	-843.90	-166.04	-166.92	2.44	0.37	-18.54	
8,877.86	7.66	178.76	8,823.52	-845.68	-166.04	-166.93	3.24	1.12	-23.01	
8,891.29	8.88	170.52	8,836.81	-847.59	-165.85	-166.74	12.64	9.08	-61.36	
8,904.71	10.47	169.82	8,850.04	-849.82	-165.47	-166.36	11.88	11.85	-5.22	
8,918.14	11.79	169.04	8,863.22	-852.36	-164.99	-165.88	9.89	9.83	-5.81	
8,931.57	12.99	166.56	8,876.33	-855.18	-164.38	-165.28	9.77	8.94	-18.47	
8,945.00	14.19	162.23	8,889.39	-858.22	-163.53	-164.43	11.71	8.94	-32.24	
8,958.57	15.52	158.08	8,902.50	-861.48	-162.34	-163.24	12.55	9.80	-30.58	
8,972.14	17.09	155.65	8,915.53	-864.99	-160.84	-161.75	12.61	11.57	-17.91	
8,985.71	18.63	153.48	8,928.44	-868.74	-159.05	-159.96	12.36	11.35	-15.99	
8,999.29	20.13	151.84	8,941.25	-872.74	-156.98	-157.89	11.75	11.05	-12.08	
9,012.86	21.54	149.85	8,953.94	-876.96	-154.63	-155.54	11.62	10.39	-14.66	
9,026.43	22.71	147.12	8,966.51	-881.31	-151.95	-152.88	11.48	8.62	-20.12	
9,040.00	23.67	144.07	8,978.98	-885.72	-148.93	-149.86	11.33	7.07	-22.48	
9,053.43	24.49	140.99	8,991.24	-890.06	-145.60	-146.53	11.17	6.11	-22.93	
9,066.86	25.14	137.55	9,003.43	-894.33	-141.92	-142.86	11.79	4.84	-25.61	
9,080.29	26.18	134.61	9,015.54	-898.52	-137.89	-138.83	12.24	7.74	-21.89	
9,093.71	26.95	131.27	9,027.54	-902.60	-133.49	-134.44	12.52	5.74	-24.89	
9,095.36	27.08	130.96	9,029.01	-903.09	-132.93	-133.87	11.38	7.60	-18.65	
100 FWL: 9095.36' MD, -133.88' VS, 9029.01' TVD										
9,107.14	27.99	128.84	9,039.46	-906.59	-128.75	-129.70	11.38	7.76	-18.02	
9,120.57	28.76	126.20	9,051.28	-910.47	-123.69	-124.64	10.96	5.73	-19.66	
9,134.00	29.44	122.93	9,063.01	-914.17	-118.31	-119.27	12.88	5.06	-24.35	
9,147.57	30.09	119.63	9,074.79	-917.67	-112.55	-113.51	12.99	4.79	-24.32	
9,161.14	30.57	116.24	9,086.51	-920.88	-106.50	-107.47	13.10	3.54	-24.98	
9,174.71	31.46	113.31	9,098.14	-923.80	-100.15	-101.12	12.91	6.56	-21.59	
9,188.29	32.83	111.48	9,109.63	-926.55	-93.47	-94.44	12.38	10.09	-13.48	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
9,201.86	34.33	110.15	9,120.94	-929.22	-86.46	-87.43	12.31	11.05	-9.80
9,215.43	35.58	108.36	9,132.06	-931.78	-79.12	-80.09	11.91	9.21	-13.19
9,217.82	35.73	107.89	9,134.00	-932.21	-77.80	-78.77	13.07	6.24	-19.71
3rd Bone Spring SD									
9,229.00	36.45	105.73	9,143.04	-934.12	-71.49	-72.47	13.07	6.45	-19.31
9,242.57	37.20	103.05	9,153.90	-936.14	-63.61	-64.59	13.06	5.53	-19.75
9,256.14	37.92	100.39	9,164.66	-937.81	-55.51	-56.50	13.07	5.31	-19.60
9,269.71	39.05	98.15	9,175.28	-939.17	-47.18	-48.16	13.22	8.33	-16.51
9,283.29	40.14	96.00	9,185.75	-940.24	-38.59	-39.58	12.89	8.03	-15.83
9,296.86	41.18	94.04	9,196.04	-941.01	-29.79	-30.77	12.14	7.66	-14.44
9,310.43	42.27	92.21	9,206.17	-941.50	-20.77	-21.75	12.04	8.03	-13.49
9,324.00	43.46	90.37	9,216.11	-941.71	-11.54	-12.53	12.73	8.77	-13.56
9,337.43	44.63	88.53	9,225.77	-941.61	-2.20	-3.19	12.91	8.71	-13.70
9,350.86	46.07	87.17	9,235.21	-941.25	7.34	6.36	12.92	10.72	-10.13
9,364.29	47.79	86.57	9,244.38	-940.72	17.14	16.15	13.22	12.81	-4.47
01-FTP (CH-32-134H)									
9,377.71	49.57	86.23	9,253.24	-940.08	27.20	26.21	13.40	13.26	-2.53
9,391.14	51.03	87.07	9,261.82	-939.48	37.51	36.53	11.89	10.87	6.25
9,404.57	52.59	87.86	9,270.12	-939.02	48.06	47.07	12.50	11.62	5.88
9,418.00	54.38	88.34	9,278.11	-938.66	58.84	57.86	13.63	13.33	3.57
9,431.57	56.17	88.98	9,285.84	-938.40	69.99	69.01	13.75	13.19	4.72
9,445.14	58.07	89.09	9,293.21	-938.21	81.39	80.40	14.02	14.00	0.81
9,458.71	59.95	89.14	9,300.19	-938.03	93.02	92.04	13.86	13.85	0.37
9,472.29	61.85	89.06	9,306.80	-937.84	104.88	103.90	14.00	13.99	-0.59
9,485.86	63.51	89.74	9,313.03	-937.71	116.94	115.95	13.02	12.23	5.01
9,499.43	65.14	90.32	9,318.91	-937.72	129.17	128.18	12.61	12.01	4.27
9,513.00	66.97	90.83	9,324.41	-937.85	141.57	140.59	13.92	13.49	3.76
9,526.43	68.18	91.27	9,329.54	-938.07	153.98	153.00	9.51	9.01	3.28
9,539.86	69.79	91.41	9,334.35	-938.37	166.51	165.53	12.03	11.99	1.04
9,553.29	71.06	91.57	9,338.85	-938.70	179.16	178.18	9.52	9.46	1.19
9,566.71	71.32	91.84	9,343.18	-939.07	191.86	190.88	2.72	1.94	2.01
9,580.14	72.18	91.65	9,347.38	-939.46	204.61	203.62	6.54	6.40	-1.41
9,593.57	73.70	90.74	9,351.32	-939.73	217.44	216.46	13.04	11.32	-6.78
9,607.00	74.75	89.42	9,354.98	-939.75	230.37	229.38	12.27	7.82	-9.83
9,620.43	75.09	88.78	9,358.47	-939.54	243.33	242.35	5.25	2.53	-4.77
9,633.86	75.43	89.09	9,361.89	-939.30	256.32	255.34	3.38	2.53	2.31
9,647.29	75.79	89.41	9,365.22	-939.13	269.33	268.34	3.54	2.68	2.38
9,660.71	76.14	89.74	9,368.48	-939.04	282.35	281.36	3.53	2.61	2.46
9,674.14	77.06	89.75	9,371.59	-938.98	295.41	294.43	6.85	6.85	0.07
9,687.57	78.78	89.23	9,374.40	-938.86	308.54	307.56	13.36	12.81	-3.87
9,701.00	80.34	88.75	9,376.83	-938.63	321.75	320.76	12.14	11.62	-3.57
9,714.57	82.00	88.72	9,378.92	-938.33	335.15	334.17	12.23	12.23	-0.22
9,728.14	82.16	89.33	9,380.79	-938.10	348.59	347.61	4.61	1.18	4.50
9,741.71	82.29	89.98	9,382.62	-938.02	362.04	361.05	4.84	0.96	4.79



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
9,755.29	82.42	90.60	9,384.43	-938.09	375.49	374.51	4.63	0.96	4.57
9,768.86	83.31	90.60	9,386.12	-938.23	388.96	387.98	6.56	6.56	0.00
9,777.89	84.33	90.25	9,387.09	-938.30	397.93	396.95	11.93	11.27	-3.91
00-LP(CH-32-134H)									
9,782.43	84.84	90.07	9,387.52	-938.31	402.45	401.47	11.93	11.28	-3.90
9,796.00	86.04	90.55	9,388.60	-938.38	415.98	415.00	9.52	8.84	3.54
9,809.43	86.71	91.01	9,389.44	-938.57	429.38	428.40	6.05	4.99	3.43
9,822.86	86.74	91.14	9,390.21	-938.82	442.79	441.81	0.99	0.22	0.97
9,836.29	86.76	91.23	9,390.97	-939.09	456.19	455.21	0.69	0.15	0.67
9,849.71	86.78	91.28	9,391.73	-939.39	469.59	468.61	0.40	0.15	0.37
9,863.14	86.82	91.30	9,392.48	-939.69	483.00	482.01	0.33	0.30	0.15
9,876.57	86.89	91.31	9,393.22	-940.00	496.40	495.42	0.53	0.52	0.07
9,890.00	87.01	91.30	9,393.93	-940.30	509.81	508.82	0.90	0.89	-0.07
9,903.43	87.22	91.28	9,394.61	-940.60	523.22	522.23	1.57	1.56	-0.15
9,916.86	87.48	91.26	9,395.23	-940.90	536.63	535.65	1.94	1.94	-0.15
9,930.29	87.77	91.23	9,395.78	-941.19	550.05	549.06	2.17	2.16	-0.22
9,943.71	88.05	91.19	9,396.27	-941.47	563.45	562.47	2.11	2.09	-0.30
9,957.14	88.33	91.16	9,396.70	-941.75	576.88	575.89	2.10	2.08	-0.22
9,970.57	88.98	90.61	9,397.01	-941.96	590.30	589.31	6.34	4.84	-4.10
9,984.00	89.78	89.17	9,397.16	-941.93	603.73	602.74	12.27	5.96	-10.72
9,987.00	89.81	89.05	9,397.17	-941.88	606.73	605.74	4.02	0.96	-3.91
EOC: 9987.00' MD, 605.74' VS, 9397.16' TVD									
9,997.57	89.91	88.64	9,397.19	-941.67	617.30	616.31	4.02	0.96	-3.91
10,011.14	90.03	88.62	9,397.20	-941.35	630.86	629.88	0.90	0.88	-0.15
10,024.71	90.14	88.60	9,397.18	-941.02	644.43	643.44	0.82	0.81	-0.15
10,038.29	90.24	88.58	9,397.14	-940.68	658.00	657.02	0.75	0.74	-0.15
10,051.86	90.33	88.56	9,397.07	-940.35	671.57	670.58	0.68	0.66	-0.15
10,065.43	90.43	88.54	9,396.98	-940.00	685.13	684.15	0.75	0.74	-0.15
10,079.00	90.52	88.52	9,396.87	-939.65	698.70	697.72	0.68	0.66	-0.15
10,092.43	90.62	88.50	9,396.73	-939.31	712.12	711.14	0.76	0.74	-0.15
10,105.86	90.73	88.48	9,396.57	-938.95	725.55	724.57	0.83	0.82	-0.15
10,119.29	90.84	88.47	9,396.39	-938.59	738.97	737.99	0.82	0.82	-0.07
10,132.71	90.96	88.44	9,396.18	-938.23	752.39	751.40	0.92	0.89	-0.22
10,146.14	91.07	88.42	9,395.94	-937.86	765.81	764.83	0.83	0.82	-0.15
10,159.57	91.19	88.38	9,395.68	-937.49	779.23	778.25	0.94	0.89	-0.30
10,173.00	91.30	88.33	9,395.39	-937.10	792.65	791.67	0.90	0.82	-0.37
10,186.57	91.43	88.26	9,395.06	-936.70	806.21	805.23	1.09	0.96	-0.52
10,200.14	91.55	88.18	9,394.71	-936.28	819.77	818.79	1.06	0.88	-0.59
10,213.71	91.67	88.09	9,394.33	-935.84	833.33	832.35	1.11	0.88	-0.66
10,227.29	91.78	87.99	9,393.92	-935.37	846.90	845.92	1.09	0.81	-0.74
10,240.86	91.88	87.88	9,393.49	-934.88	860.45	859.47	1.10	0.74	-0.81
10,254.43	91.96	87.76	9,393.03	-934.37	874.00	873.02	1.06	0.59	-0.88
10,268.00	92.01	87.63	9,392.56	-933.82	887.55	886.57	1.03	0.37	-0.96
10,281.43	92.02	87.50	9,392.09	-933.25	900.96	899.98	0.97	0.07	-0.97



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)	
10,294.86	92.00	87.36	9,391.62	-932.65	914.37	913.39	1.05	-0.15	-1.04	
10,308.29	91.97	87.22	9,391.15	-932.02	927.78	926.80	1.07	-0.22	-1.04	
10,321.71	91.94	87.08	9,390.69	-931.35	941.17	940.20	1.07	-0.22	-1.04	
10,335.14	91.91	86.95	9,390.24	-930.65	954.58	953.60	0.99	-0.22	-0.97	
10,348.57	91.45	87.40	9,389.85	-929.99	967.99	967.01	4.79	-3.43	3.35	
10,362.00	90.35	88.42	9,389.64	-929.50	981.40	980.43	11.17	-8.19	7.59	
10,375.43	90.36	88.34	9,389.56	-929.12	994.83	993.86	0.60	0.07	-0.60	
10,388.86	90.37	88.27	9,389.47	-928.72	1,008.25	1,007.28	0.53	0.07	-0.52	
10,402.29	90.39	88.21	9,389.38	-928.31	1,021.68	1,020.70	0.47	0.15	-0.45	
10,415.71	90.42	88.16	9,389.29	-927.88	1,035.09	1,034.12	0.43	0.22	-0.37	
10,429.14	90.46	88.11	9,389.18	-927.45	1,048.51	1,047.54	0.48	0.30	-0.37	
10,442.57	90.50	88.07	9,389.07	-927.00	1,061.93	1,060.96	0.42	0.30	-0.30	
10,456.00	90.56	88.04	9,388.95	-926.54	1,075.35	1,074.38	0.50	0.45	-0.22	
10,469.57	90.64	88.03	9,388.80	-926.08	1,088.92	1,087.95	0.59	0.59	-0.07	
10,483.14	90.73	88.02	9,388.64	-925.61	1,102.48	1,101.51	0.67	0.66	-0.07	
10,496.71	90.83	88.01	9,388.46	-925.14	1,116.04	1,115.07	0.74	0.74	-0.07	
10,510.29	90.93	87.99	9,388.25	-924.67	1,129.61	1,128.64	0.75	0.74	-0.15	
10,523.86	91.03	87.96	9,388.02	-924.19	1,143.17	1,142.20	0.77	0.74	-0.22	
10,537.43	91.13	87.91	9,387.76	-923.70	1,156.73	1,155.76	0.82	0.74	-0.37	
10,551.00	91.21	87.82	9,387.48	-923.19	1,170.28	1,169.32	0.89	0.59	-0.66	
10,564.43	91.27	87.68	9,387.19	-922.67	1,183.70	1,182.73	1.13	0.45	-1.04	
10,577.86	91.33	87.51	9,386.89	-922.10	1,197.12	1,196.15	1.34	0.45	-1.27	
10,591.29	91.37	87.32	9,386.57	-921.50	1,210.53	1,209.56	1.45	0.30	-1.41	
10,604.71	91.41	87.14	9,386.25	-920.85	1,223.93	1,222.96	1.37	0.30	-1.34	
10,618.14	91.44	86.97	9,385.91	-920.16	1,237.34	1,236.37	1.28	0.22	-1.27	
10,631.57	90.84	87.89	9,385.65	-919.56	1,250.75	1,249.79	8.18	-4.47	6.85	
10,645.00	90.12	89.12	9,385.53	-919.21	1,264.17	1,263.21	10.61	-5.36	9.16	
10,658.43	89.91	89.45	9,385.53	-919.04	1,277.60	1,276.64	2.91	-1.56	2.46	
10,671.86	89.88	89.42	9,385.55	-918.91	1,291.03	1,290.07	0.32	-0.22	-0.22	
10,685.29	89.86	89.41	9,385.58	-918.77	1,304.46	1,303.50	0.17	-0.15	-0.07	
10,698.71	89.86	89.40	9,385.62	-918.63	1,317.88	1,316.92	0.07	0.00	-0.07	
10,712.14	89.85	89.50	9,385.65	-918.50	1,331.31	1,330.35	0.75	-0.07	0.74	
10,725.57	89.21	90.97	9,385.76	-918.56	1,344.74	1,343.78	11.94	-4.77	10.95	
10,739.00	88.35	91.78	9,386.05	-918.88	1,358.16	1,357.20	8.80	-6.40	6.03	
10,752.43	88.29	92.03	9,386.44	-919.33	1,371.58	1,370.62	1.91	-0.45	1.86	
10,765.86	88.64	92.07	9,386.80	-919.81	1,385.00	1,384.03	2.62	2.61	0.30	
10,779.29	89.02	92.11	9,387.07	-920.30	1,398.41	1,397.45	2.85	2.83	0.30	
10,792.71	89.41	92.16	9,387.26	-920.79	1,411.82	1,410.86	2.93	2.91	0.37	
10,806.14	89.80	92.19	9,387.35	-921.30	1,425.24	1,424.28	2.91	2.90	0.22	
10,819.57	90.15	92.21	9,387.36	-921.82	1,438.66	1,437.70	2.61	2.61	0.15	
10,833.00	90.45	92.20	9,387.29	-922.34	1,452.08	1,451.12	2.24	2.23	-0.07	
10,846.57	90.65	92.13	9,387.16	-922.85	1,465.64	1,464.68	1.56	1.47	-0.52	
10,860.14	90.78	92.04	9,386.99	-923.34	1,479.20	1,478.24	1.17	0.96	-0.66	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
10,873.71	90.88	91.94	9,386.79	-923.81	1,492.76	1,491.80	1.04	0.74	-0.74
10,887.29	90.96	91.83	9,386.57	-924.26	1,506.33	1,505.37	1.00	0.59	-0.81
10,900.86	91.04	91.72	9,386.34	-924.68	1,519.90	1,518.93	1.00	0.59	-0.81
10,914.43	90.83	91.69	9,386.11	-925.08	1,533.46	1,532.49	1.56	-1.55	-0.22
10,928.00	89.47	91.81	9,386.08	-925.50	1,547.02	1,546.05	10.06	-10.02	0.88
10,941.43	88.37	91.37	9,386.33	-925.87	1,560.44	1,559.47	8.82	-8.19	-3.28
10,954.86	88.55	91.34	9,386.69	-926.19	1,573.86	1,572.89	1.36	1.34	-0.22
10,968.29	88.75	91.32	9,387.01	-926.50	1,587.29	1,586.32	1.50	1.49	-0.15
10,981.71	88.96	91.31	9,387.28	-926.81	1,600.70	1,599.73	1.57	1.56	-0.07
10,995.14	89.18	91.29	9,387.50	-927.11	1,614.13	1,613.15	1.64	1.64	-0.15
11,008.57	89.39	91.27	9,387.66	-927.41	1,627.55	1,626.58	1.57	1.56	-0.15
11,022.00	89.60	91.23	9,387.78	-927.71	1,640.98	1,640.01	1.59	1.56	-0.30
11,035.57	89.80	91.18	9,387.85	-927.99	1,654.54	1,653.57	1.52	1.47	-0.37
11,049.14	89.99	91.10	9,387.88	-928.26	1,668.11	1,667.14	1.52	1.40	-0.59
11,062.71	90.16	91.02	9,387.86	-928.51	1,681.68	1,680.71	1.38	1.25	-0.59
11,076.29	90.32	90.93	9,387.80	-928.74	1,695.26	1,694.28	1.35	1.18	-0.66
11,089.86	90.44	90.83	9,387.71	-928.95	1,708.83	1,707.85	1.15	0.88	-0.74
11,103.43	90.52	90.73	9,387.60	-929.14	1,722.39	1,721.42	0.94	0.59	-0.74
11,117.00	90.55	90.61	9,387.47	-929.30	1,735.96	1,734.99	0.91	0.22	-0.88
11,130.43	90.48	90.49	9,387.35	-929.42	1,749.39	1,748.42	1.03	-0.52	-0.89
11,143.86	90.36	90.36	9,387.25	-929.52	1,762.82	1,761.85	1.32	-0.89	-0.97
11,157.29	90.23	90.23	9,387.18	-929.59	1,776.25	1,775.28	1.37	-0.97	-0.97
11,170.71	90.10	90.11	9,387.15	-929.63	1,789.67	1,788.70	1.32	-0.97	-0.89
11,184.14	90.00	90.00	9,387.13	-929.65	1,803.10	1,802.13	1.11	-0.74	-0.82
11,197.57	88.82	90.14	9,387.27	-929.66	1,816.53	1,815.55	8.85	-8.79	1.04
11,211.00	87.36	90.40	9,387.72	-929.73	1,829.95	1,828.98	11.04	-10.87	1.94
11,224.43	85.91	90.74	9,388.51	-929.86	1,843.36	1,842.38	11.09	-10.80	2.53
11,237.86	86.05	90.68	9,389.45	-930.03	1,856.75	1,855.78	1.13	1.04	-0.45
11,251.29	86.23	90.63	9,390.35	-930.18	1,870.15	1,869.18	1.39	1.34	-0.37
11,264.71	86.42	90.58	9,391.21	-930.32	1,883.54	1,882.57	1.46	1.42	-0.37
11,278.14	86.63	90.54	9,392.03	-930.45	1,896.95	1,895.97	1.59	1.56	-0.30
11,291.57	86.84	90.49	9,392.79	-930.57	1,910.36	1,909.38	1.61	1.56	-0.37
11,305.00	87.04	90.46	9,393.51	-930.68	1,923.77	1,922.79	1.51	1.49	-0.22
11,318.57	87.23	90.43	9,394.19	-930.79	1,937.32	1,936.34	1.42	1.40	-0.22
11,332.14	87.40	90.40	9,394.82	-930.89	1,950.87	1,949.90	1.27	1.25	-0.22
11,345.71	87.57	90.37	9,395.42	-930.98	1,964.43	1,963.45	1.27	1.25	-0.22
11,359.29	87.73	90.34	9,395.98	-931.06	1,978.00	1,977.02	1.20	1.18	-0.22
11,372.86	87.89	90.30	9,396.49	-931.14	1,991.56	1,990.58	1.22	1.18	-0.29
11,386.43	88.03	90.26	9,396.98	-931.20	2,005.12	2,004.14	1.07	1.03	-0.29
11,400.00	88.16	90.22	9,397.43	-931.26	2,018.68	2,017.71	1.00	0.96	-0.29
11,413.43	88.27	90.15	9,397.85	-931.30	2,032.11	2,031.13	0.97	0.82	-0.52
11,426.86	88.37	90.08	9,398.24	-931.33	2,045.53	2,044.55	0.91	0.74	-0.52
11,440.29	88.46	90.01	9,398.61	-931.34	2,058.95	2,057.98	0.85	0.67	-0.52



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
11,453.71	88.55	89.92	9,398.96	-931.33	2,072.37	2,071.39	0.95	0.67	-0.67
11,467.14	88.65	89.83	9,399.29	-931.30	2,085.80	2,084.82	1.00	0.74	-0.67
11,480.57	88.52	89.82	9,399.62	-931.26	2,099.22	2,098.24	0.97	-0.97	-0.07
11,494.00	86.97	90.26	9,400.15	-931.27	2,112.64	2,111.66	12.00	-11.54	3.28
11,507.43	86.45	90.32	9,400.92	-931.34	2,126.05	2,125.07	3.90	-3.87	0.45
11,520.86	86.61	90.20	9,401.73	-931.40	2,139.45	2,138.48	1.49	1.19	-0.89
11,534.29	86.77	90.08	9,402.51	-931.43	2,152.86	2,151.88	1.49	1.19	-0.89
11,547.71	86.93	89.95	9,403.25	-931.44	2,166.26	2,165.28	1.54	1.19	-0.97
11,561.14	87.10	89.83	9,403.95	-931.41	2,179.67	2,178.70	1.55	1.27	-0.89
11,574.57	87.25	89.70	9,404.61	-931.36	2,193.09	2,192.11	1.48	1.12	-0.97
11,588.00	87.39	89.59	9,405.24	-931.27	2,206.50	2,205.52	1.33	1.04	-0.82
11,601.57	87.51	89.48	9,405.84	-931.16	2,220.06	2,219.08	1.20	0.88	-0.81
11,615.14	87.61	89.38	9,406.42	-931.03	2,233.61	2,232.64	1.04	0.74	-0.74
11,628.71	87.72	89.29	9,406.97	-930.87	2,247.17	2,246.20	1.05	0.81	-0.66
11,642.29	87.85	89.20	9,407.50	-930.69	2,260.74	2,259.76	1.16	0.96	-0.66
11,655.86	88.01	89.11	9,407.99	-930.49	2,274.30	2,273.32	1.35	1.18	-0.66
11,669.43	88.22	89.02	9,408.43	-930.27	2,287.86	2,286.89	1.68	1.55	-0.66
11,683.00	88.52	88.93	9,408.82	-930.03	2,301.42	2,300.45	2.31	2.21	-0.66
11,696.43	88.97	88.85	9,409.11	-929.77	2,314.85	2,313.87	3.40	3.35	-0.60
11,709.86	89.48	88.76	9,409.29	-929.49	2,328.27	2,327.30	3.86	3.80	-0.67
11,723.29	90.04	88.68	9,409.35	-929.19	2,341.70	2,340.73	4.21	4.17	-0.60
11,736.71	90.59	88.59	9,409.28	-928.87	2,355.12	2,354.14	4.15	4.10	-0.67
11,750.14	91.11	88.50	9,409.08	-928.53	2,368.54	2,367.57	3.93	3.87	-0.67
11,763.57	91.56	88.40	9,408.76	-928.16	2,381.96	2,380.99	3.43	3.35	-0.74
11,777.00	91.88	88.30	9,408.36	-927.78	2,395.38	2,394.41	2.50	2.38	-0.74
11,790.43	91.99	88.19	9,407.91	-927.37	2,408.80	2,407.82	1.16	0.82	-0.82
11,803.86	91.98	88.08	9,407.44	-926.93	2,422.21	2,421.24	0.82	-0.07	-0.82
11,817.29	91.90	87.96	9,406.99	-926.47	2,435.62	2,434.65	1.07	-0.60	-0.89
11,830.71	91.78	87.84	9,406.56	-925.97	2,449.03	2,448.06	1.26	-0.89	-0.89
11,844.14	91.68	87.71	9,406.15	-925.45	2,462.44	2,461.47	1.22	-0.74	-0.97
11,857.57	90.85	87.97	9,405.85	-924.95	2,475.86	2,474.89	6.48	-6.18	1.94
11,871.00	89.53	88.54	9,405.81	-924.54	2,489.28	2,488.31	10.71	-9.83	4.24
11,883.09	88.50	88.51	9,406.02	-924.23	2,501.37	2,500.40	8.55	-8.55	-0.22
02-V2500(CH-32-134H)									
11,884.57	88.37	88.51	9,406.06	-924.19	2,502.85	2,501.88	8.55	-8.55	-0.22
11,898.14	88.50	88.35	9,406.43	-923.82	2,516.41	2,515.44	1.52	0.96	-1.18
11,911.71	88.66	88.18	9,406.77	-923.41	2,529.97	2,529.00	1.72	1.18	-1.25
11,925.29	88.83	88.03	9,407.06	-922.96	2,543.53	2,542.57	1.67	1.25	-1.10
11,938.86	88.97	87.89	9,407.32	-922.47	2,557.09	2,556.13	1.46	1.03	-1.03
11,952.43	89.06	87.78	9,407.56	-921.96	2,570.65	2,569.69	1.05	0.66	-0.81
11,966.00	89.08	87.72	9,407.78	-921.43	2,584.21	2,583.24	0.47	0.15	-0.44
11,979.43	88.98	87.75	9,408.00	-920.90	2,597.63	2,596.66	0.78	-0.74	0.22
11,992.86	88.79	87.83	9,408.27	-920.38	2,611.04	2,610.08	1.53	-1.41	0.60
12,006.29	88.58	87.92	9,408.57	-919.88	2,624.46	2,623.50	1.70	-1.56	0.67



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)	
12,019.71	88.35	88.02	9,408.93	-919.41	2,637.87	2,636.90	1.87	-1.71	0.75	
12,033.14	88.14	88.08	9,409.34	-918.95	2,651.28	2,650.32	1.63	-1.56	0.45	
12,046.57	87.83	88.44	9,409.82	-918.54	2,664.70	2,663.74	3.54	-2.31	2.68	
12,060.00	87.70	89.29	9,410.34	-918.28	2,678.12	2,677.15	6.40	-0.97	6.33	
12,073.57	87.21	90.43	9,410.94	-918.24	2,691.67	2,690.71	9.14	-3.61	8.40	
12,087.14	87.23	90.48	9,411.60	-918.35	2,705.23	2,704.26	0.40	0.15	0.37	
12,100.71	87.35	90.16	9,412.24	-918.43	2,718.78	2,717.82	2.52	0.88	-2.36	
12,114.29	87.50	89.81	9,412.85	-918.42	2,732.35	2,731.38	2.80	1.10	-2.58	
12,127.86	87.67	89.46	9,413.42	-918.34	2,745.91	2,744.94	2.87	1.25	-2.58	
12,141.43	87.83	89.12	9,413.96	-918.17	2,759.46	2,758.50	2.77	1.18	-2.51	
12,155.00	87.98	88.82	9,414.45	-917.93	2,773.02	2,772.06	2.47	1.11	-2.21	
12,168.43	88.09	88.60	9,414.91	-917.62	2,786.44	2,785.48	1.83	0.82	-1.64	
12,181.86	88.17	88.43	9,415.35	-917.28	2,799.86	2,798.90	1.40	0.60	-1.27	
12,195.29	88.24	88.29	9,415.77	-916.89	2,813.28	2,812.32	1.17	0.52	-1.04	
12,208.71	88.29	88.18	9,416.18	-916.48	2,826.69	2,825.72	0.90	0.37	-0.82	
12,222.14	88.31	88.08	9,416.58	-916.04	2,840.10	2,839.14	0.76	0.15	-0.74	
12,235.57	88.31	88.00	9,416.97	-915.58	2,853.52	2,852.56	0.60	0.00	-0.60	
12,249.00	88.27	87.94	9,417.37	-915.11	2,866.93	2,865.97	0.54	-0.30	-0.45	
12,262.43	88.18	87.90	9,417.79	-914.62	2,880.35	2,879.39	0.73	-0.67	-0.30	
12,275.86	88.06	87.87	9,418.23	-914.12	2,893.76	2,892.80	0.92	-0.89	-0.22	
12,289.29	87.93	87.84	9,418.70	-913.62	2,907.17	2,906.22	0.99	-0.97	-0.22	
12,302.71	87.82	87.81	9,419.20	-913.11	2,920.58	2,919.62	0.85	-0.82	-0.22	
12,316.14	87.76	87.75	9,419.72	-912.59	2,933.99	2,933.03	0.63	-0.45	-0.45	
12,329.57	87.97	88.39	9,420.22	-912.14	2,947.40	2,946.44	5.01	1.56	4.77	
12,343.00	88.11	90.18	9,420.68	-911.97	2,960.82	2,959.86	13.36	1.04	13.33	
12,356.57	88.11	91.87	9,421.12	-912.22	2,974.38	2,973.42	12.45	0.00	12.45	
12,370.14	88.16	93.28	9,421.57	-912.82	2,987.93	2,986.97	10.39	0.37	10.39	
12,383.71	88.69	93.02	9,421.94	-913.57	3,001.47	3,000.51	4.35	3.91	-1.92	
12,397.29	89.28	92.72	9,422.18	-914.25	3,015.03	3,014.07	4.87	4.34	-2.21	
12,410.86	89.86	92.40	9,422.28	-914.86	3,028.59	3,027.63	4.88	4.27	-2.36	
12,424.43	90.32	92.07	9,422.26	-915.39	3,042.15	3,041.19	4.17	3.39	-2.43	
12,438.00	90.59	91.67	9,422.15	-915.83	3,055.71	3,054.75	3.56	1.99	-2.95	
12,451.43	90.47	91.40	9,422.03	-916.19	3,069.14	3,068.17	2.20	-0.89	-2.01	
12,464.86	90.15	91.08	9,421.96	-916.48	3,082.56	3,081.60	3.37	-2.38	-2.38	
12,478.29	89.71	90.77	9,421.97	-916.70	3,095.99	3,095.03	4.01	-3.28	-2.31	
12,491.71	89.22	90.47	9,422.10	-916.84	3,109.41	3,108.45	4.28	-3.65	-2.24	
12,505.14	88.75	90.21	9,422.33	-916.92	3,122.84	3,121.87	4.00	-3.50	-1.94	
12,518.57	88.04	90.11	9,422.71	-916.96	3,136.26	3,135.30	5.34	-5.29	-0.74	
12,532.00	86.39	90.41	9,423.36	-917.02	3,149.67	3,148.71	12.49	-12.29	2.23	
12,545.57	85.24	90.39	9,424.35	-917.11	3,163.21	3,162.25	8.48	-8.47	-0.15	
12,559.14	85.22	90.34	9,425.48	-917.20	3,176.73	3,175.77	0.40	-0.15	-0.37	
12,572.71	85.26	90.32	9,426.61	-917.28	3,190.25	3,189.29	0.33	0.29	-0.15	
12,586.29	85.34	90.31	9,427.72	-917.35	3,203.79	3,202.83	0.59	0.59	-0.07	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)	
12,599.86	85.43	90.32	9,428.81	-917.43	3,217.31	3,216.35	0.67	0.66	0.07	
12,613.43	85.52	90.32	9,429.88	-917.50	3,230.84	3,229.88	0.66	0.66	0.00	
12,627.00	85.60	90.32	9,430.93	-917.58	3,244.37	3,243.41	0.59	0.59	0.00	
12,640.43	85.64	90.29	9,431.96	-917.65	3,257.76	3,256.80	0.37	0.30	-0.22	
12,653.86	85.66	90.25	9,432.98	-917.71	3,271.15	3,270.19	0.33	0.15	-0.30	
12,667.29	85.68	90.20	9,433.99	-917.76	3,284.54	3,283.58	0.40	0.15	-0.37	
12,680.71	85.69	90.16	9,435.00	-917.81	3,297.93	3,296.96	0.31	0.07	-0.30	
12,694.14	85.70	90.12	9,436.01	-917.84	3,311.32	3,310.35	0.31	0.07	-0.30	
12,707.57	85.72	90.09	9,437.01	-917.86	3,324.71	3,323.75	0.27	0.15	-0.22	
12,721.00	85.75	90.09	9,438.01	-917.88	3,338.10	3,337.14	0.22	0.22	0.00	
12,734.43	85.81	90.11	9,439.00	-917.91	3,351.50	3,350.53	0.47	0.45	0.15	
12,747.86	86.00	90.21	9,439.96	-917.94	3,364.89	3,363.93	1.60	1.41	0.74	
12,761.29	86.85	90.67	9,440.80	-918.05	3,378.30	3,377.33	7.19	6.33	3.43	
12,774.71	86.94	90.74	9,441.53	-918.21	3,391.69	3,390.73	0.85	0.67	0.52	
12,788.14	87.03	90.80	9,442.23	-918.39	3,405.10	3,404.14	0.81	0.67	0.45	
12,801.57	87.11	90.87	9,442.92	-918.59	3,418.52	3,417.55	0.79	0.60	0.52	
12,815.00	87.18	90.92	9,443.59	-918.80	3,431.93	3,430.96	0.64	0.52	0.37	
12,828.57	87.23	90.95	9,444.25	-919.02	3,445.48	3,444.52	0.43	0.37	0.22	
12,842.14	87.26	90.97	9,444.90	-919.25	3,459.03	3,458.07	0.27	0.22	0.15	
12,855.71	87.27	90.98	9,445.55	-919.48	3,472.58	3,471.62	0.10	0.07	0.07	
12,869.29	87.28	90.98	9,446.19	-919.71	3,486.15	3,485.18	0.07	0.07	0.00	
12,882.86	87.27	90.96	9,446.84	-919.94	3,499.70	3,498.73	0.16	-0.07	-0.15	
12,896.43	87.26	90.94	9,447.49	-920.16	3,513.25	3,512.29	0.16	-0.07	-0.15	
12,910.00	87.23	90.89	9,448.14	-920.38	3,526.81	3,525.84	0.43	-0.22	-0.37	
12,923.43	87.19	90.83	9,448.79	-920.58	3,540.22	3,539.25	0.54	-0.30	-0.45	
12,936.86	87.39	90.85	9,449.43	-920.78	3,553.63	3,552.67	1.50	1.49	0.15	
12,950.29	87.99	91.03	9,449.97	-921.00	3,567.05	3,566.08	4.66	4.47	1.34	
12,963.71	87.92	90.93	9,450.45	-921.23	3,580.46	3,579.49	0.91	-0.52	-0.75	
12,977.14	87.86	90.83	9,450.94	-921.43	3,593.88	3,592.91	0.87	-0.45	-0.74	
12,990.57	87.79	90.73	9,451.45	-921.62	3,607.30	3,606.33	0.91	-0.52	-0.74	
13,004.00	87.74	90.63	9,451.98	-921.77	3,620.72	3,619.75	0.83	-0.37	-0.74	
13,017.43	87.70	90.54	9,452.51	-921.91	3,634.13	3,633.17	0.73	-0.30	-0.67	
13,030.86	87.68	90.46	9,453.05	-922.03	3,647.55	3,646.58	0.61	-0.15	-0.60	
13,044.29	87.67	90.38	9,453.60	-922.13	3,660.97	3,660.00	0.60	-0.07	-0.60	
13,057.71	87.67	90.30	9,454.14	-922.21	3,674.38	3,673.41	0.60	0.00	-0.60	
13,071.14	87.69	90.23	9,454.69	-922.27	3,687.80	3,686.83	0.54	0.15	-0.52	
13,084.57	87.74	90.16	9,455.22	-922.31	3,701.22	3,700.25	0.64	0.37	-0.52	
13,098.00	87.82	90.11	9,455.74	-922.35	3,714.64	3,713.67	0.70	0.60	-0.37	
13,111.57	87.96	90.06	9,456.24	-922.37	3,728.20	3,727.23	1.10	1.03	-0.37	
13,125.14	88.12	90.02	9,456.70	-922.38	3,741.76	3,740.79	1.22	1.18	-0.29	
13,138.71	89.65	90.27	9,456.97	-922.41	3,755.33	3,754.36	11.42	11.27	1.84	
13,152.29	91.14	90.56	9,456.88	-922.51	3,768.91	3,767.94	11.18	10.97	2.14	
13,165.86	91.34	90.51	9,456.58	-922.64	3,782.47	3,781.50	1.52	1.47	-0.37	
13,179.43	91.54	90.46	9,456.24	-922.75	3,796.04	3,795.07	1.52	1.47	-0.37	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
13,193.00	91.72	90.40	9,455.85	-922.85	3,809.60	3,808.63	1.40	1.33	-0.44
13,206.43	91.86	90.31	9,455.43	-922.94	3,823.03	3,822.06	1.24	1.04	-0.67
13,219.86	91.98	90.22	9,454.99	-923.00	3,836.45	3,835.48	1.12	0.89	-0.67
13,233.29	92.08	90.12	9,454.51	-923.04	3,849.87	3,848.90	1.05	0.74	-0.74
13,246.71	92.16	90.02	9,454.01	-923.05	3,863.28	3,862.31	0.95	0.60	-0.75
13,260.14	92.23	89.94	9,453.50	-923.05	3,876.70	3,875.73	0.79	0.52	-0.60
13,273.57	90.67	90.20	9,453.16	-923.07	3,890.13	3,889.16	11.78	-11.62	1.94
13,287.00	90.72	90.14	9,453.00	-923.10	3,903.55	3,902.59	0.58	0.37	-0.45
13,300.57	90.76	90.12	9,452.82	-923.14	3,917.12	3,916.15	0.33	0.29	-0.15
13,314.14	90.79	90.11	9,452.64	-923.16	3,930.69	3,929.72	0.23	0.22	-0.07
13,327.71	90.82	90.11	9,452.45	-923.19	3,944.26	3,943.29	0.22	0.22	0.00
13,341.29	90.85	90.11	9,452.25	-923.22	3,957.84	3,956.87	0.22	0.22	0.00
13,354.86	90.90	90.12	9,452.04	-923.24	3,971.41	3,970.44	0.38	0.37	0.07
13,368.43	90.96	90.13	9,451.82	-923.27	3,984.98	3,984.01	0.45	0.44	0.07
13,382.00	90.09	90.30	9,451.70	-923.32	3,998.54	3,997.58	6.53	-6.41	1.25
13,395.43	89.66	90.40	9,451.73	-923.40	4,011.97	4,011.01	3.29	-3.20	0.74
13,408.86	89.82	90.40	9,451.79	-923.50	4,025.40	4,024.43	1.19	1.19	0.00
13,422.29	89.99	90.40	9,451.81	-923.59	4,038.83	4,037.86	1.27	1.27	0.00
13,435.71	90.16	90.40	9,451.79	-923.69	4,052.25	4,051.28	1.27	1.27	0.00
13,449.14	90.31	90.38	9,451.74	-923.78	4,065.68	4,064.71	1.13	1.12	-0.15
13,462.57	90.42	90.35	9,451.65	-923.86	4,079.11	4,078.14	0.85	0.82	-0.22
13,476.00	90.48	90.30	9,451.55	-923.94	4,092.54	4,091.57	0.58	0.45	-0.37
13,489.43	90.43	90.21	9,451.44	-924.00	4,105.97	4,105.00	0.77	-0.37	-0.67
13,502.86	90.32	90.10	9,451.35	-924.04	4,119.40	4,118.43	1.16	-0.82	-0.82
13,516.29	90.17	89.97	9,451.29	-924.04	4,132.83	4,131.86	1.48	-1.12	-0.97
13,529.71	90.02	89.84	9,451.27	-924.02	4,146.25	4,145.28	1.48	-1.12	-0.97
13,543.14	89.86	89.70	9,451.29	-923.97	4,159.68	4,158.71	1.58	-1.19	-1.04
13,556.57	89.27	89.73	9,451.39	-923.90	4,173.11	4,172.14	4.40	-4.39	0.22
13,570.00	88.60	89.81	9,451.64	-923.85	4,186.54	4,185.57	5.02	-4.99	0.60
13,583.57	88.53	89.69	9,451.98	-923.79	4,200.10	4,199.13	1.02	-0.52	-0.88
13,597.14	88.50	89.58	9,452.33	-923.70	4,213.67	4,212.70	0.84	-0.22	-0.81
13,610.71	88.49	89.47	9,452.68	-923.59	4,227.23	4,226.26	0.81	-0.07	-0.81
13,624.29	88.49	89.36	9,453.04	-923.45	4,240.81	4,239.84	0.81	0.00	-0.81
13,637.86	88.52	89.26	9,453.40	-923.29	4,254.37	4,253.40	0.77	0.22	-0.74
13,651.43	88.58	89.17	9,453.74	-923.10	4,267.94	4,266.97	0.80	0.44	-0.66
13,665.00	88.67	89.10	9,454.07	-922.90	4,281.50	4,280.53	0.84	0.66	-0.52
13,678.43	88.80	89.05	9,454.36	-922.68	4,294.93	4,293.96	1.04	0.97	-0.37
13,691.86	88.97	89.02	9,454.62	-922.45	4,308.35	4,307.38	1.29	1.27	-0.22
13,705.29	89.15	88.99	9,454.84	-922.22	4,321.78	4,320.81	1.36	1.34	-0.22
13,718.71	89.33	88.97	9,455.02	-921.98	4,335.19	4,334.23	1.35	1.34	-0.15
13,732.14	89.51	88.94	9,455.16	-921.74	4,348.62	4,347.65	1.36	1.34	-0.22
13,745.57	89.68	88.91	9,455.25	-921.48	4,362.05	4,361.08	1.29	1.27	-0.22
13,759.00	89.81	88.86	9,455.31	-921.22	4,375.48	4,374.51	1.04	0.97	-0.37



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)	
13,772.57	89.89	88.80	9,455.35	-920.95	4,389.04	4,388.08	0.74	0.59	-0.44	
13,786.14	89.94	88.72	9,455.37	-920.65	4,402.61	4,401.64	0.70	0.37	-0.59	
13,799.71	89.96	88.63	9,455.38	-920.34	4,416.18	4,415.21	0.68	0.15	-0.66	
13,813.29	89.97	88.52	9,455.39	-920.00	4,429.75	4,428.79	0.81	0.07	-0.81	
13,826.86	89.95	88.41	9,455.40	-919.64	4,443.32	4,442.35	0.82	-0.15	-0.81	
13,840.43	89.90	88.28	9,455.42	-919.25	4,456.88	4,455.92	1.03	-0.37	-0.96	
13,854.00	89.83	88.12	9,455.45	-918.82	4,470.44	4,469.48	1.29	-0.52	-1.18	
13,867.43	89.71	87.94	9,455.50	-918.36	4,483.87	4,482.90	1.61	-0.89	-1.34	
13,880.86	89.58	87.74	9,455.58	-917.85	4,497.29	4,496.32	1.78	-0.97	-1.49	
13,894.29	89.44	87.53	9,455.70	-917.30	4,510.70	4,509.74	1.88	-1.04	-1.56	
13,907.71	89.31	87.33	9,455.85	-916.70	4,524.11	4,523.15	1.78	-0.97	-1.49	
13,921.14	89.21	87.15	9,456.02	-916.05	4,537.52	4,536.56	1.53	-0.74	-1.34	
13,934.57	89.15	86.99	9,456.21	-915.36	4,550.93	4,549.97	1.27	-0.45	-1.19	
13,948.00	88.03	88.06	9,456.54	-914.78	4,564.35	4,563.39	11.53	-8.34	7.97	
13,961.43	88.14	88.00	9,456.99	-914.32	4,577.76	4,576.80	0.93	0.82	-0.45	
13,974.86	88.31	87.97	9,457.41	-913.85	4,591.18	4,590.22	1.29	1.27	-0.22	
13,988.29	88.50	87.96	9,457.78	-913.37	4,604.59	4,603.63	1.42	1.41	-0.07	
14,001.71	88.70	87.99	9,458.11	-912.90	4,618.00	4,617.04	1.51	1.49	0.22	
14,015.14	88.88	88.04	9,458.39	-912.43	4,631.42	4,630.46	1.39	1.34	0.37	
14,028.57	89.04	88.13	9,458.64	-911.98	4,644.84	4,643.88	1.37	1.19	0.67	
14,042.00	89.14	88.27	9,458.85	-911.56	4,658.26	4,657.31	1.28	0.74	1.04	
14,055.57	89.15	88.49	9,459.05	-911.18	4,671.83	4,670.87	1.62	0.07	1.62	
14,069.14	89.10	88.76	9,459.26	-910.85	4,685.39	4,684.43	2.02	-0.37	1.99	
14,082.71	89.02	89.04	9,459.48	-910.59	4,698.96	4,698.00	2.15	-0.59	2.06	
14,096.29	88.93	89.32	9,459.72	-910.40	4,712.53	4,711.58	2.17	-0.66	2.06	
14,109.86	88.84	89.59	9,459.99	-910.27	4,726.10	4,725.14	2.10	-0.66	1.99	
14,123.43	88.76	90.13	9,460.27	-910.24	4,739.67	4,738.71	4.02	-0.59	3.98	
14,137.00	88.70	90.61	9,460.57	-910.32	4,753.23	4,752.28	3.56	-0.44	3.54	
14,150.43	88.97	91.90	9,460.85	-910.62	4,766.66	4,765.70	9.81	2.01	9.61	
14,163.86	89.03	91.88	9,461.08	-911.06	4,780.08	4,779.12	0.47	0.45	-0.15	
14,177.29	89.12	91.80	9,461.30	-911.49	4,793.50	4,792.54	0.90	0.67	-0.60	
14,190.71	89.23	91.70	9,461.49	-911.90	4,806.91	4,805.95	1.11	0.82	-0.75	
14,204.14	89.36	91.58	9,461.66	-912.29	4,820.33	4,819.38	1.32	0.97	-0.89	
14,217.57	89.50	91.47	9,461.79	-912.64	4,833.76	4,832.80	1.33	1.04	-0.82	
14,231.00	89.65	91.39	9,461.89	-912.98	4,847.18	4,846.22	1.27	1.12	-0.60	
14,244.43	89.82	91.35	9,461.95	-913.30	4,860.61	4,859.65	1.30	1.27	-0.30	
14,257.86	90.00	91.33	9,461.97	-913.61	4,874.04	4,873.08	1.35	1.34	-0.15	
14,271.29	90.18	91.34	9,461.95	-913.93	4,887.46	4,886.50	1.34	1.34	0.07	
14,284.71	90.38	91.35	9,461.89	-914.24	4,900.88	4,899.92	1.49	1.49	0.07	
14,298.14	90.58	91.36	9,461.77	-914.56	4,914.30	4,913.34	1.49	1.49	0.07	
14,311.57	90.79	91.37	9,461.61	-914.88	4,927.73	4,926.77	1.57	1.56	0.07	
14,325.00	91.01	91.37	9,461.40	-915.20	4,941.15	4,940.19	1.64	1.64	0.00	
14,338.57	91.25	91.35	9,461.13	-915.52	4,954.72	4,953.76	1.77	1.77	-0.15	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
14,352.14	91.50	91.32	9,460.81	-915.84	4,968.28	4,967.32	1.86	1.84	-0.22
14,365.71	91.73	91.29	9,460.43	-916.15	4,981.84	4,980.88	1.71	1.69	-0.22
14,379.29	91.95	91.25	9,459.99	-916.45	4,995.41	4,994.45	1.65	1.62	-0.29
14,384.27	92.01	91.24	9,459.82	-916.56	5,000.39	4,999.42	1.27	1.25	-0.22
03-V5000(CH-32-134H)									
14,392.86	92.12	91.22	9,459.51	-916.74	5,008.97	5,008.01	1.27	1.25	-0.22
14,406.43	92.23	91.21	9,458.99	-917.03	5,022.53	5,021.56	0.81	0.81	-0.07
14,420.00	92.24	91.22	9,458.46	-917.32	5,036.08	5,035.12	0.10	0.07	0.07
14,433.43	92.10	91.27	9,457.96	-917.61	5,049.50	5,048.54	1.11	-1.04	0.37
14,446.86	91.87	91.33	9,457.49	-917.91	5,062.92	5,061.95	1.77	-1.71	0.45
14,460.29	91.58	91.41	9,457.09	-918.23	5,076.34	5,075.37	2.24	-2.16	0.60
14,473.71	91.28	91.49	9,456.75	-918.57	5,089.75	5,088.79	2.31	-2.24	0.60
14,487.14	90.98	91.56	9,456.49	-918.93	5,103.17	5,102.21	2.29	-2.23	0.52
14,500.57	90.55	91.24	9,456.31	-919.26	5,116.60	5,115.63	3.99	-3.20	-2.38
14,514.00	90.23	91.06	9,456.22	-919.53	5,130.02	5,129.06	2.73	-2.38	-1.34
14,527.43	90.11	91.06	9,456.18	-919.78	5,143.45	5,142.49	0.89	-0.89	0.00
14,540.86	90.04	91.03	9,456.16	-920.02	5,156.88	5,155.91	0.57	-0.52	-0.22
14,554.29	90.00	90.99	9,456.15	-920.26	5,170.31	5,169.34	0.42	-0.30	-0.30
14,567.71	89.98	90.94	9,456.16	-920.48	5,183.73	5,182.76	0.40	-0.15	-0.37
14,581.14	89.97	90.88	9,456.16	-920.70	5,197.15	5,196.19	0.45	-0.07	-0.45
14,594.57	89.96	90.81	9,456.17	-920.89	5,210.58	5,209.62	0.53	-0.07	-0.52
14,608.00	89.93	90.73	9,456.18	-921.08	5,224.01	5,223.04	0.64	-0.22	-0.60
14,621.57	89.88	90.64	9,456.21	-921.24	5,237.58	5,236.61	0.76	-0.37	-0.66
14,635.14	89.82	90.53	9,456.24	-921.38	5,251.15	5,250.18	0.92	-0.44	-0.81
14,648.71	89.76	90.43	9,456.29	-921.49	5,264.72	5,263.75	0.86	-0.44	-0.74
14,662.29	89.70	90.32	9,456.35	-921.58	5,278.30	5,277.33	0.92	-0.44	-0.81
14,675.86	89.64	90.21	9,456.43	-921.64	5,291.87	5,290.90	0.92	-0.44	-0.81
14,689.43	89.61	90.10	9,456.52	-921.68	5,305.44	5,304.47	0.84	-0.22	-0.81
14,703.00	89.61	90.00	9,456.61	-921.69	5,319.01	5,318.04	0.74	0.00	-0.74
14,716.43	89.66	89.91	9,456.70	-921.68	5,332.44	5,331.47	0.77	0.37	-0.67
14,729.86	89.74	89.83	9,456.77	-921.65	5,345.87	5,344.90	0.84	0.60	-0.60
14,743.29	89.84	89.74	9,456.82	-921.60	5,359.30	5,358.33	1.00	0.74	-0.67
14,756.71	89.96	89.66	9,456.84	-921.53	5,372.72	5,371.75	1.07	0.89	-0.60
14,770.14	90.10	89.57	9,456.84	-921.44	5,386.15	5,385.18	1.24	1.04	-0.67
14,783.57	90.25	89.48	9,456.79	-921.33	5,399.58	5,398.61	1.30	1.12	-0.67
14,797.00	90.41	89.38	9,456.72	-921.19	5,413.00	5,412.04	1.40	1.19	-0.74
14,810.57	90.60	89.26	9,456.60	-921.03	5,426.57	5,425.61	1.66	1.40	-0.88
14,824.14	90.79	89.13	9,456.43	-920.84	5,440.14	5,439.17	1.70	1.40	-0.96
14,837.71	90.98	89.00	9,456.22	-920.62	5,453.71	5,452.74	1.70	1.40	-0.96
14,851.29	91.15	88.87	9,455.97	-920.37	5,467.28	5,466.32	1.58	1.25	-0.96
14,864.86	91.28	88.74	9,455.68	-920.08	5,480.85	5,479.88	1.35	0.96	-0.96
14,878.43	91.35	88.63	9,455.37	-919.77	5,494.41	5,493.44	0.96	0.52	-0.81
14,892.00	91.33	88.55	9,455.05	-919.44	5,507.97	5,507.01	0.61	-0.15	-0.59
14,905.43	91.17	88.50	9,454.76	-919.09	5,521.39	5,520.43	1.25	-1.19	-0.37



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
14,918.86	90.93	88.47	9,454.52	-918.74	5,534.82	5,533.85	1.80	-1.79	-0.22
14,932.29	90.64	88.46	9,454.33	-918.38	5,548.24	5,547.28	2.16	-2.16	-0.07
14,945.71	90.33	88.46	9,454.22	-918.02	5,561.66	5,560.69	2.31	-2.31	0.00
14,959.14	90.05	88.47	9,454.17	-917.66	5,575.08	5,574.12	2.09	-2.08	0.07
14,972.57	89.81	88.48	9,454.19	-917.30	5,588.51	5,587.54	1.79	-1.79	0.07
14,986.00	89.66	88.49	9,454.25	-916.95	5,601.93	5,600.97	1.12	-1.12	0.07
14,999.43	89.68	88.50	9,454.33	-916.59	5,615.36	5,614.39	0.17	0.15	0.07
15,012.86	89.78	88.51	9,454.39	-916.24	5,628.78	5,627.82	0.75	0.74	0.07
15,026.29	89.93	88.52	9,454.43	-915.89	5,642.21	5,641.25	1.12	1.12	0.07
15,039.71	90.11	88.53	9,454.42	-915.55	5,655.62	5,654.66	1.34	1.34	0.07
15,053.14	90.29	88.56	9,454.37	-915.21	5,669.05	5,668.09	1.36	1.34	0.22
15,066.57	90.43	88.61	9,454.29	-914.88	5,682.47	5,681.51	1.11	1.04	0.37
15,080.00	90.52	88.69	9,454.18	-914.56	5,695.90	5,694.94	0.90	0.67	0.60
15,093.57	90.49	88.81	9,454.06	-914.26	5,709.47	5,708.51	0.91	-0.22	0.88
15,107.14	90.39	88.96	9,453.96	-914.00	5,723.03	5,722.07	1.33	-0.74	1.11
15,120.71	90.25	89.11	9,453.88	-913.77	5,736.60	5,735.64	1.51	-1.03	1.11
15,134.29	90.07	89.28	9,453.84	-913.58	5,750.18	5,749.22	1.82	-1.33	1.25
15,147.86	89.87	89.44	9,453.85	-913.43	5,763.75	5,762.79	1.89	-1.47	1.18
15,161.43	89.66	89.58	9,453.90	-913.31	5,777.32	5,776.36	1.86	-1.55	1.03
15,175.00	89.43	89.70	9,454.01	-913.23	5,790.89	5,789.93	1.91	-1.69	0.88
15,188.43	89.20	89.78	9,454.17	-913.17	5,804.32	5,803.36	1.81	-1.71	0.60
15,201.86	88.97	89.82	9,454.39	-913.12	5,817.74	5,816.79	1.74	-1.71	0.30
15,215.29	88.75	89.85	9,454.65	-913.08	5,831.17	5,830.21	1.65	-1.64	0.22
15,228.71	88.54	89.85	9,454.97	-913.05	5,844.59	5,843.63	1.56	-1.56	0.00
15,242.14	88.35	89.84	9,455.34	-913.01	5,858.01	5,857.05	1.42	-1.41	-0.07
15,255.57	88.21	89.80	9,455.74	-912.97	5,871.44	5,870.48	1.08	-1.04	-0.30
15,269.00	88.12	89.73	9,456.17	-912.91	5,884.86	5,883.90	0.85	-0.67	-0.52
15,282.43	88.13	89.62	9,456.61	-912.84	5,898.28	5,897.32	0.82	0.07	-0.82
15,295.86	88.20	89.48	9,457.04	-912.73	5,911.71	5,910.75	1.17	0.52	-1.04
15,309.29	88.29	89.35	9,457.45	-912.59	5,925.13	5,924.17	1.18	0.67	-0.97
15,322.71	88.40	89.23	9,457.84	-912.43	5,938.54	5,937.58	1.21	0.82	-0.89
15,336.14	88.50	89.16	9,458.20	-912.24	5,951.97	5,951.01	0.91	0.74	-0.52
15,349.57	88.57	89.16	9,458.54	-912.04	5,965.39	5,964.43	0.52	0.52	0.00
15,363.00	88.58	89.26	9,458.88	-911.86	5,978.81	5,977.86	0.75	0.07	0.74
15,376.43	88.50	89.55	9,459.22	-911.72	5,992.24	5,991.28	2.24	-0.60	2.16
15,389.86	88.37	89.93	9,459.59	-911.66	6,005.66	6,004.71	2.99	-0.97	2.83
15,403.29	88.22	90.36	9,459.99	-911.69	6,019.09	6,018.13	3.39	-1.12	3.20
15,416.71	88.07	90.78	9,460.42	-911.82	6,032.50	6,031.54	3.32	-1.12	3.13
15,430.14	87.93	91.16	9,460.89	-912.05	6,045.92	6,044.96	3.01	-1.04	2.83
15,443.57	87.73	91.81	9,461.40	-912.40	6,059.34	6,058.38	5.06	-1.49	4.84
15,457.00	87.71	91.96	9,461.93	-912.84	6,072.75	6,071.79	1.13	-0.15	1.12
15,470.57	87.82	91.89	9,462.46	-913.30	6,086.30	6,085.34	0.96	0.81	-0.52
15,484.14	87.83	91.84	9,462.98	-913.74	6,099.85	6,098.89	0.38	0.07	-0.37



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)	
15,497.71	87.78	91.82	9,463.50	-914.17	6,113.41	6,112.45	0.40	-0.37	-0.15	
15,511.29	87.70	91.80	9,464.03	-914.60	6,126.97	6,126.01	0.61	-0.59	-0.15	
15,524.86	87.61	91.80	9,464.59	-915.03	6,140.52	6,139.56	0.66	-0.66	0.00	
15,538.43	87.52	91.80	9,465.16	-915.45	6,154.07	6,153.11	0.66	-0.66	0.00	
15,552.00	87.45	91.83	9,465.76	-915.88	6,167.62	6,166.66	0.56	-0.52	0.22	
15,565.43	87.43	91.87	9,466.36	-916.31	6,181.03	6,180.07	0.33	-0.15	0.30	
15,578.86	87.43	91.92	9,466.96	-916.76	6,194.44	6,193.48	0.37	0.00	0.37	
15,592.29	87.45	91.99	9,467.56	-917.22	6,207.85	6,206.89	0.54	0.15	0.52	
15,605.71	87.48	92.07	9,468.15	-917.69	6,221.25	6,220.28	0.64	0.22	0.60	
15,619.14	87.51	92.15	9,468.74	-918.18	6,234.66	6,233.69	0.64	0.22	0.60	
15,632.57	87.54	92.25	9,469.32	-918.70	6,248.06	6,247.10	0.78	0.22	0.74	
15,646.00	88.64	92.29	9,469.77	-919.23	6,261.48	6,260.51	8.20	8.19	0.30	
15,659.57	88.67	92.44	9,470.09	-919.79	6,275.03	6,274.06	1.13	0.22	1.11	
15,673.14	88.70	92.62	9,470.40	-920.39	6,288.58	6,287.62	1.34	0.22	1.33	
15,686.71	88.73	92.79	9,470.70	-921.03	6,302.13	6,301.17	1.27	0.22	1.25	
15,700.29	88.75	92.95	9,471.00	-921.71	6,315.69	6,314.73	1.19	0.15	1.18	
15,713.86	88.76	93.08	9,471.30	-922.42	6,329.24	6,328.27	0.96	0.07	0.96	
15,727.43	88.75	93.17	9,471.59	-923.16	6,342.79	6,341.82	0.67	-0.07	0.66	
15,741.00	88.72	93.18	9,471.89	-923.91	6,356.33	6,355.36	0.23	-0.22	0.07	
15,756.00	88.64	93.07	9,472.24	-924.73	6,371.31	6,370.34	0.91	-0.53	-0.73	
15,771.00	88.53	92.87	9,472.61	-925.51	6,386.28	6,385.31	1.52	-0.73	-1.33	
15,786.00	88.41	92.62	9,473.01	-926.23	6,401.26	6,400.29	1.85	-0.80	-1.67	
15,801.00	88.28	92.32	9,473.44	-926.87	6,416.24	6,415.27	2.18	-0.87	-2.00	
15,816.00	88.15	92.00	9,473.91	-927.44	6,431.22	6,430.25	2.30	-0.87	-2.13	
15,831.00	88.03	91.65	9,474.41	-927.92	6,446.21	6,445.23	2.47	-0.80	-2.33	
15,846.00	87.92	91.29	9,474.94	-928.30	6,461.19	6,460.22	2.51	-0.73	-2.40	
15,861.00	87.83	90.92	9,475.49	-928.59	6,476.18	6,475.20	2.54	-0.60	-2.47	
15,874.43	87.80	90.56	9,476.01	-928.76	6,489.60	6,488.62	2.69	-0.22	-2.68	
15,887.86	87.79	90.20	9,476.52	-928.85	6,503.02	6,502.04	2.68	-0.07	-2.68	
15,901.29	87.80	89.85	9,477.04	-928.86	6,516.44	6,515.46	2.61	0.07	-2.61	
15,914.71	87.81	89.51	9,477.55	-928.78	6,529.85	6,528.87	2.53	0.07	-2.53	
15,928.14	87.82	89.20	9,478.07	-928.63	6,543.27	6,542.29	2.31	0.07	-2.31	
15,941.57	88.07	89.20	9,478.55	-928.44	6,556.69	6,555.71	1.86	1.86	0.00	
15,955.00	88.94	90.03	9,478.90	-928.35	6,570.11	6,569.14	8.95	6.48	6.18	
15,968.57	88.97	89.89	9,479.15	-928.34	6,583.68	6,582.70	1.05	0.22	-1.03	
15,982.14	89.00	89.79	9,479.39	-928.31	6,597.25	6,596.27	0.77	0.22	-0.74	
15,995.71	89.01	89.71	9,479.62	-928.25	6,610.82	6,609.84	0.59	0.07	-0.59	
16,009.29	89.00	89.64	9,479.86	-928.17	6,624.39	6,623.42	0.52	-0.07	-0.52	
16,022.86	88.96	89.57	9,480.10	-928.08	6,637.96	6,636.99	0.59	-0.29	-0.52	
16,036.43	89.21	89.00	9,480.32	-927.91	6,651.53	6,650.55	4.59	1.84	-4.20	
16,050.00	89.94	87.77	9,480.42	-927.52	6,665.09	6,664.12	10.54	5.38	-9.06	
16,063.43	89.65	87.65	9,480.46	-926.99	6,678.51	6,677.54	2.34	-2.16	-0.89	
16,076.86	89.30	87.52	9,480.59	-926.42	6,691.93	6,690.96	2.78	-2.61	-0.97	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
16,090.29	88.92	87.39	9,480.80	-925.83	6,705.34	6,704.37	2.99	-2.83	-0.97
16,103.71	88.53	87.27	9,481.09	-925.20	6,718.75	6,717.77	3.04	-2.91	-0.89
16,117.14	88.15	87.17	9,481.48	-924.55	6,732.15	6,731.18	2.93	-2.83	-0.74
16,130.57	87.80	87.10	9,481.96	-923.88	6,745.56	6,744.59	2.66	-2.61	-0.52
16,144.00	87.51	87.07	9,482.51	-923.20	6,758.96	6,757.99	2.17	-2.16	-0.22
16,157.57	87.33	87.12	9,483.12	-922.51	6,772.50	6,771.53	1.38	-1.33	0.37
16,171.14	87.20	87.22	9,483.77	-921.84	6,786.04	6,785.07	1.21	-0.96	0.74
16,184.71	87.13	87.33	9,484.44	-921.20	6,799.58	6,798.61	0.96	-0.52	0.81
16,198.29	87.08	87.44	9,485.12	-920.58	6,813.12	6,812.16	0.89	-0.37	0.81
16,211.86	87.15	87.53	9,485.81	-919.98	6,826.66	6,825.70	0.84	0.52	0.66
16,225.43	88.48	87.56	9,486.32	-919.40	6,840.21	6,839.24	9.80	9.80	0.22
16,239.00	89.44	87.59	9,486.57	-918.83	6,853.77	6,852.80	7.08	7.07	0.22
16,252.43	89.50	87.55	9,486.69	-918.26	6,867.18	6,866.22	0.54	0.45	-0.30
16,265.86	89.59	87.48	9,486.80	-917.68	6,880.60	6,879.64	0.85	0.67	-0.52
16,279.29	89.68	87.40	9,486.89	-917.08	6,894.02	6,893.05	0.90	0.67	-0.60
16,292.71	89.77	87.32	9,486.95	-916.46	6,907.42	6,906.46	0.90	0.67	-0.60
16,306.14	89.85	87.24	9,487.00	-915.82	6,920.84	6,919.87	0.84	0.60	-0.60
16,319.57	89.90	87.17	9,487.02	-915.17	6,934.25	6,933.29	0.64	0.37	-0.52
16,333.00	89.91	87.12	9,487.05	-914.50	6,947.67	6,946.70	0.38	0.07	-0.37
16,346.43	90.80	87.14	9,486.96	-913.82	6,961.08	6,960.12	6.63	6.63	0.15
16,359.86	90.96	87.16	9,486.76	-913.16	6,974.49	6,973.53	1.20	1.19	0.15
16,373.29	90.77	87.20	9,486.55	-912.50	6,987.90	6,986.94	1.45	-1.41	0.30
16,386.71	90.56	87.26	9,486.40	-911.85	7,001.31	7,000.35	1.63	-1.56	0.45
16,400.14	90.35	87.31	9,486.29	-911.21	7,014.72	7,013.76	1.61	-1.56	0.37
16,413.57	90.15	87.35	9,486.23	-910.59	7,028.14	7,027.18	1.52	-1.49	0.30
16,427.00	90.00	87.37	9,486.22	-909.97	7,041.55	7,040.59	1.13	-1.12	0.15
16,440.57	89.91	87.36	9,486.23	-909.34	7,055.11	7,054.15	0.67	-0.66	-0.07
16,454.14	89.88	87.31	9,486.25	-908.71	7,068.66	7,067.71	0.43	-0.22	-0.37
16,467.71	89.87	87.25	9,486.28	-908.07	7,082.22	7,081.26	0.45	-0.07	-0.44
16,481.29	89.89	87.19	9,486.31	-907.41	7,095.78	7,094.83	0.47	0.15	-0.44
16,494.86	89.91	87.12	9,486.33	-906.74	7,109.33	7,108.38	0.54	0.15	-0.52
16,508.43	89.95	87.05	9,486.35	-906.05	7,122.89	7,121.93	0.59	0.29	-0.52
16,522.00	89.98	86.99	9,486.36	-905.34	7,136.44	7,135.49	0.49	0.22	-0.44
16,535.43	90.01	86.95	9,486.36	-904.63	7,149.85	7,148.90	0.37	0.22	-0.30
16,548.86	90.04	86.91	9,486.35	-903.91	7,163.26	7,162.31	0.37	0.22	-0.30
16,562.29	90.06	86.88	9,486.34	-903.18	7,176.67	7,175.72	0.27	0.15	-0.22
16,575.71	90.08	86.86	9,486.33	-902.45	7,190.07	7,189.12	0.21	0.15	-0.15
16,589.14	90.08	86.83	9,486.31	-901.71	7,203.48	7,202.53	0.22	0.00	-0.22
16,602.57	90.07	86.80	9,486.29	-900.97	7,216.89	7,215.94	0.24	-0.07	-0.22
16,616.00	90.03	86.77	9,486.28	-900.21	7,230.30	7,229.35	0.37	-0.30	-0.22
16,629.43	89.95	86.73	9,486.28	-899.45	7,243.71	7,242.76	0.67	-0.60	-0.30
16,642.86	89.85	86.69	9,486.30	-898.68	7,257.11	7,256.17	0.80	-0.74	-0.30
16,656.29	89.74	86.65	9,486.35	-897.90	7,270.52	7,269.58	0.87	-0.82	-0.30
16,669.71	89.63	86.61	9,486.42	-897.11	7,283.92	7,282.97	0.87	-0.82	-0.30



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
16,683.14	89.52	86.58	9,486.52	-896.31	7,297.32	7,296.38	0.85	-0.82	-0.22
16,696.57	89.44	86.56	9,486.65	-895.51	7,310.73	7,309.79	0.61	-0.60	-0.15
16,710.00	89.38	86.56	9,486.78	-894.70	7,324.13	7,323.19	0.45	-0.45	0.00
16,723.57	89.37	86.60	9,486.93	-893.90	7,337.68	7,336.74	0.30	-0.07	0.29
16,737.14	89.39	86.65	9,487.08	-893.10	7,351.22	7,350.29	0.40	0.15	0.37
16,750.71	89.43	86.72	9,487.22	-892.31	7,364.77	7,363.83	0.59	0.29	0.52
16,764.29	89.49	86.78	9,487.35	-891.54	7,378.33	7,377.39	0.62	0.44	0.44
16,777.86	89.55	86.84	9,487.46	-890.79	7,391.88	7,390.94	0.63	0.44	0.44
16,791.43	89.62	86.87	9,487.56	-890.04	7,405.43	7,404.49	0.56	0.52	0.22
16,805.00	89.68	86.88	9,487.64	-889.30	7,418.98	7,418.04	0.45	0.44	0.07
16,818.43	89.74	86.84	9,487.71	-888.57	7,432.39	7,431.45	0.54	0.45	-0.30
16,831.86	89.79	86.77	9,487.77	-887.82	7,445.79	7,444.86	0.64	0.37	-0.52
16,845.29	89.84	86.68	9,487.81	-887.05	7,459.20	7,458.27	0.77	0.37	-0.67
16,858.71	89.89	86.58	9,487.84	-886.26	7,472.60	7,471.67	0.83	0.37	-0.75
16,872.14	89.94	86.49	9,487.86	-885.45	7,486.01	7,485.07	0.77	0.37	-0.67
16,885.57	89.99	86.40	9,487.87	-884.62	7,499.41	7,498.48	0.77	0.37	-0.67
16,885.84	89.99	86.40	9,487.87	-884.60	7,499.68	7,498.75	0.00	0.00	0.00
04-V7500(CH-32-134H)									
16,899.00	90.04	86.34	9,487.86	-883.77	7,512.81	7,511.88	0.59	0.38	-0.46
16,912.57	90.10	86.31	9,487.85	-882.90	7,526.35	7,525.43	0.49	0.44	-0.22
16,926.14	90.16	86.31	9,487.82	-882.02	7,539.90	7,538.97	0.44	0.44	0.00
16,939.71	90.22	86.32	9,487.77	-881.15	7,553.44	7,552.51	0.45	0.44	0.07
16,953.29	90.27	86.33	9,487.71	-880.28	7,566.99	7,566.06	0.38	0.37	0.07
16,966.86	90.32	86.34	9,487.64	-879.41	7,580.53	7,579.61	0.38	0.37	0.07
16,980.43	90.35	86.35	9,487.56	-878.55	7,594.07	7,593.15	0.23	0.22	0.07
16,994.00	90.37	86.33	9,487.48	-877.68	7,607.62	7,606.69	0.21	0.15	-0.15
17,007.43	90.35	86.27	9,487.40	-876.82	7,621.02	7,620.10	0.47	-0.15	-0.45
17,020.86	90.32	86.20	9,487.32	-875.93	7,634.42	7,633.50	0.57	-0.22	-0.52
17,034.29	90.27	86.12	9,487.25	-875.04	7,647.82	7,646.90	0.70	-0.37	-0.60
17,047.71	90.22	86.04	9,487.19	-874.12	7,661.21	7,660.29	0.70	-0.37	-0.60
17,061.14	90.15	85.97	9,487.15	-873.18	7,674.60	7,673.69	0.74	-0.52	-0.52
17,074.57	89.92	86.22	9,487.14	-872.27	7,688.00	7,687.09	2.53	-1.71	1.86
17,088.00	89.38	87.05	9,487.22	-871.48	7,701.41	7,700.49	7.37	-4.02	6.18
17,101.43	89.29	87.06	9,487.38	-870.79	7,714.82	7,713.90	0.67	-0.67	0.07
17,114.86	89.19	87.08	9,487.55	-870.10	7,728.23	7,727.32	0.76	-0.74	0.15
17,128.29	89.08	87.12	9,487.76	-869.42	7,741.64	7,740.73	0.87	-0.82	0.30
17,141.71	88.98	87.18	9,487.98	-868.76	7,755.04	7,754.13	0.87	-0.75	0.45
17,155.14	88.87	87.25	9,488.24	-868.10	7,768.46	7,767.54	0.97	-0.82	0.52
17,168.57	88.77	87.33	9,488.51	-867.47	7,781.87	7,780.96	0.95	-0.74	0.60
17,182.00	88.68	87.44	9,488.81	-866.86	7,795.28	7,794.37	1.06	-0.67	0.82
17,195.57	88.60	87.57	9,489.13	-866.27	7,808.83	7,807.92	1.12	-0.59	0.96
17,209.14	88.54	87.72	9,489.47	-865.71	7,822.39	7,821.48	1.19	-0.44	1.11
17,222.71	88.49	87.89	9,489.82	-865.19	7,835.94	7,835.03	1.31	-0.37	1.25



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)	
17,236.29	88.46	88.06	9,490.19	-864.71	7,849.51	7,848.60	1.27	-0.22	1.25	
17,249.86	88.44	88.25	9,490.55	-864.27	7,863.07	7,862.16	1.41	-0.15	1.40	
17,263.43	88.44	89.14	9,490.92	-863.96	7,876.63	7,875.72	6.56	0.00	6.56	
17,277.00	88.45	89.76	9,491.29	-863.83	7,890.19	7,889.29	4.57	0.07	4.57	
17,290.43	88.52	90.04	9,491.65	-863.81	7,903.62	7,902.71	2.15	0.52	2.08	
17,303.86	88.61	90.36	9,491.98	-863.86	7,917.05	7,916.14	2.47	0.67	2.38	
17,317.29	88.72	90.69	9,492.29	-863.98	7,930.47	7,929.56	2.59	0.82	2.46	
17,330.71	88.82	91.01	9,492.58	-864.18	7,943.89	7,942.98	2.50	0.75	2.38	
17,344.14	88.90	91.31	9,492.85	-864.45	7,957.31	7,956.40	2.31	0.60	2.23	
17,357.57	88.96	91.57	9,493.10	-864.79	7,970.74	7,969.83	1.99	0.45	1.94	
17,371.00	88.97	91.77	9,493.34	-865.18	7,984.16	7,983.25	1.49	0.07	1.49	
17,384.57	89.75	92.24	9,493.50	-865.65	7,997.72	7,996.81	6.71	5.75	3.46	
17,398.14	90.76	92.81	9,493.43	-866.25	8,011.27	8,010.36	8.55	7.44	4.20	
17,411.71	90.56	92.74	9,493.28	-866.91	8,024.83	8,023.92	1.56	-1.47	-0.52	
17,425.29	90.33	92.63	9,493.17	-867.55	8,038.39	8,037.48	1.88	-1.69	-0.81	
17,438.86	90.09	92.49	9,493.12	-868.15	8,051.95	8,051.04	2.05	-1.77	-1.03	
17,452.43	89.88	92.34	9,493.13	-868.72	8,065.51	8,064.59	1.90	-1.55	-1.11	
17,466.00	89.74	92.22	9,493.17	-869.26	8,079.07	8,078.15	1.36	-1.03	-0.88	
17,479.57	89.73	92.15	9,493.23	-869.78	8,092.63	8,091.71	0.52	-0.07	-0.52	
17,493.14	90.07	92.51	9,493.26	-870.33	8,106.18	8,105.27	3.65	2.51	2.65	
17,506.71	90.17	92.49	9,493.23	-870.92	8,119.74	8,118.82	0.75	0.74	-0.15	
17,520.29	90.30	92.48	9,493.17	-871.51	8,133.31	8,132.39	0.96	0.96	-0.07	
17,533.86	90.42	92.47	9,493.09	-872.10	8,146.87	8,145.95	0.89	0.88	-0.07	
17,547.43	90.51	92.47	9,492.98	-872.68	8,160.42	8,159.50	0.66	0.66	0.00	
17,561.00	90.54	92.47	9,492.85	-873.27	8,173.98	8,173.06	0.22	0.22	0.00	
17,574.43	90.44	92.47	9,492.74	-873.85	8,187.40	8,186.48	0.74	-0.74	0.00	
17,587.86	90.28	92.46	9,492.66	-874.42	8,200.81	8,199.89	1.19	-1.19	-0.07	
17,601.29	90.07	92.45	9,492.61	-875.00	8,214.23	8,213.31	1.57	-1.56	-0.07	
17,614.71	89.85	92.44	9,492.62	-875.57	8,227.64	8,226.72	1.64	-1.64	-0.07	
17,628.14	89.62	92.42	9,492.69	-876.14	8,241.06	8,240.13	1.72	-1.71	-0.15	
17,641.57	89.41	92.40	9,492.80	-876.71	8,254.47	8,253.55	1.57	-1.56	-0.15	
17,655.00	88.06	92.02	9,493.10	-877.22	8,267.89	8,266.97	10.44	-10.05	-2.83	
17,668.43	87.92	91.99	9,493.57	-877.69	8,281.30	8,280.38	1.07	-1.04	-0.22	
17,681.86	87.79	91.95	9,494.07	-878.16	8,294.72	8,293.79	1.01	-0.97	-0.30	
17,695.29	87.67	91.91	9,494.60	-878.61	8,308.13	8,307.20	0.94	-0.89	-0.30	
17,708.71	87.56	91.87	9,495.16	-879.05	8,321.53	8,320.60	0.87	-0.82	-0.30	
17,722.14	87.46	91.84	9,495.74	-879.48	8,334.94	8,334.01	0.78	-0.74	-0.22	
17,735.57	87.36	91.82	9,496.35	-879.91	8,348.35	8,347.42	0.76	-0.74	-0.15	
17,749.00	87.25	91.83	9,496.98	-880.34	8,361.76	8,360.83	0.82	-0.82	0.07	
17,762.57	87.08	91.81	9,497.65	-880.77	8,375.30	8,374.38	1.26	-1.25	-0.15	
17,776.14	86.88	91.76	9,498.37	-881.19	8,388.85	8,387.92	1.52	-1.47	-0.37	
17,789.71	86.68	91.72	9,499.13	-881.60	8,402.39	8,401.46	1.50	-1.47	-0.29	
17,803.29	86.48	91.67	9,499.94	-882.00	8,415.94	8,415.01	1.52	-1.47	-0.37	
17,816.86	86.31	91.64	9,500.79	-882.40	8,429.48	8,428.55	1.27	-1.25	-0.22	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
17,830.43	86.19	91.63	9,501.68	-882.78	8,443.01	8,442.09	0.89	-0.88	-0.07
17,844.00	86.68	92.22	9,502.52	-883.24	8,456.55	8,455.62	5.65	3.61	4.35
17,857.43	86.70	92.23	9,503.30	-883.76	8,469.95	8,469.02	0.17	0.15	0.07
17,870.86	86.76	92.22	9,504.07	-884.28	8,483.35	8,482.42	0.45	0.45	-0.07
17,884.29	86.84	92.20	9,504.82	-884.79	8,496.74	8,495.81	0.61	0.60	-0.15
17,897.71	86.93	92.18	9,505.55	-885.31	8,510.14	8,509.20	0.69	0.67	-0.15
17,911.14	87.04	92.14	9,506.25	-885.81	8,523.54	8,522.60	0.87	0.82	-0.30
17,924.57	87.17	92.10	9,506.93	-886.31	8,536.94	8,536.01	1.01	0.97	-0.30
17,938.00	87.31	92.06	9,507.58	-886.80	8,550.35	8,549.41	1.08	1.04	-0.30
17,951.43	87.47	92.01	9,508.19	-887.27	8,563.75	8,562.82	1.25	1.19	-0.37
17,964.86	87.64	91.96	9,508.76	-887.74	8,577.16	8,576.23	1.32	1.27	-0.37
17,978.29	87.80	91.90	9,509.30	-888.19	8,590.58	8,589.64	1.27	1.19	-0.45
17,991.71	87.93	91.83	9,509.80	-888.63	8,603.98	8,603.04	1.10	0.97	-0.52
18,005.14	88.01	91.74	9,510.27	-889.04	8,617.39	8,616.46	0.90	0.60	-0.67
18,018.57	88.02	91.63	9,510.74	-889.44	8,630.81	8,629.87	0.82	0.07	-0.82
18,032.00	87.91	91.48	9,511.21	-889.80	8,644.23	8,643.29	1.38	-0.82	-1.12
18,045.57	87.62	91.27	9,511.74	-890.13	8,657.78	8,656.85	2.64	-2.14	-1.55
18,059.14	87.22	91.03	9,512.35	-890.40	8,671.34	8,670.40	3.44	-2.95	-1.77
18,072.71	86.76	90.77	9,513.07	-890.61	8,684.89	8,683.95	3.89	-3.39	-1.92
18,086.29	86.27	90.52	9,513.89	-890.76	8,698.44	8,697.50	4.05	-3.61	-1.84
18,099.86	85.80	90.28	9,514.83	-890.86	8,711.98	8,711.04	3.89	-3.46	-1.77
18,113.43	85.37	90.08	9,515.87	-890.90	8,725.51	8,724.57	3.49	-3.17	-1.47
18,127.00	85.03	89.94	9,517.01	-890.90	8,739.03	8,738.09	2.71	-2.51	-1.03
18,140.43	84.85	89.91	9,518.19	-890.89	8,752.41	8,751.47	1.36	-1.34	-0.22
18,153.86	85.79	90.13	9,519.29	-890.89	8,765.79	8,764.85	7.19	7.00	1.64
18,167.29	87.41	90.38	9,520.09	-890.95	8,779.20	8,778.26	12.20	12.06	1.86
18,180.71	87.91	90.49	9,520.63	-891.05	8,792.61	8,791.67	3.81	3.73	0.82
18,194.14	87.98	90.60	9,521.12	-891.18	8,806.03	8,805.09	0.97	0.52	0.82
18,207.57	88.07	90.70	9,521.58	-891.33	8,819.45	8,818.51	1.00	0.67	0.74
18,221.00	88.17	90.76	9,522.02	-891.50	8,832.87	8,831.93	0.87	0.74	0.45
18,234.57	88.25	90.74	9,522.44	-891.68	8,846.43	8,845.49	0.61	0.59	-0.15
18,248.14	88.32	90.66	9,522.85	-891.85	8,859.99	8,859.06	0.78	0.52	-0.59
18,261.71	88.39	90.56	9,523.24	-891.99	8,873.56	8,872.62	0.90	0.52	-0.74
18,275.29	88.45	90.45	9,523.61	-892.11	8,887.13	8,886.19	0.92	0.44	-0.81
18,288.86	88.51	90.33	9,523.97	-892.20	8,900.70	8,899.76	0.99	0.44	-0.88
18,302.43	88.57	90.24	9,524.32	-892.27	8,914.26	8,913.32	0.80	0.44	-0.66
18,316.00	88.64	90.18	9,524.65	-892.32	8,927.83	8,926.89	0.68	0.52	-0.44
18,329.43	88.71	90.18	9,524.96	-892.36	8,941.25	8,940.32	0.52	0.52	0.00
18,342.86	88.78	90.21	9,525.25	-892.41	8,954.68	8,953.74	0.57	0.52	0.22
18,356.29	88.86	90.27	9,525.53	-892.46	8,968.11	8,967.17	0.74	0.60	0.45
18,369.71	88.93	90.34	9,525.79	-892.54	8,981.53	8,980.59	0.74	0.52	0.52
18,383.14	89.00	90.41	9,526.03	-892.62	8,994.95	8,994.01	0.74	0.52	0.52
18,396.57	89.08	90.48	9,526.26	-892.73	9,008.38	9,007.44	0.79	0.60	0.52



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)	
18,410.00	89.14	90.53	9,526.47	-892.85	9,021.81	9,020.87	0.58	0.45	0.37	
18,423.57	89.11	90.53	9,526.67	-892.97	9,035.38	9,034.44	0.22	-0.22	0.00	
18,437.14	89.19	90.56	9,526.87	-893.10	9,048.94	9,048.00	0.63	0.59	0.22	
18,450.71	89.28	90.59	9,527.06	-893.24	9,062.51	9,061.57	0.70	0.66	0.22	
18,464.29	89.36	90.60	9,527.22	-893.38	9,076.09	9,075.15	0.59	0.59	0.07	
18,477.86	89.45	90.61	9,527.36	-893.52	9,089.66	9,088.72	0.67	0.66	0.07	
18,491.43	89.53	90.61	9,527.48	-893.67	9,103.23	9,102.29	0.59	0.59	0.00	
18,505.00	89.52	90.39	9,527.59	-893.78	9,116.80	9,115.86	1.62	-0.07	-1.62	
18,518.43	89.67	90.57	9,527.69	-893.90	9,130.23	9,129.29	1.74	1.12	1.34	
18,531.86	89.72	90.53	9,527.76	-894.03	9,143.66	9,142.71	0.48	0.37	-0.30	
18,545.29	89.77	90.48	9,527.82	-894.14	9,157.09	9,156.14	0.53	0.37	-0.37	
18,558.71	89.82	90.43	9,527.86	-894.25	9,170.50	9,169.56	0.53	0.37	-0.37	
18,572.14	89.86	90.37	9,527.90	-894.34	9,183.93	9,182.99	0.54	0.30	-0.45	
18,585.57	89.90	90.32	9,527.93	-894.43	9,197.36	9,196.42	0.48	0.30	-0.37	
18,599.00	89.89	89.92	9,527.96	-894.45	9,210.79	9,209.85	2.98	-0.07	-2.98	
18,612.43	89.91	89.83	9,527.98	-894.42	9,224.22	9,223.28	0.69	0.15	-0.67	
18,625.86	89.92	89.76	9,528.00	-894.38	9,237.65	9,236.71	0.53	0.07	-0.52	
18,639.29	89.92	89.69	9,528.02	-894.31	9,251.08	9,250.14	0.52	0.00	-0.52	
18,652.71	89.92	89.62	9,528.04	-894.23	9,264.50	9,263.56	0.52	0.00	-0.52	
18,666.14	89.92	89.55	9,528.05	-894.13	9,277.93	9,276.99	0.52	0.00	-0.52	
18,679.57	89.92	89.49	9,528.07	-894.02	9,291.36	9,290.42	0.45	0.00	-0.45	
18,693.00	89.92	89.44	9,528.09	-893.90	9,304.79	9,303.85	0.37	0.00	-0.37	
18,706.57	89.99	89.06	9,528.10	-893.72	9,318.36	9,317.42	2.85	0.52	-2.80	
18,720.14	90.05	88.93	9,528.10	-893.48	9,331.93	9,330.99	1.06	0.44	-0.96	
18,733.71	90.12	88.80	9,528.08	-893.21	9,345.50	9,344.56	1.09	0.52	-0.96	
18,747.29	90.20	88.67	9,528.04	-892.91	9,359.07	9,358.13	1.12	0.59	-0.96	
18,760.86	90.27	88.55	9,527.98	-892.58	9,372.64	9,371.70	1.02	0.52	-0.88	
18,774.43	90.34	88.43	9,527.91	-892.23	9,386.20	9,385.26	1.02	0.52	-0.88	
18,788.00	90.41	88.32	9,527.82	-891.84	9,399.77	9,398.83	0.96	0.52	-0.81	
18,801.43	90.38	88.25	9,527.73	-891.44	9,413.19	9,412.25	0.57	-0.22	-0.52	
18,814.86	90.35	88.17	9,527.65	-891.02	9,426.61	9,425.68	0.64	-0.22	-0.60	
18,828.29	90.31	88.11	9,527.57	-890.58	9,440.04	9,439.10	0.54	-0.30	-0.45	
18,841.71	90.27	88.05	9,527.50	-890.13	9,453.45	9,452.51	0.54	-0.30	-0.45	
18,855.14	90.22	87.99	9,527.44	-889.67	9,466.87	9,465.93	0.58	-0.37	-0.45	
18,868.57	89.65	88.47	9,527.46	-889.25	9,480.29	9,479.36	5.55	-4.24	3.57	
18,882.00	88.99	89.21	9,527.62	-888.98	9,493.72	9,492.78	7.38	-4.91	5.51	
18,895.57	89.04	89.21	9,527.85	-888.80	9,507.29	9,506.35	0.37	0.37	0.00	
18,909.14	89.08	89.20	9,528.07	-888.61	9,520.85	9,519.92	0.30	0.29	-0.07	
18,922.71	89.14	89.19	9,528.28	-888.42	9,534.42	9,533.49	0.45	0.44	-0.07	
18,936.29	89.21	89.18	9,528.48	-888.22	9,548.00	9,547.06	0.52	0.52	-0.07	
18,949.86	89.27	89.17	9,528.66	-888.03	9,561.57	9,560.63	0.45	0.44	-0.07	
18,963.43	89.33	89.17	9,528.83	-887.83	9,575.13	9,574.20	0.44	0.44	0.00	
18,977.00	89.39	89.16	9,528.98	-887.63	9,588.70	9,587.77	0.45	0.44	-0.07	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)
18,990.43	89.46	89.08	9,529.11	-887.43	9,602.13	9,601.19	0.79	0.52	-0.60
19,003.86	89.52	88.96	9,529.23	-887.20	9,615.56	9,614.62	1.00	0.45	-0.89
19,017.29	89.57	88.83	9,529.34	-886.94	9,628.98	9,628.05	1.04	0.37	-0.97
19,030.71	89.62	88.70	9,529.43	-886.65	9,642.40	9,641.47	1.04	0.37	-0.97
19,044.14	89.67	88.56	9,529.52	-886.33	9,655.83	9,654.89	1.11	0.37	-1.04
19,057.57	89.72	88.43	9,529.59	-885.98	9,669.25	9,668.32	1.04	0.37	-0.97
19,071.00	89.76	88.31	9,529.65	-885.59	9,682.68	9,681.74	0.94	0.30	-0.89
19,084.43	89.33	88.19	9,529.75	-885.18	9,696.10	9,695.17	3.32	-3.20	-0.89
19,097.86	88.95	88.06	9,529.96	-884.74	9,709.52	9,708.59	2.99	-2.83	-0.97
19,111.29	88.52	87.94	9,530.25	-884.28	9,722.94	9,722.01	3.32	-3.20	-0.89
19,124.71	88.10	87.82	9,530.65	-883.78	9,736.34	9,735.41	3.25	-3.13	-0.89
19,138.14	87.70	87.98	9,531.14	-883.29	9,749.76	9,748.83	3.21	-2.98	1.19
19,151.57	87.42	88.67	9,531.71	-882.90	9,763.17	9,762.24	5.54	-2.08	5.14
19,165.00	87.13	90.02	9,532.35	-882.74	9,776.58	9,775.65	10.27	-2.16	10.05
19,178.57	86.99	90.14	9,533.05	-882.76	9,790.13	9,789.20	1.36	-1.03	0.88
19,192.14	86.91	90.14	9,533.77	-882.79	9,803.68	9,802.75	0.59	-0.59	0.00
19,205.71	86.87	90.16	9,534.51	-882.83	9,817.23	9,816.30	0.33	-0.29	0.15
19,219.29	86.85	90.17	9,535.25	-882.87	9,830.79	9,829.86	0.16	-0.15	0.07
19,232.86	86.84	90.20	9,536.00	-882.91	9,844.34	9,843.41	0.23	-0.07	0.22
19,246.43	86.84	90.21	9,536.74	-882.96	9,857.89	9,856.96	0.07	0.00	0.07
19,260.00	86.83	90.23	9,537.49	-883.01	9,871.44	9,870.51	0.16	-0.07	0.15
19,273.43	86.99	90.26	9,538.22	-883.07	9,884.85	9,883.92	1.21	1.19	0.22
19,286.86	87.12	90.27	9,538.91	-883.13	9,898.26	9,897.33	0.97	0.97	0.07
19,300.29	87.28	90.27	9,539.56	-883.20	9,911.68	9,910.75	1.19	1.19	0.00
19,313.71	87.43	90.28	9,540.18	-883.26	9,925.08	9,924.15	1.12	1.12	0.07
19,327.14	87.59	90.28	9,540.77	-883.33	9,938.50	9,937.57	1.19	1.19	0.00
19,340.57	87.74	90.28	9,541.31	-883.39	9,951.92	9,950.99	1.12	1.12	0.00
19,354.00	87.86	90.28	9,541.83	-883.46	9,965.34	9,964.41	0.89	0.89	0.00
19,367.57	88.15	90.23	9,542.30	-883.52	9,978.90	9,977.97	2.17	2.14	-0.37
19,381.14	88.40	90.19	9,542.71	-883.57	9,992.46	9,991.53	1.87	1.84	-0.29
19,388.96	88.54	90.16	9,542.92	-883.59	10,000.28	9,999.35	1.89	1.84	-0.44
05-V10000(CH-32-134H)									
19,394.71	88.65	90.13	9,543.06	-883.60	10,006.03	10,005.10	1.89	1.84	-0.44
19,408.29	88.90	90.08	9,543.35	-883.63	10,019.61	10,018.68	1.88	1.84	-0.37
19,421.86	89.14	90.03	9,543.58	-883.64	10,033.17	10,032.24	1.81	1.77	-0.37
19,435.43	89.36	89.97	9,543.76	-883.64	10,046.74	10,045.81	1.68	1.62	-0.44
19,449.00	89.56	89.92	9,543.89	-883.63	10,060.31	10,059.38	1.52	1.47	-0.37
19,462.43	89.77	89.93	9,543.97	-883.61	10,073.74	10,072.81	1.57	1.56	0.07
19,475.86	89.95	89.94	9,544.00	-883.60	10,087.17	10,086.24	1.34	1.34	0.07
19,489.29	90.11	89.95	9,543.99	-883.58	10,100.60	10,099.67	1.19	1.19	0.07
19,502.71	90.27	89.96	9,543.95	-883.57	10,114.02	10,113.09	1.19	1.19	0.07
19,516.14	90.41	89.98	9,543.87	-883.57	10,127.45	10,126.52	1.05	1.04	0.15
19,529.57	90.54	90.00	9,543.76	-883.56	10,140.88	10,139.95	0.98	0.97	0.15
19,543.00	90.66	90.01	9,543.62	-883.57	10,154.31	10,153.38	0.90	0.89	0.07



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	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)	
19,557.38	90.93	89.89	9,543.42	-883.55	10,168.69	10,167.76	2.05	1.88	-0.83	
19,571.75	91.17	89.90	9,543.15	-883.53	10,183.06	10,182.13	1.67	1.67	0.07	
19,586.13	91.43	89.90	9,542.83	-883.50	10,197.43	10,196.50	1.81	1.81	0.00	
19,600.50	91.68	89.91	9,542.44	-883.48	10,211.80	10,210.87	1.74	1.74	0.07	
19,614.88	91.94	89.91	9,541.98	-883.45	10,226.17	10,225.24	1.81	1.81	0.00	
19,629.25	92.19	89.91	9,541.46	-883.43	10,240.53	10,239.60	1.74	1.74	0.00	
19,634.37	92.27	89.91	9,541.26	-883.42	10,245.65	10,244.72	1.60	1.60	0.07	
100 FEL: 19634.37' MD, 10244.72' VS, 9541.26' TVD										
19,635.43	92.29	89.91	9,541.22	-883.42	10,246.71	10,245.78	1.60	1.60	0.07	
06-LTP(CH-32-134H)										
19,643.63	92.42	89.92	9,540.89	-883.41	10,254.90	10,253.97	1.60	1.60	0.07	
19,658.00	92.63	89.92	9,540.25	-883.39	10,269.26	10,268.33	1.46	1.46	0.00	
Final MWD Survey: 19658.00' MD, 92.63°INC, 89.97°AZ										
19,718.00	93.09	89.90	9,537.26	-883.30	10,329.18	10,328.25	0.77	0.77	-0.03	
PTB: 19718.00' MD, 10328.26' VS, 9536.97' TVD - 07-PBHL(CH-32-134H)										

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
139.00	139.00	Rustler				
379.01	379.00	Top of Salt				
1,303.21	1,294.00	Base of Salt				
1,476.06	1,464.00	Yates				
1,850.01	1,834.00	Capitan				
3,411.35	3,389.00	DLWR Mnt Group				
5,898.36	5,864.00	Lower Brushy Canyon				
6,185.52	6,149.00	Bone Spring Lime				
7,517.43	7,474.00	1st Bone Spring SD				
7,678.59	7,634.00	2nd Bone Spring LM				
8,253.48	8,204.00	2nd Bone Spring SD				
8,595.89	8,544.00	3rd Bone Spring LM				
9,217.82	9,134.00	3rd Bone Spring SD				

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
8,640.00	8,587.87	-813.64	-162.18	KOP: 8640.00' MD, -163.04' VS, 8587.87' TVD	
9,095.36	9,029.01	-903.09	-132.93	100 FWL: 9095.36' MD, -133.88' VS, 9029.01' TVD	
9,987.00	9,397.17	-941.88	606.73	EOC: 9987.00' MD, 605.74' VS, 9397.16' TVD	
19,634.37	9,541.26	-883.42	10,245.65	100 FEL: 19634.37' MD, 10244.72' VS, 9541.26' TVD	
19,658.00	9,540.25	-883.39	10,269.26	Final MWD Survey: 19658.00' MD, 92.63°INC, 89.97°AZ	
19,718.00	9,537.26	-883.30	10,329.18	PTB: 19718.00' MD, 10328.26' VS, 9536.97' TVD	



Survey Report

Company:	Colgate Energy	Local Co-ordinate Reference:	Well Crazy Horse 32 State Fed Com 134H
Project:	Eddy County, NM (N83-NME)	TVD Reference:	3259+30 @ 3289.00usft
Site:	Crazy Horse 32 State Fed Com	MD Reference:	3259+30 @ 3289.00usft
Well:	Crazy Horse 32 State Fed Com 134H	North Reference:	Grid
Wellbore:	134H	Survey Calculation Method:	Minimum Curvature
Design:	DRL	Database:	EDM 5000.14 Single User Db

Checked By: _____	Approved By: _____	Date: _____
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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. 30-015-47999
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Crazy Horse 32 State Fed Com
8. Well Number 134H
9. OGRID Number 371449
10. Pool name or Wildcat Parkway; Bone Spring

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: M 1243 feet from the <u>South</u> line and <u>235</u> feet from the <u>West</u> line Section: 32 Township: <u>19S</u> Range: <u>29E</u> NMPM County: <u>Eddy</u>	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3263 GL	

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

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

11/21/2021- Pressured up casing to 7,600 psi with a 15 minute test and 8,600 psi with a 15 minute test
 12/21/2021- Perf and frac stages 1-55.
 Perfs 9,883 – 19,483
 Frac with 430,614 bbl liquid and 21,646,994 lbs of proppant
 12/26/2021- Drilled out plugs
 Turn over to production. Tubing 2.875 @ 9,460
 TD 19,718 - PBTD 19,606

Spud Date: 09/14/2021

Rig Release Date: ~~10/20/2021~~ **10/10/2022**

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

SIGNATURE: Mikah Thomas

TITLE: Operations Tech

DATE: 03/01/2022

Type or print name Mikah Thomas

E-mail address: mithomas@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 Crazy Horse 32 State Fed Com 6. Well Number: 134H		
7. Type of Completion: ☒ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR ☐ OTHER										
8. Name of Operator Colgate Operating, LLC 10. Address of Operator 300 North Marcienfeld, Suite 1,000 Midland, Texas 79705						9. OGRID 371449 11. Pool name or Wildcat Parkway; Bone Spring				
12. Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:	M	32	19S	30E		1244 1243	South	235	West	Eddy
BH:	P	33	19S	30E		349	South	17	East	Eddy
13. Date Spudded 09/14/2021		14. Date T.D. Reached 10/07/2021		15. Date Rig Released 10/10/2021		16. Date Completed (Ready to Produce) 01/05/2022		17. Elevations (DF and RKB, RT, GR, etc.) 3263		
18. Total Measured Depth of Well 19,718			19. Plug Back Measured Depth 19,606			20. Was Directional Survey Made? Yes		21. Type Electric and Other Logs Run Gamma Ray		
22. Producing Interval(s), of this completion - Top, Bottom, Name 9,883 – 19,483 Parkway; Bone Spring										
23. CASING RECORD (Report all strings set in well)										
CASING SIZE		WEIGHT LB./FT.		DEPTH SET		HOLE SIZE		CEMENTING RECORD		AMOUNT PULLED
18.625		87.5		371		22.375		Prem Plus 375 sx 1.34		
13.375		54.5		1,584		17.5		Prem Plus 625 sx 2.08, 280 sx 1.34		
9.625		36		3,322		12.25		Prem Plus 520 sx 2.07, 225 sx 1.33		
5.5		17		19,700		8.75		Prem 710 sx 2.58, 1,750 sx 1.73		
24. LINER RECORD										
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	25. TUBING RECORD					
					SIZE	DEPTH SET	PACKER SET			
					2 7/8	9460				
26. Perforation record (interval, size, and number) 9,883 – 19,483 0.37 1,815 holes						27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.				
						DEPTH INTERVAL		AMOUNT AND KIND MATERIAL USED		
						9,883 – 19,483		Total Proppant 21,646,994 – Total Fluid 430,614		
28. PRODUCTION										
Date First Production 01/07/2022		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 02/26/2022	Hours Tested 24	Choke Size 88/88	Prod'n For Test Period	Oil – Bbl 286	Gas – MCF 1250	Water – Bbl. 3025	Gas - Oil Ratio			
Flow Tubing Press. 2025	Casing Pressure 260	Calculated 24-Hour Rate	Oil - Bbl. 286	Gas - MCF 1250	Water - Bbl. 3025	Oil Gravity - API - (<i>Corr.</i>) 42.8				
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: Operations Tech

Date: 03/01/2022

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- 139	T. Canyon	T. Ojo Alamo	T. Penn A"
T. Salt- 379	T. Strawn	T. Kirtland	T. Penn. "B"
B. Salt- 1294	T. Atoka	T. Fruitland	T. Penn. "C"
T. Yates- 1464	T. Miss	T. Pictured Cliffs	T. Penn. "D"
T. DLWR Mnt. Group- 3389	T. Devonian	T. Cliff House	T. Leadville
T. L Brushy Canyon- 5864	T. Silurian	T. Menefee	T. Madison
T. BS Lime- 6149	T. Montoya	T. Point Lookout	T. Elbert
T. 1 st Bone Spring SD- 7474	T. Simpson	T. Mancos	T. McCracken
T. 2 nd Bone Spring LM- 7634	T. McKee	T. Gallup	T. Ignacio Otzte
8204	T. Ellenburger	Base Greenhorn	T. Granite
T. 3 rd Bone Spring LM- 8544	T. Gr. Wash	T. Dakota	
T. 3 rd Bone Spring SD-9134	T. Delaware Sand	T. Morrison	
T. Drinkard	T. Bone Springs	T. Todilto	
T. Abo	T.	T. Entrada	
T. Wolfcamp	T.	T. Wingate	
T. Penn	T.	T. Chinle	
T. Cisco (Bough C)	T.	T. Permian	

OIL OR GAS SANDS OR ZONES

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

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

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

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

IMPORTANT WATER SANDS

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

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

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

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

LITHOLOGY RECORD (Attach additional sheet if necessary)

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

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

District II

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

District III

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

District IV

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

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

ACKNOWLEDGMENTS

Action 88625

ACKNOWLEDGMENTS

Operator: COLGATE OPERATING, LLC 300 North Marienfeld Street Midland, TX 79701	OGRID: 371449
	Action Number: 88625
	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 88625

CONDITIONS

Operator: COLGATE OPERATING, LLC 300 North Marienfeld Street Midland, TX 79701	OGRID: 371449
	Action Number: 88625
	Action Type: [C-104] Completion Packet (C-104C)

CONDITIONS

Created By	Condition	Condition Date
plmartinez	Log (s) if applicable will be submitted separately as a [UF-WL] EP Well Log Submission (Well Log).	3/24/2022