

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

Entered - KMS NMOC D



**DISTRICT I**1825 N. French Dr., Hobbs, N.M. 88240  
Phone: (575) 393-6181 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) 478-3480 Fax: (505) 478-3482State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102

Revised August 1, 2011

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, N.M. 87505Submit one copy to appropriate  
District Office☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-015 48111</b>	<sup>2</sup> Pool Code <b>96443 97569</b>	<sup>3</sup> Pool Name <b>Winchester West Palmito; Bone Spring</b>
<sup>4</sup> Property Code <b>330326</b>	<sup>5</sup> Property Name <b>Toro 22 Fed State Com</b>	<sup>6</sup> Well Number <b>132H</b>
<sup>7</sup> GRID No. <b>371449</b>	<sup>8</sup> Operator Name <b>Colgate Operating, LLC</b>	<sup>9</sup> Elevation <b>3425</b>

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>E</b>	<b>22</b>	<b>19 S</b>	<b>28 E</b>		<b>1482</b>	<b>North</b>	<b>255</b>	<b>West</b>	<b>Eddy</b>

<sup>11</sup> 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
<b>H</b>	<b>22</b>	<b>19 S</b>	<b>28 E</b>		<b>2283</b>	<b>North</b>	<b>10</b>	<b>East</b>	<b>Eddy</b>

<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.

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

18

**SURFACE LOCATION**  
NAD 83 NMSPC ZONE 3001  
Y=600007.65 N  
X=591042.07 E  
LAT.=32.6493648° N  
LONG.=104.1718414° W

**SURFACE LOCATION**  
NAD 27 NMSPC ZONE 3001  
Y=599945.66 N  
X=549862.26 E  
LAT.=32.6492479° N  
LONG.=104.1713328° W

**BOTTOM HOLE LOCATION**  
NAD 83 NMSPC ZONE 3001  
Y=599254.44 N  
X=595973.37 E  
LAT.=32.6472728° N  
LONG.=104.1558236° W

**BOTTOM HOLE LOCATION**  
NAD 27 NMSPC ZONE 3001  
Y=599192.43 N  
X=554793.55 E  
LAT.=32.6471558° N  
LONG.=104.1553154° W

**FIRST TAKE POINT**  
NAD 83 NMSPC ZONE 3001  
2283' FNL, 100' FWL  
SEC. 22, T19S, R28E  
Y=599205.45 N  
X=590887.15 E  
LAT.=32.6471604° N  
LONG.=104.1723487° W

**FIRST TAKE POINT**  
NAD 27 NMSPC ZONE 3001  
2283' FNL, 100' FWL  
SEC. 22, T19S, R28E  
Y=599143.47 N  
X=549707.33 E  
LAT.=32.6470435° N  
LONG.=104.1718401° W

**LAST TAKE POINT**  
NAD 83 NMSPC ZONE 3001  
2283' FNL, 100' FEL  
SEC. 22, T19S, R28E  
Y=599253.63 N  
X=595883.37 E  
LAT.=32.6472710° N  
LONG.=104.1561160° W


**LAST TAKE POINT**  
NAD 27 NMSPC ZONE 3001  
2283' FNL, 100' FEL  
SEC. 22, T19S, R28E  
Y=599191.62 N  
X=554703.55 E  
LAT.=32.6471539° N  
LONG.=104.1556078° W

## Legend:

- = Surface Location
- = Bottom Hole Location
- △ = First Take Point (FTP)
- = Last Take Point (LTP)
- ⊙ = Found 1941 USGLO Brass Cap

<sup>17</sup> 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 \_\_\_\_\_ Date 07/06/2020  
Mikah Thomas  
Printed Name  
mthomas@colgateenergy.com  
E-mail Address

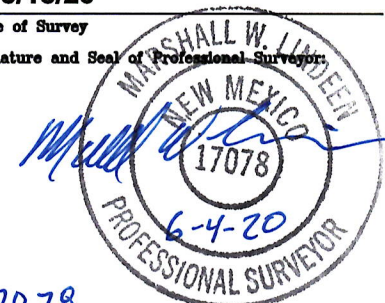
<sup>18</sup> SURVEYOR CERTIFICATION

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.

3/18/20

Date of Survey

Signature and Seal of Professional Surveyor

17078  
Certificate Number

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

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

Submit Original  
to Appropriate  
District Office

## GAS CAPTURE PLAN

Date: 06/22/2020

☒ Original Operator & OGRID No.: Colgate Operating, LLC (371449)  
☐ Amended - Reason for Amendment: \_\_\_\_\_

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

*Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).*

### Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Toro 22 Fed State Com 132H	30-015					

### Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to LM Touchdown, LLC and will be connected to LM Touchdown, LLC low/high pressure gathering system located in Eddy County, New Mexico. It will require 10' of pipeline to connect the facility to low/high pressure gathering system. Colgate Operating, LLC provides (periodically) to LM Touchdown, LLC a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Colgate Operating, LLC and LM Touchdown, LLC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at LM Touchdown, LLC Processing Plant located in Sec. 22, Twn. 19S Rng. 28E Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

### Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to production facilities. During flowback, the fluids and sand content will be monitored. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on LM Touchdown, LLC system at that time. Based on current information, it is Colgate Operating, LLC belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

### Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines

- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

**Drilling Program****Colgate Energy**

Toro 22 Fed State Com 132H

1,482' FNL &amp; 255' FWL (SHL)

Sec 22-T19S-R28E

Eddy County, New Mexico

**The estimated tops of geologic formations are as follows:**

<b>Formation:</b>	<b>TVD</b>	<b>Subsea</b>
Rustler	228	3223
Top of Salt	284	3167
Base of Salt	569	2882
Yates	780	2671
Capitan	-	-
Delaware Mountain Group	2707	744
Lower Brushy Canyon*	3080	371
Bone Spring Lime	3371	80
1st Bone Spring Sand*	6201	-2750
2nd Bone Spring Sand*	7256	-3805
3rd Bone Spring Sand*	8281	-4830
Wolfcamp A*	8681	-5230

**Formations anticipated to contain fresh water, oil or gas are as follows:**

Water	Fresh water is anticipated at 65' and will be protected by setting a water string at 240' and cementing to surface.
Hydrocarbons	Oil and gas are anticipated in the above (*) formations. These zones will be protected by casing as necessary.

**Proposed casing program is as follows:**

<b><u>Name</u></b>	<b><u>Hole Size</u></b>	<b><u>Casing Size</u></b>	<b><u>Weight &amp; Grade</u></b>	<b><u>Thread Collar</u></b>	<b><u>Top Csg</u></b>	<b><u>Setting Depth</u></b>	<b><u>Collapse</u></b>	<b><u>Burst</u></b>	<b><u>Tension</u></b>
Surface	17 1/2	13 3/8	54.5# J-55 (new)	BTC	0	240'	1.125	1.2	1.6
Intermediate	12 1/4	9 5/8	36# J-55 (new)	BTC	0	2,630'	1.125	1.2	1.6
Production	8 3/4	5 1/2	20# HCP-110 (new)	CDC HTQ	0	13,416'	1.125	1.2	1.6

SF Values will meet or exceed

**Proposed cementing program is as follows:**

<b><u>Name</u></b>	<b><u>Slurry</u></b>	<b><u>Sacks</u></b>	<b><u>Yield</u></b>	<b><u>Weight</u></b>	<b><u>Excess</u></b>	<b><u>Top Cement</u></b>	<b><u>Blend</u></b>
Surface	Tail	170	1.8	13.5	100%	0'	Class C w/ salt, accelerator, extender and LCM additives
Intermediate	Lead	573	2.19	12.7	100%	0'	Class C w/ salt, extender and LCM additives
	Tail	155	1.33	14.8	25%	2,104'	Class C w/ accelerator & LCM additives
Production	Tail	2759	1.24	14.2	20%	2,050'	Class H w/ Fluid Loss, Dispersant, Retarder & LCM additives

**Proposed casing and cementing accessories are as follows:** (Casing will be centralized per Onshore Order 2.III.B.1.f)

Surface:	1 centralizer 5' above shoe held in place with stop ring; 1 centralizer per joint for following 2 joints then every other joint to surface
Intermediate:	2 centralizers on 1st joint, 1 centralizer on 2nd joint, 1 centralizer every 4th joint to surface
Production:	2 centralizers on bottom joint, 1 centralizer on 2nd joint, 1 centralizer every 3rd joint to 2130'



**Proposed pressure control equipment is as follows (see schematics below):**

BOPE with working pressure ratings in excess of anticipated maximum surface pressure will be utilized for well control from drill out of surface casing to TMD. A rotating head will also be installed and utilized as needed. All BOPE connections shall be flanged, welded or clamped. All choke lines shall be straight unless targeted with running tees or tee blocks are used, and choke lines shall be anchored to prevent whip and reduce vibrations. All valves in the choke line & the choke manifold shall be full opening as to not cause restrictions and to allow for straight fluid paths to minimize potential erosion. All gauges utilized in the well control system shall be of a type designed for drilling fluid service. A top drive inside BOP valve will be utilized at all times. Subs equipped with full opening valves sized to fit the drill pipe and collars will be available on the rig floor in the open position. The key to operate said valve equipped subs will be on the rig floor at all times. The accumulator system will have sufficient capacity to open the HCR and close all three sets of rams plus the annular preventer while retaining at least 300 psi above precharge on the closing manifold (accumulator system shall be capable of doing so without using the closing unit pumps). The fluid reservoir capacity will be double the usable fluid volume of the accumulator system capacity, and the fluid level will be maintained at the manufacturer's recommended level. Prior to connecting the closing unit to the BOP stack, an accumulator precharge pressure test shall be performed to ensure the precharge pressure is within 100 psi of the desired precharge pressure (only nitrogen gas will be used to precharge). Two independent power sources will be made available at all times to power the closing unit pumps so that the pumps can automatically start when the closing valve manifold pressure has decreased to the pre-set level. Closing unit pumps will be sized to allow opening of HCR and closing of annular preventer on 5" drill pipe achieving at least 200 psi above precharge pressure with the accumulator system isolated from service in less than two minutes. A valve shall be installed in the closing line as close to the annular preventer as possible to act as a locking device; the valve shall be maintained in the open position and shall be closed only when the power source for the accumulator system is inoperative. Remote controls capable of opening and closing all preventers & the HCR shall be readily accessible to the driller; master controls with the same capability will be operable at the accumulator. The wellhead will be a multi-bowl speed head allowing for hang-off of intermediate casing & isolation of the 13-3/8" x 9-5/8" annulus without breaking the connection between the BOP & wellhead to install an additional casing head. A wear bushing will be installed & inspected frequently to guard against internal wear to wellhead.

**A request for variance of pressure control equipment as follows:**

1. Colgate Energy requests a variance to drill this well using a co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.

**BOPE will be tested per the following procedure:**

After surface casing is set and the BOPE installed, pressure tests of BOPE will be performed by a third party tester utilizing water and a test plug to 250 psi low and 10,000 psi high. To deem a pressure test successful, pressure must be maintained for ten minutes without any bleed-off. A valve on the wellhead below seat of test plug will be open at all time during BOPE tests to guard against damage to casing. The BOPE will be re-tested in this manner after any connection breaks or passage of allotted time (25 days). Any BOPE which fails to pass pressure tests after initial install will be replaced prior to drilling out of surface casing shoe. If at any time a BOPE component cannot function to secure the hole, the hole shall be secured utilizing a retrievable packer, and the non-functioning BOPE component shall be repair or replaced. After repair or replacement, a pressure test of the repaired or replaced component and any connections broken to repair or replace the non-functioning component will be tested in the same manner as described for initial install of BOPE. The annular preventer will be function tested at least weekly, and the ram-type preventers will be function tested on each trip. BOPE pit level drills will be conducted weekly with each drilling crews. All pressure tests performed on BOPE and BOPE pit level drills will be logged in the drilling log. Isolation of 13-3/8" x 9-5/8" casing annulus shall be confirmed by pressure testing of wellhead sealing component after said sealing component is installed.

**Each casing string will be tested once installed in the wellbore per the following procedure:**

After cement has been allowed to sit undisturbed for eight hours and has reached a compressive strength of 500 psi across the zone of interest, the 13-3/8" surface casing will be pressured to 1,500 psi and held for 30 minutes. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review. A casing test will be deemed successful if test pressure does not decline more than 10% over the thirty minute period. The casing pressure test will be completed against the blind rams of 13-5/8" 10M BOPE prior to PU tools to drill out. After cement has been allowed to sit undisturbed for eight hours and has reached a compressive strength of 500 psi across the zone of interest, the 9-5/8" intermediate casing will be pressured to 2,500 psi and held for 30 minutes. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review. A casing test will be deemed successful if test pressure does not decline more than 10% over the thirty minute period. Casing pressure test will be completed against the lower pipe rams of 13-5/8" 10M BOPE immediately prior to drilling out float equipment. Casing pressure test on 5-1/2" production casing will occur more than 72 hours after cement is placed and reached ultimate compressive strength. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review. A casing test will be deemed successful if test pressure does not decline more than 10% over the thirty minute period. Casing will be tested by pressuring up to 10,000 psi and holding pressure for 30 minutes prior to the beginning of perforating & stimulating operations.

**Each casing string will be cemented per the following cementing procedure:**

Cement will be placed on all casing strings utilizing the pump and plug method. A float will be installed in the casing shoe and float collar on all casing strings to hold cement in place once pumping is completed. A top plug will be utilized on all casing strings to prevent contamination of the cement by the displacement fluid. A preflush fluid will be pumped prior to cement to aid in removal of drilling mud from the wellbore, eliminate drilling mud contamination of the cement slurry and prepare the surface of both the wellbore and casing for cement.

**Proposed mud system is as follows:**

<u>Name</u>	<u>Hole Size</u>	<u>Mud Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>	<u>Type Mud</u>
Surface	17-1/2"	8.6 - 9.0	28 - 34	NC	FW Spud Mud
Intermediate	12-1/4"	10.0 - 10.2	30 - 32	NC	Brine Water
Production	8-3/4"	9.0 - 10.0	32 - 35	NC	Cut-brine poly-oil mud

All necessary mud products for weight addition and fluid loss control will be on location at all times. Mud program is subject to change due to hole conditions. The mud monitoring system is an electronic Pason system satisfying requirements of Onshore Order #1. Both visual and electronic mud monitoring equipment will be utilized to detect volume changes indicating loss or gain of circulating system fluid volume. Slow pump rates will be taken & recorded hourly in the drilling log. Mud engineer will perform tests and provide written report at least every 12 hours while circulating. A trip tank will be utilized and trip sheet will be recorded to ensure wellbore is taking proper fill or displacing proper fluid volume during all tripping operations. Gas detecting equipment will be utilized to monitor for hydrocarbon gas at the shakers while drilling and/or circulating. H2S monitoring equipment with both visual & auditory alarms will be installed and operational at the shakers, rig floor and cellar while drilling and/or circulating. A flare system with an effective method for ignition & discharge more than 100 feet from the wellbore will be utilized to gather and burn all gas; lines will be straight unless targeted with running tees. A mud gas separator will be installed and operable at least 500 feet before first anticipated hydrocarbon zone.

**Proposed testing, surveying, logging and coring program is as follows:**

No open-hole logs are planned at this time. Directional surveys will be collected at no greater than 200' intervals while drilling through the MWD tools. A GR log will be collected while drilling through the MWD tools from intermediate casing to TD. No DSTs or cores are planned at this time. No CBL or temperature logs planned at this time. A formation integrity test (FIT) will be performed on all casing strings after BOPE is installed to at least 1 ppg over planned section mud weight after drilling ten feet of new hole.

**Anticipated potential hazards are as follows:**

No abnormal pressures or temperatures are expected. In accordance with Onshore Order No. 6, Colgate Energy does not anticipate that there will be enough H<sub>2</sub>S from the surface to the Wolfcamp formations to meet the BLM's minimum requirements for the submission of an "H<sub>2</sub>S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. Since we have an H<sub>2</sub>S safety package on all wells, attached is an "H<sub>2</sub>S Drilling Operations Plan". Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely. All personnel will be familiar with all aspects of safe operation of equipment being used.

Estimated BHP: 8.3 lbs/gal gradient or less

Estimated BHT: 120° F

**Planned commencement of operations is as follows:**

Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved. Drilling expected to take 30 days. If production casing is run an additional 60 days will be required to complete and construct surface facilities.



## **Colgate Energy**

**Eddy County, NM (N83-NME)**

**Toro 22 Fed State Com**

**Toro 22 Fed State Com 132H**

**Permit**

**Plan: Plan #1**

## **Standard Planning Report**

**12 June, 2020**





## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Toro 22 Fed State Com 132H
<b>Company:</b>	Colgate Energy	<b>TVD Reference:</b>	3425+26 @ 3451.00usft (TBD)
<b>Project:</b>	Eddy County, NM (N83-NME)	<b>MD Reference:</b>	3425+26 @ 3451.00usft (TBD)
<b>Site:</b>	Toro 22 Fed State Com	<b>North Reference:</b>	Grid
<b>Well:</b>	Toro 22 Fed State Com 132H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Permit		
<b>Design:</b>	Plan #1		

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

<b>Site</b>	Toro 22 Fed State Com			
<b>Site Position:</b>		<b>Northing:</b>	600,097.65 usft	<b>Latitude:</b> 32.64961218
<b>From:</b> Map		<b>Easting:</b>	591,041.91 usft	<b>Longitude:</b> -104.17184148
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.09 °

<b>Well</b>	Toro 22 Fed State Com 132H			
<b>Well Position</b>	<b>+N/-S</b>	-90.00 usft	<b>Northing:</b>	600,007.65 usft
	<b>+E/-W</b>	0.16 usft	<b>Easting:</b>	591,042.07 usft
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b>	<b>Ground Level:</b> 3,425.00 usft

<b>Wellbore</b>	Permit				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	7/1/2020	6.97	60.23	47,782.03269089

<b>Design</b>	Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	89.45

<b>Plan Survey Tool Program</b>	<b>Date</b>	6/12/2020		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	13,416.15 Plan #1 (Permit)	OWSG MWD Rev 4	
			OWSG MWD - Standard	



## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Toro 22 Fed State Com 132H
<b>Company:</b>	Colgate Energy	<b>TVD Reference:</b>	3425+26 @ 3451.00usft (TBD)
<b>Project:</b>	Eddy County, NM (N83-NME)	<b>MD Reference:</b>	3425+26 @ 3451.00usft (TBD)
<b>Site:</b>	Toro 22 Fed State Com	<b>North Reference:</b>	Grid
<b>Well:</b>	Toro 22 Fed State Com 132H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Permit		
<b>Design:</b>	Plan #1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.00	3.00	270.00	1,699.91	0.00	-5.23	1.50	1.50	0.00	270.00	
1,900.37	3.00	270.00	1,900.00	0.00	-15.72	0.00	0.00	0.00	0.00	
2,466.90	8.67	193.15	2,463.94	-41.64	-40.30	1.50	1.00	-13.56	-96.80	
6,978.89	8.67	193.15	6,924.42	-703.71	-195.01	0.00	0.00	0.00	0.00	
7,556.68	0.00	0.00	7,500.00	-746.18	-204.93	1.50	-1.50	0.00	180.00	00-EON(Toro22-132H
7,947.26	0.00	0.00	7,890.58	-746.18	-204.93	0.00	0.00	0.00	0.00	
8,547.26	60.00	97.20	8,386.78	-782.09	79.29	10.00	10.00	0.00	97.20	
8,840.64	88.40	89.45	8,465.96	-796.93	358.07	10.00	9.68	-2.64	-15.97	
10,991.07	88.40	89.45	8,526.00	-776.29	2,507.57	0.00	0.00	0.00	0.00	
11,002.74	88.17	89.45	8,526.35	-776.18	2,519.23	2.00	-2.00	0.04	178.92	
13,416.15	88.17	89.45	8,603.56	-753.21	4,931.30	0.00	0.00	0.00	0.00	03-PBHL(Toro22-132I



## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Toro 22 Fed State Com 132H
<b>Company:</b>	Colgate Energy	<b>TVD Reference:</b>	3425+26 @ 3451.00usft (TBD)
<b>Project:</b>	Eddy County, NM (N83-NME)	<b>MD Reference:</b>	3425+26 @ 3451.00usft (TBD)
<b>Site:</b>	Toro 22 Fed State Com	<b>North Reference:</b>	Grid
<b>Well:</b>	Toro 22 Fed State Com 132H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Permit		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
228.00	0.00	0.00	228.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Rustler</b>									
284.00	0.00	0.00	284.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Top of Salt</b>									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
569.00	0.00	0.00	569.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Base of Salt</b>									
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
780.00	0.00	0.00	780.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Yates</b>									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	1.50	270.00	1,599.99	0.00	-1.31	-1.31	1.50	1.50	0.00
1,700.00	3.00	270.00	1,699.91	0.00	-5.23	-5.23	1.50	1.50	0.00
1,800.00	3.00	270.00	1,799.77	0.00	-10.47	-10.47	0.00	0.00	0.00
1,900.37	3.00	270.00	1,900.00	0.00	-15.72	-15.72	0.00	0.00	0.00
1,973.47	3.07	249.22	1,973.00	-0.69	-19.46	-19.47	1.50	0.10	-28.43
<b>Capitan</b>									
2,000.00	3.19	242.26	1,999.49	-1.29	-20.78	-20.79	1.50	0.45	-26.23
2,100.00	3.98	221.62	2,099.30	-5.18	-25.55	-25.60	1.50	0.79	-20.64
2,200.00	5.10	208.87	2,198.99	-11.66	-30.00	-30.11	1.50	1.12	-12.75
2,300.00	6.38	200.95	2,298.49	-20.74	-34.13	-34.33	1.50	1.28	-7.92
2,400.00	7.73	195.72	2,397.73	-32.40	-37.94	-38.25	1.50	1.36	-5.22
2,466.90	8.67	193.15	2,463.94	-41.64	-40.30	-40.70	1.50	1.40	-3.85
2,500.00	8.67	193.15	2,496.67	-46.50	-41.44	-41.88	0.00	0.00	0.00
2,600.00	8.67	193.15	2,595.53	-61.17	-44.87	-45.45	0.00	0.00	0.00
2,700.00	8.67	193.15	2,694.38	-75.85	-48.30	-49.02	0.00	0.00	0.00
2,712.76	8.67	193.15	2,707.00	-77.72	-48.73	-49.48	0.00	0.00	0.00
<b>DLWR Mnt. Group</b>									
2,800.00	8.67	193.15	2,793.24	-90.52	-51.72	-52.59	0.00	0.00	0.00
2,900.00	8.67	193.15	2,892.10	-105.19	-55.15	-56.16	0.00	0.00	0.00
3,000.00	8.67	193.15	2,990.96	-119.87	-58.58	-59.73	0.00	0.00	0.00
3,090.07	8.67	193.15	3,080.00	-133.08	-61.67	-62.94	0.00	0.00	0.00
<b>Lower Brushy Canyon</b>									
3,100.00	8.67	193.15	3,089.82	-134.54	-62.01	-63.30	0.00	0.00	0.00
3,200.00	8.67	193.15	3,188.67	-149.21	-65.44	-66.87	0.00	0.00	0.00
3,300.00	8.67	193.15	3,287.53	-163.89	-68.87	-70.44	0.00	0.00	0.00
3,384.43	8.67	193.15	3,371.00	-176.28	-71.76	-73.45	0.00	0.00	0.00
<b>Bone Spring Lime</b>									
3,400.00	8.67	193.15	3,386.39	-178.56	-72.30	-74.01	0.00	0.00	0.00
3,500.00	8.67	193.15	3,485.25	-193.23	-75.73	-77.58	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Toro 22 Fed State Com 132H
<b>Company:</b>	Colgate Energy	<b>TVD Reference:</b>	3425+26 @ 3451.00usft (TBD)
<b>Project:</b>	Eddy County, NM (N83-NME)	<b>MD Reference:</b>	3425+26 @ 3451.00usft (TBD)
<b>Site:</b>	Toro 22 Fed State Com	<b>North Reference:</b>	Grid
<b>Well:</b>	Toro 22 Fed State Com 132H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Permit		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,600.00	8.67	193.15	3,584.11	-207.91	-79.15	-81.15	0.00	0.00	0.00
3,700.00	8.67	193.15	3,682.97	-222.58	-82.58	-84.72	0.00	0.00	0.00
3,800.00	8.67	193.15	3,781.82	-237.25	-86.01	-88.28	0.00	0.00	0.00
3,900.00	8.67	193.15	3,880.68	-251.93	-89.44	-91.85	0.00	0.00	0.00
4,000.00	8.67	193.15	3,979.54	-266.60	-92.87	-95.42	0.00	0.00	0.00
4,100.00	8.67	193.15	4,078.40	-281.27	-96.30	-98.99	0.00	0.00	0.00
4,200.00	8.67	193.15	4,177.26	-295.95	-99.73	-102.56	0.00	0.00	0.00
4,300.00	8.67	193.15	4,276.11	-310.62	-103.15	-106.13	0.00	0.00	0.00
4,400.00	8.67	193.15	4,374.97	-325.29	-106.58	-109.70	0.00	0.00	0.00
4,500.00	8.67	193.15	4,473.83	-339.97	-110.01	-113.27	0.00	0.00	0.00
4,600.00	8.67	193.15	4,572.69	-354.64	-113.44	-116.84	0.00	0.00	0.00
4,700.00	8.67	193.15	4,671.55	-369.32	-116.87	-120.41	0.00	0.00	0.00
4,800.00	8.67	193.15	4,770.40	-383.99	-120.30	-123.98	0.00	0.00	0.00
4,900.00	8.67	193.15	4,869.26	-398.66	-123.73	-127.55	0.00	0.00	0.00
5,000.00	8.67	193.15	4,968.12	-413.34	-127.16	-131.12	0.00	0.00	0.00
5,100.00	8.67	193.15	5,066.98	-428.01	-130.58	-134.69	0.00	0.00	0.00
5,200.00	8.67	193.15	5,165.84	-442.68	-134.01	-138.26	0.00	0.00	0.00
5,300.00	8.67	193.15	5,264.70	-457.36	-137.44	-141.83	0.00	0.00	0.00
5,400.00	8.67	193.15	5,363.55	-472.03	-140.87	-145.40	0.00	0.00	0.00
5,500.00	8.67	193.15	5,462.41	-486.70	-144.30	-148.96	0.00	0.00	0.00
5,600.00	8.67	193.15	5,561.27	-501.38	-147.73	-152.53	0.00	0.00	0.00
5,700.00	8.67	193.15	5,660.13	-516.05	-151.16	-156.10	0.00	0.00	0.00
5,800.00	8.67	193.15	5,758.99	-530.72	-154.59	-159.67	0.00	0.00	0.00
5,900.00	8.67	193.15	5,857.84	-545.40	-158.01	-163.24	0.00	0.00	0.00
6,000.00	8.67	193.15	5,956.70	-560.07	-161.44	-166.81	0.00	0.00	0.00
6,100.00	8.67	193.15	6,055.56	-574.74	-164.87	-170.38	0.00	0.00	0.00
6,200.00	8.67	193.15	6,154.42	-589.42	-168.30	-173.95	0.00	0.00	0.00
6,247.12	8.67	193.15	6,201.00	-596.33	-169.92	-175.63	0.00	0.00	0.00
<b>1st Bone Spring SD</b>									
6,300.00	8.67	193.15	6,253.28	-604.09	-171.73	-177.52	0.00	0.00	0.00
6,348.27	8.67	193.15	6,301.00	-611.17	-173.38	-179.24	0.00	0.00	0.00
<b>2nd Bone Spring LM</b>									
6,400.00	8.67	193.15	6,352.14	-618.76	-175.16	-181.09	0.00	0.00	0.00
6,500.00	8.67	193.15	6,450.99	-633.44	-178.59	-184.66	0.00	0.00	0.00
6,600.00	8.67	193.15	6,549.85	-648.11	-182.01	-188.23	0.00	0.00	0.00
6,700.00	8.67	193.15	6,648.71	-662.79	-185.44	-191.80	0.00	0.00	0.00
6,800.00	8.67	193.15	6,747.57	-677.46	-188.87	-195.37	0.00	0.00	0.00
6,900.00	8.67	193.15	6,846.43	-692.13	-192.30	-198.94	0.00	0.00	0.00
6,978.89	8.67	193.15	6,924.42	-703.71	-195.01	-201.75	0.00	0.00	0.00
7,000.00	8.35	193.15	6,945.29	-706.75	-195.72	-202.49	1.50	-1.50	0.00
7,100.00	6.85	193.15	7,044.41	-719.63	-198.73	-205.62	1.50	-1.50	0.00
7,200.00	5.35	193.15	7,143.84	-729.98	-201.14	-208.14	1.50	-1.50	0.00
7,300.00	3.85	193.15	7,243.52	-737.79	-202.97	-210.04	1.50	-1.50	0.00
7,312.51	3.66	193.15	7,256.00	-738.58	-203.15	-210.24	1.50	-1.50	0.00
<b>2nd Bone Spring SD</b>									
7,400.00	2.35	193.15	7,343.37	-743.05	-204.20	-211.32	1.50	-1.50	0.00
7,500.00	0.85	193.15	7,443.33	-745.77	-204.83	-211.98	1.50	-1.50	0.00
7,556.68	0.00	0.00	7,500.00	-746.18	-204.93	-212.08	1.50	-1.50	0.00
<b>00-EON(Toro22-132H)</b>									
7,600.00	0.00	0.00	7,543.32	-746.18	-204.93	-212.08	0.00	0.00	0.00
7,627.68	0.00	0.00	7,571.00	-746.18	-204.93	-212.08	0.00	0.00	0.00
<b>3rd Bone Spring LM</b>									
7,700.00	0.00	0.00	7,643.32	-746.18	-204.93	-212.08	0.00	0.00	0.00
7,800.00	0.00	0.00	7,743.32	-746.18	-204.93	-212.08	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Toro 22 Fed State Com 132H
<b>Company:</b>	Colgate Energy	<b>TVD Reference:</b>	3425+26 @ 3451.00usft (TBD)
<b>Project:</b>	Eddy County, NM (N83-NME)	<b>MD Reference:</b>	3425+26 @ 3451.00usft (TBD)
<b>Site:</b>	Toro 22 Fed State Com	<b>North Reference:</b>	Grid
<b>Well:</b>	Toro 22 Fed State Com 132H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Permit		
<b>Design:</b>	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,900.00	0.00	0.00	7,843.32	-746.18	-204.93	-212.08	0.00	0.00	0.00
7,947.26	0.00	0.00	7,890.58	-746.18	-204.93	-212.08	0.00	0.00	0.00
<b>KOP: 7947.26' MD, -212.08 VS, 7890.58' TVD</b>									
7,950.00	0.27	97.20	7,893.32	-746.18	-204.92	-212.08	10.02	10.02	0.00
8,000.00	5.27	97.20	7,943.25	-746.48	-202.52	-209.68	10.00	10.00	0.00
8,050.00	10.27	97.20	7,992.77	-747.33	-195.81	-202.98	10.00	10.00	0.00
8,100.00	15.27	97.20	8,041.52	-748.72	-184.85	-192.03	10.00	10.00	0.00
8,150.00	20.27	97.20	8,089.12	-750.63	-169.71	-176.91	10.00	10.00	0.00
8,200.00	25.27	97.20	8,135.21	-753.05	-150.52	-157.74	10.00	10.00	0.00
8,250.00	30.27	97.20	8,179.43	-755.97	-127.41	-134.66	10.00	10.00	0.00
8,300.00	35.27	97.20	8,221.46	-759.36	-100.56	-107.85	10.00	10.00	0.00
8,350.00	40.27	97.20	8,260.97	-763.20	-70.19	-77.51	10.00	10.00	0.00
8,376.80	42.95	97.20	8,281.00	-765.43	-52.53	-59.88	10.00	10.00	0.00
<b>3rd Bone Spring SD</b>									
8,400.00	45.27	97.20	8,297.66	-767.46	-36.51	-43.87	10.00	10.00	0.00
8,422.65	47.54	97.20	8,313.28	-769.51	-20.23	-27.62	10.00	10.00	0.00
<b>01-FTP(Toro22-132H)</b>									
8,450.00	50.27	97.20	8,331.25	-772.10	0.21	-7.20	10.00	10.00	0.00
8,500.00	55.27	97.20	8,361.49	-777.08	39.70	32.24	10.00	10.00	0.00
8,547.26	60.00	97.20	8,386.78	-782.09	79.29	71.78	10.00	10.00	0.00
8,550.00	60.26	97.11	8,388.14	-782.38	81.65	74.14	10.00	9.62	-3.17
8,600.00	65.08	95.60	8,411.09	-787.29	125.78	118.22	10.00	9.63	-3.02
8,650.00	69.91	94.20	8,430.22	-791.22	171.79	164.19	10.00	9.66	-2.79
8,700.00	74.75	92.89	8,445.40	-794.16	219.33	211.70	10.00	9.68	-2.63
8,750.00	79.60	91.64	8,456.49	-796.08	268.03	260.37	10.00	9.70	-2.51
8,800.00	84.45	90.42	8,463.42	-796.97	317.52	309.86	10.00	9.71	-2.43
8,840.64	88.40	89.45	8,465.96	-796.93	358.07	350.41	10.00	9.71	-2.39
<b>EOC: 8840.64' MD, 350.41 VS, 8465.96' TVD</b>									
8,900.00	88.40	89.45	8,467.61	-796.36	417.41	409.74	0.00	0.00	0.00
9,000.00	88.40	89.45	8,470.41	-795.40	517.36	509.71	0.00	0.00	0.00
9,100.00	88.40	89.45	8,473.20	-794.44	617.32	609.67	0.00	0.00	0.00
9,200.00	88.40	89.45	8,475.99	-793.48	717.28	709.63	0.00	0.00	0.00
9,300.00	88.40	89.45	8,478.78	-792.52	817.23	809.59	0.00	0.00	0.00
9,400.00	88.40	89.45	8,481.57	-791.56	917.19	909.55	0.00	0.00	0.00
9,500.00	88.40	89.45	8,484.37	-790.60	1,017.15	1,009.51	0.00	0.00	0.00
9,600.00	88.40	89.45	8,487.16	-789.64	1,117.10	1,109.47	0.00	0.00	0.00
9,700.00	88.40	89.45	8,489.95	-788.68	1,217.06	1,209.43	0.00	0.00	0.00
9,800.00	88.40	89.45	8,492.74	-787.72	1,317.02	1,309.39	0.00	0.00	0.00
9,900.00	88.40	89.45	8,495.53	-786.76	1,416.97	1,409.35	0.00	0.00	0.00
10,000.00	88.40	89.45	8,498.33	-785.80	1,516.93	1,509.32	0.00	0.00	0.00
10,100.00	88.40	89.45	8,501.12	-784.84	1,616.88	1,609.28	0.00	0.00	0.00
10,200.00	88.40	89.45	8,503.91	-783.88	1,716.84	1,709.24	0.00	0.00	0.00
10,300.00	88.40	89.45	8,506.70	-782.92	1,816.80	1,809.20	0.00	0.00	0.00
10,400.00	88.40	89.45	8,509.50	-781.96	1,916.75	1,909.16	0.00	0.00	0.00
10,500.00	88.40	89.45	8,512.29	-781.00	2,016.71	2,009.12	0.00	0.00	0.00
10,600.00	88.40	89.45	8,515.08	-780.04	2,116.67	2,109.08	0.00	0.00	0.00
10,700.00	88.40	89.45	8,517.87	-779.08	2,216.62	2,209.04	0.00	0.00	0.00
10,800.00	88.40	89.45	8,520.66	-778.12	2,316.58	2,309.00	0.00	0.00	0.00
10,900.00	88.40	89.45	8,523.46	-777.17	2,416.54	2,408.96	0.00	0.00	0.00
10,991.07	88.40	89.45	8,526.00	-776.29	2,507.57	2,500.00	0.00	0.00	0.00
<b>Start DLS 2.00 TFO 178.92</b>									
11,002.74	88.17	89.45	8,526.35	-776.18	2,519.23	2,511.66	2.00	-2.00	0.04
11,100.00	88.17	89.45	8,529.46	-775.25	2,616.44	2,608.87	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Toro 22 Fed State Com 132H
<b>Company:</b>	Colgate Energy	<b>TVD Reference:</b>	3425+26 @ 3451.00usft (TBD)
<b>Project:</b>	Eddy County, NM (N83-NME)	<b>MD Reference:</b>	3425+26 @ 3451.00usft (TBD)
<b>Site:</b>	Toro 22 Fed State Com	<b>North Reference:</b>	Grid
<b>Well:</b>	Toro 22 Fed State Com 132H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Permit		
<b>Design:</b>	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
11,200.00	88.17	89.45	8,532.66	-774.30	2,716.38	2,708.82	0.00	0.00	0.00	
11,300.00	88.17	89.45	8,535.86	-773.35	2,816.32	2,808.77	0.00	0.00	0.00	
11,400.00	88.17	89.45	8,539.06	-772.40	2,916.27	2,908.72	0.00	0.00	0.00	
11,500.00	88.17	89.45	8,542.26	-771.45	3,016.21	3,008.67	0.00	0.00	0.00	
11,600.00	88.17	89.45	8,545.46	-770.50	3,116.16	3,108.62	0.00	0.00	0.00	
11,700.00	88.17	89.45	8,548.66	-769.54	3,216.10	3,208.57	0.00	0.00	0.00	
11,800.00	88.17	89.45	8,551.86	-768.59	3,316.05	3,308.52	0.00	0.00	0.00	
11,900.00	88.17	89.45	8,555.05	-767.64	3,415.99	3,408.46	0.00	0.00	0.00	
12,000.00	88.17	89.45	8,558.25	-766.69	3,515.93	3,508.41	0.00	0.00	0.00	
12,100.00	88.17	89.45	8,561.45	-765.74	3,615.88	3,608.36	0.00	0.00	0.00	
12,200.00	88.17	89.45	8,564.65	-764.78	3,715.82	3,708.31	0.00	0.00	0.00	
12,300.00	88.17	89.45	8,567.85	-763.83	3,815.77	3,808.26	0.00	0.00	0.00	
12,400.00	88.17	89.45	8,571.05	-762.88	3,915.71	3,908.21	0.00	0.00	0.00	
12,500.00	88.17	89.45	8,574.25	-761.93	4,015.66	4,008.16	0.00	0.00	0.00	
12,600.00	88.17	89.45	8,577.45	-760.98	4,115.60	4,108.11	0.00	0.00	0.00	
12,700.00	88.17	89.45	8,580.65	-760.03	4,215.54	4,208.05	0.00	0.00	0.00	
12,800.00	88.17	89.45	8,583.85	-759.07	4,315.49	4,308.00	0.00	0.00	0.00	
12,900.00	88.17	89.45	8,587.05	-758.12	4,415.43	4,407.95	0.00	0.00	0.00	
13,000.00	88.17	89.45	8,590.25	-757.17	4,515.38	4,507.90	0.00	0.00	0.00	
13,100.00	88.17	89.45	8,593.45	-756.22	4,615.32	4,607.85	0.00	0.00	0.00	
13,200.00	88.17	89.45	8,596.64	-755.27	4,715.27	4,707.80	0.00	0.00	0.00	
13,300.00	88.17	89.45	8,599.84	-754.32	4,815.21	4,807.75	0.00	0.00	0.00	
13,326.11	88.17	89.45	8,600.68	-754.07	4,841.30	4,833.84	0.00	0.00	0.00	
02-LTP(Toro22-132H)										
13,400.00	88.17	89.45	8,603.04	-753.36	4,915.15	4,907.70	0.00	0.00	0.00	
13,416.15	88.17	89.45	8,603.56	-753.21	4,931.30	4,923.84	0.00	0.00	0.00	
TD: 13416.15' MD, 4923.84 VS, 8603.56' TVD - 03-PBHL(Toro22-132H)										

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
00-EON(Toro22-132H) - hit/miss target - Shape - Point	0.00	0.00	7,500.00	-746.18	-204.93	599,261.47	590,837.14	32.64731462	-104.17251090
01-FTP(Toro22-132H) - plan misses target center by 198.95usft at 8422.65usft MD (8313.28 TVD, -769.51 N, -20.23 E) - Point	0.00	0.00	8,456.00	-802.20	-154.92	599,205.45	590,887.15	32.64716043	-104.17234870
02-LTP(Toro22-132H) - plan misses target center by 0.05usft at 13326.10usft MD (8600.68 TVD, -754.07 N, 4841.30 E) - Point	0.00	0.00	8,600.68	-754.02	4,841.30	599,253.63	595,883.37	32.64727100	-104.15611600
03-PBHL(Toro22-132H) - plan hits target center - Point	0.00	0.00	8,603.56	-753.21	4,931.30	599,254.44	595,973.37	32.64727281	-104.15582359





## Planning Report

<b>Database:</b>	EDM 5000.14 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Toro 22 Fed State Com 132H
<b>Company:</b>	Colgate Energy	<b>TVD Reference:</b>	3425+26 @ 3451.00usft (TBD)
<b>Project:</b>	Eddy County, NM (N83-NME)	<b>MD Reference:</b>	3425+26 @ 3451.00usft (TBD)
<b>Site:</b>	Toro 22 Fed State Com	<b>North Reference:</b>	Grid
<b>Well:</b>	Toro 22 Fed State Com 132H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Permit		
<b>Design:</b>	Plan #1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
228.00	228.00	Rustler		0.00		
284.00	284.00	Top of Salt		0.00		
569.00	569.00	Base of Salt		0.00		
780.00	780.00	Yates		0.00		
1,973.47	1,973.00	Capitan		0.00		
2,712.76	2,707.00	DLWR Mnt. Group		0.00		
3,090.07	3,080.00	Lower Brushy Canyon		0.00		
3,384.43	3,371.00	Bone Spring Lime		0.00		
6,247.12	6,201.00	1st Bone Spring SD		0.00		
6,348.27	6,301.00	2nd Bone Spring LM		0.00		
7,312.51	7,256.00	2nd Bone Spring SD		0.00		
7,627.68	7,571.00	3rd Bone Spring LM		0.00		
8,376.80	8,281.00	3rd Bone Spring SD		0.00		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
7,947.26	7,890.58	-746.18	-204.93	KOP: 7947.26' MD, -212.08 VS, 7890.58' TVD	
8,840.64	8,465.96	-796.93	358.07	EOC: 8840.64' MD, 350.41 VS, 8465.96' TVD	
10,991.07	8,526.00	-776.29	2,507.57	Start DLS 2.00 TFO 178.92	
13,416.15	8,603.56	-753.21	4,931.30	TD: 13416.15' MD, 4923.84 VS, 8603.56' TVD	



United States Department of the Interior  
BUREAU OF LAND MANAGEMENT  
Grand Junction, Colorado 81506  
<https://www.blm.gov>



**Request for Authorization**

**To:** Laura Daniel-Davis  
Senior Advisor to the Secretary,  
Exercising the Delegated Authority of the Assistant Secretary,  
Land and Minerals Management

**From:** Michael D. Nedd  
Deputy Director, Operations  
Exercising the Delegated Authority of the Director  
Bureau of Land Management

**Bureau/Office:** Bureau of Land Management, New Mexico State Office

**Action for which Approval is Requested:**

On behalf of the Bureau of Land Management (BLM) Carlsbad Field Office, request is made to approve the following Applications for Permit to Drill (APD) for Colgate Energy, located in Eddy County, New Mexico:

APD 10400058087 Toro 22 Fed State Com 121H  
APD 10400058594 Toro 22 Fed State Com 122H  
APD 10400058708 Toro 22 Fed State Com 131H  
APD 10400058736 Toro 22 Fed State Com 132H

These four APDs are being submitted as one request because the potential impacts of each APD were analyzed in the same National Environmental Policy Act (NEPA) document, an environmental assessment (EA), DOI-BLM-NM-P020-2020-1296-EA (Attachment 1). The leases associated with these APDs were issued in 1947 and 1958, prior to enactment of the Federal Land Policy and Management Act (FLPMA) or NEPA.

The approval of these four APDs is time-sensitive because Colgate Energy is planning to bring a drilling rig into the region and needs to finalize the construction and rig schedule. In addition, the surface holes for the four APDs are on state land, overlying non-Federal minerals, but the bottom holes are in federal minerals (typically referred to as Fee/Fee/Fed wells). Colgate Energy can drill the state minerals with the same surface disturbance and strand the federal minerals if these APDs are not approved.

**One Paragraph Summary of Action:**

Colgate Energy has requested to drill four horizontal wells 14 miles northeast of Carlsbad, New Mexico. In association with the Toro 22 project, Colgate Energy is proposing to construct a well

pad (500-feet by 510-feet), 48.9 feet of pipeline, a 500-feet by 500-feet Central Tank Battery, 125.6 feet of overhead electric lines, and 65.2 feet of new access roads. These drilling permits were signed by the Carlsbad Field Office on January 21, 2021, when the Authorizing Official delegation of authority to approve APDs had been temporarily suspended by the Acting Secretary of the Interior pursuant to Secretary's Order 3395. On January 28, 2021, the Carlsbad Field Office notified Colgate Energy that the approval was invalid (see Attachment 2).

**Positions of Affected Stakeholders:**

Although the state of New Mexico will be impacted by ongoing climate change to which fossil fuel combustion contributes, the state is also currently heavily reliant on the revenue from oil and gas development. The communities of southeast New Mexico support the continuation of drilling operations and related activities.

The Carlsbad Field Office publishes NEPA documents to the national register (ePlanning) at <https://eplanning.blm.gov>. The register allows the public to review and comment online on BLM NEPA and planning projects. There were no comments received concerning this project.

**Key Facts:**

- The project is in the Permian Basin, an area of active oil and gas development for the past century.
- The APDs are associated with Fluid Mineral Lease(s) NMLC 0064670 (issued 12/01/1947), NMLC 0064670B (issued 12/01/1947), and NMNM 0036194 (issued 09-01-1958).
- No protests were received prior to the lease sales.
- EA DOI-BLM-NM-P020-2020-1296 (see Attachment 1) is available at this ePlanning link:  
[https://eplanning.blm.gov/public\\_projects/2001706/200384367/20032619/250038818/EA%20for%20Toro%2022%20State%20Com.PDF](https://eplanning.blm.gov/public_projects/2001706/200384367/20032619/250038818/EA%20for%20Toro%2022%20State%20Com.PDF)
- The Finding of No Significant Impact(FONSI), signed January 5, 2021 (Attachment 3) is available at this link:  
[https://eplanning.blm.gov/public\\_projects/2001706/200384367/20032617/250038816/Signed%20FONSI%20for%20Toro%2022%20State%20Com.PDF](https://eplanning.blm.gov/public_projects/2001706/200384367/20032617/250038816/Signed%20FONSI%20for%20Toro%2022%20State%20Com.PDF). The FONSI was incorrectly signed as 01/05/2020 and corrected to reflect the year 2021.
- The Decision Record (DR) for the EA (see Attachment 4) for the APDs was signed on January 5, 2021. The Decision Record is on ePlanning at the following link:  
[https://eplanning.blm.gov/public\\_projects/2001706/200384367/20032618/250038817/Signed%20DR%20for%20Toro%2022%20State%20Com.PDF](https://eplanning.blm.gov/public_projects/2001706/200384367/20032618/250038817/Signed%20DR%20for%20Toro%2022%20State%20Com.PDF). The FONSI was incorrectly signed as 01/05/2020 and corrected to reflect the year 2021.
- There has been no litigation related to the EA for these APDs. There is no environmental analysis for Lease(s) NMNM NMLC 0064670, NMLC 0064670B, and NMNM 0036194 as EAs were not completed for oil and gas leasing at that time.
- There were no primary potential resource conflicts identified for the action. Potential impacts to air quality, water resources, cultural resources, wildlife, and paleontological resources were addressed in the A.

**Other Relevant Considerations:**

This request is associated with DTS# BLM0025002.

3

Consistent with Secretary's Order 3395 and Section 2 of the Reorganization Plan No. 3 of 1950, 64 Stat. 1262, I \_\_\_DO/\_\_\_DO NOT approve the action(s) set forth above.

Comment:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Attachments

- 1 – Environmental Assessment for APDs on leases NMLC 0064670, NMLC 0064670B, and NMNM 0036194 (DOI-BLM-NM-P020-2020-1296-EA)
- 2 – Letter to Colgate Energy, January 28, 2021
- 3 – Finding of No Significant Impact and Decision Record for EA for leases NMLC 0064670, NMLC 0064670B, and NMNM 0036194
- 4 – Decision Record for the Toro 22 Fed State Com 122H, 121H, 131H, and 132H APDs (DOI-BLM-NM-P020-2020-1296-EA)

**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**

COMMENTS

Action 22031

**COMMENTS**

Operator:	OGRID:	Action Number:	Action Type:
COLGATE OPERATING, LLC Suite 1000 Midland, TX79701	371449	22031	FORM 3160-3
300 North Marienfeld Street			

Created By	Comment	Comment Date
kpickford	KP GEO Review 3/26/2021	03/26/2021

**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**

CONDITIONS

Action 22031

**CONDITIONS OF APPROVAL**

Operator:			OGRID:	Action Number:	Action Type:
COLGATE OPERATING, LLC	300 North Marienfeld Street		371449	22031	FORM 3160-3
Suite 1000	Midland, TX79701				

OCD Reviewer	Condition
kpickford	Notify OCD 24 hours prior to casing & cement
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104
kpickford	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system