Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM092187

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
BIG STAGG FED COM
503H (327306)

2. Name of Operator
ASCENT ENERGY LLC (325830)

9. API Well No.
30-025-46978

3a. Address
1621 18th Street, Suite 200 Denver CO 80202

3b. Phone No. *(include area code)*
(720)710-8999

10. Field and Pool, or Exploratory
BONESPRING (97895)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SWSE / 30 FSL / 2250 FEL / LAT 32.5007663 / LONG -103.6271233
At proposed prod. zone NWNE / 1320 FSL / 1650 FEL / LAT 32.4828159 / LONG -103.6251939

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 1 / T21S / R32E / NMP

14. Distance in miles and direction from nearest town or post office*
22 miles

12. County or Parish
LEA

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
30 feet

16. No of acres in lease
440

17. Spacing Unit dedicated to this well
440

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
30 feet

19. Proposed Depth
10818 feet / 17457 feet

20. BLM/BIA Bond No. in file
FED: NMB001496

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3794 feet

22. Approximate date work will start*
09/01/2019

23. Estimated duration
90 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Brian Wood / Ph: (505)466-8120	06/19/2019

Title
President

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	03/06/2020

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

OCA Rec 03/10/2020

KZ 03/11/2020

SL

APPROVED WITH CONDITIONS

Approval Date: 03/06/2020

(Continued on page 2)

*(Instructions on page 2)

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Ascent Energy LLC**
LEASE NO.:	**NMNM092187**
WELL NAME & NO.:	Big Stagg Federal Com 503H
SURFACE HOLE FOOTAGE:	30'/S & 2250'/E
BOTTOM HOLE FOOTAGE	1320'/S & 1650'/E
LOCATION:	Section 1, T.21 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

COA

H2S	◉ Yes	○ No	
Potash	○ None	○ Secretary	◉ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☑ 4 String Area	☑ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Bone Spring** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1665 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of

Approval Date: 03/06/2020

24 hours in the Potash Area or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The **9-5/8** inch Intermediate 1 casing shall be set at approximately **3900 feet** and the minimum required fill of cement behind the Intermediate 1 casing is:

Option 1

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

Option 2

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

❖ In R111 Potash Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
(Use this for 3 string wells in the Capitan Reef, if 4 string well ensure FW based mud used across the capitan interval)

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

3. The minimum required fill of cement behind the **7-5/8 inch** Intermediate 2 casing is:

Option 1

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

Option 2

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

Excess is at 17% for the Intermediate 2 Casing. Additional cement may be needed.

4. The minimum required fill of cement behind the **5-1/2 inch** production casing is:

Option 1

- Cement should tie-back at least **50 feet** on top of Capitan Reef top. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

Option 2

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement should tie-back at least **50 feet** on top of Capitan Reef top. If cement does not circulate see B.1.a, c-d above.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

   a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
   b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
   c. Manufacturer representative shall install the test plug for the initial BOP test.
   d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
   e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of **4** hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including

lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

YJ 02/20/2020

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

03/07/2020

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Brian Wood **Signed on:** 06/18/2019

Title: President

Street Address: 37 Verano Looop

City: Santa Fe **State:** NM **Zip:** 87508

Phone: (505)466-8120

Email address: afmss@permitswest.com

Field Representative

Representative Name:

Street Address: 1125 17TH ST, SUITE 410

City: DENVER **State:** CO **Zip:** 80202

Phone: (720)710-8995

Email address:

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Application Data Report

03/07/2020

APD ID: 10400042887 **Submission Date:** 06/19/2019

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM **Well Number:** 503H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400042887 **Tie to previous NOS?** **Submission Date:** 06/19/2019

BLM Office: CARLSBAD **User:** Brian Wood **Title:** President

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM092187 **Lease Acres:** 440

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? NO

Permitting Agent? YES **APD Operator:** ASCENT ENERGY LLC

Operator letter of designation:

Operator Info

Operator Organization Name: ASCENT ENERGY LLC

Operator Address: 1621 18th Street, Suite 200 **Zip:** 80202

Operator PO Box:

Operator City: Denver **State:** CO

Operator Phone: (720)710-8999

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO **Master Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: BIG STAGG FED COM **Well Number:** 503H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** **Pool Name:** BONESPRING

Is the proposed well in an area containing other mineral resources? USEABLE WATER,NATURAL GAS

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM **Well Number:** 503H

Is the proposed well in an area containing other mineral resources? USEABLE WATER,NATURAL GAS

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** BIG STAGG FED COM **Number:** 503H

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 22 Miles **Distance to nearest well:** 30 FT **Distance to lease line:** 30 FT

Reservoir well spacing assigned acres Measurement: 440 Acres

Well plat: BigStagg503H_plat_gas_cap_plan_20190618114018.pdf

Well work start Date: 09/01/2019 **Duration:** 90 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 12797 **Reference Datum:**

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	30	FSL	2250	FEL	21S	32E	1	Aliquot SWSE	32.5007663	-103.6271233	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 092187	3794	0	0	
KOP Leg #1	30	FSL	2250	FEL	21S	32E	1	Aliquot SWSE	32.5007663	-103.6271233	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 092187	-6426	10220	10220	
PPP Leg #1-1	1320	FSL	1650	FEL	21S	32E	12	Aliquot SWSE	32.489798	-103.625198	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 127892	-7024	14912	10818	

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM **Well Number:** 503H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-2	2640	FSL	1650	FEL	21S	32E	12	Aliquot NWSE	32.493436	-103.625183	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0553706	-7024	13592	10818	
PPP Leg #1-3	0	FNL	2100	FEL	21S	32E	12	Aliquot NWNE	32.500697	-103.626724	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 127892	-6767	10600	10561	
PPP Leg #1-4	24	FNL	2225	FEL	21S	32E	1	Aliquot SWSE	32.500749	-103.627042	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 092187	-6580	10377	10374	
EXIT Leg #1	1320	FSL	1650	FEL	21S	32E	13	Aliquot NWNE	32.482859	-103.625939	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 014155	-7024	17457	10818	
BHL Leg #1	1320	FSL	1650	FEL	21S	32E	13	Aliquot NWNE	32.482859	-103.625939	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 014155	-7024	17457	10818	

Intent ☑ As Drilled ☐

API #

Operator Name:	Property Name:	Well Number
ASCENT ENERGY, LLC	BIG STAGG FED COM	503H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County

Latitude	Longitude	NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
B	12	21S	32E		100	NORTH	1650	EAST	LEA

Latitude	Longitude	NAD
32.5004129	103.6251782	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
B	13	21S	32E		1220	NORTH	1650	EAST	LEA

Latitude	Longitude	NAD
32.4828159	103.6251939	83

Is this well the defining well for the Horizontal Spacing Unit? Yes

Is this well an infill well? No

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #

Operator Name:	Property Name:	Well Number

KZ 06/29/2018

APD ID: 10400042887 **Submission Date:** 06/19/2019

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM **Well Number:** 503H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
480762	PERMIAN	3794	0	0	SANDSTONE	USEABLE WATER	N
480763	RUSTLER ANHYDRITE	2215	1579	1579		NONE	N
480764	SALADO	2075	1719	1719	SALT	NONE	N
480765	CASTILE	605	3189	3189	ANHYDRITE	NONE	N
480766	YATES	490	3304	3304	OTHER : CARBONATES	NATURAL GAS, OIL	N
480767	CAPITAN REEF	96	3698	3698	LIMESTONE	USEABLE WATER	N
480768	BELL CANYON	-1820	5614	5614	SANDSTONE	NATURAL GAS, OIL	N
480769	CHERRY CANYON	-2085	5879	5879	SANDSTONE	NATURAL GAS, OIL	N
480770	BRUSHY CANYON	-3170	6964	6964	SANDSTONE	NATURAL GAS, OIL	N
480771	BONE SPRING	-5040	8834	8834	LIMESTONE	NATURAL GAS, OIL	N
480772	BONE SPRING	-5165	8959	8959	OTHER : AVALON SHALE	NATURAL GAS, OIL	N
480773	BONE SPRING 1ST	-6000	9794	9794	SANDSTONE	NATURAL GAS, OIL	N
480774	BONE SPRING 2ND	-6278	10072	10072	OTHER : CARBONATE	NATURAL GAS, OIL	N
480775	BONE SPRING 2ND	-7024	10818	17457	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM **Well Number:** 503H

Pressure Rating (PSI): 5M **Rating Depth:** 10000

Equipment: Minimum blow out preventer equipment (BOPE) will consist of a single ram, mud cross and double ram type (10,000 psi WP) preventer, and an annular preventer (5000 psi WP). Both units will be hydraulically operated. Ram type will be equipped with blind rams on the bottom and drill pipe rams on the top. Auxiliary equipment: A Kelly cock will be kept in the drill string at all times. A full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will always be on the rig floor. Minimum working pressure of the BOP and related BOPE below the surface casing will be 5000-psi.
Requesting Variance? YES

Variance request: Variance is requested to use a co-flex line between the BOP and choke manifold instead of using a 4" O. D. steel line. Choke and kill line data book is attached. If this hose is unavailable, then a hose of equal or higher rating will be used. Variance is requested to use a speed head (aka, multi-bowl wellhead). Diagram is attached. After running the 13.375" surface casing, a 13.625" BOP/BOPE system with a >5000 psi WP will be installed on the wellhead system. It will be pressure tested to 250-psi low, followed by a test to 5000-psi high. Pressure test will be repeated at least every 30 days as required by Onshore Order 2. Speed head will be installed by the vendor's representative(s). Well head welding will be monitored by the vendor's representative.
Testing Procedure: All BOPE will be tested in accordance with Onshore Order 2. All BOPE will be tested using a conventional test plug – not a cup or J packer. Both surface and intermediate casing will be tested as required by Onshore Order 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.
Choke Diagram Attachment:

BigStagg503H_choke_20190618125411.pdf

BOP Diagram Attachment:

BigStagg503H_bop_20190618125435.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1600	0	1600			1600	J-55	54.5	ST&C	1.125	1.125	DRY	1.6	DRY	1.6
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3900	0	3900			3900	J-55	40	LT&C	1.125	1.125	DRY	1.6	DRY	1.6
3	INTERMEDIATE	8.75	7.625	NEW	API	N	0	5500	0	5500			5500	HCP-110	29.7	OTHER - EZGO FJ3	1.125	1.125	DRY	1.6	DRY	1.6
4	PRODUCTION	6.75	5.5	NEW	API	N	0	17457	0	10818			17457	HCP-110	20	OTHER - EZGO FJ3	1.125	1.125	DRY	1.6	DRY	1.6

Casing Attachments

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM **Well Number:** 503H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BigStagg503H_casing_assum_worksheet_20190618131419.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BigStagg503H_casing_assum_worksheet_20190618131432.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BigStagg503H_casing_assum_worksheet_20190618131713.pdf

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM **Well Number:** 503H

Casing Attachments

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BigStagg503H_casing_assum_worksheet_20190618131914.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1600	865	1.73	13.5	1494	100	CLASS C HALCEM SYSTEM	4% BENTONITE
SURFACE	Tail				550	1.33	14.8	733	100	CLASS C HALCEM	none
INTERMEDIATE	Lead		0	3900	810	1.73	12.7	1399	100	CLASS C HALCEM SYSTEM	4% BENTONITE
INTERMEDIATE	Tail				485	1.33	14.8	646	100	CLASS C HALCEM SYSTEM	4% BENTONITE
INTERMEDIATE	Lead		0	5500	230	2.04	12.7	468	50	CLASS C ECONOCEM HLC	5% SALT + 3% MICROBOND + 3 LB/SK KOL-SEAL + 0.3% HR-800
INTERMEDIATE	Tail				155	1.37	14.8	212	50	CLASS C HALCEM SYSTEM	3% MICROBOND
PRODUCTION	Lead		0	17457	605	2.89	11	1746	50	NEOCEM PL	3% MICROBOND
PRODUCTION	Tail				2065	1.47	13.2	3039	50	NEOCEM PL	3% MICROBOND

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM **Well Number:** 503H

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: All necessary additives (e. g., barite, bentonite, LCM) to maintain mud properties and meet minimum lost circulation and weight increase needs will be on site at all times.

Describe the mud monitoring system utilized: An electronic pit volume totalizer (PVT) will be used to monitor volume, flow rate, pump pressure, and stroke rate.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1600	3900	OTHER : BRINE WATER	10	10							
3900	5500	OTHER : FRESH WATER	8.4	8.6							
5500	10818	OTHER : CUT BRINE	8.5	9.2							
0	1600	OTHER : FRESH WATER	8.4	9.6							

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

No core, drill stem test, or open hole log is planned.

List of open and cased hole logs run in the well:

GR

Coring operation description for the well:

GR-CCL will be run in cased hole during completion phase of operations.

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM **Well Number:** 503H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5033 **Anticipated Surface Pressure:** 2653.04

Anticipated Bottom Hole Temperature(F): 165

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

BigStagg503H_h2s_plan_20190618134728.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

BigStagg503H_horiz_drill_plan_20190618134816.pdf

Other proposed operations facets description:

SPEEDHEAD DIAGRAM ATTACHED - FOR VARIANCE IN SECTION 2

ATTACHED: SPECS (2) FOR CASING/CEMENT SECTION (Variance is requested to waive centralizer requirements for the 7.625" flush joint casing. An expansion additive will be used in the cement slurry for the entire length of the 8.75" hole to maximize cement bond and zone isolation.
Variance is also requested to waive centralizers requirements for the 5.5" casing. An expansion additive will be used in the cement slurry for the entire length of the 6.75" hole to maximize cement bond and zone isolation.)

VARIANCE REQUESTED FOR OPTION TO CONTRACT A SURFACE RIG TO DRILL SURFACE HOLE, SET SURFACE CASING, AND CEMENT THE SURFACE CASING. IF TIMING IS SUCH THAT ASCENT CAN NOT BE PRESET THE SURFACE CASING, PRIMARY RIG WILL MIRU AND DRILL WELL IN ITS ENTIRETY.

Other proposed operations facets attachment:

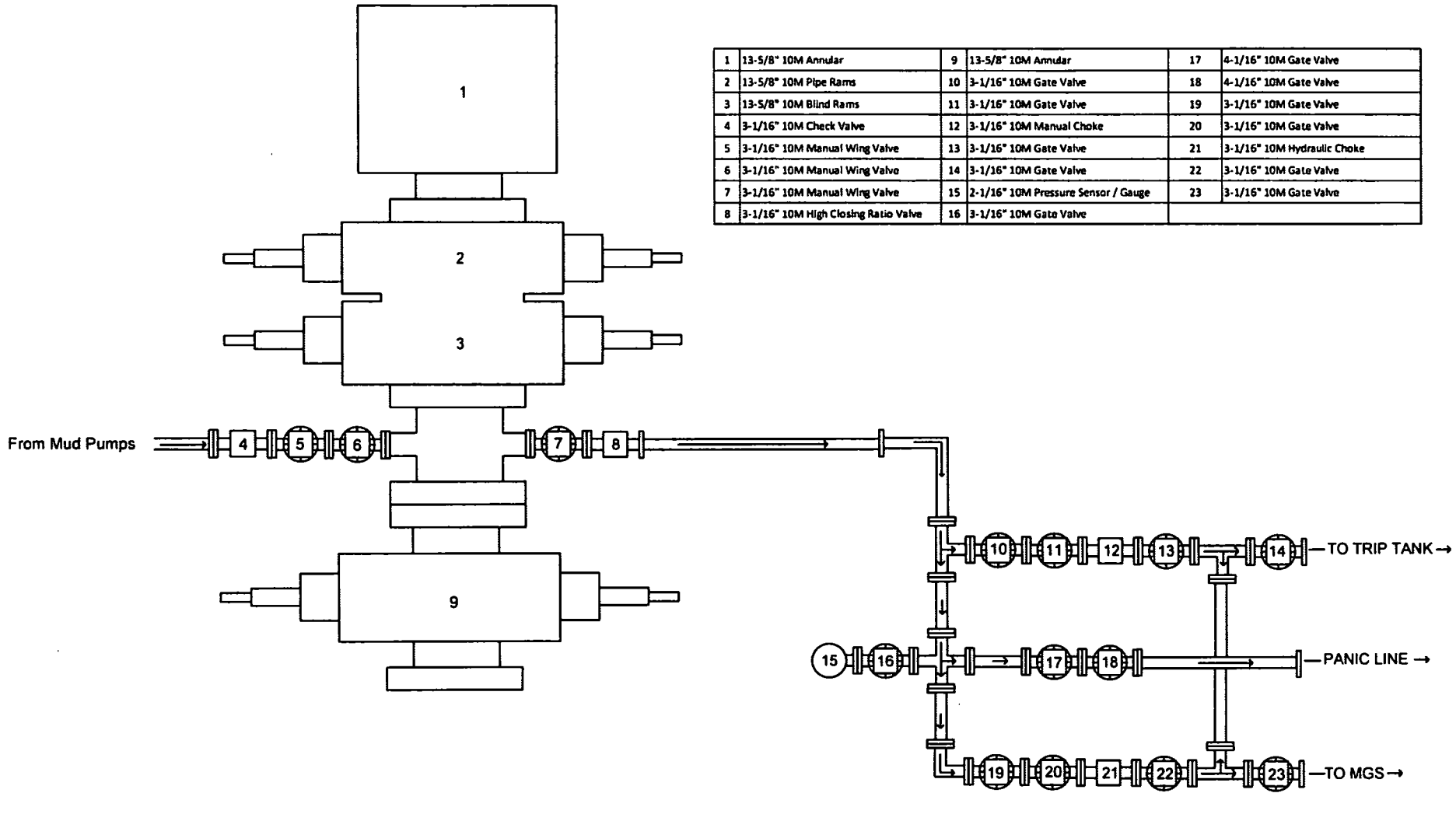
BigStagg503H_speedhead_specs_20190618133704.pdf

Other Variance attachment:

CDS_5.5_20lbs_P110_HC__EZGO_FJ3_1__20190618135243.pdf
CDS_7.625_29.7lbs_P110_HC_EZGO_FJ3_20190618135258.pdf

ASCENT ENERGY - TOQUE PAD - NABORS X04

BOPE & CHOKE MANIFOLD DIAGRAM

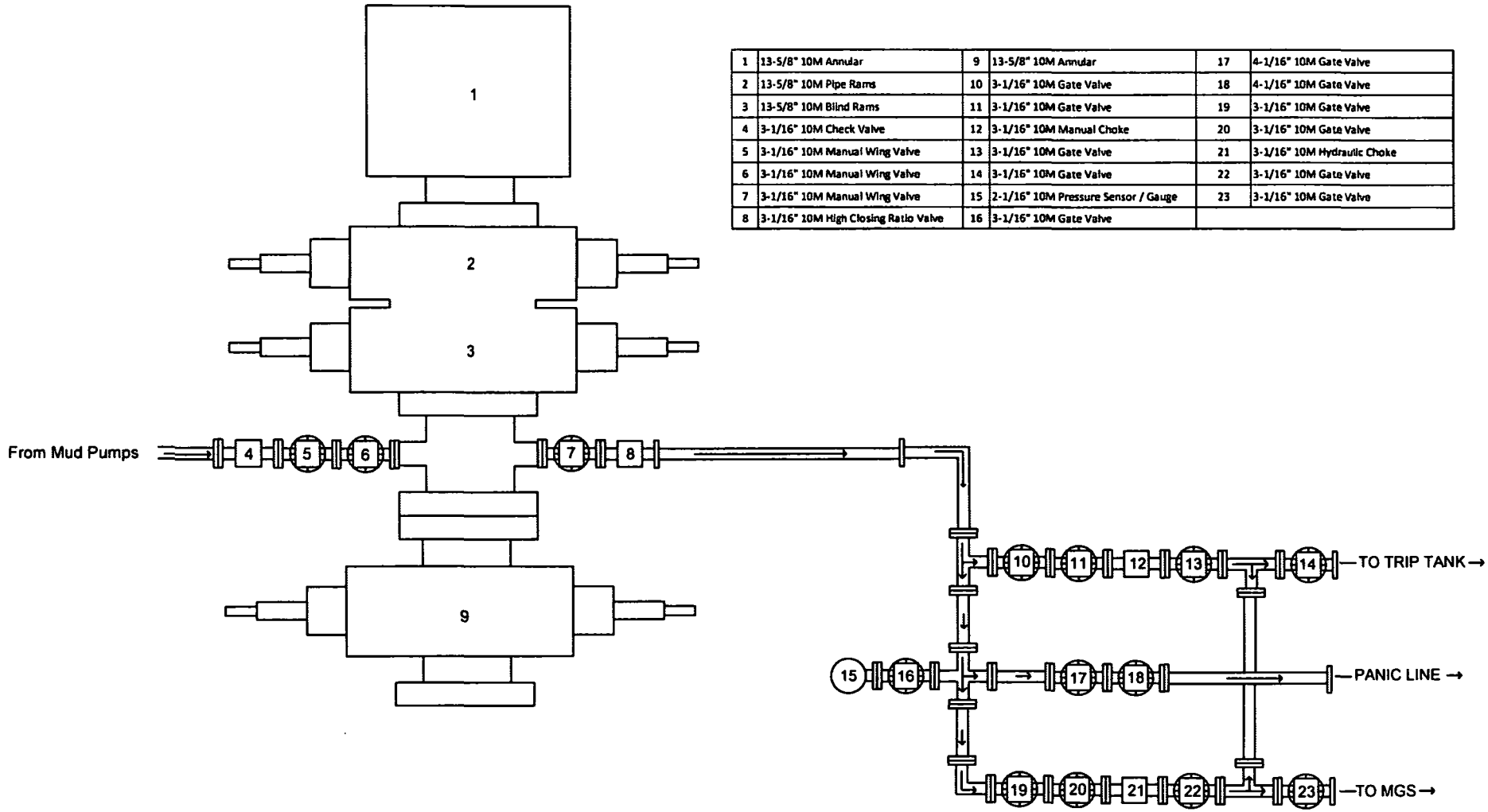


1	13-5/8" 10M Annular	9	13-5/8" 10M Annular	17	4-1/16" 10M Gate Valve
2	13-5/8" 10M Pipe Rams	10	3-1/16" 10M Gate Valve	18	4-1/16" 10M Gate Valve
3	13-5/8" 10M Blind Rams	11	3-1/16" 10M Gate Valve	19	3-1/16" 10M Gate Valve
4	3-1/16" 10M Check Valve	12	3-1/16" 10M Manual Choke	20	3-1/16" 10M Gate Valve
5	3-1/16" 10M Manual Wing Valve	13	3-1/16" 10M Gate Valve	21	3-1/16" 10M Hydraulic Choke
6	3-1/16" 10M Manual Wing Valve	14	3-1/16" 10M Gate Valve	22	3-1/16" 10M Gate Valve
7	3-1/16" 10M Manual Wing Valve	15	2-1/16" 10M Pressure Sensor / Gauge	23	3-1/16" 10M Gate Valve
8	3-1/16" 10M High Closing Ratio Valve	16	3-1/16" 10M Gate Valve		

ASCENT ENERGY - TOQUE PAD - NABORS X04

BOPE & CHOKE MANIFOLD DIAGRAM

1	13-5/8" 10M Annular	9	13-5/8" 10M Annular	17	4-1/16" 10M Gate Valve
2	13-5/8" 10M Pipe Rams	10	3-1/16" 10M Gate Valve	18	4-1/16" 10M Gate Valve
3	13-5/8" 10M Blind Rams	11	3-1/16" 10M Gate Valve	19	3-1/16" 10M Gate Valve
4	3-1/16" 10M Check Valve	12	3-1/16" 10M Manual Choke	20	3-1/16" 10M Gate Valve
5	3-1/16" 10M Manual Wing Valve	13	3-1/16" 10M Gate Valve	21	3-1/16" 10M Hydraulic Choke
6	3-1/16" 10M Manual Wing Valve	14	3-1/16" 10M Gate Valve	22	3-1/16" 10M Gate Valve
7	3-1/16" 10M Manual Wing Valve	15	2-1/16" 10M Pressure Sensor / Gauge	23	3-1/16" 10M Gate Valve
8	3-1/16" 10M High Closing Ratio Valve	16	3-1/16" 10M Gate Valve		



ASCENT ENERGY

H_2S Drilling Operations Plan

a. All personnel will be trained in H_2S working conditions as required by Onshore Order 6 before drilling out of the surface casing.

b. Two briefing areas will be established. Each briefing area will be ≥150' from the wellhead, perpendicular from one another, and easily entered and exited. See H_2S page 5 for more details.

c. H_2S Safety Equipment/Systems:

i. Well Control Equipment

- Flare line will be ≥150' from the wellhead and ignited by a flare gun.
- Beware of SO_2 created by flaring.
- Choke manifold will have a remotely operated choke.
- Mud gas separator

ii. Protective Equipment for Personnel

- Every person on site will wear a personal H_2S and SO_2 monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the front of the waist or chest.
- One self-contained breathing apparatus (SCBA) 30-minute rescue pack will be at each briefing area. Two 30-minute SCBA packs will be stored in the safety trailer.
- Four work/escape packs will be on the rig floor. Each pack will have a sufficiently long hose to allow unimpaired work activity.
- Four emergency escape packs will be in the doghouse for emergency evacuation.
- Hand signals will be used when wearing protective breathing apparatus.
- Stokes litter or stretcher
- Two full OSHA compliant body harnesses
- A 100' long x 5/8" OSHA compliant rope
- One 20-pound ABC fire extinguisher

iii. H_2S Detection & Monitoring Equipment

- Every person on site will wear a personal H_2S and SO_2 monitor at all times while on site. Monitors will not be worn on hard hats. Monitors will be worn on the front of the waist or chest.

- A stationary detector with three sensors will be in the doghouse.
- Sensors will be installed on the rig floor, bell nipple, and at the end of the flow line or where drilling fluids are discharged.
- Visual alarm will be triggered at 10 ppm.
- Audible alarm will be triggered at 10 ppm.
- Calibration will occur at least every 30 days. Gas sample tubes will be kept in the safety trailer.

iv. Visual Warning System
- A color-coded H_2S condition sign will be set at each pad entrance.
- Color-coded condition flag will be installed to indicate current H_2S conditions.
- Two wind socks will be installed that will be visible from all sides.

v. Mud Program
- A water based mud with a pH of $\geq$10 will be maintained to control corrosion, H_2S gas returns to the surface, and minimize sulfide stress cracking and embrittlement.
- Drilling mud containing H_2S gas will be degassed at an optimum location for the rig configuration.
- This gas will be piped into the flare system.
- Enough mud additives will be on site to scavenge and/or neutralize H_2S where formation pressures are unknown.

vi. Metallurgy
- All equipment that has the potential to be exposed to H_2S will be suitable for H_2S service.
- Equipment that will meet these metallurgical standards include the drill string, casing, wellhead, BOP assembly, casing head and spool, rotating head, kill lines, choke, choke manifold and lines, valves, mud-gas separators, DST tools, test units, tubing, flanges, and other related equipment (elastomer packings and seals).

vii. Communication from well site
- Cell phones and/or two-way radios will be used to communicate from the well site.

d. A remote-controlled choke, mud-gas separator, and a rotating head will be installed before drilling or testing any formation expected to contain H_2S.

Company Personnel to be Notified

Dean Gimbel, Vice President Completions	Office: (720) 710-8995
	Mobile: (303) 945-1323
Matt Ward, Chief Operations Officer	Mobile: (303) 506-6647
Ascent Emergency Contact Number	(303) 281-9951

Local & County Agencies

Monument Fire Department	911 or (575) 393-4339
Hobbs Fire Marshal	(575) 391-8185
Lea County Sheriff (Lovington)	911 or (575) 396-3611
Lea County Emergency Management (Lovington)	(575) 396-8602
Lea Regional Medical Center Hospital (Hobbs)	(575) 492-5000

State Agencies

NM State Police (Hobbs)	(575) 392-5588
NM Oil Conservation (Hobbs)	(575) 370-3186
NM Oil Conservation (Santa Fe)	(505) 476-3440
NM Dept. of Transportation (Roswell)	(575) 637-7201

Federal Agencies

BLM Carlsbad Field Office	(575) 234-5972
BLM Hobbs Field Station	(575) 393-3612
National Response Center	(800) 424-8802
US EPA Region 6 (Dallas)	(800) 887-6063
	(214) 665-6444

Veterinarians

Dal Paso Animal Hospital (Hobbs)	(575) 397-2286
Hobbs Animal Clinic & Pet Care (Hobbs)	(575) 392-5563
Great Plains Veterinary Clinic & Hospital (Hobbs)	(575) 392-5513

Residents within 2 miles

No residents are within 2 miles.

Air Evacuation

Med Flight Air Ambulance (Albuquerque)	(800) 842-4431
Lifeguard (Albuquerque)	(888) 866-7256

Project: LEA COUNTY, NEW MEXICO (NAD 83)
Site: SEC. 1 T21S R32E N.M.PM.
Well: BIG STAGG FED COM 503H
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 30ft FSL & 2250ft FEL of Sec 1
10220.00	10220.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP (12°/100ft BUR)
10648.62	10751.97	63.81	103.12	-50.56	259.89	83.71	256.85	START BUILD & TURN
10722.72	10930.92	87.84	126.26	-128.59	406.82	164.68	429.72	100ft SETBACK BOUNDARY X-OVER PNT (FTP "NEW")
10820.10	11404.70	90.02	180.04	-528.59	599.43	580.41	890.25	LP: 500ft FNL & 1650ft FEL of Sec 12
10818.10	17407.01	90.02	180.04	-6530.89	594.99	6597.94	6892.65	100ft SETBACK BOUNDARY X-OVER PNT (FTP)
10818.08	17457.00	90.03	180.06	-6580.89	594.95	6607.73	6942.55	BHL: 1270ft FNL & 1650ft FEL of Sec 13

PROPOSED LOCAL COORDINATES:

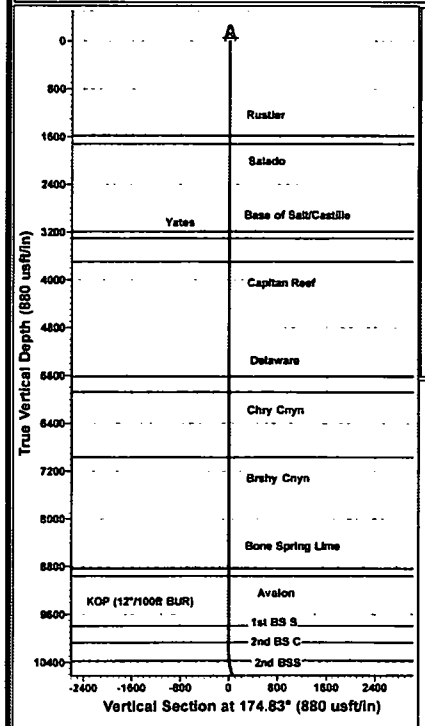
SHL: 30ft FSL & 2250ft FEL Sec 1

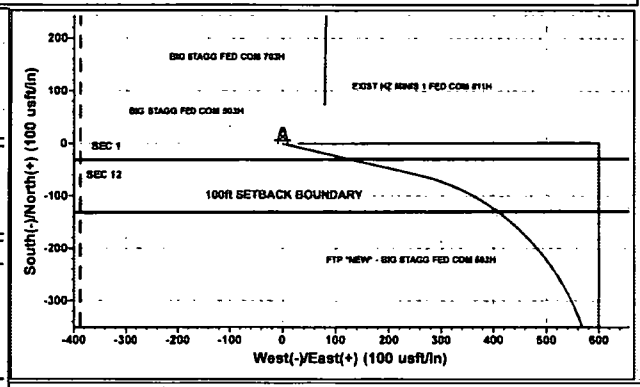
LP: 500ft FNL & 1650ft FEL Sec 12

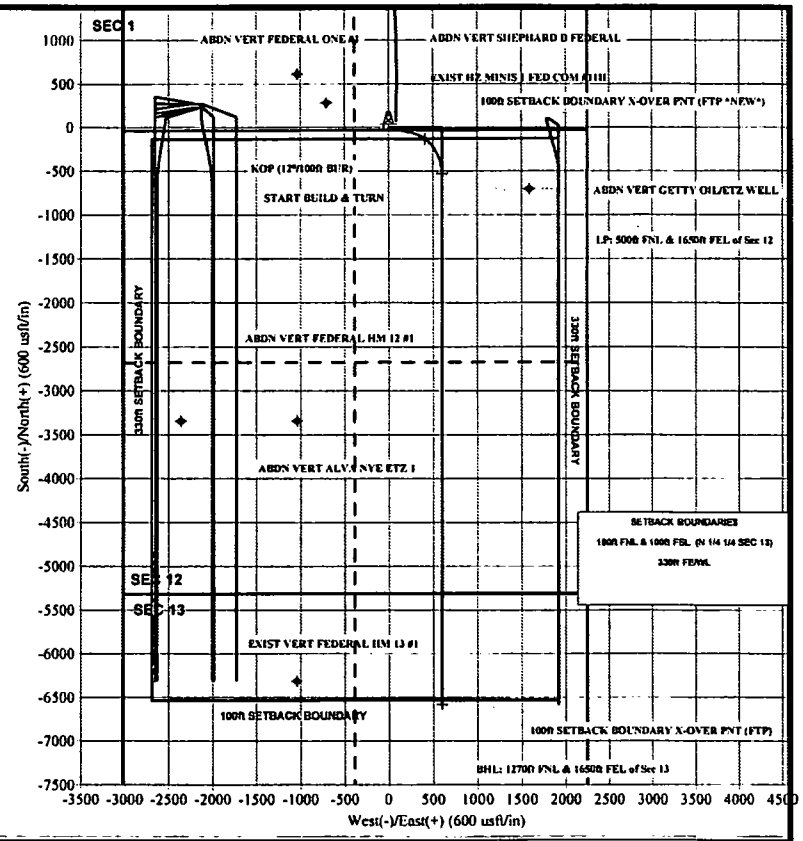
BHL : 1270ft FNL & 1650ft FEL Sec 13

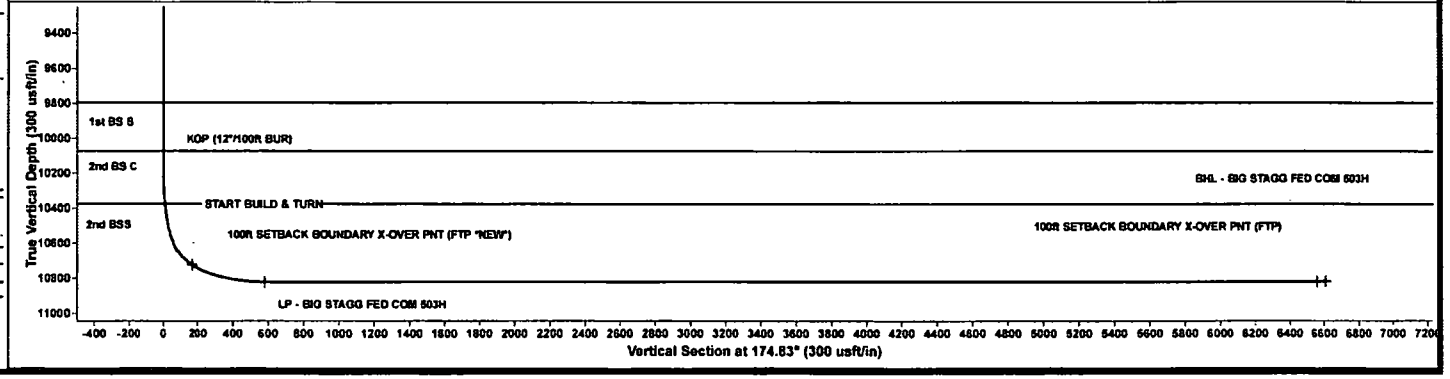
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP - BIG STAGG FED COM 503H	10820.10	-528.59	599.43	32.499313	-103.625179
LTP - BIG STAGG FED COM 503H	10818.10	-6530.89	594.99	32.482816	-103.625194
BHL - BIG STAGG FED COM 503H	10818.08	-6580.89	594.95	32.482676	-103.625194
FTP "NEW" - BIG STAGG FED COM 503H	10722.72	-128.59	406.83	32.500413	-103.625804









Database:	Database 1	**Local Co-ordinate Reference:**	Well BIG STAGG FED COM 503H
Company:	ASCENT ENERGY	**TVD Reference:**	KB 25' @ 3819.10usft (Original Well Elev)
Project:	LEA COUNTY, NEW MEXICO (NAD 83)	**MD Reference:**	KB 25' @ 3819.10usft (Original Well Elev)
Site:	SEC. 1 T21S R32E N.M.PM.	**North Reference:**	True
Well:	BIG STAGG FED COM 503H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Project	LEA COUNTY, NEW MEXICO (NAD 83)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site	SEC. 1 T21S R32E N.M.PM.				
Site Position:		**Northing:**	546,845.25 usft	**Latitude:**	32.501395
From:	Lat/Long	**Easting:**	756,934.17 usft	**Longitude:**	-103.634008
Position Uncertainty:	0.00 usft	**Slot Radius:**	1.10 ft	**Grid Convergence:**	0.38 °

Well	BIG STAGG FED COM 503H				
Well Position	**+N/-S**	-228.67 usft	**Northing:**	546,630.52 usft	**Latitude:**	32.500766
	+E/-W	2,122.80 usft	**Easting:**	759,058.35 usft	**Longitude:**	-103.627123
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,794.10 usft

Wellbore	ORIGINAL WELLBORE			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	10/06/2019	6.78	60.28	47,889

Design	PROPOSAL #1			
Audit Notes:				
Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.00	0.00	0.00	174.83

Plan Sections

MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usf	Build Rate (°/100usf	Turn Rate (°/100usf	TFO (°)	Target
0.00	0.00	0.00	0.00	-3,819.10	0.00	0.00	0.00	0.00	0.00	0.00	
10,220.00	0.00	0.00	10,220.00	6,400.90	0.00	0.00	0.00	0.00	0.00	0.00	
10,751.97	63.81	103.12	10,648.62	6,829.52	-60.56	259.89	12.00	12.00	0.00	103.12	
11,404.70	90.02	180.04	10,820.10	7,001.00	-528.59	599.43	12.00	4.02	11.79	84.13	LP - BIG STAGG FI
17,407.01	90.02	180.04	10,818.10	6,999.00	-6,530.89	594.99	0.00	0.00	0.00	0.00	LTP - BIG STAGG I
17,457.00	90.03	180.05	10,818.08	6,998.98	-6,580.89	594.95	0.02	0.02	0.01	36.29	BHL - BIG STAGG

Database:	Database 1	**Local Co-ordinate Reference:**	Well BIG STAGG FED COM 503H
Company:	ASCENT ENERGY	**TVD Reference:**	KB 25' @ 3819.10usft (Original Well Elev)
Project:	LEA COUNTY, NEW MEXICO (NAD 83)	**MD Reference:**	KB 25' @ 3819.10usft (Original Well Elev)
Site:	SEC. 1 T21S R32E N.M.PM.	**North Reference:**	True
Well:	BIG STAGG FED COM 503H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
SHL: 30ft FSL & 2250ft FEL of Sec 1										
0.00	***0.00***	***0.00***	***0.00***	***3,819.10***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
100.00	0.00	0.00	100.00	3,719.10	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	3,619.10	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	3,519.10	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	3,419.10	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	3,319.10	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	3,219.10	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	3,119.10	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	3,019.10	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	2,919.10	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	2,819.10	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	2,719.10	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	2,619.10	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	2,519.10	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	2,419.10	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	2,319.10	0.00	0.00	0.00	0.00	0.00	0.00
Rustler										
1,579.10	***0.00***	***0.00***	***1,579.10***	***2,240.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
1,600.00	0.00	0.00	1,600.00	2,219.10	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	2,119.10	0.00	0.00	0.00	0.00	0.00	0.00
Salado										
1,719.10	***0.00***	***0.00***	***1,719.10***	***2,100.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
1,800.00	0.00	0.00	1,800.00	2,019.10	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	1,919.10	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	1,819.10	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	1,719.10	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	1,619.10	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	1,519.10	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	1,419.10	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	1,319.10	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	1,219.10	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	1,119.10	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	1,019.10	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	919.10	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	819.10	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	719.10	0.00	0.00	0.00	0.00	0.00	0.00
Base of Salt/Castille										
3,189.10	***0.00***	***0.00***	***3,189.10***	***630.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
3,200.00	0.00	0.00	3,200.00	619.10	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	519.10	0.00	0.00	0.00	0.00	0.00	0.00
Yates										
3,304.10	***0.00***	***0.00***	***3,304.10***	***515.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
3,400.00	0.00	0.00	3,400.00	419.10	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	319.10	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	219.10	0.00	0.00	0.00	0.00	0.00	0.00
Capitan Reef										
3,698.10	***0.00***	***0.00***	***3,698.10***	***121.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
3,700.00	0.00	0.00	3,700.00	119.10	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	19.10	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	-80.90	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	-180.90	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	-280.90	0.00	0.00	0.00	0.00	0.00	0.00

Database:	Database 1	**Local Co-ordinate Reference:**	Well BIG STAGG FED COM 503H
Company:	ASCENT ENERGY	**TVD Reference:**	KB 25' @ 3819.10usft (Original Well Elev)
Project:	LEA COUNTY, NEW MEXICO (NAD 83)	**MD Reference:**	KB 25' @ 3819.10usft (Original Well Elev)
Site:	SEC. 1 T21S R32E N.M.PM.	**North Reference:**	True
Well:	BIG STAGG FED COM 503H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,200.00	0.00	0.00	4,200.00	-380.90	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	-480.90	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	-580.90	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	-680.90	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	-780.90	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	-880.90	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	-980.90	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	-1,080.90	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	-1,180.90	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	-1,280.90	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	-1,380.90	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	-1,480.90	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	-1,580.90	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	-1,680.90	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	-1,780.90	0.00	0.00	0.00	0.00	0.00	0.00
Delaware										
5,614.10	***0.00***	***0.00***	***5,614.10***	***-1,795.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
5,700.00	0.00	0.00	5,700.00	-1,880.90	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	-1,980.90	0.00	0.00	0.00	0.00	0.00	0.00
Chry Cnyn										
5,879.10	***0.00***	***0.00***	***5,879.10***	***-2,060.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
5,900.00	0.00	0.00	5,900.00	-2,080.90	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	-2,180.90	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	-2,280.90	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	-2,380.90	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	-2,480.90	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	-2,580.90	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	-2,680.90	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	-2,780.90	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	-2,880.90	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	-2,980.90	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	-3,080.90	0.00	0.00	0.00	0.00	0.00	0.00
Brshy Cnyn										
6,964.10	***0.00***	***0.00***	***6,964.10***	***-3,145.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
7,000.00	0.00	0.00	7,000.00	-3,180.90	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	-3,280.90	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	-3,380.90	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	-3,480.90	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	-3,580.90	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	-3,680.90	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	-3,780.90	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	-3,880.90	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	-3,980.90	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	-4,080.90	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	-4,180.90	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	-4,280.90	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	-4,380.90	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	-4,480.90	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	-4,580.90	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	-4,680.90	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	-4,780.90	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	-4,880.90	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	-4,980.90	0.00	0.00	0.00	0.00	0.00	0.00

Database:	Database 1	Local Co-ordinate Reference:	Well BIG STAGG FED COM 503H
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Project:	LEA COUNTY, NEW MEXICO (NAD 83)	MD Reference:	KB 25' @ 3819.10usft (Original Well Elev)
Site:	SEC. 1 T21S R32E N.M.PM.	North Reference:	True
Well:	BIG STAGG FED COM 503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Bone Spring Lime										
8,834.10	***0.00***	***0.00***	***8,834.10***	***-5,015.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
8,900.00	0.00	0.00	8,900.00	-5,080.90	0.00	0.00	0.00	0.00	0.00	0.00
Avalon										
8,959.10	***0.00***	***0.00***	***8,959.10***	***-5,140.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
9,000.00	0.00	0.00	9,000.00	-5,180.90	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,100.00	-5,280.90	0.00	0.00	0.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,200.00	-5,380.90	0.00	0.00	0.00	0.00	0.00	0.00
9,300.00	0.00	0.00	9,300.00	-5,480.90	0.00	0.00	0.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,400.00	-5,580.90	0.00	0.00	0.00	0.00	0.00	0.00
9,500.00	0.00	0.00	9,500.00	-5,680.90	0.00	0.00	0.00	0.00	0.00	0.00
9,600.00	0.00	0.00	9,600.00	-5,780.90	0.00	0.00	0.00	0.00	0.00	0.00
9,700.00	0.00	0.00	9,700.00	-5,880.90	0.00	0.00	0.00	0.00	0.00	0.00
1st BS S										
9,794.10	***0.00***	***0.00***	***9,794.10***	***-5,975.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
9,800.00	0.00	0.00	9,800.00	-5,980.90	0.00	0.00	0.00	0.00	0.00	0.00
9,900.00	0.00	0.00	9,900.00	-6,080.90	0.00	0.00	0.00	0.00	0.00	0.00
10,000.00	0.00	0.00	10,000.00	-6,180.90	0.00	0.00	0.00	0.00	0.00	0.00
2nd BS C										
10,072.10	***0.00***	***0.00***	***10,072.10***	***-6,253.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
10,100.00	0.00	0.00	10,100.00	-6,280.90	0.00	0.00	0.00	0.00	0.00	0.00
10,200.00	0.00	0.00	10,200.00	-6,380.90	0.00	0.00	0.00	0.00	0.00	0.00
KOP (12°/100ft BUR)										
10,220.00	***0.00***	***0.00***	***10,220.00***	***-6,400.90***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***
10,300.00	9.60	103.12	10,299.63	-6,480.53	-1.52	6.51	2.10	12.00	12.00	0.00
2nd BSS										
10,376.91	***18.82***	***103.12***	***10,374.10***	***-6,555.00***	***-5.80***	***24.87***	***8.01***	***12.00***	***12.00***	***0.00***
10,400.00	21.59	103.12	10,395.77	-6,576.67	-7.61	32.64	10.51	12.00	12.00	0.00
10,500.00	33.59	103.12	10,484.24	-6,665.14	-18.10	77.66	25.02	12.00	12.00	0.00
10,600.00	45.58	103.12	10,561.17	-6,742.07	-32.53	139.61	44.97	12.00	12.00	0.00
10,700.00	57.58	103.12	10,623.19	-6,804.09	-50.28	215.77	69.50	12.00	12.00	0.00
START BUILD & TURN										
10,751.97	***63.81***	***103.12***	***10,648.62***	***-6,829.52***	***-60.56***	***259.89***	***83.71***	***12.00***	***12.00***	***0.00***
10,800.00	64.54	109.47	10,669.56	-6,850.46	-72.68	301.35	99.52	12.00	1.52	13.22
10,900.00	66.90	122.37	10,710.82	-6,891.72	-112.50	383.06	146.53	12.00	2.36	12.91
100ft SETBACK BOUNDARY X-OVER PNT (FTP -NEW-)										
10,930.92	***67.84***	***126.26***	***10,722.72***	***-6,903.62***	***-128.59***	***406.62***	***164.68***	***12.00***	***3.05***	***12.57***
11,000.00	70.27	134.75	10,747.45	-6,928.35	-170.47	455.59	210.80	12.00	3.51	12.28
11,100.00	74.44	146.55	10,777.85	-6,958.75	-244.06	515.79	289.51	12.00	4.18	11.81
11,200.00	79.22	157.86	10,800.69	-6,981.59	-330.06	561.02	379.23	12.00	4.78	11.30
11,300.00	84.39	168.80	10,814.98	-6,995.88	-424.72	589.30	476.05	12.00	5.17	10.94
11,400.00	89.76	179.54	10,820.09	-7,000.99	-523.89	599.41	575.73	12.00	5.37	10.74
LP: 500ft FNL & 1650ft FEL of Sec 12										
11,404.70	***90.02***	***180.04***	***10,820.10***	***-7,001.00***	***-528.59***	***599.43***	***580.41***	***12.00***	***5.41***	***10.71***
11,500.00	90.02	180.04	10,820.07	-7,000.97	-623.89	599.36	675.32	0.00	0.00	0.00
11,600.00	90.02	180.04	10,820.03	-7,000.93	-723.89	599.29	774.91	0.00	0.00	0.00
11,700.00	90.02	180.04	10,820.00	-7,000.90	-823.89	599.21	874.49	0.00	0.00	0.00
11,800.00	90.02	180.04	10,819.97	-7,000.87	-923.89	599.14	974.08	0.00	0.00	0.00
11,900.00	90.02	180.04	10,819.93	-7,000.83	-1,023.89	599.06	1,073.67	0.00	0.00	0.00
12,000.00	90.02	180.04	10,819.90	-7,000.80	-1,123.89	598.99	1,173.26	0.00	0.00	0.00
12,100.00	90.02	180.04	10,819.87	-7,000.77	-1,223.89	598.92	1,272.84	0.00	0.00	0.00
12,200.00	90.02	180.04	10,819.84	-7,000.74	-1,323.89	598.84	1,372.43	0.00	0.00	0.00
12,300.00	90.02	180.04	10,819.80	-7,000.70	-1,423.89	598.77	1,472.02	0.00	0.00	0.00

Database:	Database 1	**Local Co-ordinate Reference:**	Well BIG STAGG FED COM 503H
Company:	ASCENT ENERGY	**TVD Reference:**	KB 25' @ 3819.10usft (Original Well Elev)
Project:	LEA COUNTY, NEW MEXICO (NAD 83)	**MD Reference:**	KB 25' @ 3819.10usft (Original Well Elev)
Site:	SEC. 1 T21S R32E N.M.PM.	**North Reference:**	True
Well:	BIG STAGG FED COM 503H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,400.00	90.02	180.04	10,819.77	-7,000.67	-1,523.89	598.69	1,571.60	0.00	0.00	0.00
12,500.00	90.02	180.04	10,819.74	-7,000.64	-1,623.89	598.62	1,671.19	0.00	0.00	0.00
12,600.00	90.02	180.04	10,819.70	-7,000.60	-1,723.89	598.55	1,770.78	0.00	0.00	0.00
12,700.00	90.02	180.04	10,819.67	-7,000.57	-1,823.89	598.47	1,870.37	0.00	0.00	0.00
12,800.00	90.02	180.04	10,819.64	-7,000.54	-1,923.89	598.40	1,969.95	0.00	0.00	0.00
12,900.00	90.02	180.04	10,819.60	-7,000.50	-2,023.89	598.32	2,069.54	0.00	0.00	0.00
13,000.00	90.02	180.04	10,819.57	-7,000.47	-2,123.89	598.25	2,169.13	0.00	0.00	0.00
13,100.00	90.02	180.04	10,819.54	-7,000.44	-2,223.89	598.18	2,268.71	0.00	0.00	0.00
13,200.00	90.02	180.04	10,819.50	-7,000.40	-2,323.89	598.10	2,368.30	0.00	0.00	0.00
13,300.00	90.02	180.04	10,819.47	-7,000.37	-2,423.89	598.03	2,467.89	0.00	0.00	0.00
13,400.00	90.02	180.04	10,819.44	-7,000.34	-2,523.89	597.95	2,567.48	0.00	0.00	0.00
13,500.00	90.02	180.04	10,819.40	-7,000.30	-2,623.89	597.88	2,667.06	0.00	0.00	0.00
13,600.00	90.02	180.04	10,819.37	-7,000.27	-2,723.89	597.81	2,766.65	0.00	0.00	0.00
13,700.00	90.02	180.04	10,819.34	-7,000.24	-2,823.89	597.73	2,866.24	0.00	0.00	0.00
13,800.00	90.02	180.04	10,819.30	-7,000.20	-2,923.89	597.66	2,965.82	0.00	0.00	0.00
13,900.00	90.02	180.04	10,819.27	-7,000.17	-3,023.89	597.58	3,065.41	0.00	0.00	0.00
14,000.00	90.02	180.04	10,819.24	-7,000.14	-3,123.89	597.51	3,165.00	0.00	0.00	0.00
14,100.00	90.02	180.04	10,819.20	-7,000.10	-3,223.89	597.44	3,264.58	0.00	0.00	0.00
14,200.00	90.02	180.04	10,819.17	-7,000.07	-3,323.89	597.36	3,364.17	0.00	0.00	0.00
14,300.00	90.02	180.04	10,819.14	-7,000.04	-3,423.89	597.29	3,463.76	0.00	0.00	0.00
14,400.00	90.02	180.04	10,819.10	-7,000.00	-3,523.89	597.21	3,563.35	0.00	0.00	0.00
14,500.00	90.02	180.04	10,819.07	-6,999.97	-3,623.89	597.14	3,662.93	0.00	0.00	0.00
14,600.00	90.02	180.04	10,819.04	-6,999.94	-3,723.89	597.07	3,762.52	0.00	0.00	0.00
14,700.00	90.02	180.04	10,819.00	-6,999.90	-3,823.89	596.99	3,862.11	0.00	0.00	0.00
14,800.00	90.02	180.04	10,818.97	-6,999.87	-3,923.89	596.92	3,961.69	0.00	0.00	0.00
14,900.00	90.02	180.04	10,818.94	-6,999.84	-4,023.89	596.84	4,061.28	0.00	0.00	0.00
15,000.00	90.02	180.04	10,818.90	-6,999.80	-4,123.89	596.77	4,160.87	0.00	0.00	0.00
15,100.00	90.02	180.04	10,818.87	-6,999.77	-4,223.89	596.70	4,260.46	0.00	0.00	0.00
15,200.00	90.02	180.04	10,818.84	-6,999.74	-4,323.89	596.62	4,360.04	0.00	0.00	0.00
15,300.00	90.02	180.04	10,818.80	-6,999.70	-4,423.89	596.55	4,459.63	0.00	0.00	0.00
15,400.00	90.02	180.04	10,818.77	-6,999.67	-4,523.89	596.47	4,559.22	0.00	0.00	0.00
15,500.00	90.02	180.04	10,818.74	-6,999.64	-4,623.89	596.40	4,658.80	0.00	0.00	0.00
15,600.00	90.02	180.04	10,818.70	-6,999.60	-4,723.89	596.33	4,758.39	0.00	0.00	0.00
15,700.00	90.02	180.04	10,818.67	-6,999.57	-4,823.89	596.25	4,857.98	0.00	0.00	0.00
15,800.00	90.02	180.04	10,818.64	-6,999.54	-4,923.89	596.18	4,957.57	0.00	0.00	0.00
15,900.00	90.02	180.04	10,818.60	-6,999.50	-5,023.89	596.10	5,057.15	0.00	0.00	0.00
16,000.00	90.02	180.04	10,818.57	-6,999.47	-5,123.89	596.03	5,156.74	0.00	0.00	0.00
16,100.00	90.02	180.04	10,818.54	-6,999.44	-5,223.89	595.96	5,256.33	0.00	0.00	0.00
16,200.00	90.02	180.04	10,818.50	-6,999.40	-5,323.89	595.88	5,355.91	0.00	0.00	0.00
16,300.00	90.02	180.04	10,818.47	-6,999.37	-5,423.89	595.81	5,455.50	0.00	0.00	0.00
16,400.00	90.02	180.04	10,818.44	-6,999.34	-5,523.89	595.73	5,555.09	0.00	0.00	0.00
16,500.00	90.02	180.04	10,818.40	-6,999.30	-5,623.89	595.66	5,654.68	0.00	0.00	0.00
16,600.00	90.02	180.04	10,818.37	-6,999.27	-5,723.89	595.59	5,754.26	0.00	0.00	0.00
16,700.00	90.02	180.04	10,818.34	-6,999.24	-5,823.89	595.51	5,853.85	0.00	0.00	0.00
16,800.00	90.02	180.04	10,818.30	-6,999.20	-5,923.89	595.44	5,953.44	0.00	0.00	0.00
16,900.00	90.02	180.04	10,818.27	-6,999.17	-6,023.89	595.36	6,053.02	0.00	0.00	0.00
17,000.00	90.02	180.04	10,818.24	-6,999.14	-6,123.89	595.29	6,152.61	0.00	0.00	0.00
17,100.00	90.02	180.04	10,818.20	-6,999.10	-6,223.89	595.22	6,252.20	0.00	0.00	0.00
17,200.00	90.02	180.04	10,818.17	-6,999.07	-6,323.89	595.14	6,351.79	0.00	0.00	0.00
17,300.00	90.02	180.04	10,818.14	-6,999.04	-6,423.89	595.07	6,451.37	0.00	0.00	0.00
17,400.00	90.02	180.04	10,818.10	-6,999.00	-6,523.89	594.99	6,550.96	0.00	0.00	0.00
100ft SETBACK BOUNDARY X-OVER PNT (FTP)										
17,407.01	***90.02***	***180.04***	***10,818.10***	***-6,999.00***	***-6,530.89***	***594.99***	***6,557.94***	***0.00***	***0.00***	***0.00***
BHL: 1270ft FNL & 1650ft FEL of Sec 13										

Database:	Database 1	**Local Co-ordinate Reference:**	Well BIG STAGG FED COM 503H
Company:	ASCENT ENERGY	**TVD Reference:**	KB 25' @ 3819.10usft (Original Well Elev)
Project:	LEA COUNTY, NEW MEXICO (NAD 83)	**MD Reference:**	KB 25' @ 3819.10usft (Original Well Elev)
Site:	SEC. 1 T21S R32E N.M.PM.	**North Reference:**	True
Well:	BIG STAGG FED COM 503H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey

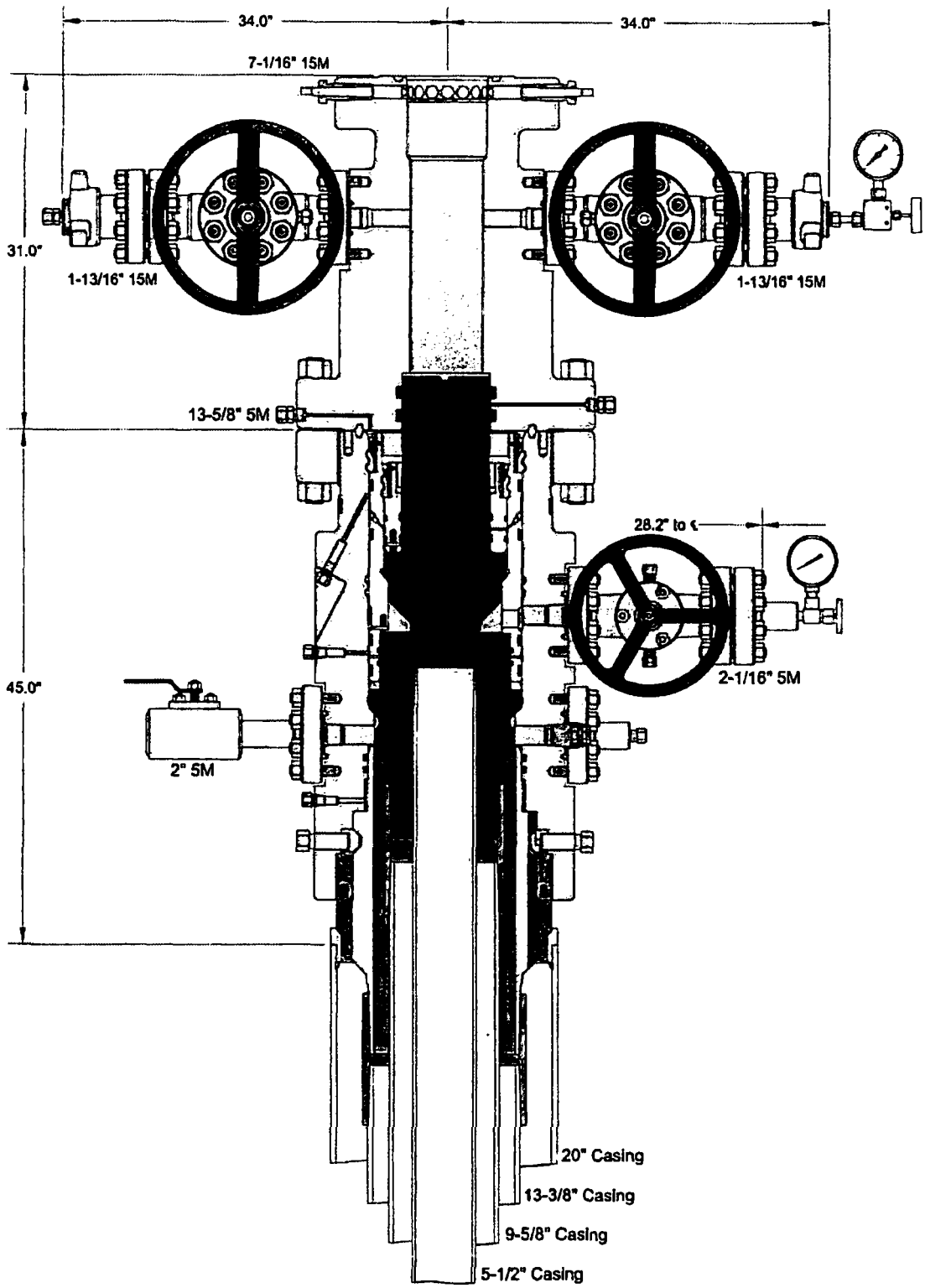
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,457.00	*90.03*	*180.05*	*10,818.08*	*-6,998.98*	*-6,580.89*	*594.95*	*6,607.73*	*0.02*	*0.02*	*0.01*

Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,579.10	1,579.10	Rustler		0.00	
1,719.10	1,719.10	Salado		0.00	
3,189.10	3,189.10	Base of Salt/Castille		0.00	
3,304.10	3,304.10	Yates		0.00	
3,698.10	3,698.10	Capitan Reef		0.00	
5,614.10	5,614.10	Delaware		0.00	
5,879.10	5,879.10	Chry Cnyn		0.00	
6,964.10	6,964.10	Brshy Cnyn		0.00	
8,834.10	8,834.10	Bone Spring Lime		0.00	
8,959.10	8,959.10	Avalon		0.00	
9,794.10	9,794.10	1st BS S		0.00	
10,072.10	10,072.10	2nd BS C		0.00	
10,376.91	10,374.10	2nd BSS		0.00	

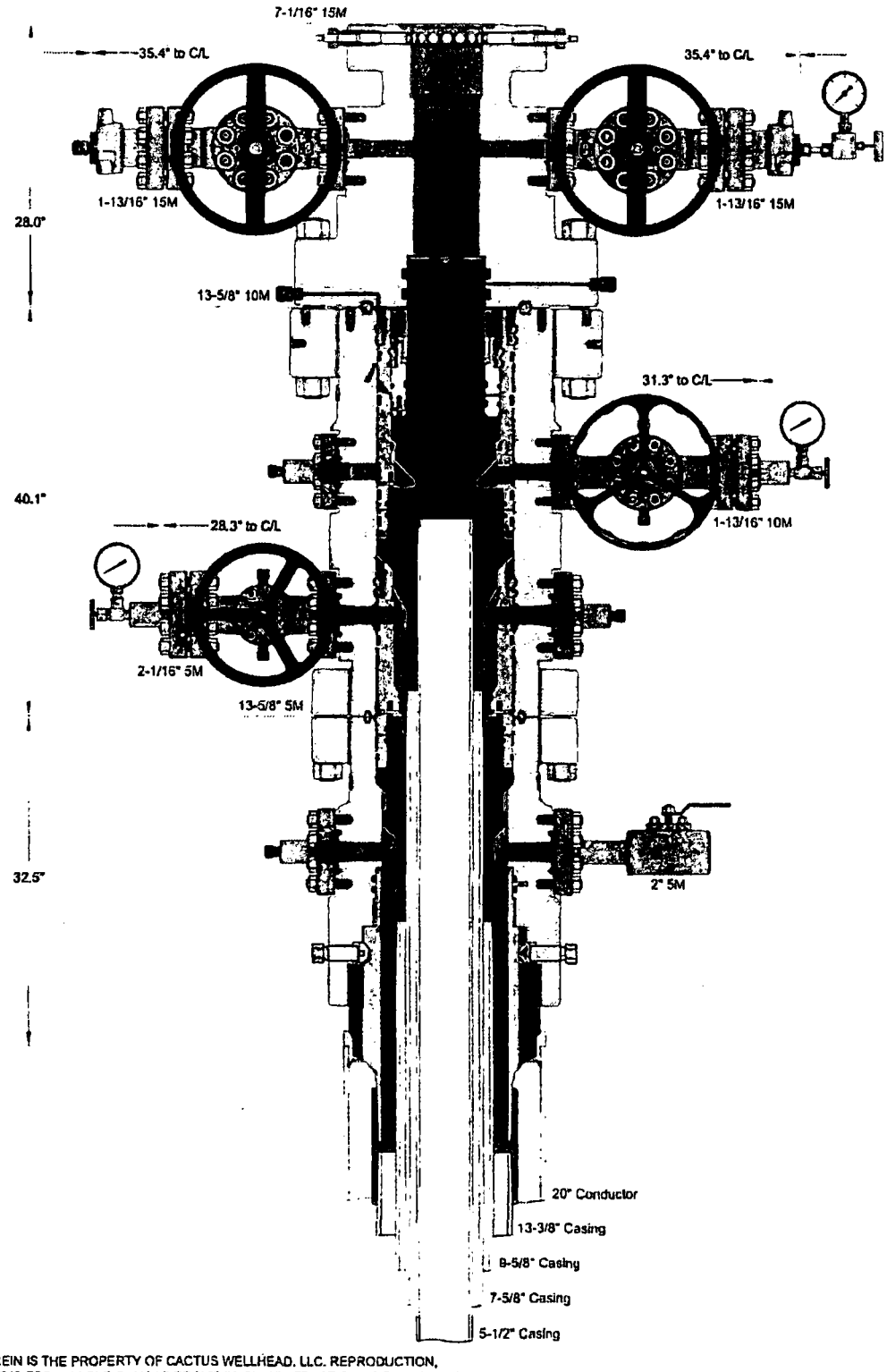
Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
0.00	0.00	0.00	0.00	SHL: 30ft FSL & 2250ft FEL of Sec 1
10,220.00	10,220.00	0.00	0.00	KOP (12°/100ft BUR)
10,751.97	10,648.62	-60.56	259.89	START BUILD & TURN
10,930.92	10,722.72	-128.59	406.62	100ft SETBACK BOUNDARY X-OVER PNT (FTP *NEW*)
11,404.70	10,820.10	-528.59	599.43	LP: 500ft FNL & 1650ft FEL of Sec 12
17,407.01	10,818.10	-6,530.89	594.99	100ft SETBACK BOUNDARY X-OVER PNT (FTP)
17,457.00	10,818.08	-6,580.89	594.95	BHL: 1270ft FNL & 1650ft FEL of Sec 13



ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC	ASCENT ENERGY, LLC TOQUE STATE COM 501H		
13-3/8" x 9-5/8" x 5-1/2" MBU-3T-CFL-R-DBLO-SF Wellhead Sys. With 13-5/8" 5M x 7-1/16" 15M CTH-DBLHPS Tubing Head, 31" Tall And 9-5/8" & 5-1/2" Mandrel Casing Hangers	DRAWN	DLE	10JUN19
	APPRV		
	DRAWING NO.	ODE0003016	



ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC	ASCENT ENERGY, LLC TOQUE STATE COM 701H		
20" x 13-3/8" x 9-5/8" x 7-5/8" x 5-1/2" MBU-4T CFL-R-DBLO Sys. With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head And 9-5/8", 7-5/8" & 5-1/2" Mandrel Casing Hangers	DRAWN	DLE	04JUN19
	APPRV		
	DRAWING NO.	ODE0002996	

EZGO™ Connection Data Sheet

Your Requirements

Pipe Size (OD): **7.625 in** Weight: **29.7 lb/ft** Grade: **P-110 HC** Connection: **EZGO™ FJ3**

Material	
Grade	P110 HC
Minimum Yield Strength	125,000 psi
Minimum Ultimate Strength	135,000 psi

Pipe Dimensions	
Nominal OD	7.625 in
Nominal ID	6.875 in
Nominal Wall Thickness	0.375 in
Nominal Weight	29.7 lbs/ft
Plain End Weight	29.06 lbs/ft
Nominal Pipe Body Area	8.541 sq in

Pipe Body Performance	
Minimum Pipe Body Yield Strength	1,069,000 lbs
Minimum Collapse Pressure	7,360 psi
Minimum Internal Yield Pressure	10,760 psi
Hydrostatic Test Pressure	9,800 psi

Torque Values	
Minimum Final Torque	4,600 ft-lbs
Maximum Final Torque	6,000 ft-lbs

EZGO™ Connection Dimensions	
Connection OD	7.625 in
Connection ID	6.782 in
Connection Drift Diameter	6.750 in
Make-Up Loss	4.39 in
Joint Efficiency	65.0 %

EZGO™ Connection Performance	
Joint Strength	694,000 lbs
Compression Rating	416,000 lbs
Collapse Pressure Rating	7,360 psi
Internal Pressure Resistance	10,760 psi
Maximum Uniaxial Bend Rating	29.3°/100 ft
String Length (1.4 Design Factor)	17,060 ft

EZGO™ Connection Data Sheet

Your Requirements

Pipe Size (OD): **5.50 in** Weight: **20 lb/ft** Grade: **P110 HC** Connection: **EZGO™ FJ3**

Material	
Grade	P-110 HC
Minimum Yield Strength	125,000 psi
Minimum Ultimate Strength	135,000 psi

Pipe Dimensions	
Nominal OD	5.5 in
Nominal ID	4.778 in
Nominal Wall Thickness	0.361 in
Nominal Weight	20.00 lbs/ft
Plain End Weight	19.83 lbs/ft
Nominal Pipe Body Area	5.828 sq in

Pipe Body Performance	
Minimum Pipe Body Yield Strength	729,000 lbs
Minimum Collapse Pressure	12,090 psi
Minimum Internal Yield Pressure	14,360 psi
Hydrostatic Test Pressure	13,100 psi

Torque Values	
Minimum Final Torque	2,400 ft-lbs
Maximum Final Torque	3,700 ft-lbs

EZGO™ Connection Dimensions	
Connection OD	5.50 in
Connection ID	4.708 in
Connection Drift Diameter	4.653 in
Make-Up Loss	4.64 in
Joint Efficiency	59 %

EZGO™ Connection Performance	
Joint Strength	430,000 lbs
Compression Rating	258,000 lbs
Collapse Pressure Rating	12,090 psi
Internal Pressure Resistance	14,360 psi
Maximum Uniaxial Bend Rating	36°/100 ft

EZGO™ Connection Data Sheet

Your Requirements

Pipe Size (OD): **5.50 in** Weight: **20 lb/ft** Grade: **P110 HC** Connection: **EZGO™ FJ3**

Material	
Grade	P-110 HC
Minimum Yield Strength	125,000 psi
Minimum Ultimate Strength	135,000 psi

Pipe Dimensions	
Nominal OD	5.5 in
Nominal ID	4.778 in
Nominal Wall Thickness	0.361 in
Nominal Weight	20.00 lbs/ft
Plain End Weight	19.83 lbs/ft
Nominal Pipe Body Area	5.828 sq in

Pipe Body Performance	
Minimum Pipe Body Yield Strength	729,000 lbs
Minimum Collapse Pressure	12,090 psi
Minimum Internal Yield Pressure	14,360 psi
Hydrostatic Test Pressure	13,100 psi

Torque Values	
Minimum Final Torque	2,400 ft-lbs
Maximum Final Torque	3,700 ft-lbs

EZGO™ Connection Dimensions	
Connection OD	5.50 in
Connection ID	4.708 in
Connection Drift Diameter	4.653 in
Make-Up Loss	4.64 in
Joint Efficiency	59 %

EZGO™ Connection Performance	
Joint Strength	430,000 lbs
Compression Rating	258,000 lbs
Collapse Pressure Rating	12,090 psi
Internal Pressure Resistance	14,360 psi
Maximum Uniaxial Bend Rating	36°/100 ft

EZGO™ Connection Data Sheet

Your Requirements

Pipe Size (OD): **7.625 in** | Weight: **29.7 lb/ft** | Grade: **P-110 HC** | Connection: **EZGO™ FJ3**

Material	
Grade	P110 HC
Minimum Yield Strength	125,000 psi
Minimum Ultimate Strength	135,000 psi

Pipe Dimensions	
Nominal OD	7.625 in
Nominal ID	6.875 in
Nominal Wall Thickness	0.375 in
Nominal Weight	29.7 lbs/ft
Plain End Weight	29.06 lbs/ft
Nominal Pipe Body Area	8.541 sq in

Pipe Body Performance	
Minimum Pipe Body Yield Strength	1,069,000 lbs
Minimum Collapse Pressure	7,360 psi
Minimum Internal Yield Pressure	10,760 psi
Hydrostatic Test Pressure	9,800 psi

Torque Values	
Minimum Final Torque	4,600 ft-lbs
Maximum Final Torque	6,000 ft-lbs

EZGO™ Connection Dimensions	
Connection OD	7.625 in
Connection ID	6.782 in
Connection Drift Diameter	6.750 in
Make-Up Loss	4.39 in
Joint Efficiency	65.0 %

EZGO™ Connection Performance	
Joint Strength	694,000 lbs
Compression Rating	416,000 lbs
Collapse Pressure Rating	7,360 psi
Internal Pressure Resistance	10,760 psi
Maximum Uniaxial Bend Rating	29.3°/100 ft
String Length (1.4 Design Factor)	17,060 ft

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

PWD Data Report

03/07/2020

APD ID: 10400042887 **Submission Date:** 06/19/2019

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM **Well Number:** 503H

Well Type: OIL WELL **Well Work Type:** Drill

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Bond Info Data Report

03/07/2020

APD ID: 10400042887

Submission Date: 06/19/2019

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM

Well Number: 503H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB001496

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM **Well Number:** 503H

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): **PWD surface owner:**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM **Well Number:** 503H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM **Well Number:** 503H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment: