Form 3160-3 (June 2015)

UNITED STATES HOBBS OCD

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

9	_	U 1111 / 11						
DEPARTMENT OF THE I BUREAU OF LAND MAN	5. Lease Serial No. NMNM092187							
APPLICATION FOR PERMIT TO D	RILL OR	SECRENE	,U	6. If Indian, Allotee	or Tribe	Name		
	EENTER			7. If Unit or CA Agr	eement,	Name and No.		
Ib. Type of Well: Oil Well Gas Well O	ther			8. Lease Name and '	Well No.			
Ic. Type of Completion: Hydraulic Fracturing S	ingle Zone	Multiple Zone		BIG STAGG FED				
					3273	306)		
2. Name of Operator ASCENT ENERGY LLC 32,5830)			, .	9. API Well No.		979		
3a. Address 1621 18th Street, Suite 200 Denver CO 80202	3b. Phone N (720)710-8	lo. (include area coa 999	le)	10. Field and Pool, of BONE SPRING	or Exploi	803		
4. Location of Well (Report location clearly and in accordance At surface SWSE / 30 FSL / 2220 FEL / LAT 32.50076 At proposed prod. zone NWNE / 1220 FNL / 1650 FEL /	64 / LONG -	103.6270262	6251939	11. Sec., T. R. M. or SEC 1 / T21S / R3				
14. Distance in miles and direction from nearest town or post off 22 miles	ice*			12. County or Parish LEA	l 	13. State NM		
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig, unit line, if any)	i6. No of ac	cres in lease	17. Spacii 440	ing Unit dedicated to this well				
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 30 feet	19. Propose 11735 feet	d Depth / 18121 feet		BIA Bond No. in file	-			
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3795 feet	22. Approxi 09/01/2019	mate date work will	start*	23. Estimated duration 90 days				
	24. Attac	hments		<u> </u>				
The following, completed in accordance with the requirements o (as applicable)	f Onshore Oil	and Gas Order No.	I, and the H	lydraulic Fracturing r	ıle per 4	3 CFR 3162.3-3		
Well plat certified by a registered surveyor. A Drilling Plan.		4. Bond to cover the Item 20 above).	e operation	s unless covered by an	existing	bond on file (see		
A Surface Use Plan (if the location is on National Forest Syste SUPO must be filed with the appropriate Forest Service Office		Operator certific Such other site s BLM.		mation and/or plans as	may be r	requested by the		
25. Signature (Electronic Submission)		(Printed/Typed) Wood / Ph: (505)4	66-8120		Date 06/19/2	2019		
Title President	•				1			
Approved by (Signature)	i i	(Printed/Typed)			Date			
(Electronic Submission)	Layton / Ph: (575):	234-5959		03/06/2	2020			
LITIA	1.050							

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.

CARLSBAD

Conditions of approval, if any, are attached.

Assistant Field Manager Lands & Minerals

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.

Va III voro OCP Rec 03/10/2020 (Continued on page 2) *(Instructions on page 2) pproval Date: 03/06/2020

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:
LEASE NO.:
WELL NAME & NO.:
SURFACE HOLE FOOTAGE:
BOTTOM HOLE FOOTAGE
LOCATION:
COUNTY:
Ascent Energy LLC
NMNM092187
Big Stagg Federal Com 703H
30'/S & 2220'/E
1220'/N & 1650'/E
Section 1, T.21 S., R.32 E., NMPM
Lea County, New Mexico

COA

H2S	• Yes	O No	
Potash	© None	© Secretary	© R-111-P
Cave/Karst Potential	€ Low	© Medium	C High
Cave/Karst Potential	Critical		
Variance	O None	Flex Hose	Other
Wellhead	C 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

- <u>24 hours in the Potash Area</u> 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 3800 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 <u>R111 Potash Areas</u> 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 <u>Capitan Reef Areas</u> 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.
- 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
 - 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 02/21/2020

Page 10 of 10

Approval Date: 03/06/2020



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: 06/19/2019

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:



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

Application Data Report

03/07/2020

APD ID: 10400042917

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM

Well Hame: DIO OTAGOT ED GO

Well Type: OIL WELL

Submission Date: 06/19/2019

Well Number: 703H

Highlighted data

reflects the most

recent changes
Show Final Text

Well Work Type: Drill

Section 1 - General

APD ID:

10400042917

Tie to previous NOS? N

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: 703H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name:

Pool Name: BONE SPRING

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

Well Name: BIG STAGG FED COM Well Number: 703H

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 Number: 503H

Well Class: HORIZONTAL

STAGG FED COM Number of Legs: 1

Well Work Type: Drill
Well Type: OIL WELL
Describe Well Type:

Well sub-Type: INFILL

Distance to town: 22 Miles

Describe sub-type:

Distance to nearest well: 30 FT

Distance to lease line: 30 FT

Reservoir well spacing assigned acres Measurement: 440 Acres

Well plat:

BigStagg703H_plat_gas_cap_plan_20190618165006.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	30	FSL	222 0	FEL	21S	32E	1	Aliquot SWSE	32.50076 64	- 103.6270	LEA	NEW MEXI				379 5	0	0	
#1										262		СО	СО						
KOP Leg #1	31	FSL	165 0	FEL	21S	32E	1		1	- 103.6251 773			NEW MEXI CO		NMNM 092187	- 741 6	112 66	112 11	
PPP	132 0	FSL	165 0	FEL	218	32E	12	Aliquot SWSE	32.48979 8	- 103.6251 98	LEA	NEW		F	NMNM 127892	- 794 0	155 76	117 35	

Well Name: BIG STAGG FED COM

Well Number: 703H

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	dΛT	Will this well produce from this lease?
1	264 0	FSL	165 0	FEL	21S	32E	12	Aliquot NWSE	32.49343 6	- 103.6251 83	LEA		NEW MEXI CO	F	NMNM 055370 6	- 794 0	142 56	117 35	
PPP Leg #1-3	192	FNL	165 0	FEL	21S	32E		Aliquot NWNE	32.50015 86	- 103.6251 773	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 127892	- 782 0	117 49	116 15	
EXIT Leg #1	122 0	FNL	165 0	FEL	21S	32E	13	Aliquot NWNE	32.48281 59	- 103.6251 939	LEA	NEW MEXI CO	• • • • •	F	NMNM 014155	- 794 0	181 21	117 35	
BHL Leg #1	122 0	FNL	165 0	FEL	21S	32E	13	Aliquot NWNE	32.48281 59	- 103.6251 939	LEA		NEW MEXI CO	F	NMNM 014155	- 794 0	181 21	117 35	



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

Drilling Plan Data Report

03/07/2020

APD ID: 10400042917

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM

Well Type: OIL WELL

Submission Date: 06/19/2019

Highlighted data reflects the most

recent changes

Show Final Text

Well Number: 703H
Well Work Type: Drill

Section 1 - Geologic Formations

Formation			True Vertical	Measured			Producing
ID	Formation Name	Elevation	Depth	Depth	Lithologies	Mineral Resources	Formation
481435	PERMIAN	3795	0	0	SANDSTONE	USEABLE WATER	N
481432	RUSTLER ANHYDRITE	2215	1580	1580		NONE	N
481433	SALADO	2075	1720	1720	SALT	NONE	N
481441	CASTILE	605	3190	3205	ANHYDRITE	NONE	N
481434	YATES	490	3305	3323	OTHER : CARBONATES	NATURAL GAS, OIL	N
481442	CAPITAN REEF	96	3699	3726	LIMESTONE	USEABLE WATER	N
481443	BELL CANYON	-1820	5615	5670	SANDSTONE	NATURAL GAS, OIL	N
481436	CHERRY CANYON	-2085	5880	5935	SANDSTONE	NATURAL GAS, OIL	Ň
481444	BRUSHY CANYON	-3170	6965	7020	SANDSTONE	NATURAL GAS, OIL	N
481437	BONE SPRING	-5040	8835	8890	LIMESTONE	NATURAL GAS, OIL	N
481438	BONE SPRING	-5165	8960	9015	OTHER : AVALON SHALE	NATURAL GAS, OIL	N
481439	BONE SPRING 1ST	-6000	9795	9850	SANDSTONE	NATURAL GAS, OIL	N
481445	BONE SPRING 2ND	-6278	10073	10128	OTHER : CARBONATE	NATURAL GAS, OIL	N
481440	BONE SPRING 2ND	-6580	10375	10430	SANDSTONE	NATURAL GAS, OIL	N
482348	BONE SPRING 3RD	-7120	10915	10970	OTHER : CARBONATE	NATURAL GAS, OIL	N
482349	BONE SPRING 3RD	-7535	11330	11387	SANDSTONE	NATURAL GAS, OIL	N
482350	WOLFCAMP	-7940	11735	18121	OTHER : A CARBONATE	NATURAL GAS, OIL	Y

Well Name: BIG STAGG FED COM Well Number: 703H

Section 2 - Blowout Prevention

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:

BigStagg703H_choke_20190619140623.pdf

BOP Diagram Attachment:

BigStagg703H_bop_20190619140647.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	1580	0	1580			1580	J-55	54.5		I_	1.12 5	DRY	1.6	DRY	1.6
	INTERMED IATE	12.2 5	9.625	NEW	API	N	0	3600	0	3600			3600	J-55	40	LT&C	1.12 5	1.12 5	DRY	1.6	DRY	1.6
1	INTERMED IATE	8.75	7.625	NEW	API	N	0	11200	0	11145			11200	HCP -110		OTHER - EZGO FJ3	I_	1.12 5	DRY	1.6	DRY	1.6
	PRODUCTI ON	6.75	5.5	NEW	API	N	0	18121	0	11735			18121	HCP -110				1.12 5	DRY	1.6	DRY	1.6

Operator Name: ASCENT ENERGY LLC Well Name: BIG STAGG FED COM Well Number: 703H **Casing Attachments** Casing ID: 1 String Type: SURFACE **Inspection Document: Spec Document: Tapered String Spec:** Casing Design Assumptions and Worksheet(s): BigStagg703H_casing_desgn_sheet_20190619141225.pdf Casing ID: 2 String Type: INTERMEDIATE **Inspection Document: Spec Document: Tapered String Spec:** Casing Design Assumptions and Worksheet(s): BigStagg703H_casing_desgn_sheet_20190619141232.pdf Casing ID: 3 String Type: INTERMEDIATE **Inspection Document: Spec Document:**

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BigStagg703H_casing_desgn_sheet_20190619141240.pdf

Well Name: BIG STAGG FED COM Well Number: 703H

Casing Attachments

Casing ID: 4

String Type: PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

 $BigStagg703H_casing_desgn_sheet_20190619141249.pdf$

Section 4 - Cement

L											
String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1580	845	1.73	13.5	1460	100	CLASS C HALCEM SYSTEM	4% BENTONITE
SURFACE	Tail				550	1.33	14.8	733	100	CLASS C HALCEM	none
INTERMEDIATE	Lead		0	3600	705	1.73	12.7	1218	65	CLASS C HALCEM SYSTEM	4% BENTONITE
INTERMEDIATE	Tail				485	1.33	14.8	646	65	CLASS C HALCEM SYSTEM	none
INTERMEDIATE	Lead		0	1120 0	660	2.04	12.7	1345	25	CLASS C ECONOCEM HLC	5% SALT + 3% MICROBOND + 3 LB/SK KOL-SEAL + 0.3% HR-800
INTERMEDIATE	Tail				155	1.37	14.8	155	25	CLASS C HALCEM SYSTEM	3% MICROBOND
PRODUCTION	Lead		0	1812 1	165	2.89	11	476	25	NEOCEM PL	3% MICROBOND
PRODUCTION	Tail				2065	1.47	13.2	3039	25	NEOCEM PL	3% MICROBOND

Well Name: BIG STAGG FED COM Well Number: 703H

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 (Ibs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	Н	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1580	3600	OTHER : BRINE WATER	10	10							
3600	1120 0	OTHER : FRESH WATER	8.4	8.6							
1120 0	1812 1	OTHER : CUT BRINE	8.5	9.2							
0	1580	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:

GF

Coring operation description for the well:

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

Well Name: BIG STAGG FED COM Well Number: 703H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5033

Anticipated Surface Pressure: 2451.3

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:

BigStagg703H_h2s_plan_20190619144840.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

BigStagg703H_horiz_drill_plan_20190619144915.pdf

Other proposed operations facets description:

DIAGRAMS ATTACHED FOR SPEED HEAD VARIANCE IN SECTION 2

CASING/CEMENT SECTION (3&4): 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.

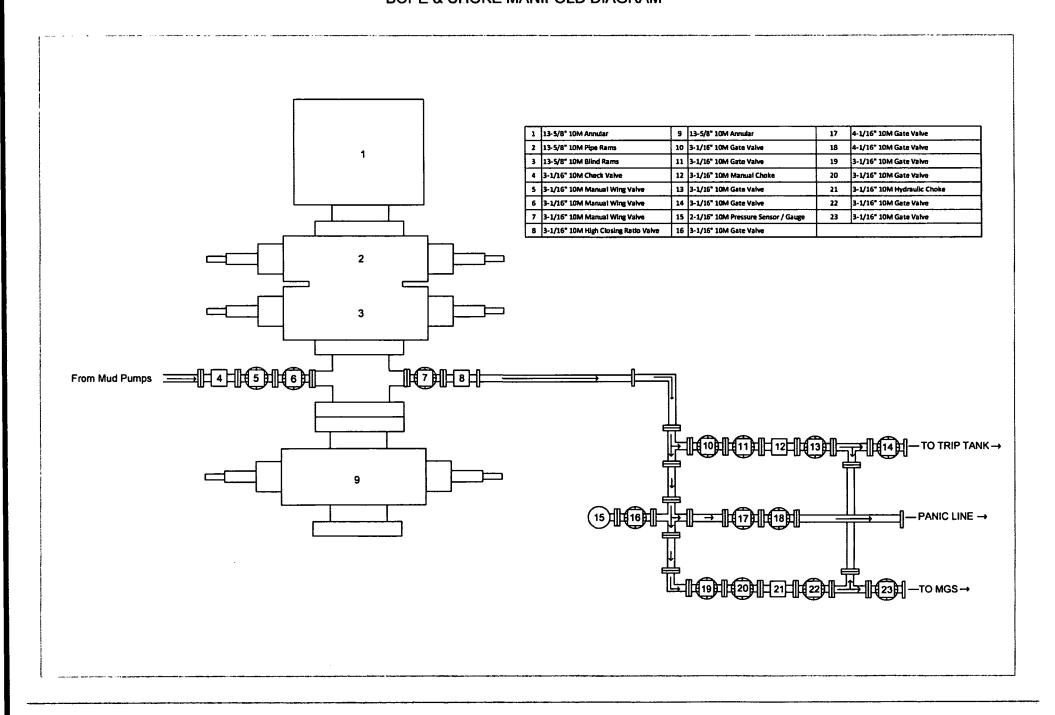
Other proposed operations facets attachment:

BigStagg703H general drill plan 20190619145006.pdf

Other Variance attachment:

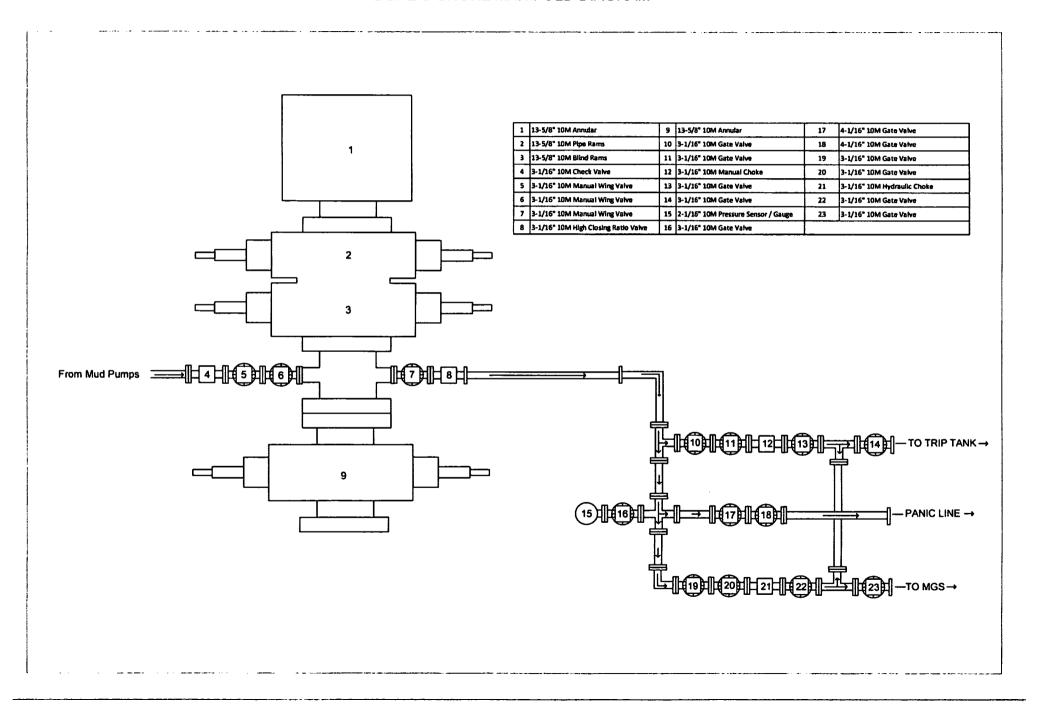
BigStagg703H_speedhead_variance_specs_20190619145026.pdf

ASCENT ENERGY - TOQUE PAD - NABORS X04 BOPE & CHOKE MANIFOLD DIAGRAM



ASCENT ENERGY - TOQUE PAD - NABORS X04

BOPE & CHOKE MANIFOLD DIAGRAM





H₂S Drilling Operations Plan

- a. All personnel will be trained in H₂S 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 H₂S page 5 for more details.
- c. H₂S Safety Equipment/Systems:
 - i. Well Control Equipment
 - Flare line will be ≥ 150 ' from the wellhead and ignited by a flare gun.
 - Beware of SO₂ 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. H₂S Detection & Monitoring Equipment

- Every person on site will wear a personal H₂S and SO₂ 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 H₂S condition sign will be set at each pad entrance.
- Color-coded condition flag will be installed to indicate current H₂S 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 ≥ 10 will be maintained to control corrosion, H₂S 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 H₂S 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
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Mobile: (303) 945-1323

Gema Volek, Drilling Manager Mobile: (785) 312-2092

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	3) 393-4339
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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
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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

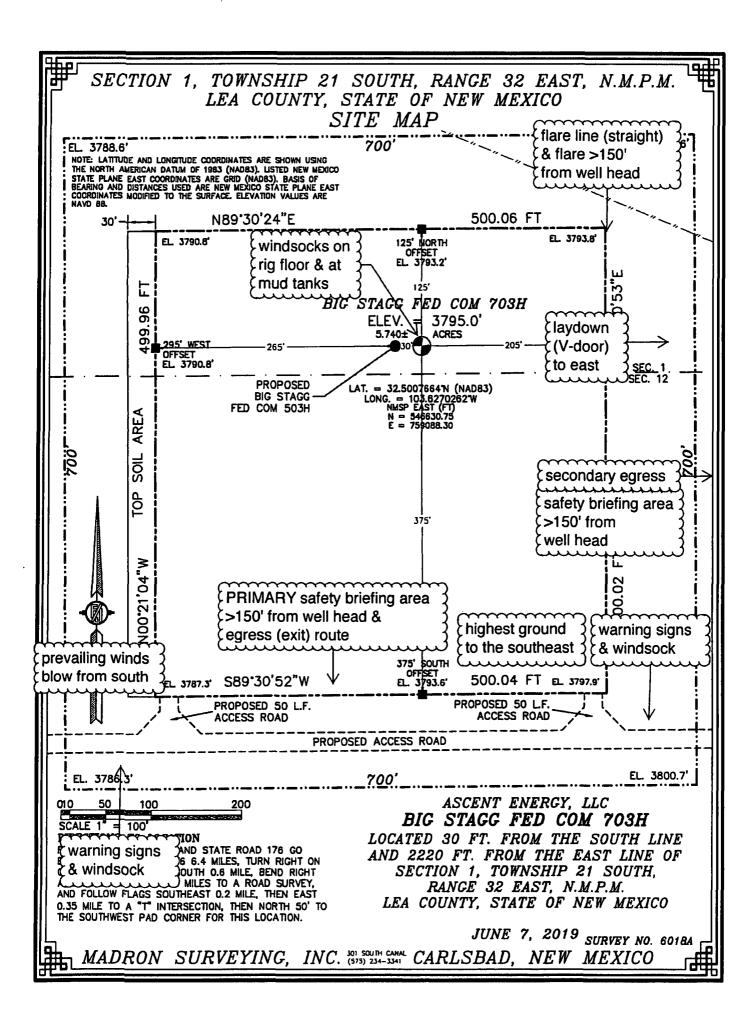
Dal Paso Animal Hospital (Hobbs)	(575) 397-2286
Hobbs Animal Clinic & Pet Care (Hobbs)	(575) 392-5563
Great Plains Veterinary Clinic & Hospital (Hobbs)	(575) 392-5513

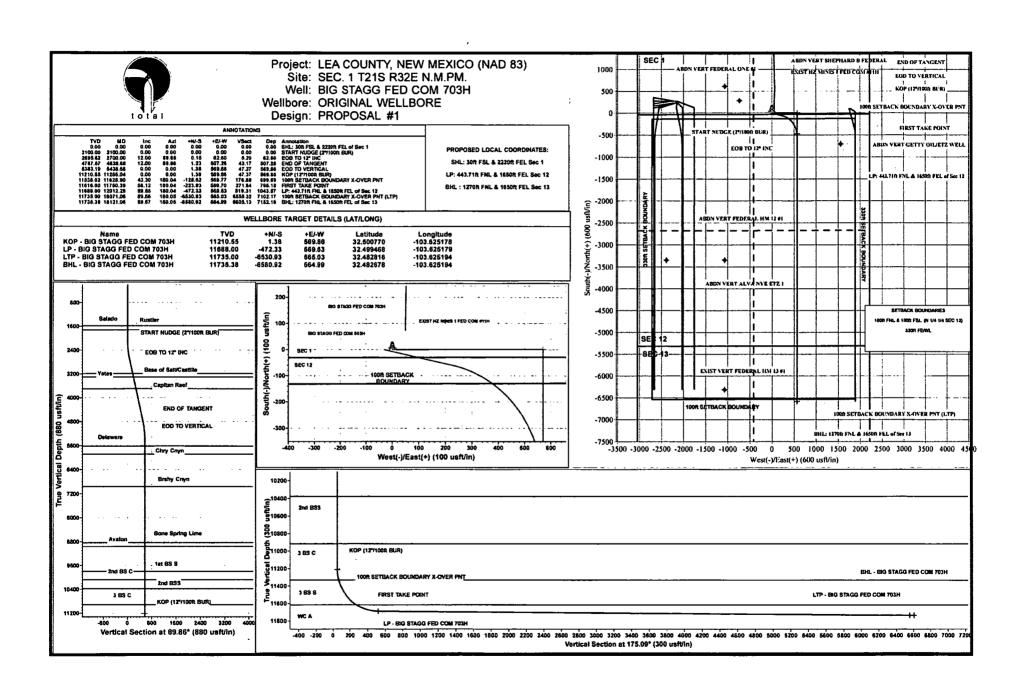
Residents within 2 miles

No residents are within 2 miles.

Air Evacuation

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







Databases Company: Database 1

ASCENT ENERGY

Piologi

LEA COUNTY, NEW MEXICO (NAD 83)

Sio Wells

SEC. 1 T21S R32E N.M.PM. **BIG STAGG FED COM 703H** ORIGINAL WELLBORE

Wellbore: Design:

PROPOSAL #1

local Co-ordinate References

IND References

MD:References North-References

Survey Calculation Method:

Well BIG STAGG FED COM 703H KB 25' @ 3820.00usft (Original Well Elev)

KB 25' @ 3820.00usft (Original Well Elev)

Minimum Curvature

LEA COUNTY, NEW MEXICO (NAD 83) Project

Map System: Map Zone:

US State Plane 1983

North American Datum 1983 Geo Datum:

New Mexico Eastern Zone

System Datum:

Mean Sea Level

Using geodetic scale factor

SEC. 1 T21S R32E N.M.PM. Site

Site Position:

From:

Lat/Long

Northing: Easting:

546,845.25 usft 756,934.17 usft Latitude:

Longitude:

32.501395 -103.634008

Position Uncertainty:

0.00 usft

Slot Radius:

1.10ft

Grid Convergence:

0.38

BIG STAGG FED COM 703H

Well Position

+N/-S +E/-W

-228.63 usft 2.152.75 usft

Northing: Easting:

546,630.75 usfl

Latitude: Longitude: 32.500766

Position Uncertainty

0.00 usft

Wellhead Elevation:

759,088.30 usfl usfl

Ground Level:

-103.627026 3,795.00 usft

Wellbore **ORIGINAL WELLBORE**

(Magnetics)	Model Name	Sample Date	Cedifiction (F)	Obardo (i)	Field Strength (phi)
		IGRF2015	10/06/2019	6.78	60.28	47.889

PROPOSAL #1 Cesign

Audit Notes:

Version:

Phase:

PROTOTYPE

Tie On Depth:

0.00

Direction Vertical Section: Depth From (IVD) CN/S (USII) (Usft) (USI) 0.00 0.00 0.00 175.09

Plan Section	B	G Value da Santa	Street of Black Street	Control of the same	61	S. S			the Cise of the	Land.	
(veil)		(B) (A)	Voiled Papin	(SS) (QIII)	(UEID)	CEAW) (CEIO)	Doglog Resp (7/1001s)	(8/10002) (8/10002)	Tim Cale (Modes)	TEO (P)	Vargo)
0.00	0.00	0.00	0.00	-3,820.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,100.00	0.00	0.00	2,100.00	-1,720.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,700.00	12.00	89.86	2,695.62	-1,124.38	0.15	62.60	2.00	2.00	0.00	89.86	
4,838.68	12.00	89.86	4,787.57	967.57	1.23	507.26	0.00	0.00	0.00	0.00	
5,438.68	0.00	0.00	5,383.19	1,563.19	1.38	569.86	2.00	-2.00	0.00	180.00	
11,266.04	0.00	0.00	11,210.55	7,390.55	1.38	569.86	0.00	0.00	0.00	0.00 KO	P - BIG STAGG
12,012.28	89.55	180.04	11,688.00	7,868.00	-472.33	569.53	12.00	12.00	-24.12	180.04 LP	- BIG STAGG FI
18,071.06	89.56	180.05	11,735.00	7,915.00	-6,530.93	565.03	0.00	0.00	0.00	23.32 LTF	- BIG STAGG
18,121.06	89.57	180.05	11,735.38	7,915.38	-6,580.92	564.99	0.02	0.01	0.01	39.88 BH	L - BIG STAGG



Designs

Database 1
ASCENT ENERGY
LEA COUNTY, NEW MEXICO (NAD 83)
SEC. 1 T21S R32E N.M.PM.
BIG STAGG FED COM 703H
ORIGINAL WELLBORE
PROPOSAL #1

Local Co-ordinate References TVD References MD References North References Survey Calculation Methods

Planned Surve	y									
							Vorileal	Degleg	Edio	Tuna
	entl	(A)	TVD (USfi)	(1551) (1551)	্মান্ত	CEAN!	Section (USA)	Raio (f/100usii)	Rate (1700usti)	Raid Concerned
	(P)	(9)		(तद्यात)	(fisit)	(USfi):	(rigit)	(Fiveresity)	(Fottoonsit)	(H00tsii)
		2220ft;FEL-of 0.00	Sec 1 0.00	2 222 22	0.00	0.00	0.00	0.00	0.00	2.22
0.00 100.00	<i>0.00</i> 0.00	0.00	100.00	3,820.00 3,720.00	<i>0.00</i> 0.00	<i>0.00</i> 0.00	0.00	<i>0.00</i> 0.00	<i>0.00</i> 0.00	<i>0.00</i> 0.00
200.00	0.00	0.00	200.00	3,620.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00 400.00	0.00 0.00	0.00 0.00	300.00 400.00	3,520.00 3,420.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00
500.00	0.00	0.00	500.00	3,320.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	3,220.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	3,120.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00 900.00	0.00 0.00	0.00 0.00	800.00 900.00	3,020.00 2,920.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00
1,000.00	0.00	0.00	1,000.00	2,820.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	2,720.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	2,620.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00 0.00	0.00 0.00	1,300.00 1,400.00	2,520.00 2.420.00	0.00 0.00	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	2,320.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustle		0.00	1,500.00	2,320.00	0.00		0.00	0.00	0.00	0.00
1,580.00	0.00	0.00	1,580.00	2,240.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00 0.00	0.00 0.00	1,600.00 1,700.00	2,220.00 2.120.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00
Salado		0.00	1,700.00	2,120.00	0.00	0.00	0.00	0.00	0.00	0.00
1,720.00	0.00	0.00	1,720.00	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	2,020.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00 2,000.00	0.00 0.00	0.00 0.00	1,900.00 2,000.00	1,920.00 1,820.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00
		2%100ft(BUR)		1,020.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	1,720.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	2.00	89.86	2,199.98	1,620.02	0.00	1.75	0.15	2.00	2.00	0.00
2,300.00	4.00 6.00	89.86 89.86	2,299.84 2,399.45	1,520.16 1,420.55	0.02 0.04	6.98 15.69	0.58 1.30	2.00 2.00	2.00 2.00	0.00 0.00
2,400.00 2,500.00	8.00	89.86	2,399.45 2,498.70	1,321.30	0.04	27.88	2.32	2.00	2.00	0.00
2,600.00	10.00	89.86	2,597.47	1,222.53	0.11	43.52	3.62	2.00	2.00	0.00
2,700.00	0/12° INC 12.00	89.86	2,695.62	1,124.38	0.15	62.60	5.20	2.00	2.00	0.00
1			•	•						
2,800.00 2,900.00	12.00 12.00	89.86 89.86	2,793.44 2,891.25	1,026.56 928.75	0.20 0.25	83.39 104.18	6.93 8.66	0.00 0.00	0.00 0.00	0.00 0.00
3,000.00	12.00	89.86	2,989.07	830.93	0.30	124.98	10.39	0.00	0.00	0.00
3,100.00 3,200.00	12.00 12.00	89.86 89.86	3,086.88 3,184.70	733.12 635.30	0.35 0.40	145.77 166.56	12.12 13.85	0.00 0.00	0.00 0.00	0.00 0.00
,			J, 104.70	000.00	U.+U	100.00	10.00	0.00	0.00	0.00
3,205.42	f Salt/Cas 12.00	tili⊕. 89.86	3,190.00	630.00	0.41	167.69	13.94	0.00	0.00	0.00
3,300.00	12.00	89.86	3,282.51	537.49	0.45	187.35	15.57	0.00	0.00	0.00
	40.00		# (** 1965)				45.07			
3,322.99 3,400.00	12.00 12.00	89.86 89.86	3,305.00 3,380.33	515.00 439.67	<i>0.4</i> 7 0.50	192.13 208.14	15.97 17.30	<i>0.00</i> 0.00	0.00 0.00	<i>0.00</i> 0.00
3,500.00	12.00	89.86	3,478.14	341.86	0.55	228.93	19.03	0.00	0.00	0.00
3,600.00	12.00	89.86	3,575.96	244.04	0.60	249.72	20.76	0.00	0.00	0.00
3,700.00	12.00	89.86	3,673.77	146.23	0.66	270.51	22.49	0.00	0.00	0.00
3,725.79	n Reef	89.86	3,699.00	121.00	0.67	275.88	22.93	0.00	0.00	0.00
3,725.79	12.00	89.86	3,771.59	48.41	0.67	275.88 291.30	22.93 24.21	0.00	0.00	0.00
3,900.00	12.00	89.86	3,869.40	-49.40	0.76	312.10	25.94	0.00	0.00	0.00
							***************************************			***************************************



Datebases Companys Projects Sites Wells Wellbores

Designs

Database 1
ASCENT ENERGY
LEA COUNTY, NEW MEXICO (NAD 83)
SEC. 1 T21S R32E N.M.PM.
BIG STAGG FED COM 703H
ORIGINAL WELLBORE
PROPOSAL #1

lecentice ordinale References
TVD References
MD References
North References
Survey Calculation Methods

Planned Surve	7									
							ومسومي		ris ma	<u></u>
MD	· ·	~	TXD	88	, Arman		Vertical Section	Dogleg Raio	Collo Rato	Tun Rata
(tiley)			((LSii))	(Usil)	CONS.		(tieti)	(1/000usfi)		(#/00usii)
	(F)	(f)			(ÚSÚ)	(Usii)		,	4	
4,000.00	12.00	89.86	3,967.22	-147.22	0.81	332.89	27.67	0.00	0.00	0.00
4,100.00 4,200.00	12.00 12.00	89.86 89.86	4,065.03 4,162.84	-245.03 -342.84	0.86 0.91	353.68 374.47	29.40 31.13	0.00 0.00	0.00 0.00	0.00 0.00
4,300.00	12.00	89.86	4,260.66	-440.66	0.96	395.26	32.86	0.00	0.00	0.00
4,400.00	12.00	89.86	4,358.47	-538.47	1.01	416.05	34.58	0.00	0.00	0.00
4,500.00	12.00	89.86	4,456.29	-636.29	1.06	436.84	36.31	0.00	0.00	0.00
4,600.00	12.00	89.86	4,554.10	-734.10	1.11	457.63	38.04	0.00	0.00	0.00
4,700.00	12.00	89.86	4,651.92	-831.92	1.16	478.42	39.77	0.00	0.00	0.00
4,800.00	12.00	89.86 ENT*(4,749.73	-929.73	1.21	499.22	41.50	0.00	0.00	0.00
4,838.68	12.00	89.86	4,787.57	-967.57	1.23	507.26	42.17	0.00	0.00	0.00
4,900.00	10.77	89.86	4,847.68	-1,027.68	1.26	519.36	43.17	2.00	-2.00	0.00
5,000.00	8.77	89.86	4,946.22	-1,126.22	1.30	536.34	44.58	2.00	-2 .00	0.00
5,100.00	6.77	89.86	5,045.30	-1,225.30	1.33	549.86	45.71	2.00	-2.00	0.00
5,200.00	4.77	89.86	5,144.79	-1,324.79	1.36	559.92	46.54	2.00	-2 .00	0.00
5,300.00	2.77	89.86	5,244.57	-1,424.57	1.37	566.50	47.09	2.00	-2.00	0.00
5,400.00	0.77	89.86	5,344.51	-1,524.51	1.38	569.60	47.35	2.00	-2.00	0.00
		CAL						anne solme		
5,438.68 5,500.00	0.00 0.00	0.00 0.00	5,383.19 5,444.51	-1, 563.19 -1,624.51	1.38 1.38	569.86 569.86	47.37 47.37	2.00 0.00	-2.00 0.00	-232.32 0.00
5,600.00	0.00	0.00	5,544.51	-1,724.51	1.38	569.86	47.37	0.00	0.00	0.00
Delawa	ire/	30.00mm - 1.14 4 96		\$2.00 m		ajenika en a	(A. 1. (P. 8. (S. C.)	المعترفات والأشاء يتريب		the state of the
5,670.49	0.00	0.00	5,615.00	-1,795.00	1.38	569.86	47.37	0.00	0.00	0.00
5,700.00	0.00	0.00	5,644.51	-1,824.51	1.38	569.86	47.37	0.00	0.00	0.00
5,800.00	0.00	0.00	5,744.51	-1,924.51	1.38	569.86	47.37	0.00	0.00	0.00
5,900.00 Chryc	0.00	0.00	5,844.51	-2,024.51	1.38	569.86	47.37	0.00	0.00	0.00
5,935.49	0.00	0.00	5.880.00	-2,060,00	1.38	569.86	47.37	0.00	0.00	0.00
6,000.00	0.00	0.00	5,944.51	-2,124.51	1.38	569.86	47.37	0.00	0.00	0.00
6,100.00	0.00	0.00	6.044.51	-2,224.51	1.38	569.86	47.37	0.00	0.00	0.00
6,200.00	0.00	0.00	6,144.51	-2,324.51	1.38	569.86	47.37	0.00	0.00	0.00
6,300.00	0.00	0.00	6,244.51	-2,424.51	1.38	569.86	47.37	0.00	0.00	0.00
6,400.00 6,500.00	0.00 0.00	0.00 0.00	6,344.51 6,444.51	-2,524.51 -2,624.51	1.38 1.38	569.86 569.86	47.37 47.37	0.00 0.00	0.00 0.00	0.00 0.00
ī	0.00				1.38	569.86				
6,600.00 6,700.00	0.00	0.00 0.00	6,544.51 6,644.51	-2,724.51 -2.824.51	1.38	569.86	47.37 47.37	0.00 0.00	0.00 0.00	0.00 0.00
6,800.00	0.00	0.00	6,744.51	-2,924.51	1.38	569.86	47.37	0.00	0.00	0.00
6,900.00	0.00	0.00	6,844.51	-3,024.51	1.38	569.86	47.37	0.00	0.00	0.00
7,000.00	0.00	0.00	6,944.51	-3,124.51	1.38	569.86	47.37	0.00	0.00	0.00
Brshy	Cnyn 🥦	ar the speaks)	er coreme		THE PARTY.	使为 学的。1960年	国家 主义或品类	电影性 多子的电影器	dies, constitution	strate testings
7,020.49	0.00	0.00	6,965.00	-3,145.00	1.38	569.86 560.86	47.37 47.27	0.00	0.00	0.00
7,100.00 7,200.00	0.00 0.00	0.00 0.00	7,044.51 7,144.51	-3,224.51 -3,324.51	1.38 1.38	569.86 569.86	47.37 47.37	0.00 0.00	0.00 0.00	0.00 0.00
7,200.00	0.00	0.00	7,144.51	-3,424.51	1.38	569.86	47.37	0.00	0.00	0.00
7,400.00	0.00	0.00	7,344.51	-3,524.51	1.38	569.86	47.37	0.00	0.00	0.00
7.500.00	0.00	0.00	7,444.51	-3,624.51	1.38	569.86	47.37	0.00	0.00	0.00
7,600.00	0.00	0.00	7,544.51	-3,724.51	1.38	569.86	47.37	0.00	0.00	0.00
7,700.00	0.00	0.00	7,644.51	-3,824.51	1.38	569.86	47.37	0.00	0.00	0.00
7,800.00	0.00	0.00	7,744.51	-3,924.51 -4,024.51	1.38	569.86	47.37 47.37	0.00	0.00	0.00
7,900.00	0.00	0.00	7,844.51	-4,024.51	1.38	569.86		0.00	0.00	0.00
8,000.00 8,100.00	0.00 0.00	0.00 0.00	7,944.51	-4,124.51 -4,224.51	1.38 1.38	569.86 569.86	47.37 47.37	0.00 0.00	0.00 0.00	0.00 0.00
8,100.00 8,200.00	0.00	0.00	8,044.51 8,144.51	-4,224.51 -4,324.51	1.38	569.86	47.37 47.37	0.00	0.00	0.00
8,300.00	0.00	0.00	8,244.51	-4,424.51	1.38	569.86	47.37	0.00	0.00	0.00



Datebaser Gompanye Project Siter Wells Wellborer

Designs

Database 1
ASCENT ENERGY
LEA COUNTY, NEW MEXICO (NAD 83)
SEC. 1 T21S R32E N.M.PM.
BIG STAGG FED COM 703H
ORIGINAL WELLBORE
PROPOSAL #1

Local Co-ordinate References
TVD References
MD References
North References
Survey Calculation Methods

Planned Surve	W									
o connected to	y .					-			-	
							Vertical:	Dogleg	Bulld	and
MĐ	Office		TVD	SS	CNES	¢EAW	Section	Rato	Reco	Rato
(tisti)	(P)	Æ] (fi)	(tisft))	(refi)	(USfi)	(usfi)	(jierj)	(f/100usft))	(#1000usft)	(M000sfi)
8,400.00	0.00	0.00	8,344,51	-4,524.51	1.38	569.86	47.37	0.00	0.00	0.00
			•	•						
8,500.00 8,600.00	0.00 0.00	0.00 0.00	8,444.51 8,544.51	-4,624.51 -4,724.51	1.38 1.38	569.86 569.86	47.37 47.37	0.00 0.00	0.00 0.00	0.00 0.00
8,700.00	0.00	0.00	8,644.51	-4,824.51	1.38	569.86	47.37	0.00	0.00	0.00
8.800.00	0.00	0.00	8,744.51	-4,924.51	1.38	569.86	47.37	0.00	0.00	0.00
Bone	Spring Lin	ne	100					• .		
8,890.49	0.00	0.00	8,835.00	-5,015.00	1.38	569.86	47.37	0.00	0.00	0.00
8,900.00	0.00	0.00	8,844.51	-5,024.51	1.38	569.86	47.37	0.00	0.00	0.00
9,000.00	0.00	0.00	8,944.51	-5,124.51	1.38	569.86	47.37	0.00	0.00	0.00
Avalor			A 10 10 10 10 10 10 10 10 10 10 10 10 10							
9,015.49	0.00	0.00	8,960.00	-5,140.00	1.38	569.86	47.37	0.00	0.00	0.00
9,100.00 9,200.00	0.00	0.00 0.00	9,044.51 9,144.51	-5,224.51 -5,324.51	1.38 1.38	569.86 569.86	47.37 47.37	0.00 0.00	0.00 0.00	0.00 0.00
1			•	-						
9,300.00	0.00	0.00	9,244.51	-5,424.51	1.38	569.86	47.37	0.00	0.00	0.00
9,400.00	0.00 0.00	0.00 0.00	9,344.51 9,444.51	-5,524.51 -5,624.51	1.38 1.38	569.86 569.86	47.37 47.37	0.00 0.00	0.00 0.00	0.00 0.00
9,600.00	0.00	0.00	9,544.51	-5,724.51 -5,724.51	1.38	569.86	47.37	0.00	0.00	0.00
9,700.00	0.00	0.00	9,644.51	-5,824.51	1.38	569.86	47.37	0.00	0.00	0.00
9,800.00	0.00	0.00	9,744.51	-5,924.51	1.38	569.86	47.37	0.00	0.00	0.00
1st BS				<u>`</u>						0.00
9,850.49	0.00	0.00	9,795.00	-5,975.00	1.38	569.86	47.37	0.00	0.00	0.00
9,900.00	0.00	0.00	9,844.51	-6,024.51	1.38	569.86	47.37	0.00	0.00	0.00
10,000.00	0.00	0.00	9,944.51	-6,124.51	1.38	569.86	47.37	0.00	0.00	0.00
10,100.00	0.00	0.00	10,044.51	-6,224.51	1.38	569.86	47.37	0.00	0.00	0.00
2110E										
10,128.49	0.00	0.00	10,073.00	-6,253.00	1.38	569.86	47.37	0.00	0.00	0.00
10,200.00	0.00	0.00	10,144.51	-6,324.51	1.38	569.86	47.37	0.00	0.00	0.00
10,300.00	0.00 0.00	0.00 0.00	10,244.51 10,344.51	-6,424.51 -6,524.51	1.38 1.38	569.86 569.86	47.37 47.37	0.00 0.00	0.00 0.00	0.00 0.00
2nd/B		0.00	10,044.51	-0,024.01	1.00	003.00	41.01	0.00	0.00	0.00
10,430.49	0.00	0.00	10,375.00	-6,555.00	1.38	569.86	47.37	0.00	0.00	0.00
10,500.00	0.00	0.00	10,444.51	-6,624.51	1.38	569.86	47.37	0.00	0.00	0.00
10,600.00	0.00	0.00	10,544.51	-6,724.51	1.38	569.86	47.37	0.00	0.00	0.00
10,700.00	0.00	0.00	10,644.51	-6,824.51	1.38	569.86	47.37	0.00	0.00	0.00
10,800.00	0.00	0.00	10,744.51	-6,924.51	1.38	569.86	47.37	0.00	0.00	0.00
10,900.00	0.00	0.00	10,844.51	-7,024.51	1.38	569.86	47.37	0.00	0.00	0.00
3.BS.0			Service State					SANTA AND BE		
10,970.49	0.00	0.00	10,915.00	-7,095.00	1.38	569.86	47.37	0.00	0.00	0.00
11,000.00	0.00	0.00	10,944.51	-7,124.51 -7 224.51	1.38	569.86 560.86	47.37 47.37	0.00	0.00	0.00
11,100.00	0.00 0.00	0.00 0.00	11,044.51 11,144.51	-7,224.51 -7,324.51	1.38 1.38	569.86 569.86	47.37 47.37	0.00 0.00	0.00 0.00	0.00 0.00
			30000		1.30			Trapic area out		0.00
11,266.04	0.00	0.00	11,210.55	-7,390.55	1.38	569.86	47.37	0.00	0.00	0.00
11,300.00	4.08	180.04	11,244.48	-7,424.48	0.17	569.86	48.57	12.00	12.00	0.00
3 BS S		100.04		Post of the San	0.17 69 149 184 8					
11,386.77	14.49	180.04	11,330.00	-7,510.00	-13.80	569.85	62.50	12.00	12.00	0.00
11,400.00	16.08	180.04	11,342.76	-7,522.76	-17.29	569.85	65.97	12.00	12.00	0.00
11,500.00	28.08	180.04	11,435.26	-7,615.26	-54.80	569.82	103.34	12.00	12.00	0.00
11,600.00	40.08	180.04	11,517.94	-7,697.94	-110.73	569.78	159.06	12.00	12.00	0.00
100ft S	ETBACK	BOUNDARY	K-OVER PNT							Magazine Company
11,626.90	43.30	180.04	11,538.02	-7,718.02	-128.62	569.77	176.88	12.00	12.00	0.00
11,700.00	52.08	180.04	11,587.18	<i>-</i> 7,767.18	-182.62	569.73	230.69	12.00	12.00	0.00



Dalebase Companys Project Slice Wells Wells Wellsone Decigns

Database 1
ASCENT ENERGY
LEA COUNTY, NEW MEXICO (NAD 83)
SEC. 1 T21S R32E N.M.PM.
BIG STAGG FED COM 703H
ORIGINAL WELLBORE
PROPOSAL #1

Lecel Co-crimeto References
TVD-References
MD-References
North-References
Survey Celevistion Methods

Planned Survey	7		······································							
			2010-5-00-5		11 and 12 and			(19) - B. B. B. B.		
							Vertical	Dogleg	Eulo	Term:
MD	line	/空	1VD	SS	ONES!	(E/W)	Section	Rate	Rate	edes
(USfil)	(F))	(e)	(ESD)	(USft)	(Ceft)	(Usft)	(USii)	(%/100usft)	(#2000usfi)	(H100usii):
0000									<u> </u>	
Wea	67.00		MEDICAL SALE							
11,748.50	57.90	180.04	11,615.00	-7,795.00	-222.33	569.70	270.24	12.00	12.00	0.00
			ALCO OF		000.00			10.00		
11,750.39 11,800.00	58.12 64.08	<i>180.04</i> 180.04	11,616.00	-7,796.00 7,810.07	-223.93 -267.34	569.70 569.67	271.84	12.00	12.00	0.00
			11,639.97	-7,819.97			315.09	12.00	12.00	0.00
11,900.00	76.08	180.04	11,673.98	-7,853.98	-361.18	569.61	408.58	12.00	12.00	0.00
12,000.00	88.08	180.04	11,687.75	-7,867.75	-460.05	569.54	507.08	12.00	12.00	0.00
			of Sec 12 W					Standard over the state		System 1 and the
12,012.28	89.55	180.04	11,688.00	-7,868.00	-472.33	569.53	519.31	12.00	12.00	0.00
12,100.00 12,200.00	89.55 89.55	180.04 180.04	11,688.69 11,689.48	-7,868.69 -7,869.48	-560.04 -660.04	569.47 569.40	606.70 706.33	0.00 0.00	0.00	0.00
				•					0.00	0.00
12,300.00	89.55	180.04	11,690.26	-7,870.26	-760.04	569.33	805.95	0.00	0.00	0.00
12,400.00	89.55	180.04	11,691.05	-7,871.05 7,874.03	-860.03	569.26	905.57	0.00	0.00	0.00
12,500.00 12,600.00	89.55 89.55	180.04 180.04	11,691.83 11,692.62	-7,871.83 -7,872.62	-960.03 -1,060.03	569.19 569.12	1,005.20 1,104.82	0.00 0.00	0.00 0.00	0.00
12,700.00	89.55	180.04	11,693.40	-7,873.40	-1,160.02	569.05	1,104.62	0.00	0.00	0.00 0.00
1			· ·	· ·			•			ſ
12,800.00	89.55	180.04	11,694.18	-7,874.18 -7,874.07	-1,260.02	568.98	1,304.07	0.00	0.00	0.00
12,900.00 13,000.00	89.55 89.55	180.04 180.04	11,694.97 11,695.75	-7,874.97 -7,875.75	-1,360.02 -1,460.02	568.91 568.83	1,403.70 1,503.32	0.00 0.00	0.00 0.00	0.00
13,100.00	89.55	180.04	11,696.53	-7,875.75 -7,876.53	-1,460.02	568.76	1,602.95	0.00	0.00	0.00 0.00
13,200.00	89.55	180.04	11,697.32	-7,877.32	-1,660.01	568.69	1,702.57	0.00	0.00	0.00
j			•	•			•			
13,300.00 13,400.00	89.55 89.55	180.04 180.04	11,698.10 11,698.88	-7,878.10 -7,878.88	-1,760.01 -1,860.00	568.62 568.55	1,802.19 1,901.82	0.00 0.00	0.00 0.00	0.00 0.00
13,500.00	89.55	180.04	11,699.66	-7,879.66	-1,960.00	568.48	2.001.44	0.00	0.00	0.00
13,600.00	89.55	180.04	11,700.44	-7,880.44	-2,060.00	568.40	2,101.07	0.00	0.00	0.00
13,700.00	89.55	180.04	11,701.22	-7,881.22	-2,159.99	568.33	2,200.69	0.00	0.00	0.00
13,800.00	89.55	180.04	11,702.00	-7,882.00	-2,259.99	568.26	2,300.32	0.00	0.00	0.00
13,900.00	89.55	180.04	11,702.78	-7,882.78	-2,259.99	568.19	2,300.32	0.00	0.00	0.00
14,000.00	89.55	180.04	11,703.56	-7,883.56	-2,459.98	568.12	2,499.56	0.00	0.00	0.00
14,100.00	89.55	180.04	11,704.34	-7,884.34	-2,559.98	568.04	2,599.19	0.00	0.00	0.00
14,200.00	89.55	180.04	11,705.12	-7,885.12	-2,659.98	567.97	2,698.81	0.00	0.00	0.00
14.300.00	89.55	180.04	11,705.90	-7.885.90	-2.759.98	567.90	2,798.44	0.00	0.00	0.00
14,400.00	89.55	180.04	11,706.68	-7,886.68	-2,859.97	567.82	2,898.06	0.00	0.00	0.00
14,500.00	89.55	180.04	11,707.45	-7,887.45	-2,959.97	567.75	2,997.68	0.00	0.00	0.00
14,600.00	89.55	180.04	11,708.23	-7,888.23	-3,059.97	567.68	3,097.31	0.00	0.00	0.00
14,700.00	89.55	180.04	11,709.01	-7,889.01	-3,159.96	567.60	3,196.93	0.00	0.00	0.00
14,800.00	89.56	180.04	11,709.79	-7,889.79	-3,259.96	567.53	3,296.56	0.00	0.00	0.00
14,900.00	89.56	180.04	11,710.56	-7,890.56	-3,359.96	567.46	3,396.18	0.00	0.00	0.00
15,000.00	89.56	180.04	11,711.34	-7,891.34	-3,459.95	567.38	3,495.81	0.00	0.00	0.00
15,100.00	89.56	180.04	11,712.11	-7,892.11 7,892.80	-3,559.95	567.31	3,595.43	0.00	0.00	0.00
15,200.00	89.56	180.04	11,712.89	-7,892.89	-3,659.95	567.23	3,695.05	0.00	0.00	0.00
15,300.00	89.56	180.04	11,713.66	-7,893.66	-3,759.94	567.16	3,794.68	0.00	0.00	0.00
15,400.00	89.56	180.04	11,714.44	-7,894.44	-3,859.94	567.08	3,894.30	0.00	0.00	0.00
15,500.00	89.56	180.04	11,715.21	-7,895.21 7,895.00	-3,959.94	567.01	3,993.93	0.00	0.00	0.00
15,600.00 15,700.00	89.56 89.56	180.04 180.04	11,715.99 11,716.76	-7,895.99 -7,896.76	-4,059.94 -4,159.93	566.93 566.86	4,093.55 4,193.17	0.00 0.00	0.00 0.00	0.00 0.00
							•			
15,800.00	89.56	180.04	11,717.53	-7,897.53	-4,259.93	566.78	4,292.80	0.00	0.00	0.00
15,900.00	89.56	180.04	11,718.31	-7,898.31 7,800.00	-4,359.93	566.71	4,392.42	0.00	0.00	0.00
16,000.00	89.56 89.56	180.04 180.04	11,719.08 11,719.85	-7,899.08 -7,899.85	-4,459.92 -4,559.92	566.63 566.56	4,492.05 4,591.67	0.00	0.00	0.00
16,100.00 16,200.00	89.56	180.04	11,719.65	-7,899.85 -7,900.62	-4,559.92 -4,659.92	566.48	4,591.67	0.00 0.00	0.00 0.00	0.00 0.00
16,300.00	89.56	180.04	11,721.39	-7,901.39 7,002.47	-4,759.91 4,050.04	566.40	4,790.92	0.00	0.00	0.00
16,400.00	89.56	180.04	11,722.17	-7,902.17	-4,859.91	566.33	4,890.54	0.00	0.00	0.00



Database: Company: Database 1

ASCENT ENERGY

LEA COUNTY, NEW MEXICO (NAD 83)

Project: Site: SEC. 1 T21S R32E N.M.PM. BIG STAGG FED COM 703H Well: ORIGINAL WELLBORE

Wellbore: Design: PROPOSAL#1 Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Well BIG STAGG FED COM 703H

KB 25' @ 3820.00usft (Original Well Elev) KB 25' @ 3820.00usft (Original Well Elev)

Minimum Curvature

Planned Surve	у 🗀									
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)
16,500.00	89.56	180.04	11,722.94	-7,902.94	-4,959.91	566.25	4,990.17	0.00	0.00	0.00
16,600.00	89.56	180.04	11,723.71	-7,903.71	-5,059.91	566.17	5,089.79	0.00	0.00	0.00
16,700.00	89.56	180.04	11,724.48	-7,904.48	-5,159.90	566.10	5,189.41	0.00	0.00	0.00
16,800.00	89.56	180.04	11,725.25	-7,905.25	-5,259.90	566.02	5,289.04	0.00	0.00	0.00
16.900.00	89.56	180.04	11,726.02	-7,906.02	-5,359.90	565.94	5,388.66	0.00	0.00	0.00
17,000.00	89.56	180.04	11,726.79	-7,906.79	-5,459.89	565.87	5,488.29	0.00	0.00	0.00
17,100.00	89.56	180.04	11,727.55	-7,907.55	-5,559.89	565.79	5,587.91	0.00	0.00	0.00
17,200.00	89.56	180.04	11,728.32	-7,908.32	-5,659.89	565.71	5,687.53	0.00	0.00	0.00
17,300.00	89.56	180.04	11,729.09	-7,909.09	-5.759.88	565.63	5,787.16	0.00	0.00	0.00
17,400.00	89.56	180.04	11,729.86	-7.909.86	-5.859.88	565.56	5,886,78	0.00	0.00	0.00
17,500.00	89.56	180.04	11,730.63	-7,910.63	-5,959.88	565.48	5,986.41	0.00	0.00	0.00
17,600.00	89.56	180.04	11,731.39	-7,911.39	-6,059.88	565.40	6,086.03	0.00	0.00	0.00
17,700.00	89.56	180.04	11,732.16	-7,912.16	-6,159.87	565.32	6,185.65	0.00	0.00	0.00
17,800.00	89.56	180.04	11,732.92	-7,912.92	-6,259.87	565.24	6,285.28	0.00	0.00	0.00
17,900.00	89.56	180.05	11,733.69	-7,913.69	-6,359.87	565.17	6,384.90	0.00	0.00	0.00
18,000.00	89.56	180.05	11,734.46	-7,914.46	-6,459.86	565.09	6,484.52	0.00	0.00	0.00
100ft S	ETBACK E	OUNDARY)	K-OVER PNT (I	_TP)						
18,071.06	89.56	180.05	11,735.00	-7,915.00	-6,530.93	565.03	6,555.32	0.00	0.00	0.00
18,100.00	89.56	180.05	11,735.22	-7,915.22	-6,559.86	565.01	6,584.15	0.02	0.01	0.01
BHL: 1	270ft FNL	& 1650ft FEL	of Sec 13							
18,121.06	89.57	180.05	11,735.38	-7,915.38	-6,580.92	564.99	6,605.13	0.02	0.01	0.01

Formations						
	MD (usft)	TVD (usft)	Name	Lithology	Ðip (°)	Dip Direction (°)
	1,580.00	1,580.00	Rustler		0.00	
	1,720.00	1,720.00	Salado		0.00	
	3,205.42	3,190.00	Base of Salt/Castille		0.00	
	3,322.99	3,305.00	Yates		0.00	
	3,725.79	3,699.00	Capitan Reef		0.00	
	5,670.49	5,615.00	Delaware		0.00	
	5,935.49	5,880.00	Chry Cnyn		0.00	
	7,020.49	6,965.00	Brshy Cnyn		0.00	
	8,890.49	8,835.00	Bone Spring Lime		0.00	
	9,015.49	8,960.00	Avalon		0.00	
	9,850.49	9,795.00	1st BS S		0.00	
	10,128.49	10,073.00	2nd BS C		0.00	
	10,430.49	10,375.00	2nd BSS		0.00	
	10,970.49	10,915.00	3 BS C		0.00	
	11,386.77	11,330.00	3 BS S		0.00	
	11,748.50	11,615.00	WC A		0.00	



Database:

Database 1 ASCENT ENERGY Company:

Project:

LEA COUNTY, NEW MEXICO (NAD 83)

Site: Well: SEC. 1 T21S R32E N.M.PM. BIG STAGG FED COM 703H

Wellbore: Design:

ORIGINAL WELLBORE PROPOSAL #1

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference: Survey Calculation Method: Well BIG STAGG FED COM 703H

KB 25' @ 3820.00usft (Original Well Elev) KB 25' @ 3820.00usft (Original Well Elev)

Minimum Curvature

Plan Annotations	· · · · · · · · · · · · · · · · · · ·			
		Local Co	ordinates	
MD (usft)	(nait)	+N/-S (usft)	+E/-W (usft)	Comment
0.00	0.00	0.00	0.00	SHL: 30ft FSL & 2220ft FEL of Sec 1
2,100.00	2,100.00	0.00	0.00	START NUDGE (2°/100ft BUR)
2,700.00	2,695.62	0.15	62.60	EOB TO 12° INC
4,838.68	4,787.57	1.23	507.26	END OF TANGENT
5,438.68	5,383.19	1.38	569.86	EOD TO VERTICAL
11,266.04	11,210.55	1.38	569.86	KOP (12°/100ft BUR)
11,626.90	11,538.02	-128.62	569.77	100ft SETBACK BOUNDARY X-OVER PNT
11,750.39	11,616.00	-223.93	569.70	FIRST TAKE POINT
12,012.28	11,688.00	-472.33	569.53	LP: 443.71ft FNL & 1650ft FEL of Sec 12
18,071.06	11,735.00	-6,530.93	565.03	100ft SETBACK BOUNDARY X-OVER PNT (LTP)
18,121.06	11,735.38	-6,580.92	564.99	BHL: 1270ft FNL & 1650ft FEL of Sec 13

Drilling Program

1. ESTIMATED TOPS

Formation	TVD	MD	Bearing
Upper Permian sandstone	000′	000′	water
Rustler anhydrite	1580'	1580′	N/A
Salado salt	1720′	1720′	N/A
Castile anhydrite	3190'	3205'	N/A
Yates carbonates	3305′	3323'	hydrocarbons
Capitan Reef limestone	3699'	3726′	water
Bell Canyon sandstone	5615'	5670'	hydrocarbons
Cherry Canyon sandstone	5880'	5935'	hydrocarbons
Brushy Canyon sandstone	6965'	7020′	hydrocarbons
Bone Spring limestone	8835'	8890'	hydrocarbons
Avalon shale of Bone Spring	8960'	9015'	hydrocarbons
1st Bone Spring sandstone	9795'	9850'	hydrocarbons
2 nd Bone Spring carbonate	10073'	10128'	hydrocarbons
2 nd Bone Spring sandstone	10375'	10430'	hydrocarbons
3 RD Bone Spring carbonate	10915'	10970'	hydrocarbons
(KOP	11211′	11266′	hydrocarbons)
3 rd Bone Spring sandstone	11330′	11387'	hydrocarbons
Wolfcamp A carbonate (goal)	11615'	11749'	hydrocarbons
TD	11735'	18121'	hydrocarbons

2. NOTABLE ZONES

Wolfcamp A carbonate is the goal. Closest water well (CP 00793 POD1) is 0.93 mile NNW. Depth to water was not reported in the 1,000' deep well. Two windmills 1-1/4 miles southeast are 160' to 170' deep.



3. PRESSURE CONTROL

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.

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.

Before drilling out the surface casing:

ram type BOP and accessory equipment will be tested to 5000/250 psig annular preventer will be tested to 3500/250 psig surface casing will be tested to 1500 psi for 30 minutes

Before drilling out the intermediate casing: ram type BOP and accessory equipment will be tested to 5000/250 psig annular preventer will be tested to 3500/250 psig intermediate casing will be tested to 2000 psi for 30 minutes

Intermediate casing will be landed using a mandrel hanger and separate pack off. After installation, the pack off and lower flange will be pressure tested to 5000 psi. A hydraulically operated choke will be installed before drilling out of the intermediate casing shoe.



Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each TOOH. These checks will be noted on the daily tour sheets.

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 \geq 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.

4. CASING & CEMENT

All casing will be API and new. See attached casing assumption worksheet.

Hole O. D.	Set MD	Set TVD	Casing O. D.	Weight (lb/ft)	Grade	Joint	Collapse	Burst	Tension
17.5"	0' - 1580'	0' - 1580'	Surface 13.375"	54.5	J-55	STC	1.125	1.125	1.6
12.25"	0' - 3600'	0′ - 3576'	Inter. 1 9.625"	40	J-55	LTC	1.125	1.125	1.6
8.75"	0′ - 11200′	0′ - 11145′	Inter. 2 7.625"	29.7	HCP- 110	EZGO FJ3	1.125	1.125	1.6
6.75"	0′ - 18121'	0' - 11735'	Product. 5.5"	20	HCP- 110	EZGO FJ3	1.125	1.125	1.6

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.

Name	Туре	Sacks	Yield	Cu. Ft.	Weight	Blend
Surface	Lead	845	1.728	1460	13.5	Class C HALCEM system + 4% bentonite
	Tail	550	1.332	733	14.8	Class C HALCEM system
TOC = GL		100% Excess				
Intermediate	Lead	705	1.728	1218	12.7	Class C HALCEM system + 4% bentonite
1	Tail	485	1.332	646	14.8	Class C HALCEM system
TOC = GL		65% Excess				
Intermediate 2	Lead	660	2.039	1345	12.7	Class C EconoCem HLC + 5% salt + 3% Microbond + 3 lb/sk Kol-seal + 0.3% HR-800
	Tail	155	1.368	212	14.8	Class C HALCEM system + 3% Microbond
TOC = GL		25% Excess				
Production	Lead	165	2.887	476	11.0	NeoCem PL + 3% Microbond
	Tail	2065	1.472	3039	13.2	NeoCem PT + 3% Microbond
TOC = GL		25% Excess				

5. MUD PROGRAM

An electronic pit volume totalizer (PVT) will be used to monitor volume, flow rate, pump pressure, and stroke rate. 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. Mud program may change due to hole conditions. A closed loop system will be used.



Туре	Interval (MD)	lb/gal	Viscosity	Fluid Loss
fresh water	0' - 1580'	8.4 - 9.6	34-38	N/C
brine water	1580' - 3600'	10	28-34	N/C
fresh water	3600′ – 11200′	8.4 - 8.6	28-34	N/C
cut brine/gel	11200' - 18121'	11.0 - 11.3	28-34	N/C

6. CORES, TESTS, & LOGS

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

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

7. DOWN HOLE CONDITIONS

No abnormal pressure or temperature is expected. Maximum expected bottom hole pressure is ≈ 5033 psig. Expected bottom hole temperature is $\approx 165^{\circ}$ F.

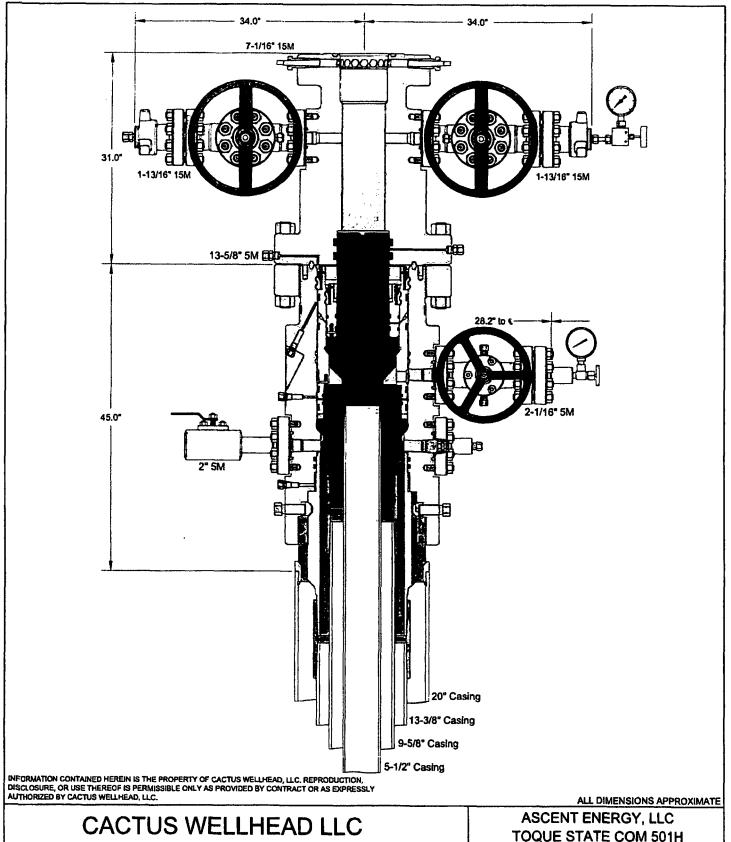
H2S monitoring and detection equipment will be used from surface casing point to TD.

8. OTHER INFORMATION

Anticipated spud date is upon approval. It is expected it will take ≈ 3 months to drill and complete the well.

Variance is requested for the option to contract a surface rig to drill surface hole, set surface casing, and cement the surface casing. If the timing between rigs is such that Ascent would not be able to preset the surface casing, then the primary rig will MIRU and drill the well in its entirety.





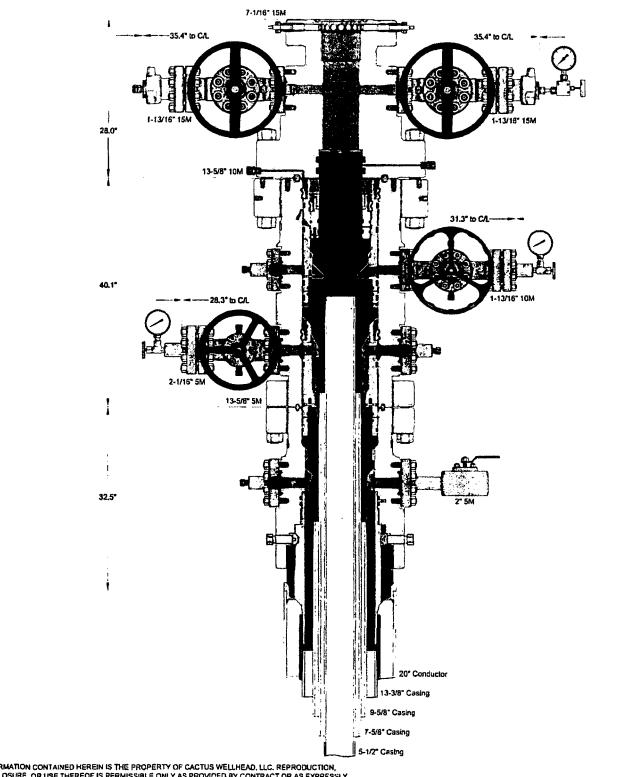
13-3/8" x 9-5/8" x 5-1/2" MBU-3T-CFL-R-DBLO-SF Wellhead Sys. With 13-5/8" 5M x 7-1/16" 15M CTH-DBLHPS Tubing Head, 31" Tall And 9-5/8" & 5-1/2" Mandrel Casing Hangers

TOQUE STATE COM 501H

DRAWN DLE 10JUN19 **APPRV**

DRAWING NO.

ODE0003016



INFORMATION CONTAINED HEREIN IS THE PROPERTY OF CACTUS WELLHEAD, LLC, REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PERMISSIBLE ONLY AS PROVIDED BY CONTRACT OR AS EXPRESSLY AUTHORIZED BY CACTUS WELLHEAD, LLC.

ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

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

ASCENT ENERGY, LLC **TOQUE STATE COM 701H**

DRAWN DLE 04JUN19 APPRV ODE0002996 DRAWING NO.



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

PWD Data Report

APD ID: 10400042917

Submission Date: 06/19/2019

Operator Name: ASCENT ENERGY LLC

Well Number: 703H

Well Name: BIG STAGG FED COM

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:

Operator Name: ASCENT ENERGY LLC

Well Name: BIG STAGG FED COM

Well Number: 703H

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: 703H

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: 703H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:



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

Bond Info Data Report

03/07/2020

APD ID: 10400042917

Submission Date: 06/19/2019

Highlighted data reflects the most

recent changes

Well Name: BIG STAGG FED COM

Operator Name: ASCENT ENERGY LLC

Well Number: 703H

Show Final Text

Well Type: OIL WELL

Well Work Type: Drill

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: