Form 3160-3 FORM APPROVED OMB No. 1004-0137 (June 2015) Expires: January 31, 2018 **UNITED STATES** 5. Lease Serial No. DEPARTMENT OF THE INTERIOR NMNM129263 BUREAU OF LAND MANAGEMENT APPLICATION FOR PERMIT TO DRILL OR REENTER 6. If Indian, Allotee or Tribe Name 7. If Unit or CA Agreement, Name and No. ✓ DRILL REENTER 1a. Type of work: 1b. Type of Well: ✓ Oil Well Gas Well Other 8. Lease Name and Well No. 1c. Type of Completion: Hydraulic Fracturing ✓ Single Zone Multiple Zone HORSESHOE FED COM [327861] 402H 2. Name of Operator 9. API Well No. 30-025-48681 [325830] ASCENT ENERGY LLC 3a. Address 3b. Phone No. (include area code) 10. Field and Pool, or Exploratory [97895] WC-025 G-08 S213304D; BONE SPRING 1125 17TH ST SUITE 410, DENVER, CO 80202 (720) 524-3449 4. Location of Well (Report location clearly and in accordance with any State requirements.*) 11. Sec., T. R. M. or Blk. and Survey or Area SEC 19/T21S/R33E/NMP At surface NENE / 250 FNL / 615 FEL / LAT 32.470967 / LONG -103.605157 At proposed prod. zone NENE / 50 FNL / 330 FEL / LAT 32.486019 / LONG -103.604244 14. Distance in miles and direction from nearest town or post office* 12. County or Parish 13 State LEA NM 26 miles 15. Distance from proposed* 16. No of acres in lease 17. Spacing Unit dedicated to this well 250 feet location to nearest property or lease line, ft. 160.0 (Also to nearest drig. unit line, if any) 18. Distance from proposed location* 19. Proposed Depth 20. BLM/BIA Bond No. in file to nearest well, drilling, completed, 30 feet 10202 feet / 15682 feet FED: NMB001698 applied for, on this lease, ft. 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start* 23. Estimated duration 3791 feet 01/03/2021 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. 4. Bond to cover the operations unless covered by an existing bond on file (see 2. A Drilling Plan. Item 20 above) 3. A Surface Use Plan (if the location is on National Forest System Lands, the 5. Operator certification. 6. Such other site specific information and/or plans as may be requested by the SUPO must be filed with the appropriate Forest Service Office). 25. Signature Name (Printed/Typed) Date BRIAN WOOD / Ph: (720) 710-8999 (Electronic Submission) 11/24/2020 Title President Approved by (Signature) Date Name (Printed/Typed) (Electronic Submission) Cody Layton / Ph: (575) 234-5959 04/09/2021 Title Office Assistant Field Manager Lands & Minerals Carlsbad Field Office 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. GCP Rec 04/12/2021

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(Continued on page 2)



*(Instructions on page 2)

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionany drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Additional Operator Remarks

Location of Well

0. SHL: NENE / 250 FNL / 615 FEL / TWSP: 21S / RANGE: 33E / SECTION: 19 / LAT: 32.470967 / LONG: -103.605157 (TVD: 0 feet, MD: 0 feet) PPP: SESE / 0 FSL / 330 FEL / TWSP: 21S / RANGE: 33E / SECTION: 18 / LAT: 32.47167 / LONG: -103.604247 (TVD: 10191 feet, MD: 10457 feet) PPP: NENE / 318 FNL / 417 FEL / TWSP: 21S / RANGE: 33E / SECTION: 19 / LAT: 32.4707808 / LONG: -103.6045147 (TVD: 10015 feet, MD: 10078 feet) BHL: NENE / 50 FNL / 330 FEL / TWSP: 21S / RANGE: 33E / SECTION: 18 / LAT: 32.486019 / LONG: -103.604244 (TVD: 10202 feet, MD: 15682 feet)

BLM Point of Contact

Name: Gavin Mickwee Title: Land Law Examiner Phone: (575) 234-5972 Email: gmickwee@blm.gov

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District II 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720

Phone: (575).

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

☐ AMENDED REPORT

Released to Imaging: 4/20/2021 4:49:20 PM

WELL LOCATION AND ACREAGE DEDICATION PLAT

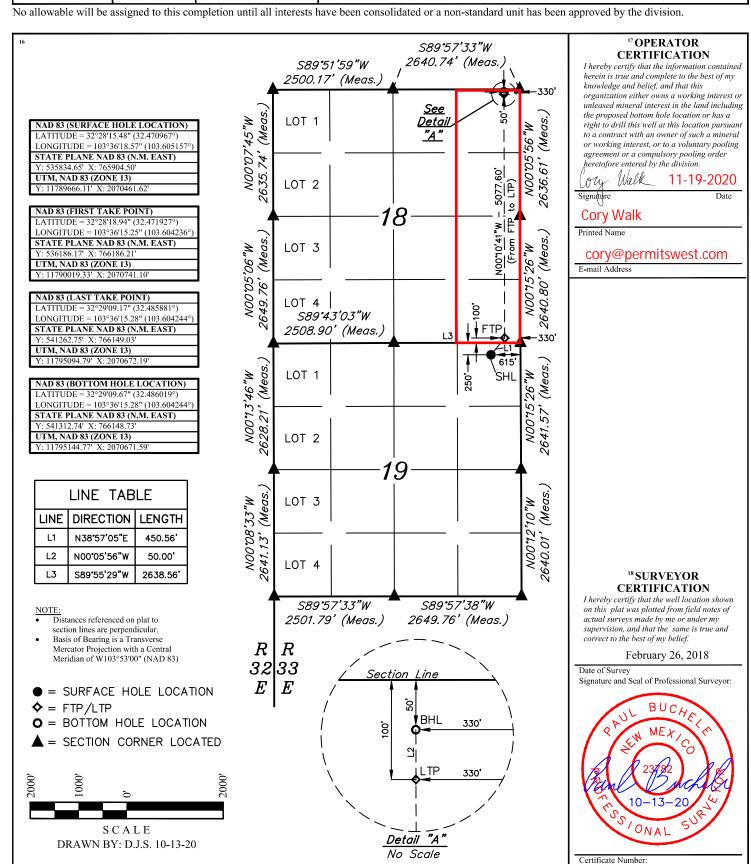
¹ API Number 30-025-48681	•	² Pool Code 97895	WC-025 G-08 S213304D; BO	NE SPRING
⁴ Property Code 327861			roperty Name SHOE FED COM	⁶ Well Number 402H
⁷ OGRID No. 325830			perator Name ENT ENERGY	⁹ Elevation 3790.9'

¹⁰ Surface Location

A 19 21S 33E 250 NORTH 615 EAST LEA

¹¹ Bottom Hole Location If Different From Surface

_							010 -0	••••••				
ſ	UL or lot no.	Sect	ion	Township	Range	Lot Idn	Feet	from the	North/South line	Feet from the	East/West line	County
	A	13	8	21S	33E			50	NORTH	330	EAST	LEA
ľ	12 Dedicated Acre	es	13 Jo	oint or Infill	14 Conso	olidation Code	1:	⁵ Order No.				
	160	160										



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

Date: 11-19-20

State of New Mexico Energy, Minerals and Natural Resources Department

Submit Original to Appropriate District Office

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

GAS CAPTURE PLAN

Date. <u>11 17 20</u>	
X Original	Operator & OGRID No.: Ascent Energy, LLC (325830)
☐ Amended - Reason for Amendment:	

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

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

Well(s)/Production Facility – Name of facility

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

Well Name	API	SHL (ULSTR)	SHL Footages	Expected MCF/D	Flared or Vented	Comments
Horseshoe Fed Com 303H	30-025-	A-19-21s-33e	250' FNL & 705' FEL	160	≈30 days	flare until well clean, then connect
Horseshoe Fed Com 304H	30-025-	A-19-21s-33e	250' FNL & 645' FEL	160	≈30 days	flare until well clean, then connect
Horseshoe Fed Com 402H	30-025- 30-025-48681	A-19-21s-33e	250' FNL & 615' FEL	160	≈30 days	flare until well clean, then connect
Horseshoe Fed Com 502H	30-025-47269	A-19-21s-33e	300' FNL & 705' FEL	160	≈30 days	flare until well clean, then connect
Horseshoe Fed Com 503H	30-025-	A-19-21s-33e	300' FNL & 615' FEL	160	≈30 days	flare until well clean, then connect
Horseshoe Fed Com 602H	30-025-47057	A-19-21s-33e	300' FNL & 675' FEL	160	≈30 days	flare until well clean, then connect
Horseshoe Fed Com 702H	30-025-47059	A-19-21s-33e	300' FNL & 645' FEL	160	≈30 days	flare until well clean, then connect
Horseshoe Fed Com 704H	30-025-	A-19-21s-33e	250' FNL & 675' FEL	160	≈30 days	flare until well clean, then connect

Gathering System and Pipeline Notification

Well will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. Gas produced from this production facility has not yet been dedicated. One possible outlet is a Versado Gas Processors, LLC (159160) line in K-19-21s-33e, ≈0.85 mile southwest of the Horseshoe pad. Operator will provide (periodically) to Gas Transporter a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Operator and Gas Transporter will have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Gas Transporter Processing Plant at an as yet undetermined location. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on <u>Gas Transporter</u> system at that time. Based on current information, it is <u>Operator's</u> belief the system ultimately can take this gas upon completion of the well(s).

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

Alternatives to Reduce Flaring

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

- Power Generation On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas On lease
 - o Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal On lease
 - o Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines



APD ID: 10400065606

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

Drilling Plan Data Report

Submission Date: 11/24/2020

Operator Name: ASCENT ENERGY LLC

Well Name: HORSESHOE FED COM Well Number: 402H

Well Type: OIL WELL Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation			True Vertical				Producing
ID	Formation Name	Elevation	Depth	Depth	Lithologies	Mineral Resources	Formation
1168608	QUATERNARY	3791	0	0	OTHER: None - Surface	USEABLE WATER	N
1168609	RUSTLER ANHYDRITE	2183	1608	1608	ANHYDRITE	USEABLE WATER	N
1168610	SALADO	1828	1963	1963	SALT	NONE	N
1168611	BASE OF SALT	401	3390	3403	ANHYDRITE, SALT	NONE	N
1168612	TANSILL	255	3536	3552	LIMESTONE	NONE	N
1168613	YATES	85	3706	3726	SANDSTONE, SHALE	NATURAL GAS, OIL	N
1168614	CAPITAN REEF	-240	4031	4056	LIMESTONE	USEABLE WATER	N
1168615	DELAWARE SAND	-1460	5251	5276	SANDSTONE	NATURAL GAS, OIL	N
1168616	CHERRY CANYON	-1971	5762	5787	SANDSTONE	NATURAL GAS, OIL	N
1168617	BRUSHY CANYON	-3338	7129	7154	SANDSTONE	NATURAL GAS, OIL	N
1168618	BONE SPRING LIME	-5077	8868	8893	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
1168619	AVALON SAND	-5273	9064	9089	LIMESTONE, SHALE	NATURAL GAS, OIL	N
1168620	BONE SPRING 1ST	-6224	10015	10078	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Well Name: HORSESHOE FED COM Well Number: 402H

Pressure Rating (PSI): 5M Rating Depth: 15000

Equipment: A 15,000 a 5,000 psi BOP stack consisting of 3 rams with 2 pipe rams, 1 blind ram, and 1 annular preventer will be used below surface casing to TD. See attachments for BOP and choke manifold diagrams. Also present will be an accumulator that meets the requirements of Onshore Order #2 for the pressure rating of the BOP stack. A rotating head will also be installed as needed. BOP will be inspected and operated as recommended in Onshore Order #2. A top drive check valve and sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position. The wellhead will be a multi-bowl speed head.

Requesting Variance? YES

Variance request: Ascent requests a variance to run a multi-bowl speed head for setting the Intermediate 1, Intermediate 2, and Production Strings. Ascent requests a variance to drill this well using a co-flex line between the BOP and choke manifold (instead of the 4" OD steel line). Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used. Ascent requests a variance to have the option of batch drilling this well with other wells on the same pad. In the even the wells are batch drilled, after drilling surface, 1st intermediate, and 2nd intermediate hole sections and cementing 2nd intermediate casing, a 10M dry hole cap with bleed off valve will be installed. The rig will then walk to another well on the pad. When the rig returns to this well and BOPs are installed, the operator will perform a full BOP test. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe. Ascent requests a variance to wave the centralizer requirement for the run 7-5/8" EZGO FJ3 casing inside 8.75" hole. Variance is also requested to wave any centralizer requirements for the 5-1/2" EZGO HT casing the 6-3/4" hole size. Ascent requests approval to possibly utilize a spudder rig to drill and set casing for the surface interval on this well. The spudder rig will be possibly utilized in order to reduce cost and save time. The wellhead will be installed and tested as soon as the surface casing is cut off per the existing COAs. A blind flange with the same pressure rating as the wellhead will be installed on the well. Once the spudder rig is removed, Ascent will secure the wellhead area by placing a guard rail around the cellar. Pressure will be monitored and a means for intervention will be maintained while the drilling rig is not over the well. Spudder rig operations are expected to take 2-3 days per well. Three wells on the pad will have surface casing set by the spudder rig as a part of this operation. The BLM will be notified 24 hours prior to commencing spudder rig operations. Within 90 days of the departure of the spudder rig, drilling operations will recommence on these wells. This rig will have a BOP stack equal or greater to the pressure rating required in the COAs. The BLM will be notified 24 hours before the larger rig moves on the preset wells. Ascent will have supervision on the spudder rig to ensure compliance with all BLM and NMOCD regulations. Testing Procedure: After surface casing is set and the BOP is nippled up, the BOP pressure tests will be made with a third party tester to 250 psi low, 5000 psi high, and the annular preventer will be tested to 2,500 psi. The BOP will be tested in this manner after nipple-up if any break of the stack occurs as wells as every 30 days.

Choke Diagram Attachment:

5M_BOPE_Choke_Diagram_12.03.2020_20201204114636.pdf

BOP Diagram Attachment:

5M_BOPE_Choke_Diagram_12.03.2020_20201204114640.pdf

Well Name: HORSESHOE FED COM Well Number: 402H

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	1633	0	1633	3791	2158	1633	J-55	54.5	ST&C	1.39	2.83	DRY	2.72	DRY	2.72
2	INTERMED IATE	12.2 5	9.625	NEW	API	N	0	3655	0	3636	3809	155	3655	J-55	40	LT&C	1.36	1.64	DRY	1.84	DRY	1.84
3	INTERMED IATE	8.75	7.625		NON API	N	0	5276	0	5251	3809	-1460	5276	HCP -110		OTHER - EZGO FJ3	3.75	2.45	DRY	2.38	DRY	2.38
4	PRODUCTI ON	6.75	5.5		NON API	N	0	15682	0	10202	3809	-6411	15682	HCP -110		OTHER - EZGO HT	2.4	2.39	DRY	1.64	DRY	1.64

Casing Attachments

Casing ID: 1 String Type: SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

 $HS_402H_Casing_Design_Assumptions_20201122111047.pdf$

Well Name: HORSESHOE FED COM Well Number: 402H

Casing Attachments

Casing ID: 2 String Type: INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

HS_402H_Casing_Design_Assumptions_20201122111152.pdf

Casing ID: 3 String Type: INTERMEDIATE

Inspection Document:

Spec Document:

7.625_EZGO_Casing_Spec_20201122111113.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing ID: 4 String Type: PRODUCTION

Inspection Document:

Spec Document:

5.5_P110_HC_EZGO_HT_Spec_Sheet_20201122111017.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

HS_402H_Casing_Design_Assumptions_20201122111026.pdf

Section 4 - Cement

Well Name: HORSESHOE FED COM Well Number: 402H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1133	890	1.73	13.5	1532	100	Class C	None
SURFACE	Tail		1133	1633	550	1.33	14.8	695	100	Class C	None
INTERMEDIATE	Lead		0	2655	715	1.73	12.7	1233	100	Class C	None
INTERMEDIATE	Tail		2655	3655	485	1.33	14.8	626	100	Class C	None
INTERMEDIATE	Lead		0	3976	220	2.04	12.7	445	50	Class C	None
INTERMEDIATE	Tail		3976	5276	155	1.37	14.8	196	50	Class C	None
PRODUCTION	Lead		0	5500	195	2.89	11	560	25	TXI Nine Lite Cement	None
PRODUCTION	Tail		5500	1568 2	2190	1.47	13.2	3215	25	35/65 Poz H	None

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 mud products (e. g., barite, cedar bark) for weight addition and fluid loss control will always be on site. Mud program is subject to change due to hole conditions.

Describe the mud monitoring system utilized: Electronic Pason mud monitor system complying with Onshore Order 1 will be used.

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)	ЬН	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1633	OTHER : Fresh Water	8.4	9.6							

Well Name: HORSESHOE FED COM Well Number: 402H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	НА	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1633	3655	OTHER : Brine Water	10	10							
3655	5276	OTHER : Fresh Water	8.4	8.6							
5276	1568 2	OIL-BASED MUD	9	9.5							

Section 6 - Test, Logging, Coring

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

Electric Logging Program: No open-hole logs are planned at this time for the pilot hole.

GR will be collected while drilling through the MWD tools from 9.625" casing shoe to TD.

A 2-person mud logging program will be used from 9.625" casing shoe to TD List of open and cased hole logs run in the well:

GAMMA RAY LOG, MUD LOG/GEOLOGICAL LITHOLOGY LOG,

Coring operation description for the well:

No DSTs or cores are planned at this time.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5800 Anticipated Surface Pressure: 3555

Anticipated Bottom Hole Temperature(F): 161

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:

HS_EastPad_H2S_Plan_v2_020921_20210212093442.pdf

Well Name: HORSESHOE FED COM Well Number: 402H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

HS_402H_Horizontal_Plan_20201122111454.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

CoFlex_Certs_20201122111610.pdf
HS_402H_Anticollision_Report_20201122111626.pdf
HS_402H_Drill_Plan_v2_20201204114621.pdf
Wellhead_v2_20210212093457.pdf

Other Variance attachment:

HS_Surface_Rig_Variance_20201122111657.pdf

ASCENT ENERGY

LEA COUNTY, NEW MEXICO (NAD 83) (GRID) SEC 19 T21S R33E N.M.P.M. (GRID) HORSESHOE FED COM 402H

ORIGINAL WELLBORE 03 November, 2020

Plan: PROPOSAL #1

Database: Database 1

Company: ASCENT ENERGY

Project: LEA COUNTY, NEW MEXICO (NAD 83)

(GRID)

Site: SEC 19 T21S R33E N.M.P.M. (GRID)

Well: HORSESHOE FED COM 402H

Wellbore: ORIGINAL WELLBORE Design: PROPOSAL #1

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference:

Survey Calculation Method:

Well HORSESHOE FED COM 402H

KB 25' @ 3819.90usft KB 25' @ 3819.90usft

Grid

Minimum Curvature

LEA COUNTY, NEW MEXICO (NAD 83) (GRID) **Project**

Map System: US State Plane 1983 North American Datum 1983 Geo Datum:

Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Using geodetic scale factor

SEC 19 T21S R33E N.M.P.M. (GRID) Site

Site Position: Northing: 535,784.18 usft Latitude: 32.470829 Easting: 765,814.78 usft Longitude: -103.605449 From: Map **Position Uncertainty:** 0.00 usft Slot Radius: 1.10ft **Grid Convergence:** 0.39°

Well HORSESHOE FED COM 402H

Well Position +N/-S 50.47 usft Northing: 535,834.65 usft Latitude: 32.470967 +E/-W 89.72 usft Easting: 765,904.50 usft Longitude: -103.605157

Position Uncertainty 0.00 usft Wellhead Elevation: usft Ground Level: 3,794.90 usft

Wellbore **ORIGINAL WELLBORE**

Magnetics Declination **Dip Angle** Field Strength **Model Name Sample Date** (°) (°) (nT) IGRF2020 2020-11-01 6.65 60.14 47,698.47490108

Design PROPOSAL#1

Audit Notes:

Version: Phase: **PROTOTYPE** Tie On Depth: 0.00

Depth From (TVD) Vertical Section: +N/-S +E/-W Direction (usft) (usft) (usft) (°) 0.00 0.00 0.00 359.58

Plan Section	ns										
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	-3,819.90	0.00	0.00	0.00	0.00	0.00	0.00	
2,400.00	0.00	0.00	2,400.00	-1,419.90	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	12.00	140.52	2,995.62	-824.28	-48.32	39.80	2.00	2.00	0.00	140.52	
3,748.31	12.00	140.52	3,727.58	-92.32	-168.41	138.72	0.00	0.00	0.00	0.00	
4,348.31	0.00	0.00	4,323.20	503.30	-216.73	178.52	2.00	-2.00	0.00	180.00	
9,654.05	0.00	0.00	9,628.94	5,809.04	-216.73	178.52	0.00	0.00	0.00	0.00	KOP - HORSESHO
10,554.05	90.00	7.34	10,201.90	6,382.00	351.53	251.72	10.00	10.00	0.82	7.34	FTP *NEW* - HORS
10,644.05	90.00	7.34	10,201.90	6,382.00	440.79	263.22	0.00	0.00	0.00	0.00	
10,902.56	90.00	359.58	10,201.90	6,382.00	698.64	278.82	3.00	0.00	-3.00	-90.00	
15,632.33	90.00	359.58	10,201.90	6,382.00	5,428.28	244.54	0.00	0.00	0.00	0.00	LTP - HORSESHOE
15,634.83	90.00	359.66	10,201.90	6,382.00	5,430.79	244.52	3.00	0.00	3.00	90.00	
15,682.32	90.00	359.66	10,201.90	6,382.00	5,478.27	244.24	0.00	0.00	0.00	0.00	BHL - HORSESHO

Database: Database 1

Company: ASCENT ENERGY

Project: LEA COUNTY, NEW MEXICO (NAD 83)

(GRID)

Site: SEC 19 T21S R33E N.M.P.M. (GRID)

Well: HORSESHOE FED COM 402H
Wellbore: ORIGINAL WELLBORE

Design: PROPOSAL #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:

North Reference:

Survey Calculation Method:

Well HORSESHOE FED COM 402H

KB 25' @ 3819.90usft KB 25' @ 3819.90usft

Grid

Planned Surve	ey .									
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: 2	250ft FNL 8	615ft FEL of	Sec 19							
0.00 100.00 200.00 300.00 400.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 100.00 200.00 300.00 400.00	3,819.90 3,719.90 3,619.90 3,519.90 3,419.90	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
500.00 600.00 700.00 800.00 900.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	500.00 600.00 700.00 800.00 900.00	3,319.90 3,219.90 3,119.90 3,019.90 2,919.90	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
1,000.00 1,100.00 1,200.00 1,300.00 1,400.00 1,500.00	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 1,100.00 1,200.00 1,300.00 1,400.00 1,500.00	2,819.90 2,719.90 2,619.90 2,519.90 2,419.90 2,319.90	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
1,600.00	0.00	0.00	1,600.00	2,219.90	0.00	0.00	0.00	0.00	0.00	0.00
RUSTI										
1,607.90 1,700.00 1,800.00	0.00 0.00 0.00	0.00 0.00 0.00	1,607.90 1,700.00 1,800.00	2,212.00 2,119.90 2,019.90	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
1,900.00	0.00	0.00	1,900.00	1,919.90	0.00	0.00	0.00	0.00	0.00	0.00
SALAI										
1,962.90 2,000.00 2,100.00 2,200.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	1,962.90 2,000.00 2,100.00 2,200.00	1,857.00 1,819.90 1,719.90 1,619.90	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
2,300.00	0.00	0.00	2,300.00	1,519.90	0.00	0.00	0.00	0.00	0.00	0.00
		2°/100ft BUR)								
2,400.00 2,500.00 2,600.00 2,700.00	0.00 2.00 4.00 6.00	0.00 140.52 140.52 140.52	2,400.00 2,499.98 2,599.84 2,699.45	1,419.90 1,319.92 1,220.06 1,120.45	0.00 -1.35 -5.39 -12.11	0.00 1.11 4.44 9.98	0.00 -1.36 -5.42 -12.19	0.00 2.00 2.00 2.00	0.00 2.00 2.00 2.00	0.00 0.00 0.00 0.00
2,800.00	8.00	140.52	2,798.70	1,021.20	-21.52	17.73	-21.65	2.00	2.00	0.00
2,900.00	10.00 O 12° INC	140.52	2,897.47	922.43	-33.59	27.67	-33.80	2.00	2.00	0.00
3,000.00 3,100.00 3,200.00	12.00 12.00 12.00	140.52 140.52 140.52	2,995.62 3,093.44 3,191.25	824.28 726.46 628.65	-48.32 -64.37 -80.42	39.80 53.02 66.24	-48.61 -64.76 -80.90	2.00 0.00 0.00	2.00 0.00 0.00	0.00 0.00 0.00
3,300.00 3,400.00 BASE	12.00 12.00 SALADO S	140.52 140.52 SALTS	3,289.07 3,386.88	530.83 433.02	-96.46 -112.51	79.46 92.68	-97.04 -113.19	0.00 0.00	0.00 0.00	0.00 0.00
3,403.09	12.00	140.52	3,389.90	430.00	-113.01	93.08	-113.69	0.00	0.00	0.00
3,500.00	12.00	140.52	3,484.70	335.20	-128.56	105.90	-129.33	0.00	0.00	0.00
TANSI		440 =0	0.505.00	00460	400.00	440.04	407 =0	0.00	0.00	2.22
3,552.35	12.00	140.52	3,535.90	284.00	-136.96	112.81	-137.78	0.00	0.00	0.00
3,600.00 3,700.00 YATES	12.00 12.00	140.52 140.52	3,582.51 3,680.33	237.39 139.57	-144.61 -160.66	119.11 132.33	-145.48 -161.62	0.00 0.00	0.00 0.00	0.00 0.00
3,726.14	12.00	140.52	3,705.90	114.00	-164.85	135.79	-165.84	0.00	0.00	0.00
END O	F TANGEN	NT .								

Database: Database 1

Company: ASCENT ENERGY

Project: LEA COUNTY, NEW MEXICO (NAD 83)

(GRID)

 Site:
 SEC 19 T21S R33E N.M.P.M. (GRID)

 Well:
 HORSESHOE FED COM 402H

Wellbore: ORIGINAL WELLBORE

Design: PROPOSAL #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:

North Reference:

Survey Calculation Method:

Well HORSESHOE FED COM 402H

KB 25' @ 3819.90usft KB 25' @ 3819.90usft

Grid

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)
3,748.31 3,800.00	12.00 10.97	140.52 140.52	3,727.58 3,778.24	92.32 41.66	-168.41 -176.35	138.72 145.26	-169.42 -177.41	0.00 2.00	0.00 -2.00	0.00 0.00
3,900.00 4,000.00	8.97 6.97	140.52 140.52	3,876.72 3,975.75	-56.82 -155.85	-189.71 -200.41	156.26 165.07	-190.85 -201.61	2.00 2.00	-2.00 -2.00	0.00 0.00
	AN REEF									
4,055.50 4,100.00 4,200.00	5.86 4.97 2.97	140.52 140.52 140.52	4,030.90 4,075.20 4,174.96	-211.00 -255.30 -355.06	-205.19 -208.43 -213.77	169.01 171.68 176.08	-206.42 -209.68 -215.05	2.00 2.00 2.00	-2.00 -2.00 -2.00	0.00 0.00 0.00
4,300.00	0.97	140.52	4,274.90	-455.00	-216.42	178.26	-217.72	2.00	-2.00	0.00
1	O VERTIC		1,21 1100							
4,348.31 4,400.00 4,500.00 4,600.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	4,323.20 4,374.89 4,474.89 4,574.89	-503.30 -554.99 -654.99 -754.99	-216.73 -216.73 -216.73 -216.73	178.52 178.52 178.52 178.52	-218.03 -218.03 -218.03 -218.03	2.00 0.00 0.00 0.00	-2.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
4,700.00 4,800.00 4,900.00 5,000.00 5,100.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	4,674.89 4,774.89 4,874.89 4,974.89 5,074.89	-854.99 -954.99 -1,054.99 -1,154.99 -1,254.99	-216.73 -216.73 -216.73 -216.73 -216.73	178.52 178.52 178.52 178.52 178.52	-218.03 -218.03 -218.03 -218.03 -218.03	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
5,200.00	0.00	0.00	5,174.89	-1,354.99	-216.73	178.52	-218.03	0.00	0.00	0.00
5,276.01	ELAWARE 0.00	0.00	5,250.90	-1,431.00	-216.73	178.52	-218.03	0.00	0.00	0.00
5,300.00 5,400.00 5,500.00	0.00 0.00 0.00	0.00 0.00 0.00	5,274.89 5,374.89 5,474.89	-1,451.00 -1,454.99 -1,554.99	-216.73 -216.73 -216.73	178.52 178.52 178.52 178.52	-218.03 -218.03 -218.03	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
5,600.00 5,700.00	0.00 0.00	0.00 0.00	5,574.89 5,674.89	-1,754.99 -1,854.99	-216.73 -216.73	178.52 178.52	-218.03 -218.03	0.00 0.00	0.00 0.00	0.00 0.00
	RY CANYO									
5,787.01 5,800.00 5,900.00	0.00 0.00 0.00	0.00 0.00 0.00	5,761.90 5,774.89 5,874.89	-1,942.00 -1,954.99 -2,054.99	-216.73 -216.73 -216.73	178.52 178.52 178.52	-218.03 -218.03 -218.03	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
6,000.00 6,100.00 6,200.00 6,300.00 6,400.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	5,974.89 6,074.89 6,174.89 6,274.89 6,374.89	-2,154.99 -2,254.99 -2,354.99 -2,454.99 -2,554.99	-216.73 -216.73 -216.73 -216.73 -216.73	178.52 178.52 178.52 178.52 178.52	-218.03 -218.03 -218.03 -218.03 -218.03	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
6,500.00 6,600.00 6,700.00 6,800.00 6,900.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	6,474.89 6,574.89 6,674.89 6,774.89 6,874.89	-2,654.99 -2,754.99 -2,854.99 -2,954.99 -3,054.99	-216.73 -216.73 -216.73 -216.73 -216.73	178.52 178.52 178.52 178.52 178.52	-218.03 -218.03 -218.03 -218.03 -218.03	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
7,000.00 7,100.00	0.00 0.00 HY CANYO	0.00 0.00	6,974.89 7,074.89	-3,154.99 -3,254.99	-216.73 -216.73	178.52 178.52	-218.03 -218.03	0.00 0.00	0.00 0.00	0.00 0.00
7,154.01 7,200.00 7,300.00	0.00 0.00 0.00	0.00 0.00 0.00	7,128.90 7,174.89 7,274.89	-3,309.00 -3,354.99 -3,454.99	-216.73 -216.73 -216.73	178.52 178.52 178.52	-218.03 -218.03 -218.03	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
7,400.00 7,500.00 7,600.00 7,700.00 7,800.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	7,374.89 7,474.89 7,574.89 7,674.89 7,774.89	-3,554.99 -3,654.99 -3,754.99 -3,854.99 -3,954.99	-216.73 -216.73 -216.73 -216.73 -216.73	178.52 178.52 178.52 178.52 178.52	-218.03 -218.03 -218.03 -218.03 -218.03	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00

Database: Database 1

Company: ASCENT ENERGY

Project: LEA COUNTY, NEW MEXICO (NAD 83)

(GRID)

Site: SEC 19 T21S R33E N.M.P.M. (GRID)
Well: HORSESHOE FED COM 402H

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Survey Calculation Method:

Well HORSESHOE FED COM 402H

KB 25' @ 3819.90usft KB 25' @ 3819.90usft

Grid

Planned Surve	/									
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)
7,900.00 8,000.00 8,100.00 8,200.00 8,300.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	7,874.89 7,974.89 8,074.89 8,174.89 8,274.89	-4,054.99 -4,154.99 -4,254.99 -4,354.99 -4,454.99	-216.73 -216.73 -216.73 -216.73 -216.73	178.52 178.52 178.52 178.52 178.52	-218.03 -218.03 -218.03 -218.03 -218.03	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
8,400.00 8,500.00 8,600.00 8,700.00 8,800.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	8,374.89 8,474.89 8,574.89 8,674.89 8,774.89	-4,554.99 -4,654.99 -4,754.99 -4,854.99 -4,954.99	-216.73 -216.73 -216.73 -216.73 -216.73	178.52 178.52 178.52 178.52 178.52	-218.03 -218.03 -218.03 -218.03 -218.03	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
BSPG	LIME									
8,893.01 8,900.00 9,000.00	0.00 0.00 0.00	0.00 0.00 0.00	8,867.90 8,874.89 8,974.89	-5,048.00 -5,054.99 -5,154.99	-216.73 -216.73 -216.73	178.52 178.52 178.52	-218.03 -218.03 -218.03	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
AVLN 9,089.01	0.00	0.00	9.063.90	-5,244.00	-216.73	178.52	-218.03	0.00	0.00	0.00
9,100.00	0.00	0.00	9,074.89	-5,254.99	-216.73	178.52	-218.03	0.00	0.00	0.00
9,200.00 9,300.00	0.00 0.00	0.00 0.00	9,174.89 9,274.89	-5,354.99 -5,454.99	-216.73 -216.73	178.52 178.52	-218.03 -218.03	0.00 0.00	0.00 0.00	0.00 0.00
LEONA		0.00	0.204.00	F 400 00	040.70	470.50	240.02	0.00	0.00	0.00
9,327.01 9,400.00 9,500.00	0.00 0.00 0.00	0.00 0.00 0.00	9,301.90 9,374.89 9,474.89	-5,482.00 -5,554.99 -5,654.99	-216.73 -216.73 -216.73	178.52 178.52 178.52	-218.03 -218.03 -218.03	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
9,600.00	0.00	0.00	9,574.89	-5,754.99	-216.73	178.52	-218.03	0.00	0.00	0.00
	0°/100ft BU		0.000.04	F 000 04	040.70	470.50	240.02	0.00	0.00	0.00
9,654.05 9,700.00 9,800.00 9,900.00	0.00 4.60 14.60 24.60	0.00 7.34 7.34 7.34	9,628.94 9,674.84 9,773.32 9,867.41	-5,809.04 -5,854.94 -5,953.42 -6,047.51	-216.73 -214.90 -198.39 -165.17	178.52 178.76 180.88 185.16	-218.03 -216.21 -199.71 -166.52	0.00 10.00 10.00 10.00	0.00 10.00 10.00 10.00	0.00 0.00 0.00 0.00
10,000.00	34.60	7.34	9,954.25	-6,134.35	-116.25	191.46	-117.65	10.00	10.00	0.00
	PG SAND		10.011.00	0.405.00	20.45	407.00		10.00	10.00	
10,077.52 10,100.00 10,200.00 10,300.00	42.35 44.60 54.60 64.60	7.34 7.34 7.34 7.34	10,014.90 10,031.21 10,095.95 10,146.49	-6,195.00 -6,211.31 -6,276.05 -6,326.59	-68.45 -53.12 22.31 107.74	197.62 199.60 209.31 220.32	-69.90 -54.58 20.78 106.12	10.00 10.00 10.00 10.00	10.00 10.00 10.00 10.00	0.00 0.00 0.00 0.00
10,400.00 10,500.00	74.60 84.60	7.34 7.34	10,181.32 10,199.35	-6,361.42 -6,379.45	200.58 298.01	232.28 244.83	198.87 296.20	10.00 10.00	10.00 10.00	0.00 0.00
10,554.05 10,600.00	90.00 90.00	7.34 7.34	FEL of Sec 18 10,201.90 10,201.90	-6,382.00 -6,382.00	351.53 397.11	251.72 257.59	349.68 395.21	10.00 0.00	10.00 0.00	0.00 0.00
	F TANGEN		10 201 00	6 202 00	440.70	262.00	420 OF	0.00	0.00	0.00
10,644.05	90.00	7.34	10,201.90	-6,382.00	440.79	263.22	438.85	0.00	0.00	0.00
10,700.00 10,800.00 10,900.00	90.00 90.00 90.00	5.66 2.66 359.66	10,201.90 10,201.90 10,201.90	-6,382.00 -6,382.00 -6,382.00	496.39 596.11 696.08	269.55 276.81 278.84	494.40 594.07 694.02	3.00 3.00 3.00	0.00 0.00 0.00	-3.00 -3.00 -3.00
10,902.56	359.58° A 90.00	359.58	10,201.90	-6,382.00	698.64	278.82	696.57	3.00	0.00	-3.00
11,000.00	90.00	359.58	10,201.90	-6,382.00	796.08	278.11	794.02	0.00	0.00	0.00
11,100.00 11,200.00 11,300.00 11,400.00	90.00 90.00 90.00 90.00	359.58 359.58 359.58 359.58	10,201.90 10,201.90 10,201.90 10,201.90	-6,382.00 -6,382.00 -6,382.00 -6,382.00	896.07 996.07 1,096.07 1,196.07	277.39 276.66 275.94 275.21	894.02 994.02 1,094.02 1,194.02	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00

Database: Database 1

Company: ASCENT ENERGY

Project: LEA COUNTY, NEW MEXICO (NAD 83)

(GRID)

Site: SEC 19 T21S R33E N.M.P.M. (GRID)
Well: HORSESHOE FED COM 402H

Well: HORSESHOE FED COM Wellbore: ORIGINAL WELLBORE

Design: PROPOSAL #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:

North Reference:

Survey Calculation Method:

Well HORSESHOE FED COM 402H

KB 25' @ 3819.90usft KB 25' @ 3819.90usft

Grid

Planned Surve	ey 💮									
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)
11,500.00	90.00	359.58	10,201.90	-6,382.00	1,296.06	274.49	1,294.02	0.00	0.00	0.00
11,600.00 11,700.00 11,800.00 11,900.00 12,000.00	90.00 90.00 90.00 90.00 90.00	359.58 359.58 359.58 359.58 359.58	10,201.90 10,201.90 10,201.90 10,201.90 10,201.90	-6,382.00 -6,382.00 -6,382.00 -6,382.00 -6,382.00	1,396.06 1,496.06 1,596.06 1,696.05 1,796.05	273.76 273.04 272.31 271.59 270.86	1,394.02 1,494.02 1,594.02 1,694.02 1,794.02	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
12,000.00 12,100.00 12,200.00 12,300.00 12,400.00 12,500.00	90.00 90.00 90.00 90.00 90.00	359.58 359.58 359.58 359.58 359.58	10,201.90 10,201.90 10,201.90 10,201.90 10,201.90	-6,382.00 -6,382.00 -6,382.00 -6,382.00 -6,382.00	1,896.05 1,996.04 2,096.04 2,196.04 2,296.04	270.36 270.14 269.42 268.69 267.97 267.24	1,794.02 1,894.02 1,994.02 2,094.02 2,194.02 2,294.02	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
12,600.00 12,700.00 12,800.00 12,900.00 13,000.00	90.00 90.00 90.00 90.00 90.00	359.58 359.58 359.58 359.58 359.58	10,201.90 10,201.90 10,201.90 10,201.90 10,201.90	-6,382.00 -6,382.00 -6,382.00 -6,382.00 -6,382.00	2,396.03 2,496.03 2,596.03 2,696.03 2,796.02	266.52 265.79 265.07 264.34 263.62	2,394.02 2,494.02 2,594.02 2,694.02 2,794.02	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
13,100.00 13,200.00 13,300.00 13,400.00 13,500.00	90.00 90.00 90.00 90.00 90.00	359.58 359.58 359.58 359.58 359.58	10,201.90 10,201.90 10,201.90 10,201.90 10,201.90	-6,382.00 -6,382.00 -6,382.00 -6,382.00 -6,382.00	2,896.02 2,996.02 3,096.02 3,196.01 3,296.01	262.89 262.17 261.44 260.72 259.99	2,894.02 2,994.02 3,094.02 3,194.02 3,294.02	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
13,600.00 13,700.00 13,800.00 13,900.00 14,000.00	90.00 90.00 90.00 90.00 90.00	359.58 359.58 359.58 359.58 359.58	10,201.90 10,201.90 10,201.90 10,201.90 10,201.90	-6,382.00 -6,382.00 -6,382.00 -6,382.00 -6,382.00	3,396.01 3,496.01 3,596.00 3,696.00 3,796.00	259.27 258.54 257.82 257.09 256.37	3,394.02 3,494.02 3,594.02 3,694.02 3,794.02	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
14,100.00 14,200.00 14,300.00 14,400.00 14,500.00	90.00 90.00 90.00 90.00 90.00	359.58 359.58 359.58 359.58 359.58	10,201.90 10,201.90 10,201.90 10,201.90 10,201.90	-6,382.00 -6,382.00 -6,382.00 -6,382.00 -6,382.00	3,895.99 3,995.99 4,095.99 4,195.99 4,295.98	255.64 254.92 254.19 253.47 252.75	3,894.02 3,994.02 4,094.02 4,194.02 4,294.02	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
14,600.00 14,700.00 14,800.00 14,900.00 15,000.00	90.00 90.00 90.00 90.00 90.00	359.58 359.58 359.58 359.58 359.58	10,201.90 10,201.90 10,201.90 10,201.90 10,201.90	-6,382.00 -6,382.00 -6,382.00 -6,382.00 -6,382.00	4,395.98 4,495.98 4,595.98 4,695.97 4,795.97	252.02 251.30 250.57 249.85 249.12	4,394.02 4,494.02 4,594.02 4,694.02 4,794.02	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
15,100.00 15,200.00 15,300.00 15,400.00 15,500.00	90.00 90.00 90.00 90.00 90.00	359.58 359.58 359.58 359.58 359.58	10,201.90 10,201.90 10,201.90 10,201.90 10,201.90	-6,382.00 -6,382.00 -6,382.00 -6,382.00 -6,382.00	4,895.97 4,995.97 5,095.96 5,195.96 5,295.96	248.40 247.67 246.95 246.22 245.50	4,894.02 4,994.02 5,094.02 5,194.02 5,294.02	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
15,600.00	90.00	359.58 330ft FEL of 359.58	10,201.90	-6,382.00	5,395.96 5,428.28	244.77 244.54	5,394.02 5,426.34	0.00	0.00	0.00 0.00
	O 359.66° A		. 5,20 1.00	0,00 <u>2.00</u>	0, .20.20	2,7,07	5, 120.07	0.00	0.00	2.00
15,634.83	90.00	359.66	10,201.90	-6,382.00	5,430.79	244.52	5,428.85	3.00	0.00	3.00
		330ft FEL of		6 292 00	<i>5 1</i> 70 27	244 24	5 A76 22	0.00	0.00	0.00
15,682.32	90.00	359.66	10,201.90	-6,382.00	5,478.27	244.24	5,476.33	0.00	0.00	0.00

Database: Database 1

Company: ASCENT ENERGY

Project: LEA COUNTY, NEW MEXICO (NAD 83)

(GRID)

Site: SEC 19 T21S R33E N.M.P.M. (GRID)

Well: HORSESHOE FED COM 402H
Wellbore: ORIGINAL WELLBORE

Design: PROPOSAL #1

Local Co-ordinate Reference:

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North Reference:

Survey Calculation Method:

Well HORSESHOE FED COM 402H

KB 25' @ 3819.90usft KB 25' @ 3819.90usft

Grid

Formations						
	MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,607.90	1,607.90	RUSTLER		0.00	
	1,962.90	1,962.90	SALADO		0.00	
	3,403.09	3,389.90	BASE SALADO SALTS		0.00	
	3,552.35	3,535.90	TANSIL		0.00	
	3,726.14	3,705.90	YATES		0.00	
	4,055.50	4,030.90	CAPITAN REEF TOP		0.00	
	5,276.01	5,250.90	TOP DELAWARE SAND		0.00	
	5,787.01	5,761.90	CHERRY CANYON		0.00	
	7,154.01	7,128.90	BRUSHY CANYON		0.00	
	8,893.01	8,867.90	BSPG LIME		0.00	
	9,089.01	9,063.90	AVLN		0.00	
	9,327.01	9,301.90	LEONARD B		0.00	
	10,077.52	10,014.90	1ST BSPG SAND		0.00	

Plan Annotations				
MD (usft)	TVD (usft)	Local Co +N/-S (usft)	ordinates +E/-W (usft)	Comment
0.00	0.00	0.00	0.00	SHL: 250ft FNL & 615ft FEL of Sec 19
2,400.00	2,400.00	0.00	0.00	START NUDGE (2°/100ft BUR)
3,000.00	2,995.62	-48.32	39.80	EOB TO 12° INC
3,748.31	3,727.58	-168.41	138.72	END OF TANGENT
4,348.31	4,323.20	-216.73	178.52	EOD TO VERTICAL
9,654.05	9,628.94	-216.73	178.52	KOP (10°/100ft BUR)
10,554.05	10,201.90	351.53	251.72	FTP *NEW*: 100ft FSL & 360ft FEL of Sec 18
10,644.05	10,201.90	440.79	263.22	END OF TANGENT
10,902.56	10,201.90	698.64	278.82	EOT TO 359.58° AZ
15,632.33	10,201.90	5,428.28	244.54	LTP: 100ft FNL & 330ft FEL of Sec 18
15,634.83	10,201.90	5,430.79	244.52	EOT TO 359.66° AZ
15,682.32	10,201.90	5,478.27	244.24	BHL: 50ft FNL & 330ft FEL of Sec 18

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME: Ascent Energy LLC

LEASE NO.: NMNM129263

WELL NAME & NO.: Horseshoe Federal Com 402H

SURFACE HOLE FOOTAGE: 250'/N & 615'/E **BOTTOM HOLE FOOTAGE** 50'/N & 330'/E

LOCATION: | Section 19, T.21 S., R.33 E., NMPM

COUNTY: Lea County, New Mexico

COA

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

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

- 1. The 13-3/8 inch surface casing shall be set at approximately 1,680 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.

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- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **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 minimum required fill of cement behind the 9-5/8 inch intermediate 1 casing and shall be set at approximately 3,636 feet is:
 - 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.

- ❖ In <u>R111 Potash Areas</u> if cement does not circulate to surface on the first two salt protection 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:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.

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HORSESHOE FEDERAL COM #402H

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

THE INTERMEDIATE 2 CASING HAS AN EXCESS OF 18%. ADDITIONAL CEMENT MAY BE NEEDED.

- 4. The minimum required fill of cement behind the **5-1/2 inch** production casing with a tie-back into the previous casing to the surface is:
 - Cement should tie-back at least **50 feet** on top of Capitan Reef top **or 200 feet** into the previous casing, whichever is greater. 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, potash or capitan reef.

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, intermediate 1, and intermediate 2 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.

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D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, 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.

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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 CountyCall 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.

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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.

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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

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- 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.

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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 (02/23/2021)

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Approval Date: 04/09/2021



- 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 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 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 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, 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 $\rm H_2S$.

Company	Personnel	to be	Notified

Dean Gimbel, Vice President Completions Office:	(720)	710-8995
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Mobile: (303) 945-1323

Matt Ward, Chief Operations Officer Mobile: (303) 506-6647

Ascent Emergency Contact Number (303) 281-9951

Local & County Agencies

511 01 (010) 050 100	Monument Fire Department	911 or (575) 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

(515) 552 5555	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	

NOTES:

Contours shown at 2' intervals.

ASCENT ENERGY

HORSESHOE FED COM 303H, 304H, 402H, 502H, 503H, 602H, 702H & 704H NE 1/4 NE 1/4, SECTION 19, T21S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

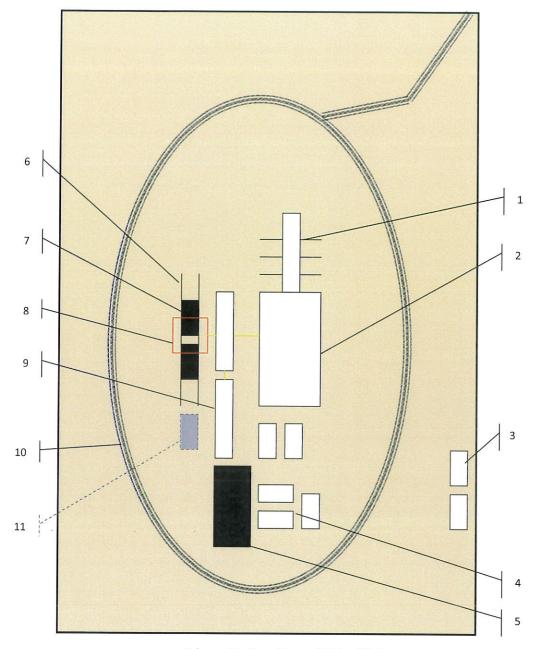
 SURVEYED BY
 R.C., M.D.
 09-06-18
 SCALE

 DRAWN BY
 J.N.
 03-26-18
 1" = 80"

 TYPICAL RIG LAYOUT
 FIGURE #3

JINTAH Coi

UELS, LLC Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017



Schematic Closed Loop Drilling Rig*

- 1. Pipe Rack
- 2. Drill Rig
- 3. House Trailers/ Offices
- 4. Generator/Fuel/Storage
- 5. Overflow-Frac Tank
- 6. Skids
- 7. Roll Offs
- 8. Hopper or Centrifuge
- 9. Mud Tanks
- 10. Loop Drive
- 11. Generator (only for use with centrifuge)

*Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available





Above: Centrifugal Closed Loop System



Closed Loop Drilling System: Mud tanks to right (1)

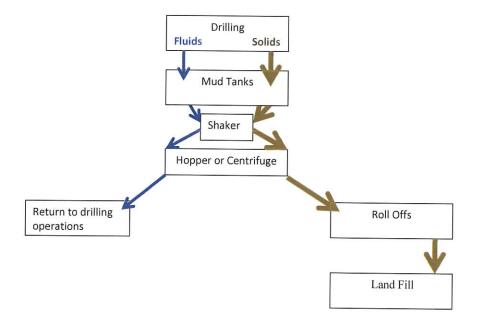
Hopper in air to settle out solids (2)

Water return pipe (3)

Shaker between hopper and mud tanks (4)

Roll offs on skids (5)

Flow Chart for Drilling Fluids and Solids



Photos Courtesy of Gandy Corporation Oil Field Service



<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720

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

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

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

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

CONDITIONS

Action 23758

CONDITIONS OF APPROVAL

Operator: OG	GRID:	Action Number:	Action Type:
ASCENT ENERGY, LLC. 1125 17th St Suite 410 Denver, CO80202	325830	23758	FORM 3160-3

OCD Reviewer	Condition
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104
1 .	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string