

Form 3160-3
(June 2015)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM122614
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator MACK ENERGY CORPORATION		8. Lease Name and Well No. POWELL RIVER FEDERAL COM
3a. Address 11344 Lovington HWY, Artesia, NM 88211		9. API Well No. 30-005-64352
3b. Phone No. (include area code) (575) 748-1288		10. Field and Pool, or Exploratory ROUND TANK/SAN ANDRES
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SESE / 602 FSL / 990 FEL / LAT 33.0104187 / LONG -103.9938205 At proposed prod. zone SESE / 1 FSL / 990 FEL / LAT 32.9942041 / LONG -103.9938407		11. Sec., T. R. M. or Blk. and Survey or Area SEC 14/T15S/R29E/NMP
14. Distance in miles and direction from nearest town or post office* 30 miles		12. County or Parish CHAVES
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 602 feet		13. State NM
16. No of acres in lease 480		17. Spacing Unit dedicated to this well 160.0
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 120 feet		20. BLM/BIA Bond No. in file FED: NMB000286
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3920 feet		22. Approximate date work will start* 05/01/2020
		23. Estimated duration 20 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 Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be requested by the BLM. |

25. Signature (Electronic Submission)	Name (Printed/Typed) Deana Weaver / Ph: (575) 748-1288	Date 02/05/2020
Title Production Clerk		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Ruben J Sanchez / Ph: (575) 627-0250	Date 04/28/2020
Title Assistant Field Manager, Lands & Minerals		
Office Roswell 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.

APPROVED WITH CONDITIONS

Approval Date: 04/28/2020

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos 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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-005-64352	² Pool Code 52770	³ Pool Name Round Tank; San Andres
⁴ Property Code 328306	⁵ Property Name POWELL RIVER FEDERAL COM	
⁷ OGRID No. 13837	⁸ Operator Name MACK ENERGY CORPORATION	⁶ Well Number 1H
		⁹ Elevation 3920.2

¹⁰ Surface Location

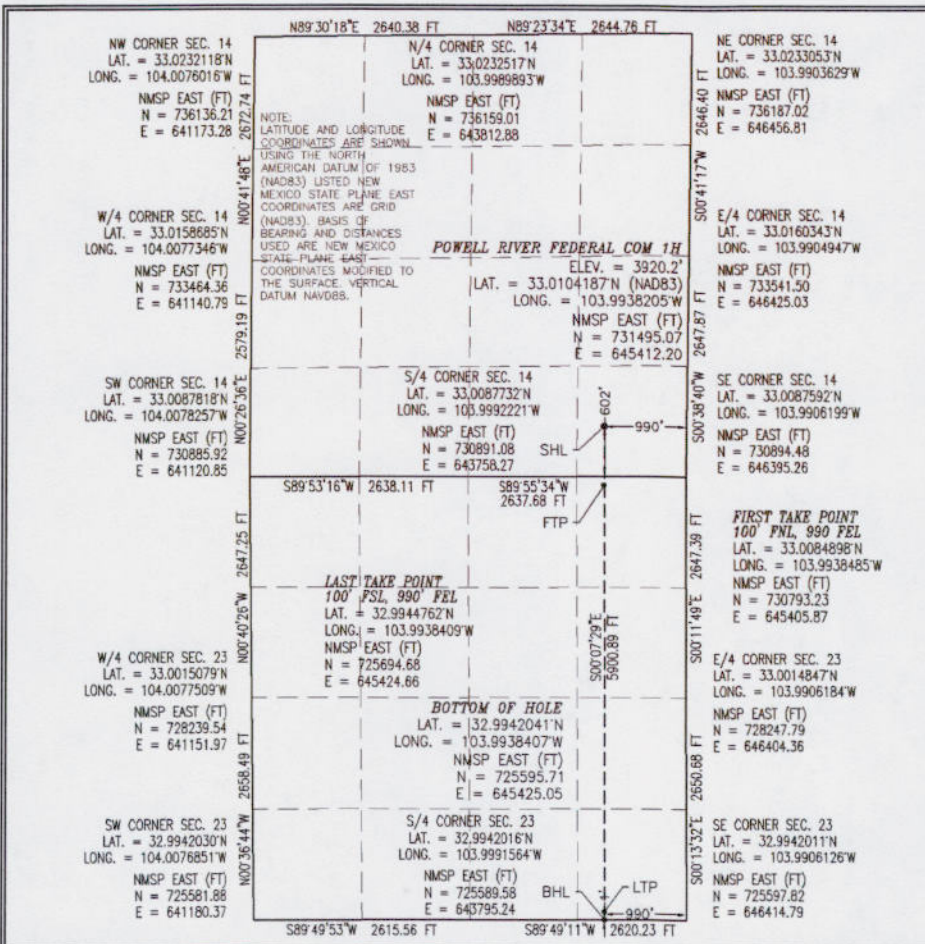
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	14	15 S	29 E		602	SOUTH	990	EAST	CHAVES

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	23	15 S	29 E		1	SOUTH	990	EAST	CHAVES

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
160			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



17 OPERATOR CERTIFICATION	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.	
Signature <i>Deana Weaver</i>	Date 2/4/2020
Printed Name Deana Weaver	
E-mail Address dweaver@mec.com	
18 SURVEYOR CERTIFICATION	
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.	
JANUARY 30, 2020	
Date of Survey	
Signature and Seal of Professional Surveyor <i>William E. Jaramila</i>	
Certificate Number FTLN-14-00000000-PLN 12797 SURVEY NO. 7815A	

Intent ☐ As Drilled ☐

API #

Operator Name:	Property Name:	Well Number
MACK ENERGY CORPORATION	POWELL RIVER FEDERAL COM	1H

Kick Off Point (KOP)

UL P	Section 14	Township 15S	Range 29E	Lot	Feet 602	From N/S SOUTH	Feet 990	From E/W EAST	County CHAVES
Latitude 33.0104187					Longitude 103.9938205			NAD 83	

First Take Point (FTP)

UL A	Section 23	Township 15S	Range 29E	Lot	Feet 100	From N/S NORTH	Feet 990	From E/W EAST	County CHAVES
Latitude 33.0084898					Longitude 103.9938485			NAD 83	

Last Take Point (LTP)

UL P	Section 23	Township 15S	Range 29E	Lot	Feet 100	From N/S SOUTH	Feet 990	From E/W EAST	County CHAVES
Latitude 32.9944762					Longitude 103.9938409			NAD 83	

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

Is this well an infill well? ☐

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

API #

Operator Name:	Property Name:	Well Number

KZ 06/29/2018

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

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 1/30/2020

☒ Original Operator & OGRID No.: Mack Energy Corporation- 013837
☐ Amended - Reason for Amendment: _____

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

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

Well(s)/Production Facility – Name of facility

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

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Powell River Fed Com1H		Sec.14 T15S R29E	602 FSL & 990 FEL	50		

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to DCP Midstream and will be connected to DCP Midstream low/high pressure gathering system located in Chaves County, New Mexico. It will require 0 (existing)' of pipeline to connect the facility to low/high pressure gathering system. Mack Energy Corporation provides (periodically) to DCP Midstream a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Mack Energy Corporation and DCP Midstream have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at DCP Midstream Processing Plant located in Sec. 6, Twn. 19S, Rng. 37E, Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to 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 DCP Midstream system at that time. Based on current information, it is Mack Energy Corporation belief the system can take this gas upon completion of the well(s).

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

Alternatives to Reduce Flaring

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

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

**PECOS DISTRICT
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	MACK ENERGY CORPORATION
LEASE NO.:	NMNM-122614
WELL NAME & NO.:	POWELL RIVER FEDERAL COM #1H
SURFACE HOLE	[602] ' F [S] L [990] ' F [E]
FOOTAGE:	L
LOCATION:	Section 14, T 15. S., R 29 E., NMPM
COUNTY:	Chaves County, New Mexico

1. GENERAL PROVISIONS

Approval of the APD does not warrant that any party holds equitable or legal title. Any request for a variance shall be submitted to the Authorized Officer on Sundry Notice (Form 3160-5).

For BLM's surface operating standards and guidelines, refer to: The Gold Book, Fourth Edition - Revised 2007. To obtain a copy free of charge contact the Roswell Field Office (575) 627-0272 or visit BLM on the web at:
http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/gold_book.html

All construction, operations, and reclamation shall follow the Onshore Oil and Gas Operations as described in the 43 CFR part 3160.

The Operator shall submit a Sundry Notice (Form 3160-5) to the Bureau of Land Management, Roswell Field Office (address above) for approval prior to beginning any new surface-disturbing activities or operations that are not specifically addressed and approved by this APD.

A site facility diagram and a site security plan shall be filed no later than 60 calendar days following first production (Onshore Order 3, Section III, I. and 43 CFR 3162.7-5).

Approval Date: 04/28/2020

2. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD (Filing of a Sundry Notice is required for this 60 day extension).

3. JURISDICTIONAL WATERS of the U.S.

The operator shall obtain appropriate permits from the U.S. Army Corps of Engineers prior to discharge or dredge and fill material into waters of the United States in accordance with Section 404 of the Clean Water Act. Contact The U.S. Army Corps of Engineers regulatory New Mexico Branch Office, 4101 Jefferson Plaza NE, Albuquerque, NM 87109-3435 at (505) 342-3678 or Email: CESPA-RD-NM@usace.army.mil if you have questions.

4. ARCHAEOLOGICAL, PALEONTOLOGICAL & HISTORICAL SITES

In the event that any cultural resource (prehistoric and historic period buildings, sites, structures, objects, and landscapes) and/or paleontological resource is discovered on public or Federal land by the holder, or any person working on behalf of the holder, the holder shall immediately halt the disturbance within 100 feet of the post-review discovery. The holder shall contact the BLM Authorized Officer within 24 hours for instructions:

BLM Authorized Officer:	If BLM Authorized Officer is
Unavailable:	
Ruben Sanchez	Courtney Carlson
Assistant Field Manager, Lands & Minerals	Archaeologist
575-627-0250	575-627-0328

The BLM Authorized Officer will coordinate with the appropriate specialists to ensure that qualified professionals evaluate the discovery, and to decide appropriate actions to prevent the loss of significant cultural or scientific values. The holder shall be responsible for the costs of evaluation, reporting, excavation, treatment, and/or disposition. Project implementation shall not proceed within 100 feet of the location of the post-review discovery until the BLM has concluded the post-review discovery process, and the BLM Authorized Officer has provided the holder with a written notice to proceed.

5. HUMAN REMAINS AND OBJECTS OF CULTURAL PATRIMONY

In the event that project implementation results in the inadvertent discovery of Native American human remains, funerary objects, sacred objects, and/or objects of cultural patrimony, the holder shall immediately halt the disturbance within 300 feet of the inadvertent discovery. The holder shall contact the BLM Authorized Officer within 24 hours for instructions:

BLM Authorized Officer:	If BLM Authorized Officer is
Unavailable:	
Ruben Sanchez	Quinton Franzoy
Assistant Field Manager, Lands & Minerals	Law Enforcement
Officer	
575-627-0250	575-910-0778

The holder shall be held responsible for ceasing activity and protecting the inadvertent discovery as well as for the costs of protection, evaluation, reporting, excavation, treatment, and/or disposition of the inadvertent discovery. The BLM shall use the process identified in the Native American Graves Protection and Repatriation Act (NAGPRA) and in 43 CFR 10.4 to proceed according to the rights of the culturally affiliated party, as applicable. Project implementation within 300 feet of the location of the inadvertent discovery may resume 30 days after BLM certifies the notification, or when a written Plan of Action following 43 CFR 10.3(b)(1) is approved. In either case, the BLM Authorized Officer will provide the holder with a written notice to proceed.

6. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations (access road and/or well pad). Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

7. CAVE AND KARST

Any Cave or Karst feature discovered by the operator or by any person working on the operator's behalf shall immediately report

the feature to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. During drilling, previously unknown cave and karst features could be encountered. If a void is encountered while drilling and a loss of circulation occurs, lost drilling fluids can directly contaminate groundwater recharge areas, aquifers, and groundwater quality. Drilling operations can also lead to sudden collapse of underground voids.

To mitigate or lessen the probability of impacts associated with the drilling and production of oil and gas wells in karst areas, the guidelines listed in Appendix 3, Practices for Oil and Gas Drilling and Production in Cave and Karst Areas, as approved in the Roswell Resource Management Plan Amendment of 1997, page AP3-4 through AP 3-7 shall be followed.

A more complete discussion of the impacts of oil and gas drilling can be found in the *Dark Canyon Environmental Impact Statement of 1993*, published by the U.S. Department of the Interior, Bureau of Land Management.

8. CONSTRUCTION

NOTIFICATION: The BLM shall administer compliance and monitor construction of the access road and well pad. Notify Natural Resource Specialist, Ricky Flores at (575) 627-0339 or the Roswell Field Office at (575) 627-0272 at least three (3) working days prior to commencing construction of the access road and/or well pad.

A complete copy of the approved APD and the attached Conditions of Approval (COAs) shall be kept on the well's location for reference upon inspections.

Construction over and/or immediately adjacent to existing pipelines shall be coordinated, and in accordance with, the relevant pipeline companies' policy.

Any trench left open for (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, an agency approved monitor shall walk the entire length of the open trench and remove all trapped fauna. The bottom surface of the trench will be disturbed a minimum of 2 inches in order to

arouse any buried fauna. All fauna will be released a minimum of 100 yards from the trench.

For trenches left open for (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench. Structures will also be authorized within the trench. Metal structures will not be authorized. Structures used as escape ramps will be placed at no more than a 30 degree slope and spaced no more than 500 feet apart.

9. TOPSOIL:

When saturated soil conditions exist on access roads or location, construction shall be halted until soil material dries out or is frozen sufficiently for construction to proceed without undue damage and erosion to soils, roads and locations.

Topsoil shall be stripped following removal of vegetation during construction of well pads, pipelines, roads, or other surface facilities. This shall include all growth medium - at a minimum, the upper 2-6 inches of soil - but shall also include stripping of any additional topsoil present at a site, such as indicated by color or texture. Stripping depth may be specified during the onsite inspection. Stripped topsoil shall be stored separately from subsoil or other excavated material and replaced prior to interim seedbed preparation. No topsoil shall be stripped when soils are moisture-saturated or frozen below the stripping depth.

The topsoil will not be used to construct the containment structures or earthen dikes that are on the outside boundaries of the constructed well pad, tanks, and storage facilities.

Each construction area is site specific as to topsoil depth. It is the operator's responsibility to ensure that topsoil, caliche, or spoils are not mixed together.

(Pads): topsoil will be stripped and stored in separate piles from the spoils pile. They can be stored on opposite or adjacent sides. If topsoil and spoils must be stored on the same pad side together they shall be no closer than toe to toe, not overlapping. Each pile shall be kept within 30 feet of the pad's side. 100% of the topsoil will be used for both interim and final reclamation. 100% of topsoil will be respread over the disturbed areas during reclamation.

(Roads): topsoil shall be stripped in such a way to follow the road's edge outside of the surfacing or drivable area. During final reclamation, after removal of surface material and re-contouring, 100% of topsoil will be respread over the disturbed areas during reclamation. Vegetation in the topsoil will help hold re-seeding, moisture content, and reduce erosion.

10. WELL PAD SURFACING:

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational need. Surfacing of the well pad is not required. If the operator elects to surface the well pad, the surfacing material will be required to be removed at the time of reclamation.

Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattle guard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guard(s) that are in place and are utilized during lease operations. Gates or cattle guards on public lands will not be locked or closed to public use unless closure is specifically determined to be necessary and is authorized in writing by the authorized officer. A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

The operator shall notify the private surface landowner or the grazing allotment operator prior to crossing any fence(s). Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

11. PRODUCTION:

Storage

Fiberglass storage tanks are *not* permitted for the storage of production.

Placement of Production Facilities

Production facilities should be placed on the well pad to allow for maximum interim reclamation and re-vegetation of the well location.

Containment Structures

All production facilities shall have a lined containment structure large enough to contain 110% of the largest Tank (PLUS) 24 hours of production (43 CFR 3162.5-1) *Environmental Obligations*, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, OIL GREEN (Standard Environmental Color Chart June 2008).

Completion Report

In accordance with 43 CFR 3160, Form 3160-4 (Well Completion or Re-completion Report and Log) must be submitted to the Bureau of Land Management, Roswell Field Office within 30 days after completion of the well or producer. Copies of all open hole and cased hole logs, core descriptions, core analyses, well test data, geologic summaries, sample descriptions, formation test reports, stimulation reports, directional survey (if applicable), and all other surveys or data obtained and compiled during the drilling, completion, and/or work over operations, shall be included with Form 3160-4.

12. INTERIM RECLAMATION:

Reclamation earthwork for interim and/or final reclamation shall be completed within 6 months of well completion or well plugging (weather permitting), and shall consist of: 1) backfilling pits, 2) re-contouring and stabilizing the well site, access road, cut/fill slopes, drainage channels, utility and pipeline corridors, and all other disturbed areas, to approximately the original contour, shape, function, and configuration that existed before construction (any compacted backfilling activities shall ensure proper spoils placement, settling, and stabilization, 3) surface ripping, prior to topsoil placement, to a depth of 18-24 inches deep on 18-24 inch centers to reduce compaction, 4) final grading and replacement of all topsoil so

that no topsoil's remains in the stockpile, 5) seeding in accordance with reclamation portions of the APD and these COA's.

Any subsequent re-disturbance of interim reclamation shall be reclaimed within six (6) months by the same means described above.

Prior to conducting interim reclamation, the operator is required to:

- Submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.
- Contact BLM at least three (3) working days prior to conducting any interim reclamation activities, and prior to seeding.

During reclamation, the removal of caliche is important to increasing the success of re-vegetating the site. Removed caliche may be used in road repairs, fire walls or for building other roads and locations. In addition, in order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing re-vegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be re-vegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

Use a certified noxious weed-free seed mixture. Use seed tested for viability and purity in accordance with State law(s) within nine months prior to purchase. Use a commercial seed mixture certified or registered and tagged in accordance with State law(s). Make the seed mixture labels available for BLM inspection.

13. SEED MIX:

SEE ATTACHED SEED MIX.

WELL NAME	ECOSITE (ACCESS ROAD)	ECOSITE (PAD)
POWELL RIVER FEDERAL COM #1H	SHALLOW SD-3	SHALLOW SD-3

14. FINAL ABANDONMENT:

Approval Date: 04/28/2020

Powell River Federal Com #1H, Plan 1

Operator	Mack Energy Corp	Units	feet, °/100ft	15:05 Wednesday, December 18, 2019	Page 1 of 4
Field	Round Tank	County	Chaves	Vertical Section Azimuth	179.88
Well Name	Powell River Federal Com #1H	State	New Mexico	Survey Calculation Method	Minimum Curvature
Plan	1	Country	USA	Database	Access

Location	SL: 602 FSL & 990 FEL Sec 14-T15S-R29E BHL: 1 FSL & 990 FEL Sec 23-T15S-R29E	Map Zone	UTM	Lat Long Ref	
Site		Surface X	1948916.6	Surface Long	
Slot Name		Surface Y	11983864.7	Surface Lat	
Well Number		Surface Z	3938.2	Global Z Ref	KB
Project		Ground Level	3920.2	Local North Ref	Grid
	UWI				
	API				
	MD/TVD Ref	KB			

DIRECTIONAL WELL PLAN

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	V. S.*	MapE*	MapN*	SysTVD*
ft	deg	deg	ft	ft	ft	°/100ft	ft	ft	ft	ft
*** TIE (at MD = 2671.00)										
2671.00	0.00	0.0	2671.00	0.00	0.00		0.00	1948916.60	11983864.70	1267.20
2700.00	0.00	0.0	2700.00	0.00	0.00	0.00	0.00	1948916.60	11983864.70	1238.20
2750.00	0.00	0.0	2750.00	0.00	0.00	0.00	0.00	1948916.60	11983864.70	1188.20
*** KOP 8 DEGREES (at MD = 2771.00)										
2771.00	0.00	0.0	2771.00	0.00	0.00	0.00	0.00	1948916.60	11983864.70	1167.20
2800.00	2.32	179.9	2799.99	-0.59	0.00	8.00	0.59	1948916.60	11983864.11	1138.21
2850.00	6.32	179.9	2849.84	-4.35	0.01	8.00	4.35	1948916.61	11983860.35	1088.36
2900.00	10.32	179.9	2899.30	-11.59	0.02	8.00	11.59	1948916.62	11983853.11	1038.90
2950.00	14.32	179.9	2948.14	-22.25	0.05	8.00	22.25	1948916.65	11983842.45	990.06
3000.00	18.32	179.9	2996.12	-36.30	0.08	8.00	36.30	1948916.68	11983828.40	942.08
3050.00	22.32	179.9	3043.00	-53.66	0.11	8.00	53.66	1948916.71	11983811.04	895.20
3100.00	26.32	179.9	3088.55	-74.25	0.16	8.00	74.25	1948916.76	11983790.45	849.65
3150.00	30.32	179.9	3132.56	-97.96	0.21	8.00	97.96	1948916.81	11983766.74	805.64
3200.00	34.32	179.9	3174.80	-124.69	0.26	8.00	124.69	1948916.86	11983740.01	763.40
3250.00	38.32	179.9	3215.08	-154.30	0.32	8.00	154.30	1948916.92	11983710.40	723.12
3300.00	42.32	179.9	3253.19	-186.64	0.39	8.00	186.64	1948916.99	11983678.06	685.01
3350.00	46.32	179.9	3288.96	-221.57	0.46	8.00	221.57	1948917.06	11983643.13	649.24
3400.00	50.32	179.9	3322.20	-258.91	0.54	8.00	258.91	1948917.14	11983605.79	616.00
3450.00	54.32	179.9	3352.76	-298.47	0.63	8.00	298.47	1948917.23	11983566.23	585.44
*** 55 DEGREE TANGENT (at MD = 3458.50)										
3458.50	55.00	179.9	3357.67	-305.40	0.64	8.00	305.40	1948917.24	11983559.30	580.53
3500.00	55.00	179.9	3381.48	-339.40	0.71	0.00	339.40	1948917.31	11983525.30	556.72
3550.00	55.00	179.9	3410.16	-380.36	0.80	0.00	380.36	1948917.40	11983484.35	528.04
3600.00	55.00	179.9	3438.84	-421.31	0.88	0.00	421.31	1948917.48	11983443.39	499.36
*** 12 DEGREE BUILD (at MD = 3608.50)										
3608.50	55.00	179.9	3443.71	-428.28	0.90	0.00	428.28	1948917.50	11983436.42	494.49
3650.00	59.98	179.9	3466.01	-463.26	0.97	12.00	463.26	1948917.57	11983401.44	472.19
3700.00	65.98	179.9	3488.71	-507.78	1.06	12.00	507.78	1948917.66	11983356.92	449.49
3750.00	71.98	179.9	3506.64	-554.43	1.16	12.00	554.44	1948917.76	11983310.27	431.56
3800.00	77.98	179.9	3519.59	-602.70	1.26	12.00	602.71	1948917.86	11983262.00	418.61
3850.00	83.98	179.9	3527.43	-652.06	1.37	12.00	652.06	1948917.97	11983212.64	410.77
3900.00	89.98	179.9	3530.06	-701.97	1.47	12.00	701.97	1948918.07	11983162.73	408.14
*** LANDING POINT (at MD = 3904.33)										
3904.33	90.50	179.9	3530.04	-706.30	1.48	12.00	706.31	1948918.08	11983158.40	408.16
3950.00	90.50	179.9	3529.64	-751.97	1.57	0.00	751.97	1948918.17	11983112.73	408.56
4000.00	90.50	179.9	3529.21	-801.97	1.68	0.00	801.97	1948918.28	11983062.73	408.99
4050.00	90.50	179.9	3528.77	-851.96	1.78	0.00	851.97	1948918.38	11983012.74	409.43
4100.00	90.50	179.9	3528.33	-901.96	1.89	0.00	901.96	1948918.49	11982962.74	409.87

Powell River Federal Com #1H, Plan 1

Operator Mack Energy Corp	Units feet, °/100ft	15:05 Wednesday, December 18, 2019	Page 2 of 4
Field Round Tank	County Chaves	Vertical Section Azimuth 179.88	
Well Name Powell River Federal Com #1H	State New Mexico	Survey Calculation Method Minimum Curvature	
Plan 1	Country USA	Database Access	

Location SL: 602 FSL & 990 FEL Sec 14-T15S-R29E BHL: 1 FSL & 990 FEL Sec 23-T15S-R29E	Map Zone UTM	Lat Long Ref
Site	Surface X 1948916.6	Surface Long
Slot Name	Surface Y 11983864.7	Surface Lat
Well Number	Surface Z 3938.2	Global Z Ref KB
Project	Ground Level 3920.2	Local North Ref Grid
UWI		
API		
MD/TVD Ref KB		

DIRECTIONAL WELL PLAN

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	V. S.*	MapE*	MapN*	SysTVD*
ft	deg	deg	ft	ft	ft	%/100ft	ft	ft	ft	ft
4150.00	90.50	179.9	3527.90	-951.96	1.99	0.00	951.96	1948918.59	11982912.74	410.30
4200.00	90.50	179.9	3527.46	-1001.96	2.10	0.00	1001.96	1948918.70	11982862.74	410.74
4250.00	90.50	179.9	3527.02	-1051.96	2.20	0.00	1051.96	1948918.80	11982812.74	411.18
4300.00	90.50	179.9	3526.59	-1101.95	2.31	0.00	1101.96	1948918.91	11982762.75	411.61
4350.00	90.50	179.9	3526.15	-1151.95	2.41	0.00	1151.96	1948919.01	11982712.75	412.05
4400.00	90.50	179.9	3525.72	-1201.95	2.52	0.00	1201.95	1948919.12	11982662.75	412.48
4450.00	90.50	179.9	3525.28	-1251.95	2.62	0.00	1251.95	1948919.22	11982612.75	412.92
4500.00	90.50	179.9	3524.84	-1301.95	2.73	0.00	1301.95	1948919.33	11982562.75	413.36
4550.00	90.50	179.9	3524.41	-1351.94	2.83	0.00	1351.95	1948919.43	11982512.76	413.79
4600.00	90.50	179.9	3523.97	-1401.94	2.94	0.00	1401.95	1948919.54	11982462.76	414.23
4650.00	90.50	179.9	3523.53	-1451.94	3.04	0.00	1451.94	1948919.64	11982412.76	414.67
4700.00	90.50	179.9	3523.10	-1501.94	3.15	0.00	1501.94	1948919.75	11982362.76	415.10
4750.00	90.50	179.9	3522.66	-1551.94	3.25	0.00	1551.94	1948919.85	11982312.76	415.54
4800.00	90.50	179.9	3522.23	-1601.93	3.36	0.00	1601.94	1948919.96	11982262.77	415.97
4850.00	90.50	179.9	3521.79	-1651.93	3.46	0.00	1651.94	1948920.06	11982212.77	416.41
4900.00	90.50	179.9	3521.35	-1701.93	3.56	0.00	1701.93	1948920.16	11982162.77	416.85
4950.00	90.50	179.9	3520.92	-1751.93	3.67	0.00	1751.93	1948920.27	11982112.77	417.28
5000.00	90.50	179.9	3520.48	-1801.93	3.77	0.00	1801.93	1948920.37	11982062.77	417.72
5050.00	90.50	179.9	3520.04	-1851.92	3.88	0.00	1851.93	1948920.48	11982012.78	418.16
5100.00	90.50	179.9	3519.61	-1901.92	3.98	0.00	1901.93	1948920.58	11981962.78	418.59
5150.00	90.50	179.9	3519.17	-1951.92	4.09	0.00	1951.92	1948920.69	11981912.78	419.03
5200.00	90.50	179.9	3518.73	-2001.92	4.19	0.00	2001.92	1948920.79	11981862.78	419.47
5250.00	90.50	179.9	3518.30	-2051.92	4.30	0.00	2051.92	1948920.90	11981812.78	419.90
5300.00	90.50	179.9	3517.86	-2101.91	4.40	0.00	2101.92	1948921.00	11981762.79	420.34
5350.00	90.50	179.9	3517.43	-2151.91	4.51	0.00	2151.92	1948921.11	11981712.79	420.77
5400.00	90.50	179.9	3516.99	-2201.91	4.61	0.00	2201.92	1948921.21	11981662.79	421.21
5450.00	90.50	179.9	3516.55	-2251.91	4.72	0.00	2251.91	1948921.32	11981612.79	421.65
5500.00	90.50	179.9	3516.12	-2301.91	4.82	0.00	2301.91	1948921.42	11981562.79	422.08
5550.00	90.50	179.9	3515.68	-2351.90	4.93	0.00	2351.91	1948921.53	11981512.80	422.52
5600.00	90.50	179.9	3515.24	-2401.90	5.03	0.00	2401.91	1948921.63	11981462.80	422.96
5650.00	90.50	179.9	3514.81	-2451.90	5.14	0.00	2451.91	1948921.74	11981412.80	423.39
5700.00	90.50	179.9	3514.37	-2501.90	5.24	0.00	2501.90	1948921.84	11981362.80	423.83
5750.00	90.50	179.9	3513.94	-2551.90	5.34	0.00	2551.90	1948921.94	11981312.80	424.27
5800.00	90.50	179.9	3513.50	-2601.89	5.45	0.00	2601.90	1948922.05	11981262.81	424.70
5850.00	90.50	179.9	3513.06	-2651.89	5.55	0.00	2651.90	1948922.15	11981212.81	425.14
5900.00	90.50	179.9	3512.63	-2701.89	5.66	0.00	2701.90	1948922.26	11981162.81	425.57
5950.00	90.50	179.9	3512.19	-2751.89	5.76	0.00	2751.89	1948922.36	11981112.81	426.01

Powell River Federal Com #1H, Plan 1

Operator Mack Energy Corp	Units feet, °/100ft	15:05 Wednesday, December 18, 2019 Page 3 of 4
Field Round Tank	County Chaves	Vertical Section Azimuth 179.88
Well Name Powell River Federal Com #1H	State New Mexico	Survey Calculation Method Minimum Curvature
Plan 1	Country USA	Database Access

Location SL: 602 FSL & 990 FEL Sec 14-T15S-R29E BHL: 1 FSL & 990 FEL Sec 23-T15S-R29E	Map Zone UTM	Lat Long Ref
Site	Surface X 1948916.6	Surface Long
Slot Name	Surface Y 11983864.7	Surface Lat
Well Number	Surface Z 3938.2	Global Z Ref KB
Project	Ground Level 3920.2	Local North Ref Grid
UWI		
API		
MD/TVD Ref KB		

DIRECTIONAL WELL PLAN

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	V. S.*	MapE*	MapN*	SysTVD*
ft	deg	deg	ft	ft	ft	°/100ft	ft	ft	ft	ft
6000.00	90.50	179.9	3511.75	-2801.89	5.87	0.00	2801.89	1948922.47	11981062.81	426.45
6050.00	90.50	179.9	3511.32	-2851.88	5.97	0.00	2851.89	1948922.57	11981012.82	426.88
6100.00	90.50	179.9	3510.88	-2901.88	6.08	0.00	2901.89	1948922.68	11980962.82	427.32
6150.00	90.50	179.9	3510.44	-2951.88	6.18	0.00	2951.89	1948922.78	11980912.82	427.76
6200.00	90.50	179.9	3510.01	-3001.88	6.29	0.00	3001.88	1948922.89	11980862.82	428.19
6250.00	90.50	179.9	3509.57	-3051.88	6.39	0.00	3051.88	1948922.99	11980812.82	428.63
6300.00	90.50	179.9	3509.14	-3101.87	6.50	0.00	3101.88	1948923.10	11980762.83	429.06
6350.00	90.50	179.9	3508.70	-3151.87	6.60	0.00	3151.88	1948923.20	11980712.83	429.50
6400.00	90.50	179.9	3508.26	-3201.87	6.71	0.00	3201.88	1948923.31	11980662.83	429.94
6450.00	90.50	179.9	3507.83	-3251.87	6.81	0.00	3251.88	1948923.41	11980612.83	430.37
6500.00	90.50	179.9	3507.39	-3301.87	6.92	0.00	3301.87	1948923.52	11980562.83	430.81
6550.00	90.50	179.9	3506.95	-3351.86	7.02	0.00	3351.87	1948923.62	11980512.84	431.25
6600.00	90.50	179.9	3506.52	-3401.86	7.12	0.00	3401.87	1948923.72	11980462.84	431.68
6650.00	90.50	179.9	3506.08	-3451.86	7.23	0.00	3451.87	1948923.83	11980412.84	432.12
6700.00	90.50	179.9	3505.64	-3501.86	7.33	0.00	3501.87	1948923.93	11980362.84	432.56
6750.00	90.50	179.9	3505.21	-3551.86	7.44	0.00	3551.86	1948924.04	11980312.84	432.99
6800.00	90.50	179.9	3504.77	-3601.85	7.54	0.00	3601.86	1948924.14	11980262.85	433.43
6850.00	90.50	179.9	3504.34	-3651.85	7.65	0.00	3651.86	1948924.25	11980212.85	433.86
6900.00	90.50	179.9	3503.90	-3701.85	7.75	0.00	3701.86	1948924.35	11980162.85	434.30
6950.00	90.50	179.9	3503.46	-3751.85	7.86	0.00	3751.86	1948924.46	11980112.85	434.74
7000.00	90.50	179.9	3503.03	-3801.85	7.96	0.00	3801.85	1948924.56	11980062.85	435.17
7050.00	90.50	179.9	3502.59	-3851.84	8.07	0.00	3851.85	1948924.67	11980012.86	435.61
7100.00	90.50	179.9	3502.15	-3901.84	8.17	0.00	3901.85	1948924.77	11979962.86	436.05
7150.00	90.50	179.9	3501.72	-3951.84	8.28	0.00	3951.85	1948924.88	11979912.86	436.48
7200.00	90.50	179.9	3501.28	-4001.84	8.38	0.00	4001.85	1948924.98	11979862.86	436.92
7250.00	90.50	179.9	3500.85	-4051.84	8.49	0.00	4051.84	1948925.09	11979812.86	437.35
7300.00	90.50	179.9	3500.41	-4101.83	8.59	0.00	4101.84	1948925.19	11979762.87	437.79
7350.00	90.50	179.9	3499.97	-4151.83	8.70	0.00	4151.84	1948925.30	11979712.87	438.23
7400.00	90.50	179.9	3499.54	-4201.83	8.80	0.00	4201.84	1948925.40	11979662.87	438.66
7450.00	90.50	179.9	3499.10	-4251.83	8.91	0.00	4251.84	1948925.51	11979612.87	439.10
7500.00	90.50	179.9	3498.66	-4301.83	9.01	0.00	4301.84	1948925.61	11979562.87	439.54
7550.00	90.50	179.9	3498.23	-4351.82	9.11	0.00	4351.83	1948925.71	11979512.88	439.97
7600.00	90.50	179.9	3497.79	-4401.82	9.22	0.00	4401.83	1948925.82	11979462.88	440.41
7650.00	90.50	179.9	3497.35	-4451.82	9.32	0.00	4451.83	1948925.92	11979412.88	440.85
7700.00	90.50	179.9	3496.92	-4501.82	9.43	0.00	4501.83	1948926.03	11979362.88	441.28
7750.00	90.50	179.9	3496.48	-4551.82	9.53	0.00	4551.83	1948926.13	11979312.88	441.72
7800.00	90.50	179.9	3496.05	-4601.81	9.64	0.00	4601.82	1948926.24	11979262.89	442.15

Powell River Federal Com #1H, Plan 1

Operator Mack Energy Corp	Units feet, °/100ft	15:05 Wednesday, December 18, 2019 Page 4 of 4
Field Round Tank	County Chaves	Vertical Section Azimuth 179.88
Well Name Powell River Federal Com #1H	State New Mexico	Survey Calculation Method Minimum Curvature
Plan 1	Country USA	Database Access

Location SL: 602 FSL & 990 FEL Sec 14-T15S-R29E BHL: 1 FSL & 990 FEL Sec 23-T15S-R29E	Map Zone UTM	Lat Long Ref
Site	Surface X 1948916.6	Surface Long
Slot Name	Surface Y 11983864.7	Surface Lat
Well Number	Surface Z 3938.2	Global Z Ref KB
Project	Ground Level 3920.2	Local North Ref Grid
UWI		
API		
MD/TVD Ref KB		

DIRECTIONAL WELL PLAN

MD*	INC*	AZI*	TVD*	N*	E*	DLS*	V. S.*	MapE*	MapN*	SysTVD*
ft	deg	deg	ft	ft	ft	°/100ft	ft	ft	ft	ft
7850.00	90.50	179.9	3495.61	-4651.81	9.74	0.00	4651.82	1948926.34	11979212.89	442.59
7900.00	90.50	179.9	3495.17	-4701.81	9.85	0.00	4701.82	1948926.45	11979162.89	443.03
7950.00	90.50	179.9	3494.74	-4751.81	9.95	0.00	4751.82	1948926.55	11979112.89	443.46
8000.00	90.50	179.9	3494.30	-4801.81	10.06	0.00	4801.82	1948926.66	11979062.89	443.90
8050.00	90.50	179.9	3493.86	-4851.80	10.16	0.00	4851.81	1948926.76	11979012.90	444.34
8100.00	90.50	179.9	3493.43	-4901.80	10.27	0.00	4901.81	1948926.87	11978962.90	444.77
8150.00	90.50	179.9	3492.99	-4951.80	10.37	0.00	4951.81	1948926.97	11978912.90	445.21
8200.00	90.50	179.9	3492.56	-5001.80	10.48	0.00	5001.81	1948927.08	11978862.90	445.65
8250.00	90.50	179.9	3492.12	-5051.80	10.58	0.00	5051.81	1948927.18	11978812.90	446.08
8300.00	90.50	179.9	3491.68	-5101.79	10.69	0.00	5101.80	1948927.29	11978762.91	446.52
8350.00	90.50	179.9	3491.25	-5151.79	10.79	0.00	5151.80	1948927.39	11978712.91	446.95
8400.00	90.50	179.9	3490.81	-5201.79	10.89	0.00	5201.80	1948927.49	11978662.91	447.39
8450.00	90.50	179.9	3490.37	-5251.79	11.00	0.00	5251.80	1948927.60	11978612.91	447.83
8500.00	90.50	179.9	3489.94	-5301.79	11.10	0.00	5301.80	1948927.70	11978562.91	448.26
8550.00	90.50	179.9	3489.50	-5351.78	11.21	0.00	5351.80	1948927.81	11978512.92	448.70
8600.00	90.50	179.9	3489.06	-5401.78	11.31	0.00	5401.79	1948927.91	11978462.92	449.14
8650.00	90.50	179.9	3488.63	-5451.78	11.42	0.00	5451.79	1948928.02	11978412.92	449.57
8700.00	90.50	179.9	3488.19	-5501.78	11.52	0.00	5501.79	1948928.12	11978362.92	450.01
8750.00	90.50	179.9	3487.76	-5551.78	11.63	0.00	5551.79	1948928.23	11978312.92	450.44
8800.00	90.50	179.9	3487.32	-5601.77	11.73	0.00	5601.79	1948928.33	11978262.93	450.88
8850.00	90.50	179.9	3486.88	-5651.77	11.84	0.00	5651.78	1948928.44	11978212.93	451.32
8900.00	90.50	179.9	3486.45	-5701.77	11.94	0.00	5701.78	1948928.54	11978162.93	451.75
8950.00	90.50	179.9	3486.01	-5751.77	12.05	0.00	5751.78	1948928.65	11978112.93	452.19
9000.00	90.50	179.9	3485.57	-5801.77	12.15	0.00	5801.78	1948928.75	11978062.93	452.63
9050.00	90.50	179.9	3485.14	-5851.76	12.26	0.00	5851.78	1948928.86	11978012.94	453.06
*** TD (at MD = 9097.69)										
9097.69	90.50	179.9	3484.72	-5899.45	12.36	0.00	5899.47	1948928.96	11977965.25	453.48

DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Rustler	270'
Top Salt	404'
Base Salt	1010'
Yates	1155'
Seven Rivers	1395'
Queen	1882'
Grayburg	2270'
San Andres	2574'

3. Estimated Depths of Anticipated Fresh Water, Oil and Gas:

Water Sand	150'	Fresh Water
Yates	1155'	Oil/Gas
Seven Rivers	1395'	Oil/Gas
Queen	1882'	Oil/Gas
Grayburg	2270'	Oil/Gas
San Andres	2574'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to 250' and circulating cement back to surface will protect the surface fresh water sand. Salt section and shallower zones above TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them by cementing 5 1/2" production casing, sufficient cement will be pumped to circulate back to surface.

4. Casing Program:

Hole Size	Interval	OD Casing	Wt, Grade, Jt, cond, collapse/burst/tension
17 1/2"	0-250'	13 3/8"	48#, J-55, ST&C, New, 5.929487/3.424386/3.46
12 1/4"	0-1200'	9 5/8"	36#, J-55, ST&C, New, 3.372062/6.705273/7.04
8 3/4"	0-2650'	7"	26#, HCP-110, LT&C, New, 5.337609/3.347418/3.31667
8 3/4"	2650-3,650'	7"	26#, HCP-110, Buttress, New, 3.913668/3.359171/3.347418
8 3/4"	3,650'-9098'	5 1/2"	17#, HCP-110, Buttress, New, 4.643074/3.662171/3.592199

5. Cement Program:

13 3/8" Surface Casing: 210sx RFC + 12% PF53 + 2% PF1 + 5pps PF42+.125pps PF29, yld 1.61, wt 14.4 ppg, 7.357 gals/sx, Tail 200sx Class C + 1% PF 1, yld 1.34, wt 14.8 ppg, 6.323 gals/sx, excess 100%.

9 5/8" Intermediate Casing: 525sx Class C + 1% PF 1, yld 1.34, wt 14.8 ppg, 6.323gals/sx, excess 100%.

7 & 5 1/2" Production Casing: Lead 225sx Class C 4% PF 20+4 pps PF45 +125pps PF-29, yld 1.85, wt 13.2 ppg, 9.94gals/sx, excess 35%, Tail 400sx, PVL + 1.3% (BWOW) PF44 + 5% PF174 + .5% PF606 + .1% PF153 +.4 PF44, yield 1.47, wt 13.0, 7.577gals/sx, 35% excess.

6. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #10 will consist of a double ram-type (3000 psi WP) minimum preventer. This unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top of 4 1/2" drill pipe rams on bottom. The 11" BOP will be nipped up on the 8 5/8" surface casing and tested by a 3rd party to 2000 psi used continuously until TD is reached. All BOP's and accessory equipment will be tested to 2000 psi before drilling out of intermediate casing. 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. Other accessories to the BOP equipment (Exhibit #10) will include a Kelly cock and floor safety valve and choke lines and choke manifold (Exhibit #11) with a minimum 3000 psi WP rating

7. Types and Characteristics of the Proposed Mud System:

The well will be drilled to TD with a combination of fresh and cut brine mud system. The applicable depths and properties of this system are as follows:

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-250'	Spud Mud (Fresh Water)	8.3min-10max	28	N.C
250'-1200'	Cut Brine	8.3min-10max	29	N.C.
1200'-TD	Cut Brine	8.3min- 10max	29	N.C.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the well site at all times.

8. Auxiliary Well Control and Monitoring Equipment:

- A. Kelly cock will be kept in the drill string at all times.
- B. A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

9. Logging, Testing and Coring Program:

- A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log from T.D. to 8 5/8 casing shoe.
- B. Drill Stem test is not anticipated.
- C. No conventional coring is anticipated.
- D. Further testing procedures will be determined at TD.

10. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 120 degrees and estimated maximum bottom hole pressure is 1600 psi. Low levels of Hydrogen sulfide have been monitors in producing wells in the area, so H2S may be present while drilling of the well; a plan is attached to the Drilling program. No major loss of circulation zones has been reported in offsetting wells.

11. Anticipated Starting Date and Duration of Operations:

Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is May 1, 2020. Once commenced, the drilling operation should be finished in approximately 20 days. If the well is productive, an additional 30 days will be required for completion and testing before a decision is made to install permanent facilities.

Mack Energy Corporation
Onshore Order #6
Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H₂S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S detectors alarms warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H₂S on metal components. If high tensile tubular are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H₂S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. The concentrations of H₂S of wells in this area from surface to TD are low enough that a contingency plan is not required.

II. H₂S SAFETY EQUIPMENT AND SYSTEMS

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H₂S.

1. Well Control Equipment:

- A. Flare line.
- B. Choke manifold.
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
- D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

2. Protective equipment for essential personnel:

- A. Mark II Survive air 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. H2S detection and monitoring equipment:

- A. 1 portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.

4. Visual warning systems:

- A. Wind direction indicators as shown on well site diagram (Exhibit #8).
- B. Caution/Danger signs (Exhibit #7) shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. Mud program:

- A. The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight, safe drilling practices and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

6. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- B. All elastomers used for packing and seals shall be H2S trim.

7. Communication:

- A. Radio communications in company vehicles including cellular telephone and 2-way radio.
- B. Land line (telephone) communication at Office.

8. Well testing:

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H2S environment will use the closed chamber method of testing.

EXHIBIT #7

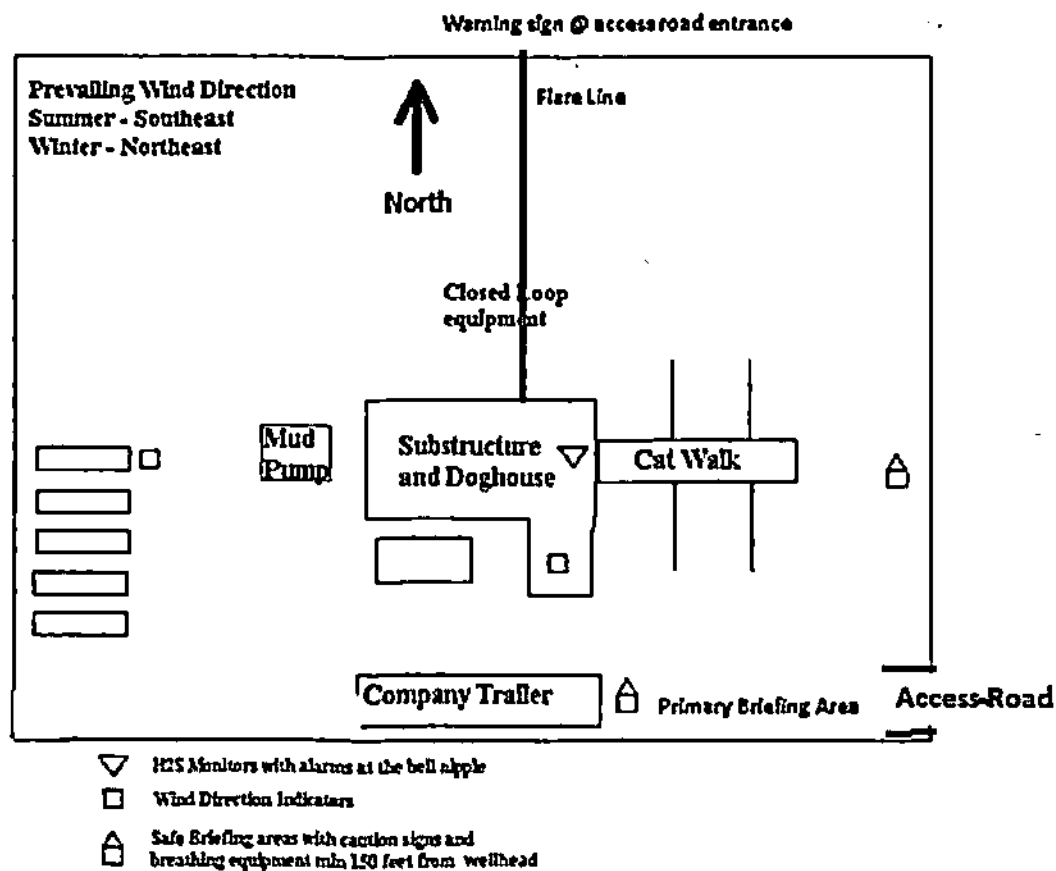
WARNING

**YOU ARE ENTERING AN H2S
AUTHORIZED PERSONNEL ONLY**

1. BEARDS OR CONTACT LENSES NOT ALLOWED
2. HARD HATS REQUIRED
3. SMOKING IN DESIGNATED AREAS ONLY
4. BE WIND CONSCIOUS AT ALL TIMES
5. CHECK WITH MACK ENERGY FOREMAN AT OFFICE

MACK ENERGY CORPORATION

1-575-748-1288

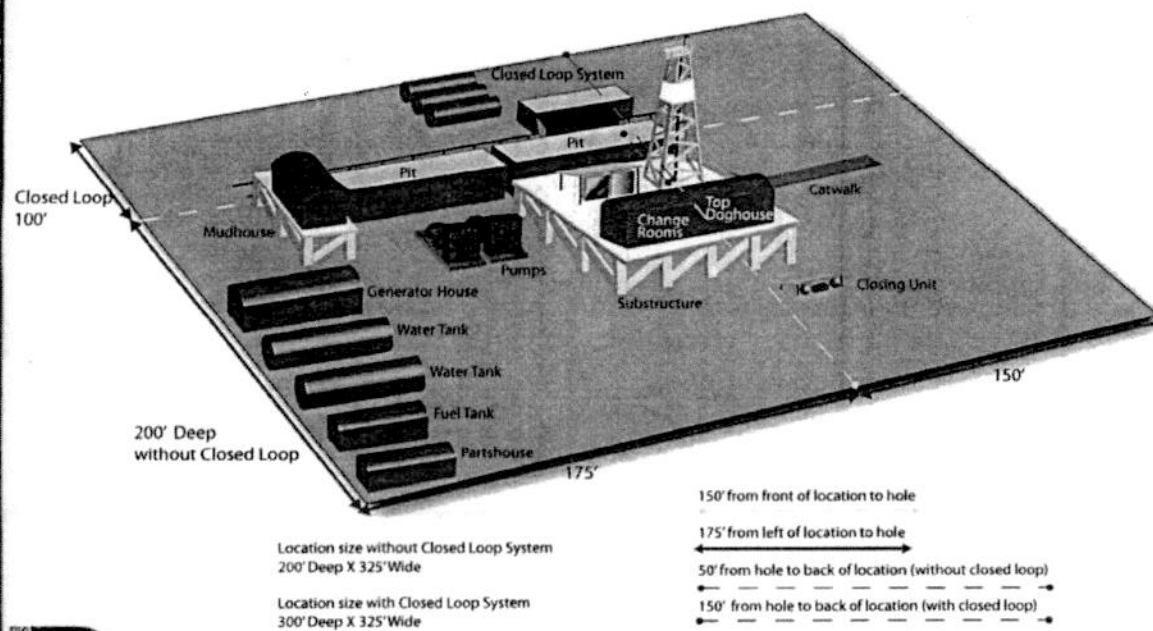


B. There will be no drill stem testing.

DRILLING LOCATION H2S SAFETY EQUIPMENT

Exhibit # 8

Location Layout



Silver Oak Drilling ~ 10 Bilco Road, Artesia, NM 88210 ~ 575.746.4408
info@silveroakdrilling.com ~ www.silveroakdrilling.com



Mack Energy Corporation Call List, Chaves County

Artesia (575)	Cellular	Office
Jim Krogman.....	432-934-1596.....	748-1288
Emilio Martinez.....	432-934-7586.....	748-1288

Agency Call List (575)**Roswell**

State Police.....	622-7200
City Police.....	624-6770
Sheriff's Office.....	624-7590
Ambulance.....	624-7590
Fire Department.....	624-7590
LEPC (Local Emergency Planning Committee.....	624-6770
NMOCD.....	748-1283
Bureau of Land Management.....	627-0272

Emergency Services

Boots & Coots IWC.....	1-800-256-9688 or (281)931-8884
Cudd pressure Control.....	(915)699-0139 or (915)563-3356
Halliburton.....	746-2757
Par Five.....	748-9539
Flight For Life-Lubbock, TX.....	(806)743-9911
Aerocare-Lubbock, TX.....	(806)747-8923
Med Flight Air Amb-Albuquerque, NM.....	(505)842-4433
Lifeguard Air Med Svc. Albuquerque, NM.....	(505)272-3115