Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM0282501A

6. If Indian, Allotee or Tribe Name:

1a. Type of work: [✓] DRILL [ ] REENTER

1b. Type of Well: [✓] Oil Well [ ] Gas Well [ ] Other

1c. Type of Completion: [ ] Hydraulic Fracturing [✓] Single Zone [ ] Multiple Zone

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

8. Lease Name and Well No.: CAMPBELL RIVER FEDERAL 1H

2. Name of Operator: MACK ENERGY CORPORATION

9. API Well No.: 30 005 64353

3a. Address: 11344 Lovington HWY, Artesia, NM 88211

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: NENW / 602 FNL / 1650 FWL / LAT 32.9925478 / LONG -104.0023361

At proposed prod. zone: NENW / 1 FNL / 1650 FWL / LAT 33.0087738 / LONG -104.0024443

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 26/T15S/R29E/NMP

14. Distance in miles and direction from nearest town or post office*: 30 miles

12. County or Parish: CHAVES

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 602 feet

16. No of acres in lease: 960

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.: 80 feet

19. Proposed Depth: 3465 feet / 9082 feet

20. BLM/BIA Bond No. in file: FED: NMB000286

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3912 feet

22. Approximate date work will start*: 06/01/2020

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Deana Weaver / Ph: (575) 748-1288	02/20/2020

Title: Production Clerk

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Ruben J Sanchez / Ph: (575) 627-0250	04/28/2020

Title	Office
Assistant Field Manager, Lands & Minerals	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

(Continued on page 2)

*(Instructions on page 2)

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	[2] Pool Code	[3] Pool Name
30 005 64353	52770	Round Tank; San Andres

[4] Property Code	[5] Property Name	[6] Well Number
328305	CAMPBELL RIVER FEDERAL	1H

[7] OGRID No.	[8] Operator Name	[9] Elevation
13837	MACK ENERGY CORPORATION	3912.0

[10] Surface Location

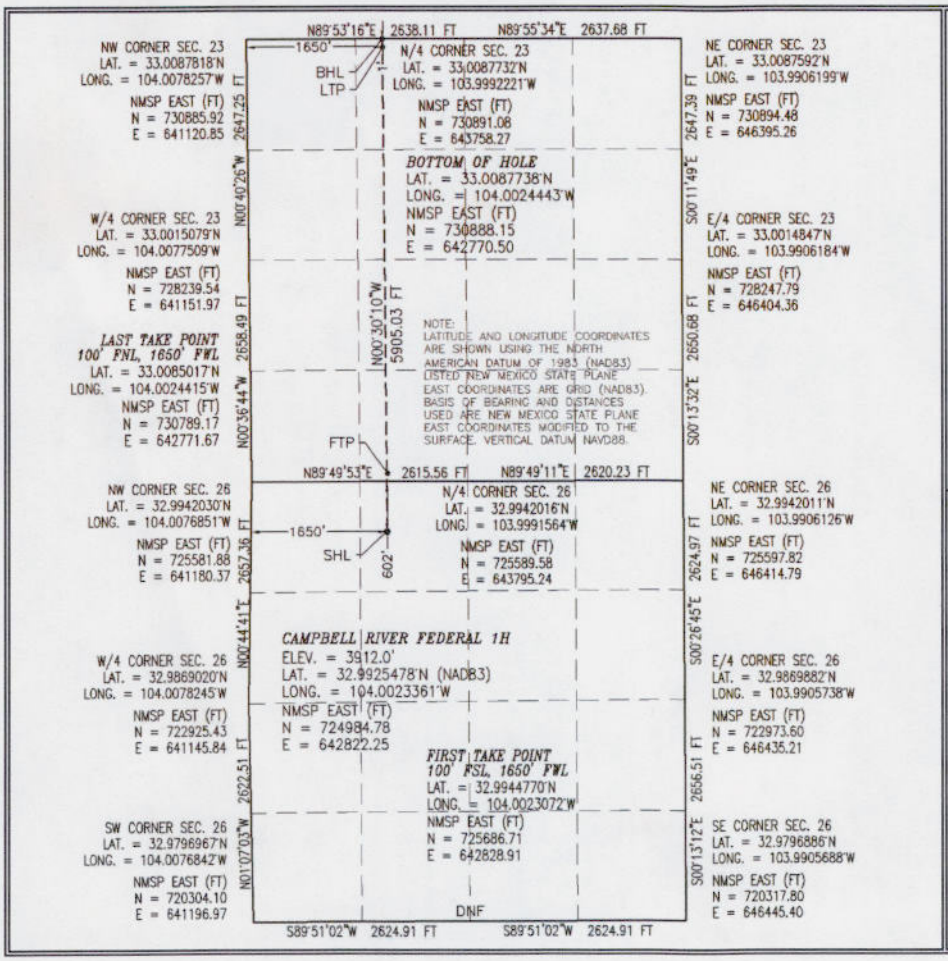
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	26	15 S	29 E		602	NORTH	1650	WEST	CHAVES

[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
C	23	15 S	29 E		1	NORTH	1650	WEST	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.

Deana Weaver 2/18/2020
Signature Date

Deana Weaver
Printed Name

dweaver@mec.com
E-mail Address

[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 31, 2020
Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number FILIMON F. JARAMILLO, PLS 12797

SURVEY NO. 7816A

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MACK ENERGY CORPORATION
LEASE NO.:	NMNM-138832
WELL NAME & NO.:	CAMPBELL RIVER FEDERAL #1H
SURFACE HOLE FOOTAGE:	[602] ' F [N] L [1650] ' F [W] L
LOCATION:	Section 26, 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).

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 nor 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)
CAMPBELL RIVER FEDERAL #1H	SHALLOW SD-3	SHALLOW SD-3

14. FINAL ABANDONMENT:

A. Upon abandonment of the well a Notice of Intent for Plug and Abandonment describing plugging procedures. Followed within 30 days you shall file with this office, a Subsequent Report of Abandonment (Form 3160-5). To be included with this report is where the plugs were placed; volumes of cement used and well bore schematic as plugged.

B. On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the Private Surface Land Owner agreements and a copy of the release is to be submitted upon abandonment.

C. **The Operator shall promptly plug and abandoned each newly completed, re-completed or producing well which is not capable of producing in paying quantities.** No well may be temporarily abandoned for more than 30 days without prior approval from this office. When justified by the Operator, BLM may authorize additional delays, no one of which may exceed an additional 12 months. Upon removal of drilling or producing equipment form the site of a well which is to be permanently abandoned, the surface of the lands disturbed shall be reclaimed in accordance with an approved Notice of Intent for final reclamation.

D. **Final reclamation shall include:** the removal of all solid waste, trash, surfacing materials, storage facilities and all other related equipment, flow lines, and meter housing, power poles, guy wires, and all other related power materials. All disturbed areas, i.e. cuts and fills, shall be re-contoured to their original surroundings. 100% of topsoil shall be used to resurface all disturbed areas including access roads. A label of the seed mix used shall be submitted with the Final Abandonment Notice (FAN) for review once reclamation is complete.

15. PIPELINE PROTECTION REQUIREMENT:

Precautionary measures shall be taken by the operator during construction of the access road to protect existing pipelines that the access road will cross over. An earthen berm; 2 feet high by 3 feet wide and 14 feet across the access road travelway (2' X 3' X 14'), shall be constructed over existing pipelines. The operator shall be held responsible for any damage to existing pipelines. If the pipeline is ruptured and/or damaged the operator shall immediately cease construction operations and repair the pipeline. The operator shall be held liable for any unsafe construction operations that threaten human life and/or cause the destruction of equipment.

16. WILDLIFE PROTECTION MEASURES – Best Management Practices (BMPs)

COA/Stipulation for above ground pipelines

- All pipelines laid on the surface will have sloped dirt berms built over them every 100 yards to allow reptiles, amphibians, small mammals, ground-dwelling birds and their broods access over them. Dirt berms should be no less than 12 inches in width and extend over all surface pipelines within the Right of Way. Berms should be maintained for the life of the project.

Wildlife Mortality - General
The operator will notify the Bureau of Land Management (BLM) authorized officer and nearest Fish and Wildlife Service (FWS) Law Enforcement office within 24 hours, if the operator discovers a dead or injured federally protected species (i.e., migratory bird species, bald or golden eagle, or species listed by the FWS as threatened or endangered) in or adjacent to a pit, trench, tank, exhaust stack, or fence. (If the operator is unable to contact the FWS Law Enforcement office, the operator must contact the nearest FWS Ecological Services office.)

1. **Closed top tanks are required for any containment system.** All tanks are required to have a closed top tank.

2. **Chemical and Fuel Secondary Containment Systems**
Chemical and Fuel Secondary Containment and Exclosure Screening – The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground.

The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. Closed-top tanks are required for any secondary containment systems.

3. **Open-Vent Exhaust Stacks**

Open-Vent Exhaust Stack Exclosures - The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

17. WASTE, HAZARDOUS AND SOLID:

Waste materials produced during all phases of operation will be disposed of promptly in an approved manner so it will not impact the air, soil, water, vegetation or animals. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes and equipment. All liquid waste, completion fluids and drilling products associated with oil and gas operations will be contained and then removed and deposited in an approved disposal site. Portable toilets will remain on site throughout well pad construction, drilling and reclamation.

The operator and contractors shall ensure that all use, production, storage, transportation and disposal of hazardous materials, solid wastes and hazardous wastes associated with the drilling, completion and production of this well will be in accordance with all applicable existing or hereafter promulgated federal, state and local government rules, regulations and guidelines. All project related activities involving hazardous materials will be conducted in a manner to minimize potential environmental impacts. A file will be maintained onsite containing current Safety Data Sheets (SDS) for all chemicals, compounds and/or substances which are used in the course of construction, drilling, completion and production operations.

18. SURFACE WATER AND GROUNDWATER PROTECTION MEASURES - Best Management Practices (BMPs)

A containment structure or earthen dike shall be constructed and maintained around the north, west, and south outside boundary of the well pad. The containment structure or earthen dike shall be constructed two (2) feet high (the containment structure or earthen dike can be constructed higher than the two (2) feet high minimum). The containment structure or earthen dike is required so that if a oilfield waste contaminant or product contaminant were leaked, spilled, and or released upon the well pad the oilfield waste contaminant or product contaminant shall be contained in order to prevent the contaminant from entering into the ephemeral drainage located north and east and downslope of the well pad location.

PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Mack Energy**
LEASE NO.:	**NMNM0282501A**
WELL NAME & NO.:	**Campbell River Federal 1H**
SURFACE HOLE FOOTAGE:	**602' FNL & 1650' FWL**
BOTTOM HOLE FOOTAGE	**1' FNL & 1650' FWL**
LOCATION:	**Section 26, T 15S, R 29E, NMPM**
COUNTY:	**Chaves County, New Mexico**

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

A. HYDROGEN SULFIDE

1. 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"** surface casing shall be set at approximately **287'** (a minimum of 25' into the Rustler Anhydrite and above the salt) and cemented to surface.
   a. **If cement does not circulate to 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 **6 hours** after pumping cement, ideally between 8-10 hours after.
   b. WOC time for a primary cement job will be a minimum of **8 hours** or **500 psi** compressive strength, whichever is greater. This is to include the lead cement.
   c. If cement falls back, remedial cementing will be done prior to drilling out the shoe.
   d. WOC time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 psi compressive strength, whichever is greater.

2. The **9-5/8"** intermediate casing shall be set at approximately **1200'** and cemented to surface.

   a. **If cement does not circulate to surface,** see B.1.a, c & d.

3. The **7" x 5-1/2"** production casing shall be cemented with at least **200' tie-back** into the previous casing. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
2. Required safety valves, with appropriate wrenches and subs for the drill string being utilized, will be in the open position and accessible on the rig floor.

DR 04/20/2020

GENERAL REQUIREMENTS

1. The BLM is to be notified in advance for a representative to witness:
   a. Spudding the well (minimum of 24 hours)
   b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
   c. BOP/BOPE tests (minimum of 4 hours)

   ☒ Call the Roswell Field Office: (575) 627-0272
2. 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:
      i. Notify the BLM when moving in and removing the Spudder Rig.
      ii. 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.
      iii. BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
3. 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.
4. 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 available upon request. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive

strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well-specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On the portion of well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. If the operator has proposed a multi-bowl wellhead assembly in the APD, it must meet or exceed the pressure rating of the BOP system. Additionally, 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. 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 Onshore Order 2 III.A.2.i must be followed.

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

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

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

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 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. This test shall be performed prior to the test at full stack pressure.

f. BOP/BOPE must be tested within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth

exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

1. 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

1. 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.
2. Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

Intent [XX] As Drilled [ ]

API #

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

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
C	26	15S	29E		602	NORTH	1650	WEST	CHAVES

Latitude	Longitude	NAD
32.9925478	104.0023361	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
N	23	15S	29E		100	SOUTH	1650	WEST	CHAVES

Latitude	Longitude	NAD
32.9944770	104.0023072	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
C	23	15S	29E		100	NORTH	1650	WEST	CHAVES

Latitude	Longitude	NAD
33.0085017	104.0024415	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: 2/14/2020

☒ Original
☐ Amended - Reason for Amendment:

Operator & OGRID No.: Mack Energy Corporation - 013837

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	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Campbell River Federal #1H		Sec. 26 T15S R29E	602 FNL 1650 FWL	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 Linam Ranch 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

Campbell River Federal #1H, Plan 1

Operator	Mack Energy Corp	**Units**	feet, °/100ft	14:48 Wednesday, December 18, 2019	Page 1 of 4
Field	Round Tank	**County**	Chaves	**Vertical Section Azimuth**	359.5
Well Name	Campbell River Federal #1H	**State**	New Mexico	**Survey Calculation Method**	Minimum Curvature
Plan	1	**Country**	USA	**Database**	Access

Location	SL: 602 FNL & 1650 FWL Sec 26-T15S-R29E BHL: 1 FNL & 1650 FWL Sec 23-T15S-R29E	**Map Zone**	UTM	**Lat Long Ref**	
Site		**Surface X**	1946350.2	**Surface Long**	
Slot Name	**UWI**	**Surface Y**	11977280.5	**Surface Lat**	
Well Number	**API**	**Surface Z**	3930	**Global Z Ref**	KB
Project	**MD/TVD Ref** KB	**Ground Level**	3912	**Local North Ref**	Grid

DIRECTIONAL WELL PLAN

MD* ft	INC* deg	AZI* deg	TVD* ft	N* ft	E* ft	DLS* °/100ft	V. S.* ft	MapE* ft	MapN* ft	SysTVD* ft
*** TIE (at MD = 2651.00)										
2651.00	0.00	0.0	2651.00	0.00	0.00		0.00	1946350.20	11977280.50	1279.00
2700.00	0.00	0.0	2700.00	0.00	0.00	0.00	0.00	1946350.20	11977280.50	1230.00
2750.00	0.00	0.0	2750.00	0.00	0.00	0.00	0.00	1946350.20	11977280.50	1180.00
*** KOP 8 DEGREES (at MD = 2751.00)										
2751.00	0.00	0.0	2751.00	0.00	0.00	0.00	0.00	1946350.20	11977280.50	1179.00
2800.00	3.92	359.5	2799.96	1.68	-0.01	8.00	1.68	1946350.19	11977282.18	1130.04
2850.00	7.92	359.5	2849.69	6.83	-0.06	8.00	6.83	1946350.14	11977287.33	1080.32
2900.00	11.92	359.5	2898.93	15.44	-0.13	8.00	15.44	1946350.07	11977295.94	1031.07
2950.00	15.92	359.5	2947.45	27.47	-0.24	8.00	27.47	1946349.96	11977307.97	982.55
3000.00	19.92	359.5	2995.01	42.85	-0.37	8.00	42.85	1946349.83	11977323.35	934.99
3050.00	23.92	359.5	3041.39	61.51	-0.54	8.00	61.51	1946349.66	11977342.01	888.61
3100.00	27.92	359.5	3086.35	83.36	-0.73	8.00	83.36	1946349.47	11977363.86	843.65
3150.00	31.92	359.5	3129.68	108.29	-0.95	8.00	108.30	1946349.25	11977388.79	800.32
3200.00	35.92	359.5	3171.16	136.19	-1.19	8.00	136.19	1946349.01	11977416.69	758.84
3250.00	39.92	359.5	3210.60	166.91	-1.46	8.00	166.92	1946348.74	11977447.41	719.40
3300.00	43.92	359.5	3247.79	200.31	-1.75	8.00	200.31	1946348.45	11977480.81	682.21
3350.00	47.92	359.5	3282.57	236.22	-2.06	8.00	236.23	1946348.14	11977516.72	647.43
3400.00	51.92	359.5	3314.75	274.46	-2.40	8.00	274.47	1946347.80	11977554.96	615.25
*** 55 DEGREE TANGENT (at MD = 3438.50)										
3438.50	55.00	359.5	3337.67	305.39	-2.67	8.00	305.40	1946347.53	11977585.89	592.33
3450.00	55.00	359.5	3344.27	314.81	-2.75	0.00	314.82	1946347.45	11977595.31	585.73
3500.00	55.00	359.5	3372.95	355.77	-3.10	0.00	355.78	1946347.10	11977636.27	557.05
3550.00	55.00	359.5	3401.63	396.72	-3.46	0.00	396.74	1946346.74	11977677.22	528.37
*** 12 DEGREE BUILD (at MD = 3588.50)										
3588.50	55.00	359.5	3423.71	428.26	-3.74	0.00	428.28	1946346.46	11977708.76	506.29
3600.00	56.38	359.5	3430.19	437.76	-3.82	12.00	437.78	1946346.38	11977718.26	499.81
3650.00	62.38	359.5	3455.65	480.77	-4.20	12.00	480.78	1946346.00	11977761.27	474.35
3700.00	68.38	359.5	3476.47	526.20	-4.59	12.00	526.22	1946345.61	11977806.70	453.53
3750.00	74.38	359.5	3492.43	573.56	-5.01	12.00	573.58	1946345.19	11977854.06	437.57
3800.00	80.38	359.5	3503.35	622.32	-5.43	12.00	622.35	1946344.77	11977902.82	426.65
3850.00	86.38	359.5	3509.11	671.97	-5.86	12.00	671.99	1946344.34	11977952.47	420.89
*** LANDING POINT (at MD = 3884.33)										
3884.33	90.50	359.5	3510.04	706.28	-6.16	12.00	706.31	1946344.04	11977986.78	419.96
3900.00	90.50	359.5	3509.90	721.94	-6.30	0.00	721.97	1946343.90	11978002.44	420.10
3950.00	90.50	359.5	3509.47	771.94	-6.74	0.00	771.97	1946343.46	11978052.44	420.53
4000.00	90.50	359.5	3509.03	821.94	-7.17	0.00	821.97	1946343.03	11978102.44	420.97
4050.00	90.50	359.5	3508.60	871.93	-7.61	0.00	871.97	1946342.59	11978152.43	421.40
4100.00	90.50	359.5	3508.16	921.93	-8.05	0.00	921.96	1946342.15	11978202.43	421.84

Campbell River Federal #1H, Plan 1

Operator	Mack Energy Corp	**Units**	feet, °/100ft	14:48 Wednesday, December 18, 2019	Page 2 of 4
Field	Round Tank	**County**	Chaves	**Vertical Section Azimuth**	359.5
Well Name	Campbell River Federal #1H	**State**	New Mexico	**Survey Calculation Method**	Minimum Curvature
Plan	1	**Country**	USA	**Database**	Access

Location	SL: 602 FNL & 1650 FWL Sec 26-T15S-R29E BHL: 1 FNL & 1650 FWL Sec 23-T15S-R29E	**Map Zone**	UTM	**Lat Long Ref**	
Site		**Surface X**	1946350.2	**Surface Long**	
Slot Name	**UWI**	**Surface Y**	11977280.5	**Surface Lat**	
Well Number	**API**	**Surface Z**	3930	**Global Z Ref**	KB
Project	**MD/TVD Ref** KB	**Ground Level**	3912	**Local North Ref**	Grid

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	359.5	3507.72	971.92	-8.48	0.00	971.96	1946341.72	11978252.42	422.28
4200.00	90.50	359.5	3507.29	1021.92	-8.92	0.00	1021.96	1946341.28	11978302.42	422.71
4250.00	90.50	359.5	3506.85	1071.92	-9.35	0.00	1071.96	1946340.85	11978352.42	423.15
4300.00	90.50	359.5	3506.41	1121.91	-9.79	0.00	1121.96	1946340.41	11978402.41	423.59
4350.00	90.50	359.5	3505.98	1171.91	-10.23	0.00	1171.95	1946339.97	11978452.41	424.02
4400.00	90.50	359.5	3505.54	1221.91	-10.66	0.00	1221.95	1946339.54	11978502.41	424.46
4450.00	90.50	359.5	3505.10	1271.90	-11.10	0.00	1271.95	1946339.10	11978552.40	424.90
4500.00	90.50	359.5	3504.67	1321.90	-11.54	0.00	1321.95	1946338.66	11978602.40	425.33
4550.00	90.50	359.5	3504.23	1371.89	-11.97	0.00	1371.95	1946338.23	11978652.39	425.77
4600.00	90.50	359.5	3503.80	1421.89	-12.41	0.00	1421.94	1946337.79	11978702.39	426.20
4650.00	90.50	359.5	3503.36	1471.89	-12.85	0.00	1471.94	1946337.36	11978752.39	426.64
4700.00	90.50	359.5	3502.92	1521.88	-13.28	0.00	1521.94	1946336.92	11978802.38	427.08
4750.00	90.50	359.5	3502.49	1571.88	-13.72	0.00	1571.94	1946336.48	11978852.38	427.51
4800.00	90.50	359.5	3502.05	1621.88	-14.15	0.00	1621.94	1946336.05	11978902.38	427.95
4850.00	90.50	359.5	3501.61	1671.87	-14.59	0.00	1671.94	1946335.61	11978952.37	428.39
4900.00	90.50	359.5	3501.18	1721.87	-15.03	0.00	1721.93	1946335.17	11979002.37	428.82
4950.00	90.50	359.5	3500.74	1771.86	-15.46	0.00	1771.93	1946334.74	11979052.36	429.26
5000.00	90.50	359.5	3500.31	1821.86	-15.90	0.00	1821.93	1946334.30	11979102.36	429.69
5050.00	90.50	359.5	3499.87	1871.86	-16.34	0.00	1871.93	1946333.86	11979152.36	430.13
5100.00	90.50	359.5	3499.43	1921.85	-16.77	0.00	1921.93	1946333.43	11979202.35	430.57
5150.00	90.50	359.5	3499.00	1971.85	-17.21	0.00	1971.92	1946332.99	11979252.35	431.00
5200.00	90.50	359.5	3498.56	2021.85	-17.64	0.00	2021.92	1946332.56	11979302.35	431.44
5250.00	90.50	359.5	3498.12	2071.84	-18.08	0.00	2071.92	1946332.12	11979352.34	431.88
5300.00	90.50	359.5	3497.69	2121.84	-18.52	0.00	2121.92	1946331.68	11979402.34	432.31
5350.00	90.50	359.5	3497.25	2171.83	-18.95	0.00	2171.92	1946331.25	11979452.33	432.75
5400.00	90.50	359.5	3496.81	2221.83	-19.39	0.00	2221.91	1946330.81	11979502.33	433.19
5450.00	90.50	359.5	3496.38	2271.83	-19.83	0.00	2271.91	1946330.37	11979552.33	433.62
5500.00	90.50	359.5	3495.94	2321.82	-20.26	0.00	2321.91	1946329.94	11979602.32	434.06
5550.00	90.50	359.5	3495.51	2371.82	-20.70	0.00	2371.91	1946329.50	11979652.32	434.49
5600.00	90.50	359.5	3495.07	2421.81	-21.13	0.00	2421.91	1946329.07	11979702.31	434.93
5650.00	90.50	359.5	3494.63	2471.81	-21.57	0.00	2471.90	1946328.63	11979752.31	435.37
5700.00	90.50	359.5	3494.20	2521.81	-22.01	0.00	2521.90	1946328.19	11979802.31	435.80
5750.00	90.50	359.5	3493.76	2571.80	-22.44	0.00	2571.90	1946327.76	11979852.30	436.24
5800.00	90.50	359.5	3493.32	2621.80	-22.88	0.00	2621.90	1946327.32	11979902.30	436.68
5850.00	90.50	359.5	3492.89	2671.80	-23.32	0.00	2671.90	1946326.88	11979952.30	437.11
5900.00	90.50	359.5	3492.45	2721.79	-23.75	0.00	2721.90	1946326.45	11980002.29	437.55
5950.00	90.50	359.5	3492.02	2771.79	-24.19	0.00	2771.89	1946326.01	11980052.29	437.98

Campbell River Federal #1H, Plan 1

Operator	Mack Energy Corp	**Units**	feet, °/100ft	14:48 Wednesday, December 18, 2019	Page 3 of 4
Field	Round Tank	**County**	Chaves	**Vertical Section Azimuth**	359.5
Well Name	Campbell River Federal #1H	**State**	New Mexico	**Survey Calculation Method**	Minimum Curvature
Plan	1	**Country**	USA	**Database**	Access

Location	SL: 602 FNL & 1650 FWL Sec 26-T15S-R29E BHL: 1 FNL & 1650 FWL Sec 23-T15S-R29E	**Map Zone**	UTM	**Lat Long Ref**	
Site		**Surface X**	1946350.2	**Surface Long**	
Slot Name	**UWI**	**Surface Y**	11977280.5	**Surface Lat**	
Well Number	**API**	**Surface Z**	3930	**Global Z Ref**	KB
Project	**MD/TVD Ref** KB	**Ground Level**	3912	**Local North Ref**	Grid

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	359.5	3491.58	2821.78	-24.63	0.00	2821.89	1946325.57	11980102.28	438.42
6050.00	90.50	359.5	3491.14	2871.78	-25.06	0.00	2871.89	1946325.14	11980152.28	438.86
6100.00	90.50	359.5	3490.71	2921.78	-25.50	0.00	2921.89	1946324.70	11980202.28	439.29
6150.00	90.50	359.5	3490.27	2971.77	-25.93	0.00	2971.89	1946324.27	11980252.27	439.73
6200.00	90.50	359.5	3489.83	3021.77	-26.37	0.00	3021.88	1946323.83	11980302.27	440.17
6250.00	90.50	359.5	3489.40	3071.77	-26.81	0.00	3071.88	1946323.39	11980352.27	440.60
6300.00	90.50	359.5	3488.96	3121.76	-27.24	0.00	3121.88	1946322.96	11980402.26	441.04
6350.00	90.50	359.5	3488.52	3171.76	-27.68	0.00	3171.88	1946322.52	11980452.26	441.48
6400.00	90.50	359.5	3488.09	3221.75	-28.12	0.00	3221.88	1946322.08	11980502.25	441.91
6450.00	90.50	359.5	3487.65	3271.75	-28.55	0.00	3271.87	1946321.65	11980552.25	442.35
6500.00	90.50	359.5	3487.22	3321.75	-28.99	0.00	3321.87	1946321.21	11980602.25	442.78
6550.00	90.50	359.5	3486.78	3371.74	-29.42	0.00	3371.87	1946320.78	11980652.24	443.22
6600.00	90.50	359.5	3486.34	3421.74	-29.86	0.00	3421.87	1946320.34	11980702.24	443.66
6650.00	90.50	359.5	3485.91	3471.73	-30.30	0.00	3471.87	1946319.90	11980752.23	444.09
6700.00	90.50	359.5	3485.47	3521.73	-30.73	0.00	3521.86	1946319.47	11980802.23	444.53
6750.00	90.50	359.5	3485.03	3571.73	-31.17	0.00	3571.86	1946319.03	11980852.23	444.97
6800.00	90.50	359.5	3484.60	3621.72	-31.61	0.00	3621.86	1946318.59	11980902.22	445.40
6850.00	90.50	359.5	3484.16	3671.72	-32.04	0.00	3671.86	1946318.16	11980952.22	445.84
6900.00	90.50	359.5	3483.72	3721.72	-32.48	0.00	3721.86	1946317.72	11981002.22	446.28
6950.00	90.50	359.5	3483.29	3771.71	-32.92	0.00	3771.86	1946317.28	11981052.21	446.71
7000.00	90.50	359.5	3482.85	3821.71	-33.35	0.00	3821.85	1946316.85	11981102.21	447.15
7050.00	90.50	359.5	3482.42	3871.70	-33.79	0.00	3871.85	1946316.41	11981152.20	447.58
7100.00	90.50	359.5	3481.98	3921.70	-34.22	0.00	3921.85	1946315.98	11981202.20	448.02
7150.00	90.50	359.5	3481.54	3971.70	-34.66	0.00	3971.85	1946315.54	11981252.20	448.46
7200.00	90.50	359.5	3481.11	4021.69	-35.10	0.00	4021.85	1946315.10	11981302.19	448.89
7250.00	90.50	359.5	3480.67	4071.69	-35.53	0.00	4071.84	1946314.67	11981352.19	449.33
7300.00	90.50	359.5	3480.23	4121.69	-35.97	0.00	4121.84	1946314.23	11981402.19	449.77
7350.00	90.50	359.5	3479.80	4171.68	-36.41	0.00	4171.84	1946313.79	11981452.18	450.20
7400.00	90.50	359.5	3479.36	4221.68	-36.84	0.00	4221.84	1946313.36	11981502.18	450.64
7450.00	90.50	359.5	3478.93	4271.67	-37.28	0.00	4271.84	1946312.92	11981552.17	451.07
7500.00	90.50	359.5	3478.49	4321.67	-37.71	0.00	4321.83	1946312.49	11981602.17	451.51
7550.00	90.50	359.5	3478.05	4371.67	-38.15	0.00	4371.83	1946312.05	11981652.17	451.95
7600.00	90.50	359.5	3477.62	4421.66	-38.59	0.00	4421.83	1946311.61	11981702.16	452.38
7650.00	90.50	359.5	3477.18	4471.66	-39.02	0.00	4471.83	1946311.18	11981752.16	452.82
7700.00	90.50	359.5	3476.74	4521.65	-39.46	0.00	4521.83	1946310.74	11981802.15	453.26
7750.00	90.50	359.5	3476.31	4571.65	-39.90	0.00	4571.82	1946310.30	11981852.15	453.69
7800.00	90.50	359.5	3475.87	4621.65	-40.33	0.00	4621.82	1946309.87	11981902.15	454.13

Campbell River Federal #1H, Plan 1

Operator	Mack Energy Corp	**Units**	feet, °/100ft	14:48 Wednesday, December 18, 2019	Page 4 of 4
Field	Round Tank	**County**	Chaves	**Vertical Section Azimuth**	359.5
Well Name	Campbell River Federal #1H	**State**	New Mexico	**Survey Calculation Method**	Minimum Curvature
Plan	1	**Country**	USA	**Database**	Access

Location	SL: 602 FNL & 1650 FWL Sec 26-T15S-R29E BHL: 1 FNL & 1650 FWL Sec 23-T15S-R29E	**Map Zone**	UTM	**Lat Long Ref**	
Site		**Surface X**	1946350.2	**Surface Long**	
Slot Name	**UWI**	**Surface Y**	11977280.5	**Surface Lat**	
Well Number	**API**	**Surface Z**	3930	**Global Z Ref**	KB
Project	**MD/TVD Ref** KB	**Ground Level**	3912	**Local North Ref**	Grid

DIRECTIONAL WELL PLAN

MD* ft	INC* deg	AZI* deg	TVD* ft	N* ft	E* ft	DLS* °/100ft	V. S.* ft	MapE* ft	MapN* ft	SysTVD* ft
7850.00	90.50	359.5	3475.43	4671.64	-40.77	0.00	4671.82	1946309.43	11981952.14	454.57
7900.00	90.50	359.5	3475.00	4721.64	-41.21	0.00	4721.82	1946308.99	11982002.14	455.00
7950.00	90.50	359.5	3474.56	4771.64	-41.64	0.00	4771.82	1946308.56	11982052.14	455.44
8000.00	90.50	359.5	3474.13	4821.63	-42.08	0.00	4821.82	1946308.12	11982102.13	455.87
8050.00	90.50	359.5	3473.69	4871.63	-42.51	0.00	4871.81	1946307.69	11982152.13	456.31
8100.00	90.50	359.5	3473.25	4921.62	-42.95	0.00	4921.81	1946307.25	11982202.12	456.75
8150.00	90.50	359.5	3472.82	4971.62	-43.39	0.00	4971.81	1946306.81	11982252.12	457.18
8200.00	90.50	359.5	3472.38	5021.62	-43.82	0.00	5021.81	1946306.38	11982302.12	457.62
8250.00	90.50	359.5	3471.94	5071.61	-44.26	0.00	5071.81	1946305.94	11982352.11	458.06
8300.00	90.50	359.5	3471.51	5121.61	-44.70	0.00	5121.80	1946305.50	11982402.11	458.49
8350.00	90.50	359.5	3471.07	5171.61	-45.13	0.00	5171.80	1946305.07	11982452.11	458.93
8400.00	90.50	359.5	3470.64	5221.60	-45.57	0.00	5221.80	1946304.63	11982502.10	459.36
8450.00	90.50	359.5	3470.20	5271.60	-46.00	0.00	5271.80	1946304.20	11982552.10	459.80
8500.00	90.50	359.5	3469.76	5321.59	-46.44	0.00	5321.80	1946303.76	11982602.09	460.24
8550.00	90.50	359.5	3469.33	5371.59	-46.88	0.00	5371.79	1946303.32	11982652.09	460.67
8600.00	90.50	359.5	3468.89	5421.59	-47.31	0.00	5421.79	1946302.89	11982702.09	461.11
8650.00	90.50	359.5	3468.45	5471.58	-47.75	0.00	5471.79	1946302.45	11982752.08	461.55
8700.00	90.50	359.5	3468.02	5521.58	-48.19	0.00	5521.79	1946302.01	11982802.08	461.98
8750.00	90.50	359.5	3467.58	5571.57	-48.62	0.00	5571.79	1946301.58	11982852.07	462.42
8800.00	90.50	359.5	3467.14	5621.57	-49.06	0.00	5621.78	1946301.14	11982902.07	462.86
8850.00	90.50	359.5	3466.71	5671.57	-49.50	0.00	5671.78	1946300.71	11982952.07	463.29
8900.00	90.50	359.5	3466.27	5721.56	-49.93	0.00	5721.78	1946300.27	11983002.06	463.73
8950.00	90.50	359.5	3465.84	5771.56	-50.37	0.00	5771.78	1946299.83	11983052.06	464.16
9000.00	90.50	359.5	3465.40	5821.56	-50.80	0.00	5821.78	1946299.40	11983102.06	464.60
9050.00	90.50	359.5	3464.96	5871.55	-51.24	0.00	5871.78	1946298.96	11983152.05	465.04
*** TD (at MD = 9081.70)										
9081.70	90.50	359.5	3464.69	5903.25	-51.52	0.00	5903.48	1946298.68	11983183.75	465.31

Attached to Form 3160-3
Mack Energy Corporation
Campbell River Federal Com 1H
SHL : 602 FNL & 1650 FWL, NENW Sec. 26 T15S R29E
BHL : 1 FNL & 1650 FWL, NENW, Sec. 23 T15S R29E
Chaves County, NM NMNM-138832

DRILLING PROGRAM

1. **Geologic Name of Surface Formation**

   Quaternary

2. **Estimated Tops of Important Geologic Markers:**

Rustler	270'
Top Salt	310'
Base Salt	910'
Yates	1065'
Seven Rivers	1305'
Queen	1780'
Grayburg	2175'
San Andres	2235'

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

Water Sand	150'	Fresh Water
Yates	1065'	Oil/Gas
Seven Rivers	1305'	Oil/Gas
Queen	1780'	Oil/Gas
Grayburg	2175'	Oil/Gas
San Andres	2235'	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 ½" 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 ¾"	0-2650'	7"	26#, HCP-110,LT&C, New,5.338182/3.347418/3.316667
8 ¾"	2650-3650'	7"	26#, HCP-110, Buttress, New, 3.914056/3.359171/3.347418
8 3/4"	3,650'-9082'	5 ½"	17#, HCP-110,Buttress, New, 4.668534/3.661961/3.592119

5. **Cement Program:**

13 3/8" Surface Casing: 210sx RFC+12% PF53+2% PF1+5ppsPF42+.125pps PF29, yld 1.61, wt 14.4 ppg, 7.357 gals/sx, Tail 200sx Class C+1%PF1, 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 ½" Production Casing: Lead 225sx Class C 4% PF- 20+2% PF-001 +.125pps PF-29+4.0 pps PF-45, 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 +.2% PF13, 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 nippled 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'	Fresh Water	9.6	28	N.C
250'-1200'	Cut Brine	10	29	N.C.
1200'-TD'	Cut Brine	9.2	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 1679 psi (0.052*3510' TVD*9.2ppg). 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 June 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.

Attached to Form 3160-3
Mack Energy Corporation
Campbell River Federal Com 1H
SHL : 602 FNL & 1650 FWL, NENW Sec. 26 T15S R29E
BHL : 1 FNL & 1650 FWL, NENW, Sec. 23 T15S R29E
Chaves County, NM NMNM-138832

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 an 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 well 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

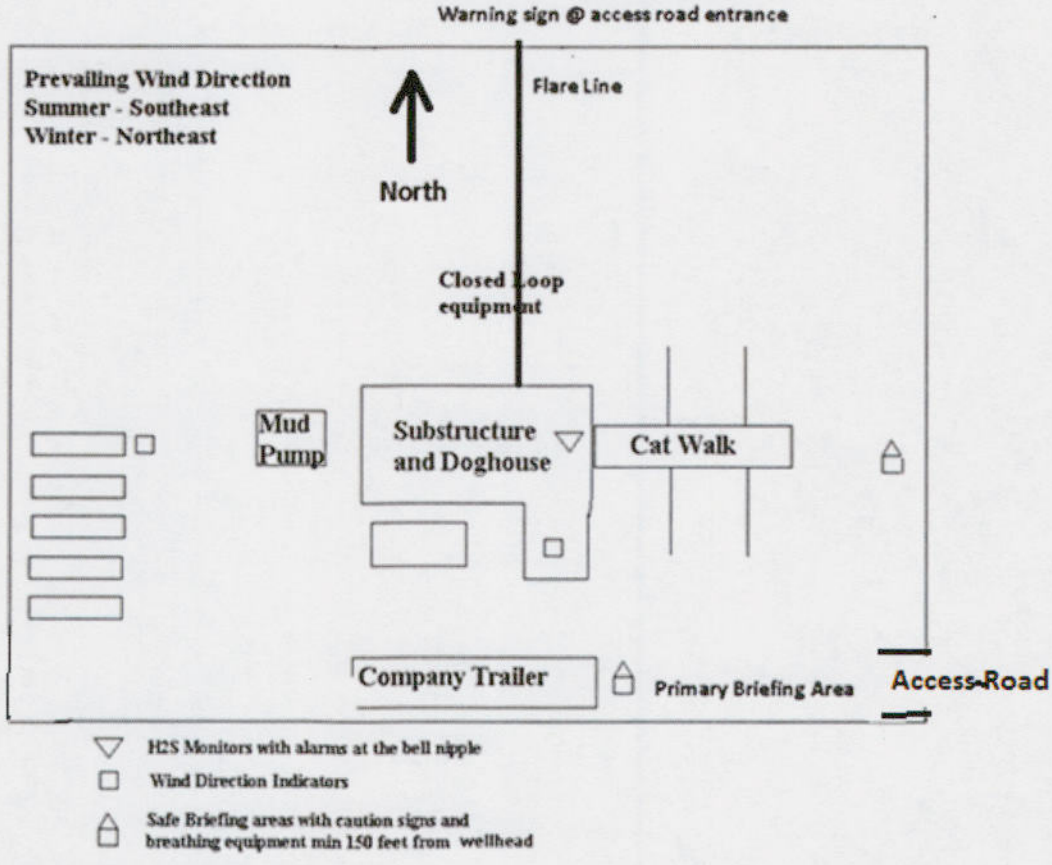
YOU ARE ENTERING AN H2S

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

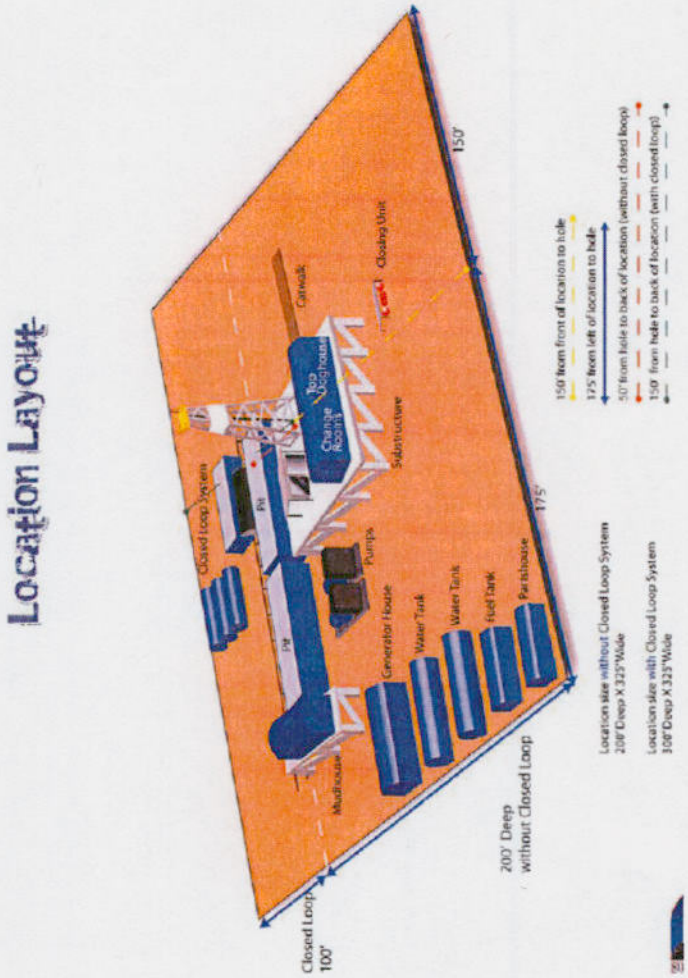
MACK ENERGY CORPORATION

1-575-748-1288



B. There will be no drill stem testing.

DRILLING LOCATION H2S SAFTY EQUIPMENT
Exhibit # 8



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

SURFACE USE AND OPERATING PLAN

1. Existing Access Roads

A. All roads to the location are shown in Exhibit #6. The existing lease roads are illustrated and are adequate for travel during drilling and production operations. Upgrading existing roads prior to drilling well, will be done where necessary.

B. Directions to Location: From intersection of State Highway 82 and CR 217 go North on CR 217 for approx. 10.0 miles, go west on 20' caliche lease road for approx. 2.0 miles, go North on 20' caliche lease road for approx. 1.3 miles, continue East on 20' caliche lease road for approx. 0.3 of a mile to begin road survey, follow road survey East approx. 2544' to PI right, continue South approx. 411' (total of 2955') to the Northwest pad corner for this location.

C. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

Exhibit #6

1. **Proposed Access Road:**

Vicinity Map shows this location with existing road and 2955' of new proposed road exiting the Northwest corner of the pad; road is on BLM Land. Proposed upgrade of existing road will be done along staked centerline survey. Necessary maintenance will be done to insure traffic stays within the access road. The road has been constructed as follows:

A. The Maximum width of the running surface will be 14'. The road will be crowned and ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 3 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.

B. The average grade will be less than 1%.

C. No turnouts are planned.

D. No culverts, cattleguard, gates, low water crossings or fence cuts are necessary.

E. Surfacing material will consist of native caliche. Caliche will be obtained from the nearest BLM approved caliche pit located Sec. 19 T15S R29E and Sec. 34 T15S R29E.

F. The access road as shown in Exhibit #6 is existing.

2. **Location of Existing Wells:**

Exhibit #16 shows all existing wells within a one-mile radius of this well.

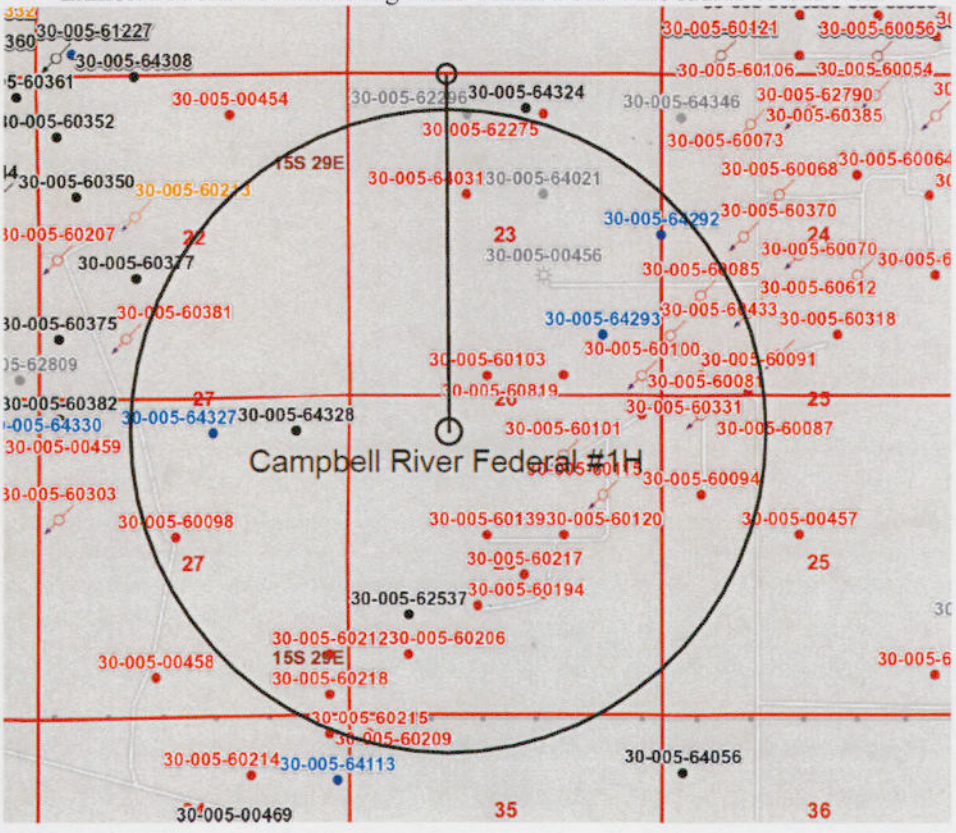


Exhibit #16

3. Location of Existing and/or Proposed Facilities:

A. Mack Energy Corporation will produce this well at the Existing Thunder Bay Federal Com CTB located SW/4 SW/4 Sec.22 T15S R29E 10 FNL 1675 FWL.

B. If the well is productive, facilities will be as follows: 1) Round Tank; San Andres Completion: Will be sent to the Existing Thunder Bay Federal Com CTB located SW/4 SW/4 Sec. 22 T15S R29E 10 FNL 1675 FWL. See facility diagram attached.

C. The tank battery and facilities including all flow lines and piping will be installed according to API specifications.

D. Any additional caliche will be obtained from a BLM approved caliche pit. Any additional construction materials will be purchased from contractors.

1) It will be necessary to run electric power if this well is productive. Power will be run by CVE and they will send in a separate plan for power.

D. 2 Proposed flow lines will tren North then West to the Thunder Bay Fed Com CTB entering on the Southwest side of the Thunder Bay Fed Com CTB. See Plats Attached.

2(two) Flowlines will be a 4" poly surface line, 7373.91' in length with a 40 psi min. working pressure 70psi max pressure, will transport production of Oil/Gas/Water

Length- 7373.91'

Route- Tren Northwest corner of the pad and will follow along the road West to the Thunder Bay Federal Com CTB, entering on the Southwest side of the Thunder Bay Fed Com CTB. See Plats Attached.

Material Composition- 4" Poly SDR 7

Width- 4"

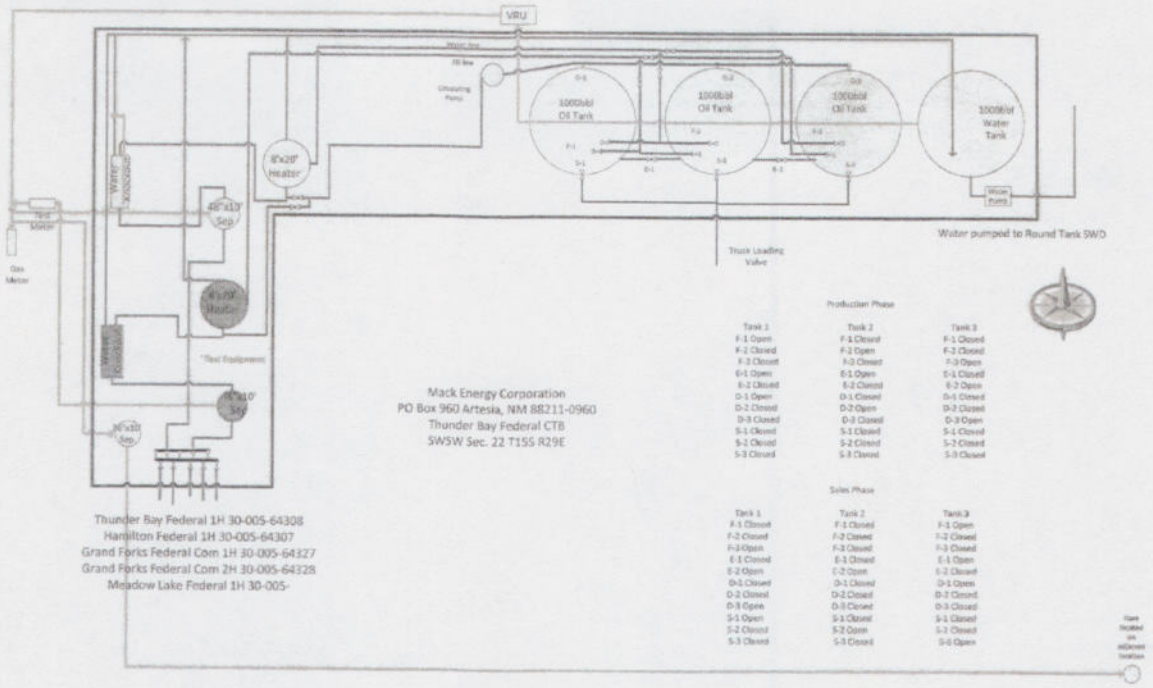
Pressure- 40psi min working pressure, 70psi max pressure

Transport- Production of Oil/Gas/Water

Type- Surface

How Many- 2 lines

Owenership- All flowlines on BLM Land



4. Location and Type of Water Supply:

The well will be drilled with combination brine and fresh water mud system as outlined in the drilling program. The water will be obtained from commercial water stations in the area and hauled to location by transport truck over the existing and proposed access roads shown in Exhibit #6. If a commercial fresh water source is nearby, fasline may be laid along existing road ROW's and fresh water pumped to the well. No water well will be drilled on the location.

5. Source of Construction Materials:

E. All caliche required for construction of the drill pad and proposed new access road (approximately 2500 cubic yards) will be obtained from BLM approved pit located Sec. 19 T15S R29E and Sec. 34 T15S R29E.

6. Methods of Handling Waste:

A. Drill cuttings and fluids will be disposed into the steel tanks and hauled to R-360 disposal facility, permit number NM-01-0006. Located on Hwy 62 at MM 66.

B. Water produced from the well during completion may be disposed into a steel tank. After the well is permanently placed on production, produced water will be collected in tanks (fiberglass) and trucked to our Round Tank SWD #1; produced oil will be collected in steel tanks until sold.

C. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved local landfill. No toxic waste or hazardous chemicals will be produced by this operation.

D. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. In the event of a dry hole only a dry hole marker will remain.

E. Sewage and Gray Water will be placed in container and hauled to a approved facility. Container and disposal handled by Black Hawk.

F. Drilling fluids will be contained in steel tanks using a closed loop system Exhibit #12. No pits will be used during drilling operations

7. Ancillary Facilities:

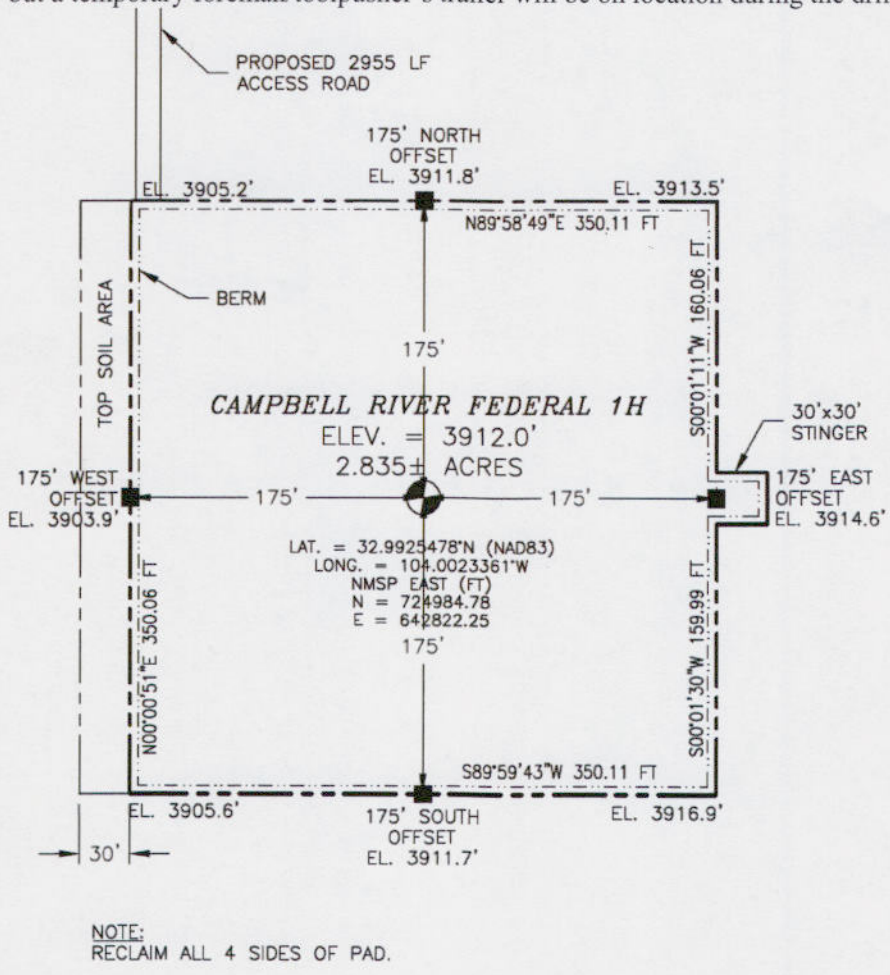
No airstrip, campsite or other facilities will be built as a result of the operation on this well.

8. Well Site Layout:

A. The well site and elevation plat for the proposed well is shown in Exhibit #14. It was staked by Maddron Surveying, Carlsbad, NM.

B. The drill pad layout, with elevations staked by Maddron Surveying, is shown in Exhibit #14. Dimensions of the pad are shown. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level no major cuts will be required.

C. Diagram below shows the proposed orientation of the location. No permanent living facilities are planned, but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.



NOTE:
RECLAIM ALL 4 SIDES OF PAD.

Exhibit# 14

9. Plans for Restoration of the Surface:

A. Upon completion of the proposed operations, if the well is completed, any additional caliche required for facilities will be obtained from a BLM approved caliche pit.

B. Plans for interim and or final remediation:

1) Caliche will be removed, ground ripped and stockpiled topsoil used to recontoured as close as possible to the original natural level to prevent erosion and ponding of water.
2) Area will be reseeded as per BLM specifications. Seeding will be done when moisture is available and weather permitting. Pure live seed will be used to prevent noxious weeds. Annual inspection of growth will be done and necessary measures taken to eliminate noxious weeds.

C. Exhibit #15 below shows the proposed downsized well site after Interim Reclamation. Dimensions are estimates on present conditions and are subject to change. Reclaimed Area 1.380 Acres on all 4 sides of the pad.

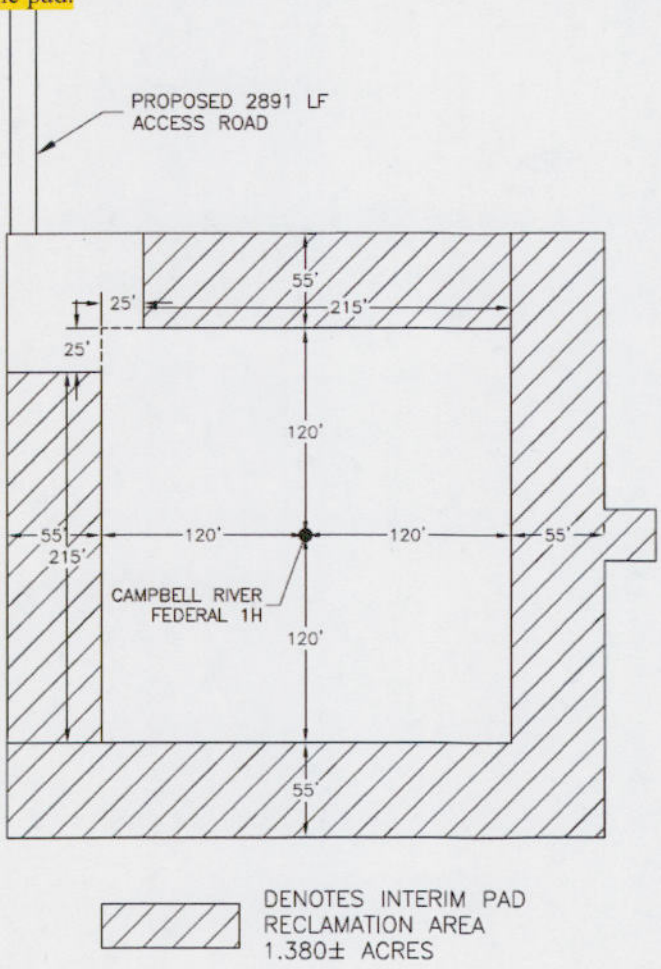


Exhibit #15

10. Surface Ownership:

The well site and lease is located entirely on State Land surface.

11. Other Information:

A. The area around the well site is grassland and the topsoil is sandy. The vegetation is native scrub grass with sagebrush.

B. There is no permanent or live water in the immediate area.

C. A Cultural Resources Examination has been requested and will be forwarded to your office in the near future.

12. Lessee's and Operator's Representative:

The Mack Energy Corporation representative responsible for assuring compliance with the surface use plan is as follows:

Deana Weaver
Mack Energy Corporation
P.O. Box 960
Artesia, NM 88211-0960
Phone (575) 748-1288 (office)
dweaver@mec.com

APD CERTIFICATION

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

Date: _____ **Signed:** Deana Weaver

Deana Weaver