

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

Well Name: WINKLER FEDERAL	Well Location: T15S / R30E / SEC 18 / LOT 4 / 33.010375 / -103.9732911	County or Parish/State: CHAVES / NM
Well Number: 1H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM138841	Unit or CA Name:	Unit or CA Number:
US Well Number: 3000529223	Well Status: Drilling Shut In	Operator: MACK ENERGY CORPORATION

Notice of Intent

Sundry ID: 2724071

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 04/04/2023

Time Sundry Submitted: 09:06

Date proposed operation will begin: 04/03/2023

Procedure Description: Mack Energy Corporation request the following APD changes to Winkler Federal 1H: FTP- Unit P Sec. 13 T15S R29E 330 FSL 100 FEL LPT- Unit M Sec. 13 T15S R29E 330 FSL 100 FWL BHL- Unit M Sec. 13 T15S R29E 330FSL 1 FWL TD 8 3/4" Hole @ 8563'. Production Casing- 7" 26# HCP-110 LT&C @ 0-2650'. Collapse 5.868758, Burst-b 3.213347, Burst-t 3.316667, Joint Strength 7.31601 7" 26# HCP-110 Buttress @ 2650-3750', Collapse 4.192137, Burst-b 3.172326, Burst-t 3.213347, Joint Strength 9.005131 5 1/2" 17# HCP-110 Buttress @ 3750-8564'. Collapse 4.799009, Burst-b 3.212823, Burst-t 3.392316 Cmt- 315sx 50/50 POZ/C+10%PF20+5%PF44+.5%PF79+3pps PF42+.4pps PF45+.125ppsPF29, density 11.5, yield 2.82, 40% excess, Slurry top Surface 1550sx 50/50 Poz/C+5%PF44+2%PF20+.2%PF 13+.2%PF65+.2%PF606+.4pps PF45, density 14.2 yield 1.34, 40% excess, Slurry top 2,500' Cubic Feet- 2164 Additives- 20bbls gelled water, 20bbls Chemical wash, 50sx of 11# scavenger cement

NOI Attachments

Procedure Description

Production_Csg_20230404083312.pdf

Cement_20230404083257.pdf

Winkler_Federal_1H_Revised_Preliminary_Horizontal_Well_Plan_2_20230403123104.pdf

WINKLER_FEDERAL_1H_20230403123053.pdf

Well Name: WINKLER FEDERAL

Well Location: T15S / R30E / SEC 18 /
LOT 4 / 33.010375 / -103.9732911

County or Parish/State:
CHAVES / NM

Well Number: 1H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM138841

Unit or CA Name:

Unit or CA Number:

US Well Number: 3000529223

Well Status: Drilling Shut In

Operator: MACK ENERGY
CORPORATION

Conditions of Approval

Specialist Review

Conditions_of_Approval_20230406104503.pdf

Operator

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: DEANA WEAVER

Signed on: APR 04, 2023 09:05 AM

Name: MACK ENERGY CORPORATION

Title: Production Clerk

Street Address: 11344 Lovington HWY

City: Artesia

State: NM

Phone: (575) 748-1288

Email address: dweaver@mec.com

Field

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: JENNIFER SANCHEZ

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5756270237

BLM POC Email Address: j1sanchez@blm.gov

Disposition: Approved

Disposition Date: 04/06/2023

Signature: Jennifer Sanchez

**PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Mack Energy Corporation
LEASE NO.:	NMNM-138831
WELL NAME & NO.:	Winkler Federal 1H
SURFACE HOLE FOOTAGE:	0606' FSL & 0030' FWL
BOTTOM HOLE FOOTAGE:	0330' FSL & 0001' FWL Sec. 13, T. 15 S., R 29 E.
LOCATION:	Section 18, T. 15 S., R 30 E., NMPM
COUNTY:	Chaves County, New Mexico

The Gamma Ray and Neutron well logs must be run from total depth to surface and e-mailed to Aleksandr Knapowski at cknapowski@blm.gov or hard copy mailed to 2909 West Second Street Roswell, NM 88201 to his attention.

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

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

Chaves and Roosevelt Counties

Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.

During office hours call (575) 627-0272.

After hours call (575) 627-0205.

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.**
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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**

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 is 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 submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

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.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

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.

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.

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

**Possibility of water flows in the Rustler, Queen, Salado and Artesia Group.
Possibility of lost circulation in the Rustler, Artesia Group, and San Andres.**

1. The **13-3/8** inch surface casing shall be set at approximately **450** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

3. The minimum required fill of cement behind the **7 X 5-1/2** inch production casing is:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
4. 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.

C. 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 53.
2. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).
3. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi (testing to 2,000 psi).**
 - a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
 - b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
 - c. **Manufacturer representative shall install the test plug for the initial BOP test.**
 - d. **Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.**
 - e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**

4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
 - c. 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.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
 - f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

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

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

JAM 04062023

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 30-005-29223		² Pool Code 19150		³ Pool Name Double L; San Andres, South	
⁴ Property Code 331183		⁵ Property Name WINKLER FEDERAL			⁶ Well Number 1H
⁷ OGRID No. 13837		⁸ Operator Name MACK ENERGY CORPORATION			⁹ Elevation 3968.5

¹⁰ Surface Location

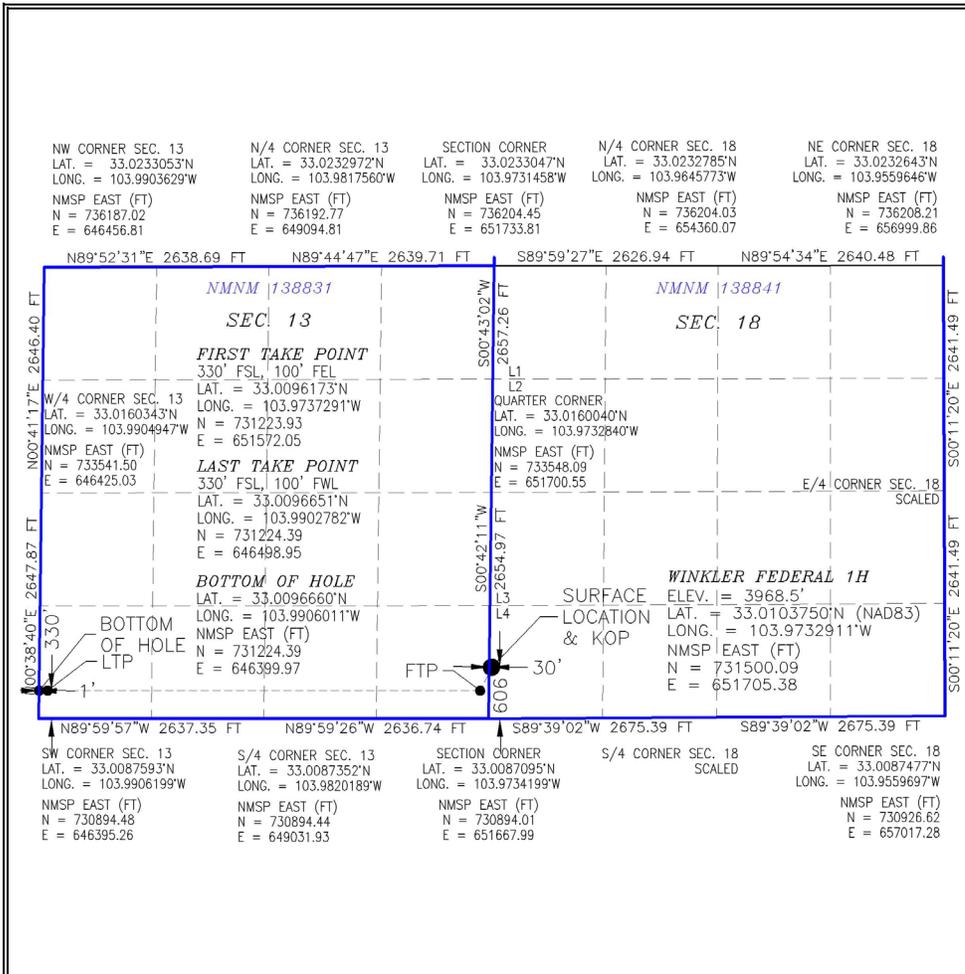
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	18	15 S	30 E		606	SOUTH	30	WEST	CHAVES

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
M	13	15 S	29 E		330	SOUTH	1	WEST	CHAVES

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

MARCH 7, 2023

Date of Survey

Signature and Seal of Professional Surveyor: _____
 Certificate Number: **12797**
NEW MEXICO SURVEYORS
 NO. 8501B

Intent As Drilled

API #		
Operator Name: MACK ENERGY CORPORATION	Property Name: WINKLER FEDERAL	Well Number 1H

Kick Off Point (KOP)

UL	Section 18	Township 15S	Range 30E	Lot 4	Feet 606	From N/S SOUTH	Feet 30	From E/W WEST	County EDDY
Latitude 33.0103750					Longitude 103.9732911				NAD 83

First Take Point (FTP)

UL P	Section 13	Township 15S	Range 29E	Lot	Feet 330	From N/S SOUTH	Feet 100	From E/W EAST	County LEA
Latitude 33.0096173					Longitude 103.9737291				NAD 83

Last Take Point (LTP)

UL M	Section 13	Township 15S	Range 29E	Lot	Feet 330	From N/S SOUTH	Feet 100	From E/W WEST	County LEA
Latitude 33.0096651					Longitude 103.9902782				NAD 83

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

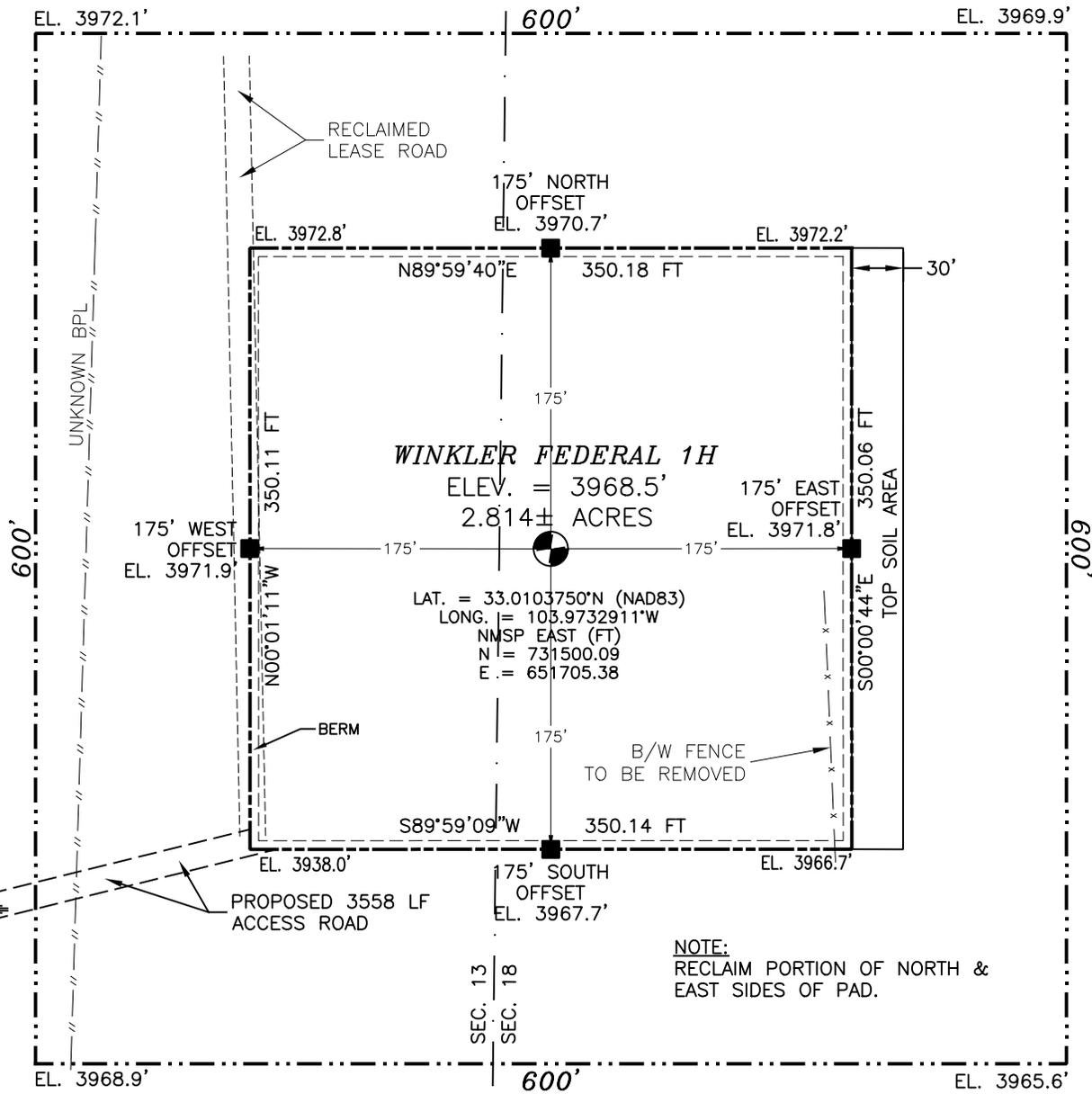
Is this well an infill well?

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

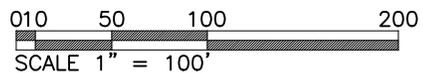
API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

SECTION 18, TOWNSHIP 15 SOUTH, RANGE 30 EAST, N.M.P.M. CHAVES COUNTY, STATE OF NEW MEXICO SITE MAP

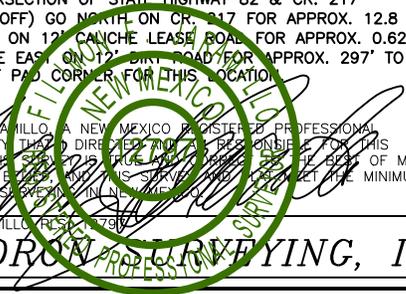


NOTE:
RECLAIM PORTION OF NORTH & EAST SIDES OF PAD.



DIRECTIONS TO LOCATION
FROM THE INTERSECTION OF STATE HIGHWAY 82 & CR. 217 (HAGERMAN CUTOFF) GO NORTH ON CR. 217 FOR APPROX. 12.8 MILES, GO EAST ON 12\"/>

I, FILIMON F. JARAMILLO, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I HAVE DIRECTED THE SURVEY AND THIS SURVEY, THAT THIS SURVEY IS IN ACCORDANCE WITH THE MINIMUM STANDARDS FOR SURVEYING PRACTICE IN THE STATE OF NEW MEXICO.



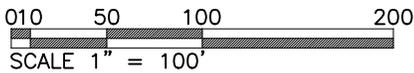
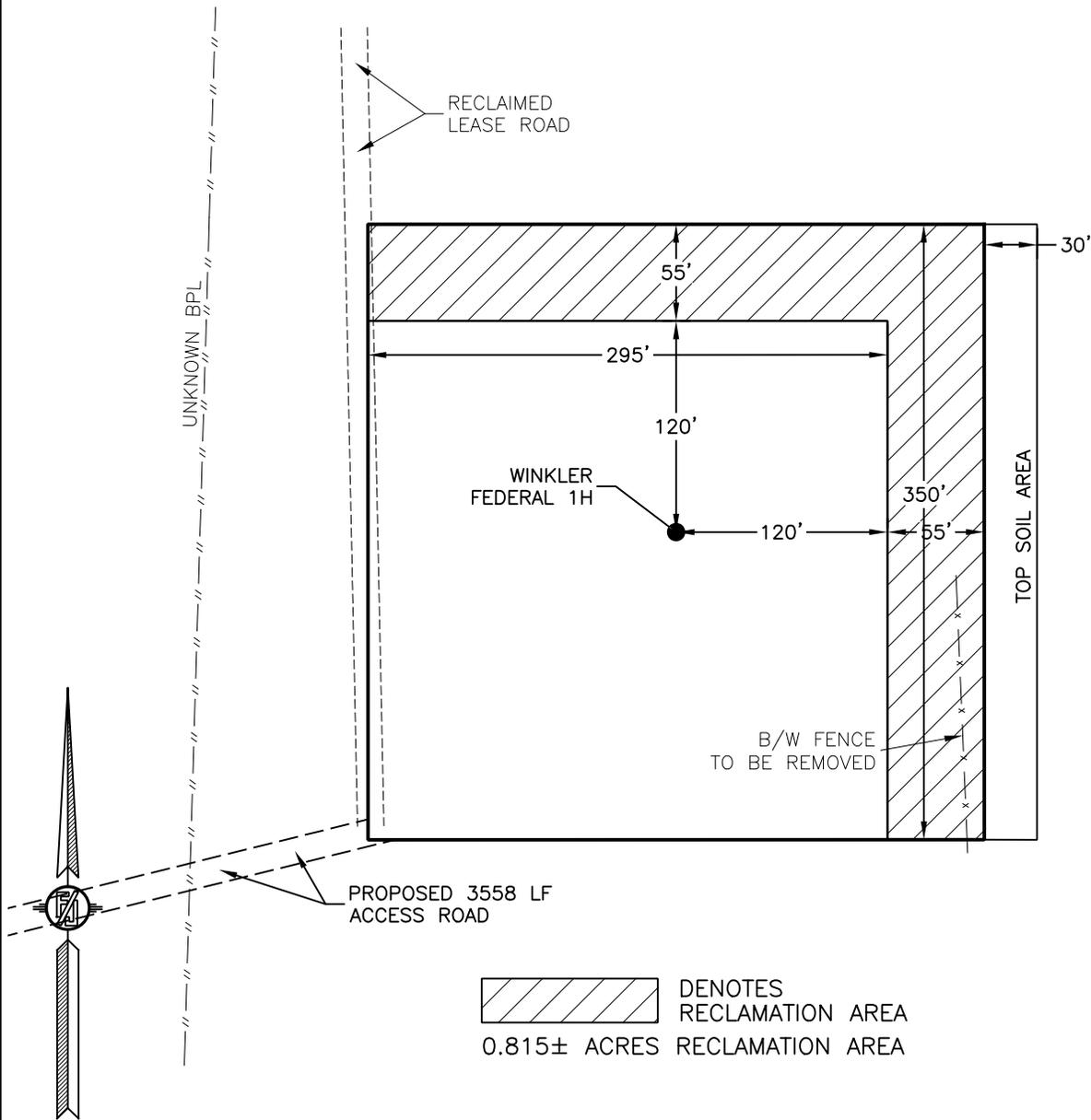
**MACK ENERGY CORPORATION
WINKLER FEDERAL 1H
LOCATED 606 FT. FROM THE SOUTH LINE
AND 30 FT. FROM THE WEST LINE OF
SECTION 18, TOWNSHIP 15 SOUTH,
RANGE 30 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO**

MARCH 7, 2023

SURVEY NO. 8501B

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 234-3327

SECTION 18, TOWNSHIP 15 SOUTH, RANGE 30 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO
INTERIM SITE RECLAMATION



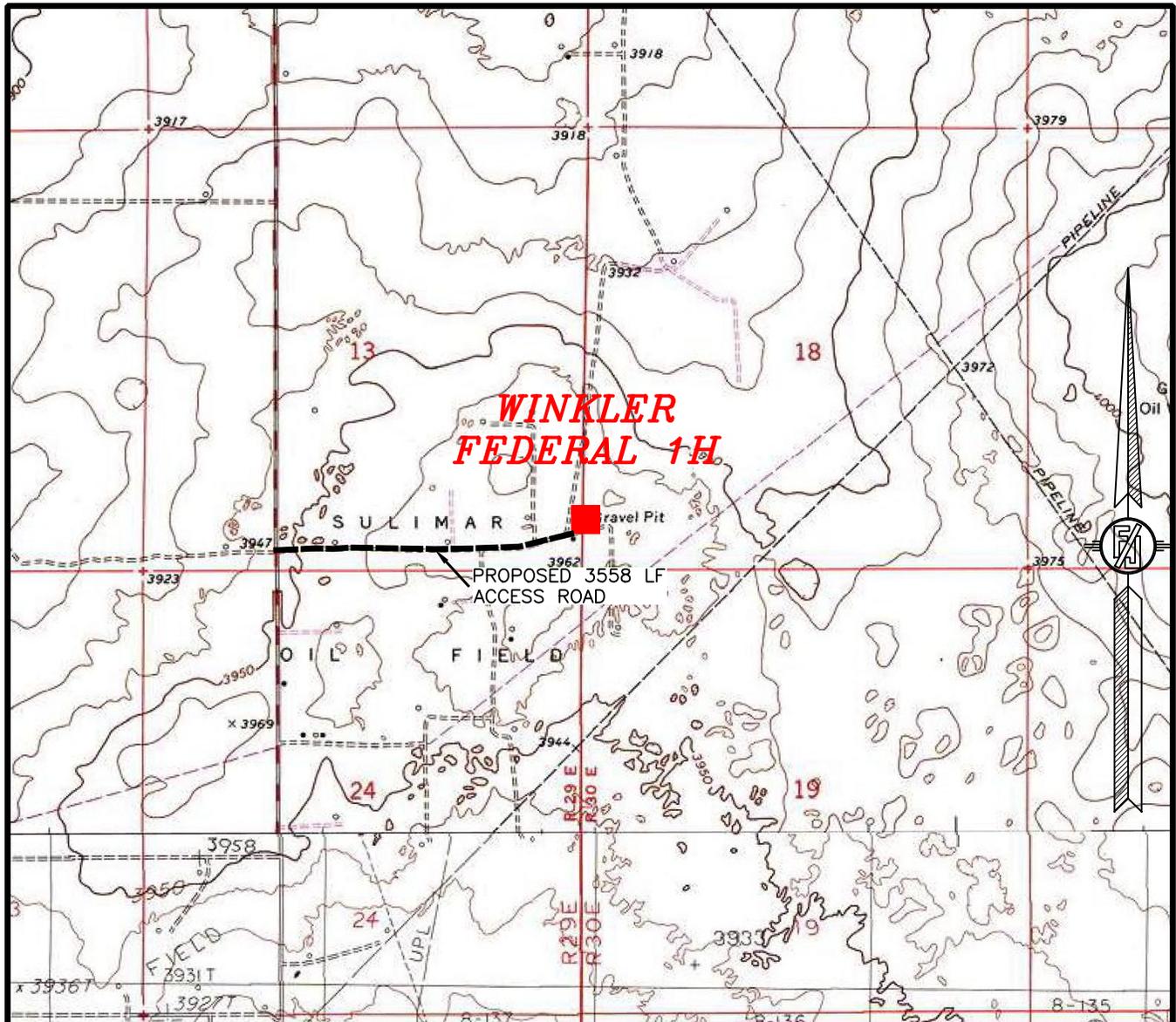
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(575) 234-3327

SECTION 18, TOWNSHIP 15 SOUTH, RANGE 30 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



USGS QUAD MAP:
CEDAR POINT

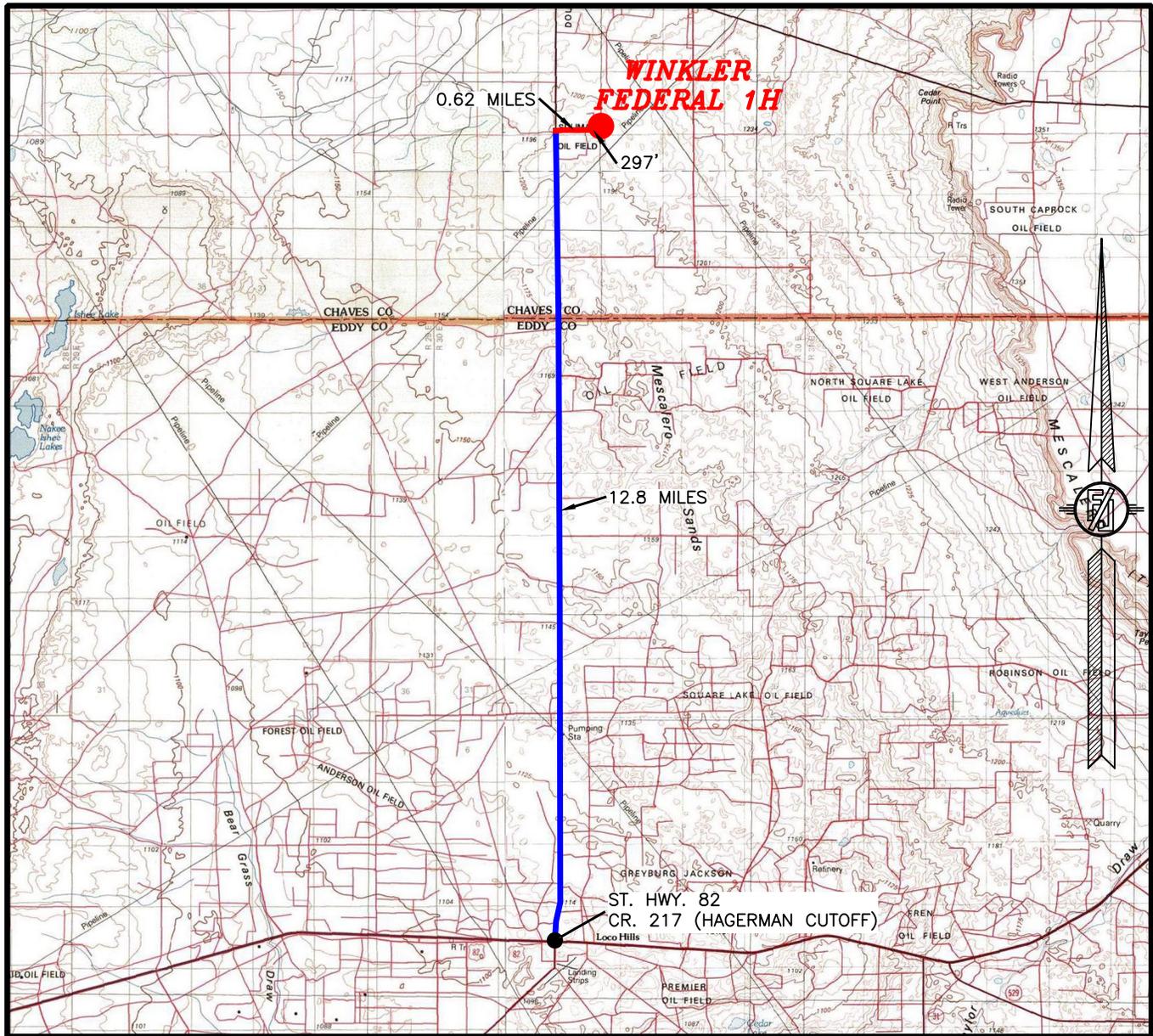
NOT TO SCALE

MACK ENERGY CORPORATION
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CHAVES COUNTY, STATE OF NEW MEXICO

MARCH 7, 2023

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO SURVEY NO. 8501B
(575) 234-3327

SECTION 18, TOWNSHIP 15 SOUTH, RANGE 30 EAST, N.M.P.M. CHAVES COUNTY, STATE OF NEW MEXICO VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF STATE HIGHWAY 82 & CR. 217 (HAGERMAN CUTOFF) GO NORTH ON CR. 217 FOR APPROX. 12.8 MILES, GO EAST ON 12' CALICHE LEASE ROAD FOR APPROX. 0.62 MILES, CONTINUE EAST ON 12' DIRT ROAD FOR APPROX. 297' TO THE SOUTHWEST PAD CORNER FOR THIS LOCATION.

MACK ENERGY CORPORATION
WINKLER FEDERAL 1H
 LOCATED 606 FT. FROM THE SOUTH LINE
 AND 30 FT. FROM THE WEST LINE OF
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 CHAVES COUNTY, STATE OF NEW MEXICO

MARCH 7, 2023

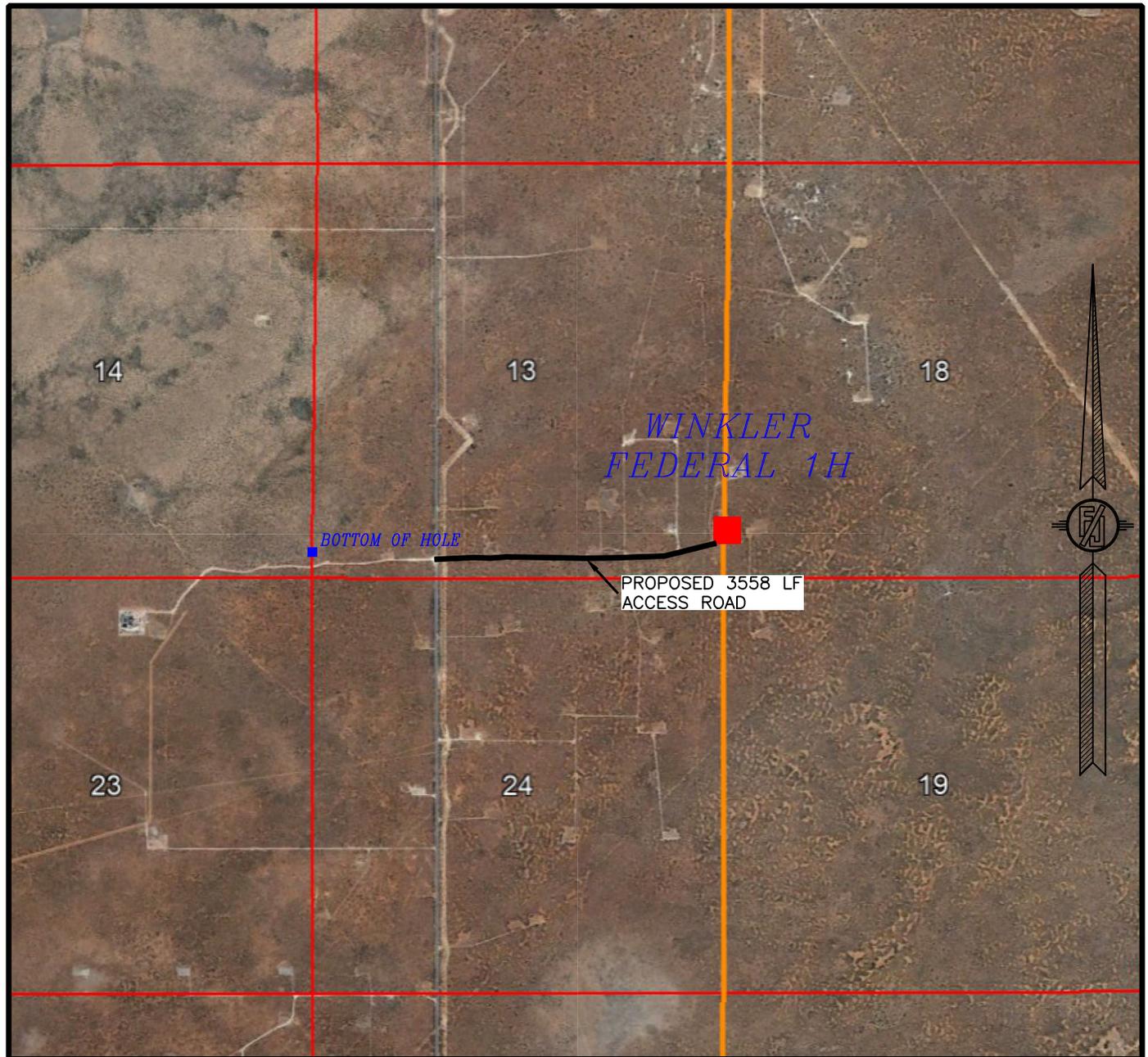
MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3327

CARLSBAD, NEW MEXICO

SURVEY NO. 8501B

SECTION 18, TOWNSHIP 15 SOUTH, RANGE 30 EAST, N.M.P.M.
 CHAVES COUNTY, STATE OF NEW MEXICO
 AERIAL PHOTO



NOT TO SCALE
 AERIAL PHOTO:
 GOOGLE EARTH
 JUN. 2019

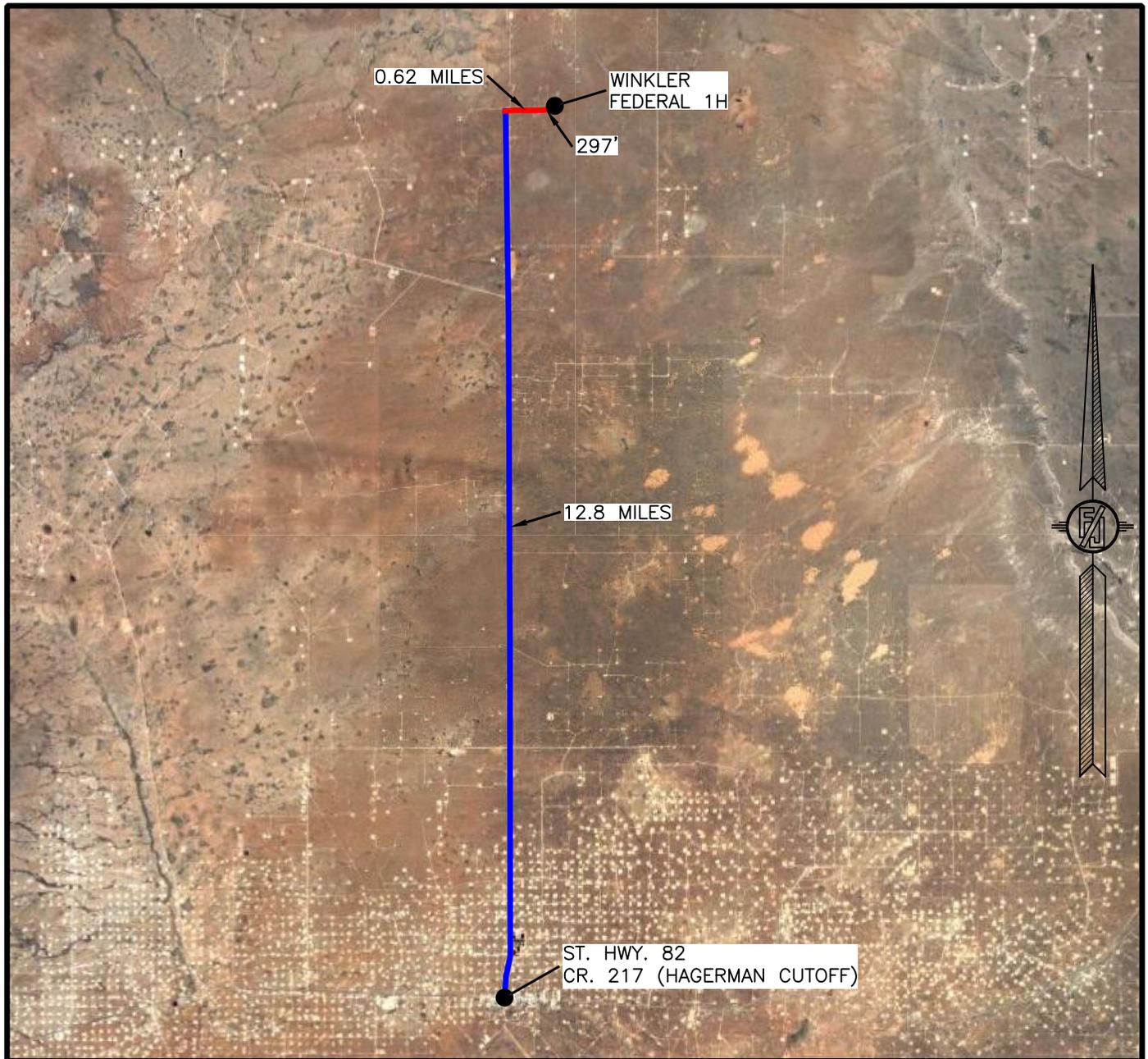
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 CHAVES COUNTY, STATE OF NEW MEXICO

MARCH 7, 2023

SURVEY NO. 8501B

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
 (575) 234-3327

SECTION 18, TOWNSHIP 15 SOUTH, RANGE 30 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO
AERIAL ACCESS ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
JUN. 2019

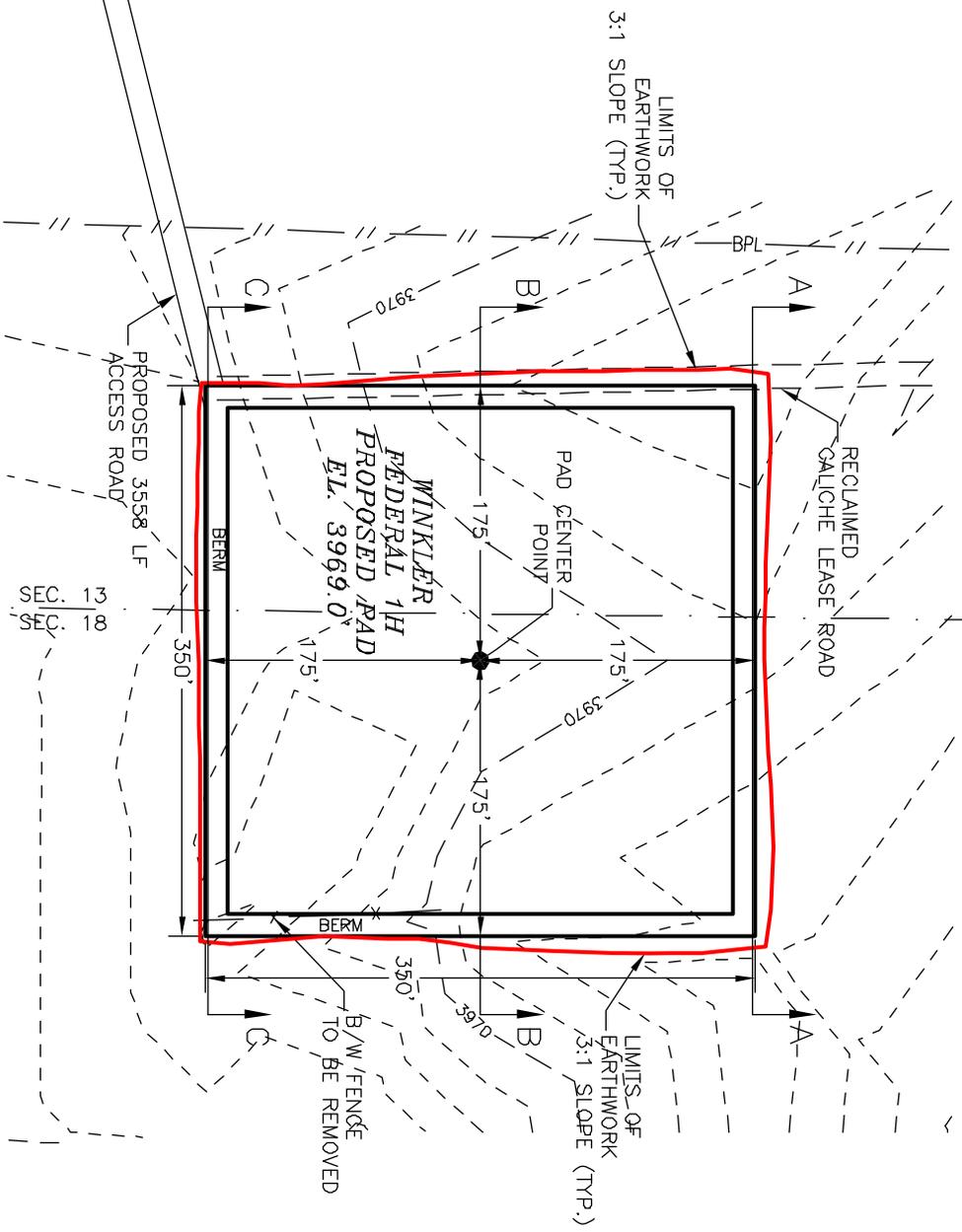
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RANGE 30 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO

MARCH 7, 2023

SURVEY NO. 8501B

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 234-3327

PLAN VIEW



I, FILMON F. JARAN, NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFICATE NO. 12797, AM RESPONSIBLE FOR THIS SURVEY. TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS SURVEY AND PLAN MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.



FILMON F. JARAN
REGISTERED PROFESSIONAL SURVEYOR

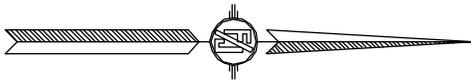
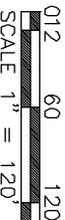
MACK ENERGY CORPORATION
GRADING PLAN AND CROSS SECTIONS
FOR WINKLER FEDERAL 1H
SECTION 18, TOWNSHIP 15 SOUTH,
RANGE 30 EAST, N.M.P.M.
SECTION 13, TOWNSHIP 15 SOUTH,
RANGE 29 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO

MARCH 7, 2023
301 SOUTH CANAL
(575) 234-3341

CARLSBAD, NEW MEXICO

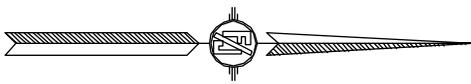
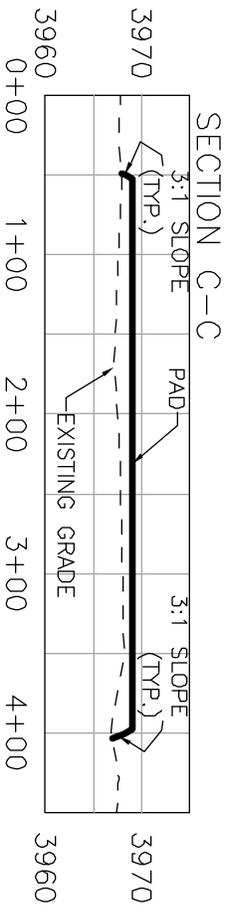
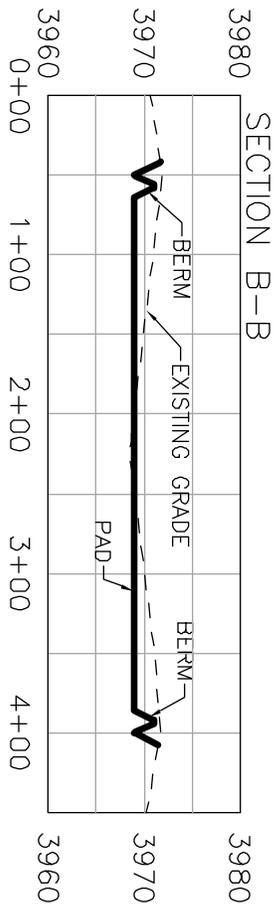
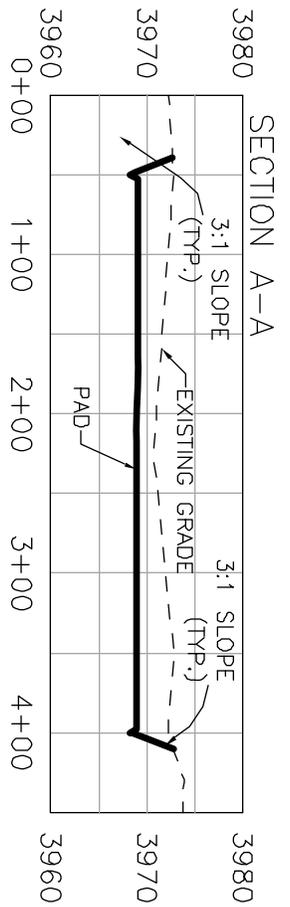
SURVEY NO. 8501B

CUT	FILL	NET
5301 CU. YD	1986 CU. YD	3315 CU. YD (CUT)



SHEET 1-2
SURVEY NO. 8501B

CROSS-SECTIONS



I, FILMON F. JARAN, NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFICATE NO. 12297, AM RESPONSIBLE FOR THIS SURVEY, THAT THE SURVEY WAS CONDUCTED AND REPORTED TO THE BEST OF MY KNOWLEDGE AND BELIEF IN ACCORDANCE WITH THE STANDARDS FOR PROFESSIONAL SURVEYING IN NEW MEXICO.



MACK ENERGY CORPORATION
 GRADING PLAN AND CROSS SECTIONS
FOR WINKLER FEDERAL 1H
 SECTION 18, TOWNSHIP 15 SOUTH,
 RANGE 30 EAST, N.M.P.M.
 SECTION 13, TOWNSHIP 15 SOUTH,
 RANGE 29 EAST, N.M.P.M.
 CHAVES COUNTY, STATE OF NEW MEXICO

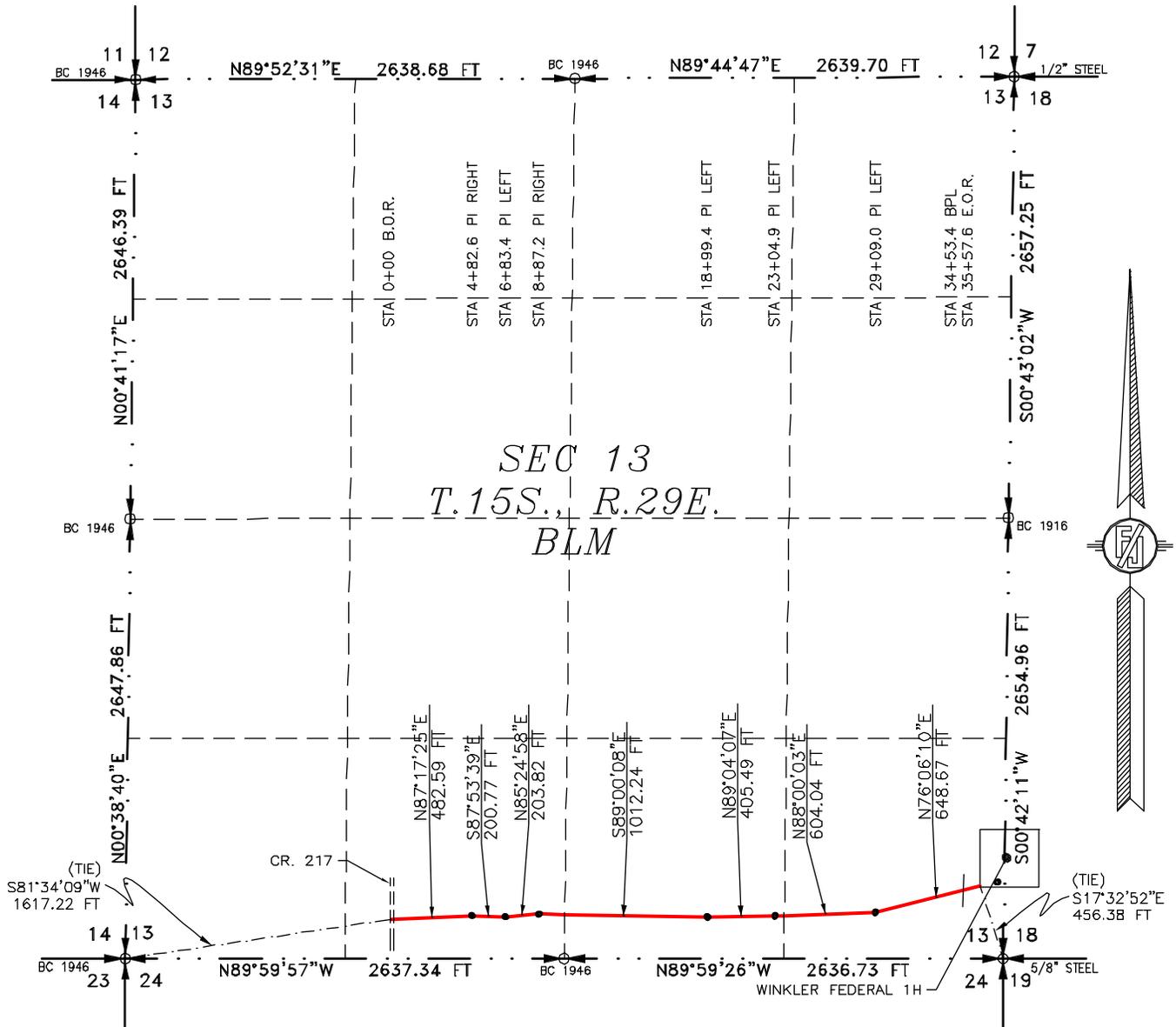
CUT	FILL	NET
5301 CU. YD	1986 CU. YD	3315 CU. YD (CUT)



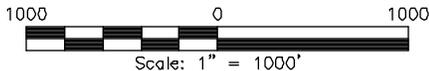
MARCH 7, 2023
 301 SOUTH CANAL CARLSBAD, NEW MEXICO
 SURVEY NO. 8501B

ACCESS ROAD PLAT
ACCESS ROAD TO WINKLER FEDERAL 1H

MACK ENERGY CORPORATION
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 13, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO
MARCH 7, 2023



SEE NEXT SHEET (2-2) FOR DESCRIPTION



GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, ON 07 MARCH 2023.

FILIMON F. JARAMILLO
12797
NEW MEXICO PROFESSIONAL SURVEYOR

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SHEET: 1-2

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO 88220 (575) 234-3341 SURVEY NO. 8501B

ACCESS ROAD PLAT
ACCESS ROAD TO WINKLER FEDERAL 1H

MACK ENERGY CORPORATION
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 13, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO
MARCH 7, 2023

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 13, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M., CHAVES COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE SE/4 SW/4 OF SAID SECTION 13, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M., WHENCE THE SOUTHWEST CORNER OF SAID SECTION 13, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M. BEARS S81°34'09"W, A DISTANCE OF 1617.22 FEET;
THENCE N87°17'25"E A DISTANCE OF 482.59 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S87°53'39"E A DISTANCE OF 200.77 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N85°24'58"E A DISTANCE OF 203.82 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S89°00'08"E A DISTANCE OF 1012.24 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N89°04'07"E A DISTANCE OF 405.49 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N88°00'03"E A DISTANCE OF 604.04 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N76°06'10"E A DISTANCE OF 648.67 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTHEAST CORNER OF SAID SECTION 13, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M. BEARS S17°32'52"E, A DISTANCE OF 456.38 FEET;

SAID STRIP OF LAND BEING 3557.62 FEET OR 215.61 RODS IN LENGTH, CONTAINING 2.450 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 SW/4	1042.10 L.F.	63.16 RODS	0.718 ACRES
SW/4 SE/4	1318.58 L.F.	79.91 RODS	0.908 ACRES
SE/4 SE/4	1196.94 L.F.	72.54 RODS	0.824 ACRES

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 7TH DAY OF MARCH 2023.

FILIMON F. JARAMILLO
12797
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

FILIMON F. JARAMILLO, P.E.
301 SOUTH CANAL
(575) 234-3341
SURVEY NO. 8501B
MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 2-2

Winkler Federal #1H, Plan 1

Operator Mack Energy Corp	Units feet, °/100ft	10:42 Monday, April 03, 2023 Page 1 of 4
Field Round Tank	County Chaves	Vertical Section Azimuth 270
Well Name Winkler Federal #1H	State New Mexico	Survey Calculation Method Minimum Curvature
Plan 1	Country USA	Database Access

Location SL: 606 FSL & 30 FWL Section 18-T15S-R30E BHL: 330 FSL & 1 FWL Section 13-T15S-R29E	Map Zone UTM	Lat Long Ref
Site	Surface X 1955199.4	Surface Long
Slot Name	Surface Y 11983920.8	Surface Lat
Well Number 1H	Surface Z 3987	Global Z Ref KB
Project	Ground Level 3968.5	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
*** TIE (at MD = 2645.00)										
2645.00	0.00	0.0	2645.00	0.00	0.00		0.00	1955199.40	11983920.80	1342.00
2650.00	0.00	0.0	2650.00	0.00	0.00	0.00	0.00	1955199.40	11983920.80	1337.00
2700.00	0.00	0.0	2700.00	0.00	0.00	0.00	0.00	1955199.40	11983920.80	1287.00
*** KOP 8 DEGREE (at MD = 2745.00)										
2745.00	0.00	0.0	2745.00	0.00	0.00	0.00	0.00	1955199.40	11983920.80	1242.00
2750.00	0.40	244.9	2750.00	-0.01	-0.02	8.00	0.02	1955199.38	11983920.79	1237.00
2800.00	4.40	244.9	2799.95	-0.90	-1.91	8.00	1.91	1955197.49	11983919.90	1187.05
2850.00	8.40	244.9	2849.62	-3.26	-6.96	8.00	6.96	1955192.44	11983917.54	1137.38
2900.00	12.40	244.9	2898.79	-7.09	-15.13	8.00	15.13	1955184.27	11983913.71	1088.21
2950.00	16.40	244.9	2947.21	-12.36	-26.39	8.00	26.39	1955173.01	11983908.44	1039.79
3000.00	20.40	244.9	2994.65	-19.05	-40.68	8.00	40.68	1955158.72	11983901.75	992.35
3050.00	24.40	244.9	3040.86	-27.14	-57.93	8.00	57.93	1955141.47	11983893.66	946.14
3100.00	28.40	244.9	3085.64	-36.56	-78.06	8.00	78.06	1955121.34	11983884.24	901.36
3150.00	32.40	244.9	3128.76	-47.29	-100.96	8.00	100.96	1955098.44	11983873.51	858.24
3200.00	36.40	244.9	3170.01	-59.28	-126.54	8.00	126.54	1955072.86	11983861.52	817.00
3250.00	40.40	244.9	3209.18	-72.45	-154.66	8.00	154.66	1955044.74	11983848.35	777.82
3300.00	44.40	244.9	3246.10	-86.75	-185.18	8.00	185.18	1955014.22	11983834.05	740.90
3350.00	48.40	244.9	3280.57	-102.10	-217.97	8.00	217.97	1954981.43	11983818.70	706.43
3400.00	52.40	244.9	3312.44	-118.44	-252.85	8.00	252.85	1954946.55	11983802.36	674.56
*** 55 DEGREE TANGENT (at MD = 3432.50)										
3432.50	55.00	244.9	3331.67	-129.55	-276.56	8.00	276.56	1954922.84	11983791.25	655.33
3450.00	55.00	244.9	3341.71	-135.63	-289.55	0.00	289.55	1954909.85	11983785.17	645.29
3500.00	55.00	244.9	3370.39	-153.01	-326.64	0.00	326.64	1954872.76	11983767.79	616.61
3550.00	55.00	244.9	3399.07	-170.38	-363.73	0.00	363.73	1954835.67	11983750.42	587.93
3600.00	55.00	244.9	3427.75	-187.76	-400.82	0.00	400.82	1954798.59	11983733.04	559.25
*** 10 DEGREE BUILD (at MD = 3632.50)										
3632.50	55.00	244.9	3446.39	-199.05	-424.92	0.00	424.92	1954774.48	11983721.75	540.61
3650.00	56.38	246.2	3456.25	-205.03	-438.08	10.00	438.08	1954761.32	11983715.77	530.75
3700.00	60.38	249.7	3482.47	-220.96	-477.54	10.00	477.54	1954721.86	11983699.84	504.53
3750.00	64.46	253.0	3505.62	-235.10	-519.53	10.00	519.53	1954679.87	11983685.70	481.38
3800.00	68.62	256.0	3525.53	-247.33	-563.71	10.00	563.71	1954635.69	11983673.47	461.47
3850.00	72.82	258.9	3542.04	-257.56	-609.77	10.00	609.77	1954589.63	11983663.24	444.96
3900.00	77.06	261.6	3555.03	-265.72	-657.34	10.00	657.34	1954542.06	11983655.08	431.97
3950.00	81.34	264.3	3564.40	-271.74	-706.07	10.00	706.07	1954493.33	11983649.06	422.60
4000.00	85.62	266.9	3570.07	-275.57	-755.58	10.00	755.58	1954443.82	11983645.23	416.93
4050.00	89.92	269.4	3572.02	-277.19	-805.50	10.00	805.50	1954393.90	11983643.61	414.99
*** LANDING POINT (at MD = 4061.37)										
4061.37	90.90	270.0	3571.93	-277.25	-816.87	10.00	816.87	1954382.53	11983643.55	415.07

Winkler Federal #1H, Plan 1

Operator Mack Energy Corp	Units feet, °/100ft	10:42 Monday, April 03, 2023 Page 2 of 4
Field Round Tank	County Chaves	Vertical Section Azimuth 270
Well Name Winkler Federal #1H	State New Mexico	Survey Calculation Method Minimum Curvature
Plan 1	Country USA	Database Access

Location SL: 606 FSL & 30 FWL Section 18-T15S-R30E BHL: 330 FSL & 1 FWL Section 13-T15S-R29E	Map Zone UTM	Lat Long Ref
Site	Surface X 1955199.4	Surface Long
Slot Name	Surface Y 11983920.8	Surface Lat
Well Number 1H	Surface Z 3987	Global Z Ref KB
Project	Ground Level 3968.5	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
4100.00	90.90	270.0	3571.33	-277.25	-855.50	0.00	855.50	1954343.90	11983643.55	415.67
4150.00	90.90	270.0	3570.54	-277.25	-905.49	0.00	905.49	1954293.91	11983643.55	416.46
4200.00	90.90	270.0	3569.76	-277.25	-955.49	0.00	955.49	1954243.91	11983643.55	417.24
4250.00	90.90	270.0	3568.97	-277.25	-1005.48	0.00	1005.48	1954193.92	11983643.55	418.03
4300.00	90.90	270.0	3568.19	-277.25	-1055.47	0.00	1055.47	1954143.93	11983643.55	418.81
4350.00	90.90	270.0	3567.40	-277.25	-1105.47	0.00	1105.47	1954093.93	11983643.55	419.60
4400.00	90.90	270.0	3566.61	-277.25	-1155.46	0.00	1155.46	1954043.94	11983643.55	420.39
4450.00	90.90	270.0	3565.83	-277.25	-1205.46	0.00	1205.46	1953993.95	11983643.55	421.17
4500.00	90.90	270.0	3565.04	-277.25	-1255.45	0.00	1255.45	1953943.95	11983643.55	421.96
4550.00	90.90	270.0	3564.26	-277.25	-1305.44	0.00	1305.44	1953893.96	11983643.55	422.74
4600.00	90.90	270.0	3563.47	-277.25	-1355.44	0.00	1355.44	1953843.96	11983643.55	423.53
4650.00	90.90	270.0	3562.69	-277.25	-1405.43	0.00	1405.43	1953793.97	11983643.55	424.31
4700.00	90.90	270.0	3561.90	-277.25	-1455.42	0.00	1455.42	1953743.98	11983643.55	425.10
4750.00	90.90	270.0	3561.12	-277.25	-1505.42	0.00	1505.42	1953693.98	11983643.55	425.88
4800.00	90.90	270.0	3560.33	-277.25	-1555.41	0.00	1555.41	1953643.99	11983643.55	426.67
4850.00	90.90	270.0	3559.55	-277.25	-1605.41	0.00	1605.41	1953593.99	11983643.55	427.45
4900.00	90.90	270.0	3558.76	-277.25	-1655.40	0.00	1655.40	1953544.00	11983643.55	428.24
4950.00	90.90	270.0	3557.98	-277.25	-1705.39	0.00	1705.39	1953494.01	11983643.55	429.02
5000.00	90.90	270.0	3557.19	-277.25	-1755.39	0.00	1755.39	1953444.01	11983643.55	429.81
5050.00	90.90	270.0	3556.40	-277.25	-1805.38	0.00	1805.38	1953394.02	11983643.55	430.60
5100.00	90.90	270.0	3555.62	-277.25	-1855.37	0.00	1855.37	1953344.03	11983643.55	431.38
5150.00	90.90	270.0	3554.83	-277.25	-1905.37	0.00	1905.37	1953294.03	11983643.55	432.17
5200.00	90.90	270.0	3554.05	-277.25	-1955.36	0.00	1955.36	1953244.04	11983643.55	432.95
5250.00	90.90	270.0	3553.26	-277.25	-2005.36	0.00	2005.36	1953194.04	11983643.55	433.74
5300.00	90.90	270.0	3552.48	-277.25	-2055.35	0.00	2055.35	1953144.05	11983643.55	434.52
5350.00	90.90	270.0	3551.69	-277.25	-2105.34	0.00	2105.34	1953094.06	11983643.55	435.31
5400.00	90.90	270.0	3550.91	-277.25	-2155.34	0.00	2155.34	1953044.06	11983643.55	436.09
5450.00	90.90	270.0	3550.12	-277.25	-2205.33	0.00	2205.33	1952994.07	11983643.55	436.88
5500.00	90.90	270.0	3549.34	-277.25	-2255.33	0.00	2255.33	1952944.07	11983643.55	437.66
5550.00	90.90	270.0	3548.55	-277.25	-2305.32	0.00	2305.32	1952894.08	11983643.55	438.45
5600.00	90.90	270.0	3547.77	-277.25	-2355.31	0.00	2355.31	1952844.09	11983643.55	439.23
5650.00	90.90	270.0	3546.98	-277.25	-2405.31	0.00	2405.31	1952794.09	11983643.55	440.02
5700.00	90.90	270.0	3546.19	-277.25	-2455.30	0.00	2455.30	1952744.10	11983643.55	440.81
5750.00	90.90	270.0	3545.41	-277.25	-2505.29	0.00	2505.29	1952694.11	11983643.55	441.59
5800.00	90.90	270.0	3544.62	-277.25	-2555.29	0.00	2555.29	1952644.11	11983643.55	442.38
5850.00	90.90	270.0	3543.84	-277.25	-2605.28	0.00	2605.28	1952594.12	11983643.55	443.16
5900.00	90.90	270.0	3543.05	-277.25	-2655.28	0.00	2655.28	1952544.12	11983643.55	443.95

Winkler Federal #1H, Plan 1

Operator Mack Energy Corp	Units feet, °/100ft	10:42 Monday, April 03, 2023 Page 3 of 4
Field Round Tank	County Chaves	Vertical Section Azimuth 270
Well Name Winkler Federal #1H	State New Mexico	Survey Calculation Method Minimum Curvature
Plan 1	Country USA	Database Access

Location SL: 606 FSL & 30 FWL Section 18-T15S-R30E BHL: 330 FSL & 1 FWL Section 13-T15S-R29E	Map Zone UTM	Lat Long Ref
Site	Surface X 1955199.4	Surface Long
Slot Name	Surface Y 11983920.8	Surface Lat
Well Number 1H	Surface Z 3987	Global Z Ref KB
Project	Ground Level 3968.5	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
5950.00	90.90	270.0	3542.27	-277.25	-2705.27	0.00	2705.27	1952494.13	11983643.55	444.73
6000.00	90.90	270.0	3541.48	-277.25	-2755.26	0.00	2755.26	1952444.14	11983643.55	445.52
6050.00	90.90	270.0	3540.70	-277.25	-2805.26	0.00	2805.26	1952394.14	11983643.55	446.30
6100.00	90.90	270.0	3539.91	-277.25	-2855.25	0.00	2855.25	1952344.15	11983643.55	447.09
6150.00	90.90	270.0	3539.13	-277.25	-2905.25	0.00	2905.25	1952294.15	11983643.55	447.87
6200.00	90.90	270.0	3538.34	-277.25	-2955.24	0.00	2955.24	1952244.16	11983643.55	448.66
6250.00	90.90	270.0	3537.56	-277.25	-3005.23	0.00	3005.23	1952194.17	11983643.55	449.44
6300.00	90.90	270.0	3536.77	-277.25	-3055.23	0.00	3055.23	1952144.17	11983643.55	450.23
6350.00	90.90	270.0	3535.99	-277.25	-3105.22	0.00	3105.22	1952094.18	11983643.55	451.01
6400.00	90.90	270.0	3535.20	-277.25	-3155.21	0.00	3155.21	1952044.19	11983643.55	451.80
6450.00	90.90	270.0	3534.41	-277.25	-3205.21	0.00	3205.21	1951994.19	11983643.55	452.59
6500.00	90.90	270.0	3533.63	-277.25	-3255.20	0.00	3255.20	1951944.20	11983643.55	453.37
6550.00	90.90	270.0	3532.84	-277.25	-3305.20	0.00	3305.20	1951894.20	11983643.55	454.16
6600.00	90.90	270.0	3532.06	-277.25	-3355.19	0.00	3355.19	1951844.21	11983643.55	454.94
6650.00	90.90	270.0	3531.27	-277.25	-3405.18	0.00	3405.18	1951794.22	11983643.55	455.73
6700.00	90.90	270.0	3530.49	-277.25	-3455.18	0.00	3455.18	1951744.22	11983643.55	456.51
6750.00	90.90	270.0	3529.70	-277.25	-3505.17	0.00	3505.17	1951694.23	11983643.55	457.30
6800.00	90.90	270.0	3528.92	-277.25	-3555.17	0.00	3555.17	1951644.23	11983643.55	458.08
6850.00	90.90	270.0	3528.13	-277.25	-3605.16	0.00	3605.16	1951594.24	11983643.55	458.87
6900.00	90.90	270.0	3527.35	-277.25	-3655.15	0.00	3655.15	1951544.25	11983643.55	459.65
6950.00	90.90	270.0	3526.56	-277.25	-3705.15	0.00	3705.15	1951494.25	11983643.55	460.44
7000.00	90.90	270.0	3525.78	-277.25	-3755.14	0.00	3755.14	1951444.26	11983643.55	461.22
7050.00	90.90	270.0	3524.99	-277.25	-3805.13	0.00	3805.13	1951394.27	11983643.55	462.01
7100.00	90.90	270.0	3524.20	-277.25	-3855.13	0.00	3855.13	1951344.27	11983643.55	462.80
7150.00	90.90	270.0	3523.42	-277.25	-3905.12	0.00	3905.12	1951294.28	11983643.55	463.58
7200.00	90.90	270.0	3522.63	-277.25	-3955.12	0.00	3955.12	1951244.28	11983643.55	464.37
7250.00	90.90	270.0	3521.85	-277.25	-4005.11	0.00	4005.11	1951194.29	11983643.55	465.15
7300.00	90.90	270.0	3521.06	-277.25	-4055.10	0.00	4055.10	1951144.30	11983643.55	465.94
7350.00	90.90	270.0	3520.28	-277.25	-4105.10	0.00	4105.10	1951094.30	11983643.55	466.72
7400.00	90.90	270.0	3519.49	-277.25	-4155.09	0.00	4155.09	1951044.31	11983643.55	467.51
7450.00	90.90	270.0	3518.71	-277.25	-4205.08	0.00	4205.08	1950994.32	11983643.55	468.29
7500.00	90.90	270.0	3517.92	-277.25	-4255.08	0.00	4255.08	1950944.32	11983643.55	469.08
7550.00	90.90	270.0	3517.14	-277.25	-4305.07	0.00	4305.07	1950894.33	11983643.55	469.86
7600.00	90.90	270.0	3516.35	-277.25	-4355.07	0.00	4355.07	1950844.33	11983643.55	470.65
7650.00	90.90	270.0	3515.57	-277.25	-4405.06	0.00	4405.06	1950794.34	11983643.55	471.43
7700.00	90.90	270.0	3514.78	-277.25	-4455.05	0.00	4455.05	1950744.35	11983643.55	472.22
7750.00	90.90	270.0	3513.99	-277.25	-4505.05	0.00	4505.05	1950694.35	11983643.55	473.01

Winkler Federal #1H, Plan 1

Operator Mack Energy Corp	Units feet, °/100ft	10:42 Monday, April 03, 2023 Page 4 of 4
Field Round Tank	County Chaves	Vertical Section Azimuth 270
Well Name Winkler Federal #1H	State New Mexico	Survey Calculation Method Minimum Curvature
Plan 1	Country USA	Database Access

Location SL: 606 FSL & 30 FWL Section 18-T15S-R30E BHL: 330 FSL & 1 FWL Section 13-T15S-R29E	Map Zone UTM	Lat Long Ref
Site	Surface X 1955199.4	Surface Long
Slot Name	Surface Y 11983920.8	Surface Lat
Well Number 1H	Surface Z 3987	Global Z Ref KB
Project	Ground Level 3968.5	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
7800.00	90.90	270.0	3513.21	-277.25	-4555.04	0.00	4555.04	1950644.36	11983643.55	473.79
7850.00	90.90	270.0	3512.42	-277.25	-4605.04	0.00	4605.04	1950594.36	11983643.55	474.58
7900.00	90.90	270.0	3511.64	-277.25	-4655.03	0.00	4655.03	1950544.37	11983643.55	475.36
7950.00	90.90	270.0	3510.85	-277.25	-4705.02	0.00	4705.02	1950494.38	11983643.55	476.15
8000.00	90.90	270.0	3510.07	-277.25	-4755.02	0.00	4755.02	1950444.38	11983643.55	476.93
8050.00	90.90	270.0	3509.28	-277.25	-4805.01	0.00	4805.01	1950394.39	11983643.55	477.72
8100.00	90.90	270.0	3508.50	-277.25	-4855.00	0.00	4855.00	1950344.40	11983643.55	478.50
8150.00	90.90	270.0	3507.71	-277.25	-4905.00	0.00	4905.00	1950294.40	11983643.55	479.29
8200.00	90.90	270.0	3506.93	-277.25	-4954.99	0.00	4954.99	1950244.41	11983643.55	480.07
8250.00	90.90	270.0	3506.14	-277.25	-5004.99	0.00	5004.99	1950194.41	11983643.55	480.86
8300.00	90.90	270.0	3505.36	-277.25	-5054.98	0.00	5054.98	1950144.42	11983643.55	481.64
8350.00	90.90	270.0	3504.57	-277.25	-5104.97	0.00	5104.97	1950094.43	11983643.55	482.43
8400.00	90.90	270.0	3503.79	-277.25	-5154.97	0.00	5154.97	1950044.43	11983643.55	483.21
8450.00	90.90	270.0	3503.00	-277.25	-5204.96	0.00	5204.96	1949994.44	11983643.55	484.00
8500.00	90.90	270.0	3502.21	-277.25	-5254.96	0.00	5254.96	1949944.44	11983643.55	484.79
8550.00	90.90	270.0	3501.43	-277.25	-5304.95	0.00	5304.95	1949894.45	11983643.55	485.57
*** TD (at MD = 8563.37)										
8563.37	90.90	270.0	3501.22	-277.25	-5318.32	0.00	5318.32	1949881.08	11983643.55	485.78

**PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Mack Energy Corporation
LEASE NO.:	NMNM-138831
WELL NAME & NO.:	Winkler Federal 1H
SURFACE HOLE FOOTAGE:	0606' FSL & 0030' FWL
BOTTOM HOLE FOOTAGE:	0330' FSL & 0001' FWL Sec. 13, T. 15 S., R 29 E.
LOCATION:	Section 18, T. 15 S., R 30 E., NMPM
COUNTY:	Chaves County, New Mexico

The Gamma Ray and Neutron well logs must be run from total depth to surface and e-mailed to Aleksandr Knapowski at cknapowski@blm.gov or hard copy mailed to 2909 West Second Street Roswell, NM 88201 to his attention.

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

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

Chaves and Roosevelt Counties

Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.

During office hours call (575) 627-0272.

After hours call (575) 627-0205.

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.**
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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**

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 is 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 submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

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.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

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.

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.

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

**Possibility of water flows in the Rustler, Queen, Salado and Artesia Group.
Possibility of lost circulation in the Rustler, Artesia Group, and San Andres.**

1. The **13-3/8** inch surface casing shall be set at approximately **450** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

3. The minimum required fill of cement behind the **7 X 5-1/2** inch production casing is:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
4. 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.

C. 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 53.
2. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).
3. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi (testing to 2,000 psi).**
 - a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
 - b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
 - c. **Manufacturer representative shall install the test plug for the initial BOP test.**
 - d. **Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.**
 - e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**

4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
 - c. 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.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
 - f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

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

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

JAM 04062023

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 Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

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

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

CONDITIONS

Action 204768

CONDITIONS

Operator: MACK ENERGY CORP P.O. Box 960 Artesia, NM 882110960	OGRID: 13837
	Action Number: 204768
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	4/28/2023