NM OIL CONSERVATION
ARTESIA DISTRICT
OCT 23 2019
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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.
NMNM132065

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.
HI BOB FEDERAL
4H 325167

2. Name of Operator
MARSHALL & WINSTON INCORPORATED

9. API Well No.
30-005-64343

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
6 Desta Drive, Suite 3100, Midland, TX 79705	(432) 684-6373	ROUND TANK/SAN ANDRES

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SESE / 517 FSL / 765 FEL / LAT 33.024568 / LONG -104.04447
At proposed prod. zone SESE / 20 FSL / 400 FEL / LAT 33.008723 / LONG -104.043321

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 8/T15S/R29E/NMP

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State
16 miles	CHAVES	NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
517 feet	1405.32	200

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
40 feet	3215 feet / 8793 feet	FED: NMB000807

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3817 feet	11/01/2019	30 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)	Stormi Davis / Ph: (432) 684-6373	08/22/2019

Title
Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Ruben J Sanchez / Ph: (575) 627-0250	10/21/2019

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.

(Continued on page 2)

*(Instructions on page 2)

RWP 10-25-19

Additional Operator Remarks

Location of Well

0. SHL: SESE / 517 FSL / 765 FEL / TWSP: 15S / RANGE: 29E / SECTION: 8 / LAT: 33.024568 / LONG: -104.04447 (TVD: 0 feet, MD: 0 feet)
PPP: SESE / 130 FSL / 400 FEL / TWSP: 15S / RANGE: 29E / SECTION: 8 / LAT: 33.023521 / LONG: -104.043278 (TVD: 3215 feet, MD: 3489 feet)
PPP: NENE / 0 FNL / 400 FEL / TWSP: 15S / RANGE: 29E / SECTION: 17 / LAT: 33.023164 / LONG: -104.0432788 (TVD: 3215 feet, MD: 3619 feet)
BHL: SESE / 20 FSL / 400 FEL / TWSP: 15S / RANGE: 29E / SECTION: 17 / LAT: 33.008723 / LONG: -104.043321 (TVD: 3215 feet, MD: 8793 feet)

BLM Point of Contact

nobullet Name: Meighan M Salas
nobullet Title: Land Law Examiner
nobullet Phone: (575) 627-0228
nobullet Email: mmsalas@blm.gov

Review and Appeal Rights

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

PECOS DISTRICT DRILLING
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Marshall & Winston Inc.**
LEASE NO.:	**NMNM-132065**
WELL NAME & NO.:	**HI BOB FEDERAL 4H**
SURFACE HOLE FOOTAGE:	**0517' FSL & 0765' FEL**
BOTTOM HOLE FOOTAGE	**0020' FSL & 0400' FEL Sec. 17, T. 15 S., R 29 E.**
LOCATION:	**Section 08, T. 15 S., R 29 E., NMPM**
COUNTY:	**County, New Mexico**

Operator shall submit sundry to add "COM" to the well name as the FTP is in lease NMNM-132065 and the rest of the lateral is in NMNM-121949.

Communitization Agreement

- The operator will submit a Communitization Agreement to the Roswell Field Office, 2909 West 2nd St. Roswell, New Mexico 88201, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☐ **Chaves and Roosevelt Counties**

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

During office hours call (575) 6270272.

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 lost circulation in the Queen and San Andres formations.

1. The **13-3/8** inch surface casing shall be set at approximately **225** 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 **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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be psi.

   a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

BOP Spec sheet shall be on location for PET review if requested.

3. The appropriate BLM office shall be notified a minimum of 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).

   a. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to

Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

b. 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.

c. The results of the test shall be reported to the appropriate BLM office.

d. 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.**

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 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 092419

AFMSS

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

Application Data Report

10/21/2019

APD ID: 10400046326 **Submission Date:** 08/22/2019

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400046326 **Tie to previous NOS?** N **Submission Date:** 08/22/2019

BLM Office: ROSWELL **User:** Stormi Davis **Title:** Regulatory Analyst

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM132065 **Lease Acres:** 1405.32

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? Y

Permitting Agent? YES **APD Operator:** MARSHALL & WINSTON INCORPORATED

Operator letter of designation:

Operator Info

Operator Organization Name: MARSHALL & WINSTON INCORPORATED

Operator Address: 6 Desta Drive, Suite 3100

Zip: 79705

Operator PO Box:

Operator City: Midland **State:** TX

Operator Phone: (432)684-6373

Operator Internet Address: sroberts@mar-win.com

Section 2 - Well Information

Well in Master Development Plan? NO **Master Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: HI BOB FEDERAL **Well Number:** 4H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** ROUND TANK **Pool Name:** SAN ANDRES

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

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

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

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** N **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** Hi Bob Federal **Number:** 1

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: EXPLORATORY (WILDCAT)

Describe sub-type:

Distance to town: 16 Miles **Distance to nearest well:** 40 FT **Distance to lease line:** 517 FT

Reservoir well spacing assigned acres Measurement: 200 Acres

Well plat: Hi_Bob_Federal_4H_C102_20190822082907.pdf

Pay.gov_20190822153848.pdf

Well work start Date: 11/01/2019 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 19-1323 **Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	
SHL Leg #1	517	FSL	765	FEL	15S	29E	8	Aliquot SESE	33.024568	-104.04447	CHAVES	NEW MEXICO	NEW MEXICO	F	NMNM 132065	3817	0	0	Y
KOP Leg #1	517	FSL	765	FEL	15S	29E	8	Aliquot SESE	33.024568	-104.04447	CHAVES	NEW MEXICO	NEW MEXICO	F	NMNM 132065	1071	2747	2746	Y

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	
PPP Leg #1	0	FNL	400	FEL	15S	29E	17	Aliquot NENE	33.023164	-104.0432788	CHAVES	NEW MEXICO	NEW MEXICO	F	NMNM 121949	602	3619	3215	
PPP Leg #1	0	FNL	400	FEL	15S	29E	17	Aliquot NENE	33.023164	-104.0432788	CHAVES	NEW MEXICO	NEW MEXICO	F	NMNM 121949	602	3619	3215	Y
PPP Leg #1	0	FNL	400	FEL	15S	29E	17	Aliquot NENE	33.023164	-104.0432788	CHAVES	NEW MEXICO	NEW MEXICO	F	NMNM 121949	602	3619	3215	Y
PPP Leg #1	130	FSL	400	FEL	15S	29E	8	Aliquot SESE	33.023521	-104.043278	CHAVES	NEW MEXICO	NEW MEXICO	F	NMNM 132065	602	3489	3215	Y
PPP Leg #1	130	FSL	400	FEL	15S	29E	8	Aliquot SESE	33.023521	-104.043278	CHAVES	NEW MEXICO	NEW MEXICO	F	NMNM 132065	602	3489	3215	Y
PPP Leg #1	130	FSL	400	FEL	15S	29E	8	Aliquot SESE	33.023521	-104.043278	CHAVES	NEW MEXICO	NEW MEXICO	F	NMNM 132065	602	3489	3215	
EXIT Leg #1	100	FSL	400	FEL	15S	29E	17	Aliquot SESE	33.008942	-104.04332	CHAVES	NEW MEXICO	NEW MEXICO	F	NMNM 121949	602	8800	3215	Y
BHL Leg #1	20	FSL	400	FEL	15S	29E	17	Aliquot SESE	33.008723	-104.043321	CHAVES	NEW MEXICO	NEW MEXICO	F	NMNM 121949	602	8793	3215	Y

Pay.gov

Confirmation

Your payment has been submitted to the designated government agency through Pay.gov and the details are below. Please note that this is just a confirmation of transaction submission. To confirm that the payment processed as expected, you may refer to your bank statement on the scheduled payment date. If you have any questions or wish to cancel this payment, you will need to contact the agency you paid at your earliest convenience.

Tracking Information

Pay.gov Tracking ID: 26JM38VF

Agency Tracking ID: 75822703045

Form Name: Bureau of Land Management (BLM) Application for Permit to Drill (APD) Fee

Application Name: BLM Oil and Gas Online Payment

Payment Information

Payment Type: Bank account (ACH)

Payment Amount: $20,100.00

Transaction Date: 08/22/2019 03:33:22 PM EDT

Payment Date: 08/23/2019

Company: MARSHALL & WINSTON INC.

APD IDs: 10400046135, 10400046326

Lease Numbers: NMNM132065, NMNM132065

Well Numbers: 3H, 4H

Note: You will need your Pay.gov Tracking ID to complete your APD transaction in AFMSS II. Please ensure you write this number down upon completion of payment.

Account Information

Account Holder Name: MARSHALL & WINSTON, INC

Routing Number: 111900659

Account Number: **********7028

Pay.gov

Bureau of Land Management (BLM) Application for Permit to Drill (APD) Fee

1 Before You Begin ✓ | 2 **Complete Agency Form** | 3 Enter Payment Info | 4 Review & Submit | 5 Confirmation

Bureau of Land Management
Application for Permit to Drill (APD) Fee

** Required Field*

Company Information

* Company: MARSHALL & WINSTON INC.

* Address: 6 DESTA DRIVE, STE 3100

* City: MIDLAND * State: Texas * Postal Code: 79705

* Country: United States

Well Information (Note: 24,999.99 is the maximum amount that may be charged to an individual credit card per day)

	BLM Office:	APD ID:	Lease Number:	Well Name:	Well Number:	Amount:
#1)	Roswell, NM	10400046135	NMNM132065	HI BOB FEDERAL	3H	$10,050.00
#2)	Roswell, NM	10400046326	NMNM132065	HI BOB FEDERAL	4H	$10,050.00
#3)						
#4)						
#5)						
#6)						
#7)						
#8)						
#9)						
#10)						
#11)						
#12)						
#13)						
#14)						
#15)						

Total Payment Amount $20,100.00

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

Drilling Plan Data Report

10/21/2019

APD ID: 10400046326 **Submission Date:** 08/22/2019

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

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Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	---	3817	0	0	OTHER : Surface	NONE	N
2	TOP OF SALT	3567	250	250	SALT	NONE	N
3	BASE OF SALT	3027	790	790	SALT	NONE	N
4	YATES	2979	838	838	ANHYDRITE,SILTSTONE	NONE	N
5	QUEEN	2249	1568	1568	ANHYDRITE,SILTSTONE	NONE	N
6	SAN ANDRES	1451	2366	2366	ANHYDRITE,DOLOMITE	NATURAL GAS,OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M **Rating Depth:** 12000

Equipment: A 3M system will be installed according to Onshore Order #2. No flex hose will be used.

Requesting Variance? NO

Variance request:

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and 3000 psi high. The System may be upgraded to a higher pressure but still tested to the working pressure stated. If the system is upgraded all the components installed will be functional and tested.

Choke Diagram Attachment:

Hi_Bob_Federal_4H_BOP_Choke_amend_20190910141728.pdf

BOP Diagram Attachment:

Hi_Bob_Federal_4H_BOP_Choke_amend_20190910141740.pdf

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	225	0	225	3817	3592	225	H-40	48	ST&C	8.56	11.56	DRY	6.35	DRY	6.35
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	1250	0	1250		2567	1250	J-55	40	LT&C	2.4	7.5	DRY	6.5	DRY	6.5
3	PRODUCTION	8.75	5.5	NEW	API	N	0	8819	0	3215		602	8819	HCP-110	17	OTHER - GBCD	6.58	8.17	DRY	5.75	DRY	5.75

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

5.5_17_HCP110_Data_Sheet_20190821095646.pdf

Hi_Bob_Federal_4H_Casing_Assumptions_20190822144013.pdf

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Casing Attachments

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Hi_Bob_Federal_4H_Casing_Assumptions_20190822144154.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Hi_Bob_Federal_4H_Casing_Assumptions_20190822144059.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	225	250	1.34	14.8	335	100	Class C	Calcium Chloride
INTERMEDIATE	Lead		0	1250	230	1.97	12.9	453	50	Class C	KolSeal
INTERMEDIATE	Tail		0	1250	200	1.34	14.8	268	50	Class C	Calcium Chloride
PRODUCTION	Lead		0	8819	420	2.63	11.5	1105	50	Class C	Kol Seal

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		0	8819	1640	1.31	14	2148	50	Class C	Kol Seal

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1250	3215	OTHER : Cut Brine	10	10.5							
225	1250	OTHER : BRINE	8.7	9							
0	225	OTHER : FRESH WATER	9	9.6							

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Section 6 - Test, Logging, Coring

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

None planned

List of open and cased hole logs run in the well:

DIRECTIONAL SURVEY,GAMMA RAY LOG,MUD LOG/GEOLOGIC LITHOLOGY LOG,

Coring operation description for the well:

None planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 1800 **Anticipated Surface Pressure:** 1092

Anticipated Bottom Hole Temperature(F): 105

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Hi_Bob_Federal_Lease_H2S_Contingency_Plan_20190627131029.pdf

Hi_Bob_Federal_4H_H2S_Plan_Diagram_20190910141551.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Hi_Bob_Federal_4H_Directional_Survey_20190822145403.pdf

Hi_Bob_Federal_4H_AC_Report_20190822145403.pdf

Other proposed operations facets description:

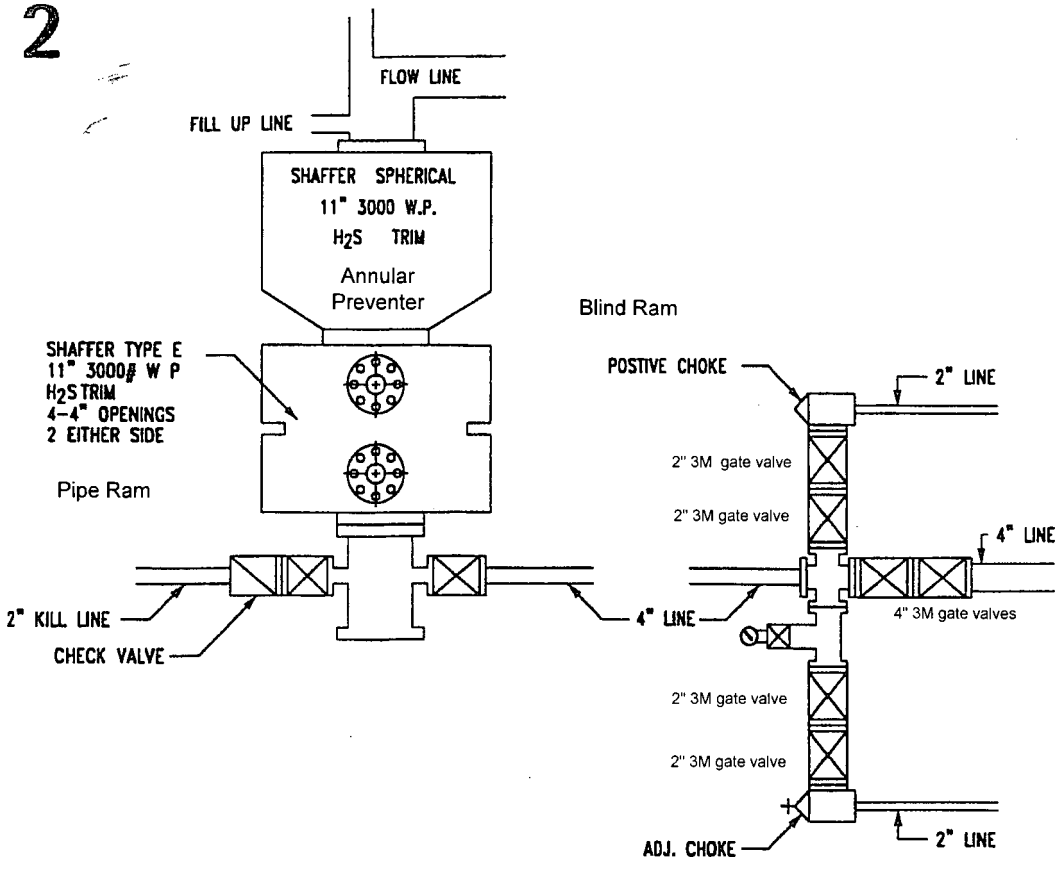
Gas Capture Plan attached

Other proposed operations facets attachment:

Hi_Bob_Federal_4H_GCP_20190822145456.pdf

Other Variance attachment:

RIG 2


FLOW LINE
FILL UP LINE
SHAFFER SPHERICAL
11" 3000 W.P.
H_2S TRIM
Annular
Preventer
Blind Ram
SHAFFER TYPE E
11" 3000# W P
H_2S TRIM
4-4" OPENINGS
2 EITHER SIDE
Pipe Ram
POSTIVE CHOKE
2" LINE
2" 3M gate valve
2" 3M gate valve
4" LINE
4" 3M gate valves
2" KILL LINE
CHECK VALVE
4" LINE
2" 3M gate valve
2" 3M gate valve
ADJ. CHOKE
2" LINE

Hi Bob Federal 3H

Casing Assumptions

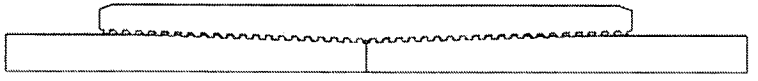
Interval	Length	Casing Size	Weight (#/ft)	Grade	Thread	Condition	Hole Size	TVD (ft)
Surface	225	13-3/8"	48	H-40	STC	New	17-1/2"	225
Intermediate	1250	9-5/8"	40	J-55	LTC	New	12-1/4"	1250
Production	8793	5-1/2"	17	HPC-110	GBCD	New	8-3/4"	3215

Mud Type	Mud Weight Hole Control	Fluid Loss
FW	9.0 - 9.6	NC
Brine	8.7 - 9.0	NC
CB	10.0 - 10.5	NC

Anticipated Mud Weight (ppg)	Max Pore Pressure (psi)	Collapse (psi)	Burst (psi)	Body Tensile Strength	Joint Tensile Strength
9.6	112	740	1730	352000	352000
9.0	1310	2570	3950	520000	520000
10.1	1689	8580	10640	445000	445000

PRECISION

Keeping You Connected.



SEMI PREMIUMCONNECTIONS
FIELD TESTED. FIELD PROVEN.

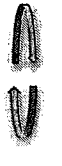
Precision Connections BK
5.5 in. 17 lb/ft HC-P110 with 6.05 in. Coupling OD

Pipe Body

Nominal OD	5.500	inches
Nominal Weight	17.00	lb/ft
Wall Thickness	0.304	inches
Plain End Weight	16.87	lb/ft
Drift	4.767	inches
Nominal ID	4.892	inches
Grade	HC-P110	
Min Yield	110,000	lbf/in²
Min Tensile	125,000	lbf/in²
Critical Section Area	4.962	in²
Pipe Body Yield Strength	546	kips
Min Internal Yield Pressure	10,640	psi
Collapse Pressure	8,730	psi

Connection

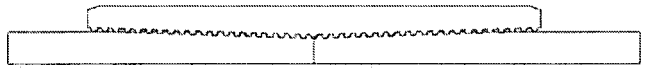
Coupling OD	6.050	inches
Coupling Length	8.250	inches
Make Up Loss	4.125	inches
Critical Section Area	6.031	in²
Internal Pressure Rating	100%	
External Pressure Rating	100%	
Tension Efficiency	100%	
Connection Strength	546	kips
Compression Efficiency	100%	
Uniaxial Bend Rating	83.4	° / 100 ft
Min Make Up Torque	4,450	ft-lbs
Yield Torque	17,100	ft-lbs



v1.2 7/26/2018

PRECISION

Keeping You Connected.



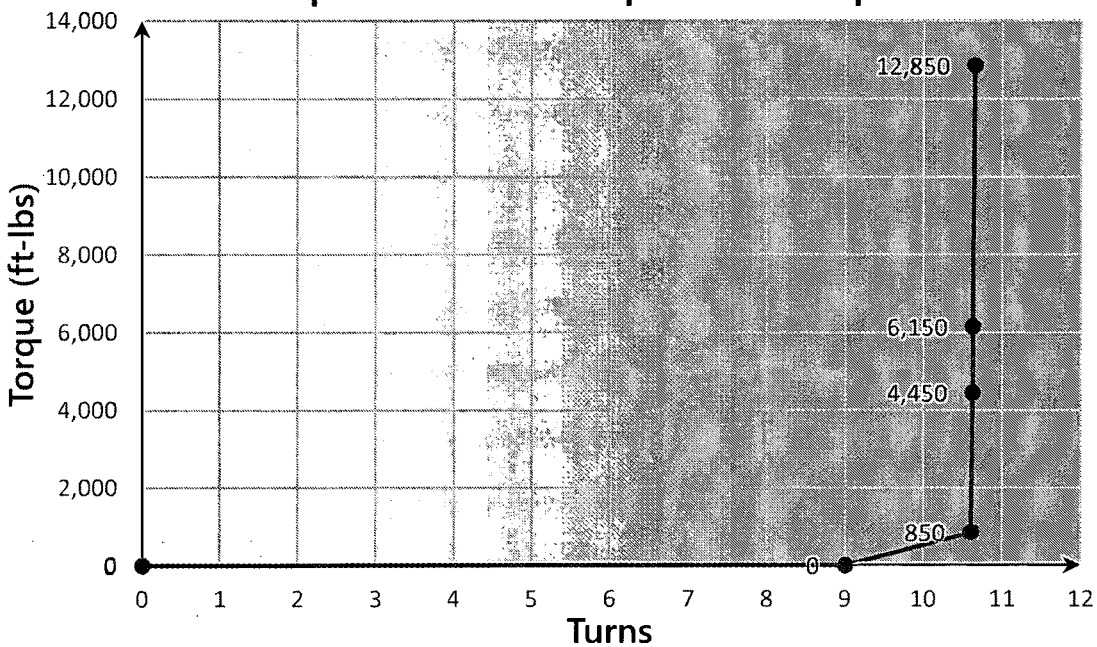
SEMI PREMIUMCONNECTIONS
FIELD TESTED. FIELD PROVEN.

Torque Data Sheet - Precision Connections BK

5.5 in. 17 lb/ft HC-P110 with 6.05 in. Coupling OD

Min Make Up Torque	4,450	ft-lbs	Max Operating Torque	14,550	ft-lbs
Max Make Up Torque	12,850	ft-lbs	Yield Torque	17,100	ft-lbs
Optimum Torque	6,150	ft-lbs			

Representative Torque Turn Graph



v1.2 7/26/2018

Marshall & Winston, Inc.

i Bob Federal #4H
haves County, New Mexico
ob No: WT-19-*
ig: Stoneham 6

Aim Directional Service

SECTION DETAILS

ec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	
2	1350.00	0.00	0.00	1350.00	0.00	0.00	0.000	0.00	0.00	Build: 2°/100' @ 1350.00' MD
3	1500.00	3.00	90.00	1499.93	0.00	3.93	2.000	90.00	0.25	Hold: 3.00° Inc, 90.00° Azm
4	2747.42	3.00	90.00	2745.64	0.00	69.21	0.000	0.00	4.41	KOP: 12°/100' @ 2747.42' MD
5	3489.90	90.00	162.50	3215.00	-448.25	235.14	12.000	72.52	462.33	LP/Turn: 2°/100' @ 3489.90' MD
6	4364.73	90.00	180.00	3215.00	-1309.54	367.73	2.000	90.00	1330.31	Hold: 90.00° Inc, 180.00° Azm
7	8819.19	90.00	180.00	3215.00	-5764.00	368.00	0.000	0.00	5775.74	TD @ 8819.19' MD/3215.00' TVD

SITE DETAILS: Hi Bob Federal #4H

Site Centre Northing: 736596.50
Easting: 629872.00

Positional Uncertainty: 0.00
Convergence: 0.16
Local North: Grid

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP - Hi Bob Fed #4H	3215.00	-379.70	366.30	736216.80	630238.30	33° 1' 24.677 N	104° 2' 35.800 W
LTP - Hi Bob Fed #4H	3215.00	-5684.00	368.00	730912.50	630240.00	33° 0' 32.192 N	104° 2' 35.952 W
PBHL - Hi Bob Fed #4H	3215.00	-5764.00	368.00	730832.50	630240.00	33° 0' 31.401 N	104° 2' 35.954 W

PROJECT DETAILS: Chaves County, New Mexico

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

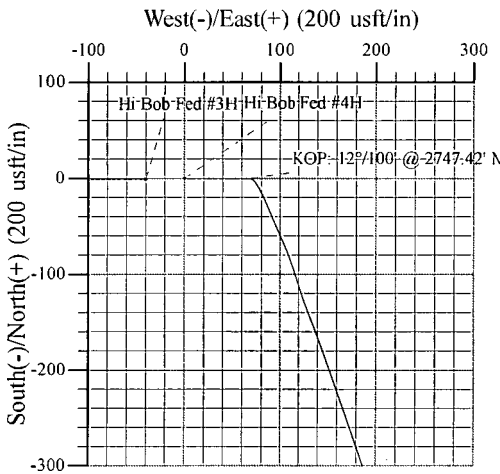
System Datum: Mean Sea Level

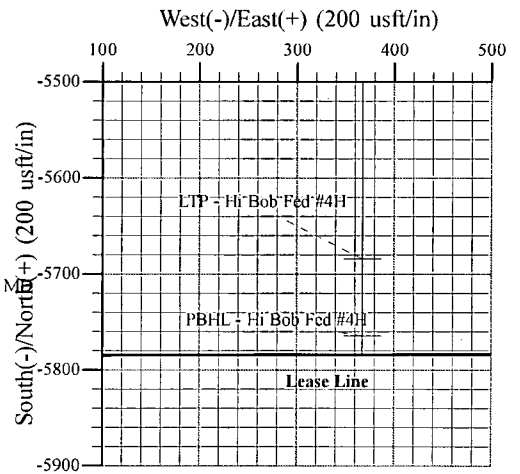
Drawn By: PBR
Date Created: 05/28/19
Date Revised: 08/12/19
File: Marshall & Winston - Hi Bob Federal #4H - Lateral 1r1.wpc

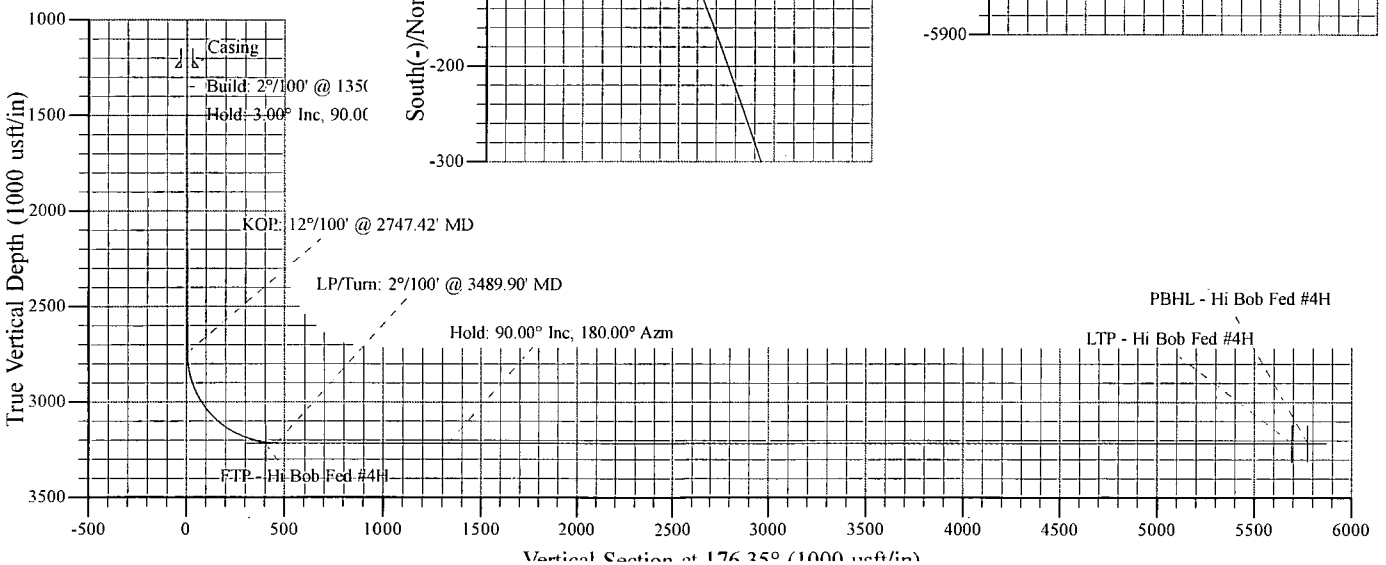
T G M

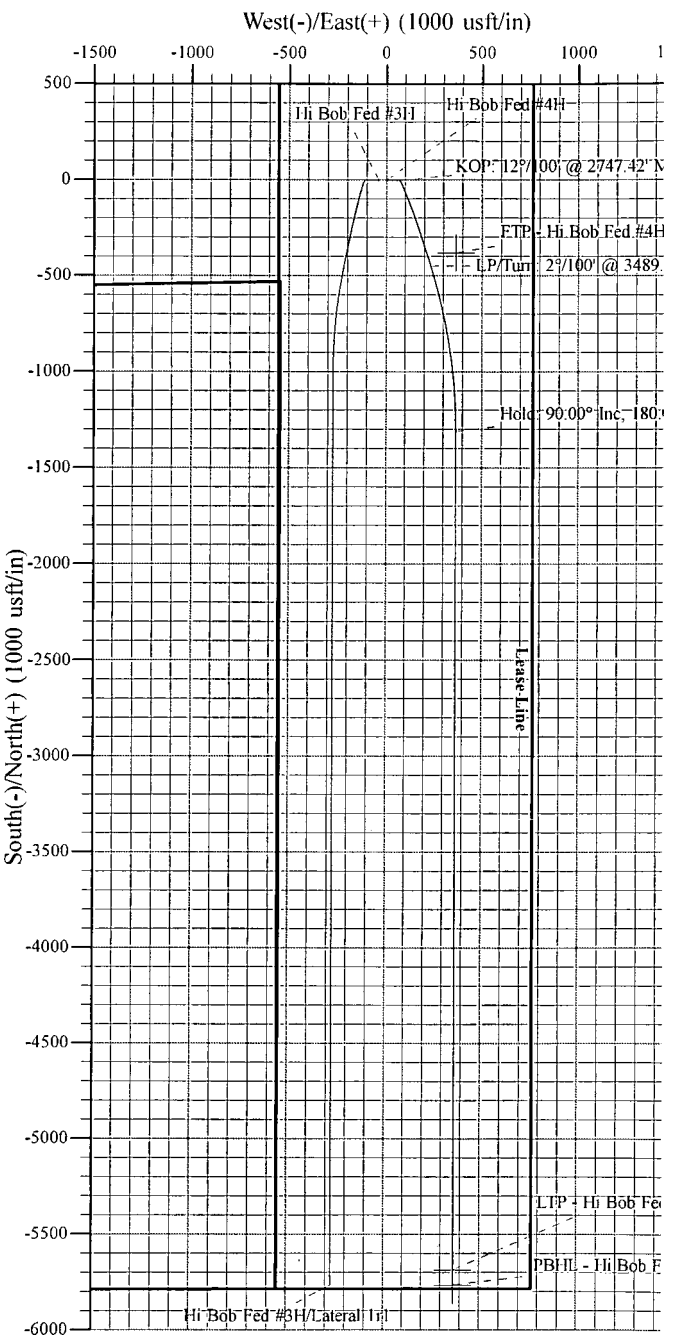
Azimuths to Grid North
True North: -0.16°
Magnetic North: 7.19°

Magnetic Field
Strength: 48145.2nT
Dip Angle: 60.67°
Date: 9/1/2019
Model: MVHD









Survey Report

Company:	Marshall & Winston, Inc.	**Local Co-ordinate Reference:**	Site Hi Bob Federal #4H
Project:	Chaves County, New Mexico	**TVD Reference:**	Well @ 3834.30usft (Stoneham 6)
Site:	Hi Bob Federal #4H	**MD Reference:**	Well @ 3834.30usft (Stoneham 6)
Well:	Hi Bob Fed #4H	**North Reference:**	Grid
Wellbore:	Planning	**Survey Calculation Method:**	Minimum Curvature
Design:	Lateral 1r1	**Database:**	EDMRESTORED

Project Chaves County, New Mexico

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Hi Bob Federal #4H

Site Position:		**Northing:**	736,596.50 usft	**Latitude:**	33° 1' 28.444 N
From:	Map	**Easting:**	629,872.00 usft	**Longitude:**	104° 2' 40.090 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.16 °

Well Hi Bob Fed #4H

Well Position	**+N/-S**	0.00 usft	**Northing:**	736,596.50 usft	**Latitude:**	33° 1' 28.444 N
	+E/-W	0.00 usft	**Easting:**	629,872.00 usft	**Longitude:**	104° 2' 40.090 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,817.30 usft

Wellbore Planning

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	9/1/2019	7.34	60.67	48,145.19614128

Design Lateral 1r1

Audit Notes:

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

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	176.35

Survey Tool Program Date 8/12/2019

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	8,819.15	Lateral 1r1 (Planning)	MWD+HDGM	OWSG MWD + HDGM

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.000	0.000	0.000
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.000	0.000	0.000
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.000	0.000	0.000
Casing									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.000	0.000	0.000
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.000	0.000	0.000
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.000	0.000	0.000
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.000	0.000	0.000
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.000	0.000	0.000
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.000	0.000	0.000

Survey Report

Company:	Marshall & Winston, Inc.	**Local Co-ordinate Reference:**	Site Hi Bob Federal #4H
Project:	Chaves County, New Mexico	**TVD Reference:**	Well @ 3834.30usft (Stoneham 6)
Site:	Hi Bob Federal #4H	**MD Reference:**	Well @ 3834.30usft (Stoneham 6)
Well:	Hi Bob Fed #4H	**North Reference:**	Grid
Wellbore:	Planning	**Survey Calculation Method:**	Minimum Curvature
Design:	Lateral 1r1	**Database:**	EDMRESTORED

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.000	0.000	0.000
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.000	0.000	0.000
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.000	0.000	0.000
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.000	0.000	0.000
1,250.00	0.00	0.00	1,250.00	0.00	0.00	0.00	0.000	0.000	0.000
Casing									
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.000	0.000	0.000
1,350.00	0.00	0.00	1,350.00	0.00	0.00	0.00	0.000	0.000	0.000
Build: 2°/100' @ 1350.00' MD									
1,400.00	1.00	90.00	1,400.00	0.00	0.44	0.03	2.000	2.000	0.000
1,500.00	3.00	90.00	1,499.93	0.00	3.93	0.25	2.000	2.000	0.000
Hold: 3.00° Inc, 90.00° Azm									
1,600.00	3.00	90.00	1,599.79	0.00	9.16	0.58	0.000	0.000	0.000
1,700.00	3.00	90.00	1,699.66	0.00	14.39	0.92	0.000	0.000	0.000
1,800.00	3.00	90.00	1,799.52	0.00	19.63	1.25	0.000	0.000	0.000
1,900.00	3.00	90.00	1,899.38	0.00	24.86	1.58	0.000	0.000	0.000
2,000.00	3.00	90.00	1,999.25	0.00	30.09	1.92	0.000	0.000	0.000
2,100.00	3.00	90.00	2,099.11	0.00	35.33	2.25	0.000	0.000	0.000
2,200.00	3.00	90.00	2,198.97	0.00	40.56	2.58	0.000	0.000	0.000
2,300.00	3.00	90.00	2,298.84	0.00	45.79	2.92	0.000	0.000	0.000
2,400.00	3.00	90.00	2,398.70	0.00	51.03	3.25	0.000	0.000	0.000
2,500.00	3.00	90.00	2,498.56	0.00	56.26	3.58	0.000	0.000	0.000
2,600.00	3.00	90.00	2,598.42	0.00	61.50	3.92	0.000	0.000	0.000
2,700.00	3.00	90.00	2,698.29	0.00	66.73	4.25	0.000	0.000	0.000
2,747.42	3.00	90.00	2,745.64	0.00	69.21	4.41	0.000	0.000	0.000
KOP: 12°/100' @ 2747.42' MD									
2,750.00	3.11	95.46	2,748.22	-0.01	69.35	4.43	12.009	4.152	211.646
2,775.00	5.09	128.37	2,773.16	-0.76	70.89	5.28	12.000	7.932	131.624
2,800.00	7.76	140.97	2,798.00	-2.76	72.82	7.39	12.000	10.662	50.414
2,825.00	10.60	147.01	2,822.68	-6.00	75.14	10.77	12.000	11.380	24.163
2,850.00	13.51	150.50	2,847.12	-10.47	77.83	15.41	12.000	11.647	13.938
2,875.00	16.46	152.76	2,871.27	-16.16	80.89	21.28	12.000	11.772	9.049
2,900.00	19.42	154.35	2,895.05	-23.06	84.31	28.38	12.000	11.840	6.360
2,925.00	22.39	155.53	2,918.41	-31.14	88.08	36.69	12.000	11.881	4.730
2,950.00	25.36	156.45	2,941.26	-40.38	92.20	46.17	12.000	11.908	3.671
2,975.00	28.34	157.18	2,963.57	-50.76	96.64	56.82	12.000	11.926	2.944
3,000.00	31.33	157.79	2,985.25	-62.25	101.40	68.59	12.000	11.939	2.426
3,025.00	34.32	158.30	3,006.26	-74.82	106.46	81.45	12.000	11.949	2.043
3,050.00	37.31	158.74	3,026.53	-88.43	111.81	95.38	12.000	11.956	1.752
3,075.00	40.30	159.12	3,046.01	-103.05	117.44	110.32	12.000	11.962	1.528
3,100.00	43.29	159.46	3,064.64	-118.63	123.33	126.25	12.000	11.966	1.350
3,125.00	46.28	159.76	3,082.39	-135.14	129.47	143.11	12.000	11.970	1.208
3,150.00	49.27	160.03	3,099.19	-152.52	135.83	160.86	12.000	11.973	1.093
3,175.00	52.27	160.28	3,114.99	-170.73	142.40	179.46	12.000	11.975	0.999

Company:	Marshall & Winston, Inc.	**Local Co-ordinate Reference:**	Site Hi Bob Federal #4H
Project:	Chaves County, New Mexico	**TVD Reference:**	Well @ 3834.30usft (Stoneham 6)
Site:	Hi Bob Federal #4H	**MD Reference:**	Well @ 3834.30usft (Stoneham 6)
Well:	Hi Bob Fed #4H	**North Reference:**	Grid
Wellbore:	Planning	**Survey Calculation Method:**	Minimum Curvature
Design:	Lateral 1r1	**Database:**	EDMRESTORED

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,200.00	55.26	160.51	3,129.77	-189.73	149.16	198.85	12.000	11.977	0.921
3,225.00	58.26	160.73	3,143.47	-209.45	156.10	218.97	12.000	11.979	0.857
3,250.00	61.25	160.93	3,156.07	-229.85	163.19	239.78	12.000	11.980	0.803
3,275.00	64.25	161.12	3,167.51	-250.86	170.42	261.21	12.000	11.981	0.758
3,300.00	67.24	161.30	3,177.78	-272.44	177.76	283.21	12.000	11.982	0.721
3,325.00	70.24	161.47	3,186.84	-294.52	185.19	305.72	12.000	11.983	0.690
3,350.00	73.23	161.64	3,194.68	-317.03	192.70	328.67	12.000	11.983	0.664
3,375.00	76.23	161.80	3,201.26	-339.93	200.27	352.00	12.000	11.984	0.644
3,400.00	79.23	161.96	3,206.58	-363.15	207.87	375.65	12.000	11.984	0.628
3,425.00	82.22	162.11	3,210.61	-386.61	215.48	399.56	12.000	11.985	0.615
3,450.00	85.22	162.26	3,213.34	-410.27	223.08	423.65	12.000	11.985	0.606
3,475.00	88.21	162.41	3,214.77	-434.05	230.65	447.86	12.000	11.985	0.601
3,489.90	90.00	162.50	3,215.00	-448.25	235.14	462.32	12.000	11.985	0.599
LP/Turn: 2°/100' @ 3489.90' MD									
3,500.00	90.00	162.70	3,215.00	-457.89	238.16	472.13	2.000	0.002	2.000
3,600.00	90.00	164.70	3,215.00	-553.87	266.22	569.70	2.000	0.000	2.000
3,700.00	90.00	166.70	3,215.00	-650.76	290.92	667.98	2.000	0.000	2.000
3,800.00	90.00	168.70	3,215.00	-748.46	312.22	766.84	2.000	0.000	2.000
3,900.00	90.00	170.70	3,215.00	-846.85	330.09	866.16	2.000	0.000	2.000
4,000.00	90.00	172.70	3,215.00	-945.80	344.53	965.83	2.000	0.000	2.000
4,100.00	90.00	174.70	3,215.00	-1,045.19	355.50	1,065.72	2.000	0.000	2.000
4,200.00	90.00	176.70	3,215.00	-1,144.90	362.99	1,165.70	2.000	0.000	2.000
4,300.00	90.00	178.70	3,215.00	-1,244.82	367.00	1,265.67	2.000	0.000	2.000
4,364.73	90.00	180.00	3,215.00	-1,309.54	367.73	1,330.31	2.000	0.000	2.000
Hold: 90.00° Inc, 180.00° Azm									
4,400.00	90.00	180.00	3,215.00	-1,344.81	367.74	1,365.51	0.000	0.000	0.000
4,500.00	90.00	180.00	3,215.00	-1,444.81	367.74	1,465.31	0.000	0.000	0.000
4,600.00	90.00	180.00	3,215.00	-1,544.81	367.75	1,565.10	0.000	0.000	0.000
4,700.00	90.00	180.00	3,215.00	-1,644.81	367.75	1,664.90	0.000	0.000	0.000
4,800.00	90.00	180.00	3,215.00	-1,744.81	367.76	1,764.70	0.000	0.000	0.000
4,900.00	90.00	180.00	3,215.00	-1,844.81	367.77	1,864.49	0.000	0.000	0.000
5,000.00	90.00	180.00	3,215.00	-1,944.81	367.77	1,964.29	0.000	0.000	0.000
5,100.00	90.00	180.00	3,215.00	-2,044.81	367.78	2,064.09	0.000	0.000	0.000
5,200.00	90.00	180.00	3,215.00	-2,144.81	367.78	2,163.89	0.000	0.000	0.000
5,300.00	90.00	180.00	3,215.00	-2,244.81	367.79	2,263.68	0.000	0.000	0.000
5,400.00	90.00	180.00	3,215.00	-2,344.81	367.80	2,363.48	0.000	0.000	0.000
5,500.00	90.00	180.00	3,215.00	-2,444.81	367.80	2,463.28	0.000	0.000	0.000
5,600.00	90.00	180.00	3,215.00	-2,544.81	367.81	2,563.08	0.000	0.000	0.000
5,700.00	90.00	180.00	3,215.00	-2,644.81	367.81	2,662.87	0.000	0.000	0.000
5,800.00	90.00	180.00	3,215.00	-2,744.81	367.82	2,762.67	0.000	0.000	0.000
5,900.00	90.00	180.00	3,215.00	-2,844.81	367.83	2,862.47	0.000	0.000	0.000
6,000.00	90.00	180.00	3,215.00	-2,944.81	367.83	2,962.26	0.000	0.000	0.000
6,100.00	90.00	180.00	3,215.00	-3,044.81	367.84	3,062.06	0.000	0.000	0.000

Company:	Marshall & Winston, Inc.	**Local Co-ordinate Reference:**	Site Hi Bob Federal #4H
Project:	Chaves County, New Mexico	**TVD Reference:**	Well @ 3834.30usft (Stoneham 6)
Site:	Hi Bob Federal #4H	**MD Reference:**	Well @ 3834.30usft (Stoneham 6)
Well:	Hi Bob Fed #4H	**North Reference:**	Grid
Wellbore:	Planning	**Survey Calculation Method:**	Minimum Curvature
Design:	Lateral 1r1	**Database:**	EDMRESTORED

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,200.00	90.00	180.00	3,215.00	-3,144.81	367.84	3,161.86	0.000	0.000	0.000
6,300.00	90.00	180.00	3,215.00	-3,244.81	367.85	3,261.66	0.000	0.000	0.000
6,400.00	90.00	180.00	3,215.00	-3,344.81	367.86	3,361.45	0.000	0.000	0.000
6,500.00	90.00	180.00	3,215.00	-3,444.81	367.86	3,461.25	0.000	0.000	0.000
6,600.00	90.00	180.00	3,215.00	-3,544.81	367.87	3,561.05	0.000	0.000	0.000
6,700.00	90.00	180.00	3,215.00	-3,644.81	367.87	3,660.84	0.000	0.000	0.000
6,800.00	90.00	180.00	3,215.00	-3,744.81	367.88	3,760.64	0.000	0.000	0.000
6,900.00	90.00	180.00	3,215.00	-3,844.81	367.89	3,860.44	0.000	0.000	0.000
7,000.00	90.00	180.00	3,215.00	-3,944.81	367.89	3,960.24	0.000	0.000	0.000
7,100.00	90.00	180.00	3,215.00	-4,044.81	367.90	4,060.03	0.000	0.000	0.000
7,200.00	90.00	180.00	3,215.00	-4,144.81	367.90	4,159.83	0.000	0.000	0.000
7,300.00	90.00	180.00	3,215.00	-4,244.81	367.91	4,259.63	0.000	0.000	0.000
7,400.00	90.00	180.00	3,215.00	-4,344.81	367.92	4,359.42	0.000	0.000	0.000
7,500.00	90.00	180.00	3,215.00	-4,444.81	367.92	4,459.22	0.000	0.000	0.000
7,600.00	90.00	180.00	3,215.00	-4,544.81	367.93	4,559.02	0.000	0.000	0.000
7,700.00	90.00	180.00	3,215.00	-4,644.81	367.93	4,658.82	0.000	0.000	0.000
7,800.00	90.00	180.00	3,215.00	-4,744.81	367.94	4,758.61	0.000	0.000	0.000
7,900.00	90.00	180.00	3,215.00	-4,844.81	367.95	4,858.41	0.000	0.000	0.000
8,000.00	90.00	180.00	3,215.00	-4,944.81	367.95	4,958.21	0.000	0.000	0.000
8,100.00	90.00	180.00	3,215.00	-5,044.81	367.96	5,058.01	0.000	0.000	0.000
8,200.00	90.00	180.00	3,215.00	-5,144.81	367.96	5,157.80	0.000	0.000	0.000
8,300.00	90.00	180.00	3,215.00	-5,244.81	367.97	5,257.60	0.000	0.000	0.000
8,400.00	90.00	180.00	3,215.00	-5,344.81	367.97	5,357.40	0.000	0.000	0.000
8,500.00	90.00	180.00	3,215.00	-5,444.81	367.98	5,457.19	0.000	0.000	0.000
8,600.00	90.00	180.00	3,215.00	-5,544.81	367.99	5,556.99	0.000	0.000	0.000
8,700.00	90.00	180.00	3,215.00	-5,644.81	367.99	5,656.79	0.000	0.000	0.000
8,800.00	90.00	180.00	3,215.00	-5,744.81	368.00	5,756.59	0.000	0.000	0.000
8,819.19	90.00	180.00	3,215.00	-5,764.00	368.00	5,775.74	0.000	0.000	0.000
TD @ 8819.19' MD/3215.00' TVD									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP - Hi Bob Fed #4H - plan hits target center - Point	0.00	0.00	3,215.00	-5,684.00	368.00	730,912.50	630,240.00	33° 0' 32.192 N	104° 2' 35.952 W
FTP - Hi Bob Fed #4H - plan misses target center by 145.74usft at 3464.40usft MD (3214.32 TVD, -423.96 N, 227.45 E) - Point	0.00	0.00	3,215.00	-379.70	366.30	736,216.80	630,238.30	33° 1' 24.677 N	104° 2' 35.800 W
PBHL - Hi Bob Fed #4 - plan hits target center - Point	0.00	0.00	3,215.00	-5,764.00	368.00	730,832.50	630,240.00	33° 0' 31.401 N	104° 2' 35.954 W

Survey Report

Company:	Marshall & Winston, Inc.	**Local Co-ordinate Reference:**	Site Hi Bob Federal #4H
Project:	Chaves County, New Mexico	**TVD Reference:**	Well @ 3834.30usft (Stoneham 6)
Site:	Hi Bob Federal #4H	**MD Reference:**	Well @ 3834.30usft (Stoneham 6)
Well:	Hi Bob Fed #4H	**North Reference:**	Grid
Wellbore:	Planning	**Survey Calculation Method:**	Minimum Curvature
Design:	Lateral 1r1	**Database:**	EDMRESTORED

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
250.00	250.00	Casing	13-3/8	17-1/2
1,250.00	1,250.00	Casing	9-5/8	12-1/4

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1350	1350	0	0	Build: 2°/100' @ 1350.00' MD
1500	1500	0	4	Hold: 3.00° Inc, 90.00° Azm
2747	2746	0	69	KOP: 12°/100' @ 2747.42' MD
3490	3215	-448	235	LP/Turn: 2°/100' @ 3489.90' MD
4365	3215	-1310	368	Hold: 90.00° Inc, 180.00° Azm
8819	3215	-5764	368	TD @ 8819.19' MD/3215.00' TVD

Checked By: _____ Approved By: _____ Date: _____

APD ID: 10400046326 **Submission Date:** 08/22/2019

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Hi_Bob_Federal_4H_Existing_Roads_20190822145559.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

Hi_Bob_Federal_4H_ACCESS_ROAD_20190822145648.pdf

New road type: RESOURCE

Length: 1166 Feet **Width (ft.):** 25

Max slope (%): 2 **Max grade (%):** 2

Army Corp of Engineers (ACOE) permit required? N

ACOE Permit Number(s):

New road travel width: 15

New road access erosion control: Road construction requirements and regular maintenance would alleviate potential impacts to the access road from water erosion damage.

New road access plan or profile prepared? N

New road access plan attachment:

Access road engineering design? N

Access road engineering design attachment:

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Turnout? N

Access surfacing type: OTHER

Access topsoil source: BOTH

Access surfacing type description: Native caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description: Material will be obtained from BLM caliche pit in SWNE Section 34-T15S-R29E or BLM pit in SENE Section 1-T16S-R30E

Onsite topsoil removal process: The top 6 inches of topsoil is pushed off and stockpiled along the side of the location. An approximate 150' X 150' area is used within the proposed well site to remove caliche. Subsoil is removed and stockpiled within the pad site to build the location and road. Then subsoil is pushed back in the hole and caliche is spread accordingly across proposed access road.

Access other construction information:

Access miscellaneous information:

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: Proposed access road will be crowned and ditched and constructed of 6 inch rolled and compacted caliche. Water will be diverted where necessary to avoid ponding, maintain good drainage, and to be consistent with local drainage patterns.

Road Drainage Control Structures (DCS) description: The ditches will be 3' wide with 3:1 slopes

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Hi_Bob_Federal_4H_1__Mile_Wells_20190822145720.pdf

Hi_Bob_Federal_4H_1__MILE_MAP_20190822145720.pdf

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? DEFER

Estimated Production Facilities description: Battery will include 250# 2-phase separator, 6' x 20' Heater treater, 4 500bbl steel tanks and 3 500 bbl fiberglass tanks set on the north or south side of location.

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: OTHER

Describe type: BRINE WATER

Water source use type: INTERMEDIATE/PRODUCTION CASING

Source latitude:

Source longitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Water source transport method: TRUCKING

Source land ownership: PRIVATE

Source transportation land ownership: OTHER

Describe transportation land ownership: Land ow
Federal, State and County.

Water source volume (barrels): 20000

Source volume (acre-feet): 2.577862

Source volume (gal): 840000

Water source type: OTHER

Describe type: FRESH WATER

Water source use type: STIMULATION

OTHER

Describe use type: ROAD & PAD CONSTRUCTION

SURFACE CASING

Source latitude:

Source longitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Water source transport method: TRUCKING

Source land ownership: PRIVATE

Source transportation land ownership: OTHER

Describe transportation land ownership: Land ow
Federal, State and County.

Water source volume (barrels): 250000

Source volume (acre-feet): 32.223274

Source volume (gal): 10500000

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Water source and transportation map:

Hi_Bob_Federal_4H_Water_Source_Map_20190822151032.pdf

Water source comments: Water source transportation land ownership is a mixture of Federal, State and County.

New water well? N

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: On site caliche will be used for construction if sufficient. In the event insufficient quantities of caliche are available onsite, caliche will be trucked in from BLM's caliche pit in SWNE Section 34-T15S-R29E or SENE Section 1-T16S-R30E.

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Drilling fluids and cuttings

Amount of waste: 4000 barrels

Waste disposal frequency : One Time Only

Safe containment description: All drilling fluids will be stored safely and disposed of properly

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: Trucked to an approved disposal facility

Waste type: SEWAGE

Waste content description: Human waste and grey water

Amount of waste: 1000 gallons

Waste disposal frequency : One Time Only

Safe containment description: Waste material will be stored safely and disposed of properly

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: Trucked to an approved disposal facility.

Waste type: GARBAGE

Waste content description: Miscellaneous trash

Amount of waste: 500 pounds

Waste disposal frequency : One Time Only

Safe containment description: Trash produced during drilling and completion operations will be collected in a trash container and disposed of properly

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: Trucked to an approved disposal facility

Reserve Pit

Reserve Pit being used? N

Temporary disposal of produced water into reserve pit? NO

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? Y

Description of cuttings location Cuttings will be stored in roll off bins

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Hi_Bob_Federal_4H_Well_Site_Layout_20190822151142.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** Hi Bob Federal

Multiple Well Pad Number: 1

Recontouring attachment:

Drainage/Erosion control construction: During construction proper erosion control methods will be used to control erosion, runoff and siltation of the surrounding area.

Drainage/Erosion control reclamation: Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Well pad proposed disturbance (acres): 3.673095 **Well pad interim reclamation (acres):** 0.734619 **Well pad long term disturbance (acres):** 2.938476

Road proposed disturbance (acres): 0.669192 **Road interim reclamation (acres):** 0.401515 **Road long term disturbance (acres):** 0.267677

Powerline proposed disturbance (acres): 0 **Powerline interim reclamation (acres):** 0 **Powerline long term disturbance (acres):** 0

Pipeline proposed disturbance (acres): 0 **Pipeline interim reclamation (acres):** 0 **Pipeline long term disturbance (acres):** 0

Other proposed disturbance (acres): 0 **Other interim reclamation (acres):** 0 **Other long term disturbance (acres):** 0

Total proposed disturbance: 4.342287 **Total interim reclamation:** 1.136134 **Total long term disturbance:** 3.206153

Disturbance Comments:

Reconstruction method: The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

Topsoil redistribution: Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations

Soil treatment: To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

Existing Vegetation at the well pad: Shinnery oak; topsoil is sandy.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Refer to "Existing Vegetation at the well pad'

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: N/A

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: N/A

Existing Vegetation Community at other disturbances attachment:

Non native seed used? N

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? N

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? N

Seed harvest description:

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name:

Last Name:

Phone:

Email:

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? N

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: No invasive species present. Standard regular maintenance to maintain a clear location and road.

Weed treatment plan attachment:

Monitoring plan description: Identify areas supporting weeds prior to construction; prevent the introduction and spread of weeds from construction equipment during construction; and contain weed seeds and propagules by preventing segregated topsoil from being spread to adjacent areas. No invasive species present. Standard regular maintenance to maintain a clear location and road.

Monitoring plan attachment:

Success standards: To maintain all disturbed areas as per Gold Book standards

Pit closure description: N/A

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Fee Owner: Bogle Ranch **Fee Owner Address:**

Phone: (575)365-6927 **Email:**

Surface use plan certification: NO

Surface use plan certification document:

Surface access agreement or bond: AGREEMENT

Surface Access Agreement Need description: Surface use and compensation agreement dated October 29, 2018 between Bogle Limited Company and Marshall & Winston, Inc.

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Fee Owner: Bogle Ranch **Fee Owner Address:**

Phone: (575)365-6927 **Email:**

Surface use plan certification: NO

Surface use plan certification document:

Surface access agreement or bond: AGREEMENT

Surface Access Agreement Need description: Surface use and compensation agreement dated October 29, 2018 between Bogle Limited Company and Marshall & Winston, Inc.

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Section 12 - Other Information

Right of Way needed? N **Use APD as ROW?**

ROW Type(s):

Operator Name: MARSHALL & WINSTON INCORPORATED

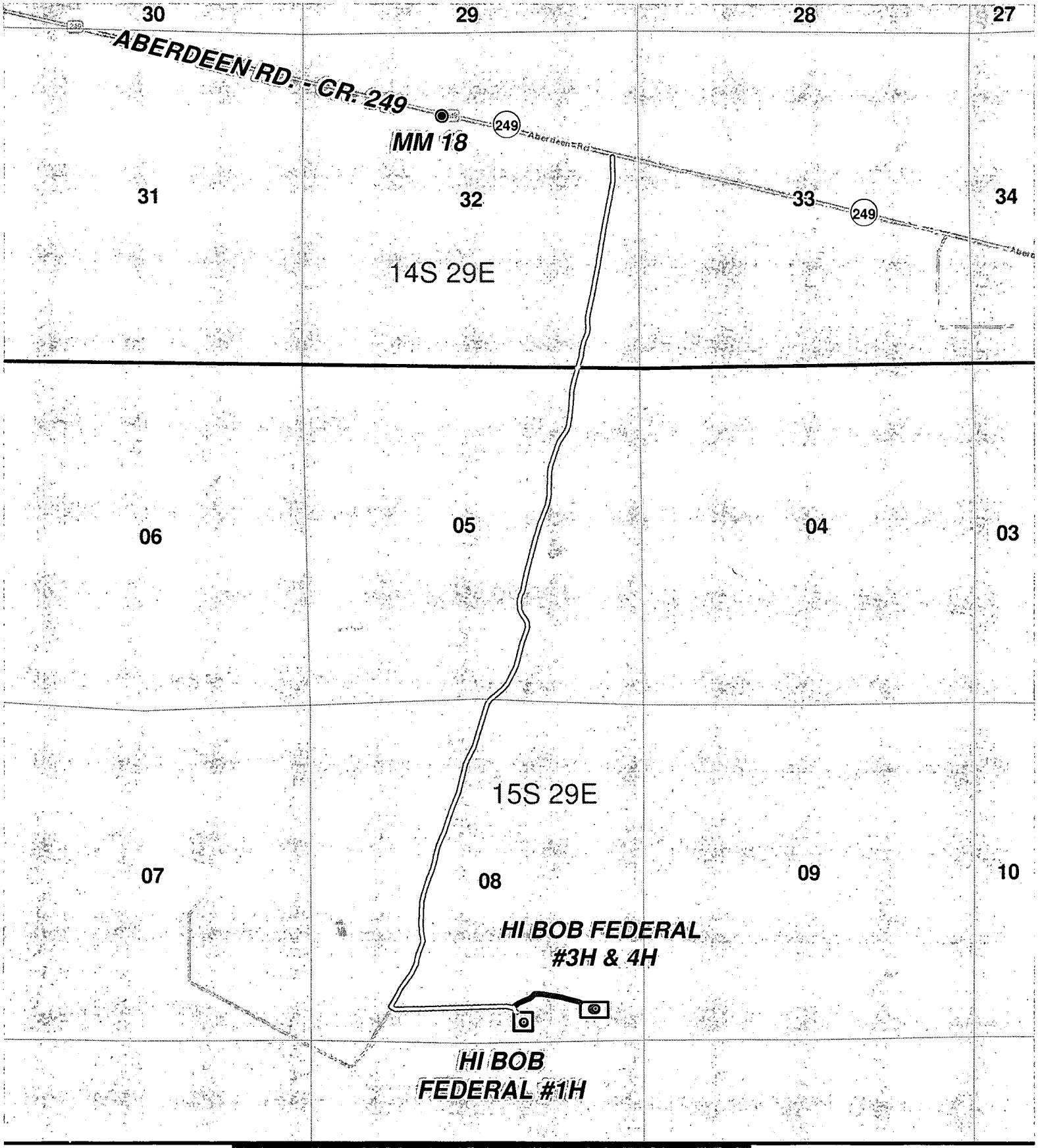
Well Name: HI BOB FEDERAL **Well Number:** 4H

SUPO Additional Information:

Use a previously conducted onsite? Y

Previous Onsite information: Onsite conducted 04/04/19 with BLM rep, Forrest Mayer and Marshall & Winston rep, Todd Passmore.

Other SUPO Attachment



LEGEND

- WELL
- WELLPAD
- ACCESS RD
- EXISTING RD

HI BOB FEDERAL #3H AND #4H

SECTION: 8	TOWNSHIP: 15 S.	RANGE: 28 E.
STATE: NEW MEXICO	COUNTY: CHAVES	SURVEY: N.M.P.M
W.O. # 19-1322-1323		LEASE: HI BOB

0 500 1,0001,5002,0002,5003,0003,5004,0004,5005,0005,5006,000 FEET

0 0.125 0.25 0.5 Miles

1 IN = 2,000 FT

LOCATION MAP VICINITY MAP 8/5/2019 V.D.

N

Marshall & Winston, Inc.

HARCROW SURVEYING, LLC.
2316 W. MAIN ST, ARTESIA, NM 88210
PH: (575) 746-2158
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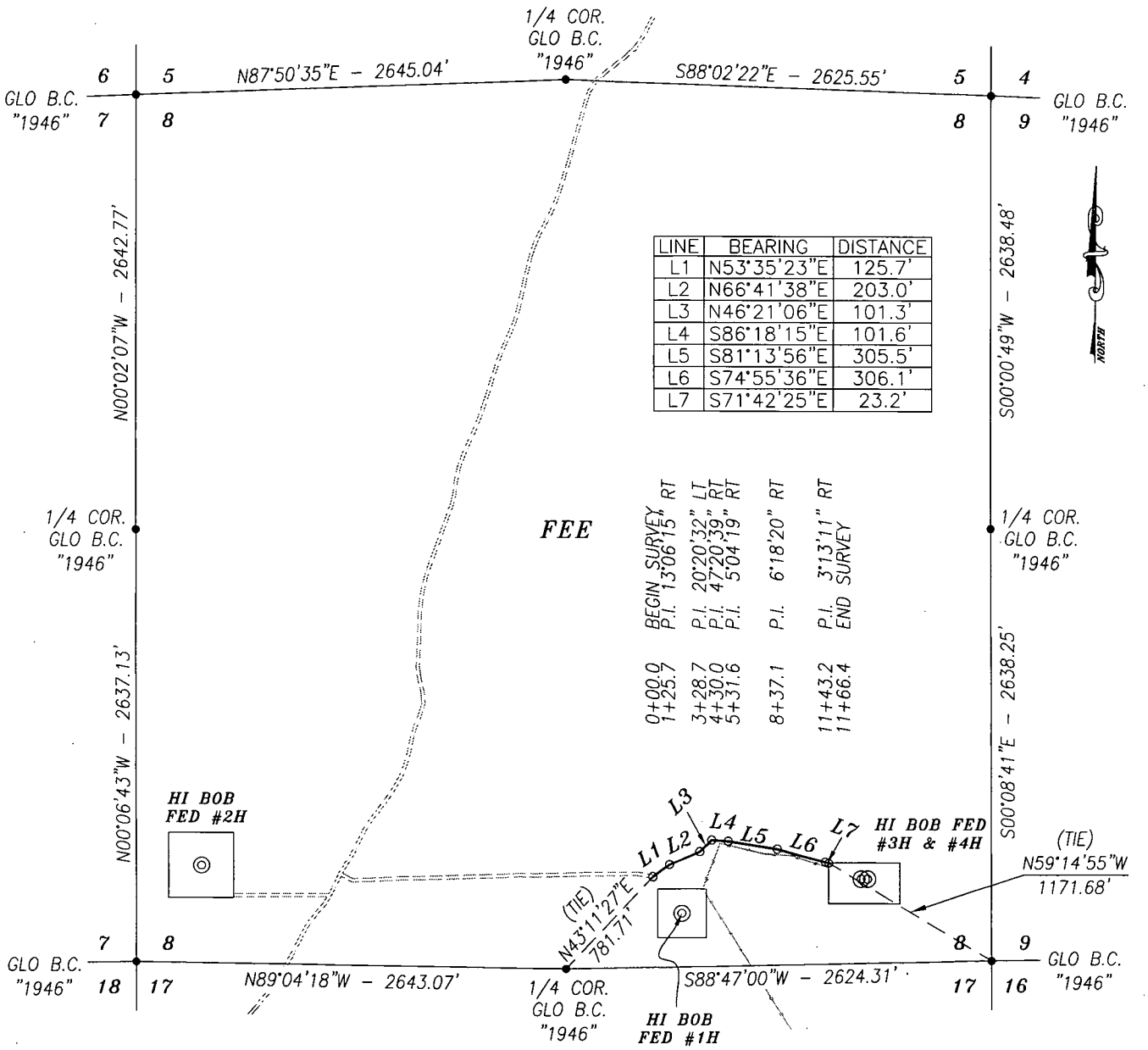
ACCESS ROAD PLAT
MARSHALL & WINSTON, INC.

A PROPOSED ACCESS ROAD FROM AN EXISTING ROAD TO THE HI BOB FED #3H & #4H IN *SECTION 8, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.,* CHAVES COUNTY, NEW MEXICO.



LINE	BEARING	DISTANCE
L1	N53°35'23"E	125.7'
L2	N66°41'38"E	203.0'
L3	N46°21'06"E	101.3'
L4	S86°18'15"E	101.6'
L5	S81°13'56"E	305.5'
L6	S74°55'36"E	306.1'
L7	S71°42'25"E	23.2'

DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE AND 1166.4 FEET OR 70.69 RODS OR 0.221 MILES IN LENGTH CROSSING FEE LAND IN SECTION 8, TOWNSHIP 15 SOUTH, RANGE 29 EAST, CHAVES COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND 15.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

BASIS OF BEARING:
BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE"

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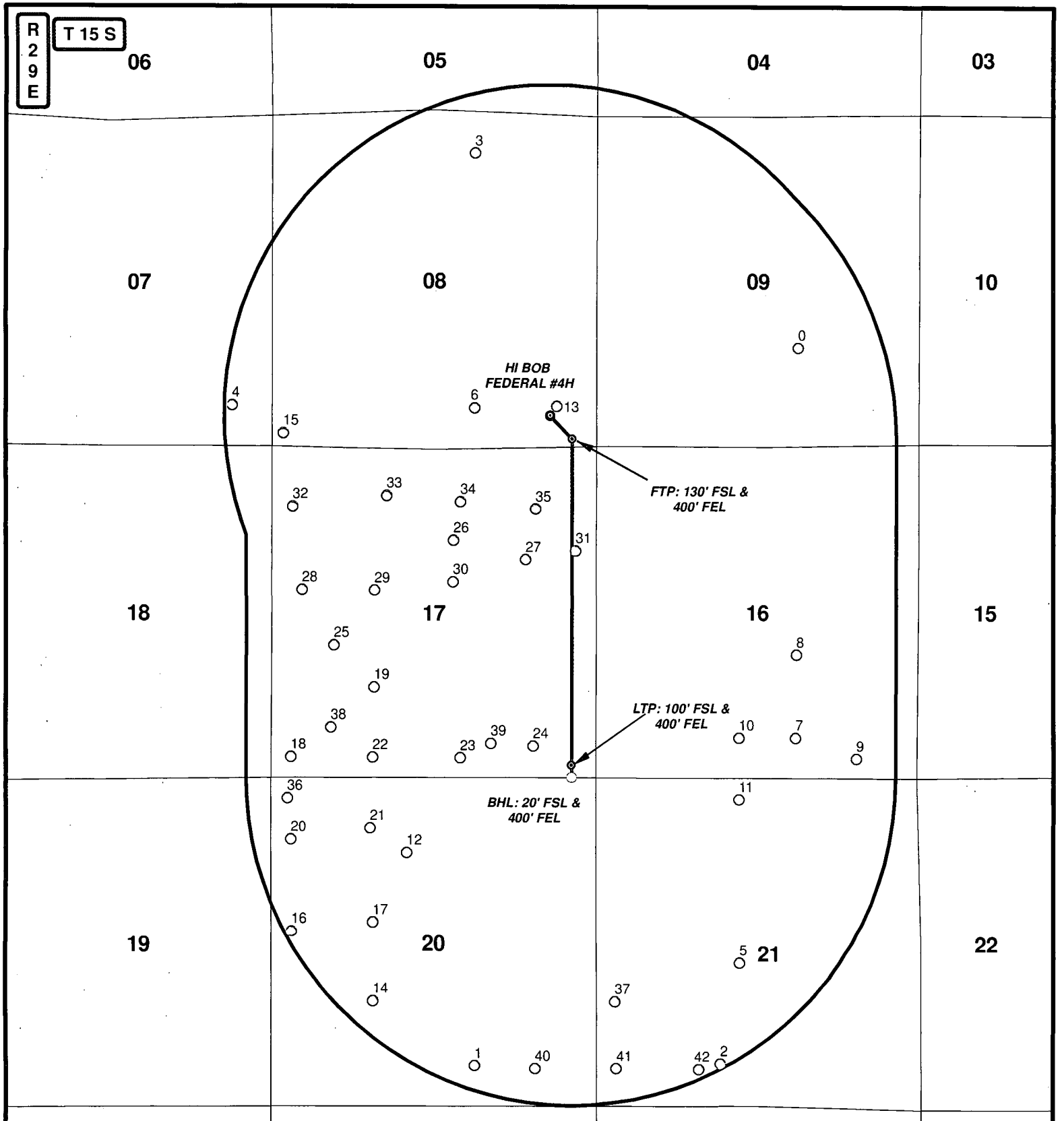

DATA FOR "WELLS WITHIN 1 MI." IS TAKEN FROM THE NEW MEXICO EMNRD WEBSITE. THE DATA HAS BEEN UPDATED THROUGH MARCH 18, 2019.

LEGEND

- WELL
- BOTTOMHOLE
- TAKE POINT
- DRILL PATH
- 1 MI. BUFFER
- WELLS WITHIN 1 MI.

HI BOB FEDERAL #4H			
SEC: 8	TWP: 15 S.	RGE: 29 E.	ELEVATION: 3817.3'
STATE: NEW MEXICO		COUNTY: CHAVES	517' FSL & 765' FEL
W.O. # 19-1323		LEASE: HI BOB FED	SURVEY: N.M.P.M
1 MILE MAP		8/5/2019	V.D.

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HI BOB FEDERAL #4H 1 MILE DATA (19-1323)

FID	WELL_NAME	OPERATOR	API	SECT	TWN	RNG	FTG_NS	NS_CD	FTG_EW	EW_CD	LATITUDE	LONGITUDE	COMPL_STAT
0	BILLINGSLEY 001	ENGLISH & HARON	3000500446	9	15.0S	29E	1575	S	1975	E	33.027538	-104.031299	Plugged
1	FED AC 001	YATES PETROLEUM CORPORATION	3000500453	20	15.0S	29E	660	S	1980	E	32.995999	-104.048477	Plugged
2	MOC MULLIS FED 001	MCCLELLAN OIL CORPORATION	3000500455	21	15.0S	29E	686	S	1995	W	32.996078	-104.03545	Plugged
3	PEPPER FED 001	MCCLELLAN OIL CORPORATION	3000560221	8	15.0S	29E	660	N	1980	E	33.036079	-104.048432	Plugged
4	FEDERAL 7 001	MCCLELLAN OIL CORPORATION	3000560288	7	15.0S	29E	660	S	660	E	33.025008	-104.061299	Plugged
5	MOC MULLIS FED 002	MCCLELLAN OIL CORPORATION	3000560295	21	15.0S	29E	2310	S	2310	W	33.000544	-104.034426	Plugged
6	PEPPER FED 002	MCCLELLAN OIL CORPORATION	3000560312	8	15.0S	29E	660	S	1980	E	33.024903	-104.048456	Plugged
7	SOUTH LUCKY LAKE QUEEN UNIT 001A	BAR V BARB LLC	3000560332	16	15.0S	29E	660	S	1980	E	33.010471	-104.031424	Active
8	HARRIS 16 ST 002	READ & STEVENS INC	3000560344	16	15.0S	29E	1980	S	1980	E	33.014099	-104.031383	Plugged
9	SOUTH LUCKY LAKE QUEEN UNIT 001	BAR V BARB LLC	3000560360	16	15.0S	29E	330	S	990	E	33.00956	-104.028189	Active
10	SOUTH LUCKY LAKE QUEEN UNIT 002	BAR V BARB LLC	3000560371	16	15.0S	29E	660	S	2310	W	33.010476	-104.034436	Active
11	HARRIS FEDERAL COM 001	DOMINION OKLA TEXAS EXPL. & PROD INC	3000561902	21	15.0S	29E	330	N	2310	W	33.007755	-104.034439	Plugged
12	EXCALIBUR 20 FEDERAL COM 001	DOMINION OKLA TEXAS EXPL. & PROD INC	3000563460	20	15.0S	29E	1190	N	2180	W	33.005406	-104.052067	Plugged
13	LEANIN L FEDERAL UNIT 001	EOG Y RESOURCES, INC.	3000563738	8	15.0S	29E	660	S	660	E	33.024972	-104.044128	Plugged
14	PRINCE RUPERT FEDERAL 002	MACK ENERGY CORP	3000564223	20	15.0S	29E	1650	S	1650	W	32.998877	-104.053864	New (Not drilled or compl)
15	REGINA FEDERAL 001	MACK ENERGY CORP	3000564226	8	15.0S	29E	180	S	180	W	33.023793	-104.058594	New (Not drilled or compl)
16	WATERLOO FEDERAL 001	MACK ENERGY CORP	3000564227	20	15.0S	29E	2460	N	330	W	33.001961	-104.058186	New (Not drilled or compl)
17	WATERLOO FEDERAL 004	MACK ENERGY CORP	3000564228	20	15.0S	29E	2310	N	1650	W	33.002352	-104.053861	New (Not drilled or compl)
18	WHISTLER FEDERAL 001	MACK ENERGY CORP	3000564229	17	15.0S	29E	330	S	330	W	33.009629	-104.058194	New (Not drilled or compl)
19	WHISTLER FEDERAL 006	MACK ENERGY CORP	3000564230	17	15.0S	29E	1450	S	1650	W	33.012686	-104.053794	New (Not drilled or compl)
20	WATERLOO FEDERAL 002	MACK ENERGY CORP	3000564238	20	15.0S	29E	990	N	330	W	33.006001	-104.058204	New (Not drilled or compl)
21	WATERLOO FEDERAL 003	MACK ENERGY CORP	3000564239	20	15.0S	29E	805	N	1615	W	33.006489	-104.053994	New (Not drilled or compl)
22	WHISTLER FEDERAL 002	MACK ENERGY CORP	3000564240	17	15.0S	29E	330	S	1650	W	33.009608	-104.053867	New (Not drilled or compl)
23	PRINCE RUPERT FEDERAL 003	MACK ENERGY CORP	3000564241	17	15.0S	29E	330	S	2160	E	33.009585	-104.049221	New (Not drilled or compl)
24	MONTREAL FEDERAL COM 001H	MACK ENERGY CORP	3000564242	17	15.0S	29E	530	S	990	E	33.010116	-104.045378	New (Not drilled or compl)
25	WHISTLER FEDERAL 005	MACK ENERGY CORP	3000564243	17	15.0S	29E	2110	S	990	W	33.01451	-104.055916	New (Not drilled or compl)
26	WHISTLER FEDERAL 007	MACK ENERGY CORP	3000564255	17	15.0S	29E	1500	N	2310	E	33.019105	-104.049577	New (Not drilled or compl)
27	WHISTLER FEDERAL 008	MACK ENERGY CORP	3000564256	17	15.0S	29E	1800	N	1140	E	33.018251	-104.045754	New (Not drilled or compl)
28	WHISTLER FEDERAL 009	MACK ENERGY CORP	3000564257	17	15.0S	29E	2310	N	480	W	33.016941	-104.057573	New (Not drilled or compl)
29	WHISTLER FEDERAL 010	MACK ENERGY CORP	3000564258	17	15.0S	29E	2310	N	1650	W	33.016911	-104.053738	New (Not drilled or compl)
30	WHISTLER FEDERAL 011	MACK ENERGY CORP	3000564259	17	15.0S	29E	2160	N	2310	E	33.017292	-104.049603	New (Not drilled or compl)
31	WHISTLER FEDERAL 012	MACK ENERGY CORP	3000564260	17	15.0S	29E	1650	N	330	E	33.018643	-104.043093	New (Not drilled or compl)
32	WHISTLER FEDERAL 013	MACK ENERGY CORP	3000564261	17	15.0S	29E	990	N	330	W	33.020573	-104.05809	New (Not drilled or compl)
33	WHISTLER FEDERAL 014	MACK ENERGY CORP	3000564262	17	15.0S	29E	800	N	1850	W	33.021057	-104.053111	New (Not drilled or compl)
34	WHISTLER FEDERAL 015	MACK ENERGY CORP	3000564263	17	15.0S	29E	886	N	2204	E	33.02079	-104.049206	New (Not drilled or compl)
35	WHISTLER FEDERAL 016	MACK ENERGY CORP	3000564264	17	15.0S	29E	990	N	990	E	33.020473	-104.045231	New (Not drilled or compl)
36	WATERLOO FEDERAL 005	MACK ENERGY CORP	3000564274	20	15.0S	29E	330	N	280	W	33.007816	-104.058376	New (Not drilled or compl)
37	WHITE ROCK FEDERAL 001	MACK ENERGY CORP	3000564283	21	15.0S	29E	1650	S	330	W	32.998845	-104.041041	New (Not drilled or compl)
38	CHILLIWACK FEDERAL COM 001H	MACK ENERGY CORP	3000564311	17	15.0S	29E	810	S	965	W	33.010938	-104.056081	New (Not drilled or compl)
39	PRINCE RUPERT FEDERAL 004H	MACK ENERGY CORP	3000564320	17	15.0S	29E	565	S	1675	E	33.010223	-104.047622	New (Not drilled or compl)
40	PRINCE GEORGE FEDERAL COM 002H	MACK ENERGY CORP	3000564321	20	15.0S	29E	565	S	965	E	32.995876	-104.045285	New (Not drilled or compl)
41	YELLOWKNIFE FEDERAL 002H	MACK ENERGY CORP	3000564322	21	15.0S	29E	565	S	355	W	32.995863	-104.040959	New (Not drilled or compl)
42	YELLOWKNIFE FEDERAL 003H	MACK ENERGY CORP	3000564325	21	15.0S	29E	565	S	1690	W	32.995839	-104.036584	New (Not drilled or compl)

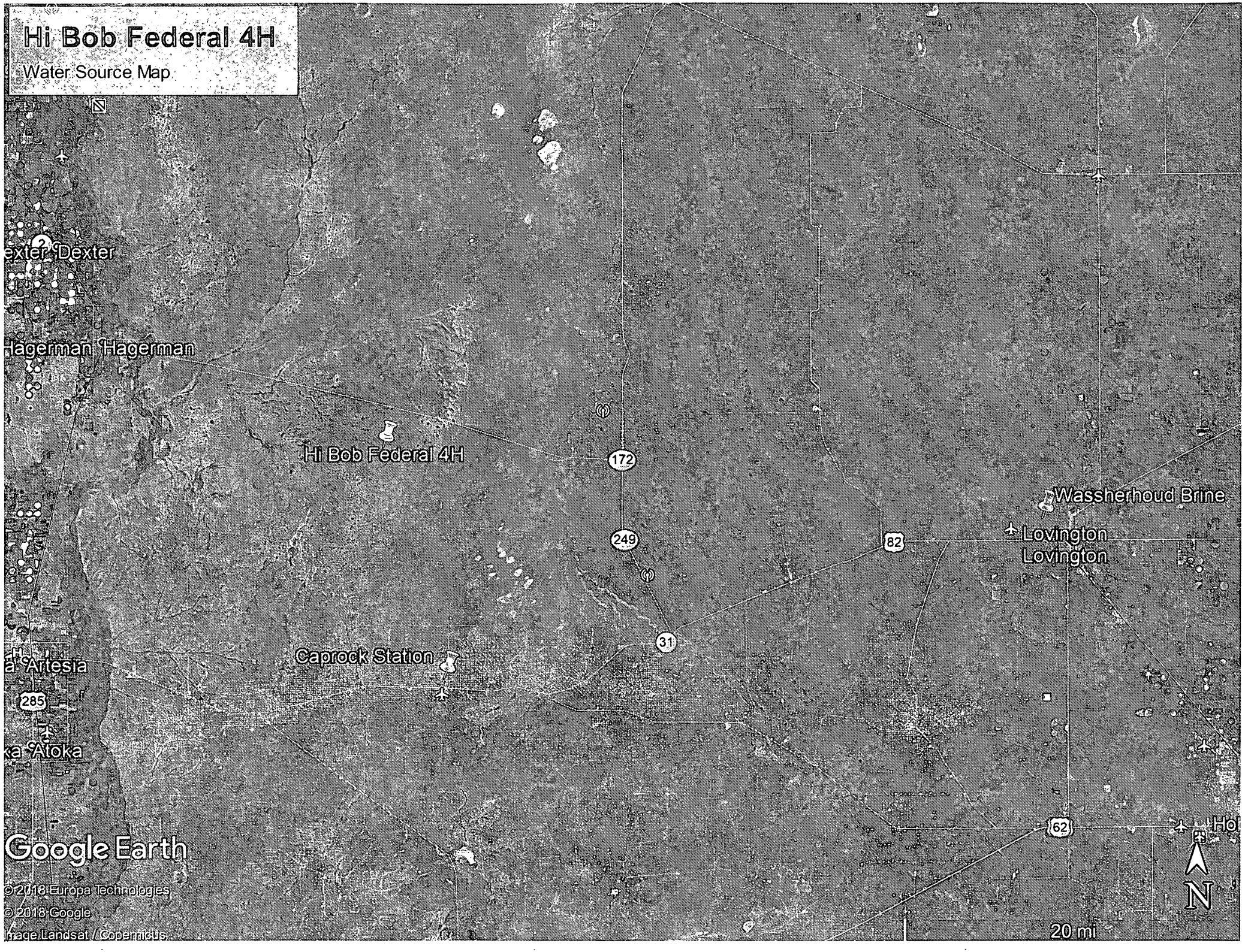
Hi Bob Federal 4H
Water Source Map
Dexter
Hagerman
Hi Bob Federal 4H
172
Wassherhoud Brine
249
82
Lovington
Caprock Station
31
Artesia
285
Atoka
62
Google Earth
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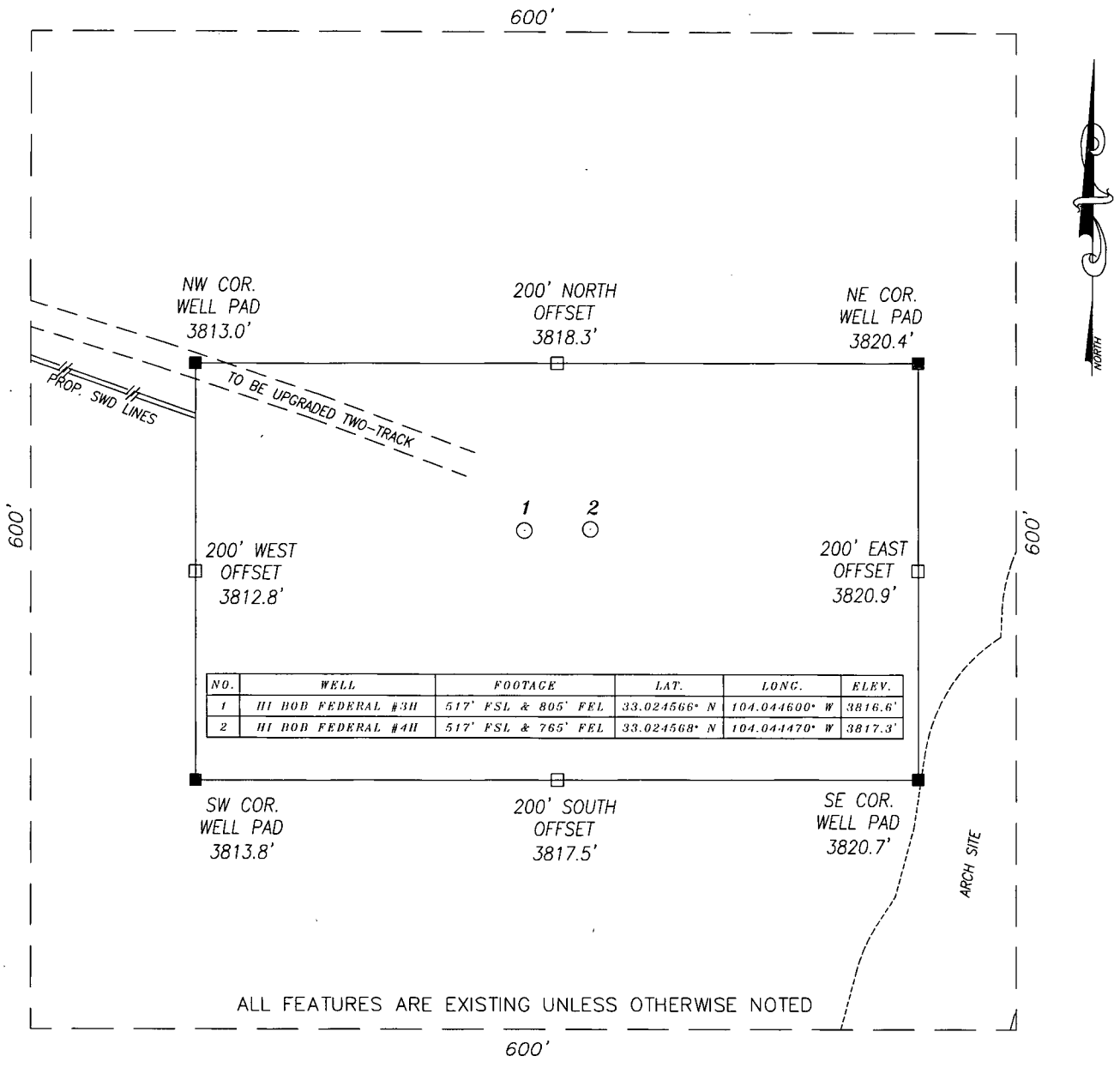
Image Landsat / Copernicus
N
20 mi

SECTION 8, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.,

CHAVES COUNTY NEW MEXICO



NO.	WELL	FOOTAGE	LAT.	LONG.	ELEV.
1	HI BOB FEDERAL #3H	517' FSL & 805' FEL	33.024566° N	104.044600° W	3816.6'
2	HI BOB FEDERAL #4H	517' FSL & 765' FEL	33.024568° N	104.044470° W	3817.3'

DIRECTIONS TO LOCATION:

HEADING EAST ON C.R. 249 TURN RIGHT (SOUTH) APPROX. 0.5 MILES PAST MILE MARKER 18 AND GO APPROX. 2.7 MILES; THEN TURN LEFT (EAST) AND GO APPROX. 0.4 MILES TO A TWO TRACK ROAD; THEN FOLLOW TWO TRACK ROAD FOR APPROX. 0.3 MILES TO PROPOSED WELLS.

100 0 100 200 Feet

Scale: 1"=100'

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MARSHALL & WINSTON, INC.		
SURVEY DATE: JULY 13, 2019		600S
DRAFTING DATE: JULY 31, 2019		PAGE: 1 OF 1
APPROVED BY: CH	DRAWN BY: CD	FILE: 19-1322-1323

AFMSS

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

PWD Data Report

10/21/2019

APD ID: 10400046326 **Submission Date:** 08/22/2019

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Well Type: OIL WELL **Well Work Type:** Drill

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): **PWD surface owner:**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

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

Bond Info Data Report

10/21/2019

APD ID: 10400046326 **Submission Date:** 08/22/2019

Operator Name: MARSHALL & WINSTON INCORPORATED

Well Name: HI BOB FEDERAL **Well Number:** 4H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB000807

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: