

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB NO. 1004-0137  
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**  
**Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.**5. Lease Serial No.  
NMNM080273

6. If Indian, Allottee or Tribe Name

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

**SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other8. Well Name and No.  
HANSON FEDERAL 1

2. Name of Operator

MUSTANG RESOURCES LLC

Contact: DEB LEMON

E-Mail: dlemon@mustangresourcesllc.com

9. API Well No.

30-039-20048-00-S1

3a. Address

1660 LINCOLN ST. SUITE 1450  
DENVER, CO 80264

3b. Phone No. (include area code)

Ph: 720-550-7507 Ext: 105

10. Field and Pool or Exploratory Area  
LYBROOK GALLUP

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 3 T23N R7W NWSW 1650FSL 0700FWL  
36.252731 N Lat, 107.568283 W Lon

11. County or Parish, State

RIO ARRIBA COUNTY, NM

## 12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
<i>BP</i>	<input type="checkbox"/> Change Plans	<input checked="" type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Mustang Resources, LLC (Mustang) plans to repair a 4.5" casing leak and return the well back to production. If CBL results determine that the well can not be squeezed properly or the casing repair is unsuccessful, Mustang plans to plug and abandon the well. Attached are a pending P&A procedure and a surface reclamation plan.

Notify OCD 24hrs prior  
to beginning operations

14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #508787 verified by the BLM Well Information System  
For MUSTANG RESOURCES LLC, sent to the Farmington  
Committed to AFMSS for processing by SARA SCOTT on 03/30/2020 (20SS0003SE)**

Name (Printed/Typed) DEB LEMON

Title REGULATORY MANAGER

Signature (Electronic Submission)

Date 03/30/2020

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**Approved By JOE KILLINSTitle ENGINEERDate 05/22/2020

Conditions of approval, if any, are attached. Approval of this notice 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.

Office Farmington

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.

(Instructions on page 2)

**\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\***

AV



## Hanson Federal #1

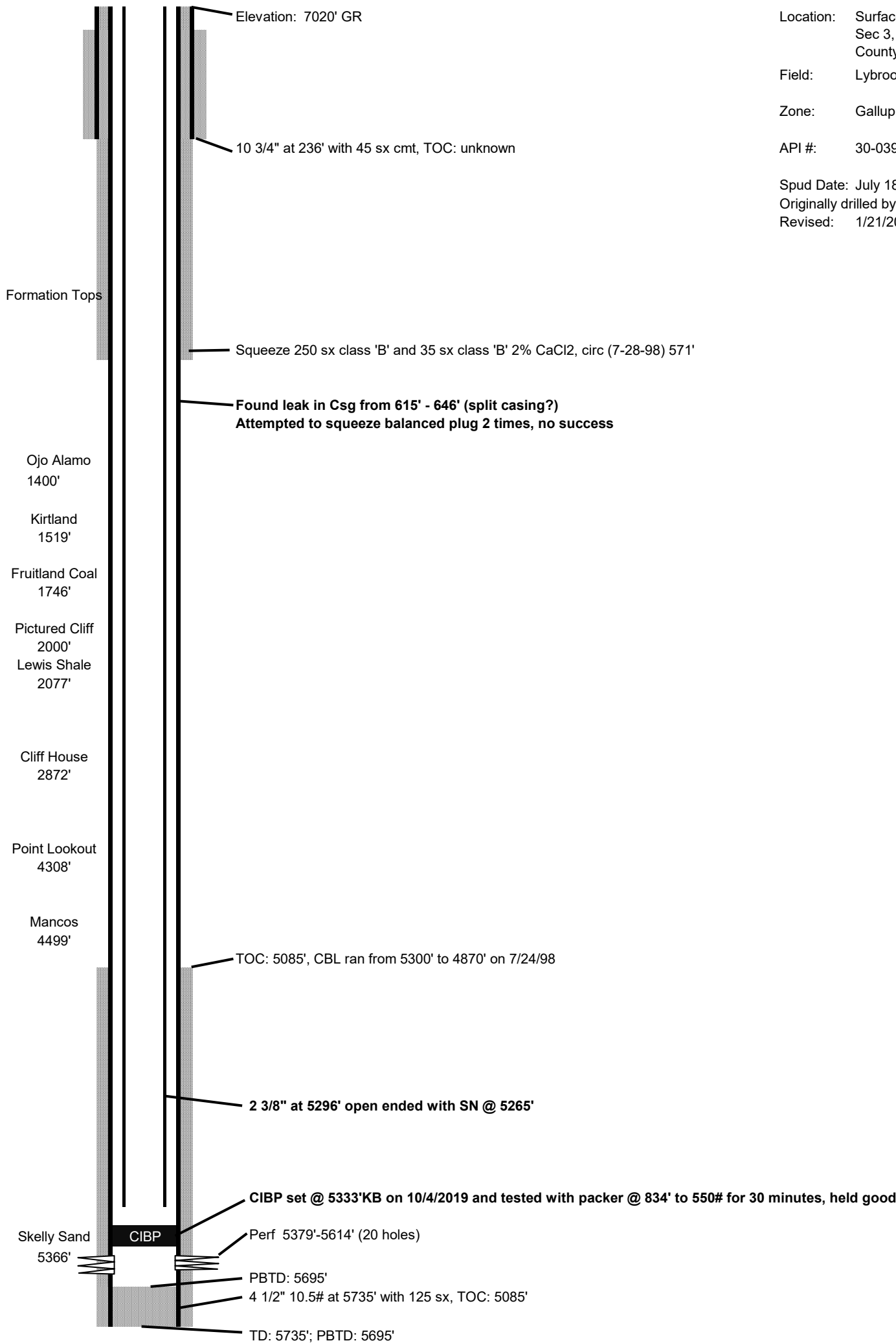
Location: Surface: 1650' FSL, 700' FWL,  
Sec 3, T23N, R7W, Rio Arriba  
County, New Mexico

Field: Lybrook

Zone: Gallup

API #: 30-039-20048

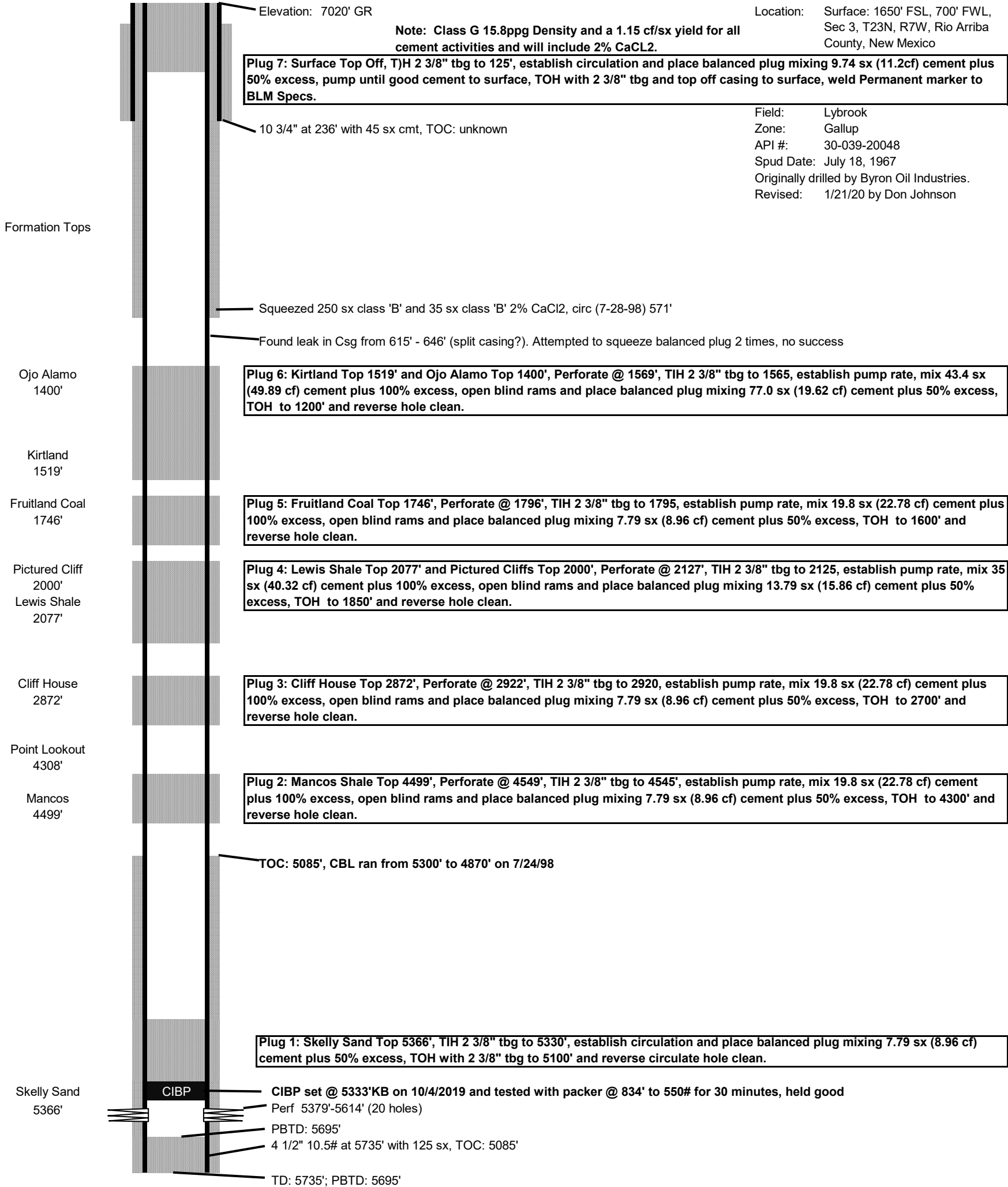
Spud Date: July 18, 1967  
Originally drilled by Byron Oil Industries.  
Revised: 1/21/20 by Don Johnson



8/6/1998 Spot 130.2 gal 15% HCl, pump 1890 gal 15% HCl @ 2.6 BPM



Hanson Federal #1



8/6/1998 Spot 130.2 gal 15% HCl, pump 1890 gal 15% HCl @ 2.6 BPM

## Hanson Federal 1 Proposed Plugging Procedure

**Company Name:** Mustang Resources LLC  
**Well Name:** Hanson Fed #1  
**API Number:** 30-039-20048  
**Location:** S3, T23N, R7W  
**County:** San Juan

**Note: Follow all NMOCD Rules and Regulations.**

**Note: Class G 15.8ppg Density and a 1.15 cf/sx yield for all cement activities and will include 2% CaCL2.**

4-1/2", 10.5#	Capacity	0.0896 ft3/ft 0.01596 bbl/ft	2-3/8", 4.7#	Capacity	0.0217 ft3/ft 0.0039 bbl/ft
	ID	4.052 Inches			1.995 Inches
4.5" CIBP @		5333 feet KB	To Retainer		585 feet KB

### Step

### Description

#### **Proposed P&A Procedure (If squeeze procedure was not successful)**

- 1 Prior to work, check lease roads, test rig anchors, arrange for fresh water on location
- 2 Prior to rig, obtain 7 1/16" x 3M x 7-5/8" MOD Companion Flange for BOPE
- 3 **Notify NMOCD/BLM 48 hours before commencing rig operations**
- 4 MIRU workover rig with 2M Class II BOPE.
- 5 TOH 2 3/8" Tubing
- 6 Fill Casing with fresh water
- 7 RU Wireline and Run CBL from 5333' KB to Surface
- 8 TIH with 2 3/8" tubing to 5330', establish circulation
- 9 **Plug 1:** Skelly Sand Top 5366', TIH 2 3/8" tbg to 5330', (CIBP @ 5333') establish circulation and place balanced plug mixing 7.79 sx (8.96 cf) cement plus 50% excess
- 10 TOH with 2 3/8" tbg to 5100' and reverse circulate hole clean, WOC minimum of 4 hours
- 11 TIH and tag top of cement
- 12 TOH 2 3/8" tubing
- 13 RIH wireline and perforate @ 4549', ROH wireline
- 14 TIH 2 3/8" tubing to 4545', close blind rams and establish pump rate
- 15 **Plug 2:** Mancos Shale Top 4499', establish pump rate, mix 19.8 sx (22.78 cf) cement plus 100% excess, open blind rams and place balanced plug mixing 7.79 sx (8.96 cf) cement plus 50% excess.
- 16 TOH 2 3/8" tubing to 4300' and reverse hole clean, WOC minimum of 4 hours
- 17 TIH and tag top of cement (estimated top of cement @ 4349')
- 18 TOH 2 3/8" tubing
- 19 RIH wireline and perforate @ 2922', ROH wireline
- 20 TIH 2 3/8" tubing to 2920', close blind rams and establish pump rate
- 21 **Plug 3:** Cliff House Top 2872', Perforate @ 2922', TIH 2 3/8" tbg to 2920, establish pump rate, mix 19.8 sx (22.78 cf) cement plus 100% excess, open blind rams and place balanced plug mixing 7.79 sx (8.96 cf) cement plus 50% excess.
- 22 TOH 2 3/8" tubing to 2700' and reverse hole clean, WOC minimum of 4 hours
- 23 TIH and tag top of cement (estimated top of cement @ 2772')
- 24 TOH 2 3/8" tubing
- 25 RIH wireline and perforate @ 2127', ROH wireline
- 26 TIH 2 3/8" tubing to 2125', close blind rams and establish pump rate
- 27 **Plug 4:** Lewis Shale Top 2077' and Pictured Cliffs Top 2000', mix 35 sx (40.32 cf) cement plus 100% excess, open blind rams and place balanced plug mixing 13.79 sx (15.86 cf) cement plus 50% excess.
- 28 TOH 2 3/8" tubing to 1850' and reverse hole clean, WOC minimum of 4 hours
- 29 TIH and tag top of cement (estimated top of cement @ 1862')
- 30 TOH 2 3/8" tubing
- 31 RIH wireline and perforate @ 1796', ROH wireline
- 32 TIH 2 3/8" tubing to 1795', close blind rams and establish pump rate
- 33 **Plug 5:** Fruitland Coal Top 1746', mix 19.8 sx (22.78 cf) cement plus 100% excess, open blind rams and place balanced plug mixing 7.79 sx (8.96 cf) cement plus 50% excess.
- 34 TOH 2 3/8" tubing to 1600' and reverse hole clean, WOC minimum of 4 hours
- 35 TIH and tag top of cement (estimated top of cement @ 1646')
- 36 TOH 2 3/8" tubing
- 37 RIH wireline and perforate @ 1569', ROH wireline
- 38 TIH 2 3/8" tubing to 1565', close blind rams and establish pump rate
- 39 **Plug 6:** Kirtland Top 1519' and Ojo Alamo Top 1400', mix 43.4 sx (49.89 cf) cement plus 100% excess, open blind rams and place balanced plug mixing 17.0 sx (19.62 cf) cement plus 50% excess.
- 40 TOH 2 3/8" tubing to 1200' and reverse hole clean, WOC minimum of 4 hours
- 41 TIH and tag top of cement (estimated top of cement @ 1241')
- 42 TOH 2 3/8" tubing to 125' and establish circulation
- 43 **Plug 7:** Surface Top Off, place balanced plug mixing 9.74 sx (11.2cf) cement plus 50% excess, pump cement until good cement to surface.
- 44 TOH 2 3/8" tbg and top off casing with cement to surface
- 45 Cut off Casing and weld Permanent marker to BLM Specifications

## Hanson Federal 1

### Proposed Casina Squeeze and Plugging Calculations

#### Proposed Casing Squeeze Calculations

##### OH/Casing/Tubing Details

4-1/2", 10.5#	Capacity	0.0896 ft3/ft	2-3/8", 4.7#	Capacity	0.0217 ft3/ft
		0.01596 bbl/ft			0.0039 bbl/ft
	ID	4.052 Inches			1.995 Inches
Open Hole	Hole Dia	7.875 Inches			
	Capacity between OH & Cas	0.2278 ft3/ft			
	Capacity between OH & Cas	0.0457 bbl/ft			
4.5" CIBP @		5333 feet KB	To Retainer		585 feet KB

##### Tubing Displacement

OD	2.375	0.0055 bbl/ft	Cement Tainer	585 ft KB	
ID	1.995	0.0039 bbl/ft	Squeeze Bottom Perfs	685 ft KB	2 holes
diff		0.00161 bbl/ft	Squeeze Top Perfs	575 ft KB	2 holes
Length		585.0 feet	diff	110 feet between squeeze perfs	
		0.944 bbls			

##### Proposed Bad Casing Squeeze Calculations

##### Cement Details

ft3	8.9600	Retainer to bottom perf	Density	15.8	ppg
ft3	25.0580	OH (Bttm Perf to Top Perf)	Yield	1.15	cf/sx
ft3	12.5290	50% excess OH Volume			
ft3	4.4800	50' into Casing above Retainer			
ft3	0.6027	100 ft in tubing above perf			
<b>ft3</b>	<b>51.6297</b>	<b>Total ft3</b>			
<b>ft3</b>	<b>52</b>	<b>Rounded up</b>			
<b>bbls</b>	<b>9.61</b>	<b>Total BBLS</b>			
<b>SXS</b>	<b>44.90</b>	<b>Total Sxs Cement</b>			

### Proposed P&A Well Calculations

**NOTE: Each Cement Job required to place cement as follows**

1. OD of pipe 50' below and 50' above Formation Top with 100% excess
2. ID of pipe 50' below and 50' above Formation Top with 50% excess
3. ALL cement will be Class G, Density 15.8 ppg and Yield 1.15 cf/sx with 2% CaCl2

Plug 1:	Skelly Sand	Formation Top	5366	ft
	CIBP @	5333	Cement Top	5233
	Open Hole Capacity			

100	feet plus 50% excess	
Inside Pipe Capacity		
ft3	8.96	100' Inside Casing
ft3	4.48	50% excess
ft3	13.44	Total ft3 Inside Pipe
ft3	14	Rounded up
bbls	2.59	Total BBLS
SXS	12.17	Total Sxs Cement

**Total Sxs Cement 12.17**

Plug 1: Skelly Sand Top 5366', TIH 2 3/8" tbg to 5330', establish circulation and place balanced plug mixing 7.79 sx (8.96 cf) cement plus 50% excess, TOH with 2 3/8" tbg to 5100' and reverse circulate hole clean.

Plug 2:	Mancos Shale	Formation Top	4499	ft
	Perforate @	4549	Cement Top	4449
	Open Hole Capacity			

ft3	22.78	OH (bttm perf to top perf)
ft3	22.78	100% excess
ft3	45.56	Total ft3 behind Pipe
ft3	46	Rounded up

100	feet plus 50% excess	
Inside Pipe Capacity		
ft3	8.96	100' Inside Casing
ft3	4.48	50% excess
ft3	13.44	Total ft3 Inside Pipe
ft3	14	Rounded up

## Hanson Federal 1

### Proposed Casing Squeeze and Plugging Calculations

bbls	8.50	Total BBLS	bbls	2.59	Total BBLS
SXS	40.00	Total Sxs Cement	SXS	12.17	Total Sxs Cement
Total Sxs Cement 52.17					

Plug 2: Mancos Shale Top 4499', Perforate @ 4549', TIH 2 3/8" tbg to 4545', establish pump rate, mix 19.8 sx (22.78 cf) cement plus 100% excess, open blind rams and place balanced plug mixing 7.79 sx (8.96 cf) cement plus 50% excess, TOH to 4300' and reverse hole clean.

**Plug 3:**

Cliff House (MV)	Formation Top	2872	ft
Perforate @ 2922	Cement Top	2822	
Open Hole Capacity			
ft3	22.78	OH (bttm perf to top perf)	
ft3	22.78	100% excess	
ft3	45.56	Total ft3 behind Pipe	
ft3	46	Rounded up	
bbls	8.50	Total BBLS	
SXS	40.00	Total Sxs Cement	
Total Sxs Cement 52.17			

100	feet plus 50% excess
Inside Pipe Capacity	
ft3	8.96 100' Balanced Plug
ft3	4.48 50% excess
ft3	13.44 Total ft3 Inside Pipe
ft3	14 Rounded up
bbls	2.59 Total BBLS
SXS	12.17 Total Sxs Cement

Plug 3: Cliff House Top 2872', Perforate @ 2922', TIH 2 3/8" tbg to 2920, establish pump rate, mix 19.8 sx (22.78 cf) cement plus 100% excess, open blind rams and place balanced plug mixing 7.79 sx (8.96 cf) cement plus 50% excess, TOH to 2700' and reverse hole clean.

**Plug 4:**

Lewis Shale (Chacra) and Pictured Cliffs	Formation Tops	2077 and 2000	ft
Perforate @ 2127	Cement Top	1950	
Open Hole Capacity			
ft3	40.3206	OH (bttm perf to top perf)	
ft3	40.3206	100% excess	
ft3	80.6412	Total ft3 behind Pipe	
ft3	81	Rounded up	
bbls	14.97	Total BBLS	
SXS	70.43	Total Sxs Cement	
Total Sxs Cement 91.30			

177	feet plus 50% excess
Inside Pipe Capacity	
ft3	15.8592 177' Balanced Plug
ft3	7.9296 50% excess
ft3	23.7888 Total ft3 Inside Pipe
ft3	24 Rounded up
bbls	4.44 Total BBLS
SXS	20.87 Total Sxs Cement

Plug 4: Lewis Shale Top 2077' and Pictured Cliffs Top 2000', Perforate @ 2127', TIH 2 3/8" tbg to 2125, establish pump rate, mix 35 sx (40.32 cf) cement plus 100% excess, open blind rams and place balanced plug mixing 13.79 sx (15.86 cf) cement plus 50% excess, TOH to 1850' and reverse hole clean.

**Plug 5:**

Fruitland Coal	Formation Top	1746	ft
Perforate @ 1796	Cement Top	1696	
Open Hole Capacity			
ft3	22.78	OH (bttm perf to top perf)	
ft3	22.78	100% excess	
ft3	45.56	Total ft3 behind Pipe	
ft3	46	Rounded up	
bbls	8.50	Total BBLS	
SXS	40.00	Total Sxs Cement	
Total Sxs Cement 52.17			

100	feet plus 50% excess
Inside Pipe Capacity	
ft3	8.96 100' Balanced Plug
ft3	4.48 50% excess
ft3	13.44 Total ft3 Inside Pipe
ft3	14 Rounded up
bbls	2.59 Total BBLS
SXS	12.17 Total Sxs Cement

Plug 5: Fruitland Coal Top 1746', Perforate @ 1796', TIH 2 3/8" tbg to 1795, establish pump rate, mix 19.8 sx (22.78 cf) cement plus 100% excess, open blind rams and place balanced plug mixing 7.79 sx (8.96 cf) cement plus 50% excess, TOH to 1600' and reverse hole clean.

**Plug 6:**

Kirtland and Ojo Alamo	Formation Top	1519 & 1400	ft
Perforate @ 1569	Cement Top	1350	
Open Hole Capacity			
ft3	49.8882	OH (bttm perf to top perf)	

219	feet plus 50% excess
Inside Pipe Capacity	
ft3	19.6224 219' Balanced Plug

## Hanson Federal 1

### Proposed Casing Squeeze and Plugging Calculations

ft3	49.8882	100% excess	ft3	9.8112	50% excess
ft3	<b>99.7764</b>	<b>Total ft3 behind Pipe</b>	ft3	<b>29.4336</b>	<b>Total ft3 Inside Pipe</b>
ft3	<b>100</b>	<b>Rounded up</b>	ft3	<b>30</b>	<b>Rounded up</b>
bbls	<b>18.48</b>	<b>Total BBLS</b>	bbls	<b>5.55</b>	<b>Total BBLS</b>
SXS	<b>86.96</b>	<b>Total Sxs Cement</b>	SXS	<b>26.09</b>	<b>Total Sxs Cement</b>
<b>Total Sxs Cement 113.04</b>					

Plug 6: Kirtland Top 1519' and Ojo Alamo Top 1400', Perforate @ 1569', TIH 2 3/8" tbg to 1565, establish pump rate, mix 43.4 sx (49.89 cf) cement plus 100% excess, open blind rams and place balanced plug mixing 77.0 sx (19.62 cf) cement plus 50% excess, TOH to 1200' and reverse hole clean.

**Plug 7:**

Surface	Formation Top	Surface	ft
<b>Bottom cement 125</b>	<b>Cement Top 0</b>		
Open Hole Capacity			
NONE			

<b>125</b>	feet plus 50% excess	
Inside Pipe Capacity		
ft3	11.2	125' Balanced Plug
ft3	5.6	50% excess
ft3	<b>16.8</b>	<b>Total ft3 Inside Pipe</b>
<b>ft3</b>	<b>17</b>	<b>Rounded up</b>
bbls	<b>3.14</b>	<b>Total BBLS</b>
<b>SXS</b>	<b>14.78</b>	<b>Total Sxs Cement</b>

**Total Sxs Cement 14.78**

Plug 7: Surface Top Off, TOH 2 3/8" tbg to 125', establish circulation and place balanced plug mixing 9.74 sx (11.2cf) cement plus 50% excess, pump until good cement to surface, TOH with 2 3/8" tbg and top off casing to surface, weld Permanent marker to BLM Specs.

# BLM FLUID MINERALS Geologic Report

**Date Completed:** 5/20/20

Well No.	Hanson Federal # 1	Location	1650'	FSL	&	700'	FWL
Lease No.	NMNM080273	Sec. 3	T23N				R7W
Operator	Mustang Resources	County	Rio Arriba	State		New Mexico	
Total Depth	5735'	PBTD 5695'	Formation	Lybrook Gallup			
Elevation (GL) 7020'			Elevation (KB) 7032' (est.)				

Geologic Formations	Est. Top	Est. Bottom	Log Top	Log Bottom	Remarks
San Jose	Surface	< 376'			Surface
Nacimiento	< 376'			1258'	Above 376'
Ojo Alamo Ss			1258'	1540'	Aquifer (fresh water)
Kirtland Shale			1540'	1746'	
Fruitland			1746'	2052'	Coal/Gas/Possible water
Pictured Cliffs Ss			2052'	2150'	Gas
Lewis Shale			2150'	2608'	
Chacra			2608'	3410'	Possible water or gas
Lewis Shale stringer			3410'	3626'	
Cliff House Ss			3626'	3830'	Possible water or gas
Menefee			3830'	4310'	Coal/Ss/Water/Possible O&G
Point Lookout Ss			4310'	4510'	Probable water/Possible O&G
Mancos Shale			4510'	PBTD	Source rock
Gallup			4930'	4960'	O&G/Water
Gallup			5383'	5430	O&G/Water

**Remarks:**

P & A

- Please ensure that the tops of the Pictured Cliffs, and Fruitland formations, as well as the entire Ojo Alamo aquifer, identified in this report, are isolated by proper placement of cement plugs. This will protect the freshwater sands in this well bore.

-The top of the Nacimiento Formation was not visible on the reference or any other well logs. The depth of the formation is estimated, it may be behind the surface casing.

- All depths include a 12' KB.

- Please note that the BLM geologist's pick for the Cliff House formation varies significantly from the operator's pick. In addition, a Chacra interval is identified in this well. Lastly, the Lewis shale is encountered twice, above and below the Chacra.

**Reference Well:**

1) Epic Energy  
Nageezi Federal 3 # 4  
2173' FNL, 1639' FWL  
Sec 3, T23N, R7W  
GL= 6990'

Fm. Tops

**Prepared by:** Walter Gage



## **HANSON FEDERAL 1 SURFACE RECLAMATION PLAN**

Mustang Resources, LLC / March 26, 2020

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Mustang Resources, LLC (Mustang) intends to Plug and Abandon (P&A) the Hanson Federal 1 (API No. 30-039-20048) natural gas well. The well and associated pad are in the NWSW corner of Section 3, Township 23 North, Range 7 West. The following steps will be taken to reclaim existing surface disturbances to meet Bureau of Land Management (BLM) and New Mexico Oil Conservation Division (NMOCD) site stabilization and ecosystem reconstruction requirements.

Access to the subject area is via established roads on Federal lands. Mustang anticipates beginning this work upon BLM and OCD approval and outside of access limitations including impeding weather. It is anticipated that reclamation work will not result in additional disturbances; however, Mustang will notify the BLM and OCD immediately upon discovery.

**48 hour notification will be given to BLM and NMOCD prior to work.**

### **BLM- Farmington Field Office**

**Bob Switzer**

**505-564-7608 (w), 505-793-1809 (c)**

**[rswitzerl@blm.gov](mailto:rswitzerl@blm.gov)**

### **NMOCD Aztec Office**

**Brandon Powell**

**505-334-6178 ext. 111 (w), 505-320-0200 (c)**

**[brandon.powell@state.nm.us](mailto:brandon.powell@state.nm.us)**

### **Manage Waste Materials**

1. All surface equipment including above ground tanks, debris, anchors and undesirable materials within the subject area will be removed and managed per acceptable processes.
2. Anchors will be cut off and removed.
3. All above grade flowlines will be removed, cut off below graded surface. Below grade flowlines will be left in-situ.
4. Natural gas pipeline will be cut off below grade and capped at both ends. Below grade pipeline will be left in-situ.
5. A permanent P&A marker will be installed to BLM specs.
6. Gravel will be removed from the subject site. Gravel will be reused on the access road or hauled away.

### **Reestablish Slope Stability, Surface Stability, and Desired Topographic Diversity**

1. Level out and stabilize disturbed surfaces without disturbing established vegetation within the original well pad.
2. Due to sandy surface conditions, surface-roughening techniques such as ripping will not be employed.
3. The access road will not be reclaimed.

### **Establish Desired Self-Perpetuating Native Plant Community**

1. All areas of the subject area will be reseeded with a BLM approved seed mix, with the exception of the center road and areas currently established with vegetation.

**UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
FARMINGTON DISTRICT OFFICE  
6251 COLLEGE BLVD.  
FARMINGTON, NEW MEXICO 87402**

Attachment to notice of  
Intention to Abandon: EC#508787

Re: Permanent Abandonment  
Well: Hanson Federal 1

**CONDITIONS OF APPROVAL**

1. Plugging operations authorized are subject to the attached "General Requirements for Permanent Abandonment of Wells on Federal and Indian Lease."
2. Farmington Office is to be notified at least 24 hours before the plugging operations commence (505) 564-7750.
3. Submit electronic copy of the CBL for verification to the following addresses: [jkillins@blm.gov](mailto:jkillins@blm.gov) , [jhoffman@blm.gov](mailto:jhoffman@blm.gov) and [Brandon.Powell@state.nm.us](mailto:Brandon.Powell@state.nm.us) . Based on CBL results inside/outside plugs and volumes will be adjusted accordingly. Please review the General Requirements document to ensure volumes meet required excess inside and outside casing.
4. BLM tops are based on the attached geologic report. Ensure all plugs cover 50 feet above and below indicated formation tops with excess meeting General requirements.
  - a. BLM picks Cliffhouse formation top at 3626 ft md. Plug three to cover 3676 – 3576 ft md.
  - b. BLM picks Ojo Alamo formation top at 1258 ft md. Extend plug six to cover to 1208 ft md.

**GENERAL REQUIREMENTS FOR  
PERMANENT ABANDONMENT OF WELLS ON FEDERAL AND INDIAN LEASES  
FARMINGTON FIELD OFFICE**

1.0 The approved plugging plans may contain variances from the following minimum general requirements.

1.1 Modification of the approved plugging procedure is allowed only with the prior approval of the Authorized Officer, Farmington Field Office.

1.2 Requirements may be added to address specific well conditions.

2.0 Materials used must be accurately measured. (densometer/scales)

3.0 A tank or lined pit must be used for containment of any fluids from the wellbore during plugging operations and all pits are to be fenced with woven wire. These pits will be fenced on three sides and once the rig leaves location, the fourth side will be fenced.

3.1 Pits are not to be used for disposal of any hydrocarbons. If hydrocarbons are present in the pit, the fluids must be removed prior to filling in.

4.0 All cement plugs are to be placed through a work string. Cement may be bull-headed down the casing with prior approval. Cement caps on top of bridge plugs or cement retainers may be placed by dump bailer.

4.1 The cement shall be as specified in the approved plugging plan.

4.2 All cement plugs placed inside casing shall have sufficient volume to fill a minimum of 100' of the casing, or annular void(s) between casings, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug.

4.3 Surface plugs may be no less than 50' in length.

4.4 All cement plugs placed to fill annular void(s) between casing and the formation shall be of sufficient volume to fill a minimum of 100' of the annular space plus 100% excess, calculated using the bit size, or 100' of annular capacity, determined from a caliper log, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug.

4.5 All cement plugs placed to fill an open hole shall be of sufficient volume to fill a minimum of 100' of hole, as calculated from a caliper log, plus an excess volume sufficient to provide for 50 linear feet of fill above the plug. In the absence of a caliper log, an excess of 100% shall be required.

**4.6 A cement bond log or other accepted cement evaluation tool is required to be run if one had not been previously ran or cement did not circulate to surface during the original casing cementing job or subsequent cementing jobs.**

5.0 All cement plugs spotted across, or above, any exposed zone(s), when; the wellbore is not full of fluid or the fluid level will not remain static, and in the case of lost circulation or partial returns during cement placement, shall be tested by tagging with the work string.

- 5.1 The top of any cement plug verified by tagging must be at or above the depth specified in the approved plan, without regard to any excess.
- 5.2 Testing will not be required for any cement plug that is mechanically contained by use of a bridge plug and/or cement retainer, if casing integrity has been established.
- 5.3 Any cement plug which is the only isolating medium, for a fresh water interval or a zone containing a prospectively valuable deposit of minerals, shall be tested by tagging.
- 5.4 If perforations are required below the surface casing shoe, a 30 minute minimum wait time will be required to determine if gas and/or water flows are present. If flow is present, the well will be shut-in for a minimum of one hour and the pressure recorded. Short or long term venting may be necessary to evacuate trapped gas. **If only a water flow occurs with no associated gas, shut well in and record the pressures. Contact the Engineer as it may be necessary to change the cement weight and additives.**

6.0 Before setting any cement plugs the hole needs to be rolled. All wells are to be controlled by means of a fluid that is to be of a weight and consistency necessary to stabilize the wellbore. This fluid shall be left in place as filler between all plugs.

- 6.1 Drilling mud may be used as the wellbore fluid in open hole plugging operations.
- 6.2 The wellbore fluid used in cased holes shall be of sufficient weight to balance known pore pressures in all exposed formations.

7.0 A blowout preventer and related equipment (BOPE) shall be installed and tested prior to working in a wellbore with any exposed zone(s); (1) that are over pressured, (2) where the pressures are unknown, or (3) known to contain H<sub>2</sub>S.

8.0 Within 30 days after plugging work is completed, file a Sundry Notice, Subsequent Report of Abandonment (Form 3160-5), five copies, with the Field Manager, Bureau of Land Management, 6251 College Blvd., Suite A, Farmington, NM 87402. The report should show the manner in which the plugging work was carried out, the extent, by depth(s), of cement plugs placed, and the size and location, by depth(s), of casing left in the well. Show date well was plugged.

9.0 All permanently abandoned wells are to be marked with a permanent monument as specified in 43 CFR 3162.6(d). Unless otherwise approved.

10.0 If this well is located in a Specially Designated Area (SDA), compliance with the appropriate seasonal closure requirements will be necessary.

All of the above are minimum requirements. Failure to comply with the above conditions of approval may result in an assessment for noncompliance and/or a Shut-in Order being issued pursuant to 43 CFR 3163.1. You are further advised that any instructions, orders or decisions issued by the Bureau of Land Management are subject to administrative review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4 and 43 CFR 4.700.