

Submit 1 Copy To Appropriate District

## Office

District I – (575) 393-6161

1625 N. French Dr., Hobbs, NM 88240

District II – (575) 748-1283

811 S. First St., Artesia, NM 88210

District III – (505) 334-6178

1000 Rio Brazos Rd., Aztec, NM 87410

District IV – (505) 476-3460

1220 S. St. Francis Dr., Santa Fe, NM

87505

State of New Mexico  
Energy, Minerals and Natural ResourcesForm C-103  
Revised July 18, 2013OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO.

30-025-31301

5. Indicate Type of Lease

STATE ☒ FEE ☐

6. State Oil &amp; Gas Lease No.

7. Lease Name or Unit Agreement Name  
Arrowhead Grayburg Unit

8. Well Number

218

9. OGRID Number 330679

10. Pool name or Wildcat  
Arrowhead; Grayburg

## SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☐ Other: Injector

2. Name of Operator

Empire Petroleum Corporation – New Mexico

3. Address of Operator

2200 S. Utica Place Suite 150, Tulsa, Oklahoma 74114

4. Well Location

Unit Letter C : 710 feet from the North line and 1980 feet from the West line  
Section 18 Township 22S Range 37E NMPM County Lea11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
3427' GL

## 12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

## NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☒TEMPORARILY ABANDON ☐ CHANGE PLANS ☐PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐DOWNHOLE COMMINGLE ☐CLOSED-LOOP SYSTEM ☐OTHER: ☐

## SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐COMMENCE DRILLING OPNS. ☐ P AND A ☐CASING/CEMENT JOB ☐OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

1. Locate, isolate, and remediate any bottomhole integrity issues prior to P&A'ing the well.
2. Set CIBP @ 3594'. Circ hole w/ MLF. Run CBL. Spot 25 sks of class C cmt 3594' – 3431'.
3. Spot 50 sks of class C cement @ 2695' – 2369'. WOC & Tag (Yates(est.) & B/Salt).
4. Perf & Sqz. 50 sks of class C cement @ 1233' – 907'. WOC & Tag (8-5/8" shoe and T/Salt).
5. Perf & Sqz. 50 sks of class C cement @ ~~100'~~ – surface.

250'

Adhere to NMOCD  
COAs attached.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Nathan Sandel TITLE Production Engineer DATE 06/23/2023Type or print name Nathan Sandel E-mail address: nsandel@empirepetrocorp.com PHONE: 918-404-4202**For State Use Only**APPROVED BY: [Signature] TITLE Petroleum Specialist DATE 06/28/2023Conditions of Approval (if any): [Signature]

## CONDITIONS FOR PLUGGING AND ABANDONMENT

### OCD - Southern District

The following is a guide or checklist in preparation of a plugging program, this is not all inclusive and care must be exercised in establishing special plugging programs in unique and unusual cases, **Notify NMOCD District Office II at (575)-748-1283 at least 24 hours before beginning work. After MIRU rig will remain on well until it is plugged to surface. OCD is to be notified before rig down. Company representative will be on location during plugging procedures.**

1. A notice of intent to plug and abandon a wellbore is required to be approved before plugging operations are conducted. A cement evaluation tool is required in order to ensure isolation of producing formations, protection of water and correlative rights. A cement bond log or other accepted cement evaluation tool is to be provided to the division for evaluation if one has not been previously run or if the well did not have cement circulated to surface during the original casing cementing job or subsequent cementing jobs. Insure all bradenheads have been exposed, identified and valves are operational prior to rig up.
2. Closed loop system is to be used for entire plugging operation. Upon completion, contents of steel pits are to be hauled to a permitted disposal location.
3. Trucking companies being used to haul oilfield waste fluids to a disposal – commercial or private – shall have an approved NMOCD C-133 permit. A copy of this permit shall be available in each truck used to haul waste products. It is the responsibility of the operator as well as the contractor, to verify that this permit is in place prior to performing work. Drivers shall be able to produce a copy upon request of an NMOCD Field inspector.
4. Filing a subsequent C-103 will serve as notification that the well has been plugged.
5. A final C-103 shall be filed (and a site inspection by NMOCD Inspector to determine if the location is satisfactorily cleaned, all equipment, electric poles and trash has been removed to Meet NMOCD standards) before bonding can be released.
6. If work has not begun within 1 Year of the approval of this procedure, an extension request must be file stating the reason the well has not been plugged.
7. Squeeze pressures are not to exceed 500 psi, unless approval is given by NMOCD.
8. Produced water **will not** be used during any part of the plugging operation.
9. Mud laden fluids must be placed between all cement plugs mixed at 25 sacks per 100 bbls of water.
10. All cement plugs will be a minimum of 100' in length or a minimum of 25 sacks of cement, whichever is greater. 50' of calculated cement excess required for inside casing plugs and 100% calculated cement excess required on outside casing plugs.
11. Class 'C' cement will be used above 7500 feet.
12. Class 'H' cement will be used below 7500 feet.
13. A cement plug is required to be set 50' above and 50' below, casing stubs, DV tools, attempted casing cut offs, cement tops outside casing, salt sections and anywhere the casing is perforated, these plugs require a 4 hour WOC and then will be tagged
14. All Casing Shoes Will Be Perforated 50' below shoe depth and Attempted to be Squeezed, cement needs to be 50' above and 50' Below Casing Shoe inside the Production Casing.

16. When setting the top out cement plug in production, intermediate and surface casing, wellbores should remain full at least 30 minutes after plugs are set
17. A CIBP is to be set within 100' of production perforations, capped with 100' of cement, WOC 4 hours and tag.
18. A CIBP with 35' of cement may be used in lieu of the 100' plug if set with a bailer. This plug will be placed within 100' of the top perforation, (WOC 4 hrs and tag).
19. No more than 3000' is allowed between cement plugs in cased hole and 2000' in open hole.
20. Some of the Formations to be isolated with cement plugs are: These plugs to be set to isolate formation tops
  - A) Fusselman
  - B) Devonian
  - C) Morrow
  - D) Wolfcamp
  - E) Bone Springs
  - F) Delaware
  - G) Any salt sections
  - H) Abo
  - I) Glorieta
  - J) Yates.
  - K) Cherry Canyon - Eddy County
  - L) Potash---(In the R-111-P Area (Page 3 & 4), a solid cement plug must be set across the salt section. Fluid used to mix the cement shall be saturated with the salts that are common to the section penetrated and in suitable proportions, not more than 3% calcium chloride (by weight of cement) will be considered the desired mixture whenever possible, WOC 4 hours and tag, this plug will be 50' below the bottom and 50' above the top of the Formation.
21. If cement does not exist behind casing strings at recommended formation depths, the casing can be cut and pulled with plugs set at recommended depths. If casing is not pulled, perforations will be shot and cement squeezed behind casing, WOC and tagged. These plugs will be set 50' below formation bottom to 50' above formation top inside the casing

#### DRY HOLE MARKER REQUIREMENTS

The operator shall mark the exact location of the plugged and abandoned well with a steel marker not less than four inches in diameter, 3' below ground level with a plate of at least ¼" welded to the top of the casing and the dry hole marker welded on the plate with the following information welded on the dry hole marker:

1. Operator name 2. Lease and Well Number 3.API Number 4. Unit Letter 5. Quarter Section (feet from the North, South, East or West) 6. Section, Township and Range 7. Plugging Date 8. County (SPECIAL CASES)-----AGRICULTURE OR PRARIE CHICKEN BREEDING AREAS

In these areas, a below ground marker is required with all pertinent information mentioned above on a plate, set 3' below ground level, a picture of the plate will be supplied to NMOCD for record, the exact location of the marker (longitude and latitude by GPS) will be provided to NMOCD (We typically require a current survey to verify the GPS)

#### SITE REMEDIATION DUE WITHIN ONE YEAR OF WELL PLUGGING COMPLETION

## R-111-P Area

### T 18S – R 30E

Sec 10 Unit P. Sec 11 Unit M,N. Sec 13 Unit L,M,N. Sec 14 Unit C -P. Sec 15 Unit A G,H,I,J,K,N,O,P. Sec 22 Unit All except for M. Sec 23, Sec 24 Unit C,D,E,L, Sec 26 Unit A-G, Sec 27 Unit A,B,C

### T 19S – R 29E

Sec 11 Unit P. Sec 12 Unit H-P. Sec 13. Sec 14 Unit A,B,F-P. Sec 15 Unit P. Sec 22 Unit A,B,C,F,G,H,I,J K,N,O,P. Sec 23. Sec 24. Sec 25 Unit D. Sec 26 Unit A- F. Sec 27 Unit A,B,C,F,G,H.

### T 19S – R 30E

Sec 2 Unit K,L,M,N. Sec 3 Unit I,L,M,N,O,P. Sec 4 Unit C,D,E,F,G,I-P. Sec 5 Unit A,B,C,E-P. Sec 6 Unit I,O,P. Sec 7 – Sec 10. Sec 11 Unit D, G—P. Sec 12 Unit A,B,E-P. Sec 13 Unit A-O. Sec 14-Sec 18. Sec 19 Unit A-L, P. Sec 20 – Sec 23. Sec 24 Unit C,D,E,F,L,M,N. Sec 25 Unit D. Sec 26 Unit A-G, I-P. Sec 27, Sec 28, Sec 29 Unit A,B,C,D,F,G,H,I,J,O,P. Sec 32 Unit A,B,G,H,I,J,N,O,P. Sec 33. Sec 34. Sec 35. Sec 36 Unit D,E,F,I-P.

### T 19S – R 31E

Sec 7 Unit C,D,E,F,L. Sec 18 Unit C,D,E,F,G,K,L. Sec 31 Unit M. Sec 34 Unit P. Sec 35 Unit M,N,O. Sec 36 Unit O,P.

### T 20S – R 29E

Sec 1 Unit H,I,P. Sec 13 Unit E,L,M,N. Sec 14 Unit B-P. Sec 15 Unit A,H,I,J,N,O,P. Sec 22 Unit A,B,C,F,G,H,I,J,O,P. Sec 23. Sec 24 Unit C,D,E,F,G,J-P. Sec 25 Unit A-O. Sec 26. Sec 27 Unit A,B,G,H,I,J,O,P. Sec 34 Unit A,B,G,H. Sec 35 Unit A-H. Sec 36 Unit B-G.

### T 20S – R 30E

Sec 1 – Sec 4. Sec 5 Unit A,B,C,E-P. Sec 6 Unit E,G-P. Sec 7 Unit A-H,I,J,O,P. Sec 8 – 17. Sec 18 Unit A,B,G,H,I,J,O,P. Sec 19 Unit A,B,G,H,I,J,O,P. Sec 20 – 29. Sec 30 Unit A-L,N,O,P. Sec 31 Unit A,B,G,H,I,P. Sec 32 – Sec 36.

### T 20S – R 31E

Sec 1 Unit A,B,C,E-P. Sec 2. Sec 3 Unit A,B,G,H,I,J,O,P. Sec 6 Unit D,E,F,J-P. Sec 7. Sec 8 Unit E-P. Sec 9 Unit E,F,J-P. Sec 10 Unit A,B,G-P. Sec 11 – Sec 36.

### T 21S – R 29E

Sec 1 – Sec 3. Sec 4 Unit L1 – L16,I,J,K,O,P. Sec 5 Unit L1. Sec 10 Unit A,B,H,P. Sec 11 – Sec 14. Sec 15 Unit A,H,I. Sec 23 Unit A,B. Sec 24 Unit A,B,C,D,F,G,H,I,J,O,P. Sec 25 Unit A,O,P. Sec 35 Unit G,H,I,J,K,N,O,P. Sec 36 A,B,C,F – P.

### T 21S – R 30E

Sec 1 – Sec 36

### T 21S – R 31E

Sec 1 – Sec 36

### T 22S – R 28E

Sec 36 Unit A,H,I,P.

**T 22S – R 29E**

Sec 1. Sec2. Sec 3 Unit I,J,N,O,P. Sec 9 Unit G – P. Sec 10 – Sec 16. Sec 19 Unit H,I,J. Sec 20 – Sec 28. Sec 29 Unit A,B,C,D,G,H,I,J,O,P. Sec 30 Unit A. Section 31 Unit C – P. Sec 32 – Sec 36

**T 22S – R 30E**

Sec 1 – Sec 36

**T 22S – R 31E**

Sec 1 – Sec 11. Sec 12 Unit B,C,D,E,F,L. Sec 13 Unit E,F,K,L,M,N. Sec 14 – Sec 23. Sec 24 Unit C,D,E,F,K,L,M,N. Sec 25 Unit A,B,C,D. Sec 26 Unit A,BC,D,G,H. Sec 27 – Sec 34.

**T 23S – R 28E**

Sec 1 Unit A

**T 23S – R 29E**

Sec 1 – Sec 5. Sec 6 Unit A – I, N,O,P. Sec 7 Unit A,B,C,G,H,I,P. Sec 8 Unit A – L, N,O,P. Sec 9 – Sec 16. Sec 17 Unit A,B,G,H,I,P. Sec 21 – Sec 23. Sec 24 Unit A – N. Sec 25 Unit D,E,L. Sec 26. Sec 27. Sec 28 Unit A – J, N,O,P. Sec 33 Unit A,B,C. Sec 34 Unit A,B,C,D,F,G,H. Sec 35. Sec 36 Unit B,C,D,E,F,G,K,L.

**T 23S – R 30E**

Sec 1 – Sec 18. Sec 19 Unit A – I,N,O,P. Sec 20, Sec 21. Sec 22 Unit A – N, P. Sec 23, Sec 24, Sec 25. Sec 26 Unit A,B,F-P. Sec 27 Unit C,D,E,I,N,O,P. Sec 28 Unit A – H, K,L,M,N. Sec 29 Unit A – J, O,P. Sec 30 Unit A,B. Sec 32 A,B. Sec 33 Unit C,D,H,I,O,P. Sec 34, Sec 35, Sec 36.

**T 23S – R 31E**

Sec 2 Unit D,E,J,O. Sec 3 – Sec 7. Sec 8 Unit A – G, K – N. Sec 9 Unit A,B,C,D. Sec 10 Unit D,P. Sec 11 Unit G,H,I,J,M,N,O,P. Sec 12 Unit E,L,K,M,N. Sec 13 Unit C,D,E,F,G,J,K,L,M,N,O. Sec 14. Sec 15 Unit A,B,E – P. Sec 16 Unit I, K – P. Sec 17 Unit B,C,D,E, I – P. Sec 18 – Sec 23. Sec 24 Unit B – G, K,L,M,N. Sec 25 Unit B – G, J,K,L. Sec 26 – Sec 34. Sec 35 Unit C,D,E.

**T 24S – R 29E**

Sec 2 Unit A, B, C, D. Sec 3 Unit A

**T 24S – R 30E**

Sec 1 Unit A – H, J – N. Sec 2, Sec 3. Sec 4 Unit A,B,F – K, M,N,O,P. Sec 9 Unit A – L. Sec 10 Unit A – L, O,P. Sec 11. Sec 12 Unit D,E,L. Sec 14 Unit B – G. Sec 15 Unit A,B,G,H.

**T 24S – R 31E**

Sec 3 Unit B – G, J – O. Sec 4. Sec 5 Unit A – L, P. Sec 6 Unit A – L. Sec 9 Unit A – J, O,P. Sec 10 Unit B – G, K – N. Sec 35 Unit E – P. Sec 36 Unit E,K,L,M,N.

**T 25S – R 31E**

Sec 1 Unit C,D,E,F. Sec 2 Unit A – H.

# Current WBD

## AGU #218 WIW WELLBORE DIAGRAM

### WELL DATA SHEET

FIELD: Arrowhead

WELL NAME: AGU No. 218 WIW

FORMATION: Grayburg

 LOC: 710' FNL & 1980' FWL  
 TOWNSHIP: 22-S  
 RANGE: 37-E

 SEC: 18  
 COUNTY: Lea  
 STATE: NM

 GL: 3427'  
 KB to GL: 6'  
 DF to GL: 5'

 CURRENT STATUS: Injector  
 API NO: 30-025-31301  
 CHEVNO: KZ1470

### DATA

Date Completed: 03-02-92Initial Injection: 1164 BWPD @ 0 PSIInitial Formation: Grayburg From: 3644' To: 3763'

### Completion Data:

09-25-91 MIRU. Drill to 3880' & log Schlumberger CNL-LDT-GR; DLL-MLL; EPT; SONIC & RFT. Run 5-1/2" csg.

10-13-91 DO to 3870' (PBDT). Perf. 3848-53', 3831-41' (Zn 5), 3816-19', 3804-06', 3798-3800' & 3780-84' (Zn 4) w/ 2SPF. Selectively ACDZ w/ 1050 gals 15% NEFE HCL. Swab 3780'-853' Rec 75 BW (Trace oil)/13 runs; IFL @ 1200', FER 25 BPH. Set CICR @ 3773'.

Cement SQZ perfs 3780'-853' w/ 100 sxs cmt at 1200# psi. Selectively perf 3759-63', 3746-50' (Zn 3); 3732-36', 3724-26', 3706-10', 3698-3700', 3690-93', 3682-86', 3674-78' (Zn 2); 3656-70' & 3644-50' (Zn 1) w/ 2SPF (Ttl 102 holes). Selectively ACDZ w/ 1650 gals (150 gals/set) 15% NEFE HCL. Swab test 3644'-3763' Rec -0- BF/3 runs, FFER -0- BPH. ONFER 0.3 Bbls. Run injection equipment.

03-02-92 Inj. rate 1164 BWIPD, Tbg on vacuum.

### Workover History:

### Additional Data:

T/Queen @ 3314'

T/Penrose @ 3435'

T/AGU @ 3583'

T/Grayburg Zone 1 @ 3633'

T/Grayburg Zone 2 @ 3671'

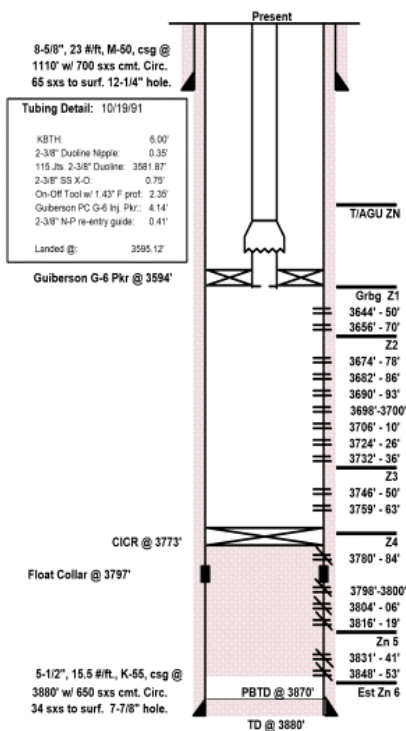
T/Grayburg Zone 3 @ 3736'

T/Grayburg Zone 4 @ 3775'

T/Grayburg Zone 5 @ 3820'

T/Grayburg Zone 6 @ 3858'

TD @ 3880'



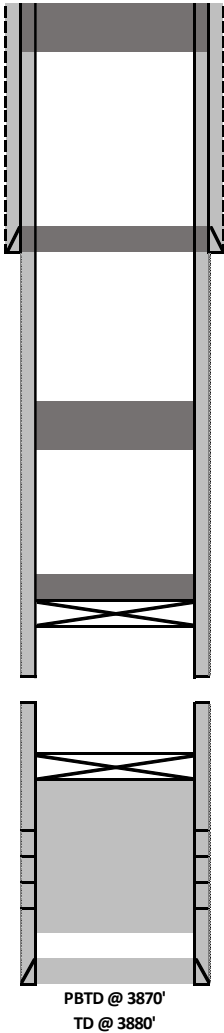
Proposed WBD

**Empire Petroleum Corporation**  
Author: Nathan @ Empire  
Well Name: Arrowhead Grayburg Unit  
Field/Pool: Arrowhead Grayburg  
County: Lea  
State: NM  
Spud Date:

**Current**  
Well No.: #218  
API #: 30-025-31301  
Location: Sec 18, T22S, R37E  
710' FNL & 1980' FWL  
  
GL:

Description	O.D.	Weight	Depth	Hole	Cmt Sx	TOC
Surface Csg	8 5/8"	23	1110'	12-1/4"	700	Surf. - circ.
Prod. Csg.	5 1/2"	15.5	3880'	7-7/8"	650	Surf. - circ.

Formation	Top
T/Salt	1183
B/Salt	2428



Perf & Sqz. 50 sks class C cement @ 100' - surface.

8-5/8" CSG @ 1110'  
Perf & Sqz. 50 sks class C cement @ 1233' - 907' (T/Salt & 8-5/8" shoe)

Spot 50 sks class C cement @2695' - 2152' (Yates (est.) & B/Salt)

Spot 25 sks class C cement  
Set CIBP @ 3594'

Perfs: 3644' - 3763'

CICR @ 3773'

Perfs: 3780' -3853' Sqz'd

5-1/2" 15.5# CSG @ 3880'

PBTD @ 3870'  
TD @ 3880'



**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 232186

CONDITIONS

Operator: Empire New Mexico LLC 2200 S. Utica Place Tulsa, OK 74114	OGRID: 330679
	Action Number: 232186
	Action Type: [C-103] NOI Plug & Abandon (C-103F)

CONDITIONS

Created By	Condition	Condition Date
john.harrison	Approved w/ conditions. Adhere to NMOCD COAs attached.	6/28/2023