Form 3160-5 (June 2019)

UNITED STATES DEPARTMENT OF THE INTERIOR

FORM APPROVED OMB No. 1004-0137 Expires: October 31, 2021

| BUREAU OF LAND MANA | 5. Lease Serial No. | | | |
|--|--|--|-------------------------------------|--|
| SUNDRY NOTICES AND REPOR | drill or to re-enter an | NMSF078771 6. If Indian, Allottee or T | ribe Name | |
| abandoned well. Use Form 3160-3 (API | D) for such proposals. | 7 If II.: 4 - F.C.A /A | 4 N 1/ N' | |
| SUBMIT IN TRIPLICATE - Other instruct | ions on page 2 | 7. If Unit of CA/Agreem | ent, Name and/or No. | |
| 1. Type of Well Oil Well Gas Well Other | | 8. Well Name and No. Rosa Unit 016 | | |
| 2. Name of Operator LOGOS Operating, LLC | | 9. API Well No. 30-039-07963 | | |
| 2010 A G D1 E A NIM 07401 | o. Phone No. <i>(include area code)</i> 505-787-2218 | 10. Field and Pool or Exp Blanco Mesaverde | ploratory Area | |
| 4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description) Sec 14 T31N R6W SESW 800' FSL & 1500' FWL 36.894630 N Lat, -107.436504 W Long | | 11. Country or Parish, St Rio Arriba, NM | ate | |
| 12. CHECK THE APPROPRIATE BOX | (ES) TO INDICATE NATURE OF | NOTICE, REPORT OR OTHER | R DATA | |
| TYPE OF SUBMISSION | ТҮРЕ (| OF ACTION | | |
| X Notice of Intent Acidize Alter Casing Casing Repair | Deepen Hydraulic Fracturing New Construction | Production (Start/Resume) Reclamation Recomplete | Water Shut-Off Well Integrity Other | |
| Subsequent Report Casing Repair | x Plug and Abandon | Temporarily Abandon | Other | |
| Final Abandonment Notice Convert to Injection | Plug Back | Water Disposal | | |
| completed. Final Abandonment Notices must be filed only after all is ready for final inspection.) In order to comply with NMOCD BH remediation per rule 19.15. LOGOS will perform a BH remediation prior to the Plug and Aba If the BH remediation plan is unsuccessful, LOGOS requests to perform the presentation of the presenta | 16.11 to prevent waste and protect in the ndon per approved sundry dated 7/reform a Plug and Abandon per the | freshwater. 16/2020. attached procedure, current and | | |
| 14. I hereby certify that the foregoing is true and correct. Name (Printe | ed/Typed) | | | |
| Marie E. Florez | Title Regula | atory Specialist | | |
| Signature Marie E. Florez | Date 1/26/2 | 021 | | |
| THE SPACE F | FOR FEDERAL OR STAT | E OFICE USE | | |
| Approved by | Title | Dat | te | |
| Conditions of approval, if any, are attached. Approval of this notice doc certify that the applicant holds legal or equitable title to those rights in which would entitle the applicant to conduct operations thereon. | es not warrant or | j.Su | | |

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)



2010 Afton Place Farmington, NM 87401 Phone: (505) 278-8720 Fax: (505) 326-6112

Rosa Unit 16 API 30-039-07963 Section 14 Township 31N Range 06W

Plug and Abandonment Plan of Action

- 1. TOOH with tubing.
- 2. TIH to set a cement retainer within 50' of the Mesaverde formation and TOOH w/ tubing.
- Run a Cement Bond Log to confirm top of cement in the casing strings. (NOTE: Plug depths, perforation depths, cement calculations, and cement retainer placement are subject to change based off on the results of the CBL; however, all plugs' excess calculations are compliant with regulatory requirements.)
- 4. Pump Plug #1 on top of the CR to cover the Mesaverde perforations from 5265'-5315' using 9.4 sx of cement (50' excess).
- 5. Casing will then be pressure tested to 500 psi. If casing does not hold pressure, all plugs will be tagged after sufficient set up time and topped off as necessary.
- 6. Pump Plug #2 to cover the Mesaverde top from 3489'-3589' using 25.9 sx of cement (50' excess).
- 7. Pump Plug #3 to cover the Fruitland Coal and Pictured Cliffs tops from 2947'-3217' using 63.3 sx of cement (50' excess).
- 8. If TOC is below 2354', perforate at the TOC or 2354' whichever is shallower.
- 9. Pump Plug #4 to cover the Ojo and Kirtland tops from 2354'-2565' using 85.3 sx of cement (50' excess inside casing and 100% outside of casing).
- 10. Perforate at 878', RIH with the CR and set at 828'.
- 11. Pump Plug #5 to cover the Nacimiento top from 778'-878' using 55.8 sx of cement (50' excess inside casing and 100% outside of casing).
- 12. Perforate at 255'.
- 13. Pump Plug #6, the surface plug, from 0'-225' using 104.5 sx of cement (50' excess inside casing and 100% outside of casing).
- 14. ND and cut off wellhead below surface casing flange per regulation. Top off with cement as needed and install P&A marker to comply with regulations. Cut off anchors and restore per BLM regulations.



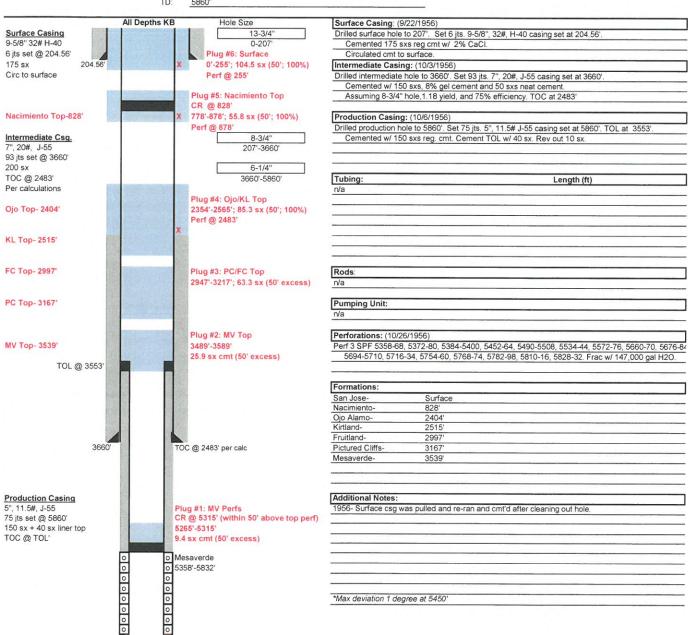
| | | | Current Wellbore Sch | nematic | |
|--|----------|-----------------------------|--------------------------------|--|---|
| Well Name: | | Unit 16 | | Date Prepared: | 5/26/2020 Gomez |
| Location: | | 14, T31N, R6W 800' FSL & 15 | 600' FWL | Last Updated: | |
| County: API #: | Rio A | 39-07963 | | Spud Date: | 9/22/1956 |
| Co-ordinates: | | 6.8944 Long -107.43561 | | Completion Date: Last Workover Date: | |
| Elevations: | | DUND: 6346' | | Last Workover Date. | |
| | | KB: 6359' | | | |
| Depths (KB): | F | PBTD: 5851' | | | |
| | | TD: <u>5860'</u> | | | |
| | All Dept | ths KB Hole Size | Surface Casing: (0/2) | 2/1056) | |
| Surface Casing | I I I | 13-3/4" | Surface Casing: (9/2) | 207'. Set 6 jts. 9-5/8", 32#, H-40 casir | on set at 204 56' |
| 9-5/8" 32# H-40 | | 0-207' | Cemented 175 sxs | reg cmt w/ 2% CaCl. | ig 3ct at 204.00. |
| 6 jts set @ 204.56' | | | Circulated cmt to s | | |
| | 04.56' | TOC at surface | Intermediate Casing: | (10/3/1956) | |
| Circ to surface | | | Drilled intermediate ho | ole to 3660'. Set 93 jts. 7", 20#, J-55 ca | sing set at 3660'. |
| | | | Cemented w/ 150 s | sxs, 8% gel cement and 50 sxs neat ce | ment. |
| | | | Assuming 8-3/4" no | ole,1.18 yield, and 75% efficiency. TOC | at 2483 |
| | | | Production Casing: (| 10/6/1956) | |
| | | 8-3/4" | | to 5860'. Set 75 jts. 5", 11.5# J-55 cas | sing set at 5860' TOL at 3553' |
| | | 207'-3660' | Cemented w/ 150 s | sxs reg. cmt. Cement TOL w/ 40 sx. Re | ev out 10 sx. |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | Tubing: (10/27/1956) | | Length (ft) |
| | | | KB (KB 9', drilling KB ' | | 13.00 |
| | | | (183) 2-3/8", 4.7#, J-5 | 5 tubing joints | 5717.65 |
| Intermediate Csg. | 1 1 | | | | |
| 7", 20#, J-55 | 1. 1 | | | | |
| 93 jts set @ 3660' | 1 1 | 6-1/4" | | | |
| 200 sx | 1 1 | 3660'-5860 | ' | | |
| TOC @ 2483' | E5000 | 10000 | 5 . | Set at: | 5730.65 ft |
| Per calculations | | | Rods: | | |
| | | | n/a | | |
| | | | Pumping Unit: | | |
| | | | n/a | | |
| | | | | | |
| | | | Perforations: (10/26/1 | | |
| | | | Perf 3 SPF 5358-68, 5 | 372-80, 5384-5400, 5452-64, 5490-55 | 08, 5534-44, 5572-76, 5660-70, 5676-84, |
| | | TOL 0 0550 | 5694-5710, 5716-3 | 4, 5754-60, 5768-74, 5782-98, 5810-16 | 5, 5828-32. Frac w/ 147,000 gal H2O. |
| | | TOL @ 3553' | | | |
| Tubing | | | Formations: | | |
| 2-3/8", 4.7#, J-55 | | | San Jose- | Surface | |
| 183 jts | | | Nacimiento- | 828' | |
| EOT @ 5730.65° | | | Ojo Alamo- | 2404' | |
| | | | Kirtland- | 2515' | |
| | 3660' | T00 0 0 100 | Fruitland- | 2997' | |
| | 3660 | TOC @ 2483' per calc | Pictured Cliffs- Mesaverde- | 3167' 3539' | |
| | | | iviesaverue- | 3339 | |
| | | | | | |
| | | | | | |
| Production Casing | | | Additional Notes: | | |
| 5", 11.5#, J-55 | | | 1956- Surface csg was | pulled and re-ran and cmt'd after clear | ning out hole. |
| 75 jts set @ 5860' 150 sx + 40 sx liner top | | | | | |
| TOC @ TOL' | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | o Mesaverde | *Max deviation 1 degre | ne at 5450' | |
| | H | 0 5358'-5832' | max deviation i degre | c at 5755 | |
| | la l | 0 | | | |
| | 0 | 0 | | | |
| | 0 | 0 | | | |
| | 000000 | l 🖸 | | | |
| | | 0 | | | |
| | | <u> </u> | | | |
| | | TOC @ TOL | | | |
| | 5860' | | | | |
| | PBTD- 5 | 5851' | | | |

TD - 5860'



Wellbore Schematic-PLUG AND ABANDONMENT PROPOSAL

| Well Name: | Rosa Unit 16 | | Date Prepared: | 5/26/2020 Gomez | |
|---------------|-----------------------------|-----------------------------|---------------------|-----------------|--|
| Location: | Sec 14, T31N | I, R6W 800' FSL & 1500' FWL | Last Updated: | | |
| County: | Rio Arriba | | Spud Date: | 9/22/1956 | |
| API#: | 30-039-07963 | | Completion Date: | 10/26/1956 | |
| Co-ordinates: | Lat 36.8944 Long -107.43561 | | Last Workover Date: | | |
| Elevations: | GROUND: | 6346' | | | |
| | KB: | 6359' | | | |
| Depths (KB): | PBTD: | 5851' | | | |
| | TD: | 5860' | | | |



5860

PBTD- 5851

TOC @ TOL

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT FARMINGTON DISTRICT OFFICE

6251 COLLEGE BLVD. FARMINGTON, NEW MEXICO 87402

Well: Rosa Unit 16 API: 30-039-07963

NOI P&A

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 a copy of the updated procedure reflecting geologic report and all COAs to the following email addresses before operations commence: jkillins@blm.gov and Brandon.Powell@state.nm.us
- 4. Submit electronic copy of the CBLs for verification to the following addresses: jkillins@blm.gov and Brandon.Powell@state.nm.us. Based on CBL results inside/outside plugs and volumes will be adjusted accordingly. Required plug coverage is based on BLM geologic report.

| Well No. Rosa Unit #016 (API# 30-0 | Location | 800 | FSL | & | 1500 | FWL | |
|------------------------------------|---------------|-----------|------------|----|-------|------------|--|
| Lease No. NMSF-078771 | | Sec. 14 | T31N | | | R06W | |
| Operator Logos Operating, LLC | | County | Rio Arriba | | State | New Mexico | |
| Total Depth 5860 | PBTD 5851 | Formation | Mesaver | de | | | |
| Elevation (GL) 6346 | Elevation (Kl | B) 6359 | | | | | |

| Geologic Formations | Est. Top | Est. Bottom | Log Top | Log Bottom | Remarks |
|---------------------|----------|-------------|---------|------------|--------------------------------|
| San Jose Fm | Surface | 828 | | | |
| Nacimiento Fm | 828 | 2408 | | | Fresh water sands (probable) |
| Ojo Alamo Ss | 2408 | 2515 | | | Aquifer (fresh water probable) |
| Kirtland Shale | 2515 | 2919 | | | |
| Fruitland Fm | 2919 | 3168 | | | Coal/Gas/Possible water |
| Pictured Cliffs Ss | 3168 | 3545 | | | Gas |
| Lewis Shale | 3545 | | | | |
| Chacra | | 5314 | | | |
| Cliff House Ss | 5314 | 5406 | | | Water/Possible gas |
| Menefee Fm | 5406 | 5656 | | | Coal/Ss/Water/Possible O&G |
| Point Lookout Ss | 5656 | PBTD | | | Probable water/Possible O&G |
| Mancos Shale | | | | | |
| Gallup | | | | | O&G/Water |
| Greenhorn | | | | | |
| Graneros Shale | | | | | |
| Dakota Ss | | | | | O&G/Water |

5. Plug 3: BLM picks Fruitland at 2919 ft md. Extend plug top to 2869 ft md.

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720

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

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**

COMMENTS

Action 21265

COMMENTS

| Operator: | | | OGRID: | Action Number: | Action Type: |
|----------------------|------------------|---------------------|--------|----------------|--------------|
| LOGOS OPERATING, LLC | 2010 Afton Place | Farmington, NM87401 | 289408 | 21265 | C-103F |

| Created By | Comment | Comment Date |
|------------|-------------------------|--------------|
| kpickford | KP GEO Review 3/19/2021 | 03/19/2021 |

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| LOGOS OPERATING, LLC | 2010 Afton Place | Farmington, NM87401 | 289408 | 21265 | C-103F |

| OCD Reviewer | ndition | |
|--------------|---|--|
| kpickford | tify NMOCD 24 Hours Prior to beginning operations | |
| kpickford | CBL Required | |