



WELL PLUGGING PLAN OF OPERATIONS



NOTE: A Well Plugging Plan of Operations shall be filed with and accepted by the Office of the State Engineer prior to plugging. This form may be used to plug a single well, or if you are plugging multiple monitoring wells on the same site using the same plugging methodology.

Alert! Your well may be eligible to participate in the Aquifer Mapping Program (AMP)-NM Bureau of Geology geoinfo.nmt.edu/resources/water/cgmn/ if within an area of interest and meets the minimum construction requirements, such as there is still water in your well, and the well construction reflected in a well record and log is not compromised, contact AMP at 575-835-5038 or -6951, or by email nmbg-waterlevels@nmt.edu, prior to completing this prior form. Showing proof to the OSE that your well was accepted in this program, may delay the plugging of your well until a later date.

I. FILING FEE: There is no filing fee for this form.

II. GENERAL / WELL OWNERSHIP: Check here if proposing one plan for multiple monitoring wells on the same site and attaching WD-08m

Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: G-0069
Name of well owner: U.S. Army
Mailing address: 4101 Jefferson Plaza NE County: Bernalillo County
City: Albuquerque State: New Mexico Zip code: 87109-3435
Phone number: 817-789-0453 E-mail: Alan.J.Soicher@usace.army.mil

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Layne Christianson Company
New Mexico Well Driller License No.: 1808 Expiration Date: 7-15-24

IV. WELL INFORMATION: Check here if this plan describes method for plugging multiple monitoring wells on the same site and attach supplemental form WD-08m and skip to #2 in this section.

Note: A copy of the existing Well Record for the well(s) to be plugged should be attached to this plan.

1) GPS Well Location: Latitude: 35 deg, 30 min, 55.93 sec
Longitude: 108 deg, 35 min, 15.55 sec, NAD 83

2) Reason(s) for plugging well(s):

In July 2019, the Army conducted downhole video surveys and identified thick scaling and rust on the insides of well casings, the severity of which increases with depth. Well #68 is in poor condition and is causing localized groundwater mounding as a result which could influence existing contamination in the shallow aquifer .

3) Was well used for any type of monitoring program? No If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging.

4) Does the well tap brackish, saline, or otherwise poor quality water? NO If yes, provide additional detail, including analytical results and/or laboratory report(s):

5) Static water level: 9.24 feet below land surface / feet above land surface (circle one)

6) Depth of the well: 1,350 feet

- 7) Inside diameter of innermost casing: 8 5/8 inches.
- 8) Casing material: Steel
- 9) The well was constructed with:
 an open-hole production interval, state the open interval: _____
 a well screen or perforated pipe, state the screened interval(s): N/A
- 10) What annular interval surrounding the artesian casing of this well is cement-grouted? Unknown
- 11) Was the well built with surface casing? NO If yes, is the annulus surrounding the surface casing grouted or otherwise sealed? N/A If yes, please describe:
- 12) Has all pumping equipment and associated piping been removed from the well? No If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.

V. DESCRIPTION OF PLANNED WELL PLUGGING: If plugging method differs between multiple wells on same site, a separate form must be completed for each method.

Note: If this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremie pipe, a detailed diagram of the well showing proposed final plugged configuration shall be attached, as well as any additional technical information, such as geophysical logs, that are necessary to adequately describe the proposal. Attach a copy of any signed OSE variance to this plugging plan.

Also, if this planned plugging plan requires a variance to 19.27.4 NMAC, attach a detailed variance request signed by the applicant.

- 1) Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology proposed for the well:

Grout will be pumped via tremie to the bottom of the well (or top of the obstruction if it cannot be removed) and a pressure control head will be used prevent upward flow. See section VII for further details.
- 2) Will well head be cut-off below land surface after plugging? Yes

VI. PLUGGING AND SEALING MATERIALS:

Note: The plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant. Attach a copy of the batch mix recipe from the cement company and/or product description for specialty cement mixes or any sealant that deviates from the list of OSE approved sealants.

- 1) For plugging intervals that employ cement grout, complete and attach Table A.
- 2) For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.
- 3) Theoretical volume of grout required to plug the well to land surface: Well 69-24 yards
- 4) Type of Cement proposed: ASTM Type I/II or API Class C Cement
- 5) Proposed cement grout mix: 6 gallons of water per 94 pound sack of Portland cement.
- 6) Will the grout be: X batch-mixed and delivered to the site
 _____ mixed on site

7) Grout additives requested, and percent by dry weight relative to cement:

8) Additional notes and calculations:

Type I/II Cement or API Class C Cement pumped via tremmi – 6 gallons water per sack cement
-note, we are currently planning on mixing onsite.

VII. ADDITIONAL INFORMATION: List additional information below, or on separate sheet(s):

An obstruction (pump and piping) was identified at 893 ft bgs. Scaling will be removed from the well to the top of the obstruction. If the object can be removed, the well will be cleaned and sediment removed to the total depth. A tremie will be installed to the bottom of the well, using a pressure control head to stop the upward flow of water. Cement will be pumped from the total depth to approximately 850 ft bgs and the tremie will be removed. Pressure will be held on the cement for four hours.

Following this, or if the obstruction can not be removed, the casing will be perforated from 500 to 750 ft bgs, and from 0 to 100 ft bgs. A bridge plug or packer will be installed at 500 ft bgs and cement will be pumped via tremie and an oil field pump until the pressure reaches approximately 500 psi. The tremie will then be disconnected and cement will be pumped to the surface.

VIII. SIGNATURE:

I, Christopher Cicerale, PG, CSP, say that I have carefully read the foregoing Well Plugging Plan of Operations and any attachments, which are a part hereof; that I am familiar with the rules and regulations of the State Engineer pertaining to the plugging of wells and will comply with them, and that each and all of the statements in the Well Plugging Plan of Operations and attachments are true to the best of my knowledge and belief.

Signature of Applicant

Date

IX. ACTION OF THE STATE ENGINEER:

This Well Plugging Plan of Operations is:

- Approved subject to the attached conditions.
- Not approved for the reasons provided on the attached letter.

Witness my hand and official seal this _____ day of _____,

_____, New Mexico State Engineer

By: _____

TABLE A - For plugging intervals that employ cement grout. Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of grout placement (ft bgl)	Ground surface		
Bottom of proposed interval of grout placement (ft bgl)	1,350 ft bgs		
Theoretical volume of grout required per interval (gallons)	24 yards		
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement	6 gallons water per sack cement		
Mixed on-site or batch-mixed and delivered?	batch-mixed and delivered		
Grout additive 1 requested	N/A		
Additive 1 percent by dry weight relative to cement	N/A		
Grout additive 2 requested	N/A		
Additive 2 percent by dry weight relative to cement	N/A		

TABLE B - For plugging intervals that will employ approved non-cement based sealant(s). Start with deepest interval.

	Interval 1 – deepest	Interval 2	Interval 3 – most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of sealant placement (ft bgl)	N/A		
Bottom of proposed sealant of grout placement (ft bgl)	N/A		
Theoretical volume of sealant required per interval (gallons)	N/A		
Proposed abandonment sealant (manufacturer and trade name)	N/A		