



DEPARTMENT OF THE AIR FORCE
377TH AIR BASE WING (AFGSC)

ENTERED



FEB 22 2017

Colonel Dawn A. Nickell
377 ABW/CV
2000 Wyoming Blvd SE
Kirtland AFB NM 87117-5000

FEB 24 2017


Mr. John Kieling, Bureau Chief
Hazardous Waste Bureau (HWB)
New Mexico Environment Department (NMED)
2905 Rodeo Park Drive East, Building 1
Santa Fe NM 87505-6303

Dear Mr. Kieling

Kirtland Air Force Base is submitting herein one revised "Well Plugging Plan of Operations" for one borehole that would have contained the two nested wells (KAFB-106MW2-S and KAFB-106MW2-I). Kirtland AFB is proposing to plug and abandon the borehole, which had no well infrastructure installed, due to a borehole deviation measurement of 26.35 feet. The deviation measured at the borehole was too large for successful well installation, thus the overdrive casing will be removed and the borehole grouted using a Portland cement-sand slurry.

If you have any questions or concerns, please contact Mr. Scott Clark at (505) 846-9017 or at scott.clark@us.af.mil.

Sincerely,


DAWN A. NICKELL, Colonel, USAF
Vice Commander

cc:
NMED-RPD (McQuillan), letter/hard copy
NMED-GWQB (Agnew, Pullen, Hunter), letter/hard copy
EPA Region 6 (King, Ellinger), electronic
SAF-IEE (Lynnes), electronic
AFCEC/CZ (Bodour, Clark), electronic
USACE-Omaha District Office (Ellender), electronic
USACE-ABQ District Office (Simpler, Phaneuf), electronic
Public Info Repository, Administrative Record/Information Repository, and File, letter/hard copy





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.

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

II. GENERAL / WELL OWNERSHIP:

Existing Office of the State Engineer POD Number (Well Number) for well to be plugged: RG-1579 PODs 327-328

Name of well owner: Kirtland Air Force Base

Mailing address: Chief Environmental Restoration, 377 MSG/CEANR, 2050 Wyoming Blvd. SE

City: Kirtland AFB State: New Mexico Zip code: 87117

Phone number: 505-846-9017 E-mail: scott.clark@us.af.mil

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services: Cascade drilling, L.P.

New Mexico Well Driller License No.: WD-1210 Expiration Date: 10/31/17

IV. WELL INFORMATION:

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

1) GPS Well Location: Latitude: 35 deg, 3 min, 1.05 sec
Longitude: -106 deg, 34 min, 39.71 sec, NAD 83

2) Reason(s) for plugging well: A gyroscopic survey tool was used prior to well installation to determine the degrees of borehole deviation. During testing it was determined the bottom of the borehole was deviated 26.35 feet. The results measured at PODs 327 and 328 (nested monitoring well) are too large for successful well installation. The only infrastructure in the borehole is the 11 3/4" overdrive casing, which will be removed during borehole abandonment.

3) Was well used for any type of monitoring program or environmental assessment? 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: 475 feet below land surface / feet above land surface (circle one)

6) Depth of the well: 557 feet

Trn. No

- 7) Inside diameter of innermost casing: 11 3/4" inches.
- 8) Casing material: Steel drive casing, casing will be removed during abandonment.
- 9) The well was constructed with:
NA an open-hole production interval, state the open interval: _____
NA a well screen or perforated pipe, state the screened interval(s): _____
- 10) What annular interval surrounding the artesian casing of this well is cement-grouted? NA
- 11) Was the well built with surface casing? No If yes, is the annulus surrounding the surface casing grouted or otherwise sealed? NA If yes, please describe: _____
- 12) Has all pumping equipment and associated piping been removed from the well? NA If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.

V. DESCRIPTION OF PLANNED WELL PLUGGING:

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.

- 1) Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology proposed for the well: Tremie Pipe will be placed to 500' in the hole and grout (9 sack cement sand slurry) will be pumped until 450' or 25' above the water table. The tremie then removed and grout pumped inside the 11 3/4" drive casing as the casing is removed allowing the grout to displace the casing. This will be completed until approximately 87' bgs at which time a cement grout will be pumped to 2' bgs. Native soil will be placed to surface.
- 2) Will well head be cut-off below land surface after plugging? No well installation activities were initiated so no well exists.

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

- 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: 13 cubic yards (2,555 gallons)
- 4) Type of Cement proposed: 9 sack portland cement sand slurry (9 sack of Portland cement per cubic yard)
- 5) Proposed cement grout mix: 6 (six) 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

Trn. No

7) Grout additives requested, and percent by dry weight relative to cement: Please see attached letter.

8) Additional notes and calculations: No well records for PODs 327 and 328 have been submitted as no well has been installed.

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

VIII. SIGNATURE:

I, DAWN A. NICKELL, COLONEL, USAF, 377 ABW VICE COMMANDER, 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.

Dawn Nickell 22 Feb 17
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 _____, _____

Tom Blaine P.E., New Mexico State Engineer

By: _____

Trn. No

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)			
Bottom of proposed interval of grout placement (ft bgl)			
Theoretical volume of grout required per interval (gallons)			
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			
Mixed on-site or batch-mixed and delivered?			
Grout additive 1 requested			
Additive 1 percent by dry weight relative to cement			
Grout additive 2 requested			
Additive 2 percent by dry weight relative to cement			

Trn. No

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)			
Bottom of proposed sealant of grout placement (ft bgl)			
Theoretical volume of sealant required per interval (gallons)			
Proposed abandonment sealant (manufacturer and trade name)			

Trn. No