



FORM C-108 Technical Review Summary [Prepared by reviewer and included with application; V17]

DATE RECORD: First Rec: _____ Admin Complete: _____ or Suspended: _____ Add. Request/Reply: _____

ORDER TYPE: _____ Number: _____ Order Date: _____ Legacy Permits/Orders: _____

Well No. _____ Well Name(s): _____

API : 30-0 _____ Spud Date: _____ New or Old (EPA): _____ (UIC Class II Primacy 03/07/1982)

Footages _____ Lot _____ or Unit _____ Sec _____ Tsp _____ Rge _____ County _____

Latitude: _____ Longitude _____ Pool: _____ Pool No.: _____

Operator: _____ OGRID: _____ Contact: _____ Email: _____

COMPLIANCE RULE 5.9: Total Wells: _____ Inactive: _____ Fincl Assur: _____ Compl. Order? _____ IS 5.9 OK? _____ Date: _____

WELL FILE REVIEWED Current Status: _____

WELL DIAGRAMS: NEW: Proposed or RE-ENTER: Before Conv. After Conv. Logs in Imaging: _____

Planned Rehab Work to Well: _____

Well Construction Details	Sizes (in) Borehole / Pipe	Setting Depths (ft)	Cement Sx or Cf	Cement Top and Determination Method
Planned _____ or Existing _____ Surface			Stage Tool	
Planned _____ or Existing _____ Interm/Prod				
Planned _____ or Existing _____ Interm/Prod				
Planned _____ or Existing _____ Prod/Liner				
Planned _____ or Existing _____ Liner				
Planned _____ or Existing _____ OH / PERF			Inj Length	
Injection Lithostratigraphic Units:			Completion/Operation Details:	
Adjacent Unit: Litho. Struc. Por.	Depths (ft)	Injection or Confining Units	Tops	Drilled TD _____ PBTB _____
Confining Unit: Litho. Struc. Por.				NEW TD _____ NEW PBTB _____
Proposed Inj Interval TOP:				NEW Open Hole _____ NEW Perfs _____
Proposed Inj Interval BOTTOM:				Tubing Size _____ in. Inter Coated? _____
Confining Unit: Litho. Struc. Por.				Proposed Packer Depth _____ ft
Adjacent Unit: Litho. Struc. Por.				Min. Packer Depth _____ (100-ft limit)
AOR: Hydrologic and Geologic Information			Proposed Max. Surface Press. _____ psi	
POTASH: R-111-P _____ Noticed? _____ BLM Sec Ord WIPP Noticed? _____ Salt/Salado T: _____ B: _____ NW: Cliff House fm _____			Admin. Inj. Press. _____ (0.2 psi per ft)	
USDW: Aquifer(s) _____ Max Depth _____			HYDRO AFFIRM STATEMENT By Qualified Person	
NMOSE Basin: _____ CAPITAN REEF: thru _____ adj _____ NA _____			No. GW Wells in 1-Mile Radius? _____ FW Analysis? _____	
Disposal Fluid: Formation Source(s) _____ Analysis? _____			On Lease <input type="radio"/> Operator Only <input type="radio"/> Commercial <input type="radio"/>	
Disposal Interval: Inject Rate (Avg/Max BWPD): _____			Protectable Waters? _____ Source: _____ System: Closed or Open	
HC Potential: Producing Interval? _____ Formerly Producing? _____			Method: Logs /DST /P&A /Other _____ 2-Mi Radius Pool Map _____	
AOR Wells: 1/2-M _____ or ONE-M _____			RADIUS MAP/WELL LIST: Total Penetrating Wells: _____ [AOR Hor: _____ AOR SWDs: _____]	
Penetrating Wells: No. Active Wells _____			No. Corrective? _____ on which well(s)? _____ Diagrams? _____	
Penetrating Wells: No. P&A Wells _____			No. Corrective? _____ on which well(s)? _____ Diagrams? _____	
Induced-Seismicity Risk Assess: analysis submitted _____ historical/catalog review _____ fault-slip model _____ probability _____				
NOTICE: 1/2-M _____ or ONE-M _____ : Newspaper Date _____ Mineral Owner* _____ Surface Owner _____ N. Date _____				
RULE 26.7(A): Identified Tracts? _____ Affected Persons*: _____ N. Date _____				

* new definition as of 12/28/2018 [any the mineral estate of United States or state of New Mexico; SWD operators within the notice radius]

Order Conditions: Issues: _____

Additional COAs: _____

From: [Goetze, Phillip, EMNRD](#)
To: [Khem Suthiwan](#)
Cc: [Rose-Coss, Dylan, EMNRD](#); [Schaefer, Alana, EMNRD](#); [Gebremichael, Million, EMNRD](#); [Powell, Brandon, EMNRD](#)
Subject: Review of the C-108 Application for the Warner Caldwell No. 1A
Date: Wednesday, September 21, 2022 10:37:00 AM
Attachments: [image003.png](#)
[image005.png](#)
[image010.png](#)

RE: Warner Caldwell No. 1A

Good morning, Ms. Suthiwan. I am taking this opportunity to provide some direction on the permit application content that can assist in the review process. A Form C-108 was submitted for the Warner Caldwell No. 1A for conversion from a producing well to a UIC Class II disposal well. The group member conducting the original review was unable to complete this effort and I subsequently continued the review of the application. The AOR well information as provided for both Warner Caldwell applications lacked any supplemental information regarding well construction for the wells that penetrate the proposed injection interval within the Area of Review. Though the AOR well list was small, the Form C-108, Part VI specifies:

*Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, **construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.** (my emphasis added)*

Though the C-108 stipulates diagrams for only plugged wells, the OCD has required that the applicant provide wellbore diagrams for the AOR wells whether plugged or active. And typically, our applicants provide a summary of the AOR wells as to identify any issues or explanation as to why the AOR wells are not a source for vertical migration (whether from injection into the permitted interval or as the result of a release at surface).

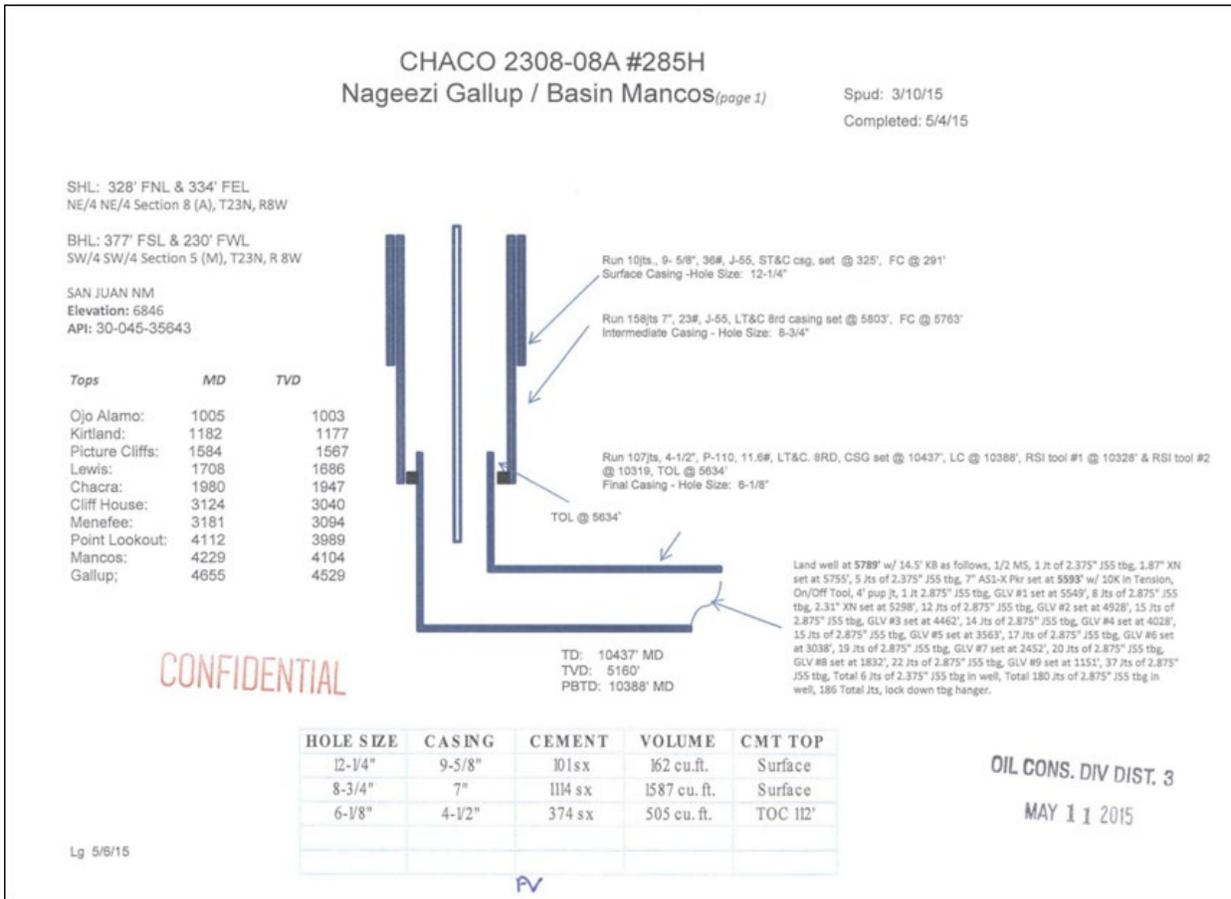
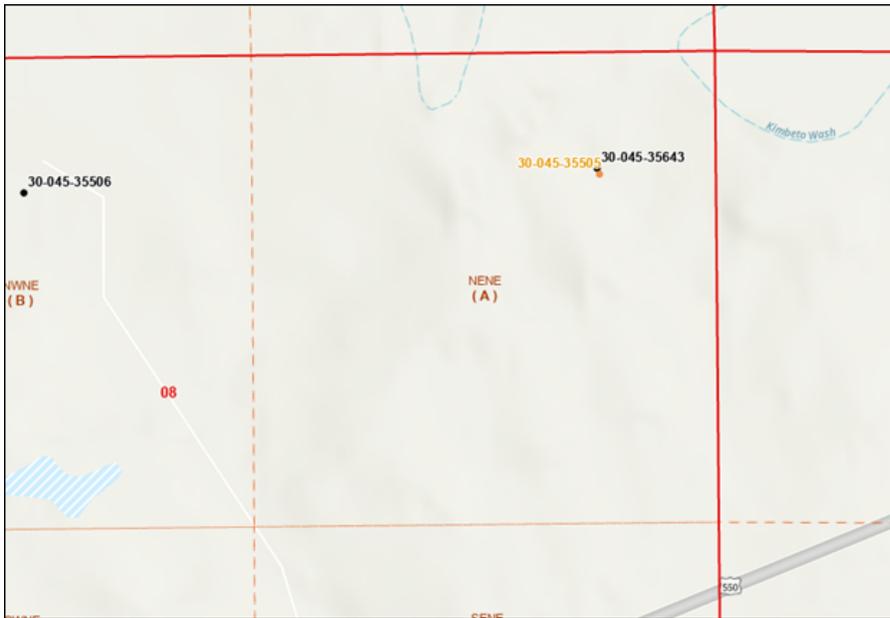
With regards to the Caldwell 1A application, the location of the proposed injection well was within 20 feet of a horizontal well (surface location) while my review of the application identified a second, shallow boring within 20 feet of the Caldwell 1A.

As to the abandoned boring, evidently the first attempt to drill the Caldwell 1A was not in the permitted location and required the boring for the surface casing to be plugged.

SUBMIT IN TRIPLICATE – Other instructions on page 2.		7. If Unit of CA/Agreement, Name and/or No. DIST. 3	
1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		8. Well Name and No. Warner-Caldwell 1A	
2. Name of Operator Logos Operating, LLC		9. API Well No. 30-045-35505	
3a. Address 4001 N Butler Ave Bldg 7101 Farmington, NM 87401	3b. Phone No. (include area code) 505-330-9333	10. Field and Pool or Exploratory Area Nageezi Gallup	
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 348' FNL, 331' FEL Sec 8, T23N R08W, UL A		11. County or Parish, State San Juan, NM	
12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA			
TYPE OF SUBMISSION		TYPE OF ACTION	
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)
<input checked="" type="checkbox"/> Subsequent Report <i>bl</i>	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete
	<input type="checkbox"/> Change Plans	<input 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
			<input type="checkbox"/> Water Shut-Off
			<input type="checkbox"/> Well Integrity
			<input checked="" type="checkbox"/> Other <u>Spud wrong spot</u>
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 recomplete 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 recompletion 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.)			
03/19/14 MIRU Note. Drill 12-1/4" hole to 337'. Discovered wellhead marker had been moved approximately 20' to the east to accommodate rig anchors. Stopped operations. Called in Vector Surveying, confirmed hole placement would make well NSL (Legals: 337' FNL & 311' FEL, 36.248101N, 107.696812W). Received verbal approvals from Jim Lovato (BLM) and Brandon Powell (OCD) to cement this hole, respot rig to the correct wellhead marker and proceed with correct spud.			
Note ran in hole with 1" poly reel to 337', pump & fill hole with 203sx (59bbls) Type III cement w/20% flyash. Top out to surface. Place 1" steel plate over hole, cover up. Witnessed by Bills Diers (BLM)			

Though the boring did not penetrate the proposed injection interval, the plugged borehole (12.25 inches in diameter) increases the requirement that the current surface casing for the A1 be well cemented. The proximity of the two drilling events can cause concern as the abandoned borehole can provide a conduit for surface releases that could follow a poorly cemented annulus (of the completed well) to the Ojo Alamo, an USDW.

Now for the consideration of the horizontal well, currently named the MC 4 Com. Well No. 285H (30-045-35643).



This well is completed to the north of the 1A with final lateral production casing running east to west in two sections adjacent to the north section line. The vertical portion prior to the kickoff point is within the AOR and penetrates the proposed injection interval. The completion record (completion report and sundries) shows good cement covering the Point Lookout and isolation of the Ojo Alamo. However, this is a well from the period of earlier completion practices in the San Juan when production liners were either not used or not cemented, when retainers for the liner transition into casing were not designed or installed properly, and when cementing of the intermediate casing was not always adequate.

Noting these two items, it is my opinion that they will not prevent the issuance of UIC permit with conditions. However, OCD does require

that the level of effort for C-108 applications be of the same content and quality as if they were to be presented as exhibits in either a Division or Commission hearing. Please try address the identified content items or the application will be deemed administratively incomplete and will be returned Enduring. Thank you for your time in this matter and contact me with any questions regarding the content of this e-mail. PRG

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CONDITIONS

Action 149408

CONDITIONS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 149408
	Action Type: [IM-SD] Admin Order Support Doc (ENG) (IM-AAO)

CONDITIONS

Created By	Condition	Condition Date
pgoetze	None	10/6/2022