National Aeronautics and Space Administration

Lyndon B. Johnson Space Center White Sands Test Facility P.O. Box 20 Las Cruces, NM 88004-0020



September 20, 2022

Reply to Attn of: RE-22-124

Mr. Rick Shean, Bureau Chief New Mexico Environment Department Hazardous Waste Bureau 2905 Rodeo Park Drive East, Building 1 Santa Fe, NM 87505

Subject: Plugging and Abandonment of WSTF Wells 400-KV-142, 400-LV-125, BLM-2-482, NASA 8, PFE-4, and PFE-6

On May 24, 2022, NASA submitted Plugging Plans of Operation for White Sands Test Facility (WSTF) wells 400-KV-142, 400-LV-125, BLM-2-482, NASA 8, PFE-4, and PFE-6 to the New Mexico Office of the State Engineer (NMOSE) in accordance with the NASA RCRA Permit (Section 19.4) referencing 19.27.4.30 C NMAC. The NMOSE approved these plans on June 10, 2022.

NASA is providing these plugging plans for NMED's information in accordance with Section 4.5 of the NMED-approved WSTF Groundwater Monitoring Plan. NASA plans to plug and abandon these wells in conjunction with several other wells in November and December 2022. Paper copies of the six plugging plans are provided as Enclosure 1. A CD-ROM with the plugging plans in PDF is provided as Enclosure 2.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

RE-22-124

If you have any questions or comments concerning this submittal, please contact Antonette Doherty of my staff at 575-202-5406.

Digitally signed by MICHAEL ZIGMOND Date: 2022.09.20 09:26:30 -06'00' MICHAEL ZIGMOND

For: Timothy J. Davis Chief, Environmental Office 2 Enclosures

cc: Mr. Gabriel Acevedo Hazardous Waste Bureau New Mexico Environment Department 2905 Rodeo Park Drive East, Building 1 Santa Fe, NM 87505



WELL PLUGGING PLAN OF OPERATIONS



WD-08 Well Plugging Plan

Version: March 07, 2022

Page 1 of 5

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.

LRG-10454

TRN: 727442

H. 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: PFE-4 (NMOSE LRG-1045) Name of well owner: NASA Johnson Space Center White Sands Test Facility (Contact: Timothy Davis)

Mailing address: P.O. Box 20		County:	Dona Ana
City: Las Cruces	State:	NM	Zip code 8004
Phone number: (575) 524-5024	E-mail:	timothy.j.davis@nasa.	
III. WELL DRILLER INFORMATION:			2022 MA
Well Driller contracted to provide plugging service	es. Not contracted ye	t	
New Mexico Well Driller License No.: NA		Expiration Da	The States
IV. WELL INFORMATION: Check here if th supplemental fo Note: A copy of the existing Well Record for the v	orm WD-08m and skip to i	#2 in this section.	toring wells on the same site and attac
1) GPS Well Location: Latitude: Longitude:	<u>38</u> deg,	<u>30 min, 35.70</u> 38 min, 48.811	
2) Reason(s) for plugging well(s):			
Well PFE-4 is located outside the known o	contaminant plume and	d has no value as a pol	ution recovery well.
3) Was well used for any type of monitoring what hydrogeologic parameters were mo water, authorization from the New Mexico	onitored. If the well	was used to monitor	contaminated or poor quality
4) Does the well tap brackish, saline, or othe	rwise poor quality wa	tter? Yes If	yes, provide additional detail,
including analytical results and/or laborate	ory report(s): Refer to	PFE-4 analytical data (Enclosure 9)
5) Static water level: 503.5 feet be	elow land surface / fee	t above land surface ((circle one)
6) Depth of the well 876.5 feet			

7) Inside diameter of in	ermost casing: 7.85	inches.
--------------------------	---------------------	---------

8) Casing material: CertainTeed Standard Dimension Ratio (SDR) 17 PVC

9)	The well was constructed with:	LAST	2022	
	an open-hole production interval, state the open interval:	2h	MA	100 miles
	a well screen or perforated pipe, state the screened interval(s): 397.4-856.2 ft	- Sta	N	Ó
10)	What annular interval surrounding the artesian casing of this well is cement-grouted? NA		A	127
10)	what annular interval surrounding the artesian casing of this well is cement-grouted?			111
11)	Was the well built with surface casing?YesIf yes, is the annulus surrounding the su	rface casir	ng grou	ted or
	otherwise sealed? Yes If yes, please describe:	<u> </u>	67	
	Nominal 20-in. surface casing set to 110 ft in a 26-in. diameter borehole and cemented to surf	ace.		

12) Has all pumping equipment and associated piping been removed from the well? <u>Yes</u> 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. 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:

The well casing will be cemented from bottom up using tremie pipe, including all screened intervals and blank casing.

2) Will well head be cut-off below land surface after plugging? Yes, 6 inches below ground surface

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: 2,203.7 gallons (294.6 cubic ft)
- 4) Type of Cement proposed: Portland Type II neat cement with 5% bentonite by weight
- 5) Proposed cement grout mix: 8.5 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

WD-08 Well Plugging Plan Version: March 07, 2022 Page 2 of 5

7)	Grout additives requested, and percent by dry weight relative to cement:
	5% by weight Bentonite powder (~4.7 lbs/94 lb bag of Portland Type II cement)
8)	Additional notes and calculations:
	The mix of neat cement and 5% bentonite will require 8.5 gallons of water per 94 lb bag of cement; 5.2 gallons per 94 lb bag of cement and 0.7 gallons per percent of bentonite.
0)	The mix of neat cement and 5% bentonite will require 8.5 gallons of water per 94 lb bag of cement; 5.

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

		LAS CAUCES, THE MEXICO	2022 MAY 25 AM 9: 55
		NG-	55 1 1 1

VIII. SIGNATURE:

I. Amanda Skarsgard for: Timothy J. Davis 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.

> AMANDA SKARSGARD Digitally signed by AMANDA SKARSGARD Date: 2022.05.24 10:29:29 -06'00' 05/24/2022

> > Signature of Applicant

Date

RECEIVED

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 NEWMET OF Mike A. Hamman, STATE ENGINEER w Mexico State Engineer V BY S **Cheryl Thacker** Water Resource Manager WD-08 Well Plugging Plan ENG

Version: March 07, 2022 Page 3 of 5

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)			876.5 ft		
Theoretical volume of grout required per interval (gallons)			2,203.7 gallons		
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			8.5 gallons of water per 94 lb bag of Portland Type II cement with 5% bentonite powder.		
Mixed on-site or batch- mixed and delivered?			Delivered		
Grout additive 1 requested			Powdered bentonite		
Additive 1 percent by dry weight relative to cement			5%		
Grout additive 2 requested			1022 HAY 25 50		
Additive 2 percent by dry weight relative to cement			NA WARANGE		

WD-08 Well Plugging Plan Version: March 07, 2022 Page 4 of 5

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

ST. J. S. MAY 25 AM 9: 55



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: PFE-6 (LRG-10456, cancel Name of well owner: NASA Johnson Space Center White Sands Test Facility (Contact: Timothy Davis)

Mailing	address:	P.O. Box 20	County: Do		Dona Ana
City: La	as Cruces		State:	NM	Zip code88004
Phone nu	umber: (57	5) 524-5024	E-mail:	timothy.j.davis@nasa.g	jov

III. WELL DRILLER INFORMATION:

Well I	Driller contracted to provi	de plugging servi	ces: Not o	contracted	yet					
New M	Mexico Well Driller Licen	ise No.: NA				Expir	ation Date	e: NA		
	VELL INFORMATION	- isupplemental	torm WD-08	sm and skip	to #2 in th	is section.		ring wells of the		
Note:	A copy of the existing W	ell Record for the	well(s) to	be plugge	d should	be attacł	ned to this	plan.	MAY 25	
1)	GPS Well Location:	Latitude: Longitude:	32 -106	deg, deg,	31 38	min, min,	12.504 54.918	sec _sec, NAD 83		MVE
2)	Reason(s) for plugging	; well(s):						NEXICO	9:55	2 200 I
3)	Poor production (~5 gp dropping water levels. Was well used for any									
	what hydrogeologic pawater, authorization from	arameters were n	nonitored.	If the w	ell was	used to a	monitor c	ontaminated o	r poor	quality
4)	Does the well tap brack including analytical res		-					ves, provide ad tem 2. No sam		
5)	Static water level:	502.1 feet 1	below land	t surface /	feet abov	ve land su	urface (c	ircle one)		
6)	Depth of the well:	539.4feet								
	3-10466 N:727441							WD-08 We Version:	ll Pluggir March 07 Page	7, 2022

7)	Inside diameter of innermost casing:7.85inches.
8)	Casing material: CertainTeed Standard Dimension Ratio (SDR) 17 PVC
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): 434.5 - 534.1 ft
10) 11)	What annular interval surrounding the artesian casing of this well is cement-grouted? <u>NA</u> Was the well built with surface casing? <u>Yes</u> If yes, is the annulus surrounding the surface casing grouted or otherwise sealed? <u>Yes</u> If yes, please describe:
	Nominal 20-in. surface casing set to 101 ft in a 26-in. diameter borehole and cemented to surface.
12)	Has all pumping equipment and associated piping been removed from the well? Yes If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.
V. D	ESCRIPTION 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. 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:

The well casing will be cemented from bottom up using tremie pipe, including all screened intervals and blank casing.

2) Will well head be cut-off below land surface after plugging? Yes, 6 inches below ground surface

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: 1,356.2 gallons (181.3 cut	ыc ft)	02	
4)	Type of Cement proposed: Portland Type II neat cement with 5% bentonite by weight		MAY	1
5)	Proposed cement grout mix: 8.5 gallons of water per 94 pound sack of Portland co	ement.	25	() 111
6)	Will the grout be:batch-mixed and delivered to the site	5	AM	< m
	mixed on site	2) 2) 2)	ទួ ភូទួ	U

WD-08 Well Plugging Plan Version: March 07, 2022 Page 2 of 5

~ ~

7)	Grout additives requested, and percent by dry weight relative to cement:
	5% by weight Bentonite powder (~4.7 lbs/94 lb bag of Portland Type II cement)
8)	Additional notes and calculations:
	The mix of neat cement and 5% bentonite will require 8.5 gallons of water per 94 lb bag of cement; 5.2 gallons per 94 lb bag of cement and 0.7 gallons per percent of bentonite.

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

202 5
2022 HAY 2 STATE L
······································
9:5 2:10 2:10 2:10

VIII. SIGNATURE:

I, <u>Amanda Skarsgard for: Timothy J. Davis</u>, 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.

	Digitally signed by AMANDA SKARSGARD	
AMANDA SKARSGARD	Date: 2022.05 24 10:27:55 -06'00'	05/24/2022

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 10th day of June	2672
OF NEW MEL Mike A. Hamman, P.E., STATE ENGINEER	xico State Engineer
Cheryl Thacker Water Resource Manager	WD-08 Well Plugging Plan Version: March 07, 2022 Page 3 of 5

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)			539.4 ft
Theoretical volume of grout required per interval (gallons)			1356.2 gallons
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			8.5 gailons of water per 94 lb bag of Portland Type II cement with 5% bentonite powder.
Mixed on-site or batch- mixed and delivered?			Delivered
Grout additive 1 requested			Powdered bentonite
Additive 1 percent by dry weight relative to cement			5% 5% 5%
Grout additive 2 requested			2022 MAY 25 AM 9
Additive 2 percent by dry weight relative to cement			NA CAL

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

,

NECEIVED 022 MAY 25 AM 9: 55 Struct Lighting CTUE LAS CRUCES, NEW REXICO

-	and the second second	XX.	FIT	PLUG	GINIC		No.		1000
12				OPER		TC	1		
		ГLА	N OF	OPER	AIIO	NO	133	1912 . 0.3	201
									R
NOTE used to	A Well Plugging Plan of Oper plug a single well, or if you ar	rations shall be file e plugging multiple	i with and a monitoring	eccepted by the wells on the s	Office of the ame site using	State Engine g the same plu	er prior to Igging meti	plugging. This hodology.	+ 1
cgmn/ constr	Your well may be eligible to pa if within an area of interest and action reflected in a well record o completing this prior form. Si date.	I meets the minimus and log is not com	n constructi promised, co	ion requirements iontact AMP at	nts, such as th 575-835-5038	ere is still wa l or -6951, or	ter in your by email ni	well, and the w nbg-waterlevel	ell sânmt.
I. FI	ING FEE: There is no fi	lling fee for this	form.						
	ENERAL / WELL OWN	the second se						the same site an	
Exist	ng Office of the State Er	igineer POD Nu	mber (We	ell Number)	for well to	o be plugge	ed: N/A; I	NASA well N	ASA-8
Name	of well owner: NASA J	ohnson Space C	enter Whit	e Sands Te	st Facility (0	Contact: Tim	nothy Dav	ris)	
	g address: P.O. Box 2	0				County:	Don	na Ana	
•	Las Cruces number: (575) 524-5024		9	State:	N	M		Zip code	8004
	Driller contracted to provid		ces: Not o	contracted y					
	Driller contracted to provid Mexico Well Driller Licens		ces: Not o	contracted y		Expiration I	Date: NA		
New I		se No.: <u>NA</u> Check here if	this plan de:	scribes method	F for plugging	multiple mo		ells on the same	site and
New M	Aexico Well Driller Licens	se No.: NA	this plan de: form WD-08	scribes methor 8m and skip to	for plugging #2 in this sec	; multiple mo	nitoring we		e site and
New M IV. V Note:	Aexico Well Driller Licens Article Well Driller Licens	se No.: NA	this plan dee form WD-08 well(s) to 32	scribes methor 8m and skip to	F I for plugging #2 in this sec should be a 30 n	; multiple most tion.	nitoring we his plan. 28sec		e site and
New <u>IV. V</u> Note: 1)	Mexico Well Driller Licens MELL INFORMATION: A copy of the existing We	Se No.: NA Check here if supplemental cll Record for the Latitude: Longitude:	this plan dee form WD-08 well(s) to 32	scribes method 8m and skip to be plugged deg,	F I for plugging #2 in this sec should be a 30 n	g multiple mode etion. attached to to nin, <u>31.7</u>	nitoring we his plan. 28sec	ells on the same	e site and
New <u>IV. V</u> Note: 1)	Aexico Well Driller Licens ELL INFORMATION: A copy of the existing We GPS Well Location:	se No.: <u>NA</u> Check here if supplemental la Record for the Latitude: Longitude: well(s):	this plan des form WD-08 well(s) to 32 -106	scribes methor 3m and skip to be plugged deg, deg,	F I for plugging #2 in this sec should be a 30 th 36 m	s multiple most tion. attached to t nin, <u>31.7</u> in, <u>50.1</u>	nitoring we his plan. 728sec 1sec,	lls on the same	e site and
New I IV. V Note: 1) 2)	Mexico Well Driller Licens Mexico Well Driller Licens Mexico Well Information: Mexicon (s) for plugging	se No.: NA Check here if supplemental ell Record for the Latitude: Longitude: well(s): has dropped below ype of monitoring rameters were monitoring	this plan des form WD-08 well(s) to 32 -106 w the scree g program	scribes method Sm and skip to be plugged deg, deg, tened interva ? <u>Yes</u> If the wel	F I for plugging #2 in this sec should be a 30 m 36 m al and the w If yes, pl	rell can no lo ease use set to monito	nitoring we his plan. 28sec 1sec, onger be s ection VI. r contam	NAD 83 sampled.	n to de
New M IV. V Note: 1) 2) 3)	Aexico Well Driller Licens ELL INFORMATION: A copy of the existing We GPS Well Location: Reason(s) for plugging The groundwater level r Was well used for any ty what hydrogeologic pai	se No.: NA Check here if supplemental supplemental cll Record for the Latitude: Longitude: well(s): has dropped below ype of monitoring rameters were re- m the New Mexi	this plan des form WD-08 well(s) to 32 -106 w the scree g program nonitored. co Enviror	scribes method 8m and skip to be plugged deg, deg, teened interva ? <u>Yes</u> If the web ment Depar	For plugging #2 in this see should be a 30 m 36 m al and the w If yes, pl Il was used thment may	rell can no lo be required	his plan. 28 sec 1 sec, onger be a ection VI r contam prior to p	NAD 83 sampled.	n to de por qua
New M IV. V Note: 1) 2) 3)	Mexico Well Driller Licens ELL INFORMATION: A copy of the existing We GPS Well Location: Reason(s) for plugging The groundwater level r Was well used for any ty what hydrogeologic pa water, authorization from	se No.: NA Check here if supplemental ell Record for the Latitude: Longitude: well(s): has dropped below ype of monitoring rameters were re- m the New Mexi- ish, saline, or other NA	this plan des form WD-08 well(s) to 32 -106 w the scree g program nonitored. co Environ herwise po	scribes method Sm and skip to be plugged deg, deg, deg, tened interva ? Yes If the we ment Depar bor quality w	H for plugging #2 in this see should be a 30 m 36 m al and the w If yes, pl I was used rtment may vater? Ye	rell can no lo be required S	his plan. 28 sec 1 sec, onger be a ection VI r contam prior to p If yes, pr	NAD 83 sampled. I of this forr inated or po plugging.	n to de por qua
New M <u>IV. V</u> Note: 1) 2) 3) 4)	Aexico Well Driller Licens (ELL INFORMATION: A copy of the existing We GPS Well Location: Reason(s) for plugging The groundwater level r Was well used for any ty what hydrogeologic pai water, authorization from Does the well tap brack including analytical resu	se No.: NA Check here if supplemental ell Record for the Latitude: Longitude: well(s): has dropped below ype of monitoring rameters were re- m the New Mexi- lish, saline, or other ults and/or labora	this plan des form WD-08 well(s) to 32 -106 w the scree g program honitored. co Environ herwise por tory repor	scribes method Sm and skip to be plugged deg, deg, deg, tened interva ? Yes If the we ment Depar bor quality w	I for plugging #2 in this sec should be a 30 m 36 m al and the w If yes, pl I was used rtment may vater? Ye 0 NASA 8 a	rell can no lo be required S	his plan. 28 sec 1 sec, onger be a ection VI r contam prior to p If yes, pr ta (Enclose	NAD 83 sampled. I of this forr inated or po plugging. vovide addition sure 9)	n to de por qua
New M	Aexico Well Driller Licens (ELL INFORMATION: A copy of the existing We GPS Well Location: Reason(s) for plugging The groundwater level r Was well used for any ty what hydrogeologic pa water, authorization from Does the well tap brack including analytical resu	se No.: NA Check here if supplemental ell Record for the Latitude: Longitude: well(s): has dropped below ype of monitoring rameters were re- m the New Mexi- lish, saline, or other ults and/or labora	this plan des form WD-08 well(s) to 32 -106 w the scree g program nonitored. co Environ herwise por tory repor	scribes method Sm and skip to be plugged deg, deg, deg, rened interva ? Yes If the we ment Depar bor quality w t(s): Refer to	I for plugging #2 in this sec should be a 30 m 36 m al and the w If yes, pl I was used rtment may vater? Ye 0 NASA 8 a	rell can no lo be required S	his plan. 28 sec 1 sec, onger be a ection VI r contam prior to p If yes, pr ta (Enclose	NAD 83 sampled. I of this forr inated or po plugging. vovide addition sure 9)	n to oor (

7)	Inside diameter of innermost casing:inches.	5.0	202	
8)	Casing material: Schedule 80 PVC to 162.00 ft; Schedule 40 stainless steel to 197.00 ft	35	PH	71)
9)	The well was constructed with: an open-hole production interval, state the open interval:	autors.	N 25	
	a well screen or perforated pipe, state the screened interval(s): 172-192 ft	TO F	F	111
10)	What annular interval surrounding the artesian casing of this well is cement-grouted? NA	2017	9: 56	
11)	Was the well built with surface casing? <u>Yes</u> If yes, is the annulus surrounding the su otherwise sealed? <u>Yes</u> If yes, please describe:			d or
12)	Nominal 6-inch surface casing set to 30 ft in an (unrecorded) diameter borehole and cemente Has all pumping equipment and associated piping been removed from the well? Yes remaining equipment and intentions to remove prior to plugging in Section VII of this form.		a, t, describ)e
V. DI	ESCRIPTION OF PLANNED WELL PLUGGING:	le wells on sar	ne site, a s	separate
diagram	If this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top wi u of the well showing proposed final plugged configuration shall be attached, as well as any additional hysical logs, that are necessary to adequately describe the proposal. Attach a copy of any signed OSE variance to	technical info	ormation,	
Aleo if		- 00 .		

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:

The well casing will be cemented from bottom up using tremie pipe, including all screened intervals and blank casing.

2) Will well head be cut-off below land surface after plugging? Yes, 6 inches below ground surface

VL 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: 32.15 gallons (4.30 cubic ft)
- 4) Type of Cement proposed: <u>Portland Type II neat cement with 5% bentonite by weight</u>
- 5) Proposed cement grout mix: <u>8.5</u> gallons of water per 94 pound sack of Portland cement.
- 6) Will the grout be: _____batch-mixed and delivered to the site

X mixed on site

5% by weight Bentonite powder (~4.7 lbs/94 lb bag of Portland Type II cement)	LAS
	RE N
	<u></u>
A 339-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	ಷಣ್ ಸ
Additional notes and calculations:	
The mix of neat cement and 5% bentonite will require 8.5 gallons of water per 94 lb ba 94 lb bag of cement and 0.7 gallons per percent of bentonite.	ag of cement; 5.2 galls

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

Well NASA 8 was equipped with a low-flow bladder pump sampling system. Due to declining groundwater water levels, the well can no longer be sampled, and it is unlikely the groundwater will return to previous levels. The last two sampling events were in 2014 and 2018.

VIII. SIGNATURE:

I. Amanda Skarsgard for: Timothy J. Davis

_, 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.

> AMANDA SKARSGARD Digitally signed by AMANDA SKARSGARD Date: 2022.05.24 10:30:23 -06'00' 05/24/2022

> > Signature of Applicant

Chery Thacker Water Resource Manager

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	10-11	day of	June	
OF NEW METE	. Mike A	. Hamman, I	P.E. STATE ENGINEER	exico State Engineer

BY

WD-08 Well Plugging Plan Version: March 07, 2022 Page 3 of 5

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)			197 ft
Theoretical volume of grout required per interval (gallons)			32.15 gallons
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			8.5 gallons of water per 94 lb bag of Portland Type II cement with 5% bentonite powder.
Mixed on-site or batch- mixed and delivered?			On Site
Grout additive 1 requested			Powdered bentonite
Additive 1 percent by dry weight relative to cement			5%
Grout additive 2 requested			NA Store Da
Additive 2 percent by dry weight relative to cement			2022 MAY 25 AM 9: 56

WD-08 Well Plugging Plan Version: March 07, 2022 Page 4 of 5

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



WD-08 Well Plugging Plan Version: March 07, 2022 Page 5 of 5



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: <u>N/A; NASA well BLM-2-482</u> (POD)

Mailing	address:	P.O. Box 20		County:	Dona Ana
City: La	s Cruces		State:	NM	Zip code88004
Phone nu	mber: (57	5) 524-5024	E-mail:	timothy.j.davis@nasa.	gov

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services:	Not contracted yet
New Mexico Well Driller License No NA	Expiration Date: NA

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:	32	_deg,	33	_ min,	42.348	sec
		Longitude:	-106	_deg,	38	min,		sec, NAD 83

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

The groundwater level has dropped below the screened interval and the well can no longer be sampled.

3) Was well used for any type of monitoring program? Yes 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? Yes If yes, provide additional detail, including analytical results and/or laboratory report(s): Refer to BLM-2-482 analytical data (Enclosure 9)
- 5) Static water level: <u>492.95</u> feet below land surface / feet above land surface (circle one)
- 6) Depth of the well: <u>498.4</u> feet

LRG-18413 TRN:727453 LRG-18413-POD1

WD-08 Well Plugging Plan Version: March 07, 2022 Page 1 of 5

7)	Inside diameter of innermost casing: <u>3.75</u> inches. RECEIVED
8)	Casing material: Stainless steel SCD 5 to 382.3 ft; SCD 10 to 498.4 ft 2022 MAY 25 AM 9: 57
9)	The well was constructed with:
	an open-hole production interval, state the open interval:
10)	What annular interval surrounding the artesian casing of this well is cement-grouted? NA
11)	Was the well built with surface casing? <u>Yes</u> If yes, is the annulus surrounding the surface casing grouted or otherwise sealed? <u>Yes</u> If yes, please describe:
	Nominal 10-inch surface casing set to 100 ft in a 12 1/4 in. diameter borehole and cemented to surface.
12)	Has all pumping equipment and associated piping been removed from the well? <u>Yes</u> If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.
V, DI	ESCRIPTION OF PLANNED WELL PLUGGING:
diagran	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 n of the well showing proposed final plugged configuration shall be attached, as well as any additional technical information, such hysical logs, that are necessary to adequately describe the proposal. Attach a copy of any signed OSE variance to this plugging plan.

Also, if this plauned 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:

The well casing will be cemented from bottom up using tremie pipe, including all screened intervals and blank casing.

2) Will well head be cut-off below land surface after plugging? Yes, 6 inches below ground surface

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: 286 gallons (38.2 cubic ft)
- 4) Type of Cement proposed: Portland Type II neat cement with 5% bentonite by weight
- 5) Proposed cement grout mix: 8.5 gallons of water per 94 pound sack of Portland cement.
- 6) Will the grout be: _____ batch-mixed and delivered to the site

X mixed on site

Grout additives requested, and percent by dry weight relative to c	Grout additives reques	sted, and percent b	by dry weight relative to	cement:
--	------------------------	---------------------	---------------------------	---------

5% by weight Bentonite powder (~4.7 lbs/94 lb bag of Portland Type II cement)

8)

7)

Additional notes and calculations:

The mix of neat cement and 5% bentonite will require 8.5 gallons of water per 94 lb bag of cement; 5.2 gallons per 94 lb bag of cement; 5.2 gallons per 94 lb bag of cement and 0.7 gallons per percent of bentonite.

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

Well BLM-2-482 was equipped with a low-flow sampling system with the pump intake set at ~487.5 ft bgs. Well BLM-2-482 was sampled annually until 2012, when water level dropped below the lowest possible pump intake.

VIII. SIGNATURE:

I, <u>Amanda Skarsgard for: Timothy J. Davis</u>, 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.

AMANDA SKARSGARD Digitally signed by AMANDA SKARSGARD Date: 2022.05.24 10:31:26 -06'00'		05/24/202	22
Signature of Applicant	50	Date 2012	
IX. ACTION OF THE STATE ENGINEER:		DZ022 MAY 25	10 10
This Well Plugging Plan of Operations is:		25 AM	
Witness my hand and official seal this 10th day of <u>June</u>	MEXICO 202	9:57 7	Ċ
Mike A. Hamman, P.E., STATE ENGINEER	xico Stat	e Enginee	er
By: BY Cheryl Thacker Water Resource Manager		ll Plugging I March 07, 2 Page 3 c	.022

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)			498.4 ft		
Theoretical volume of grout required per interval (gallons)			286 gallons		
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			8.5 gailons of water per 94 lb bag of Portland Type II cement with 5% bentonite powder.		
Mixed on-site or batch- mixed and delivered?			On Site		
Grout additive 1 requested			Powdered bentonite		
Additive 1 percent by dry weight relative to cement			5%		
Grout additive 2 requested			NA LAS CRUCES,		
Additive 2 percent by dry weight relative to cement			NA NA 9: 57		

WD-08 Well Plugging Plan Version: March 07, 2022 Page 4 of 5

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

RECEIVED

WD-08 Well Plugging Plan Version: March 07, 2022 Page 5 of 5



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: N/A; NASA well 400-LV-125 (POD)

Mailing ad	ddress:	P.O. Box 20		County:	
City: Las C	Cruces		State:	NM	Zip code88004
Phone numb	er: (57	5) 524-5024	E-mail:	timothy.j.davis@nasa.g	jov

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services:	Not contracted yet	
New Mexico Well Driller License No.: NA	Expiration Date: NA	

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:	32	deg,	31	min,	29.891	sec
		Longitude:	-106	deg,	36		19.51	sec, NAD 83

Reason(s) for plugging well(s):

Water was not encountered during drilling of this well and no pump was ever set in this borehole. Well is not part of sampling schedule.

3) Was well used for any type of monitoring program? <u>No</u> 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? Yes If yes, provide additional detail, including analytical results and/or laboratory report(s): No analytical data available per item 2. No samples taken.
- 5) Static water level: <u>NA</u> feet below land surface / feet above land surface (circle one)
- 6) Depth of the well: <u>145.3</u> feet

LRG-18414 TRN:727457

LEG-18414-POD 1

WD-08 Well Plugging Plan Version: March 07, 2022 Page 1 of 5

RECEIVED

7)	Inside diameter of innermost casing:2inches.	2022 MAY 25 AM 9: 58
8)	Casing material: Schedule 40 PVC	
9)	The well was constructed with: an open-hole production interval, state the open interval	LAS CRUCES, ACH ALXICO
	a well screen or perforated pipe, state the screened inter	val(s):
10)	What annular interval surrounding the artesian casing of this well	is cement-grouted? NA
11)	Was the well built with surface casing? If yes, is the otherwise sealed? If yes, please describe:	e annulus surrounding the surface casing grouted or
12)	Has all pumping equipment and associated piping been removed a remaining equipment and intentions to remove prior to plugging i	
V. DES		g method differs between multiple wells on same site, a separat t be completed for each method.
diagram	this plan proposes to plug an artesian well in a way other than with cement of the well showing proposed final plugged configuration shall be attach ysical logs, that are necessary to adequately describe the proposal. Attach a co	ed, as well as any additional technical information, such
Also, if th	nis planned plugging plan requires a variance to 19.27.4 NMAC, attach a detail	led 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:	
	The well casing will be cemented from bottom up using tremie pip	e, including all screened intervals and blank casing.
2)	Will well head be cut-off below land surface after plugging? Yes	s, 6 inches below ground surface
<u>VI. PL</u>	UGGING 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: 23.7 gallons (3.2 cubic ft)
- 4) Type of Cement proposed: Portland Type II neat cement with 5% bentonite by weight
- 5) Proposed cement grout mix: 8.5 gallons of water per 94 pound sack of Portland cement.
- 6) Will the grout be: _____batch-mixed and delivered to the site

X mixed on site

7)	Grout additives requested, and percent by dry weight relative to cement:
	5% by weight Bentonite powder (~4.7 lbs/94 lb bag of Portland Type II cement)
8)	Additional notes and calculations:
0)	
	The mix of neat cement and 5% bentonite will require 8.5 gallons of water per 94 lb bag of cement; 5.2 gallons per 94 lb bag of cement and 0.7 gallons per percent of bentonite.

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

	50	2022	و موسد
	STATE LAS CAUCES,	2022 MAY 25	
			IT
		AM 9: 50	13
 	 NOO	 	

VIII. SIGNATURE:

I, <u>Amanda Skarsgard for: Timothy J. Davis</u>, 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.

AMANDA SKARSGARD Digitally signed by AMANDA SKARSGARD Date: 2022.05.24 10:32:19 -06'00'	05/24/2022
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	10th	day of June		672
OF NEW ME		. Hamman, P.E, STATE ENGINE	EER Mexic	o State Engineer
	Э вү	heryl Thacker Water Resource Manager		
STATE ENGINE			WD- V	-08 Well Plugging Plan ersion: March 07, 2022 Page 3 of 5

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)			145.3 ft
Theoretical volume of grout required per interval (gallons)			23.7 gallons
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			8.5 gallons of water per 94 lb bag of Portland Type II cement with 5% bentonite powder.
Mixed on-site or batch- mixed and delivered?			On Site
Grout additive 1 requested			Powdered bentonite
Additive 1 percent by dry weight relative to cement			5%
Grout additive 2 requested			NA LAS GRUCES,
Additive 2 percent by dry weight relative to cement			NA 9:50

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





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/ cgmv/ 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: N/A; NASA well 400-KV-142 (POD)

Mailin	g address:	P.O. Box 20		County:	Dona Ana
City:	Las Cruces		State:	NM	Zip code ⁸⁸⁰⁰⁴
Phone	number: (57	5) 524-5024	E-mail:	timothy.j.davis@nasa.g	gov

III. WELL DRILLER INFORMATION:

Well Driller contracted to provide plugging services:	Not contracted yet		
New Mexico Well Driller License No.: NA		Expiration Date:	NA

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:	32	deg,	31	min,	29.225	sec
		Longitude:	-106	deg,	36	min,	21.685	sec, NAD 83

Reason(s) for plugging well(s):

The well has insufficient recharge to warrant installing a dedicated sampling system. Well is not part of sampling schedule.

3) Was well used for any type of monitoring program? <u>No</u> 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? Yes If yes, provide additional detail, including analytical results and/or laboratory report(s): No analytical data available per item 2. No samples taken.
- 5) Static water level: ________ feet below land surface / feet above land surface (circle one)

LRG-18415-PODI

6) Depth of the well: ______feet

LRG-18415 TRN:727461 WD-08 Well Plugging Plan Version: March 07, 2022 Page 1 of 5

0	13	T.M.	ł	5 1	-	3897
3.5.5.	Sec. 9.	201-148 201-444	1	Â.	1.744	0

7)	Inside diameter of innermost casing:2inches.	2022 MAY 25 AM 9: 58
8)	Casing material: Schedule 40 PVC	ger anno anno an
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	LAS CRUCES, NOW MEXICO
10)	What annular interval surrounding the artesian casing of this well is co	
11)	Was the well built with surface casing?NoIf yes, is the anr otherwise sealed?NAIf yes, please describe:	ulus surrounding the surface casing grouted or
12) V. D	Has all pumping equipment and associated piping been removed from remaining equipment and intentions to remove prior to plugging in Second Sec	
Note: diagra	If this plan proposes to plug an artesian well in a way other than with cement grou am of the well showing proposed final plugged configuration shall be attached, a ophysical logs, that are necessary to adequately describe the proposal. Attach a copy of	t, placed bottom to top with a tremie pipe, a detailed s well as any additional technical information, such
	if this planned plugging plan requires a variance to 19.27.4 NMAC, attach a detailed va	
1)	Describe the method by which cement grout shall be placed in the well proposed for the well:	
	The well casing will be cemented from bottom up using tremie pipe, in	cluding all screened intervals and blank casing.
2)	Will well head be cut-off below land surface after plugging? Yes, 6 in	nches below ground surface
<u>VI. P</u>	PLUGGING AND SEALING MATERIALS:	
	The plugging of a well that taps poor quality water may require the use of a specialty of the cement company and/or product description for specialty cement mixes or any seals	
1)	For plugging intervals that employ cement grout, complete and attach	Table A.
2)	For plugging intervals that will employ approved non-cement based se	ealant(s), complete and attach Table B.
		00 7

- 3) Theoretical volume of grout required to plug the well to land surface: 25.7 gallons (3.4 cubic ft)
- 4) Type of Cement proposed: Portland Type II neat cement with 5% bentonite by weight
- 5) Proposed cement grout mix: 8.5 gallons of water per 94 pound sack of Portland cement.
- 6) Will the grout be: _____batch-mixed and delivered to the site

X mixed on site

recipe

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

5% by weight Bentonite powder (~4.7 lbs/94 lb bag of Portland Type II cement)

Additional notes and calculations:

The mix of neat cement and 5% bentonite will require 8.5 gallons of water per 94 lb bag of cement; 5.2 gallons per 94 lb bag of cement and 0.7 gallons per percent of bentonite.

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

CULA UCULA -

VIII. SIGNATURE:

8)

I. Amanda Skarsgard for: Timothy J. Davis

_, 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.

AMANDA SKARSGARD Digitally signed by AMANDA SKARSGARD Date: 2022.05.24 10:33:08 -06'00'	05/24/2022
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.

th Sune day of Witness my hand and official seal this METICO OF NEW Mike A. Hamman, P.E, STATE ENGINEER Mexico State Engineer ΒY Cheryl Thacker Water Resource Manager WD-08 Well Plugging Plan ENGI Version: March 07, 2022 Page 3 of 5

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)			157.3 ft
Theoretical volume of grout required per interval (gallons)			25.7 gallons
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			8.5 gallons of water per 94 lb bag of Portland Type II cement with 5% bentonite powder.
Mixed on-site or batch- mixed and delivered?			On Site
Grout additive 1 requested			Powdered bentonite
Additive 1 percent by dry weight relative to cement			5%
Grout additive 2 requested			NA NA CAUCES, I
Additive 2 percent by dry weight relative to cement			NA 9: 5

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

VALUES AN SE SE 2022 MAY 25 AM SE SE STAR ELEMANT STOLE