From:	Yu, Olivia, EMNRD
То:	<u>"Bob Asher";</u> rmann@slo.state.nm.us
Cc:	<u>Yvette Moore</u>
Subject:	RE: Moped BQP State #1 Characterization Plan (Part 3)
Date:	Monday, April 30, 2018 3:11:00 PM
Attachments:	image001.png approved_linedRelease_3000520645_Moped BQP State #1 Characterization Plan.pdf

Mr. Asher:

Please note that as this release occurred on State surface and mineral ownerships, please remember to include NMSLO in all email correspondence and submittals.

Please be advised that a 1RP identifier was not issued as the release occurred in a lined facility. If the liner is determined to be not intact and necessitate further release characterization, then a 1RP will be issued. Otherwise, all releases in lined facilities are uploaded to the associated API well file.

Proposed liner integrity test is approved. Include dated, color photo documentation of test and clean liner in the subsequent report.

Like approval from NMSLO required.

Thanks, Olivia

From: Bob Asher <Bob_Asher@eogresources.com>
Sent: Tuesday, April 3, 2018 10:11 AM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: Yvette Moore <Yvette_Moore@eogresources.com>
Subject: Moped BQP State #1 Characterization Plan (Part 3)

Thank you,

Robert C. "Bob" Asher

Environmental Supervisor Safety & Environmental Department EOG Resources, Inc. Artesia Division Artesia, NM 88210 575-748-4217 (Office) 575-365-4021 (Cell) EOG Safety Begins With YOUR Safety





EOG Resources, Inc. Artesia Division Office 104 S. 4th Street Artesia, N. M. 88210

APPROVED By Olivia Yu at 2:43 pm, Apr 30, 2018

EOG Y Resources, Inc.

Characterization Plan

The proposed plan for liner integrity test is approved for the incident: nOY1735239411. Please be advised that chloride analyses are not for documentation as this was a produced water release.

Moped BQP State #1

30-005-20645

Section 26, T15S-R31E

Chaves County, New Mexico

April 3, 2018

1RP-



Table of Contents

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IV.	NMOCD Ranking Criteria	3
V.	Liner Integrity Test	4
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Figures:

- Figure 1: Site Map
- Figure 2: Site Map with Vertical Sample Point(s)

Figure 3: Site Map with Horizontal Sample Point(s)

Figure 4: Site Map with Background Sample Point(s)

Photos

Appendices:

- Appendix A: Water Well Data Site Map
- Appendix B: NMOSE Well Log Information
- Appendix C: USGS Groundwater Level Information
- Appendix D: Form C-141 Initial



I. Location

From Maljamar, NM, travel 1 mile east on Hwy 82 to NM 249. Turn left (north) on NM 249 and continue approximately 9 miles. Turn right (east) at a cattle guard and two (2) big water tanks for approximately 0.1 miles, road turns right (SE). Follow existing lease road for approximately 0.6 miles, at this point the road will fork, take right fork. Follow lease road south for approximately 0.3 miles to the SW corner of the well pad.

II. Background

On December 14, 2017, EOG Y Resources, Inc. submitted to the NMOCD District I office a Form C-141 for the release of 60 B/PW with 57 B/PW recovered (the remaining 3 B/PW entrained within the gravel). The affected area is approximately 186' X 32' within the secondary containment of the production facility and was contained within the bermed and lined battery. The release was caused by a 500 BBL steel water tank bottom that corroded, causing the release. A vacuum truck was dispatched and recovered 95% of the released produced water. A roustabout crew was dispatched and excavated the visibly impacted gravel. The impacted gravel excavated was hauled to an NMOCD approved disposal facility.

III. Surface and Ground Water

Area surface geology is Paleozoic Permian. Based on information regarding this location (Section 26, T15S-R31E), the New Mexico Office of the State Engineer (NMOSE) database depth to groundwater is follows: (NMOSE-L03611, DTGW @ 235' & NMOSE – L03612, DTGW @ 240'), the United States Geological Survey National Water Information System, is as follows: (USGS #325936103481801, DTGW @ 271' & USGS #3258446103474501, DTGW @ 279'). The depth to groundwater is >100', per USGS and NMOSE groundwater level. **Based on this information the Site Ranking is a Zero (0).**

Watercourses in the area are dry except for infrequent flows in response to major precipitation events, with the nearest body of surface water is unnamed and 7.5 miles away (SW direction).

IV. NMOCD Ranking Criteria

The ranking for this site is Zero (0) based on the following:

Depth to ground water	>100'
Wellhead Protection Area	> 1000'
Distance to surface water body	> 1000'

Based on the ranking criteria, the NMOCD established RRALs for this site are:

Benzene	10 ppm
BTEX	50 ppm
TPH	5,000 ppm
Chlorides	No established RRAL



V. Liner Integrity Test

With the battery being bermed and lined with a 20 millimeter liner, a liner integrity test will be performed to determine if there are any leaks, tears, punctures and/or breaches. The battery will be filled with fresh water and the level gauged. After a period of three (3) hours, the water level will be gauged again, based off of the measurements, the SMA Evaporation Formula will be used to determine liner integrity, if intact a Closure Report/Form C-141 Final Report will be submitted to the NMOCD II Office requesting closure. If there is abnormal water loss that would indicate a liner failure, VI. Sampling Procedure will be implemented.

VI. Sampling Procedure

Samples will only be collected if the liner integrity test shows a failure or breach in the liner.

Vertical delineation samples (SP-1, SP-2 &SP-3) will be collected within the release area. Samples will be collected at 1', 2', 3', and 4' below grade surface (bgs) or when auger and or backhoe refusal is encountered. Due to the nature of the release (produced water), the vertical delineation soil samples will be analyzed for Benzene, BTEX, TPH extended (Chlorides for documentation, with no established RRAL's for chlorides). All samples will be sent to a NMOCD approved laboratory for analysis.

Horizontal delineation samples will be collected at the 4 cardinal point (CP1-CP4) at what is believed to be the outer edge of the release area. Samples will be collected at 1' below grade surface (bgs) or when auger and or backhoe refusal is encountered. If a sample point is determined to be impacted by the release, a new sample will be collected moving out further until an area without impaction is located. Once located, samples will be taken to collaborate the impaction path to the next sample point in the sequence. Due to the nature of the release (produced water), the vertical delineation soil samples will be analyzed for Benzene, BTEX, TPH extended (Chlorides for documentation). All samples will be sent to a NMOCD approved laboratory for analysis.

As a baseline for all sampling analytical data, a background sample (BG-1) will be collected east of the battery.

Latitude/Longi	tude Coordinates for Sample Points
SP-1	32.981526°; -103.789787°
SP-2	32.981444°; -103.789816°
SP-3	32.981369°; -103.789787°
CP-1	32.981619°; -103.789803°
CP-2	32.981477°; -103.789841°
CP-3	32.981307°; -103.789803°
CP-4	32.981477°; -104.789767°
BG-1	32.981315°; -103.789558°



Figure 1

Site Map







Figure 2

Vertical Sample Point(s)





Figure 3

Horizontal Sample Point(s)





Figure 4

Background Sample Point(s)

8





Photos

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4





















Appendix A

Water Well Date Site Map





Appendix B

NMOSE Well Log



New Mexico Office of the State Engineer Point of Diversion Summary

			ters are 1=				- 1. S.	and the second	
			rters are s			5 J. C. H		TM in meters	2
Well Tag	POD Number	Q64	Q16 Q4	Sec	Tws	Rng	х		ſ.
	L 03611	4	4 3	23	15S	31E	612724	3651386	* 😔
Driller Licens	e: 111	Driller C	ompany	: BL	IRKE	, EDWA	RD B.		
Driller Name:	BURKE, EDW	ARD B.							
Drill Start Dat	te: 07/03/1962	Drill Fini	sh Date	:	07/	09/1962	Plug	Date:	
Log File Date	: 07/12/1962	PCW Rc	PCW Rcv Date:			07/30/1962		Source:	
Pump Type:	Pipe Dis	Pipe Discharge Size			ize:		Estimated Yield	ld: 60 GPM	
Casing Size:	10.00	Depth W	'ell:		320) feet	Dep	th Water:	235 feet
w	ater Bearing Strat	ifications:	Тор	Bott	om	Descrip	otion		
			262	2	273	Other/U	nknown		
		_	277	3	302	Other/U	nknown		
	Casing Pe	rforations:	Тор	Bott	om				
			242		302				

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



New Mexico Office of the State Engineer Point of Diversion Summary

				ters are 1= rters are s			SW 4=SE	A STATE OF A STATE OF A STATE	TM in meter	
Well Tag	P	OD Number		Q16 Q4			1	(INADOS U X		s) Y
iren rug	L	03612	1	4 4	26		31E	613349		-
Driller Licen	se:	111	Driller C	ompany	: в	JRKE	, EDWA	RD B.		
Driller Name	:	BURKE, EDW	ARD B.							
Drill Start Da	ate:	05/16/1960	Drill Fini	sh Date	:	05/	19/1960	Plug	Date:	
Log File Date:		05/26/1960	PCW Rc	PCW Rcv Date:			04/10/1961		rce:	Shallow
Pump Type:			Pipe Dis	Size:			Estimated Yield	eld: 110 GPM		
Casing Size:		8.63	Depth W	ell:		343	feet	Dep	th Water:	240 feet
v	Vate	er Bearing Strati	fications:	Тор	Bott	om	Descrip	tion		
				240		283	Other/U	nknown		
		Casing Per	forations:	Тор	Bott	om				
				252		337				

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



Appendix C

USGS Groundwater Level Information



USGS Home Contact USGS Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: Site Information V

Geographic Area: United States

GO

V

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USGS 325936103481801 15S.31E.22.432234

Available data for this site SUMMARY OF ALL AVAILABLE DATA V GO

Well Site

DESCRIPTION:

Latitude 32°59'36", Longitude 103°48'18" NAD27 Chaves County, New Mexico Well depth: 340 feet Land surface altitude: 4,393 feet above NAVD88. Well completed in "Ogallala Formation" (1210GLL) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level	1966-04-	1986-01-	1
measurements	05	09	4

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center

Email questions about this site to <u>New Mexico Water Science Center Water-</u> Data Inquiries

Questions about sites/data? Feedback on this web site Automated retrievals Help

https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=325936103481... 12/14/2017

Data Tips Explanation of terms Subscribe for system changes News

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U.S. Department of the Interior | U.S. Geological Survey Title: NWIS Site Information for USA: Site Inventory URL: https://waterdata.usgs.gov/nwis/inventory?

Page Contact Information: <u>USGS Water Data Support Team</u> Page Last Modified: 2017-12-14 11:35:08 EST 0.29 0.27 caww01

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National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater ✓ Geographic Area:

GO

V

V GO

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Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

• 325936103481801

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 325936103481801 15S.31E.22.432234

Available data for this site Groundwater: Field measurements

Chaves County, New Mexico

Hydrologic Unit Code --

Latitude 32°59'36", Longitude 103°48'18" NAD27

Land-surface elevation 4,393 feet above NAVD88

The depth of the well is 340 feet below land surface.

This well is completed in the Ogallala Formation (1210GLL) local aquifer.

Output formats

Table of data

Tab-separated data

Graph of data

Reselect period

https://nwis.waterdata.usgs.gov/usa/nwis/gwlevels/?site_no=325936103481801

12/14/2017



Breaks in the plot represent a gap of at least one year between field measurements.

Download a presentation-quality graph

Questions about sites/data? Feedback on this web site Automated retrievals Help Data Tips Explanation of terms Subscribe for system changes News

Accessibility Plug-Ins FOIA Privacy Policies and Notices U.S. Department of the Interior | U.S. Geological Survey Title: Groundwater for USA: Water Levels URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?



Page Contact Information: <u>USGS Water Data Support Team</u> Page Last Modified: 2017-12-14 11:35:16 EST 1.06 0.92 nadww01

https://nwis.waterdata.usgs.gov/usa/nwis/gwlevels/?site no=325936103481801

12/14/2017



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National Water Information System: Web Interface

USGS Water Resources

Data Category: Site Information Geographic Area: United States

V

V GO

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USGS 325846103474501 15S.31E.26.33222

Available data for this site SUMMARY OF ALL AVAILABLE DATA V GO

Well Site

DESCRIPTION:

Latitude 32°58'46", Longitude 103°47'45" NAD27 Chaves County, New Mexico Well depth: 336 feet Land surface altitude: 4,377 feet above NAVD88. Well completed in "Ogallala Formation" (1210GLL) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level	1966-03-	1966-03-	-
measurements	31	31	T

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center

Email questions about this site to <u>New Mexico Water Science Center Water-</u> Data Inquiries

Questions about sites/data? Feedback on this web site Automated retrievals Help

https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=325846103474... 12/14/2017

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U.S. Department of the Interior | U.S. Geological Survey Title: NWIS Site Information for USA: Site Inventory URL: https://waterdata.usgs.gov/nwis/inventory?

Page Contact Information: <u>USGS Water Data Support Team</u> Page Last Modified: 2017-12-14 11:42:49 EST 0.26 0.25 caww01

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National Water Information System: Web Interface

USGS Water Resources

 Data Category:
 Geographic Area:

 Groundwater
 V

GO

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Groundwater levels for the Nation

Search Results -- 1 sites found

site_no list =

• 325846103474501

GO

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 325846103474501 15S.31E.26.33222

Available data for this site Groundwater: Field measurements

Chaves County, New Mexico

Hydrologic Unit Code --

Latitude 32°58'46", Longitude 103°47'45" NAD27

Land-surface elevation 4,377 feet above NAVD88

The depth of the well is 336 feet below land surface.

This well is completed in the Ogallala Formation (1210GLL) local aquifer.

Output formats

Table of data

Tab-separated data

Graph of data

Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.

Download a presentation-quality graph

Questions about sites/data? Feedback on this web site Automated retrievals Help Data Tips Explanation of terms Subscribe for system changes News

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U.S. Department of the Interior | U.S. Geological Survey
Title: Groundwater for USA: Water Levels



Page Contact Information: <u>USGS Water Data Support Team</u> Page Last Modified: 2018-04-03 10:58:23 EDT 1.21 1.09 nadww01

URL: https://nwis.waterdata.usgs.gov/nwis/gwlevels?

https://nwis.waterdata.usgs.gov/usa/nwis/gwlevels/?site_no=325846103474501



Appendix D

Form C-141 Initial

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised April 3, 2017

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

1220 S. St. Fra	ncis Dr., Sant	a Fe, NM 87505	;			, NM 875					
			Relea	se Notifica				ction	-		
						RATOR	9109114016				
			_		- 1				🛛 Initi	al Report 🔲 Final Report	
Name of C EOG Y Re		c.				Contact Robert Ashe					
Address	sources, m	с.				Telephone N		-			
	Street Artes	ia NM 8821	0			575-748-14					
Facility Na	me					Facility Typ	e				
Moped BP	Q State #1				1	Battery			_		
Surface Ov	vner	-	-	Mineral Ow	ner				API NO).	
State	(10%). 			State	22				30-005	-20645	
				LOCAT	TION	OF REI	EASE				
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in us finnieu	and i tonice i		Yes 🗌 N	No 🗌 Not Requ	uired						
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en in mast		s roy romaning	, produced in	area was entrume	u	in the Braven	or a ror may been	remored	n om me	inter.	
		and Cleanup A			16 1	And the state	at antices at an				
										ynthetic liner, 57 B/PW was	
										ocated within the lined either a Characterization Plan	
										d Protection Area: No,	
				RANKING IS 0.							
I hereby cert	ify that the	information gi	ven above is	true and complet	e to th	e best of my	knowledge and u	inderstand	that purs	suant to NMOCD rules and	
regulations a	ll operators	are required to	o report and/	or file certain rele	ease no	tifications ar	d perform correct	ctive actio	ns for rel	eases which may endanger	
										ieve the operator of liability	
										r, surface water, human health ompliance with any other	
		ws and/or regu			port de	eo nor rener.	o nie operator or	responsio		anphanee min any other	
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Signature:									ç	24	
Printed Nam	e: Robert A	sher				Annroved by	Environmental S	necialist	· ·	F	
					ť	approved by	12/18/201		no.c	(
Title: Super	visor Envirc	onmental			1	Approval Date	12/10/20	E	piration	Date: V	
E-mail Adde	appr. robart	asher@eogres	ources com			Conditions of	Approval			1000 A 7 4 7	
L-man Addr	eas. robert	asher(a)cogres	ources.com	TOUCHUN SET		and a second second second second	ect liner in que	estion P	rovide	Attached	
Date: Decen	ber 14, 201	7	Phone:57	5-748-4171			h a concise re				

* Attach Additional Sheets If Necessary

NMOCD with a concise report of the inspection with affirmation the liner has and will continue to contain liquids.

nOY1735239411

From:	Yu, Olivia, EMNRD
To:	"Yvette Moore"; agroves@slo.state.nm.us
Cc:	Chase Settle; Bob Asher
Subject:	RE: Moped BPQ State #1 C-141 Initial
Date:	Monday, December 18, 2017 11:07:00 AM
Attachments:	Image001.png reviewed_initial_Mope BPQ State #1_121417.pdf

Ms. Moore:

Please see the attachment for your records.

Please inspect the liner in question. It is NMOCD's understanding that all impacted material in the containment has been removed and the liner inspected for integrity. Provide NMOCD with a concise report of the inspection with affirmation the liner has and will continue to contain liquids. Pictures and a record of the removal of contaminated fill or proper disposal of liquids are strongly encouraged to accompany submission of initial C-141s.

Please be advised that based on the information provided, the affected berms in the lined containment will have to be removed.

Thanks,

Olivia Yu Environmental Specialist NMOCD, District I <u>Olivia.yu@state.nm.us</u> 575-393-6161 x113

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Yvette Moore [mailto:Yvette_Moore@eogresources.com]
Sent: Thursday, December 14, 2017 11:46 AM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; agroves@slo.state.nm.us
Cc: Chase Settle <Chase_Settle@eogresources.com>; Bob Asher <Bob_Asher@eogresources.com>
Subject: Moped BPQ State #1 C-141 Initial

I apologize the subject line was not correct, please disregard as I have corrected it.

Thanks,



Yvette Moore Rep Safety & Environmental II Safety & Environmental Department Artesia Division (575)748-4223 yvette_moore@eogresources.com

From: Yvette Moore Sent: Thursday, December 14, 2017 11:44 AM To: <u>Olivia.yu@state.nm.us</u>; <u>agroves@slo.state.nm.us</u> Cc: Chase Settle <<u>Chase_Settle@eogresources.com</u>>; Bob Asher <<u>Bob_Asher@eogresources.com</u>> Subject: RE: Ross EG Federal Battery C-141 Please find the attached C-141 Initial for the location listed below:

Moped BPQ State #1 30-005-20645 660' FNL & 1980' FEL Section 26, T15S-R31E Chaves County, New Mexico

Thanks,

🗞 eog resources

Yvette Moore Rep Safety & Environmental II Safety & Environmental Department Artesia Division (575)748-4223 yvette_moore@eogresources.com

From:	Bob Asher
То:	Yu, Olivia, EMNRD; Billings, Bradford, EMNRD; NMSLO (Carlsbad/Ion Dolly) (idolly@slo.state.nm.us); NMSLO (Hobbs/Amber Grroves); NMSLO (Hobbs/Mathew Hagman) (mhagman@slo.state.nm.us); NMSLO (Roswell/Mark Najanio) (mnaranjo@slo.state.nm.us); NMSLO (Santa Fe/Dana Vackar Strang) (dvstrang@slo.state.nm.us)
Cc:	Amber Griffin; Chase Settle; Katie Parker
Subject:	Release Notification (Moped BQP State #1)
Date:	Sunday, December 3, 2017 1:20:08 PM
Attachments:	image001.png

EOG Y Resources, Inc. is reporting a release at the following location (12/3/2017, approximately 3:45 PM).

Moped BQP State #1 30-005-20645 Section 26, T15S-R31E Chaves County, New Mexico

Released: Approximately 60 B/PW; Recovered: In Progress.

Cause of the release from a hole in the production tank. Vacuum truck(s) and roustabout crews were called to begin recovery of produced water. This is a lined/bermed battery. A Form C-141 with complete information will be submitted.

Thank you,

Robert C. "Bob" Asher

Environmental Supervisor

Safety & Environmental Department EOG Resources, Inc. Artesia Division Artesia, NM 88210 575-748-4217 (Office) 575-365-4021 (Cell)

EOG Safety Begins With YOUR Safety

