

From: [Yu, Olivia, EMNRD](#)
To: ["Buddy Richardson"; Billings, Bradford, EMNRD](#)
Cc: [Darrell Pennington](#)
Subject: RE: RAM Yates State #2
Date: Tuesday, February 27, 2018 8:12:00 AM

Good morning Mr. Richardson:

The information provided below for 1RP-4587 is accepted and acknowledged. Currently, my schedule is widely available in the morning for Thursday and Friday, March 1-2, 2018.

NMOCD sincerely appreciates RAM Energy's continued compliance with NMOCD regulations.

Thanks,
Olivia

From: Buddy Richardson [mailto:Buddy.Richardson@eccgrp.com]
Sent: Friday, February 23, 2018 11:00 AM
To: Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>
Cc: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; Darrell Pennington <dpennington@ramenergy.net>
Subject: RAM Yates State #2

NMOCD Incident Case No. 1RP-4587

Mr. Billings,

As requested by Ms. Olivia Yu, I would like to call and discuss the installation of a third groundwater monitoring well at the RAM Energy/Yates State #2 Lease site in Lea County, NM. RAM installed two temporary monitoring wells, TMW-1 and TMW-2, as you requested (see figure attached). When we had sampled the two wells for groundwater the casings/screens were removed and the boreholes were pressure grouted. The NMOCD is now requesting that these two wells be installed as permanent wells and that a third well be added. I would like to discuss with you the location for this third well. I am assuming that you will want the well further downgradient (east-southeast) of TMW-2. Attached is an excerpt from USGS HA-679 that is titled ***Map Showing Altitude and Configuration of the Water Table for High Plains Aquifer*** (Hart, D.L., et al, 1985). On this figure I have annotated the approximate location of the Yates Lease. This figure indicates that the groundwater elevation at this site is approximately 3,800 feet AMSL and that groundwater is flowing towards the east-southeast. Please let me know when you have time to discuss. Thanks.

Buddy Richardson



George H. (Buddy) Richardson, P.G.
Manager Hydrogeology | Enviro Clean Cardinal

918.794.7828 office | 918.392.7843 direct | **918.210.8128 cell**

buddy.richardson@eccgrp.com | www.EnviroCleanPS.com

This e-mail and any attachments are intended solely for the person or entity to which addressed and may contain confidential and/or privileged information. Any review, dissemination, copying, printing or other use of this information by persons or entities other than the addressee is prohibited. If you have received this mail in error, please contact the sender immediately and delete the material from any computer.

From: Buddy Richardson

Sent: Tuesday, February 20, 2018 10:29 AM

To: 'Yu, Olivia, EMNRD' <Olivia.Yu@state.nm.us>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>

Cc: Darrell Pennington <dpennington@ramenergy.net>; Matthew Mugavero <matthew.mugavero@eccgrp.com>

Subject: RAM Yates State #2

NMOCD Incident Case No. 1RP-4587

Ms. Yu,

In response to your email of January 4, 2018, please find below your comments followed by RAM's responses:

1. Proposed remediation from October 2, 2017 is approved with clarifications. a) Please inform whether the entire tank battery will be removed before 4 ft. excavation and liner emplacement or whether the tanks would remain in situ. b) The areas represented by WSB-1 and ESB-2 demonstrate chloride levels above 600 mg/kg at the surface. Impacted soil must be removed until laboratory analyses of bottom and sidewall samples demonstrate chlorides are within permissible levels of 600 mg/kg at the lateral extent of these two areas.

RAM Response: RAM does not intend to remove the tanks within the berm. Soils will be excavated to a depth of 4 feet with the tanks left in place. When excavated, a 20-mil liner will be positioned at the base of the excavation and the liner will be brought up to near the base of each tank. RAM intends to excavate the soils around borings WSB-1 and ESB-2 and will use the chloride laboratory results of floor and sidewall samples to determine when the excavations are complete (using a permissible chloride level in soil of 600 mg/kg).

2. Please inform whether the temporary wells, TMW-1 and TMW-2, are still intact. If these two wells are still integral, NMOCD requests that the temporary wells be made permanent. Since TMW-2 is downgradient of the tank battery, it is probable that the chloride concentration in the groundwater above permissible level of 250 mg/kg was influenced by current and historic releases from the tank battery. If the wells are already closed, then NMOCD requires that the replacement permanent wells be situated as close to the original positions as feasible.

RAM Response: Temporary wells TMW-1 and TMW-2 are not intact. They were plugged in accordance with State requirements after groundwater samples were collected (pressure grouted from bottom to surface). Permanent monitoring wells, wells MW-1 and MW-2, will be constructed as close as is feasible to the TMW-1 and TMW-2 locations.

3. In addition, based on the groundwater data presented in TMW-2, NMOCD requires that a 3rd permanent monitoring well be established to model the chloride plume.

RAM Response: RAM will install a third permanent groundwater monitoring well, well MW-3, at the site to assess the chloride impacts. We assume this well will be located further southeast of TMW-2 to assess groundwater at a hydraulically downgradient location. We will confirm this with Bradford Billings.

4. Questions regarding the placement of the 3rd monitoring well can be directed to Bradford Billings.

RAM Response: RAM and ECC will contact Bradford Billings to discuss the location of permanent monitoring well MW-3.

If you have any questions regarding our work at this site, please do not hesitate to contact me at 918-794-7828. Thanks.

Buddy Richardson



George H. (Buddy) Richardson, P.G.

Manager Hydrogeology | Enviro Clean Cardinal

918.794.7828 office | 918.392.7843 direct | **918.210.8128 cell**

buddy.richardson@eccgrp.com | www.EnviroCleanPS.com

This e-mail and any attachments are intended solely for the person or entity to which addressed and may contain confidential and/or privileged information. Any review, dissemination, copying, printing or other use of this information by persons or entities other than the addressee is prohibited. If you have received this mail in error, please contact the sender immediately and delete the material from any computer.

From: Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]

Sent: Thursday, January 04, 2018 3:21 PM

To: Buddy Richardson <Buddy.Richardson@eccgrp.com>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>

Cc: Darrell Pennington <dpennington@ramenergy.net>; Matthew Mugavero <matthew.mugavero@eccgrp.com>

Subject: RE: RAM Yates State #2

Dear Mr. Richardson:

Please address these concerns regarding 1RP-4587.

1. Proposed remediation from October 2, 2017 is approved with clarifications. a) Please inform whether the entire tank battery will be removed before 4 ft. excavation and liner

emplacement or whether the tanks would remain in situ. b) The areas represented by WSB-1 and ESB-2 demonstrate chloride levels above 600 mg/kg at the surface. Impacted soil must be removed until laboratory analyses of bottom and sidewall samples demonstrate chlorides are within permissible levels of 600 mg/kg at the lateral extent of these two areas.

2. Please inform whether the temporary wells, TMW-1 and TMW-2, are still intact. If these two wells are still integral, NMOCD requests that the temporary wells be made permanent. Since TMW-2 is downgradient of the tank battery, it is probable that the chloride concentration in the groundwater above permissible level of 250 mg/kg was influenced by current and historic releases from the tank battery. If the wells are already closed, then NMOCD requires that the replacement permanent wells be situated as close to the original positions as feasible.
3. In addition, based on the groundwater data presented in TMW-2, NMOCD requires that a 3rd permanent monitoring well be established to model the chloride plume.
4. Questions regarding the placement of the 3rd monitoring well can be directed to Bradford Billings.

Please confirm or inform for clarification.

Thanks,

Olivia Yu
Environmental Specialist
NMOCD, District I
Olivia.yu@state.nm.us
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: Buddy Richardson [<mailto:Buddy.Richardson@eccgrp.com>]
Sent: Thursday, December 14, 2017 12:15 PM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: Darrell Pennington <dpennington@ramenergy.net>; Matthew Mugavero <matthew.mugavero@eccgrp.com>
Subject: RAM Yates State #2

NMOCD Case No. 1R-4587

Ms. Yu,

Please find attached a document titled ***Release Characterization Report and Proposed Remediation Work Plan – Addendum 2*** that Enivro Clean Cardinal, LLC has prepared on

behalf of our client RAM Energy Resources regarding their Yates State #2 Tank Battery located in Lea County, New Mexico. This report provides the NMOCD with the results of the two temporary monitoring wells that NMOCD requested be installed upgradient and downgradient of the subject tank battery. Our client would like to proceed with implementation of the soil remediation that has been proposed and approved if you concur. If you have any questions, please do not hesitate to contact Mr. Darrell Pennington with RAM at 918-947-6304, or myself at 918-794-7828. Thank you for your assistance in this matter.

Buddy Richardson



George H. (Buddy) Richardson, P.G.

Manager Hydrogeology | Enviro Clean Cardinal

918.794.7828 office | 918.392.7843 direct | **918.210.8128 cell**

buddy.richardson@eccgrp.com | **www.EnviroCleanPS.com**

This e-mail and any attachments are intended solely for the person or entity to which addressed and may contain confidential and/or privileged information. Any review, dissemination, copying, printing or other use of this information by persons or entities other than the addressee is prohibited. If you have received this mail in error, please contact the sender immediately and delete the material from any computer.