

**From:** [Dena](#)  
**To:** [Mann, Ryan](#); [Yu, Olivia, EMNRD](#)  
**Cc:** [James Fox](#); [Naranjo, Mark](#); [Phillip Sanders \(psanders@oilfieldwaterlogistics.com\)](#); [Billings, Bradford, EMNRD](#); [Will Soderstrom](#)  
**Subject:** RE: [EXT] Re: Spill Delineation and Remediation Plan- 1RP 4820 Version 2.0 - Bioremediation  
**Date:** Thursday, October 11, 2018 7:13:32 AM  
**Attachments:** Revegetation and Noxious Weed Plan.pdf

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Thank you, Ryan! We will plan to reuse our previously SLO-approved revegetation plan (attached for your reference). Please let me know if you require any deviations. Thank you!



**DENA M. VANDENBERG, REM, LEED AP**

*Director of Environmental Services*

500 Moseley Road Cross Roads, Texas 76227

M (214)364-7627 O (940)387-0805 F (940)387-0830

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**From:** Mann, Ryan <rmann@slo.state.nm.us>  
**Sent:** Tuesday, October 9, 2018 10:29 AM  
**To:** Dena <dena@kjenvironmental.com>; Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>  
**Cc:** James Fox <james@kjenvironmental.com>; Naranjo, Mark <MNaranjo@slo.state.nm.us>; Phillip Sanders (psanders@oilfieldwaterlogistics.com) <psanders@oilfieldwaterlogistics.com>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Will Soderstrom <will@kjenvironmental.com>  
**Subject:** RE: [EXT] Re: Spill Delineation and Remediation Plan- 1RP 4820 Version 2.0 - Bioremediation

NMSLO will approve of the soil removal and blending plan. Be aware that revegetation is also a component of this remediation process. I would suggest either placing clean (not blended) soil on top or blending down to a level that can support vegetation. This will increase the likelihood of a success effort.

Ryan Mann  
Remediation Specialist  
Field Operation Division  
(575) 392-3697  
(505) 699-1989  
New Mexico State Land Office  
2827 N. Dal Paso Suite 117  
Hobbs, NM 88240

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**From:** Dena [<mailto:dena@kjenvironmental.com>]  
**Sent:** Monday, October 8, 2018 1:05 PM  
**To:** Yu, Olivia, EMNRD <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)>  
**Cc:** James Fox <[james@kjenvironmental.com](mailto:james@kjenvironmental.com)>; Mann, Ryan <[rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us)>; Naranjo, Mark <[MNaranjo@slo.state.nm.us](mailto:MNaranjo@slo.state.nm.us)>; Phillip Sanders ([psanders@oilfieldwaterlogistics.com](mailto:psanders@oilfieldwaterlogistics.com)) <[psanders@oilfieldwaterlogistics.com](mailto:psanders@oilfieldwaterlogistics.com)>; Billings, Bradford, EMNRD <[Bradford.Billings@state.nm.us](mailto:Bradford.Billings@state.nm.us)>;

Will Soderstrom <[will@kjenvironmental.com](mailto:will@kjenvironmental.com)>

**Subject:** RE: [EXT] Re: Spill Delineation and Remediation Plan- 1RP 4820 Version 2.0 - Bioremediation

Good afternoon!

Thank you, Olivia! We will understand SLO's silence to be approval to proceed unless we receive a contrary response within the next 48 hours. After that point, we will proceed as described. Please let me know if you have any questions. Thank you!



**DENA M. VANDENBERG, REM, LEED AP**

*Director of Environmental Services*

500 Moseley Road Cross Roads, Texas 76227

M (214)364-7627 O (940)387-0805 F (940)387-0830

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

**Sent:** Sunday, October 7, 2018 2:21 PM

**To:** Dena <[dena@kjenvironmental.com](mailto:dena@kjenvironmental.com)>

**Cc:** James Fox <[james@kjenvironmental.com](mailto:james@kjenvironmental.com)>; [rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us); Naranjo, Mark ([MNaranjo@slo.state.nm.us](mailto:MNaranjo@slo.state.nm.us)) <[MNaranjo@slo.state.nm.us](mailto:MNaranjo@slo.state.nm.us)>; Phillip Sanders ([psanders@oilfieldwaterlogistics.com](mailto:psanders@oilfieldwaterlogistics.com)) <[psanders@oilfieldwaterlogistics.com](mailto:psanders@oilfieldwaterlogistics.com)>; Billings, Bradford, EMNRD <[Bradford.Billings@state.nm.us](mailto:Bradford.Billings@state.nm.us)>

**Subject:** RE: [EXT] Re: Spill Delineation and Remediation Plan- 1RP 4820 Version 2.0 - Bioremediation

Ms. Vandenberg:

NMOCD approval as well as the comments stated in the email dated April 30, 2018 for 1RP-4820 are still applicable. Please be advised that 1RP-4820 will not be closed due to the deferral of un-remediated areas within the setback radii of the pipelines. Remember to include dated and geo-referenced photo documentation in the remediation/closure report.

Also, please note that while soil blending was allowed for 1RP-4820, this practice will not be permitted for any releases after August 14, 2018, the effective date of 19.15.29 NMAC (or conditions per 19.15.29.16 NMAC).

NMSLO approval required. NMSLO may have differing concerns or stipulations, in which case, 19.15.29.13E NMAC.

Thanks,  
Olivia

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**From:** Dena <[dena@kjenvironmental.com](mailto:dena@kjenvironmental.com)>

**Sent:** Friday, October 5, 2018 12:40 PM

**To:** Yu, Olivia, EMNRD <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)>

**Cc:** James Fox <[james@kjenvironmental.com](mailto:james@kjenvironmental.com)>; [rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us); Naranjo, Mark ([MNaranjo@slo.state.nm.us](mailto:MNaranjo@slo.state.nm.us)) <[MNaranjo@slo.state.nm.us](mailto:MNaranjo@slo.state.nm.us)>; Phillip Sanders ([psanders@oilfieldwaterlogistics.com](mailto:psanders@oilfieldwaterlogistics.com)) <[psanders@oilfieldwaterlogistics.com](mailto:psanders@oilfieldwaterlogistics.com)>; Billings, Bradford, EMNRD <[Bradford.Billings@state.nm.us](mailto:Bradford.Billings@state.nm.us)>

**Subject:** [EXT] Re: Spill Delineation and Remediation Plan- 1RP 4820 Version 2.0 - Bioremediation

Good afternoon!

Can I please confirm OCD and SLO agree on the approval to move forward with the initially submitted Remediation Plan, including soil removal and blending, rather than bioremediation? Thank you!

Dena M. Vandenberg

On Aug 1, 2018, at 11:17 AM, Yu, Olivia, EMNRD <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)> wrote:

Good morning Mr. Fox:

Thank you for the below information and your patience while NMOCD consider this alternative remediation practice. However, given the number of concerns regarding this procedure, NMOCD will deny this alternative remediation proposal in the interest of moving 1RP-4820 towards resolution.

Reconsideration may be given, if documentation of successful remediation projects using the proposed process with data is provided to NMOCD. For example, biochemical reactions (formulas and equations), literature of the soil ecological process (white papers, peer-reviewed publications), and soil characterization analyses pre- and post-application (soil pH, organic matter content, texture, etc.). This information is important for assessment of long-term revegetation and restoration potential.

NMSLO may have additional concerns and stipulations.

Thanks,

Olivia Yu  
Environmental Specialist  
NMOCD, District I  
[Olivia.yu@state.nm.us](mailto: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.

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**From:** James Fox <[james@kjenvironmental.com](mailto:james@kjenvironmental.com)>  
**Sent:** Thursday, July 12, 2018 7:43 AM  
**To:** Yu, Olivia, EMNRD <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)>; [rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us); Naranjo, Mark ([MNaranjo@slo.state.nm.us](mailto:MNaranjo@slo.state.nm.us)) <[MNaranjo@slo.state.nm.us](mailto:MNaranjo@slo.state.nm.us)>  
**Cc:** Dena <[dena@kjenvironmental.com](mailto:dena@kjenvironmental.com)>; Phillip Sanders ([psanders@oilfieldwaterlogistics.com](mailto:psanders@oilfieldwaterlogistics.com)) <[psanders@oilfieldwaterlogistics.com](mailto:psanders@oilfieldwaterlogistics.com)>  
**Subject:** RE: Spill Delineation and Remediation Plan- 1RP 4820 Version 2.0 - Bioremediation

Good morning, Ms. Yu,

The degraded compound list is an incomplete listing of what the microbes will digest. The by-products of this digestive process are CO<sub>2</sub> and H<sub>2</sub>O. I apologize for the confusion. Please let me know if you have any more questions. I am happy to help.

<image001.jpg>

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**From:** Yu, Olivia, EMNRD <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)>  
**Sent:** Wednesday, July 11, 2018 12:00 PM  
**To:** Dena <[dena@kjenvironmental.com](mailto:dena@kjenvironmental.com)>; Mann, Ryan <[rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us)>  
**Cc:** Billings, Bradford, EMNRD <[Bradford.Billings@state.nm.us](mailto:Bradford.Billings@state.nm.us)>  
**Subject:** RE: Spill Delineation and Remediation Plan- 1RP 4820 Version 2.0 - Bioremediation

Good morning Ms. Vandenberg:

Thank you for providing the additional information from the supplier of the proposed remediation product for 1RP-4820. NMOCD needs more time to evaluate. There are some harmful byproducts in the degraded compound list provided.

Thanks,  
Olivia

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**From:** Dena <[dena@kjenvironmental.com](mailto:dena@kjenvironmental.com)>  
**Sent:** Monday, July 9, 2018 3:18 PM  
**To:** Yu, Olivia, EMNRD <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)>; Mann, Ryan <[rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us)>  
**Subject:** FW: Spill Delineation and Remediation Plan- 1RP 4820 Version 2.0 - Bioremediation

Good afternoon!

I wanted to check in to see if you have had a chance to review this information, and if you had any subsequent questions. Thank you!

<image002.jpg>

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**From:** James Fox  
**Sent:** Thursday, June 28, 2018 7:41 AM  
**To:** Mann, Ryan <[rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us)>; [Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)  
**Cc:** Dena <[dena@kjenvironmental.com](mailto:dena@kjenvironmental.com)>; Naranjo, Mark <[MNaranjo@slo.state.nm.us](mailto:MNaranjo@slo.state.nm.us)>; Phillip Sanders ([psanders@oilfieldwaterlogistics.com](mailto:psanders@oilfieldwaterlogistics.com)) <[psanders@oilfieldwaterlogistics.com](mailto:psanders@oilfieldwaterlogistics.com)>; Heather Leven <[heather@kjenvironmental.com](mailto:heather@kjenvironmental.com)>  
**Subject:** RE: Spill Delineation and Remediation Plan- 1RP 4820 Version 2.0 - Bioremediation

Good morning All,

I attached an email from Wildcatter Energy Services describing the details of their product. Please let me know if you have any questions.

Thank you!

<image001.jpg>

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**From:** Mann, Ryan [<mailto:rmann@slo.state.nm.us>]  
**Sent:** Tuesday, June 19, 2018 12:53 PM  
**To:** James Fox; [Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)  
**Cc:** Dena; Naranjo, Mark; Phillip Sanders ([psanders@oilfieldwaterlogistics.com](mailto:psanders@oilfieldwaterlogistics.com)); Heather Leven  
**Subject:** RE: Spill Delineation and Remediation Plan- 1RP 4820 Version 2.0 - Bioremediation

Mr. Fox,

Thank you for the response to the concerns of NMOCD. I haven't received any responses to the questions I had regarding the proposal, my apologies if you responded and I misplaced the email. I have attached the questions again. #1 and #3 are what I am mainly concerned about. Please inform about these.

I have reviewed the submission and have some questions:

1. I am not familiar with OrganaMax. It seems to be something similar to a probiotic soil amendment. How does this address the chloride contamination? Will this push the chlorides lower in the soil profile or is there some other

mechanism in play? Perhaps there is an easy answer, I'm just not familiar with this product.

2. Can you provide a map of the location of the infiltration points? Appendix A contains the soil bore locations, but no information regarding the locations where the organamax is to be applied.
3. It is unclear to me where revegetation is proposed to occur. Provide a map that clearly labels where reveg is proposed. The report mentions "vegetative growth restriction imposed by pipeline owner" Is this referring the OWL pipeline that leaked or the gas line to the south? Who is the pipeline owner that restricted revegetation? Looking at the provided photo the site had nicely vegetated prior to the release.

Feel free to contact me if you would like to discuss this further. I look forward to your responses to these questions.

Ryan Mann  
Remediation Specialist  
Field Operation Division  
(575) 392-3697  
(505) 699-1989  
New Mexico State Land Office  
2827 N. Dal Paso Suite 117  
Hobbs, NM 88240

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**From:** James Fox [<mailto:james@kjenvironmental.com>]

**Sent:** Monday, June 18, 2018 10:19 AM

**To:** [Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us); Mann, Ryan <[rmann@slo.state.nm.us](mailto:rmann@slo.state.nm.us)>

**Cc:** Dena <[dena@kjenvironmental.com](mailto:dena@kjenvironmental.com)>; Naranjo, Mark <[MNaranjo@slo.state.nm.us](mailto:MNaranjo@slo.state.nm.us)>; Phillip Sanders ([psanders@oilfieldwaterlogistics.com](mailto:psanders@oilfieldwaterlogistics.com)) <[psanders@oilfieldwaterlogistics.com](mailto:psanders@oilfieldwaterlogistics.com)>; Heather Leven <[heather@kjenvironmental.com](mailto:heather@kjenvironmental.com)>

**Subject:** FW: Spill Delineation and Remediation Plan- 1RP 4820 Version 2.0 - Bioremediation

**Importance:** High

Good morning Mr. Mann,

Please see the responses to the additional concerns below. Please let me know if there are any questions.

Thank you sir

<image001.jpg>

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**From:** [mf@wildcatteres.com](mailto:mf@wildcatteres.com) [<mailto:mf@wildcatteres.com>]

**Sent:** Wednesday, June 13, 2018 5:49 PM

**To:** James Fox

**Cc:** [psanders@oilfieldwaterlogistics.com](mailto:psanders@oilfieldwaterlogistics.com); 'Scott Sherman!'; 'Ted Murphy'

**Subject:** Spill Delineation and Remediation Plan- 1RP 4820 Version 2.0 - Bioremediation

**Importance:** High

Good Afternoon Mr. Fox;

After speaking with Phillip earlier today, please find answers to your questions regarding our OrganaMax microbial solution for the above-referenced project. Our response is in **red**.

“NMOCD agrees with NMSLO regarding the revised remediation proposal for 1RP-4820. Please address these additional concerns along with NMSLO’s”.

1. Provide the MSDS for the product in reference. **(attached)**
2. Where is the source of the freshwater? Please be advised that many sources of freshwater are above 600 mg/kg chlorides. **Local well water to be tested for chlorides, but fresh water from an alternative source will be hauled in for the project.**
3. How will the water be stored for usage? If the proposed process will be implemented during summer, how will evapotranspiration be accounted for in order to maintain the soil moisture range for effectiveness? **Clean, 300 gallon plastic tanks will be used to store fresh water at the project work-site. A water truck will be used to maintain soil moisture levels between 50% and 70% so that microbial efficacy is maintained. Wireless soil moisture sensors will be used with a remote monitoring system. These sensors will give us real-time soil moisture measurements so that the water we have on site will be used wisely and when needed.**

Please let us know if you need any additional information. Thank you and regards,

**Mark Frenzel**

*Sr. VP Business Development*

**Wildcatter Energy Services**

432-238-5751

<image003.png>

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