

**From:** [Yu, Olivia, EMNRD](#)  
**To:** [Heather Patterson](#); [Billings, Bradford, EMNRD](#)  
**Cc:** [Austin Weyant](#); [Dinwiddie, Blake](#)  
**Subject:** RE: Christmas SWD 1RP-4700 Key Energy Services  
**Date:** Tuesday, October 10, 2017 9:26:00 AM  
**Attachments:** image001.png

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Good morning Ms. Patterson:

Thank you the clarification. NMOCD will accept the delineation workplan for coverage of 1RP-4700, 1RP 4806, and 1RP-4807.

NMOCD considers delineation completed for 1RP-4700, 1RP-4806, 1RP4807. The proposed remediation plan is approved with these conditions:

1. Laboratory analyses (BTEX, TPH extended, and chlorides) of bottom and sidewall samples.
2. On site bioremediation of affected soil must be tested every 25 yd3 at 90 days and 180 days. Please remember to berm the plastic with affected soil to prevent impact offsite.
3. Provide a scaled map with locations of confirmation soil samples and placement of bioremediated soil.

NMOCD also requests the SOP for onsite bioremediation of TPH-impacted soils.

Please confirm or inform for clarification.

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:** Heather Patterson [mailto:[heather.patterson@soudermiller.com](mailto:heather.patterson@soudermiller.com)]  
**Sent:** Friday, October 6, 2017 3:46 PM  
**To:** Yu, Olivia, EMNRD <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)>  
**Cc:** Austin Weyant <[austin.veyant@soudermiller.com](mailto:austin.veyant@soudermiller.com)>; Dinwiddie, Blake <[bdinwiddie@keyenergy.com](mailto:bdinwiddie@keyenergy.com)>  
**Subject:** RE: Christmas SWD 1RP-4700 Key Energy Services

Good Afternoon Olivia,

This release will indeed cover both 1RP-4806 and 1RP-4807, as well as 1RP-4700. We didn't include those in the report because the C-141's were not processed yet at time of writing.

1RP-4806 was filed incorrectly. It indicates produced water was released, but it was in fact oil. As you will note, this release comes from the same tank as 1RP-4807, the skim oil tank, which only holds oil. (This tank has been taken out of commission.) We have also performed several EC screens to ensure we are not introducing chlorides into our bioremediation area, and will continue to do so. Any chloride affected soils found will be hauled off and we will inform the OCD. We would be glad to meet you on location anytime to show you our chloride screening methods.

SMA does not intend to blend any soils. We will be hauling off the most highly affected soils, and bioremediating the remainder on location.

I apologize for the discrepancies in the text. Only one location was augured to 5 ft.

The samples were pulled from a Key employee who is no longer with the company. She ran the Texas methods, and I failed to notice that. Sorry about that. We do intend to pull bottom hole confirmation samples throughout the battery, and will, of course, run all samples with New Mexico approved methods. Austin has lots of information on these methods and how they compare. You should expect an email from him shortly explaining the differences.

I hope this clears up all of your questions. If you have any more, please don't hesitate to call me.

Thank you,

**Heather Patterson**

*Staff Scientist*

**Souder, Miller & Associates**

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

**Sent:** Tuesday, October 3, 2017 9:09 AM

**To:** Heather Patterson <[heather.patterson@soudermiller.com](mailto:heather.patterson@soudermiller.com)>; [agroves@slo.state.nm.us](mailto:agroves@slo.state.nm.us)

**Cc:** Austin Weyant <[austin.veyant@soudermiller.com](mailto:austin.veyant@soudermiller.com)>; Dinwiddie, Blake  
<[bdinwiddie@keyenergy.com](mailto:bdinwiddie@keyenergy.com)>

**Subject:** RE: Christmas SWD 1RP-4700 Key Energy Services

Dear Ms. Patterson:

Notes:

- This release did not occur on State surface. NMSLO can verify.
- Estimated depth to groundwater is approximately 61 ft. bgs. There is a USGS site with data from 2016, about 1000 m SW of the release location. Please check USGS's database in addition to NMOSE's.

Please address these concerns regarding the workplan for 1RP-4700:

- Is this delineation/release characterization workplan only for 1RP-4700 and not 1RP-4806 and 1RP-4807? Unless information provided on the initial C-141s were incorrect, releases under 1RP-4806 and 1RP-4807 occurred over the same area as 1RP-4700.
- Blending soil for bioremediation is not permitted given subsequent produced water releases at this location.
- Several discrepancies between the text and the provided data:
  - Only L-2 had samples taken at 5 ft., although the text stated that depth of auger holes was 5 ft. bgs for all 5 sample locations. Were the 5 ft. samples not taken or not submitted for laboratory analyses?
  - Chain of command documents for laboratory analyses indicated that EPA method 8260c and TNRCC 1005 were used, not EPA methods 8021 and 8015.
  - Provide documentation that TNRCC 1005 is equivalent to EPA method 8015.

Thanks,  
Olivia

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**From:** Heather Patterson [<mailto:heather.patterson@soudermiller.com>]  
**Sent:** Wednesday, September 20, 2017 4:01 PM  
**To:** Yu, Olivia, EMNRD <[Olivia.Yu@state.nm.us](mailto:Olivia.Yu@state.nm.us)>; [agroves@slo.state.nm.us](mailto:agroves@slo.state.nm.us)  
**Cc:** Austin Weyant <[austin.veyant@soudermiller.com](mailto:austin.veyant@soudermiller.com)>; Dinwiddie, Blake <[bdinwiddie@keyenergy.com](mailto:bdinwiddie@keyenergy.com)>  
**Subject:** Christmas SWD 1RP-4700 Key Energy Services

Good Afternoon,

Please find the attached work plan for the release at the Christmas SWD (1RP-4700).

Thank you,

**Heather Patterson**

*Staff Scientist*

**Souder, Miller & Associates**

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