

**From:** [Yu, Olivia, EMNRD](#)  
**To:** [Tavarez, Ike](#); [Tucker, Shelly](#)  
**Cc:** [Gonzales, Clair](#); [Billings, Bradford, EMNRD](#); [Karrigan, Callie N. \(MRO\)](#)  
**Subject:** RE: Question about remedial activities for 1RP-4959  
**Date:** Monday, April 2, 2018 7:21:00 AM

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Good morning Mr. Tavarez:

Thank you for the additional information. NMOCD will approve of the proposed modified remediation plan for 1RP-4959 with several clarifications.

To facilitate visualization, please submit a scaled map with the soil bore hole locations in relation to the test trenches. Although SB-3 does not show hydrocarbon-impacted soil at 6 and 8 ft. bgs, Trench 3 does. Will the area represented by Trench 3 be excavated? Based on the submitted data table, the excavated, stockpiled soil to be used for backfilling came from the top 4 ft. of soil from the areas represented by Trench 2, Trench 3, and SB-3, correct?

Please be advised that laboratory analyses (TPH and BTEX) sidewall and bottom confirmation samples are required from each of the differ depths of excavation, in addition to the labs for stockpiled soil at every 50 cubic yards.

Like approval from BLM required.

Thanks,  
Olivia

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**From:** Tavarez, Ike <Ike.Tavarez@tetrattech.com>  
**Sent:** Wednesday, March 28, 2018 3:43 PM  
**To:** Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; Tucker, Shelly <stucker@blm.gov>  
**Cc:** Gonzales, Clair <Clair.Gonzales@tetrattech.com>; Billings, Bradford, EMNRD <Bradford.Billings@state.nm.us>; Karrigan, Callie N. (MRO) <cnkarrigan@marathonoil.com>  
**Subject:** RE: Question about remedial activities for 1RP-4959

Thanks Olivia.

The boreholes were installed when the depth of the excavation was at 2.0' below surface. After drilling, the entire area has been excavated to a depth of 5.0' below surface. After review the borehole data, there was no hydrocarbon impact to the subsurface soils in the area of BH-3 (north) and this area will not be excavated further. The area of BH-2 (middle) will be excavated to a depth of approximately 10.0' below surface to remove the impacted soil above the RRALs.

Borehole BH-1 (south) showed a deeper impact to the subsurface soils. According to the borehole data, the TPH and BTEX concentrations declined below the RRALs at 24-25' (BEB) below excavation bottom (2') and appears to cleanup between 14'-24' (BEB). Tetra Tech will remove the impacted soil as practicable to a maximum depth of 20.0' below surface. Hopefully, we can remove the majority of the hydrocarbon impact from the area, so that any residue remaining would not be an

environmental concern.

The excavated material will be segregated into 50 cubic yard stockpiles and worked on the pad prior to sampling for TPH and BTEX. If the samples are below the RRALs, the stockpile material will be placed back into the excavation. Once all of the remediation activities are performed, Tetra Tech will prepare a closure report. Let me know if you have any questions, thanks

**Ike Tavarez, PG | Senior Project Manager**

Main: 432.682.4559 | Fax: 432.682.3946 | Cell: 432.425.3878

[Ike.Tavarez@tetrattech.com](mailto:Ike.Tavarez@tetrattech.com)

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

**Sent:** Wednesday, March 28, 2018 1:41 PM

**To:** Tavarez, Ike <[Ike.Tavarez@tetrattech.com](mailto:Ike.Tavarez@tetrattech.com)>; Tucker, Shelly <[stucker@blm.gov](mailto:stucker@blm.gov)>

**Cc:** Gonzales, Clair <[Clair.Gonzales@tetrattech.com](mailto:Clair.Gonzales@tetrattech.com)>; Billings, Bradford, EMNRD <[Bradford.Billings@state.nm.us](mailto:Bradford.Billings@state.nm.us)>

**Subject:** RE: Question about remedial activities for 1RP-4959

Mr. Tavarez:

Thank you for the additional data and status update for 1RP-4959. Since chloride is not an issue, NMOCD requests that the Responsible Operator consider air-sparging and soil vapor extraction for the hydrocarbon-impacted area rather than capping the affected soil at 5 ft. bgs.

Since soil is impacted down to 15 ft. bgs, please explain how excavated soil to 5 ft. be used for backfilling. If there are no chlorides, NMOCD may approve of stockpiled soil to be used for backfilling. However, soil samples, 1 every 50 cubic yards, must be laboratory analyzed for BTEX and TPH extended.

Please be advised that any proposed remedial activities must be approved by NMOCD and BLM.

Thanks,  
Olivia

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**From:** Tavarez, Ike <[Ike.Tavarez@tetrattech.com](mailto:Ike.Tavarez@tetrattech.com)>

**Sent:** Wednesday, March 28, 2018 12:24 PM

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

**Cc:** Gonzales, Clair <[Clair.Gonzales@tetrattech.com](mailto:Clair.Gonzales@tetrattech.com)>

**Subject:** RE: Question about remedial activities for 1RP-4959

Olivia,

Have you heard anything on capping hydrocarbon impacted soils?

Project Status:

Tetra Tech has installed three (3) boreholes to define extents as shown in the attached table. After drilling, the area was excavated to a depth of 5.0' below surface. Based assessment data no significant chlorides were encountered in the soils. On the excavated material, the soils will be segregated (50 cubic yard piles) and worked on the pad for sampling. If samples are below the RRALs (TPH and BTEX), the stockpile material will be placed back into the excavation. Please call me. We are on hold until the further notice, thanks

**Ike Tavaréz, PG | Senior Project Manager**

Main: 432.682.4559 | Fax: 432.682.3946 | Cell: 432.425.3878

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**From:** Tavaréz, Ike

**Sent:** Thursday, March 22, 2018 4:44 PM

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

**Cc:** Billings, Bradford, EMNRD <[Bradford.Billings@state.nm.us](mailto:Bradford.Billings@state.nm.us)>; Karrigan, Callie N. (MRO) <[cnkarrigan@marathonoil.com](mailto:cnkarrigan@marathonoil.com)>; Gonzales, Clair <[Clair.Gonzales@tetrattech.com](mailto:Clair.Gonzales@tetrattech.com)>

**Subject:** RE: Question about remedial activities for 1RP-4959

Thanks Olivia, here is a little information that may help.

The site remediation at the above referenced site is in progress. As shown in the submitted work plan, the assessment sampling showed a shallow hydrocarbon impact to the soils with elevated TPH and BTEX concentrations at 0-1' which declined below the RRALs at 1-1.5' below surface. However, during the remediation, the impacted area was excavated down to a depth of 2.0' below surface. Confirmation samples at 2.0' showed elevated TPH and BTEX concentrations above the RRALs. Based on the results, Tetra Tech installed backhoe trenches to depths of 8.0' to 10.0' below excavation bottom. As shown in the attached Table 2, the TPH and total BTEX concentrations exceeded the RRALs and were not vertically defined. The chloride detected are not significant and below the threshold (600 mg/kg).

Based on the trench results, Tetra Tech will be installing three (3) boreholes in the area to define extents on Monday (3/26/18). After drilling, the impacted soils will be immediately be excavated

(equipment onsite) to the appropriate depth, as approved. Let me know if the capping the impacted soils with a 20 mil liner is an option for the site, thanks

**Ike Tavaréz, PG | Senior Project Manager**

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

**Sent:** Thursday, March 22, 2018 3:47 PM

**To:** Tavaréz, Ike <[Ike.Tavaréz@tetrattech.com](mailto:Ike.Tavaréz@tetrattech.com)>

**Cc:** Billings, Bradford, EMNRD <[Bradford.Billings@state.nm.us](mailto:Bradford.Billings@state.nm.us)>

**Subject:** Question about remedial activities for 1RP-4959

Mr. Tavaréz:

Pardon for the delayed response. I needed to confirm with NMOCD- Santa Fe regarding your question about capping hydrocarbon-impacted soil for 1RP-4959. While the preferred option is to remove the impacted soil past 4 ft. bgs, NMOCD's conventional remedial plan of 4 ft. excavation with a minimal 20 mil liner is acceptable even for soil impacted with TPH extended or BTEX. If the soil to be encapsulated has BTEX concentration exceeding permissible levels, the recommendation is to place a buffer of sand between the base of the excavation and the properly keyed in liner, in order to prevent rapid degradation of the plastic liner from benzene. Please be advised that a scaled map with the alternative remedial activities annotated and photo documentation will be required.

Please inform of decision or 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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**To:** [Tavarez, Ike](#)  
**Cc:** [Billings, Bradford, EMNRD](#); [Karrigan, Callie N. \(MRO\)](#); [Gonzales, Clair](#)  
**Subject:** RE: Question about remedial activities for 1RP-4959  
**Date:** Thursday, March 22, 2018 4:22:00 PM

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Mr. Tavarez:

Thank you for your prompt response and the update on the additional delineation for 1RP-4959. Based on the preliminary data presented, an alternative remediation proposal may be feasible rather than capping the hydrocarbon-impacted soil. However, Bradford and I will discuss and get back to you. Please remember to place the excavated, impacted soil on a plastic liner with berms before disposal.

Thanks,  
Olivia

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Olivia Yu  
Environmental Specialist  
NMOCD, District I  
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