



May 31, 2017

VIA Email: Olivia.Yu@state.nm.us

Ms. Olivia Yu
Environmental Specialist
New Mexico Oil Conservation Division
1625 N. French Drive
Hobbs, New Mexico 88240

Re: 1RP-4666 – Responses to Spill Remediation Plan Review, East Caprock SWD/Posey A5 Battery, Lea County, New Mexico

Dear Ms. Yu,

Larson & Associates, Inc. (LIA) submits this amended delineation spill report on behalf of Paladin Energy Corp. (Paladin) for the East Caprock SWD/Posey A5 Battery (site) in response to your concerns regarding proposed remediation activities. The following responses are for questions from your email on May 31, 2017:

Question: SB2, SB3, and SB8 are supposedly background sample locations, yet the surfaces are above permissible levels for chlorides, with SB8 also having high TPH at 5 ft. bgs. Is there a plan to address these spots?

Response: Boring SB-2 is outside the spill area and may be associated with an old spill event. The location was selected since it has established vegetation. The chloride concentrations in samples from 5 feet and 10 feet were 733 milligrams per kilogram (mg/Kg) and 876 mg/Kg, respectively, and below 1,000 mg/Kg that OCD has allowed under similar conditions regarding depth to groundwater. Paladin will excavate soil to about 2 feet below ground surface from the areas of borings SB-3 and SB-8 to reduce the chloride concentration below 1,000 mg/Kg. Confirmation samples will be collected from the bottom of the excavations at SB-3 and SB-8 to confirm the chloride concentration.

Question: The proposed excavation depths for SB10- SB13 and HA1-4 does not completely remediate the soil to permissible TPH and chloride levels. Please provide a rationale for not setting a liner to encapsulate the impacted soil below.

Response: Paladin proposes to collect another soil sample at DP-10 from 10 feet bgs to confirm the previous TPH concentration (360 mg/Kg). Soil samples will be collected at HA-2, HA-3 and HA-4 from 5 and 10 feet bgs to delineate the vertical extent of TPH to support excavating soil to 2 feet. The excavation will be deepened to achieve the RRAL (100 mg/Kg) for TPH, if necessary. A 20 mil thickness liner will be placed in the bottom of the excavation between SB-10 and HA-4.

Question: Please provide a rationale of the locations of the temporary monitoring wells in relation to groundwater hydrology in this area.

Response: The regional groundwater flow direction is generally from west-northwest to east-southeast therefore the temporary monitoring wells were positioned down gradient (east and southeast) from the Site at locations outside the spill area where the potential for cross-contamination from impacted soil is minimized from drilling and prohibited by the water well driller's license.

Ms. Olivia Yu
March 31, 2017
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Question: Bottom confirmation samples are requested for the proposed excavation depths around SB5-7. Please confirm.

Response: Confirmation samples will be collected from the bottom of the excavation at locations SB-5, SB-6 and SB-7 and analyzed for TPH to confirm the concentration is below the RRAL.

Please contact Mickey Horn with Paladin at (432) 634-6599 or email paladinmid@suddenlink.net or me at (432) 687-0901, if you have questions.

Sincerely,
Larson & Associates, Inc.



Mark J. Larson
President/Sr. Project Manager

cc: Mickey Horn

From: Mark Larson
To: [Yu, Olivia, EMNRD](#)
Cc: "[paladinmid@suddenlink.net](#)"; "[ggfenton@aol.com](#)"; "[dplaisance@paladinenergy.com](#)"
Subject: RE: 1RP-4666, Paladin Energy Corp., East Caprock SWD/Posey A5 Battery Investigation Report, May 5, 2017
Date: Tuesday, June 6, 2017 7:31:41 AM

Will do! Thank you, Olivia!

From: Yu, Olivia, EMNRD [mailto:Olivia.Yu@state.nm.us]
Sent: Monday, June 05, 2017 6:47 PM
To: Mark Larson
Cc: 'paladinmid@suddenlink.net'; 'ggfenton@aol.com'; 'dplaisance@paladinenergy.com'
Subject: RE: 1RP-4666, Paladin Energy Corp., East Caprock SWD/Posey A5 Battery Investigation Report, May 5, 2017

Dear Mr. Larson:

Thank you for your responses regarding corrective actions for 1RP-4666. NMOCD approves of the proposed delineation and remediation actions in the document from May 31, 2017 with a few additional details.

1. Confirmation TPH samples at SB-8 in addition to chlorides at 2 ft. bgs.
2. Laboratory tests of chloride at HA1-HA4 at 5 and 10 ft. bgs in addition to TPH.

Please confirm.

Thanks,
Olivia

From: Mark Larson [mailto:Mark@laenvironmental.com]
Sent: Thursday, June 1, 2017 5:27 PM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: 'paladinmid@suddenlink.net' <paladinmid@suddenlink.net>; 'ggfenton@aol.com' <ggfenton@aol.com>; 'dplaisance@paladinenergy.com' <dplaisance@paladinenergy.com>
Subject: RE: 1RP-4666, Paladin Energy Corp., East Caprock SWD/Posey A5 Battery Investigation Report, May 5, 2017

Olivia,
Please find attached responses to your questions and concerns following review of the Remediation Plan for 1RP-4666. This response letter is submitted on behalf of Paladin Energy Corp. Please contact Mickey Horn with Paladin at (432) 63406599 or paladinmidland@suddenlink.net or me if you have questions.

Mark J. Larson, P.G.
President/Sr. Project Manager
507 N. Marienfeld St., Suite 205
Midland, Texas 79701
Office – 432-687-0901

Cell – 432- 556-8656
Fax – 432-687-0456
mark@laenvironmental.com



“Serving the Permian Basin Since 2000”

From: Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]
Sent: Wednesday, May 31, 2017 3:27 PM
To: Mark Larson
Cc: 'paladinmid@suddenlink.net'; 'ggfenton@aol.com'; 'dplaisance@paladinenergy.com'
Subject: RE: 1RP-4666, Paladin Energy Corp., East Caprock SWD/Posey A5 Battery Investigation Report, May 5, 2017

Dear Mr. Larson:

Please address these concerns regarding the proposed remediation activities for 1RP-4666.

1. SB2, SB3, and SB8 are supposedly background sample locations, yet the surfaces are above permissible levels for chlorides, with SB8 also having high TPH at 5 ft. bgs. Is there a plan to address these spots?
2. The proposed excavation depths for SB10- SB13 and HA1-4 does not completely remediate the soil to permissible TPH and chloride levels. Please provide a rationale for not setting a liner to encapsulate the impacted soil below.
3. Please provide a rationale of the locations of the temporary monitoring wells in relation to groundwater hydrology in this area.
4. Bottom confirmation samples are requested for the proposed excavation depths around SB5-7. Please confirm.

Thanks,
Olivia

From: Mark Larson [<mailto:Mark@laenvironmental.com>]
Sent: Wednesday, May 24, 2017 7:15 AM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: 'paladinmid@suddenlink.net' <paladinmid@suddenlink.net>; 'ggfenton@aol.com' <ggfenton@aol.com>; 'dplaisance@paladinenergy.com' <dplaisance@paladinenergy.com>
Subject: RE: 1RP-4666, Paladin Energy Corp., East Caprock SWD/Posey A5 Battery Investigation Report, May 5, 2017

Olivia,
Please find attached plan for remediating TPH in soil and installing two (2) temporary monitoring wells for 1RP-4666. This plan is submitted to the OCD on behalf of Paladin Energy Corp. Please

contact Mickey Horn with Paladin at (432) 63406599 or paladinmidland@suddenlink.net or me if you have questions.

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“Serving the Permian Basin Since 2000”

From: Yu, Olivia, EMNRD [<mailto:Olivia.Yu@state.nm.us>]
Sent: Friday, May 19, 2017 2:02 PM
To: Mark Larson
Cc: 'ggfenton@aol.com'; 'dplaisance@paladinenergy.com'; 'paladinmid@suddenlink.net'; Oberding, Tomas, EMNRD
Subject: RE: 1RP-4666, Paladin Energy Corp., East Caprock SWD/Posey A5 Battery Investigation Report, May 5, 2017

Dear Mr. Larson:

Please address these concerns for 1RP-4666.

- What is the proposed remediation plan for the areas around the soil bores demonstrating high TPH values? Indicate on a map with the areas demarcated and a table with the proposed depths if excavation and/or liner is the preferred option.
- As most of the bore holes do not appear to be vertically delineated for chlorides, NMOCD requests that at least 2 temporary monitoring wells be established to determine whether groundwater has been impacted.

Please confirm.

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: Mark Larson [<mailto:Mark@laenvironmental.com>]
Sent: Thursday, May 18, 2017 3:00 PM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>
Cc: 'ggfenton@aol.com' <ggfenton@aol.com>; 'dplaisance@paladinenergy.com' <dplaisance@paladinenergy.com>; 'paladinmid@suddenlink.net' <paladinmid@suddenlink.net>
Subject: FW: 1RP-4666, Paladin Energy Corp., East Caprock SWD/Posey A5 Battery Investigation Report, May 5, 2017

Hello Olivia,

Just checking with you to see if you received the link for the referenced report and if you have reviewed. Paladin would like to move ahead with remediation of the TPH contaminated soil with your approval. Please contact Mickey Horn with Paladin at (432) 63406599 or paladinmidland@suddenlink.net or me if you have questions.

Link to Report: <https://files.acrobat.com/a/preview/c72b0b70-e81d-45a2-8cd1-007f86401b63>

Respectfully,

Mark J. Larson, P.G.
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“Serving the Permian Basin Since 2000”

From: Mark Larson
Sent: Monday, May 08, 2017 8:48 AM
To: 'Yu, Olivia, EMNRD'
Cc: 'ggfenton@aol.com'; 'dplaisance@paladinenergy.com'; 'paladinmid@suddenlink.net'
Subject: Re: 1RP-4666, Paladin Energy Corp., East Caprock SWD/Posey A5 Battery Investigation Report, May 5, 2017

Olivia,

On behalf of Paladin Energy Corp. (Paladin) please use the link below to download the

investigation report for 1RP-4666 (East Caprock SWD/Posey A5 battery). Please contact Mickey Horn with Paladin at (432) 63406599 or paladinmidland@suddenlink.net or me if you have questions.

Link to Report: <https://files.acrobat.com/a/preview/c72b0b70-e81d-45a2-8cd1-007f86401b63>

Respectfully,

Mark J. Larson, P.G.
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