

## Smith, Cory, EMNRD

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**From:** Jennifer Deal <jdeal@hilcorp.com>  
**Sent:** Friday, October 18, 2019 2:18 PM  
**To:** Smith, Cory, EMNRD  
**Cc:** 'Jim Foster'  
**Subject:** [EXT] FW: [EXTERNAL] Hilcorp's Kaufman No. 1 - Weekly Update for week of 9/23/19, 9/30/19, and 10/7/19  
**Attachments:** Kaufman No. 1 (Figure 8\_2S19 potenitometric).pdf

Below is an update for the Kaufman 1. Let me know if you have any questions.

Thank you,

Jennifer Deal  
Environmental Specialist  
Hilcorp Energy – L48 West  
[jdeal@hilcorp.com](mailto:jdeal@hilcorp.com)  
Office: (505) 324-5128  
Cell: 505-801-6517

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**From:** Jim Foster [mailto:jim@teamtimberwolf.com]  
**Sent:** Friday, October 18, 2019 1:28 PM  
**To:** Thomas, Leigh <l1thomas@blm.gov>; 'Abiodun Adeloje' <aadeloje@blm.gov>; John Kendall <j01kenda@blm.gov>  
**Cc:** Jennifer Deal <jdeal@hilcorp.com>; Matthew Henderson <mhenderson@hilcorp.com>; Ryan Mersmann <ryan@teamtimberwolf.com>; Michael Morse <michael@teamtimberwolf.com>  
**Subject:** [EXTERNAL] Hilcorp's Kaufman No. 1 - Weekly Update for week of 9/23/19, 9/30/19, and 10/7/19

All,

I was out of the office the week of 9/30/19. I apologize for falling behind on these updates.

For the week of 9/23/19, no work was conducted.

For the week of 9/30/19, a revised wetland report was completed. The report was revised to include additional soil data points and additional information as requested by Wyatt Medley with the USACE. Copies of the revised report were submitted to the BLM and USACE. After Wyatt Medley's review, he provided the following feedback by email: *I don't have any further comments on the delineation and I appreciate the effort that Timberwolf put into the document.*

For the week of 10/7/19, a groundwater monitoring event was conducted. Groundwater samples were collected from each monitoring well; samples were submitted for laboratory analysis and should be reported in the next weekly update.

A potentiometric surface map (PSE) was prepared to determine the direction of groundwater flow across the Site (attached). The attached PSE map reveals that groundwater is discharging to the excavation (i.e. former tank battery). The mechanism for discharge is evaporation; which should facilitate stabilizing the benzene plume (i.e., keeping it from moving off-site).

Thank you,

**Jim Foster**  
**President**



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**From:** Jim Foster  
**Sent:** Wednesday, September 25, 2019 6:10 PM  
**To:** 'Thomas, Leigh' <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>; 'Abiodun Adeloye' <[aadeloye@blm.gov](mailto:aadeloye@blm.gov)>; 'John Kendall' <[j01kenda@blm.gov](mailto:j01kenda@blm.gov)>  
**Cc:** 'Jennifer Deal' <[jdeal@hilcorp.com](mailto:jdeal@hilcorp.com)>; 'Matt Henderson' <[mhenderson@hilcorp.com](mailto:mhenderson@hilcorp.com)>; Ryan Mersmann <[ryan@teamtimberwolf.com](mailto:ryan@teamtimberwolf.com)>  
**Subject:** Hilcorp's Kaufman No. 1 - Weekly Update for week of 9/9/19

All,

For the week of 9/16/19, no work was conducted at the Site.

Thank you,

**Jim Foster**  
**President**



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**From:** Jim Foster  
**Sent:** Monday, September 16, 2019 5:09 PM  
**To:** Thomas, Leigh <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>; 'Abiodun Adeloye' <[aadeloye@blm.gov](mailto:aadeloye@blm.gov)>; John Kendall <[j01kenda@blm.gov](mailto:j01kenda@blm.gov)>  
**Cc:** Jennifer Deal <[jdeal@hilcorp.com](mailto:jdeal@hilcorp.com)>; Matt Henderson <[mhenderson@hilcorp.com](mailto:mhenderson@hilcorp.com)>; Ryan Mersmann <[ryan@teamtimberwolf.com](mailto:ryan@teamtimberwolf.com)>; James McNutt <[james@teamtimberwolf.com](mailto:james@teamtimberwolf.com)>  
**Subject:** Hilcorp's Kaufman No. 1 - Weekly Update for week of 9/9/19

All,

For the week of 9/9/19, we submitted the required public notices for the Stage 1 Abatement Plan.

Thank you,

**Jim Foster**  
**President**



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**From:** Jim Foster  
**Sent:** Wednesday, September 11, 2019 4:46 PM  
**To:** 'Thomas, Leigh' <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>; 'Abiodun Adeleye' <[aadeleye@blm.gov](mailto:aadeleye@blm.gov)>; 'John Kendall' <[j01kenda@blm.gov](mailto:j01kenda@blm.gov)>  
**Cc:** 'Jennifer Deal' <[jdeal@hilcorp.com](mailto:jdeal@hilcorp.com)>; 'Matt Henderson' <[mhenderson@hilcorp.com](mailto:mhenderson@hilcorp.com)>; Ryan Mersmann <[ryan@teamtimberwolf.com](mailto:ryan@teamtimberwolf.com)>; James McNutt <[james@teamtimberwolf.com](mailto:james@teamtimberwolf.com)>  
**Subject:** Hilcorp's Kaufman No. 1 - Weekly Update for week of 9/2/19

All,

For the week of 9/2/19, we submitted all required written notices to all surface owners within a one-mile radius of the Site.

Thank you,

**Jim Foster**  
**President**



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**From:** Jim Foster  
**Sent:** Wednesday, September 4, 2019 4:05 PM  
**To:** 'Thomas, Leigh' <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>; 'Abiodun Adeleye' <[aadeleye@blm.gov](mailto:aadeleye@blm.gov)>; 'John Kendall' <[j01kenda@blm.gov](mailto:j01kenda@blm.gov)>  
**Cc:** 'Jennifer Deal' <[jdeal@hilcorp.com](mailto:jdeal@hilcorp.com)>; 'Matt Henderson' <[mhenderson@hilcorp.com](mailto:mhenderson@hilcorp.com)>; Ryan Mersmann <[ryan@teamtimberwolf.com](mailto:ryan@teamtimberwolf.com)>; James McNutt <[james@teamtimberwolf.com](mailto:james@teamtimberwolf.com)>  
**Subject:** Hilcorp's Kaufman No. 1 - Weekly Update for week of 8/26/19

All,

For the week of 8/26/19, we received notification from the OCD that our Stage 1 Abatement Plan as been administratively approved. The enables us to move forward with remedial activities scheduled for the Site.

Thank you,

**Jim Foster**  
**President**



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**From:** Jim Foster  
**Sent:** Wednesday, August 28, 2019 3:42 PM  
**To:** Thomas, Leigh <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>; 'Abiodun Adeloje' <[aadeloje@blm.gov](mailto:aadeloje@blm.gov)>; John Kendall <[j01kenda@blm.gov](mailto:j01kenda@blm.gov)>  
**Cc:** Jennifer Deal <[ideal@hilcorp.com](mailto:ideal@hilcorp.com)>; Matt Henderson <[mhenderson@hilcorp.com](mailto:mhenderson@hilcorp.com)>; Ryan Mersmann <[ryan@teamtimberwolf.com](mailto:ryan@teamtimberwolf.com)>; James McNutt <[james@teamtimberwolf.com](mailto:james@teamtimberwolf.com)>  
**Subject:** Hilcorp's Kaufman No. 1 - Weekly Update for week of 8/19/19

All,

For the week of 8/19/19, we met Wyatt Medley with the USACE on-site. In a previous meeting with Wyatt, he expressed his desire for a more detailed soil investigation to enable a more refined wetland delineation. To that end, we evaluated approximately 10 additional soil locations. The findings revealed a off-site wetland to the north that does not cross the fencing. This wetland was delineated to the south by installing additional soil locations (note: soil locations were not installed to the west, north or east because this is not an area of concern). The previously identified wetland east of the Site has a narrow band which extends between the southern edge of the well pad and an earthen berm. The attached figure shows all soil locations and the revised findings.

Timberwolf will prepare a revised wetland investigation report to include these findings.

Thank you,

**Jim Foster**  
**President**



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**From:** Jim Foster  
**Sent:** Tuesday, August 20, 2019 10:16 AM  
**To:** 'Thomas, Leigh' <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>; 'Abiodun Adeloje' <[aadeloje@blm.gov](mailto:aadeloje@blm.gov)>; 'John Kendall' <[j01kenda@blm.gov](mailto:j01kenda@blm.gov)>  
**Cc:** 'Jennifer Deal' <[ideal@hilcorp.com](mailto:ideal@hilcorp.com)>; 'Matt Henderson' <[mhenderson@hilcorp.com](mailto:mhenderson@hilcorp.com)>; Ryan Mersmann <[ryan@teamtimberwolf.com](mailto:ryan@teamtimberwolf.com)>; James McNutt <[james@teamtimberwolf.com](mailto:james@teamtimberwolf.com)>  
**Subject:** Hilcorp's Kaufman No. 1 - Weekly Update for week of 8/12/19

All,

For the week of 8/12/19, no work was completed at the Site.

We have completed most tasks outlined in the Stage 1 abatement plan. At this point we are awaiting OCD approval for the Stage 1 public notice statement. I have emailed Cory Smith with the OCD 2 or 3 times and discussed the matter with him by phone. He is experiencing delays from Santa Fe.

**Jim Foster**  
**President**



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**From:** Jim Foster

**Sent:** Monday, August 12, 2019 5:18 PM

**To:** Thomas, Leigh <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>; 'Abiodun Adeloye' <[aadeloye@blm.gov](mailto:aadeloye@blm.gov)>; John Kendall <[j01kenda@blm.gov](mailto:j01kenda@blm.gov)>

**Cc:** Jennifer Deal <[jdeal@hilcorp.com](mailto:jdeal@hilcorp.com)>; Matt Henderson <[mhenderson@hilcorp.com](mailto:mhenderson@hilcorp.com)>; Ryan Mersmann <[ryan@teamtimberwolf.com](mailto:ryan@teamtimberwolf.com)>; James McNutt <[james@teamtimberwolf.com](mailto:james@teamtimberwolf.com)>

**Subject:** Hilcorp's Kaufman No. 1 - Weekly Update for week of 8/05/19

All,

For the week of 8/5/19, we completed the vadose zone study of the excavation area which yielded site-specific criteria for petroleum hydrocarbon constituents in soil. Based on the findings, additional excavation is required along the southern and western portions of the excavation. The attached figure shows the proposed excavation area.

Thank you,

**Jim Foster**  
**President**



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**From:** Jim Foster

**Sent:** Tuesday, August 6, 2019 7:38 PM

**To:** 'Thomas, Leigh' <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>; 'Abiodun Adeloye' <[aadeloye@blm.gov](mailto:aadeloye@blm.gov)>; 'John Kendall' <[j01kenda@blm.gov](mailto:j01kenda@blm.gov)>

**Cc:** 'Jennifer Deal' <[jdeal@hilcorp.com](mailto:jdeal@hilcorp.com)>; 'Matt Henderson' <[mhenderson@hilcorp.com](mailto:mhenderson@hilcorp.com)>; Ryan Mersmann <[ryan@teamtimberwolf.com](mailto:ryan@teamtimberwolf.com)>; James McNutt <[james@teamtimberwolf.com](mailto:james@teamtimberwolf.com)>

**Subject:** Hilcorp's Kaufman No. 1 - Weekly Update for week of 7/29/19

All,

Sorry for the delayed weekly report. I was out of the office on Friday and was dealing with other matters yesterday and today.

For the week of 7/29/19, we have no additional activities to report. We received the results of the leachate study today, we will process that data to determine suitable soil criteria for the Site to prevent constituent migration into the groundwater. Based on that information additional excavation may be required. I expect to have that data available in the next weekly report.

Thank you,

**Jim Foster**  
**President**



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**From:** Jim Foster  
**Sent:** Monday, July 29, 2019 11:02 AM  
**To:** Thomas, Leigh <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>; 'Abiodun Adeloye' <[aadeloye@blm.gov](mailto:aadeloye@blm.gov)>; John Kendall <[j01kenda@blm.gov](mailto:j01kenda@blm.gov)>  
**Cc:** Jennifer Deal <[jdeal@hilcorp.com](mailto:jdeal@hilcorp.com)>; Matt Henderson <[mhenderson@hilcorp.com](mailto:mhenderson@hilcorp.com)>; Ryan Mersmann <[ryan@teamtimberwolf.com](mailto:ryan@teamtimberwolf.com)>; James McNutt <[james@teamtimberwolf.com](mailto:james@teamtimberwolf.com)>; Clay Morris <[clay@teamtimberwolf.com](mailto:clay@teamtimberwolf.com)>  
**Subject:** Hilcorp's Kaufman No. 1 - Weekly Update for week of 7/22/19

All,

Below is a summary of work conducted last week at the Kaufman No. 1.

Wetland Investigation

Timberwolf completed its report for the wetland investigation. A copy of the report was delivered to the BLM – Farmington Office and the USACE – Durango Office.

Ecological Risk Assessment (Section 6.4)

The ecological assessment (Section 6.4 of the Stage 1 abatement plan) was conducted to determine if soil at the Site pose a risk to the Southwestern willow flycatcher. Soil samples were collected from the upper 2 ft of the excavation base and sidewalls. The assessment revealed that soil in the western portion of the excavation exceeded the protective concentration limits (PCL) for the Southwestern willow flycatcher. To mitigate the ecological risk, soil will be excavated for off-site disposal. Findings of the risk assessment and proposed excavation area are presented in the attached figure.

Potentiometric Surface Map

During the additional groundwater assessment (Section 5 of the Stage 1 abatement plan), potentiometric surface elevations were collected for groundwater in each monitor well. The attached potentiometric surface map reveals groundwater is moving towards the excavation.

Thank you,  
**Jim Foster**  
**President**



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**From:** Jim Foster  
**Sent:** Friday, July 19, 2019 4:14 PM  
**To:** Thomas, Leigh <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>; 'Abiodun Adeloje' <[aadeloje@blm.gov](mailto:aadeloje@blm.gov)>; John Kendall <[j01kenda@blm.gov](mailto:j01kenda@blm.gov)>  
**Cc:** Jennifer Deal <[jdeal@hilcorp.com](mailto:jdeal@hilcorp.com)>; Matt Henderson <[mhenderson@hilcorp.com](mailto:mhenderson@hilcorp.com)>; Ryan Mersmann <[ryan@teamtimberwolf.com](mailto:ryan@teamtimberwolf.com)>; James McNutt <[james@teamtimberwolf.com](mailto:james@teamtimberwolf.com)>; Clay Morris <[clay@teamtimberwolf.com](mailto:clay@teamtimberwolf.com)>  
**Subject:** Hilcorp's Kaufman No. 1 - Weekly Update for week of 7/15/19

All,

Below is a summary of work conducted this week for the Kaufman No. 1.

Wetland Delineation

Timberwolf completed its Wetland Delineation report. The report was submitted to Hilcorp personnel on 7/18/19 for review. Upon their approval, copies will be submitted to the BLM and USACE.

Receptor Survey

Four sensitive features were identified within a one-quarter mile radius of the Site. These include: one wetland, the La Plata River, an unnamed tributary of the La Plata River, and an irrigation canal. Also, 19 water wells were identified within a one-mile radius of the Site; all wells are domestic supply wells. Figures depicting the location of sensitive features and water wells are attached. Also, within the attached document is a table that provides well location, well type, and depth (if available).

Thank you,

**Jim Foster**  
**President**



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**From:** Jim Foster  
**Sent:** Friday, July 12, 2019 2:28 PM  
**To:** Thomas, Leigh <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>; 'Abiodun Adeloje' <[aadeloje@blm.gov](mailto:aadeloje@blm.gov)>; John Kendall <[j01kenda@blm.gov](mailto:j01kenda@blm.gov)>  
**Cc:** Jennifer Deal <[jdeal@hilcorp.com](mailto:jdeal@hilcorp.com)>; Matt Henderson <[mhenderson@hilcorp.com](mailto:mhenderson@hilcorp.com)>; Ryan Mersmann <[ryan@teamtimberwolf.com](mailto:ryan@teamtimberwolf.com)>; James McNutt <[james@teamtimberwolf.com](mailto:james@teamtimberwolf.com)>; Clay Morris

<[clay@teamtimberwolf.com](mailto:clay@teamtimberwolf.com)>

**Subject:** Hilcorp's Kaufman No. 1 - Weekly Update for week of 7/8/19

All,

Below is a summary of work conducted this week on the Kaufman No. 1.

#### Public Notice

A public notice was submitted to the OCD for review and approval on 7/10/19. Upon approval, the notice will be published in newspapers with local and statewide circulation. Additionally, a list of property owners within a one-mile radius has been compiled. These landowners will receive written notice of the Stage 1 abatement plan as required under 19.15.30 NMAC.

#### Ecological Risk Assessment

On 7/11/19, 5 soil samples were collected to assess the ecological risk to the Southwestern willow flycatcher. Each soil sample was collected from the edge of the open excavation from the 0 – 2 ft depth interval. Samples were submitted to Hall Environmental for chemical analysis of: GRO, DRO, MRO, and BTEX.

#### Vadose Zone Assessment

On 7/11/19, 13 soil samples were collected from the excavation base and sidewalls to assess the vadose zone. Sidewall samples were collected from the 2.5 – 3.5 ft depth interval. Samples were submitted to Hall Environmental for chemical analysis of: GRO, DRO, MRO, and BTEX. Once laboratory analysis is complete, additional analysis will be conducted using EPA method SW-846 Test Method 1312 (*Synthetic Precipitation Leaching Procedure*) to evaluate the leachability of soil within the vadose zone.

#### Receptor Survey

Review of public records revealed 18 domestic water supply wells within a 1-mile radius of the Site. The closest water well is approximately 0.22 miles north-northwest of the Site.

A one-quarter mile ground reconnaissance was conducted on 7/11/19. Note: land ownership west of the La Plata River is predominately private; therefore, ground reconnaissance west of the river was restricted.

#### Wetland Delineation Map

On 7/2/19, Timberwolf conducted a wetland investigation. The attached map depicts the bounds of the investigation and identified features. One wetland was observed east of the Site and 3 areas of hydric vegetation (non-wetland) are located north and south of the Site.

Thank you,

**Jim Foster**  
**President**



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**From:** Jim Foster

**Sent:** Wednesday, July 3, 2019 5:39 PM



**To:** 'Thomas, Leigh' <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>; 'Abiodun Adeloye' <[aadeloye@blm.gov](mailto:aadeloye@blm.gov)>  
**Cc:** 'Jennifer Deal' <[jdeal@hilcorp.com](mailto:jdeal@hilcorp.com)>; 'Matt Henderson' <[mhenderson@hilcorp.com](mailto:mhenderson@hilcorp.com)>; Ryan Mersmann <[ryan@teamtinberwolf.com](mailto:ryan@teamtinberwolf.com)>; James McNutt <[james@teamtinberwolf.com](mailto:james@teamtinberwolf.com)>; Clay Morris <[clay@teamtinberwolf.com](mailto:clay@teamtinberwolf.com)>  
**Subject:** Hilcorp's Kaufman No. 1 - Weekly Update for week of 7/1/19

All,

#### Wetland Investigation

Per the Army Corp of Engineer's request, a wetland investigation was conducted at the Site on 7/2/19. The investigation area encompassed the same area of concern (AOC) as the archeological survey. The investigation revealed one wetland, located immediately east of the well pad. A map depicting the AOC and wetland boundary is being prepared and will be delivered as soon as available. The wetland investigation report is scheduled to be completed by 7/19/19.

#### Groundwater Analytical Results

Analytical results of a groundwater sample collected from the hydrologically upgradient monitor well MW3 revealed elevated salinity as previously identified from analysis of MW1 which is located immediately adjacent to the point of release. Total concentrations and relative percentages of TDS, chloride, and sulfate in MW1 and MW3 reveal a strong correlation in groundwater chemistry between the two samples. This suggests the elevated salinity observed is a native feature of the Site's groundwater. Analytical results for the two samples are presented in the table below. The full salinity chemistry will be presented in the Stage 2 Abatement Plan.

Constituent	MW1	MW3
TDS, mg/L	3130	2,750
Chloride, mg/L	130	120
Sulfate, mg/L	1,700	1,600

mg/L – milligrams per liter

#### Stage 1 Abatement Plan Status

The OCD appears to have deemed our Stage 1 Abatement Plan administratively complete. Therefore, a public notice will be issued within 15 days as required under 19.15.30.

Please let me know if you have any questions. Wishing everyone a good Independence Day!

Thank you,

**Jim Foster**  
**President**



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**From:** Jim Foster  
**Sent:** Friday, June 28, 2019 3:01 PM  
**To:** Thomas, Leigh <[l1thomas@blm.gov](mailto:l1thomas@blm.gov)>; 'Abiodun Adeloye' <[aadeloye@blm.gov](mailto:aadeloye@blm.gov)>  
**Cc:** Jennifer Deal <[jdeal@hilcorp.com](mailto:jdeal@hilcorp.com)>; Matt Henderson <[mhenderson@hilcorp.com](mailto:mhenderson@hilcorp.com)>; Ryan Mersmann <[ryan@teamtinberwolf.com](mailto:ryan@teamtinberwolf.com)>; James McNutt <[james@teamtinberwolf.com](mailto:james@teamtinberwolf.com)>  
**Subject:** Hilcorp's Kaufman No. 1 - Weekly Update

All,

Per the Stage 1 Abatement Plan, on June 20 and 21 Timberwolf conducted the following activities:

- Collected soil samples from the Site to horizontally delineate the historical hydrocarbon impacted soil observed at approximately 8-9' in samples collected from MW4, MW5, and MW6
- Collected soil samples from the perimeter of the excavation for the leachate study. Note: increased water level limited access to the excavation; therefore, no samples were collected from the excavation at this time
- Collected an upgradient groundwater sample to determine if salinity (i.e., TDS) observed in MW1 is a native feature of the Site's groundwater

All samples were submitted to Hall Environmental for laboratory analysis; Findings are presented below.

#### Horizontal Delineation of Historical Release

The attached figure shows locations of soil borings (i.e., SB1-SB5) installed to horizontally delineate the historical hydrocarbon impacted soil. No visible signs of hydrocarbon were observed, no appreciable PID readings were observed during field screening, and all samples collected were below regulatory limits. Soil boring locations and laboratory results are presented in the attached figure (leachatestudy).

#### Leachate Study Surrounding Excavation

Seven soil borings (i.e., SB6 – SB12) were installed surrounding the excavation to evaluate the vadose zone. Samples from 1 soil boring (i.e., SB11) exceeded the regulatory limit for TPH with a concentration of 280 mg/kg. Soil boring locations and laboratory results are presented in the attached figure (historical delineation). Additional investigation is scheduled along the excavation sidewalls and base.

#### Groundwater Sampling

Timberwolf collected a groundwater sample from MW3 to determine if TDS levels observed in MW1 were related to the release or are a native feature of the Site's groundwater. The sample was submitted to Hall Environmental; analysis is underway.

Please let me know if you have any questions.

**Jim Foster**  
**President**



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**Figure 8**  
Potentiometric Surface Map

## Second Semi-Annual Groundwater Report

**Sample Date:**  
October 8, 2019



Created By:  
Russell Greer  
October 9, 2019  
TE Project No.: HEC-180061

**Kaufman No. 1 Release**  
**Hilcorp Energy Company**  
**San Juan County, New Mexico**

Datum: NAD83  
Imagery Source: ESRI  
Vector Source: TE

- Monitor Well
- Groundwater Gradient
- Groundwater Flow

