AE Order Number Banner

Report Description

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App Number: pCS1708853538

3RP - 1047

CONOCOPHILLIPS COMPANY

7/5/2017

June 16, 2017

Reference No. 11124687

Mr. Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410

*COA Email / Attached

Dear Mr. Smith:

Re: Soil Shredding Remediation Work Plan
San Juan 27-5 #1
NMOCD Site #3RP-1047
Rio Arriba County, New Mexico

On behalf of ConocoPhillips Company (ConocoPhillips), GHD Services, Inc. (GHD), is pleased to present this work plan to remediate hydrocarbon-impacted soils at the above referenced site (the Site). This work plan is submitted in response to your email, dated March 29, 2017, and subsequent correspondence, requiring remediation of the highly impacted shallow zones at the Site. The Site is located in the southeast quarter of Section 4, Township 27N, Range 5W.

Project Information

Hydrocarbon impacted soil was discovered while trenching for a plunger lift automation upgrade on November 30, 2015. A sample of the impacted soil was collected by a ConocoPhillips environmental specialist and submitted for laboratory analyses. The sample was submitted for confirmation laboratory analyses of volatile organic compounds (VOCs and total petroleum hydrocarbons, TPH). Results indicated the TPH concentration was 5,820 milligrams per kilogram (mg/kg, parts per million, ppm), above the New Mexico Oil Conservation Division (NMOCD) Recommended Remediation Action Level (RRAL) assigned to the Site prior to the initial subsurface investigation/Site Assessment. Site specific RRALs were determined to be 10 parts per million (ppm) for benzene, 50 ppm for BTEX (benzene, toluene, ethylbenzene and xylenes), and 100 ppm for TPH.

ConocoPhillips delineated the vertical and horizontal impacts to site soils through multiple Site assessments occurring in April and September 2016, and again in April 2017. Soil samples collected during the April 2017 subsurface investigation were analyzed to differentiate the aromatic and aliphatic fractions of hydrocarbons in soils and these results were used in the generation of Human Health and Ecological Risk Assessments (Qualitative Risk Assessment, QRA). Groundwater from the well adjacent to the Site, used to water cattle, was tested for VOCs and semi-VOCs during the April 2017 supplemental Site assessment. Laboratory results were below detection limits for BTEX. The QRA determined that concentrations of hydrocarbons delineated at the Site could be left in place and still be protective of

Smith, Cory, EMNRD

From: Smith, Cory, EMNRD
Sent: Friday, June 16, 2017 3:57 PM
To: 'Frost, Gwendolynne'; Powell, Brandon, EMNRD; whitney thomas (l1thomas@blm.gov)
Cc: Aebi, Mark A.; Matt Henderson; Walker, Jeffrey (Jeff.Walker@ghd.com); Fields, Vanessa, EMNRD
Subject: RE: SJ 27-5 Unit 1 - Soil Remediation Workplan

Gwen,

The OCD has reviewed COPC submitted work plan on June, 16, 2016 for additional delineation and soil shredding at the San Juan 27-5 #1 (30-039-07154). Following the review the OCD has approved section 1."Scope of Work" with the following conditions of approval that will be attached to the hard copy when received.

- Based upon Laboratory results additional remediation at 10 feet below ground surface may be required for the protection of human health and the environment.
- Treated stock piles need to be clearly marked/separated into 100yd3 and 500yd3 piles prior to sampling.
- Composite sampling locations of treated stock piles need to provide a good representative of the stock pile.
- COPC may reduce sampling frequency to one 5 point composite sampling every 500yd3 only after 1,000yd3 of treated soil has consistently passed, and COPC has consulted with OCD prior to changing the sampling frequency.

OCD approval of the Work plan does not relieve COPC of any requirements imposed by other regulatory agencies.

Thank you,

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Frost, Gwendolynne [mailto:Gwendolynne.Frost@conocophillips.com]
Sent: Friday, June 16, 2017 1:43 PM
To: Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>; Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; whitney thomas (l1thomas@blm.gov) <l1thomas@blm.gov>
Cc: Aebi, Mark A. <Mark.A.Aebi@conocophillips.com>; Matt Henderson <mhenderson@hilcorp.com>; Walker, Jeffrey (Jeff.Walker@ghd.com) <Jeff.Walker@ghd.com>
Subject: SJ 27-5 Unit 1 - Soil Remediation Workplan

human health and the environment. Though no further action at the Site was denied, the QRA findings that contaminants of concern are immobile and may be useful to aid in arriving at an alternative cleanup standard for remaining soils once the highly impacted shallow zone soils are remediated. A June 5, 2017 email communication from NMOCD defined the impacted shallow zone as the 0 to 10 foot interval below ground surface (bgs).

On June 14, 2017, GHD met with NMOCD, ConocoPhillips and Hilcorp in person to further discuss and refine a remediation scope of work. It was agreed that, to better assess the horizontal extent of the shallow impacted zone-heretofore defined predominantly by field screening data-excavation test areas would be dug to a depth of 10 feet (ft) and confirmation samples collected. The confirmation samples will be tested by an analytical laboratory. This workplan will address the further definition of and remediation of these shallow soils

1. Scope of Work

1.1 Phase I – Excavation Test Areas

GHD proposes to dig approximately four excavation test areas, using a backhoe, at the locations shown on Figure 1. The proposed test areas locations are on the perimeter of an approximate impacted shallow zone, centered on borings B-11/SB-01 and including SB-02, SB-03 and SB-5. Test areas will be dug to a maximum depth of approximately 10 ft bgs.

Field screening with a photoionization detector (PID) and or Petrotrap field screening kit will be used to guide the test excavations outward from the perimeter. Soil samples will be collected at 5 ft bgs and 10 ft bgs and laboratory analyzed for BTEX constituents by EPA Method 8021 and TPH (full range-gasoline, diesel and motor-oil range) by EPA Method 8015. Samples will be rushed for 48-hour turn-around time results. Confirmation laboratory test results of the 5 ft bgs samples, in the approximately 100 ppm range, will aid in determining the horizontal limits of the shallow impacted zone that will undergo remediation.

Soils removed during Phase I will be stockpiled on site and will undergo soil remediation as described below.

1.2 Phase II - Soil Remediation

ConocoPhillips proposes to use soil shredding technology to remediate the shallow zone hydrocarbon-impacted soils on Site. GHD will direct the excavation, using visual observations and field screening.

- Clean overburden will be stockpiled and reused to the extent practical. Any topsoil will be segregated and reused as is.
- All impacted soil will be stockpiled in 100-yard intervals for the first 1,000 yards removed and then in 500-yard intervals after the initial 1,000 yards is successfully and consistently remediated according to the sampling schedule presented in the subsequent section.

- Stormwater best management practices (BMPs) will be utilized as needed for stockpiles, to prevent any potential impacted stormwater runoff.
- Impacted soil will be processed to segregate soil using shakers and "shredding" equipment to reduce particle size and achieve as uniform a particle size a possible.
- A 1 percent to 10 percent hydrogen peroxide solution (by weight in water) will be applied as the soils pass by on a conveyor belt via multiple spray nozzles.
- Hydrogen peroxide treated soils will then be stockpiled on site to rest for at least 24 hours to allow the hydrocarbons to oxidize.
- Treated soil will be sampled according to the sampling schedule presented below to confirm reduction in contaminant concentrations.
- When laboratory analytical results indicate confirmation samples and treated soil stockpiles meet the applicable remediation action levels stated above, these soils will be then used to backfill the excavation.
- Any clean overburden material or topsoil will be returned to the excavation, to the extent practical.

1.3 Confirmation Sampling

- Representative confirmation soil samples will be collected from the sidewalls and floor of the excavation. One 5-point composite sample will be collected at a maximum horizontal spacing of every 25 linear feet.
- One 5-point composite sample will be collected at the rate of one per 100 cu yds. of treated soil, for the first 1000 cu yds. treated.
- Once a baseline of 1,000 cu yds. of soil is shown to be successfully and consistently treated, and as agreed upon by project stakeholders, the sampling frequency may decrease to one per 500 cu yds.
- Areas on Site where treated soils were stockpiled will undergo similar composite sampling of the 0 to 6-inch depth range, on a frequency agreed upon by project stakeholders, to ensure no cross contamination of these areas.
- Soil samples will be submitted to Hall Environmental Analysis Laboratory (Hall) in Albuquerque, NM, in accordance with analytical preservation and chain-of-custody protocols. Soils will be analyzed for BTEX constituents by EPA Method 8021 and TPH (full range-gasoline, diesel and motor-oil range) by EPA Method 8015. Samples will be rushed for 24-hour turn-around time results.
- Sample locations and excavation corners/boundaries will be documented on a detailed Site map presented in a Site summary report.
- NMOCD will be notified a minimum of 24 hours prior to any confirmation sample collection. Confirmation samples will be collected in the presence of a regulatory agency representative.

1.4 Reporting

All excavated and treated soil volumes, and all samples will be tracked by GHD. Daily updates will be provided to Site stakeholders providing a summary of samples collected and laboratory analytical results. Backfilling of the Site with treated material will not occur without regulatory approval. A summary report requesting Site closure will be submitted following receipt of final confirmation sample results and final backfilling.

Schedule

GHD is prepared to initiate the scope of work immediately, subsequent to requisite approvals, the availability of resources and stakeholder concurrence. A start date and schedule of report submittals will be provided following receipt of soil shredding contractor availability to begin work by June 27, 2017.

If you have any questions or comments with regards to this work plan, please do not hesitate to contact GHDs Albuquerque office at (505) 884-0672. Your timely response to this correspondence is appreciated.

Sincerely,

GHD

Jeffrey Walker, CPG, PMP
Project Manager

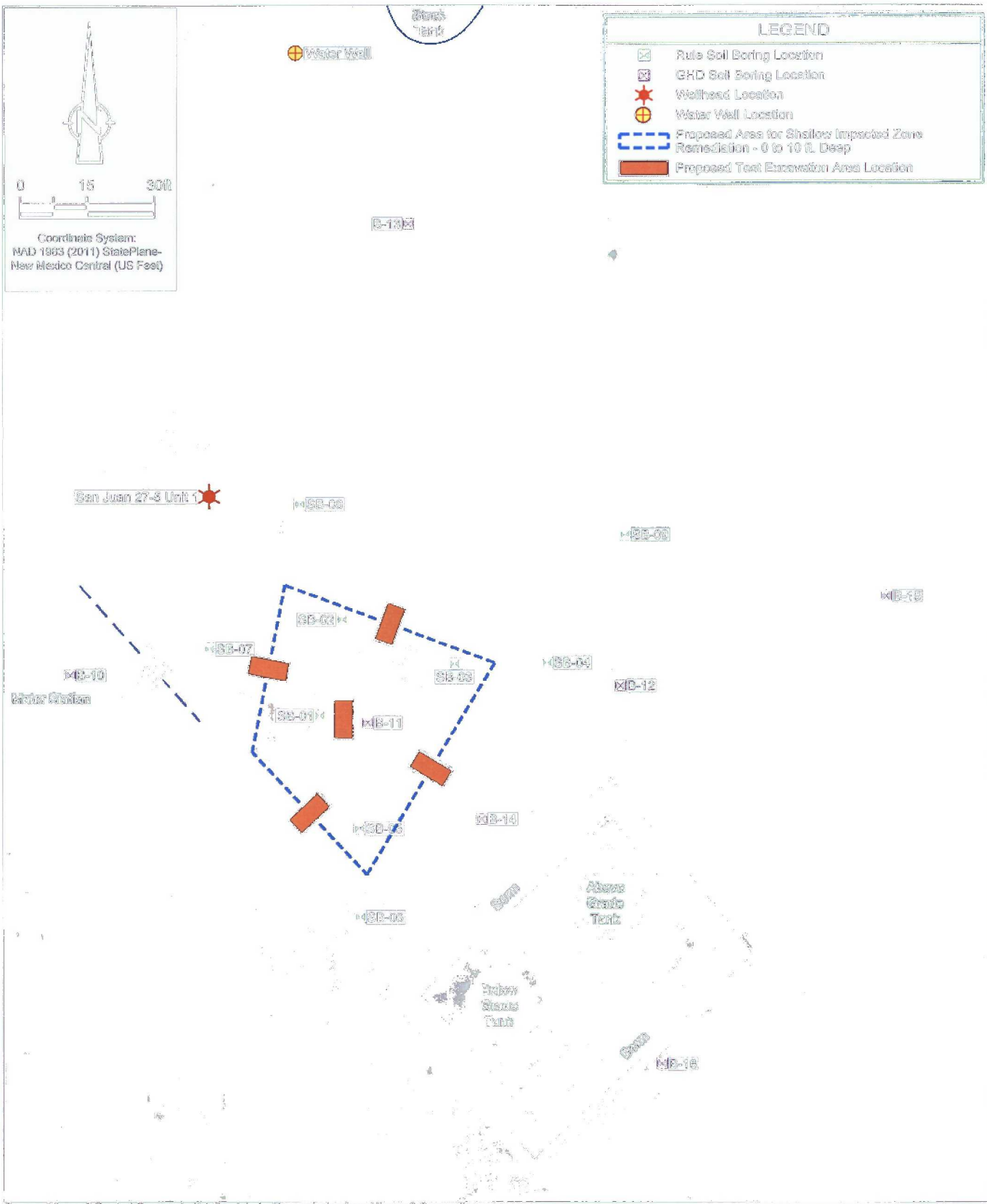
Bernard Bockisch, PMP
Sr. Project Manager

JW/mc/1

cc: Gwen Frost – ConocoPhillips Company
Whitney Thomas – Bureau of Land Management

Encl. (1)

- Figure 1 – Proposed Remediation Area-Shallow Impacted Zone



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Lat/Long: 36.587944° North, -107.555730° West

CONOCOPHILLIPS COMPANY
RIO ARRIBA COUNTY, NEW MEXICO
SAN JUAN 27-5 No. 1

PROPOSED REMEDIATION AREA ASSESSMENT- SHALLOW IMPACTED ZONE - 0 TO 10 FT. DEEP

11124887-AS00

Jun 15, 2017

FIGURE 1

CAD File: I:\CAD\Files\Eight Digit Job Numbers\11124887-ConP San Juan 27-5 No. 1\11124887-AS00\11124887-AS00(600)GN-DL002.dwg