



Jennifer Nobui
New Mexico Oil Conservation Division
5200 Oakland Avenue
N.E. Suite 100
Albuquerque NM 97113

Arcadis U.S., Inc.
10205 Westheimer Road
Suite 800
Houston
Texas 77042
Phone: 713 953 4800
Fax: 713 977 4620
www.arcadis.com

TX Engineering License # F-533
TX Geoscientist License # 50158

Date: April 20, 2022
Subject: Copperhead Fee 31 E CTB – Work Plan Addendum and Variance Request
Site Location: Unit E, S31, T26S, R29E
Eddy County, New Mexico
Site Coordinates: 32.002089°, -104.029702°
Incident # NAPP2127034861

Dear Ms. Nobui,

On behalf of Concho Operating, LLC (COG – now ConocoPhillips), Arcadis, U.S., Inc. (Arcadis) has prepared this Work Plan Addendum and Variance Request for the *Copperhead Fee 31 E CTB Work Plan*, initially prepared by New Tech Global Environmental, LLC (NTGE) dated November 4, 2021 (2021 Work Plan). The Copperhead Fee 31 E CTB (Site) is located within Unit E, Section 31, Township 26 South, Range 29 East, approximately 15.61 miles south of Malaga, in Eddy County, New Mexico.

Background

According to the Initial C-141 Form, on September 7, 2021, a corrosion induced leak was discovered in the transfer flex pipe at the Site. The leak resulted in the release of approximately 20 barrels (bbls) of produced water to ground surface on the eastern portion of the tank battery on Site. The impacted areas measured approximately 245 feet by 21 feet and 230 feet by 21 feet. Soil assessment activities were performed at the Site during September and October 2021 by NTGE to determine the horizontal and lateral extent of the release area. The assessment activities associated analytical soil samples results, and the initial proposed remediation/reclamation activities for the impacted areas are detailed in the 2021 Work Plan submitted previously by NTGE to the New Mexico Oil Conservation Division (NMOCD).

In an email from Ms. Nobui with the NMOCD dated April 7, 2022, to NTGE, approval of the 2021 Work Plan was rescinded based on lack of verification of depth to groundwater within 0.5 miles of the Site. The screening levels for chloride, total petroleum hydrocarbons (TPH), and benzene, toluene, ethylbenzene, and xylenes (BTEX) for a site with depth to groundwater greater than 100 feet below ground surface (bgs) proposed in the 2021 Work Plan were denied, and the more stringent soil screening levels for a site with groundwater less than 50 feet bgs were stipulated in accordance with *The Revised Spill Rule (New Mexico Administrative Code (NMAC) part 19.15.29.12)*.

Ms. Nobui
NMOCD
April 20, 2022

Variance Request

In a virtual meeting held between the NMOCD, Arcadis, NTGE, and COG (ConocoPhillips) on April 12, 2022, the NMOCD requested that an addendum to the 2021 Work Plan be submitted requesting variance approval in accordance with NMAC 19.15.29.14. The Work Plan Addendum and Variance Request is being provided to formally request use of constituent values from Table I of NMAC part 19.15.29.12 for sites where groundwater is between 51 to 100 feet below the horizontal boundary of the release, and not constituent values for sites with groundwater less than 50 feet bgs below the horizontal boundary of the release. NMOCD agreed to allow ongoing remediation activities (excavation) at the Site to continue and verbally approved the variance request during the virtual meeting based on the following:

- Per the *Work Plan for the COG Operating, LLC, Copperhead 31 Federal Com #001*, prepared by Tetra Tech, Inc. (Tetra Tech) dated March 18, 2019, there is a water well located approximately 0.8 miles from the Site with a reported depth to groundwater of 54.30 feet bgs. The NMOCD agreed to allow use of this well for depth to groundwater determination for the Site. Per Table I of NMAC part 19.15.29.12, the following closure criteria apply to a Site with depth to ground water between 51 and 100 feet bgs:

Constituent	Limit (milligrams per Kilogram (mg/Kg))
Chloride	10,000 mg/Kg
TPH (GRO+DRO+MRO)	2,500 mg/kg
GRO+DRO	1,000 mg/Kg
BTEX	50 mg/Kg
Benzene	10 mg/Kg

- COG (ConocoPhillips) agreed to install a soil boring in the near future within 0.5 miles of the Site to verify depth to groundwater at this location and to utilize as verification of depth to groundwater at additional facilities with planned remedial activities within a 0.5-mile radius of the proposed soil boring location. A workplan detailing the proposed soil boring will be provided at a later date.
- All soils from the uppermost four feet exceeding the chloride reclamation limit of 600 mg/Kg will be excavated from the impacted area and properly disposed of.
- COG (ConocoPhillips) requests approval of a variance to install a synthetic 20 mill liner atop soil at a depth of 4 feet bgs where chloride concentrations are equal to or less than the limits outlined in the table above (10,000 mg/Kg). This area is believed to only encompass the area adjacent to the high pressure pipeline running east to west across the release areas.
- COG (ConocoPhillips) believes the synthetic liner will provide equal or better protection of fresh water, public health and the environment by preventing downward migration of remaining shallow chloride impacted soil to depths that could potentially impact groundwater at the Site.
- The excavated area will be backfilled with non-waste containing, earthen material with chloride concentrations less than 600 mg/Kg.

Ms. Nobui
NMOCD
April 20, 2022

- After backfilling is completed, all areas disturbed by the remediation activities shall be reclaimed to re-establish vegetation growth by adding topsoil, properly contouring the surface to match the original surface drainage and re-seeding the area with native seed mix.

Upon completion of the remediation and reclamation activities, a remediation summary and closure request report containing a detailed summary of the remedial field activities, laboratory confirmation sampling analytical results (sidewall and base samples collected in accordance to 19.15.29.12(D)(1)(c) NMAC), photographic documentation of the liner installation, and waste disposal documentation will be submitted to the NMOCD.

Please feel to contact Scott Foord with Arcadis at 713.953.4853 (William.Foord@arcadis.com) or Ike Tavaréz with COG (ConocoPhillips) at 432.685.2573 (Ike.Tavaréz@conocophillips.com) for any additional information or concerns.

Sincerely,
Arcadis U.S., Inc.



Scott Foord, PG
Certified Project Manager

Email: william.foord@arcadis.com
Direct Line: 713.953.4853

CC. Ike Tavaréz - ConocoPhillips

This proposal and its contents shall not be duplicated, used or disclosed — in whole or in part — for any purpose other than to evaluate the proposal. This proposal is not intended to be binding or form the terms of a contract. The scope and price of this proposal will be superseded by the contract. If this proposal is accepted and a contract is awarded to Arcadis as a result of — or in connection with — the submission of this proposal, Arcadis and/or the client shall have the right to make appropriate revisions of its terms, including scope and price, for purposes of the contract. Further, client shall have the right to duplicate, use or disclose the data contained in this proposal only to the extent provided in the resulting contract.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	COG Operating, LLC	OGRID	229137
Contact Name	Jacqui Harris	Contact Telephone	(575) 496-0780
Contact email	Jacqui.Harris@ConocoPhillips.com	Incident # (assigned by OCD)	nAPP2127034861
Contact mailing address	600 West Illinois Avenue, Midland, Texas 79701		

Location of Release Source

Latitude 32.001536 Longitude -104.028187
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Copperhead Fee 31E CTB	Site Type	Tank Battery
Date Release Discovered	September 7, 2021	API# (if applicable)	

Unit Letter	Section	Township	Range	County
E	31	26S	29E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: Harrison, Harry Lee Jr ETAL (N-JT))

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) <u>20</u>	Volume Recovered (bbls) <u>7</u>
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was caused by a hole in the transfer pump flex pipe due to corrosion.
The release was in the pasture. A vacuum truck was dispatched to remove all freestanding fluids.
Concho will evaluate the site to determine if we may commence remediation immediately or delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name Brittany N. Esparza	Title: Environmental Technician
Signature: 	Date: 9/21/2021
email: Brittany.Esparza@ConocoPhillips.com	Telephone: (432) 221-0398
<u>OCD Only</u>	
Received by: Ramona Marcus	Date: 9/27/2021

NAPP2127034861

L48 Spill Volume Estimate Form												
Facility Name & Number: Copperhead Fee 31E CTB												
Asset Area: DBWN												
Release Discovery Date & Time: 9/7/2021												
Release Type: Produced Water												
Provide any known details about the event: The release was caused by a hole in the transfer pump flex pipe due to corrosion.												
Spill Calculation - On Pad Surface Pool Spill												
Convert Irregular shape into a series of rectangles	Length (ft.)	Width (ft.)	Deepest point in each of the areas (in.)	No. of boundaries of "shore" in each area	Estimated Pool Area (sq. ft.)	Estimated Average Depth (ft.)	Estimated volume of each pool area (bbl.)	Penetration allowance (ft.)	Total Estimated Volume of Spill (bbl.)	Percentage of Oil if Spilled Fluid is a Mixture	Total Estimated Volume of Spilled Oil (bbl.)	Total Estimated Volume of Spilled Liquid other than Oil (bbl.)
Rectangle A	240.0	54.0	0.25	3	12960.000	0.007	16.020	0.000	16.026			
Rectangle B	153.0	23.0	0.25	3	3519.000	0.007	4.350	0.000	4.351			
Rectangle C					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle D					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle E					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle F					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle G					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle H					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle I					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Rectangle J					0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			
Total Volume Release:									20.377			

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 52031

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 52031
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
marcus	None	9/27/2021

Incident ID	NAPP2127034861
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>145</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	NAPP2127034861
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Jacqui Harris Title: Environmental Engineer

Signature: _____ Date: _____

email: jacqui.harris@conocophillips.com Telephone: 575.745.0780

OCD Only

Received by: _____ Date: _____

Incident ID	NAPP2127034861
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☒ Detailed description of proposed remediation technique
- ☒ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Ike Tavaréz Title: Staff Program Manager
Signature: *Ike Tavaréz* Date: 5.20.22
email: ike.tavaréz@conocophillips.com Telephone: 432.701.8630

OCD Only

Received by: _____ Date: _____

☒ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: *Jennifer Nobui* Date: 05/31/2022

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 100279

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 100279
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Remediation Plan Addendum and Variance Approved.	5/31/2022