

State of Colorado  
Energy & Carbon Management Commission

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404086587  
Receive Date:  
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Report taken by:  
Alexander Ahmadian

Site Investigation and Remediation Workplan (Supplemental Form)

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. However, this shall not preclude the Operator from taking immediate action to protect public health or safety, the environment, wildlife, or livestock.

This Form 27 describes site conditions as currently understood by the Operator; approval of this Form 27 by ECMC is based on the site conditions accurately described herein; any changes in site conditions identified during or subsequent to the performance of the approved workplan may necessitate additional investigation or remediation which shall be described on a supplemental Form 27. This Form 27 is intended to provide basic information regarding the proposed site investigation and remediation actions, but the workplan may be more fully described in attached documentation.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

OPERATOR INFORMATION

Name of Operator: <u>KERR MCGEE OIL &amp; GAS ONSHORE LP</u>	Operator No: <u>47120</u>	Phone Numbers Phone: <u>(720) 929-4306</u> Mobile: <u>( )</u>
Address: <u>P O BOX 173779</u>		
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80217-3779</u>
Contact Person: <u>Erik Mickelson</u>	Email: <u>DJRemediation_Forms@oxy.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 36648 Initial Form 27 Document #: 403867605

PURPOSE INFORMATION

- Rule 913.c.(1): Pit or Cuttings Trench closure.
- Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- Rule 913.g: Changes of Operator.
- Rule 915.b: Request to leave elevated inorganics in situ.
- Other: \_\_\_\_\_

SITE INFORMATION

Yes  Multiple Facilities

Facility Type: <u>WELL</u>	Facility ID: _____	API #: <u>123-11205</u>	County Name: <u>WELD</u>
Facility Name: <u>T.P.HOLTON GAS UNIT TRUE 1</u>	Latitude: <u>40.083130</u>	Longitude: <u>-104.825280</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWNW</u>	Sec: <u>6</u>	Twp: <u>1N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>TANK BATTERY</u>	Facility ID: <u>446192</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>T.P.HOLTON GAS UNIT TRUE-61N66W 6SWNW</u>	Latitude: <u>40.082811</u>	Longitude: <u>-104.825278</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWNW</u>	Sec: <u>6</u>	Twp: <u>1N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

## SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Surface Water

Is domestic water well within 1/4 mile? Yes

Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? Yes

### Other Potential Receptors within 1/4 mile

South Platte River 1170 feet (ft) east. An area with wetland characteristics is located approximately 770 ft south. Water well 320 ft northwest. Pearson Park 190 ft east. Occupied Buildings 330 ft northwest. Livestock 390 ft northwest. Commercial Buildings 1050 ft northeast. State Highway 1110 ft south. The site is located in a 100 year floodplain. The site is located within a Mule Deer Migration Corridor and within a 1/4 mile of the boundary of an Aquatic Native Species Conservation Waters, a Mule Deer Severe Winter Range, and a Mule Deer Winter Concentration High Priority Habitat (HPH) areas. Groundwater at approximately 5 ft below ground surface (bgs).

## SITE INVESTIGATION PLAN

### TYPE OF WASTE:

- E&P Waste       Other E&P Waste       Non-E&P Waste
- Produced Water       Workover Fluids
- Oil       Tank Bottoms
- Condensate       Pigging Waste
- Drilling Fluids       Rig Wash
- Drill Cuttings       Spent Filters
- Pit Bottoms
- Other (as described by EPA)

### DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	GROUNDWATER	TBD	Groundwater Samples/Laboratory Analytical Results
UNDETERMINED	SOILS	TBD	Soil Samples/Laboratory Analytical Results

### INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

Wellhead cut and cap operations were completed at the Holton, TP GU True 1 wellhead on October 9, 2024. Visual inspection and field screening of soil around the wellhead and associated pumping equipment were conducted following cut and cap operations, and a soil sample [B01(True 1)@6'] was submitted for analysis of full list ECMC Table 915-1 constituents, to determine if a release occurred. The flowline associated with the wellhead was removed between October 9 and December 16, 2024, and soil samples were collected from the locations where the flowline risers were disconnected from the wellhead and from the separator and from where the flowline changed directions. The samples were submitted for laboratory analysis of full list Table 915-1 constituents to determine if a release occurred.

Decommissioning activities were completed at the Holton Tp Gu True 1 facility on December 16, 2024. Groundwater was encountered during excavation activities at 5 ft bgs. Visual inspection and field screening of soil at one aboveground storage tank (AST), one produced water vessel (PWV), and one separator were conducted following removal activities. Soil samples were submitted for analysis of full list Table 915-1 constituents to determine if a release occurred.

Analytical results indicated that all samples collected during wellhead cut and cap, flowline removal, and facility decommissioning activities were in compliance with Table 915-1 standards or within background levels x1.25 for Table 915-1 metals.

The wellhead, flowline, and facility are depicted on Figures 1 through 3. The PID readings and soil sample results are summarized in Tables 1 and 2, respectively.

Assessment activities are ongoing and will be summarized in a subsequent Form 27 Supplemental report.

### PROPOSED SAMPLING PLAN

#### Proposed Soil Sampling

Will soil samples be collected as part of this investigation? ( Number, type (grab/composite), analyses, and locations of samples ):

On October 9 and December 16, 2024, soil samples were collected from the base of the cut and cap excavation, from the locations where the flowline risers were disconnected from the wellhead and from the separator, from where the flowline changed directions, and from the locations of the former AST, PWV, and separator. The samples were submitted for laboratory analysis of full list ECMC Table 915-1 constituents, using ECMC-approved methods. Laboratory analytical results for all soil samples were within the ECMC Table 915-1 allowable levels or background levels x1.25 for Table 915-1 metals. An additional soil sample will be collected beneath the PWV liner. The laboratory reports are attached.

#### Proposed Groundwater Sampling

Will groundwater samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

Groundwater was encountered in the PWV excavation at approximately 5 ft bgs. One groundwater sample was collected for analysis of full list Table 915-1 constituents in groundwater. One background groundwater sample was collected for Table 915-1 inorganic constituents. Results indicate that groundwater is in compliance with Table 915-1 allowable levels or background levels. Due to the compliant organic detections in groundwater, monitoring wells will be installed to verify that no dissolved-phase impacts are present. Following installation, the wells will be samples for full list Table 915-1 constituents. The groundwater and background groundwater sample locations are depicted on Figure 3. The groundwater analytical results are summarized in Table 3.

### **Proposed Surface Water Sampling**

Will surface water samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

### **Additional Investigative Actions**

Additional alternative investigative actions described in attached Site Investigation Plan ( summary ):

On October 9, 2024, visual inspection and field screening of soil were conducted at 4 sidewall locations within the cut and cap excavation area, 4 locations at the ground surface adjacent to the cut and cap excavation, 2 flowline potholes, the drain and footprint of the AST, and three sidewalls of the PWV excavation. Based on the inspection and screening results, hydrocarbon-impacted soil was not observed at the screening locations, and no soil samples were submitted for laboratory analysis from these areas, in accordance with the ECMC Operator Guidance. A photo log is attached.

On October 23, 2024, a soil gas survey was conducted at three soil vapor points (SVPs) installed adjacent to the former wellhead location following cut and cap operations. Two SVPs were blocked and could not be screened. GEM 5000 field readings were all non-detect for methane at all other SVPs. The soil vapor point locations are depicted on Figure 1.

## **SITE INVESTIGATION REPORT**

### **SAMPLE SUMMARY**

<b>Soil</b>		<b>NA / ND</b>	
Number of soil samples collected	16	ND	Highest concentration of TPH (mg/kg) _____
Number of soil samples exceeding 915-1	9	--	Highest concentration of SAR 1.2
Was the areal and vertical extent of soil contamination delineated?	No		BTEX > 915-1 No
Approximate areal extent (square feet)	0		Vertical Extent > 915-1 (in feet) 0
<b>Groundwater</b>			
Number of groundwater samples collected	1	--	Highest concentration of Benzene (µg/l) 1.45
Was extent of groundwater contaminated delineated?	No	--	Highest concentration of Toluene (µg/l) 92.2
Depth to groundwater (below ground surface, in feet)	5	--	Highest concentration of Ethylbenzene (µg/l) 5.55
Number of groundwater monitoring wells installed	0	--	Highest concentration of Xylene (µg/l) 14.8
Number of groundwater samples exceeding 915-1	0	NA	Highest concentration of Methane (mg/l) _____
<b>Surface Water</b>			
0	Number of surface water samples collected		
_____	Number of surface water samples exceeding 915-1		
	If surface water is impacted, other agency notification may be required.		

### **OTHER INVESTIGATION INFORMATION**

Were impacts to adjacent property or offsite impacts identified?

Were background samples collected as part of this site investigation?

One tank battery background sample was collected from the fill material used to construct the tank battery. Eleven background soil samples were collected from native material adjacent to the wellhead cut and cap excavation. The background soil samples were submitted for laboratory analysis of pH, electrical conductivity (EC), sodium adsorption ratio (SAR), boron, and ECMC Table 915-1 metals, using ECMC-approved methods. Laboratory analytical results indicate that levels of arsenic, barium, cadmium, lead, and selenium are high in the soil used to construct the tank battery and SAR, pH, arsenic, barium, cadmium, hexavalent chromium, copper, lead, and selenium are naturally high in the native soil.

One background groundwater sample was collected for Table 915-1 inorganic constituents in groundwater. The background groundwater analytical results are summarized in Table 3.

The background sample locations are depicted on Figures 1 and 3.

Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) \_\_\_\_\_

Volume of liquid waste (barrels) \_\_\_\_\_

Is further site investigation required?

An additional soil sample will be collected beneath the PWV liner and results will be summarized in a subsequent Form 27 Supplemental report.

Due to the compliant organic detections in groundwater, monitoring wells will be installed to verify that no dissolved-phase impacts are present. Following installation, the wells will be sampled for full list Table 915-1 constituents. The proposed monitoring well locations are depicted on Figure 4.

## REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? No

### SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Laboratory analytical results for all soil samples collected during wellhead cut and cap, flowline removal, and facility decommissioning activities were within the ECMC Table 915-1 allowable levels or background levels x1.25. As a result, no soil was removed during decommissioning activities. An additional sample will be collected from beneath the PWV liner to confirm no impacts are present. The excavation areas will be backfilled and contoured to match pre-existing site conditions.

### REMEDICATION SUMMARY

Describe how remediation of existing impacts to soil and groundwater is to be accomplished (i.e. summarize remedial action plan). Provide a brief narrative description including: technical justification, schedule for implementation, estimated time to attain NFA status, plus plans and specifications for the selected remedial action technology.

Laboratory analytical results for all soil samples collected during wellhead cut and cap, flowline removal, and facility decommissioning activities were within the ECMC Table 915-1 allowable levels or background levels x1.25. Groundwater was encountered in the PWV excavation at 5 ft bgs. Groundwater is in compliance with Table 915-1 allowable levels or background levels. Due to the compliant organic detections in groundwater, monitoring wells will be installed to verify that no dissolved-phase impacts are present. Following installation, the wells will be sampled for full list Table 915-1 constituents. The proposed monitoring well locations are depicted on Figure 4. An additional soil sample will be collected beneath the PWV liner and results will be summarized in a subsequent Form 27 Supplemental report.

### Soil Remediation Summary

In Situ

Ex Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

\_\_\_\_\_ Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation

\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_

\_\_\_\_\_ Air sparge / Soil vapor extraction

\_\_\_\_\_ Name of Licensed Disposal Facility or ECMC Facility ID # \_\_\_\_\_

\_\_\_\_\_ Natural Attenuation

\_\_\_\_\_ Excavate and onsite remediation

\_\_\_\_\_ Other \_\_\_\_\_

\_\_\_\_\_ Land Treatment

\_\_\_\_\_ Bioremediation (or enhanced bioremediation)

\_\_\_\_\_ Chemical oxidation

\_\_\_\_\_ Other \_\_\_\_\_

### Groundwater Remediation Summary

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

\_\_\_\_\_ Chemical oxidation

\_\_\_\_\_ Air sparge / Soil vapor extraction

\_\_\_\_\_ Natural Attenuation

\_\_\_\_\_ Other \_\_\_\_\_

### GROUNDWATER MONITORING

If groundwater has been impacted, describe proposed monitoring plan, including # of wells or sample points, monitoring schedule, analytical methods, points of compliance. Attach a groundwater monitoring location diagram.

Due to the compliant organic detections in groundwater, monitoring wells will be installed to verify that no dissolved-phase impacts are present. Following installation, the wells will be sampled for full list Table 915-1 constituents. The proposed monitoring well locations are depicted on Figure 4.

## REMEDIATION PROGRESS UPDATE

### PERIODIC REPORTING

**Approved Reporting Schedule:**

Quarterly     Semi-Annually     Annually     Other \_\_\_\_\_

**Request Alternative Reporting Schedule:**

Semi-Annually     Annually     Other \_\_\_\_\_

Rule 913.e:

After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

**Report Type:**     Groundwater Monitoring     Land Treatment Progress Report     O&M Report  
 Other \_\_\_\_\_

### Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).

If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

KMOG has sufficient insurance and bonding to fully address the anticipated costs of Remediation, including the remaining estimated costs for this project. KMOG currently has over 40 million in bonds with the Energy and Carbon Management Commission. The cost for remediation is a preliminary estimate only, costs may change upwards or downward based on site-specific information. KMOG makes no representation or guarantees as to the accuracy of the preliminary estimate

Operator anticipates the remaining cost for this project to be: \$ 24000 \_\_\_\_\_

### WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? \_\_\_\_\_

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

\_\_\_\_\_

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_

E&P waste (solid) description \_\_\_\_\_

ECMC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-ECMC Disposal Facility: \_\_\_\_\_

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_

E&P waste (liquid) description \_\_\_\_\_

ECMC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-ECMC Disposal Facility: \_\_\_\_\_

## REMEDIATION COMPLETION REPORT

### REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No \_\_\_\_\_

If YES:

Compliant with Rule 913.h.(1).

Compliant with Rule 913.h.(2).

Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards? \_\_\_\_\_

Does the previous reply indicate consideration of background concentrations? \_\_\_\_\_

Does Groundwater meet Table 915-1 standards? \_\_\_\_\_

Is additional groundwater monitoring to be conducted? \_\_\_\_\_

Operator shall comply with the ECMC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

## RECLAMATION PLAN

### RECLAMATION PLANNING

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing.

The site will be reclaimed in accordance with ECMC 1000 Series Reclamation Rules.

Is the described reclamation complete? \_\_\_\_\_

Does the reclamation described herein constitute interim or final reclamation of the Oil and Gas Location?

Interim

Final

Did the Surface Owner provide the seed mix? \_\_\_\_\_

If YES, does the seed mix comply with local soil conservation district recommendations? \_\_\_\_\_

Did the local soil conservation district provide the seed mix? \_\_\_\_\_

### SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. \_\_\_\_\_

Proposed date of completion of Reclamation. \_\_\_\_\_

## IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

### PRIOR DATES

Date of Surface Owner notification/consultation, if required. 05/29/2024

Actual Spill or Release date, or date of discovery. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/09/2024

Proposed site investigation commencement. 10/09/2024

Proposed completion of site investigation. 08/07/2026

### REMEDIAL ACTION DATES

Proposed start date of Remediation. \_\_\_\_\_

Proposed date of completion of Remediation. \_\_\_\_\_

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

**OPERATOR COMMENT**

I hereby certify all statements made in this form are to the best of my knowledge true, correct, and complete.

Signed: Erik Mickelson

Title: Environmental Lead

Submit Date: 03/13/2025

Email: DJRemediation\_Forms@oxy.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with ECMC Rules and applicable orders and is hereby approved.

ECMC Approved: Alexander Ahmadian

Date: 06/06/2025

Remediation Project Number: 36648

**COA Type**

**Description**

	Operator will analyze groundwater samples from all monitoring wells for Complete Table 915-1 parameters: Organic Compounds in Groundwater (benzene, toluene, ethylbenzene, xylenes, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene) and the Groundwater Inorganic Parameters (total dissolved solids, chloride, sulfate) for a minimum of four consecutive quarterly monitoring events. Additionally, Operator shall provide all analytical reports, groundwater analytical summary tables and a potentiometric map depicting groundwater flow direction and gradient on each subsequent Quarterly Monitoring Report.
1 COA	

**ATTACHMENT LIST**

Upon approval, the approved Form 27 and all listed attachments will be indexed to the Remediation Project file. Only the approved Form 27 will also be indexed to the related Facilities.

**Att Doc Num**

**Name**

404086587	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
404086652	SOIL SAMPLE LOCATION MAP
404086655	SOIL SAMPLE LOCATION MAP
404086656	SOIL SAMPLE LOCATION MAP
404086657	SITE MAP
404086658	ANALYTICAL RESULTS
404086659	PHOTO DOCUMENTATION
404086660	ANALYTICAL RESULTS
404086662	ANALYTICAL RESULTS
404231765	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 10 Files

**General Comments**

**User Group**

**Comment**

**Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)