

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
Grace Rollins

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 ECOM 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: KERR MCGEE OIL & GAS ONSHORE LP	Operator No: 47120	Phone Numbers Phone: (720) 929-4307 Mobile: ()
Address: P O BOX 173779		
City: DENVER	State: CO	Zip: 80217-3779
Contact Person: Max Moran	Email: DJRemediation_Forms@oxy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 27095 Initial Form 27 Document #: 403301119

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: PIT	Facility ID: 118064	API #: _____	County Name: WELD
Facility Name: STATE 2	Latitude: 40.221777	Longitude: -104.673267	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: CSW	Sec: 16	Twp: 3N	Range: 65W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION	Facility ID: 317677	API #: _____	County Name: WELD
Facility Name: STATE-63N65W 16CSW	Latitude: 40.221730	Longitude: -104.673030	
** correct Lat/Long if needed: Latitude: 40.222002		Longitude: -104.673219	
QtrQtr: CSW	Sec: 16	Twp: 3N	Range: 65W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 484421 API #: _____ County Name: WELD
Facility Name: Megan H 16-33 O SA Tank Battery Latitude: 40.222002 Longitude: -104.673219
** correct Lat/Long if needed: Latitude: _____ Longitude: _____
QtrQtr: CSW Sec: 16 Twp: 3N Range: 65W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC Most Sensitive Adjacent Land Use livestock
Is domestic water well within 1/4 mile? No Is surface water within 1/4 mile? No
Is groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

Domestic water well: none
Surface water: none
Wetlands: none
Spring: none
Livestock: none
Occupied Building: none
High Priority Habitats: none

SITE INVESTIGATION PLAN

DENIED

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
Yes	GROUNDWATER	See Attached Data	groundwater samples/laboratory analytical results
Yes	SOILS	180' (N-S) x 200' (E-W) x 55' bgs	inspection/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.

Decommissioning activities were completed at the Megan H 16-33 O SA production facility on April 18-26, 2023, as summarized in Form 27-Supplemental Document #403872384. Laboratory analytical results indicated that benzene, ethylbenzene, total xylenes, TPH, naph., TMBs, pH, SAR, 1,2-methylnaphthalene, arsenic, and barium concentrations in soil samples collected from beneath the former PWV exceeded the applicable ECMC Table 915-1 standards, and the ECMC issued Spill/Release Point ID 484421 for this release. From 4/18/23-12/16/24 excavation activities were conducted and 276 soil samples have been collected from the base and sidewalls of the excavation ranging in depths of approximately 2.5' to 41.5' bgs. Based on the waste characterization results (PW-B01@5'), subsequent soil samples have been submitted for laboratory analysis of BTEX, TPH, naph., TMBs, pH, SAR, PAHs, arsenic, barium, cadmium, and selenium using ECMC-approved methods. On 11/26/24, 54 confirmation soil samples were collected from the final excavation extent and submitted for laboratory analysis of the full ECMC Table 915-1. Final analytical results for the soil samples collected from the final extent indicate that organic and inorganic impacts remain at the base of the excavation (PW-B35@41.5'), and inorganic only concentrations exceeding Table 915-1 standards and background limits remain in multiple sidewall samples. Due to the presence of groundwater within the base of the excavation, additional excavation activities are unable to safely continue. The applicable field notes and photographic log are attached. The applicable soil boring logs are attached. The applicable secured analytical laboratory reports are attached.

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):

To delineate the remaining impacts, 36 soil borings were advanced in and around the final excavation extent to approximately 35' - 55' bgs. Monitoring wells were installed in each soil boring location. Soil samples were collected based on the interval exhibiting the highest PID and/or from the interval above the observed water table. The soil samples were submitted for analysis of the full ECMC Table 915-1 analytical suite. Final analytical results for the soil samples collected during monitoring well installation indicate that impacts have not been fully defined, and step-out wells will be installed to further delineate impacts. Following additional delineation and monitoring well installation activities, KMOG will propose a remedial plan in a forthcoming Form 27 -Supplemental Update. The soil boring sample locations are illustrated on Figure 2.

Proposed Groundwater Sampling

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

Quarterly groundwater monitoring was initiated on 10/31/24. Depth to groundwater was observed at approximately 20' - 39' bgs within the 36 monitoring wells that have been gauged and sampled. Quarterly groundwater monitoring has been completed in Q4 2024 - Q3 2025. Groundwater samples were collected and submitted for laboratory analysis of Table 915-1 organic and inorganic compounds in groundwater. Analytical results for the Third Quarter 2025 indicate that benzene, toluene, ethylbenzene, total xylenes, 1,2,4-TMB and/or 1,3,5-TMB concentrations in groundwater samples MW-04, MW-32, MW-33, and MW-34, and chloride ion concentrations in MW-04 and MW-32 exceeded the ECMC Table 915-1 standards and/or local background limits. Quarterly groundwater monitoring will continue until 4 quarters of compliant groundwater is reached.

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 April 18 through 26, 2023, visual inspections and field screening of soils was conducted at the three former meter houses, three former AST, and one former ECD. Based on the inspection and screening results, hydrocarbon impacted soils were not observed at the soil screening locations. As a result, no soil samples were submitted for laboratory analysis from these areas in accordance with the ECMC Operator Guidance for Oil & Gas Facility Closure document.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 401

Number of soil samples exceeding 915-1 373

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 40000

NA / ND

-- Highest concentration of TPH (mg/kg) 8373

-- Highest concentration of SAR 23.9

BTEX > 915-1 Yes

Vertical Extent > 915-1 (in feet) 55

Groundwater

Number of groundwater samples collected 105

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 20

Number of groundwater monitoring wells installed 36

Number of groundwater samples exceeding 915-1 9

-- Highest concentration of Benzene (µg/l) 19100

-- Highest concentration of Toluene (µg/l) 28300

-- Highest concentration of Ethylbenzene (µg/l) 732

-- Highest concentration of Xylene (µg/l) 14400

NA Highest concentration of Methane (mg/l)

Surface Water

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?

Background soil samples PW-BG05 - PW-BG25 were collected from native material (Olney loamy sand) adjacent to the former PWV excavation at depths ranging from 8-37.5' bgs. Background soil samples from the Megan H 16-12 JI and UPRC H17-99HZ wellheads (located within the same field and less than 0.25 miles from the excavation) collected from similar soil type (Olney loamy sand/Vona loamy sand), depth, and land use have been included, as previously approved in Form 27-Supplemental Document #403872384, approved on 11/7/24. The background soil samples were submitted for laboratory analysis of the Soil Suitability for Reclamation Parameters and ECMC Table 915-1 Metals using standard methods appropriate for detecting target analytes in Table 915-1. Analytical results for the background soil samples are presented in Tables 3-5.

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?

Site assessment activities to address the remaining soil impacts are currently ongoing and will be summarized in a forthcoming Form 27-Supplemental update. Based on the observed depth to water (~20-39' bgs), all soil samples collected deeper than approximately 20' bgs were saturated soil samples, are assumed to be mobilized groundwater impacts, and will be remediated as such. Based on analytical results, step-out wells will be installed to further delineate impacts.

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.

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 ECMC. 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: \$ 20000 _____

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? Yes _____

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

Approximately 2,060 cubic yards of impacted material were excavated and transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for recycling. Approximately 9 cubic yards of impacted hydro-excavation soil slurry were removed from the PWV excavation area via vacuum truck and transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado for recycling. Approximately 658 barrels of impacted groundwater were removed from the PWV excavation area via vacuum truck and transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado for recycling.

Volume of E&P Waste (solid) in cubic yards _____ 18219

E&P waste (solid) description _____ Impacted soil

ECMC Disposal Facility ID #, if applicable: _____ 149007

Non-ECMC Disposal Facility: _____ Buffalo Ridge Landfill in Keenesburg, Colorado, Front Range Landfill in Erie, Colorado

Volume of E&P Waste (liquid) in barrels _____ 658

E&P waste (liquid) description _____ Impacted groundwater

ECMC Disposal Facility ID #, if applicable: _____ 434766

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 Remediation 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. 01/03/2023

Actual Spill or Release date, or date of discovery. 04/26/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/18/2023

Proposed site investigation commencement. 04/18/2023

Proposed completion of site investigation. 03/31/2027

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/26/2023

Proposed date of completion of Remediation. 03/31/2027

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

The previous Form 27-Supplemental is still pending ECMC approval (Document #404129594, submitted 05/12/2025).

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

Signed: Max Moran _____

Title: Environmental Advisor _____

Submit Date: 08/26/2025 _____

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: _____

Date: _____

Remediation Project Number: 27095 _____

COA Type**Description**

0 COA	
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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**

404298615	FORM 27-SUPPLEMENTAL-SUBMITTED
404299971	LABORATORY ANALYTICAL REPORT
404299973	LABORATORY ANALYTICAL REPORT
404299976	LABORATORY ANALYTICAL REPORT
404299977	LABORATORY ANALYTICAL REPORT
404299979	LABORATORY ANALYTICAL REPORT
404299980	LABORATORY ANALYTICAL REPORT
404299982	LABORATORY ANALYTICAL REPORT
404299984	LABORATORY ANALYTICAL REPORT
404299985	LABORATORY ANALYTICAL REPORT
404299986	LABORATORY ANALYTICAL REPORT
404299987	LABORATORY ANALYTICAL REPORT
404299988	LABORATORY ANALYTICAL REPORT
404299989	LABORATORY ANALYTICAL REPORT
404300116	GROUND WATER SAMPLE LOCATION
404300118	SOIL SAMPLE LOCATION MAP
404300121	GROUND WATER ELEVATION MAP
404300163	PHOTO DOCUMENTATION
404301157	SAFETY DATA SHEETS
404303872	LOGS
404303875	GROUND WATER ELEVATION MAP
404319983	LABORATORY ANALYTICAL REPORT
404319984	LABORATORY ANALYTICAL REPORT
404319987	LABORATORY ANALYTICAL REPORT
404325342	ANALYTICAL DATA SUMMARY TABLE(S)

Total Attach: 25 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	Previous Form 27 Document # 404129594 was denied due to data validation. As the subject Form relies on that data, it is also denied.	03/09/2026

Total: 1 comment(s)

