

State of Colorado  
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:  
402405704  
Receive Date:  
05/26/2020

Report taken by:  
Jim Hughes

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 COGCC 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. Refer to Rules 340, 905, 906, 907, 908, 909, and 910

OPERATOR INFORMATION

Name of Operator: <u>LINDE INC</u>	Operator No: <u>1375</u>	<b>Phone Numbers</b>
Address: <u>200 SOMERSET CORP BLVD #7000</u>		
City: <u>BRIDGEWATER</u>	State: <u>NJ</u>	Zip: <u>07083</u>
Contact Person: <u>Jerrod Hughes</u>	Email: <u>Jerrod.Hughes@messer-us.com</u>	
		Phone: <u>(970) 5657021</u>
		Mobile: <u>( )</u>

PROJECT, PURPOSE & SITE INFORMATION

**PROJECT INFORMATION**  
Remediation Project #: 12220 Initial Form 27 Document #: 401865903

**PURPOSE INFORMATION**

<input type="checkbox"/> 901.e. Sensitive Area Determination	<input type="checkbox"/> 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water
<input type="checkbox"/> 909.c.(1), Rule 905: Pit or PW vessel closure	<input type="checkbox"/> Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b.
<input checked="" type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation	<input checked="" type="checkbox"/> Rule 909.e.(2)B.: Closure of remediation project
<input type="checkbox"/> 909.c.(3), Rule 907.e.: Land treatment of oily waste	<input type="checkbox"/> Rule 906.c.: Director request
<input type="checkbox"/> 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure	<input type="checkbox"/> Other _____

**SITE INFORMATION** N Multiple Facilities ( in accordance with Rule 909.c. )

Facility Type: <u>WELL</u>	Facility ID: _____	API #: <u>083-06536</u>	County Name: <u>MONTEZUMA</u>
Facility Name: <u>AIRCO FEDERAL 2</u>	Latitude: <u>37.352876</u>	Longitude: <u>-108.782835</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NENW</u>	Sec: <u>25</u>	Twp: <u>36N</u>	Range: <u>18W</u>
Meridian: <u>N</u>	Sensitive Area? <u>Yes</u>		

**SITE CONDITIONS**

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use National Monument

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? No

**Other Potential Receptors within 1/4 mile**

# SITE INVESTIGATION PLAN

## TYPE OF WASTE:

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste      | <input type="checkbox"/> Other E&P Waste             | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids             | _____                                  |
| <input type="checkbox"/> Oil                       | <input type="checkbox"/> Tank Bottoms                |  |
| <input checked="" type="checkbox"/> Condensate     | <input type="checkbox"/> Pigging Waste               |  |
| <input type="checkbox"/> Drilling Fluids           | <input type="checkbox"/> Rig Wash                    |  |
| <input type="checkbox"/> Drill Cuttings            | <input type="checkbox"/> Spent Filters               |  |
|  | <input type="checkbox"/> Pit Bottoms                 |  |
|  | <input type="checkbox"/> Other (as described by EPA) | _____                                  |

## DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	800 feet of wash	Field EC screening and 900 series lab analysis

## INITIAL ACTION SUMMARY

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

Soil was screened for electrical conductivity and excavated by hand digging in the wash below the well pad. Remaining soil was sampled and submitted for laboratory analysis of EC. Any areas with exceedances were further excavated and resampled for EC. Once the EC was below Table 910 screening criteria, the remaining 910-1 analytes were sampled for and submitted for laboratory analysis. All confirmation sample results were below Table 910-1 criteria, with the exception of SAR and pH in one sample near the pad (W-31). Soil from this sample area was further excavated and stockpiled on the well pad. pH was determined to be representative of local conditions, and the sample area was sampled for SAR. Results were below Table 910-1 criteria.

## 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 ):

### Proposed Groundwater Sampling

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

### 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 ):

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 64

Number of soil samples exceeding 910-1 20

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 2000

### NA / ND

--          Highest concentration of TPH (mg/kg) 148

--          Highest concentration of SAR 16.1

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 0

### Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 300'

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 910-1 0

         Highest concentration of Benzene (µg/l)         

         Highest concentration of Toluene (µg/l)         

         Highest concentration of Ethylbenzene (µg/l)         

         Highest concentration of Xylene (µg/l)         

         Highest concentration of Methane (mg/l)         

### Surface Water

0 Number of surface water samples collected

0 Number of surface water samples exceeding 910-1

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 soil sample was collected for full Table 910 analysis. Another background sample was collected for electrical conductivity only.

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?

# 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.

Liquid on the well pad was pumped out and trucked off site (see Form 19 and Addendum). Soil within the wash was removed by hand digging, then disposed of off-site. Impacted soil on the well pad was excavated and stockpiled on the well pad.

## REMEDIATION 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.

Impacted soil was stockpiled in impervious liners at the Linde Facility and in the canyon below the well pad. The wash stockpiles were removed via airlift in December 2018.  
Soil from sample area W-31 (approximately 1 cubic foot) was added to soil stockpiled from excavation within the well pad. The stockpiled soil will be treated during the well pad's closure.

## Soil Remediation Summary

### In Situ

- \_\_\_\_\_ Bioremediation ( or enhanced bioremediation )
- \_\_\_\_\_ Chemical oxidation
- \_\_\_\_\_ Air sparge / Soil vapor extraction
- \_\_\_\_\_ Natural Attenuation
- \_\_\_\_\_ Other \_\_\_\_\_

### Ex Situ

- Yes \_\_\_\_\_ Excavate and offsite disposal
- \_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 6
- \_\_\_\_\_ Name of Licensed Disposal Facility or COGCC Facility ID # \_\_\_\_\_
- Yes \_\_\_\_\_ Excavate and onsite remediation
- No \_\_\_\_\_ Land Treatment
- No \_\_\_\_\_ Bioremediation (or enhanced bioremediation)
- No \_\_\_\_\_ Chemical oxidation
- Yes \_\_\_\_\_ Other \_\_\_\_\_ Soil from sample area W-31 is stockpiled on well pad. See letter attachment.

## 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.

# REMEDIATION PROGRESS UPDATE

## PERIODIC REPORTING

Frequency:  Quarterly  Semi-Annually  Annually  Other \_\_\_\_\_

Report Type:  Groundwater Monitoring  Land Treatment Progress Report  O&M Report

Other \_\_\_\_\_

## 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:

None

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_ 6

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

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

Non-COGCC Disposal Facility: Waste Management - San Juan  
County Landfill, Aztec, NM

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_ 0

E&P waste (liquid) description None \_\_\_\_\_

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

Non-COGCC Disposal Facility: \_\_\_\_\_

## REMEDIATION COMPLETION REPORT

### REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? Yes \_\_\_\_\_

Do all soils meet Table 910-1 standards? Yes \_\_\_\_\_

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

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? \_\_\_\_\_

Does Groundwater meet Table 910-1 standards? Yes \_\_\_\_\_

Is additional groundwater monitoring to be conducted? No \_\_\_\_\_

## 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.

Soil from sample area W-31 is stockpiled on the well pad. This soil will be addressed during closure of the well pad and subsequent reclamation.

Is the described reclamation complete? No \_\_\_\_\_

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

Interim?

Final?

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

If NO, does the seed mix comply with local soil conservation district recommendations? \_\_\_\_\_

# IMPLEMENTATION SCHEDULE

## PRIOR DATES

Date of Surface Owner notification/consultation, if required. \_\_\_\_\_

Actual Spill or Release date, if known. 10/19/2018

## SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/25/2018

Date of commencement of Site Investigation. 10/25/2018

Date of completion of Site Investigation. 11/09/2018

## REMEDIAL ACTION DATES

Date of commencement of Remediation. 10/25/2018

Date of completion of Remediation. 10/18/2019

## SITE RECLAMATION DATES

Date of commencement of Reclamation. \_\_\_\_\_

Date of completion of Reclamation. \_\_\_\_\_

## OPERATOR COMMENT

The letter attachment includes a summary of completed work in the project area. The letter includes a report submitted in November 2019 to the Bureau of Land Management with associated laboratory analytical results.  
All soil outside the well pad meets Table 910-1 criteria.

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

Signed: Ned Lundvall

Title: Environmental Consultant

Submit Date: 05/26/2020

Email: elundvall@eaest.com

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

COGCC Approved: Jim Hughes

Date: 06/02/2020

Remediation Project Number: 12220

## COA Type

## Description

	Surface disturbances shall be reclaimed in accordance with the 1000 Series Reclamation Regulations. Consult COGCC Reclamation Specialist regarding interim and/or final reclamation.
--	--

## Attachment Check 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

402405704	FORM 27-SUPPLEMENTAL-SUBMITTED
402405811	REMEDIATION PROGRESS REPORT

Total Attach: 2 Files

## General Comments

### User Group

### Comment

### Comment Date

		Stamp Upon Approval
--	--	---------------------

Total: 0 comment(s)