

State of Colorado
Oil and Gas Conservation Commission

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



#6883

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3/5/2012

SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☒ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☐ Other (describe): _____

OGCC Employee:

☐ Spill ☒ Complaint
☐ Inspection ☐ NOAV

Tracking No: **200342264**

OGCC Operator Number: 39560

Name of Operator: Top Operating Company

Address: 10881 West Asbury Avenue, Suite 230

City: Lakewood State: CO Zip: 80227

Contact Name and Telephone:

Murray J. Herring (topoprtn@gmail.com)

No: (303) 727-9915 x 203

Fax: (303) 547-0924

API Number: 05-123-10290

County: Weld

Facility Name: Serafini Gas Unit #1

Facility Number: _____

Well Name: Serafini Gas Unit #1

Well Number: _____

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NE 1/4 NE 1/4 Section 18, T2N, R68W Latitude: 40.142936 Longitude: -105.04019

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): condensate (?)

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☒ Y ☐ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): cultivated, irrigated, farming, residential, industrial

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Olney fine sandy loam (0% to 1% slopes) Unit 46

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Dry Creek or St. Vrain Creek

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):

- ☒ Soils
☐ Vegetation
☐ Groundwater
☐ Surface Water

Extent of Impact:

Unknown - One Geoprobe hole to 8 ft bgs

How Determined:

Terracon LSI - One soil sample collected 12/17/2010

REMEDIATION WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document):

Conduct further Limited Site Investigation (LSI) using either backhoe, hydrovac, or combination to determine the nature and extent of the subsurface soil impacts near the Serafini G.U. #1 north side of the tank battery. If possible determine the source of the soil impacts. Collect soil samples for BTEX, GRO, and DRO.

Describe how source is to be removed:

Use either a backhoe or hydrovac to excavate impacted soils around the north side of the tank battery. Request permission to landfarm the soils on location, or collect soil samples for waste characterization and pursue disposal at a commercial landfill.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:

The purpose of the LSI will be to define the nature and extent of petroleum hydrocarbon impacted soils on the north side of the tank battery. If encountered a grab groundwater sample will be collected from the excavation and analyzed for BTEX, GRO, and DRO.



Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

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REMEDIATION WORKPLAN (Cont.)

OGCC Employee: _____

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

Groundwater was encountered by Terracon in a single Geoprobe hole advanced on the north side of the Serafini Gas Unit #1 tank battery loadout in December 2010. A soil sample was submitted from the hole, but a grab groundwater sample was not collected due to insufficient water quantity. Olsson proposes conducting a LSI using a backhoe or a hydrovac to excavate near the well to delineate the lateral and vertical extent of impacts and to identify the source if possible. If the impacts extend beyond what is reasonable to excavate, a second level investigation may need to be performed using a drill rig.

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. Use additional sheet for description if required.

Following completion of the excavation, the excavation will be filled with clean soil. Impacted soil will be landfarmed on location, or profiled and disposed at a commercial landfill facility.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☒ Y ☐ N If yes, describe:

An additional LSI is required to define the nature and extent of impact, and if possible to remove and remediate impacted soils. The vertical extent may be limited by the depth to bedrock or shallow groundwater.

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

The soils may either be landtreated or disposed at a commercial landfill facility depending on the extent of impact and whether the surface land owner is willing to allow the soils to be landtreated on location.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: _____ Date Site Investigation Completed: Ongoing Date Remediation Plan Submitted: 03/05/2012
Remediation Start Date: 03/12/12 Anticipated Completion Date: Unknown Actual Completion Date: _____

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

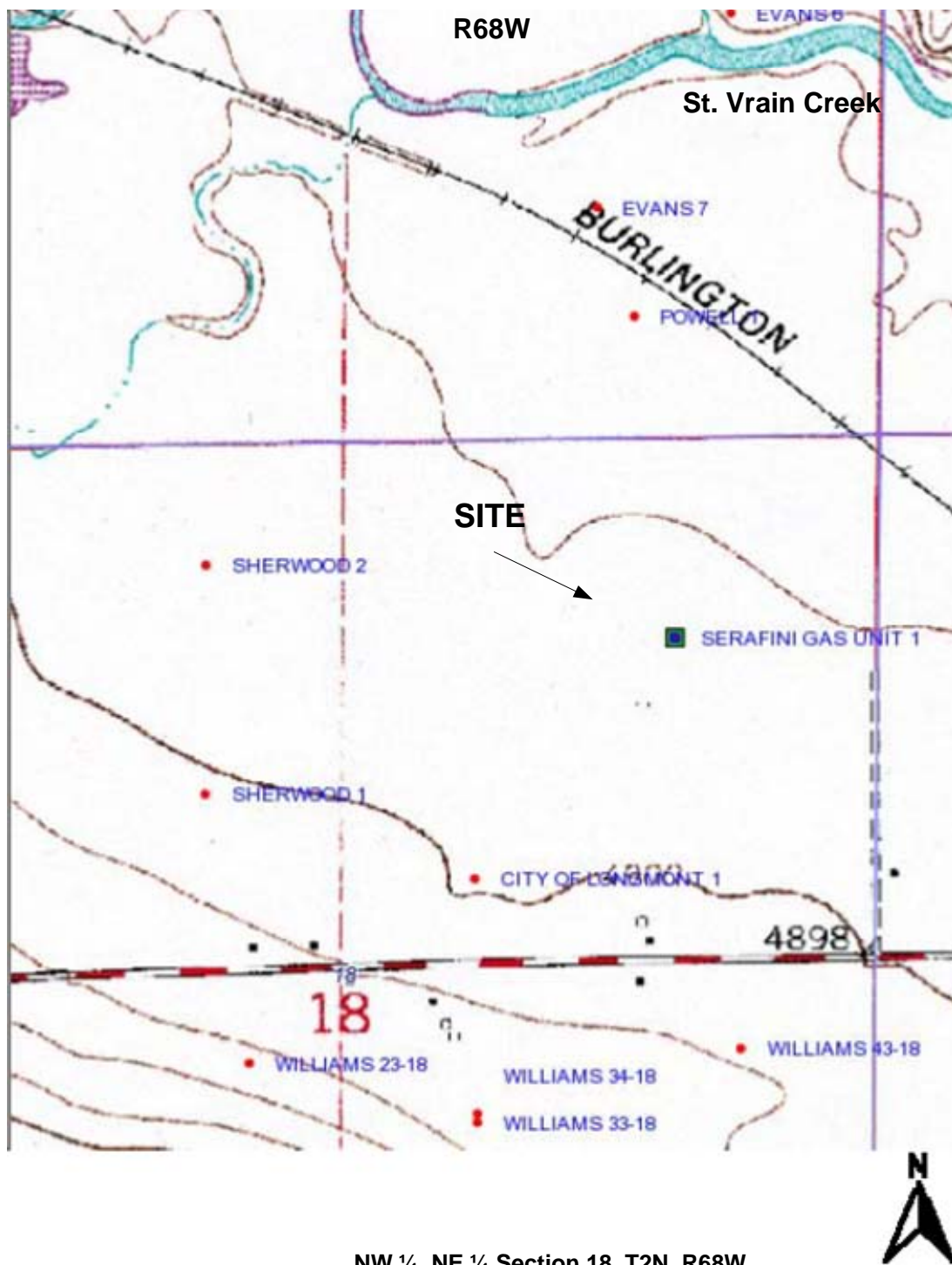
Print Name: Murray J. Herring

Signed: _____

Title: Vice President of Exploration

Date: 3-5-12

OGCC Approved: _____ Title: EPS Date: 3/6/2012



NW 1/4, NE 1/4 Section 18, T2N, R68W

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2
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FIGURE 1
Top Operating Company
 Serafini Gas Unit #1 (Sherwood Property)
 Proposed Soil Boring Locations
 County Road 1 and County Road 20 1/2
 Weld County, Colorado

Base Map – 1979 USGS 7.5-Minute Topographic Map
 Adapted from the COGCC GIS Website

Revision Date:	
Revision Number	
Revised by:	
Approved by:	
Project Number:	
Scale:	

OLSSON
 ASSOCIATES



T
2
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NW ¼, NE ¼ Section 18, T2N, R68W



**Proposed Test Pit or Bore Hole
Location**

Base Map – 1979 USGS 7.5-Minute Topographic Map
Adapted from the COGCC GIS Website

FIGURE 2

Top Operating Company
Serafini Gas Unit #1 (Sherwood Property)
Proposed Soil Boring Locations
County Road 1 and County Road 20 ½
Weld County, Colorado

Revision Date:	
Revision Number	
Revised by:	
Approved by:	
Project Number:	
Scale:	

OLSSON
ASSOCIATES