



January 28, 2014

Mr. John Axelson  
East Environmental Supervisor  
Colorado Oil and Gas Conservation Commission  
1120 Lincoln Street, Suite 801  
Denver, Colorado 80203

**RE: S.J. Warren #1 (API #05-121-07034) Workplan for Assessment and Remediation of Former Skim Pit – Complaint #200390828 and NOAV Document #200390941 Olsson Project #013-1681**

Dear Mr Axelson:

CM Production LLC (CM Production) retained Olsson Associates (Olsson) to develop a scope of work to perform assessment and remediation activities of a former skim pit located at the S.J. Warren #1 crude oil tank battery. The well and tank battery are located in the NW ¼ SW ¼ of Section 11, Township 2 North, Range 49 West, of the 6<sup>th</sup> Principal Meridian, Hyde Field, in Washington County, Colorado. The SJ Warren well is located to north of Highway 34 approximately six miles to the west of the town of Yuma, Colorado.

Mr. Ted Park, a former CM Production employee, filed a complaint with the COGCC on 12/2/2013 stating that he was directed by CM Production to bury a skim pit at the S.J. Warren #1 tank battery. Mr. Park further alleged that there was oily waste in the pit, that no samples were collected, and that CM Production did not fill out a Form 27 to submit to the COGCC. The complaint is identified in the COGCC database as Document # 200390828.

The COGCC conducted inspections of the site on November 20, 2014 in response to the alleged improper closure of the unlined skim pit. During the inspection the COGCC observed that the pits had been closed and replaced with an aboveground steel 300-barrel capacity steel tank at the S.J. Warren #1 Site.

CM Production closed the pit in 2011 since it was not in use and had not been in use for some time. CM Production maintains that they did not direct Mr. Park to bury oily waste in the former skim pit, but admits that they did not follow COGCC rules in closing the pit by not filing a Form 27 – Site Investigation and Remediation Workplan or collecting closure samples.

### **Proposed Workplan**

CM Production retained Olsson to perform a subsurface investigation of the former skim pits to assess for potential impacts. Olsson and CM Production propose to use a backhoe to excavate test holes in the former pits to determine the nature and extent of impacts. Prior to excavating, Olsson will contact the Utility Notification Center of Colorado (UNCC) to request that the location of buried utilities at each of the sites be marked prior to beginning excavation activities.

Soils will be assessed for staining and petroleum odor and will be headspace screened using a photoionization detector (PID). Soil samples will be collected and submitted for laboratory analysis of the Table 910-1 soil parameters. The results will be evaluated to determine if the Table 910-1 concentration levels for soil parameters have been met. Three soil samples will be collected from undisturbed areas in the vicinity of the sites to assess background total metals conditions, electrical conductivity (EC), sodium adsorption ratio (SAR), and pH to establish site specific background conditions.

If impacted soils are encountered, and concentrations are above the Table 910-1 concentration levels CM Production will excavate the impacted soils from the former skim pit. A minimum of one confirmation soil sample from each side wall and one soil sample from the base of the excavation will be collected to document that the nature and extent have been defined and that impacted soils have been removed. If impacted soils are encountered during the excavation, the impacted soils will be removed from the former pit and stockpiled on plastic on location pending approval for disposal at a commercial landfill facility. Alternatively, CM Production may request the COGCC allow land treatment of the impacted soils onsite with permission from the surface landowner depending on the volume of impacted soils and the assessment analytical results. The stockpiled soils will be contained with an earthen berm pending transport to the offsite disposal facility or pending approval to treat the impacted soils onsite until they meet the Table 910-1 concentration levels.

Sincerely,

**Olsson Associates**

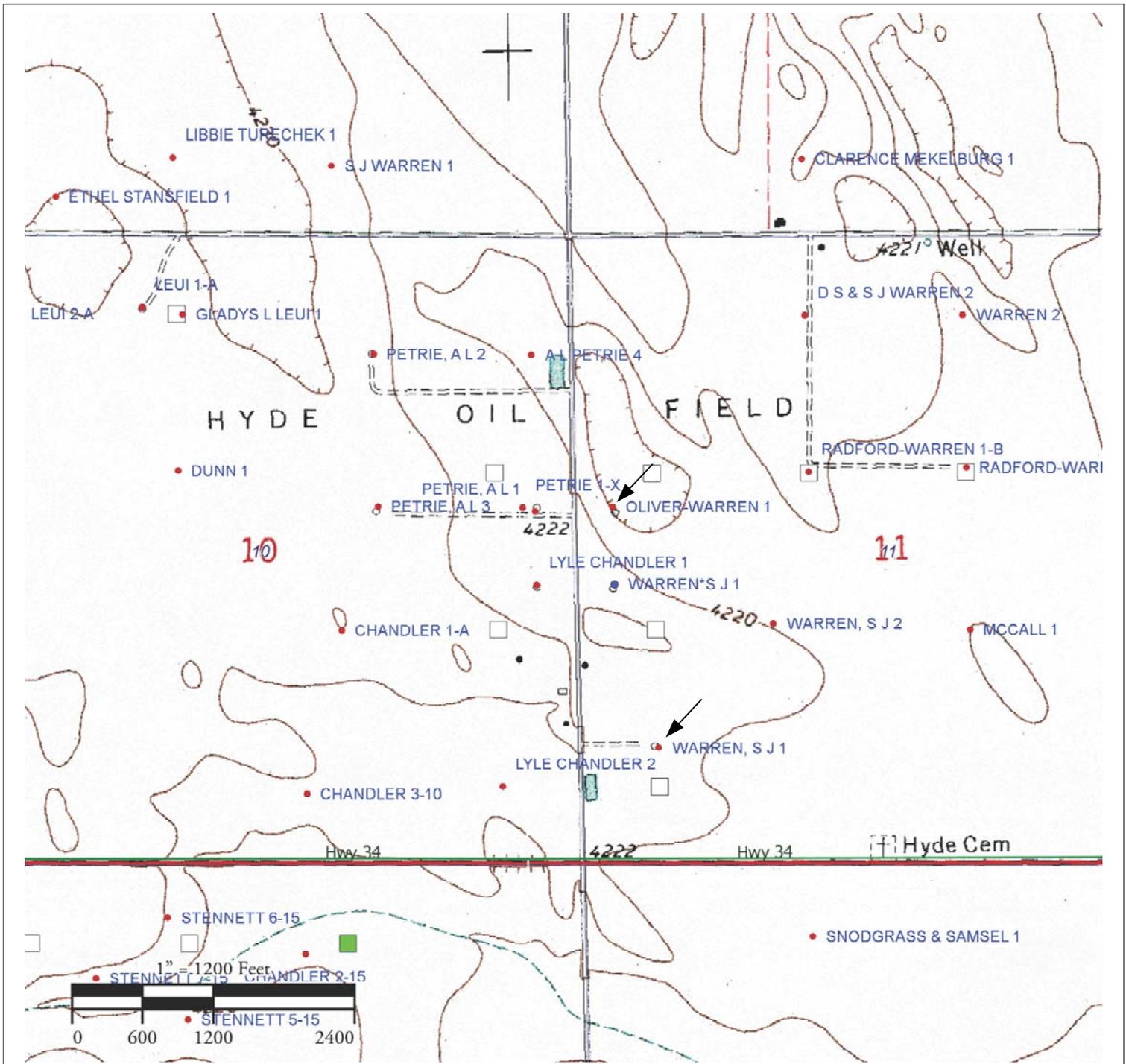


James W. Hix  
Senior Geologist

Attachments

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# FIGURES



**LEGEND:**

- WARREN 1 Well Location
- Tank Location
- COGCC Pit Location (Status Unknown)
- COGCC Pit Location (Status Active)

Scale: As Shown

Base map adapted from the Colorado Oil and Gas Conservation Commission GIS Database Online.



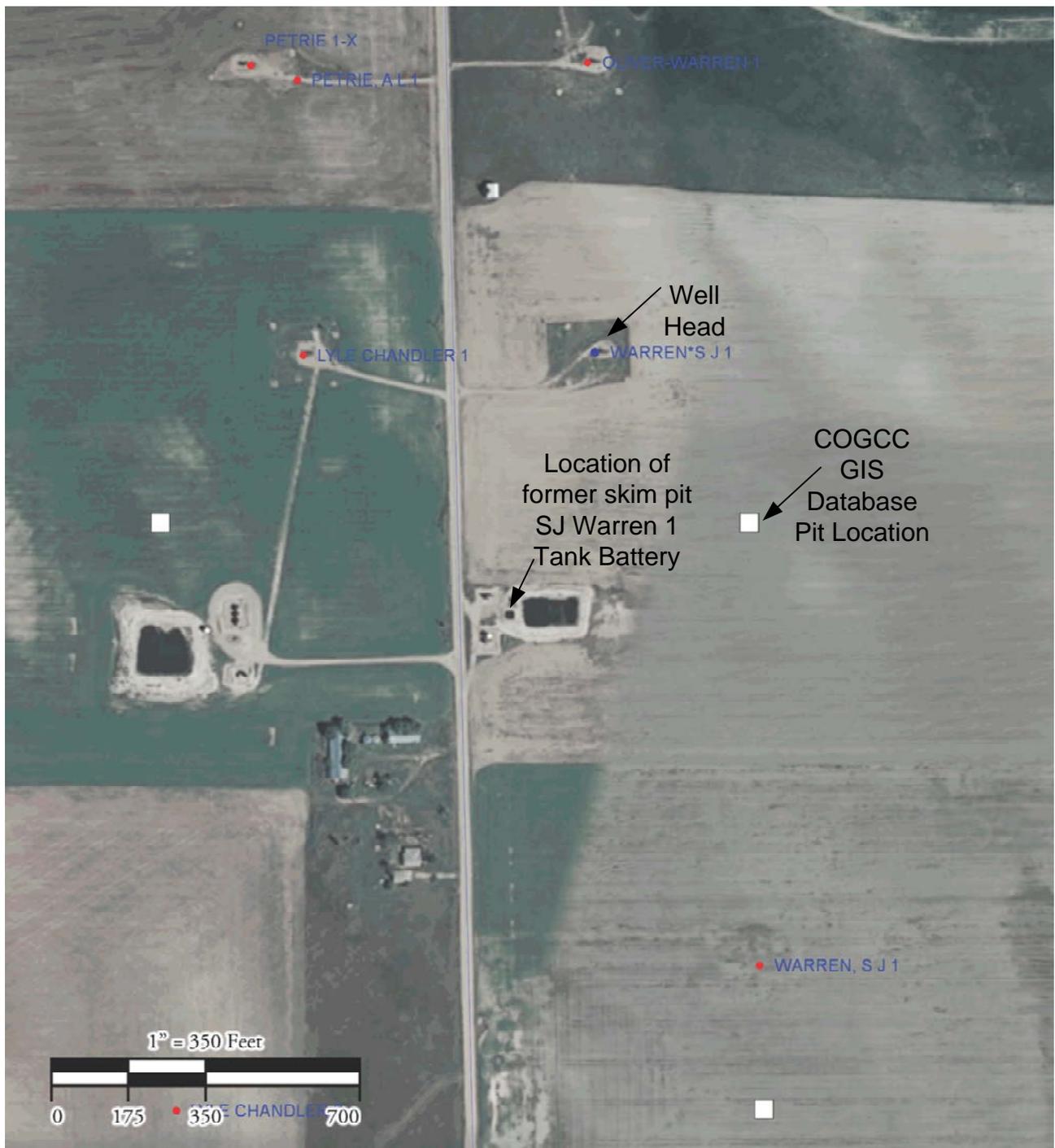
PROJECT NO:	01-1681
DRAWN BY:	JWH
DATE:	01/28/2014

CM Production, LLC  
 Oliver Warren & SJ Warren 1  
 General Location Map



4690 Table Mountain Dr. #200  
 Golden, CO 80403  
 TEL 303.237.2072  
 FAX 303.237-2659

FIGURE  
 1



**LEGEND:**

- WARREN 1 Well Location
- Tank Location
- COGCC Pit Location (Status Unknown)

Scale: As Shown

Base map adapted from the Colorado Oil and Gas Conservation Commission GIS Database Online.



PROJECT NO:	01-1681
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CM Production, LLC  
 SJ Warren 1 Skim Pit  
 2009 Aerial Photograph



4690 Table Mountain Dr. #200  
 Golden, CO 80403  
 TEL 303.237.2072  
 FAX 303.237-2659

FIGURE
2



**LEGEND:**

- WARREN 1 Well Location
- Tank Location
- COGCC Pit Location (Status Unknown)

Scale: As Shown

Base map adapted from the Colorado Oil and Gas Conservation Commission GIS Database Online.



PROJECT NO:	01-1681
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DATE:	01/28/2014

CM Production, LLC  
 SJ Warren 1 Skim Pit  
 2011 Aerial Photograph



4690 Table Mountain Dr. #200  
 Golden, CO 80403  
 TEL 303.237.2072  
 FAX 303.237-2659

FIGURE

3

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**ATTACHMENT A  
FORM 27  
SITE INVESTIGATION AND  
REMEDICATION WORKPLAN**

State of Colorado  
**Oil and Gas Conservation Commission**



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

#8179

FOR OGCC USE ONLY

RECEIVED  
1/29/2014

**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.

OGCC Employee:

- Spill  Complaint  
 Inspection  NOAV

Tracking No:

**CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED**

- Spill or Release  Plug & Abandon  Central Facility Closure  Site/Facility Closure  Other (describe): \_\_\_\_\_

OGCC Operator Number: <u>10352</u>	Contact Name and Telephone: <u>Mr. John Teff</u>
Name of Operator: <u>CM Production LLC</u>	No: <u>303.534.0199</u> Cell: <u>720.299.1101</u>
Address: <u>600 17th Street, Suite 2800 South</u>	Fax: <u>303.479.1318</u>
City: <u>Denver</u> State: <u>CO</u> Zip: <u>80202-5428</u>	

API Number: <u>05-121-07034</u>	County: <u>Washington</u>
Facility Name: <u>S.J. Warren #1</u>	Facility Number: _____
Well Name: <u>S.J. Warren #1</u>	Well Number: _____
Location: (QtrQtr, Sec, Twp, Rng, Meridian): <u>NW SW 11 T2N R49W 6</u>	Latitude: _____ Longitude: _____

**TECHNICAL CONDITIONS**

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): Produced Water and Crude Oil

**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, dry land farming

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Keith-Kuma Complex (Unit 33)

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Water wells for irrigation within 1/4 mile

Reported depth to groundwater > 200 feet below ground surface.

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

Impacted Media (check):	Extent of Impact:	How Determined:
<input type="checkbox"/> Soils	_____	_____
<input type="checkbox"/> Vegetation	_____	_____
<input type="checkbox"/> Groundwater	_____	_____
<input type="checkbox"/> Surface Water	_____	_____

**REMEDIALTION WORKPLAN**

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

Olsson Associates will perform environmental oversight of excavation activities of the former skim pit at the S.J. Warren #1 tank battery. Soil samples will be collected from the excavations and analyzed for the Table 910-1 soil parameters.

**Describe how source is to be removed:**

The pit will be assessed using a backhoe excavator. If impacted soils are encountered that show evidence of staining or petroleum hydrocarbon odors, these soils will be removed from the pit, placed on plastic, and contained within an earthen berm pending offsite disposal at a commercial landfill or pending COGCC/landowner approval of treatment onsite.

**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.:**

It is expected that the extent of the impacted soils can be delineated using a backhoe. In the event that the impacted soils extend beyond the limits of the excavator, additional assessment and remediation will need to be performed. Groundwater is not expected to be encountered in the excavation. If there is evidence of groundwater impacts, CM Production and Olsson will evaluate remediation strategies.



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

Page 2 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 is not expected to be impacted. Groundwater is expected to lie at a depth of more than 200 feet below ground surface based on reported static water levels for area water wells.

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.

The former pit location will be assessed using an excavator. E&P wastes that are encountered will be sampled for Table 910-1 parameters. The results will be compared with Table 910-1 concentration levels to determine the extent of wastes/impacted soils. If none of the wastes are above the Table 910-1 concentration levels, the pit will be backfilled. If E&P wastes are encountered that are above the Table 910-1 concentration levels, CM Production will assess the volumes to be treated or disposed offsite at a commercial landfill facility. If the amount of E&P wastes can be treated onsite, CM Production will obtain approval from the surface landowner and COGCC prior to beginning treatment.

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:

CM Production did not characterize the skim pit prior to closure in 2011.

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

The disposition of E&P waste will be determined based on the amount of E&P wastes encountered. If the impacted soils can be landtreated onsite to meet Table 910-1 concentration levels, CM Production will obtain approval from the surface landowner and the COGCC. Otherwise the E&P wastes will be hauled to a commercial landfill facility such as the Logan County landfill, the Waste Management North Weld Landfill in Ault, Colorado or the Buffalo Ridge Landfill in Keenesburg, Colorado, or the Clean Harbors Deer Trail landfill.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 12/03/2013 Date Site Investigation Completed: \_\_\_\_\_ Date Remediation Plan Submitted: \_\_\_\_\_ Remediation Start Date: \_\_\_\_\_ Anticipated Completion Date: \_\_\_\_\_ 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: \_\_\_\_\_ Signed: \_\_\_\_\_

Title: \_\_\_\_\_ Date: \_\_\_\_\_

OGCC Approved: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_