

State of Colorado
Oil and Gas Conservation Commission

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



FOR OGCC USE ONLY

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): Pit Closure

OGCC Operator Number: 96155

Name of Operator: Whiting Oil and Gas Corporation

Address: 1700 Broadway, Suite 2300

City: Denver

State: CO Zip: 80290-2300

Contact Name and Telephone:

William Lambert

No: 303-837-4238

Fax: 720-644-3637

API Number: 05-103-11030

County: Rio Blanco #103

Facility Name: Boise-62S97W

Facility Number: 335891

Well Name:

Well Number:

Location: (QtrQtr, Sec, Twp, Rng, Meridian): SESE, 19, 2S, 97W, 6th

Latitude: 39.85536

Longitude: -108.319

TECHNICAL CONDITIONS

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

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.): Rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Hagga loam, Glendive fine sandy loam

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Black Sulphur Creek (~328 feet); Mobil Spring No 22 (~502 feet)

Track C-A S-570 (~927 feet), Mobil Spring No. 21 (~785 feet)

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

Impacted Media (check):

Extent of Impact:

How Determined:

☐

Soils

☐

Vegetation

☐

Groundwater

☐

Surface Water

REMEDIAL ACTION WORKPLAN

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

See attached work plan. This guidance document outlines the steps necessary for Whiting and its contractors to properly close pits in compliance with current Colorado Oil & Gas Conservation Commission (COGCC) regulations (900 and 1000 series) and Colorado Department of Public Health and Environment (CDPHE) regulations (CDPHE Background Data Evaluation Method B).

Describe how source is to be removed:

If it is determined through the described sampling process that the soils are impacted, a remediation plan will be developed.

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 unknown if impacts exist. Should it be determined through the described sampling process that the soils are impacted, a remediation plan will be developed.



REMEDIATION WORKPLAN (Cont.)

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

OGCC Employee: _____

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

It is not believed groundwater is impacted; however, if it is determined through the described sampling process that the groundwater is impacted, a remediation plan will be developed.

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.

Reclamation will be in accordance with applicable COGCC regulations.

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:

It is unknown at this time if additional investigation will be required.

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

If E&P waste is encountered, it will be disposed of in accordance with applicable local, State and Federal requirements.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: _____ 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: *NOT Approved* Title: _____ Date: *3/7/14*

My firm see attached email and REM 7933.

STATE OF
COLORADO

Fischer - DNR, Alex <alex.fischer@state.co.us>

Re: Boies B-19P Pit Closure Form 27

1 message

Fischer - DNR, Alex <alex.fischer@state.co.us>

Thu, Mar 6, 2014 at 2:40 PM

To: Gary Lawson <Gary.Lawson@whiting.com>

Cc: "kris.neidel@state.co.us" <kris.neidel@state.co.us>, Will Lambert <william.lambert@whiting.com>, Patrick Abbott <patrick.abbott@whiting.com>, Jared Huckabee <jared.huckabee@whiting.com>, Peter Gowen - DNR <peter.gowen@state.co.us>

Gary and Will,

What was submitted is merely a mix of COGCC rule citations and a generic procedure on pit closure. The only specifics to the Boies B-19P facility is reference of the location. The submitted Form 27 shall be returned to Whiting as rejected and not approved. The following 2 documents are failed/violation inspections describing oil on the pit(s)

669300622

662300237

Additionally, Kris Neidel requested the following in his Feb 25, 2014 email below (highlighted in yellow):

----- Forwarded message -----

From: **Neidel - DNR, Kris** <kris.neidel@state.co.us>

Date: Tue, Feb 25, 2014 at 10:17 AM

Subject: Re: FW: Form 27, Whiting Oil and Gas, Operator Number 96155

To: Will Lambert <william.lambert@whiting.com>

Cc: Patrick Abbott <patrick.abbott@whiting.com>, Gary Lawson <Gary.Lawson@whiting.com>, Alex Fischer - DNR <alex.fischer@state.co.us>, jared.huckabee@whiting.com

Will,

I did a desk top review to determine if pits listed in Rem # 7933 were still open and I can see that all pits listed in report have physically been closed (per aerals). Please provide analytical for Remediation number 7933, all 9 locations.

The Boies B-19p location was not listed in the Form 27 and the pit at that location was not closed with the other nine, for that reason the Remediation project number 7933 and the Boies B-19p projects will remain separate.

As we discussed yesterday, please provide closure report for the Boies B-19p.

The COGCC is requesting the information provided in Mr. Neidel's email. The Form 27 (REM 7933) and subsequent information provided by InterTech states that the all of the pits were not properly closed but further investigations and sampling with a CME 55 HSA rig will be conducted. This information should be readily available either by Whiting or their consultant if it the field work was executed.

By **March 21, 2014** provide the requested information for all of the pits and a separate closure report for the Boies B-19P facility. Each of the pit closure reports shall include: a site layout of where the pits were in relation to other facilities at the location, specific discrete (not commingled) sample locations, specific analytes to test for (at least one must include the entire 910-1 suite).

If Whiting cannot provide this information then, by **March 21, 2014**, Whiting shall provide separate Form 27 (Site Investigation/Remediation Closure Plans for all 9 of the pits (making the original Form 27 null and void) and the Boies B-19P. The Form 27s shall NOT be a mix of COGCC rule citations and generic procedures on pit closure, but specific to each pit including: a site layout of where the pits were, proposed specific discrete (not commingled) sample locations, methodology for collecting samples, field screening, specific analytes to test for (at least one must include the entire 910-1 suite), an implementation schedule etc.

Should you have any questions, please do not hesitate to contact Mr. Neidel or myself. I have cced the COGCC Enforcement Officer should this matter go that route.

Thanks
Alex

On Wed, Mar 5, 2014 at 5:16 PM, Gary Lawson <Gary.Lawson@whiting.com> wrote:

Alex and Kris,

I apologize, but it appears I sent you a draft. Please disregard that copy and use the attached file here for your records.

Thanks,



Gary Lawson, PE
Environmental Supervisor
Whiting Petroleum Corporation
and its wholly owned subsidiary
Whiting Oil and Gas Corporation
1700 Broadway, Suite 2300
Denver, CO 80290
Direct (303) 390-1330
Cell (248) 882-2023
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gary.lawson@whiting.com
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From: Gary Lawson
Sent: Wednesday, March 05, 2014 5:13 PM
To: 'alex.fischer@state.co.us'; 'kris.neidel@state.co.us'
Cc: Will Lambert; Patrick Abbott; Jared Huckabee
Subject: Boies B-19P Pit Closure Form 27

Alex and Kris,

As requested, please find attached the Form 27 for the Boies B-19P pit closure. We are still working on finalizing the closure report and will be sure to send it over once it is complete.

While Will Lambert is currently the Environmental Professional for Colorado, I wanted to take this opportunity to submit the Form 27 for this facility as a way to introduce myself to you. As the supervisor of the Environmental Professionals here at Whiting, I want to assure you that Whiting takes compliance very seriously and strives to maintain a good relationship with COGCC and other state agencies. If at any time you have concerns or would like to provide me with feedback on how Whiting is doing, please don't hesitate to contact me.

Thank you, and please let me know if there is any additional information that you need.



Gary Lawson, PE
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Alex Fischer, P.G.
Environmental Supervisor, Western Colorado
State of Colorado, Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, Colorado 80203

3/7/2014

State.co.us Executive Branch Mail - Re: Boies B-19P Pit Closure Form 27

office: 303.894-2100 ext. 5138 | fax: 303.894-2109

email: alex.fischer@state.co.us



Providing Innovative Solutions in a Complex Environment

March 5, 2014

Alex Fischer
West Environmental Supervisor
Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, CO 80203

RE: Form 27 - Whiting Oil and Gas

Dear Mr. Fischer:

Please find the attached Form 27 and supporting workplan, submitted on behalf of Whiting Oil & Gas, Operator Number 96155, for the closure of the two (2) pits on the following location:

Location ID	Facility Name	QtrQtr	Sec	Twn	Rng	Meridian	Latitude	Longitude
335891	Boies-62S97W	SESE	19	2S	97W	6	39.85536	-108.319

The attached work plan outlines the steps necessary for Whiting and its contractors to properly close pits in compliance with current Colorado Oil & Gas Conservation Commission (COGCC) regulations (900 and 1000 series) and Colorado Department of Public Health and Environment (CDPHE) regulations (CDPHE Background Data Evaluation Method B).

Thank you in advance for your time in reviewing the attached document. If you have any specific questions, would like additional information, or would otherwise like to discuss the matter further, please contact myself or William Lambert at 303-837-4238, at your convenience.

Thank you,

Jana Nilsen
Sr. Environmental Scientist

JS:sb
Enclosures
Cc: File



InterTech

March, 2014

PIT CLOSURE WORK PLAN



PREPARED FOR:

***Whiting Oil & Gas Corporation
1700 Broadway, Suite 2300
Denver, CO 80290***

Prepared By:



InterTech

***InterTech Environmental & Engineering, LLC
743 Horizon Court, Suite 110
Grand Junction, CO 81506***

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INTRODUCTION

This guidance document outlines the steps necessary for Whiting Oil & Gas Corporation (Whiting) and its contractors to ensure the proper closure of the two (2) production pits in compliance with current Colorado Oil & Gas Conservation Commission (COGCC) regulations (900 and 1000 series) and Colorado Department of Public Health and Environment (CDPHE) regulations (CDPHE Background Data Evaluation Method B) located at the following facility:

Location ID	Facility Name	Facility Number	QtrQtr	Sec	Twn	Rng	Meridian	Latitude	Longitude
335891	Boies	62S97W	SESE	19	2S	97W	6	39.85536	-108.319

REGULATIONS AND DEFINITIONS

The COGCC regulations stipulate that pits not used exclusively for drilling operations, buried or partially buried produced water vessels, and emergency pits shall be closed in accordance with an approved Site Investigation and Remediation Workplan, Form 27. The Workplan and Sample and Analysis Plan (SAP) procedures for the pit closure is described below and includes a description of the proposed investigation and remediation activities in accordance with the 900-series Rule; specifically, Rule 909 – Site Investigation, Remediation and Closure.

The two (2) pits located at the Boise-62S97W are production pits:

Production Pits are defined as those pits used after drilling operations and initial completion of a well, including pits at natural gas gathering, processing and storage facilities, which constitute:

Skimming/settling pits: Pits used to provide retention time for settling of solids and separation of residual oil for the purposes of recovering the oil or fluid.

Produced water pits: Pits used to temporarily store produced water prior to injection for enhanced recovery or disposal, off-site transport, or surface-water discharge.

Percolation pits: Pits used to dispose of produced water by percolation and evaporation through the bottom or sides of the pits into surrounding soils.

Evaporation pits: Pits used to contain produced waters which evaporate into the atmosphere by natural thermal forces.

Rules pertaining to pit closures are dependent upon type and location of the pit, the location's sensitivity (i.e., proximity to sensitive receptors), and surrounding land use. The procedures listed below should be followed to ensure that all soils and material intrinsic to the reclamation of pits, intended for disposal or beneficial reuse complies with applicable standards, procedures and limits set forth in the COGCC 900-series and 1000-series Rules. Digressively, all material must be in conformance with allowable concentrations and levels specified in Table 910-1 or otherwise handled or disposed of in accordance with all appropriate and applicable rules and regulations.

Table 1a – COGCC Table 910-1

Contaminant of Concern	Concentrations
Organic Compounds in Soil	
TPH (total volatile and extractable petroleum hydrocarbons)	500 mg/kg
Benzene	0.17 mg/kg
Toluene	85 mg/kg
Ethylbenzene	100 mg/kg
Xylenes (total)	175 mg/kg
Acenaphthene	1,000 mg/kg
Anthracene	1,000 mg/kg
Benzo(A)anthracene	0.22 mg/kg
Benzo(B)fluoranthene	0.22 mg/kg
Benzo(K)fluoranthene	2.2 mg/kg
Benzo(A)pyrene	0.022 mg/kg
Chrysene	22 mg/kg
Dibenzo(A,H)anthracene	0.022 mg/kg
Fluoranthene	1,000 mg/kg
Fluorene	1,000 mg/kg
Indeno(1,2,3,C,D)pyrene	0.22 mg/kg
Napthalene	23 mg/kg
Pyrene	1,000 mg/kg
Organic Compounds in Ground Water	
Benzene	5 µg/l
Toluene	560 to 1,000 µg/l
Ethylbenzene	700 µg/l
Xylenes (Total)	1,400 to 10,000 µg/l
Inorganics in Soils	
Electrical Conductivity (EC)	<4 mmhos/cm or 2 x background
Sodium Adsorption Ratio (SAR)	<125
pH	6-9
Inorganics in Ground Water	
Total Dissolved Solids (TDS)	<1.25 x background
Chlorides	<1.25 x background
Sulfates	<1.25 x background
Metals in Soils	
Arsenic	0.39 mg/kg
Barium (LDNR True Total Barium)	15,000 mg/kg
Boron (Hot Water Soluble)	2 mg/l
Cadmium	70 mg/kg
Chromium (III)	120,000 mg/kg
Chromium (VI)	23 mg/kg
Copper	3,100 mg/kg
Lead (inorganic)	400 mg/kg
Mercury	23 mg/kg
Nickel (soluble salts)	1,600 mg/kg
Selenium	390 mg/kg
Silver	390 mg/kg
Zinc	23,000 mg/kg
Liquid Hydrocarbons in Soils and Ground Water	
Liquid hydrocarbons including condensate and oil	Below detection level

DOCUMENTATION AND RECORDS MANAGEMENT

Whiting will perform an in-depth investigation and comparative analysis of site conditions, field screen observations and results, and any available analytical laboratory data to determine if the location requires further remediation to conform to COGCC requirements or if the location meets the COGCC Table 910-1 requirements without further reclamation efforts. If further effort will be required, this plan will be followed to reclaim the pits to meet COGCC requirements by all appropriate rules noted throughout the plan.

All data such as laboratory reports, field screening data, spill reports and files and electronic records generated during the closure process will be compiled as part of the investigation and will be assembled and included as part of the final report to the COGCC upon completion of the closure activities.

Strict adherence to Whiting Health and Safety procedures will be enforced and daily "Tailgate" Health and Safety meetings will be mandatory for all personnel on site. A job safety analysis will be conducted to ensure a safe project.

Regulatory Documents

During pit closure process, several applicable COGCC Forms will be required for proper documentation and recordkeeping. In addition to this Form 27 Site Investigation and Remediation Workplan, potentially applicable COGCC Forms include: Form 4 Sundry Notice and Form 19 Spill Report. Submitting the Form 4 and Form 19 may not be required and is dependent upon site specific considerations and findings. The purpose of this plan is to serve as a supplemental document to the initial and final Form 27.

If at any time during the closure process evidence of a release is identified in a quantity estimated to exceed Rule 906.b or HB 13-1278 thresholds, written notification will be provided to the COGCC via a Form 19 with then the required timeframes.

Form 4 - Sundry Notice

In the event that analytical results indicate: 1) arsenic or inorganic constituent levels are above the COGCC Table 910-1 standard and burial in the pit is desired, or 2) beneficial reuse of pit contents is desired, a Form 4 must be submitted and approved by the COGCC prior to any further action being taken. Once the COGCC has approved the Form, burial or reuse activities will take place.

Form 19 - Spill Report

In accordance with COGCC Series Rule 906.b, all spills and releases of Exploration & Production (E&P) waste that meet any of the following criteria to the Director verbally or in writing as soon as practicable, but no more than 24 hours after discovery (the "Initial Report").

- A spill/release of any size that impacts or threatens to impact any waters of the state, a residence or occupied structure, livestock, or public byway; or
- A spill/release in which one (1) barrel or more of E&P Waste or produced fluids is spilled or released outside of berms or other secondary containment; or
- A spill/release of five (5) barrels or more regardless of whether the spill/release is completely contained within berms or other secondary containment.

The Initial Report to the Director shall include, at a minimum, the location of the spill/release and any information available about the type and volume of waste involved.

If the Initial Report was not made by submitting a COGCC Form 19 Spill/Release Report, Whiting will submit a Form 19 with the Initial Report information as soon as practicable but not later than 72 hours after discovery of the spill/release unless extended by the Director.

In addition to the Initial Report to the Director, Whiting shall make a supplemental report on Form 19 not more than 10 calendar days after the spill/release is discovered.

When appropriate, a reasonable attempt will be made to notify the appropriate agency(ies) [e.g. COGCC, CDPHE, Local Emergency Planning Commission (LEPC) and National Response Center (NRC)] as well as the respective landowner(s).

Form 27 - Site Investigation and Remediation Workplan

The COGCC Form 27 is used to provide an outlined investigation/remediation workplan to the COGCC for approval at their discretion. The specified form is submitted during the following processes: closure of a central facility, closure of a facility/site, plugging and abandoning wells, and release events. An initial Form 27, Site Investigation and Remediation Workplan, is submitted to notify COGCC of the operator's intentions (COGCC Rule 905 b.), second Form 27, Notification of Completion, is submitted within 30 days after conclusion of site remediation and reclamation activities (COGCC Rule 909 e. (2)). Site investigation (s) will commence in accordance with COGCC Series Rule 909.b. which is outlined below.

CLOSURE OF NON-DRILLING PITS

Production, special purpose, and multi-well pits will require the preparation, submittal and approval of a Form 27 prior to initiation of site activities. Once an approved Form 27 is received, historic use and process knowledge regarding pit contents and analytical data will be used to determine the appropriate reclamation pathway. This closure process will consist of:

- Removal and management of the pit contents (i.e. liquids and/or solids);
- Removal of the pit liner for recycling, reuse, or co-processing;
- Sample collection of surrounding soils and documentation of visual, field and analytical investigation with excavation of any impacted soil;
- Closure sampling and analysis;
- Identification and submission of any required notices or variances with supporting documentation;
- Development and submittal of Closure Package to COGCC; and
- Upon COGCC approval, backfilling and grading of the pit excavation.

Should the exceedance of one (1) or more constituent concentrations or levels are limited to physical parameters (EC, SAR, pH) or arsenic, special approval issued by the COGCC will be pursued. This will be pursued and accomplished through submission and approval of a Sundry Form 4, which thereby permits Whiting to place the material in the excavation below the effective root zone so as not to impede vegetative reclamation of the site. In some situations, the COGCC may grant site specific approval or issue a variance for onsite disposal when certain constituents are reported over allowable concentrations and/or background levels (i.e.

EC, SAR, pH, and Arsenic). Consideration will be given to background levels in native soils and, if applicable, groundwater. Background samples may be collected, analyzed for appropriate Table 910-1 constituents (Volatile Organic Compound(s) (VOCs), metals, physical parameters, and Total Petroleum Hydrocarbons (TPH)), and the CDPHE Background Data Evaluation Method B may be used to determine appropriate clean-up concentrations for each site.

WORKPLAN AND SAP

Phase I - Pit Content Removal

The first phase of the pit closure process will involve removal of pit contents. The liquid pit contents will be removed using a vacuum truck and managed in accordance with their composition and reuse potential. The solid or semi-solid, more effort and care is necessary to ensure that liner integrity is not compromised as this could allow the pit contents to come in contact with the underlying sub-soil. Solid material will be removed from the pit using a track hoe with a butter bar affixed to minimize the possibility of tearing, ripping or cutting the liner material. Since the pit contents may be similar to a paste in consistency and may not pass a paint filter test, Whiting may mix such pit contents with native soil, sawdust, or other stiffening agents to render the material suitable for removal. Once removed, the pit contents will be placed into mobile containers and transported to an approved disposal facility.

Phase II - Liner Management

The pit liner(s) will be removed by peeling it back from the ground surface while shaking it to remove any remaining soil and rock material. The material will be placed in a lined revetment to await transport to an approved disposal facility.

Phase III - Evaluation of the pit sub-soils

After the liner has been removed, the sub-soils will be evaluated visually for evidence of hydrocarbon impacts. If any suspicious areas are noted during the visual examination, these areas will be screened with a Photolonization Detector (PID). The PID readings will be used to guide activities. If PID readings are below 100 ppm, the area will be considered clean. For areas deemed clean, grab closure samples will be collected. Samples will be taken from the mid-point of each pit wall and at least one (1) individual grab sample will be collected from the excavation low point(s) for laboratory analysis of the relevant constituents on Table 910-1.

All samples shall be labeled with unique sample identification, sampler's name, date collected, and the time of collection. Appropriate sample preservation procedures shall be followed. Samples shall be shipped to the laboratory following Chain-of-Custody protocols.

All pertinent site and sampling activity information will be recorded, in print, in a dedicated field notebook. Site conditions and sampling locations will be recorded on a site plan, plotted relative to a known reference point or located by means of a handheld Global Positioning System (GPS) device, and will be photographed. This will enable the sampler to return to the approximate sample locations in the event that additional investigation is warranted.

If PID readings or visual screening indicate sub-soil areas have been impacted, the soils will assume to be above the action level and handled in accordance with Task I detailed below.

Task 1 - Management of Impacted Sub-liner Soils

If stained and/or odorous sub-liner soils are identified, the impacted soil will be removed and treated or disposed of in the same manner as the pit contents. No attempt will be made to determine the level of impact to these soils as they will be assumed to be above the action limits.

Proper notification(s) will be made in accordance with Rule 906 COGCC according to the estimated volume released and as detailed above in the "Documentation and Records Management" section of the Plan. A Form 19 will be submitted to the COGCC within 10 days following identification of the release. In instances where the surface is not owned by Whiting, verbal notification to the surface owner will occur within 24-hours, per COGCC rule 906.c. Remediation shall be performed in accordance with requirements specified in Rules 909 and 910.

The impacted area(s) will be excavated until PID readings indicate clean closure TPH levels have been achieved. At that time, sample(s) for laboratory analysis and confirmation will be collected and submitted for analysis. If excavation of impacted media is necessary, the closure sample(s) will be collected from the location of impact regardless of the location on the wall or pit bottom.

Impacted soil will be removed and disposed of at a commercial solid waste disposal facility. Follow-up sampling for specific contaminants of concern will be conducted following treatment and prior to onsite reincorporation if applicable. In some situations, the COGCC may approve a "variance" for certain constituents reported over allowable concentrations.

If excavation of the impacted subsoil leads to groundwater, a thorough investigation will be conducted to determine the nature and extent of potential contamination. An assessment will be made of any other potential receptors. An integral part of this assessment will include a review of contaminant transport pathways and implementation of measures needed to protect sensitive receptors (streams, ponds, wetlands, water wells, etc.). Additionally, if it is determined that ground water was impacted, a monitoring and remediation plan will be developed. That plan will be submitted to COGCC on a subsequent Form 27 for prior approval. The respective plan will include but is not limited to the following items:

- Number of monitor well(s) and proposed location(s);
- The sampling schedule;
- The analytical suites and methods that will be utilized;
- The anticipated time frame for monitoring activities;
- The potential treatment options; and
- The necessary regulatory documentation.

Task 2 - Disposal

Disposal activities of impacted soils will be carried out in accordance with COGCC Series Rule 907, in addition to requirements from respective regulatory agencies and the disposal facility. Records of official analytical data, field screen data, field notes and disposal documents will be kept by Whiting for future reference for a time period of five (5) years.

Phase IV - Backfilling Activities

If pit contents are verified by laboratory analysis to be sufficiently clean or if a variance is obtained from COGCC, the material will be replaced in the pit to a depth of approximately three (3) to five (5) feet below ground surface (bgs) which is below the root zone. The remaining excavation will be backfilled with existing top soil already on site or with imported soil of similar characteristics to surficial soil indigenous to the facility area. The soil will be placed in approximately one (1) foot lifts and compacted but not to the point where an impenetrable barrier is created. The top foot of soil will be top soil capable of supporting native vegetation.

The pit will be reclaimed in accordance with the 1000 Series Rule in addition to any SUA/COA's defined by the surface owner. The affected surface should be graded to blend in with the existing area topography.

The seed mix applied on location will be dictated by the surface owner, if no seed mix is specified the operator's established seed mixes and COA's will be applied. Seeding of the reclaimed pit surface will occur as soon as practicable. Seasonal moisture windows will be taken into account while determining when seeding will occur to help facilitate the environmental conditions and encourage vegetative germination and establishment.

To help ensure proper vegetation establishment, annual noxious weed management will be conducted; any identified noxious weeds will be treated and noted for monitoring purposes. Depending on the size, density and species of the infestation, different treatment methods may be more appropriate than others (e.g. pre-emergent herbicide application vs. hand grubbing). A map of the location indicating the area(s) of infestation should be kept and updated as treatments are applied to ensure the dispersal of noxious weeds is kept to a minimum or eliminated.

During the interval between excavation and backfilling, the excavation will be protected by slopping the walls in clean areas and/or berming the perimeter to prevent unauthorized or accidental access.

Phase VI - Reporting Requirements

Task 1 - Notice of Completion

This phase involves the preparation of the Final Closure Report, synonymous with Notice of Completion (NC), promulgated in Rule 909.b. Completion and submission of the NC – via the second and final submission of the Form 27 - will summarize the closure process and findings of the subject facility per COGCC rule 909 (e).

Within thirty (30) days after the conclusion of site remediation and reclamation activities Whiting shall provide the following notification of completion:

- A Site Investigation and Remediation Workplan, Form 27, containing information sufficient to demonstrate compliance with these rules to the COGCC Director.

- Information sufficient to demonstrate compliance with this Workplan including but not limited to:
 - Analytical data;
 - Applicable conditions of agreement (COA's);
 - Specific reclamation actions that have been defined (e.g. noxious weed monitoring); and/or
 - A list of actions that Whiting has committed to performing for the respective location.

All official analytical results and submitted COGCC Forms will be kept for future reference for a time period of five (5) years after closure proceedings are complete.

Upon completion of the report, the NC will be submitted to the appropriate person(s) of the COGCC, and if appropriate, any other necessary and relevant agencies, for review, assessment and decision regarding a "Determination of Further Action".