

PDC ENERGY, INC.

Site-Specific Waste Management Plan

COGCC Rule 304.C.(11) and
Weld County Code, Sec. 21-5-450

Windom 5N67W24 1-46 Pad
Weld County, Colorado

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PDC Energy, Inc. (PDC) is responsible for the management of waste in accordance with federal, state, and local regulations prior to transporting the waste to a treatment, storage, or disposal facility (TSDF).

Notably, PDC is proposing a tankless facility design of the Windom Well Pad as it pertains to hydrocarbons. Under the tankless design there would be zero oil tanks, thereby eliminating hydrocarbon storage. Under the tankless hydrocarbon design, produced oil, gas, and water will be transported from the site via pipeline takeaway. However, trucking of produced water may occasionally be required.

This Site-Specific Waste Management Plan (SSWMP or Plan) was designed to complement the policies and procedures established within PDC's corporate Exploration and Production (E&P) Waste Management Plan for Denver Julesburg (DJ) Basin Operations, and to assist PDC with the storage, labeling, and disposal requirements for wastes generated during field activities associated with development and operation of the Windom Location.

In addition, this Plan summarizes applicable waste management requirements and procedures established by PDC and in accordance with Rule 905 Management of E&P Waste, established under the Colorado Oil and Gas Conservation Commission (COGCC), and in accordance with Weld County Code, Section 21-5-450.

The Plan was prepared to ensure that both non-E&P and E&P waste management will be conducted in a manner that protects public health, safety, welfare, environment, and wildlife resources. State and county regulations and requirements that affect waste management are frequently updated, and the information contained within this Plan is subject to change.

The SSWMP was prepared for the following Facility:

Name: Windom 5N67W24 1-46 (multi-well oil and gas production pad)

County: Weld

Coordinates: Lat: 40.383274°N Long: 104.840144°W

Table 1 summarizes the waste streams for each phase of the pad construction, well development, and production, including non-E&P wastes and E&P wastes including water and oil-based drilling fluids and cuttings, hydraulic fracturing and flowback fluids, produced water, and tank bottoms. Table 1 also outlines the manner in which wastes are treated, characterized, managed, stored, disposed, and transported. Figure 1 illustrates the location and layout of the Facility.

Materials (e.g., tank bottoms) identified by the Colorado Department of Public Health and Environment (CDPHE) as potentially containing technologically enhanced naturally occurring radioactive material (TENORM) will be characterized prior to disposal. E&P wastes will be stored in compatible containers or engineered containment devices. The containers will be regularly inspected to ensure they are in good condition and free of excessive wear, structural issues, or other defects that may impact their effectiveness. PDC will only transport wastes offsite to disposal or recycling facilities that are permitted commercial waste disposal facilities; commercial waste recycling facilities; or beneficial use sites approved to receive E&P waste by CDPHE and the Relevant Local Government.

Figure 2 illustrates the location of the permitted solid waste, non-E&P waste, E&P waste, hazardous waste, and salt-water disposal and recycling facilities that PDC intends to utilize during the construction, drilling, completion, and operational phases of the Facility.

Recycling and Reuse Plan

PDC understands the importance of fully utilizing available resources. This includes reuse and recycling efforts of E&P waste products on future oil and gas development projects. Where practical, PDC will seek to use flowback and or produced water fluids as a source for new well stimulation operations.

Other waste streams generated will be disposed at commercial facilities. The waste streams, including petroleum impacted soils, drill cuttings, drill mud, and cement water, will be disposed of at licensed third-party disposal facilities (landfills). Tank bottoms will be disposed of at E&P licensed landfills. The landfills include:

Solid Waste Disposal Facilities Include:

Waste Management – Buffalo Ridge Landfill
11655 Weld County Road 59
Keenesburg, CO 80643

Pawnee Waste, LLC
47368 Weld County Road 118
Grover, CO 80729

Waste Management – North Weld Landfill
40000 W CR 25
Ault, CO 80610

Waste Connections – Front Range Landfill
1441 NE County Line Rd.
Erie, CO 80516

Republic Services Tower Road Landfill
8480 Tower Rd
Commerce City, CO 80022

Liquid wastes, including flowback and produced water will be disposed of at licensed third-party injection facilities, which include NGL Energy Partners LP (NGL) facilities:

Liquid Waste Disposal Facilities Include:

NGL Water Disposal C-3
19094 WC Road 40
La Salle, CO 80645

NGL Water Disposal C-6
13159 WC Road 39
Platteville, CO 80651

NGL Water Disposal C-7
33888 WC Road 74
Galeton, CO 80622

PDC will identify if a Recycling and Reuse Plan is valid on any specific project and submit a written management plan with the applicable Form 4, Form 15, or Form 28, as required. This plan, when applicable, will also be consistent with the operator's site-specific Water Management Plan

Waste Types

Operators are required to determine whether wastes on oil and gas locations are hazardous or have special management requirements. A waste determination can be made using generator knowledge, safety data sheets (SDSs), and/or analytical data. Wastes generated during field activities will be evaluated to determine management techniques. Operators must maintain records of any test results, waste analysis, or other waste determinations.

Waste Determination Forms have been developed for waste streams anticipated to be generated at the Windom Location and are included as Appendices to this SSWMP to provide a description of the waste generation process, determination of waste type, details on characterization, treatment, management and storage, transport and disposal (or recycling) of each waste type associated with the Cameron 2 Oil and Gas Development Plan (OGDP). Appendix A contains Waste Determination Forms for E&P Wastes. Appendix B contains Waste Determination Forms for Other E&P Wastes, and Appendix C contains Waste Determination Forms for Non-E&P Wastes. The following E&P and Non-E&P waste types are anticipated during the construction, drilling, completion, and operation of the Facilities.

1.0 CONSTRUCTION

1.1 General Trash (Non-E&P Waste)

Non-E&P waste generation is anticipated during the construction phase of the Windom Location. All surface debris, trash, unusable scrap, or solid waste from the facility will be properly and temporarily stored on location in a secure container (roll off dumpster) and disposed of as needed at one of the following waste disposal facilities via truck. Non-E&P waste is also anticipated to be generated during the drilling and completions phases of the site and will be transported at frequencies based on waste volume. The landfills for non-E&P waste include:

- Waste Management – Buffalo Ridge Landfill, Waste Management – North Weld Landfill, Republic Services Tower Road Landfill, and Waste Connections – Front Range Landfill

Human generated waste (from temporary toilets/porta potties) will be removed by a professional waste removal company on a weekly basis during construction as well as throughout the drilling, completions, and production phases. Porta potty waste will be disposed of at the licensed McDonald Farm Enterprises Waste Treatment Facility located in Frederick, Colorado.

2.0 DRILLING

2.1 Water-Based and Oil-Based Drilling Fluids (E&P Exempt Waste)

Description of the process generating the waste: Oil and water-based drilling fluids are used to lubricate and remove drill cuttings during the drilling process. Drilling fluids are processed to remove solids and recirculated. When drilling is complete, or the drilling fluid is spent, the drilling fluids are sent for disposal.

An estimate of expected volumes or amounts of waste generated, and a frequency and duration of the waste stream generation: 200 bbls per day, recycled prior to disposal for 138 days

Characterization for disposal profile: Generator knowledge will be used to profile the waste with the disposal facility.

Physical or chemical hazards (field testing or sampling required): No.

Onsite treatment: Drilling fluids/muds are recirculated and process through shakers to remove solids during the drilling process.

Onsite Management and Storage: Spent drilling fluids/muds are collected upon completion of the drilling phase into vac trucks for disposal. Drilling muds are stored in the recirculating equipment during the transport phase for less than 24 hours.

Transport: Drilling fluids will be transported for disposal by licensed haulers with proper manifests, shipping papers, labels and placards, and waste determination or profiles approved by the disposal facility. PDC requires all transporters to participate in an annual safety training provided by PDC. In addition, transporters are required to participate in, and have a good rating in, the ISNetwork contractor management program. Transporters are also required to participate in a drug testing program.

Records of waste that is transported offsite shall be maintained for 5 years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Records will include:

Date of transport	Name of the generator
Name of the transporter	Location of the waste site
Type and volume of waste	Name and location of the disposal facility

Disposal: Drilling fluids will be transported to the following facilities for disposal under 905.d(2)B:

- Pawnee Waste, LLC
- Republic Services Tower Road Landfill

Applicable surface owner and lease agreement conditions pertaining to waste treatment, storage, and disposal: N/A

Applicable recycling criteria under RCRA: None.

2.2 Drill Cuttings (E&P Exempt Waste)

Description of the process generating the waste: Small pieces of rock and soil (including spall and carvings) that break away from the well walls during drilling and are screened out of the liquid mud system.

An estimate of expected volumes or amounts of waste generated, and a frequency and duration of the waste stream generation:

- **Surface Cuttings:** 270 bbls generated per day (total of water- and oil-based fluids), five loads disposed per day, for a duration of 46 days

- **Production Cuttings:** 1,100 bbls generated per day (total of water- and oil-based fluids), 30 loads disposed per day, for a duration of 138 days

Characterization for disposal profile: Drill cuttings are generated from oil and water-based drilling fluids and will be characterized as Oil Based Drill Cuttings (Rule 905.g(2)). Generator knowledge will be used to profile the waste with the disposal facility.

Physical or chemical hazards (field testing or sampling required): No.

Onsite treatment: Drill cuttings will be separated from drilling muds to facilitate reuse of the mud through a mechanical shaker. Drill cuttings will be solidified on site by adding manure to the cuttings inside the cutting boxes to remove free liquids prior to offsite disposal.

Onsite Management and Storage: Drill cuttings will be stored in cutting bins at the rig until loaded for disposal in side-dump trailers. Drill cuttings are stored on location next to the rig shaker boxes. Cuttings are stored onsite less than 24 hours prior to disposal.

Transport: Drill cuttings will be transported for disposal by licensed haulers with proper manifests, shipping papers, labels and placards, and waste determination or profiles approved by the disposal facility. PDC requires all transporters to participate in an annual safety training provided by PDC. In addition, transporters are required to participate in, and have a good rating in, the ISNetwork contractor management program. Transporters are also required to participate in a drug testing program.

Records of waste that is transported offsite shall be maintained for 5 years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Records will include:

Date of transport,	Name of the generator,
Name of the transporter,	Location of the waste site,
Type and volume of waste,	Name, and location of the disposal facility

Disposal: Drill cuttings will be transported to the following facilities for disposal in accordance with 905.g(1)A and 905.g(2)A:

- Waste Management – Buffalo Ridge Landfill
- Waste Connections – Front Range Landfill

Applicable surface owner and lease agreement conditions pertaining to waste treatment, storage, and disposal: N/A

Applicable recycling criteria under RCRA: None.

3.0 COMPLETIONS

3.1 Flowback and Workover Fluid (E&P Exempt Waste)

Description of the process generating the waste: Used flowback and workover fluids, muds, completion, treatment, stimulation, and packing fluid, blowdown, swabbing and bailing wastes, and pipe dope from well development and workover.

An estimate of expected volumes or amounts of waste generated, and a frequency and duration of the waste stream generation:

- Flowback Water – 1,300 bbls generated per day and disposed daily for a duration of 92 days
- Millout Sand – 35 bbls generated per day and disposed daily for a duration of 92 days

Characterization for disposal profile: Generator knowledge will be used to profile the waste with the disposal facility.

Physical or chemical hazards (field testing or sampling required): No.

Onsite treatment: Flowback fluids are not treated onsite, only temporary storage pending disposal.

Onsite Management and Storage: Flowback and Workover Fluid wastes will be stored in a container that is compatible with the waste. The waste storage location will have proper containment in the case of a spill, and be protected from run-off or storm drains, to comply with Spill Prevention, Control, and Countermeasure (SPCC) regulations. Flowback and Workover Fluid wastes will be stored for no more than 24 hours onsite. During active drilling, hauling operates 12 hours per day to ensure adequate storage in tanks.

Transport: The waste container should be labeled “Non-Hazardous” with a description of the chemical waste listed on the label. Keep records of any test results, waste analysis, waste profiles, manifests, shipping papers, and any waste determinations made for at least 3 years from the date the waste was sent offsite. (See State Requirements)

Records of waste that is transported offsite shall be maintained for 5 years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Records will include:

- | | |
|----------------------------|--|
| • Date of transport | Name of the generator |
| • Name of the transporter | Location of the waste site |
| • Type and volume of waste | Name and location of the disposal facility |

Disposal: Drilling fluids from flowback/completions and workovers will be transported to the following facilities for disposal under 905.d(2)B and 905.f(1):

- Pawnee Waste, LLC
- Republic Services Tower Road Landfill

Applicable surface owner and lease agreement conditions pertaining to waste treatment, storage, and disposal: N/A

Applicable recycling criteria under RCRA: None.

4.0 PRODUCTION

4.1 Produced Water (E&P Exempt Waste)

Description of the process generating the waste: Water (brine) brought up from the hydrocarbon bearing strata during the extraction of oil and gas. It may include formation water, water that has been injected into the formation and any chemicals added down hole or during the oil/water separation process.

An estimate of expected volumes or amounts of waste generated, and a frequency and duration of the waste stream generation: 10 bbls generated per day, loaded daily, for the life of the wells.

Characterization for disposal profile: Produced water is defined as a “solid waste”. Generator knowledge will be used to profile the waste with the disposal facility.

Physical or chemical hazards (field testing or sampling required): No.

Onsite treatment: Produced water will be separated from the total fluids extracted from the well by applying heat and possibly with the use of chemical emulsion breakers injected downhole.

Onsite Management and Storage: Accumulate produced water in storage tanks (aboveground, or partially buried vaults). Water levels in the tanks are monitored by pumpers and/or electronic gauging. Secondary containment for the produced water tanks meets SPCC requirements.

Transport: Produced water will be transported for disposal via pipeline.

Records of waste that is transported offsite shall be maintained for 5 years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Records will include:

Date of transport	Name of the generator
Name of the transporter	Location of the waste site
Type and volume of waste	Name and location of the disposal facility

Disposal: Produced water will be transported to the following facility for disposal under 905.c(2)A:

- NGL Water Disposal C-3
- NGL Water Disposal C-6
- NGL Water Disposal C-7

Applicable surface owner and lease agreement conditions pertaining to waste treatment, storage, and disposal: N/A

Applicable recycling criteria under RCRA: None.

4.2 Tank and Vessel Bottoms (Basic Sediment and Water) (E&P Exempt Waste)

Description of the process generating the waste: Tank and vessel bottoms include basic sediment and water (BS&W), heavy hydrocarbons, solid sands, and emulsions, which settle in the bottom of storage tanks and/or treating vessels. BS&W usually consists of water, paraffin, sand, scale, rust, and other sediments. This form only applies to those tank and vessel bottoms that do not contain technologically enhance naturally occurring radioactive material (TENORM).

An estimate of expected volumes or amounts of waste generated, and a frequency and duration of the waste stream generation:

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- Tank Bottoms and BS&W transportation frequencies will vary based on waste volumes (as needed) for life of the wells.

Characterization for disposal profile:

Samples will be collected of the tank and vessel bottoms to determine if the material contains regulated levels of TENORM. Sampling will be required to characterize the material, at the point of generation, in accordance with Section 20.3.2 of 6 CCR 1007-1, Part 20. If the data indicates the waste contains regulated levels of TENORM the data will be provided to the disposal facility to determine acceptance.

Physical or chemical hazards (field testing or sampling required): No.

Onsite treatment: Tank and vessel bottoms will be placed into sealed DOT-rated containers pending laboratory analysis to determine if the material contains TENORM.

Onsite Management and Storage: Tank and vessel bottoms will be allowed to accumulate in the tank or vessel until operation requirements necessitate removal. The tank and vessel waste will be stored onsite as stated above with containment. Tank and vessel bottoms will be sent off site after receipt of laboratory analysis that indicates TENORM is not present. The waste will be sent to a disposal facility that is licensed to accept E&P wastes that can contain hydrocarbons or possible benzene contamination.

Transport: Tank and vessel bottoms will be transported for disposal by licensed haulers with proper manifests, shipping papers, labels and placards, and waste determination or profiles approved by the disposal facility. PDC requires all transporters to participate in an annual safety training provided by PDC. In addition, transporters are required to participate in, and have a good rating in, the ISNetwork contractor management program. Transporters are also required to participate in a drug testing program.

Records of waste that is transported offsite shall be maintained for 5 years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Records will include:

Date of transport	Name of the generator
Name of the transporter	Location of the waste site
Type and volume of waste	Name and location of the disposal facility

Disposal: Tank and Vessel Bottom fluids will be transported to one or more of the following facilities for disposal in accordance with 905.f(1):

- NGL Water Disposal C-3
- NGL Water Disposal C-6
- NGL Water Disposal C-7

Separated solids will be transported to one of the following facilities:

- Pawnee Waste, LLC
- Republic Services Tower Road Landfill

TENORM wastes will be transported to the following facility for disposal in accordance with 905.f(1):

- Pawnee Waste, LLC

Applicable surface owner and lease agreement conditions pertaining to waste treatment, storage, and disposal: N/A

Applicable recycling criteria under RCRA: None.

5.0 SPILL RESPONSE AND REMEDIATION

5.1 Oily Waste (E&P Exempt Waste)

Description of the process generating the waste: Soil that has been impacted with crude oil, condensate, produced water, or any other E&P waste.

An estimate of expected volumes or amounts of waste generated, and a frequency and duration of the waste stream generation: Transportation frequencies will vary based on waste volumes (as needed) for the life of the wells.

Physical or chemical hazards (field testing or sampling required): No.

Characterization for disposal profile: Generator knowledge will be used to profile the waste with the disposal facility.

Onsite treatment: In the event of a spill or leak of E&P wastes, PDC will immediately contain and control the release to protect and minimize adverse impacts. If a reportable quantity is released, PDC will notify the COGCC and Weld County within 24 hours. PDC will investigate, clean up, and document the impacts from the release. If the release occurred outside of a lined containment, PDC will collect samples to document the effectiveness of the remediation in accordance with the criteria listed in Table 915-1 and document in accordance with Rule 912 and 913.

Onsite Management and Storage (use of pits): Impacted soil and gravel will be transported for disposal at the time that the impacted material is removed. If hauling or the disposal facilities are not available at the time of removal, impacted soil will be placed in a temporary lined berm or in 55-gallon drums pending disposal. Storage of impacted soil/gravel will not exceed 24 hours.

Transport: Impacted soil/gravel will be transported for disposal by licensed haulers with proper manifests, shipping papers, labels and placards, and waste determination or profiles approved by the disposal facility. PDC requires all transporters to participate in an annual safety training provided by PDC. In addition, transporters are required to participate in, and have a good rating in, the ISNetworld contractor management program. Transporters are also required to participate in a drug testing program.

Records of waste that is transported offsite shall be maintained for 5 years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Records will include:

Date of transport	Name of the generator
Name of the transporter	Location of the waste site
Type and volume of waste	Name and location of the disposal facility

Records will be provided to COGCC or Weld County upon request.

Disposal: Impacted soil/gravel will be transported to the following facility for disposal in accordance with 905.f(1):

- Waste Management – Buffalo Ridge Landfill

- Waste Connections – Front Range Landfill
- Republic Services Tower Road Landfill

Applicable surface owner and lease agreement conditions pertaining to waste treatment, storage, and disposal: N/A

Applicable recycling criteria under RCRA: None.

6.0 FACILITY DECOMMISSIONING

See Sections 4.2 Tank Bottoms and 5.1 Oily Waste, which are generated during facility decommissioning operations.

7.0 PLUGGING AND RECLAMATION

See Section 5.1 Oily Waste, which is generated during plugging and abandonment operations.

7.1 Drilling Mud and Cement Water (E&P Exempt Waste)

Description of the process generating the waste: Drilling mud circulated out of annulus and cement brought back to surface during plugging activities.

An estimate of expected volumes or amounts of waste generated, and a frequency and duration of the waste stream generation:

- Drilling mud – 80 bbls per well, disposed as each well is plugged for the duration of plugging activities.
- Cement water – 120 bbls per well, disposed as each well is plugged for the duration of plugging activities.

Characterization for disposal profile: Fluids generated during plugging operations are defined as a “solid waste”. Generator knowledge will be used to profile the waste with the disposal facility.

Physical or chemical hazards (field testing or sampling required): No.

Onsite treatment: Drilling mud and cement water waste associated with plugging activities will be transferred directly into open top tanks, where particulates settle to the bottom to form a sediment prior to disposal.

Onsite Management and Storage: Drilling mud and cement water waste will be temporarily stored in open top tanks. After settling of particulates has occurred, the water atop the tank is removed by a vacuum truck and hauled to an NGL disposal facility. The remaining solid waste at the bottom of the tank is removed by a hydrovac truck and transported to Pawnee Waste.

Transport: The cement water waste will be transported offsite via vacuum truck by a licensed transporter to an approved disposal facility located in Weld County. In addition, NGL disposal facilities are used for water disposal. All water disposal is by commercial injection. Records of water associated with plugging activities will be maintained through transportation manifests.

Disposal: Water generated from plugging and abandonment operations will be transported to one of the following facilities for disposal under 905.d(2)A:

- NGL Water Disposal C-3

- NGL Water Disposal C-6
- NGL Water Disposal C-7

Separated solids will be transported by a hydrovac truck to the following facility for disposal under 905.f(1):

- Pawnee Waste, LLC
- Republic Services Tower Road Landfill

Applicable surface owner and lease agreement conditions pertaining to waste treatment, storage, and disposal: N/A

Applicable recycling criteria under RCRA: None.

8.0 BEST MANAGEMENT PRACTICES

The following list summarizes the Best Management Practices (BMPs) related to waste management for the Windom Location.

- Appropriately designed BMPs will be installed and maintained to prevent sediment runoff and vehicle tracking. PDC will conduct monthly and post-precipitation stormwater site inspections in accordance with the Stormwater Management Plan.
- Dust control methods will be in place to ensure dust is kept to a minimum.
- E&P wastes will be stored in compatible containers or engineered containment devices. The containers will be regularly inspected to ensure they are in good condition and free of excessive wear, structural issues, or other defects that may impact their effectiveness.
- Where practical, PDC will seek to use flowback and or produced water fluids as a source for new well stimulation operations.
- Liquid wastes, including flowback and produced water will be disposed of at licensed third-party injection facilities.
- PDC will identify if a Recycling and Reuse Plan is valid on any specific project and submit a written management plan with the applicable Form 4, Form 15, or Form 28, as required. This plan, when applicable, will also be consistent with the PDC's site-specific Water Management Plan.
- All surface debris, trash, unusable scrap, or solid waste from the facility will be properly and temporarily stored on location in a secure container (roll off dumpster) and disposed of as needed at one of the waste disposal facilities listed above, via truck.
- Non-E&P waste generated during the drilling and completions phases of the site will be transported to permitted disposal locations at frequencies based on waste volume.
- Human generated waste (from temporary toilets/porta potties) will be removed by a professional waste removal company on a weekly basis during construction the drilling, completions, and production phases and disposed of at a licensed treatment center.
- Drilling fluids, drilling cuttings, produced water, tank and vessel bottoms, and petroleum impacted soil/gravel will be transported for disposal by licensed haulers with proper manifests, shipping papers, labels and placards, and waste determination or profiles approved by the disposal facility. PDC requires all transporters to participate in an annual safety training provided by PDC. In addition, transporters are required to participate in, and have a good rating in, the ISNetworkworld contractor management program. Transporters are also required to participate in a drug testing program. PDC will only transport wastes offsite to disposal or recycling facilities that are permitted

commercial waste disposal facilities; commercial waste recycling facilities; or beneficial use sites approved to receive E&P waste by CDPHE and the Relevant Local Government.

- Records of waste that is transported offsite shall be maintained for 5 years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal.
- Drill cuttings will be separated from drilling muds to facilitate reuse of the mud through a mechanical shaker. Drill cuttings will be solidified on site by adding manure to the cuttings inside the cutting boxes to remove free liquids prior to offsite disposal. Cuttings are stored onsite less than 24 hours prior to disposal.
- Flowback and Workover Fluid wastes will be stored in a container that is compatible with the waste. The waste storage location will have proper containment in the case of a spill, and be protected from run-off or storm drains, to comply with Spill Prevention, Control, and Countermeasure (SPCC) regulations. Flowback and Workover Fluid wastes will be stored for no more than 24 hours onsite.

TENORM:

- Materials (e.g., tank bottoms) identified by the Colorado Department of Public Health and Environment (CDPHE) as potentially containing technologically enhanced naturally occurring radioactive material (TENORM) will be characterized prior to disposal. If the sample data indicates the waste contains regulated levels of TENORM the data will be provided to the disposal facility to determine acceptance.
- Tank and vessel bottoms will be placed into sealed DOT-rated containers pending laboratory analysis to determine if the material contains TENORM.
- Tank and vessel bottoms will be sent off site after receipt of laboratory analysis that indicates TENORM is not present. The waste will be sent to a disposal facility that is licensed to accept E&P wastes that can contain hydrocarbons or possible benzene contamination.

Oily Waste:

- In the event of a spill or leak of E&P wastes, PDC will immediately contain and control the release to protect and minimize adverse impacts. If a reportable quantity is released, PDC will notify the COGCC and Weld County within 24 hours. PDC will investigate, clean up, and document the impacts from the release. If the release occurred outside of a lined containment, PDC will collect samples to document the effectiveness of the remediation in accordance with the criteria listed in Table 915-1 and document in accordance with Rule 912 and 913.
- Impacted soil and gravel will be transported for disposal at the time that the impacted material is removed. If hauling or the disposal facilities are not available at the time of removal, impacted soil will be placed in a temporary lined berm or in 55-gallon drums pending disposal. Storage of impacted soil/gravel will not exceed 24 hours.

Plugging:

- Drilling mud and cement water waste associated with plugging activities will be temporarily stored in open top tanks. After settling of particulates has occurred, the water at the top of the tank will be removed by a vacuum truck and hauled to an NGL disposal facility. The remaining solid waste at the bottom of the tank will be removed by a hydrovac truck and transported to a licensed disposal facility.

9.0 EMERGENCY CONTACT INFORMATION

The tables below provide PDC and outside emergency contact information:

a) **Energy Company**

Name	Office Phone	Emergency/Cell
Corporate Office: 1775 Sherman Street, Suite 3000 Denver, CO 80203	303-860-5800	877-350-0169
Field Office: 4000 Burlington Ave, Evans, CO 80620	970-506-9272	877-350-0169
Energy Company EHS on-call Emergency Number	970-506-9272	303-831-3900
EHS Supervisor: Jason Thron	970-509-9272	303-831-3900
EHS – Safety	970-509-9272	303-831-3900
EHS – Environmental	970-509-9272	303-831-3900

b) **Energy Company Community/Media Relations**

Name	Office Phone	Cell Phone
Courtney Loper	303-831-3997	202-744-3255

c) **First Responders (Fire, EMS, HazMat)**

Name	Emergency Number	Non-Emergency Number
*All emergency notifications require notification to 911 first		
Eaton Fire Protection District	911	970-454-2115
Weld County Sheriff	911	970-356-4015
Colorado State Highway Patrol	911	970-506-4999
Greeley Police Department	911	970-350-9605

d) **Local, State, and Federal Contacts**

Name	Emergency Number	Non-Emergency Number
Weld County Oil and Gas Energy Department	None	970-400-3580
Weld County Office of Emergency Management	911	970-304-6540
COGCC	None	303-894-2100
CDPHE	None	877-518-5608
Colorado Parks & Wildlife	None	303-291-7227
National Response Center	800-424-8802	None

e) **Medical Facilities (*Nearest locations to site*)**

Name	Office Phone
Northern Colorado Medical Center	970-352-4121
Medical Center of the Rockies	970-624-2500
Northern Colorado Medical Facility (Burn Unit)	970-810-4121

f) **Spill Response Organization (*Contracted*)**

Name	24/7 Emergency Number	Non-Emergency Number
CTEH: James Panasiuk	866-869-2834	501-952-3972
Tasman	303-487-1228	303-487-1228

g) **Loss of Well Control**

Name	24/7 Emergency Number	Non-Emergency Number
Wild Well Control, Inc. (Contracted Well Specialist)	281-784-4700	281-353-5481

h) **Railroad Emergency Response (*if applicable*)**

Name	24/7 Emergency Number
Union Pacific Railroad	888-877-7267

10.0 REFERENCES

Below is a list of references used to develop the SSWMP:

- PDC Energy, Inc., E&P Waste Management Plan, DJ Basin Operations
- COGCC 900 Series Rules, Exploration and Production Waste Management, <http://cogcc.state.co.us>
- Weld County Code, Section 21-5-450

Waste Streams for Windom Location (46 wells)

Waste Stream	Operational Phase	Regulatory Classification	General Description	Estimated Volume (daily)	Frequency of Disposal	Duration of Waste Stream	Lab Analysis Required for any Physical or Chemical Hazards	Method of Storage	Method of treatment (If applicable)	Method of Disposal
General Trash	Construction/ Drilling/ Completions	Non-E&P Waste	Trash consists of any unused equipment, junk, or man-made non-E&P, non-hazardous waste.	40 yards	Weekly	7 days	No	Roll off dumpster	N/A	Commercial Disposal
Porta Potty Waste	Construction/ Drilling/ Completions/ Production	Non-E&P Waste	Human generated porta potty waste.	60-70 gallons/toilet	Weekly	7 days	No	Porta Potty Tank(s)	N/A	Commercial Disposal
Surface Cuttings	Drilling	E&P Exempt Waste	Small pieces of rock and soil (including spall and carvings) that break away from the well walls during drilling and are screened out of the liquid mud system.	270 bbls	10 loads/day	46 days	No	High wall containment	N/A	Commercial Disposal
Production Cuttings	Drilling	E&P Exempt Waste	Small pieces of rock and soil (including spall and carvings) that break away from the well walls during drilling and are screened out of the liquid mud system.	1,100 bbls	30 loads/day	138 days	No	High wall containment	N/A	Commercial Disposal
Drilling Fluids	Drilling	E&P Exempt Waste	Used to lubricate and remove drill cuttings during the drilling process. Drilling fluids are processed to remove solids and recirculated.	200 bbls	Recycled then disposed	138 days	No	Storage tanks	N/A	Commercial Disposal
Flowback Sand	Completions	E&P Exempt Waste	Sand and other small solids separated from flowback fluids.	35 bbls	Daily	92 days	No	Upright Tanks	N/A	Commercial Disposal
Flowback Water	Completions	E&P Waste Non-Exempt	Used flowback and workover fluids, muds, completion, treatment, stimulation, and packing fluid, swabbing and bailing wastes, and pipe dope from well development and workover.	1,300 bbls	Daily	92 days	No	Sealed tank	N/A	Commercial Disposal
Produced Water	Production	E&P Exempt Waste	Water (brine) brought up from the hydrocarbon bearing strata during the extraction of oil and gas. It may include formation water, water that has been injected into the formation and any chemicals added down hole or during the oil/water separation process.	10 bbls	Daily	Life of wells	No	N/A: Pipeline	N/A	Commercial Disposal
Basic Sediment and Water	Production	E&P Exempt Waste	BS&W usually consists of water, paraffin, sand, scale, rust, and other sediments.	Varies	As needed	Life of wells	No	Concrete pit	N/A	Commercial Disposal
Tank Bottoms	Production/ Facility Decommissioning	E&P Exempt Waste	Tank and vessel bottoms include basic sediment and water (BS&W), heavy hydrocarbons, solid sands and emulsions, which settle in the bottom of storage tanks and/or treating vessels.	1 bbl	Bi-weekly	Life of wells	No	Concrete pit	N/A	Commercial Disposal
Oily Waste	Spill Response and Remediation/ Facility Decommissioning/ Plugging and Abandonment	E&P Waste Non-Exempt	Soil that has been impacted with crude oil, condensate, produced water, or any other E&P waste.	Varies	As needed	Life of wells	As needed	N/A; Trucked to approved waste site	Media will be characterized/ screened, removed, and disposed of in compliance with remediation practices required by 900-Series Rules.	Commercial Disposal
Drilling Mud	Plugging and Abandonment	E&P Exempt Waste	Drilling mud circulated out of annulus during plugging.	80 bbls (Per well)	As each well is plugged	Duration of abandonment of each well	No	Tank	N/A	Commercial Disposal

Site Specific Waste Management Plan – PDC Windom Location

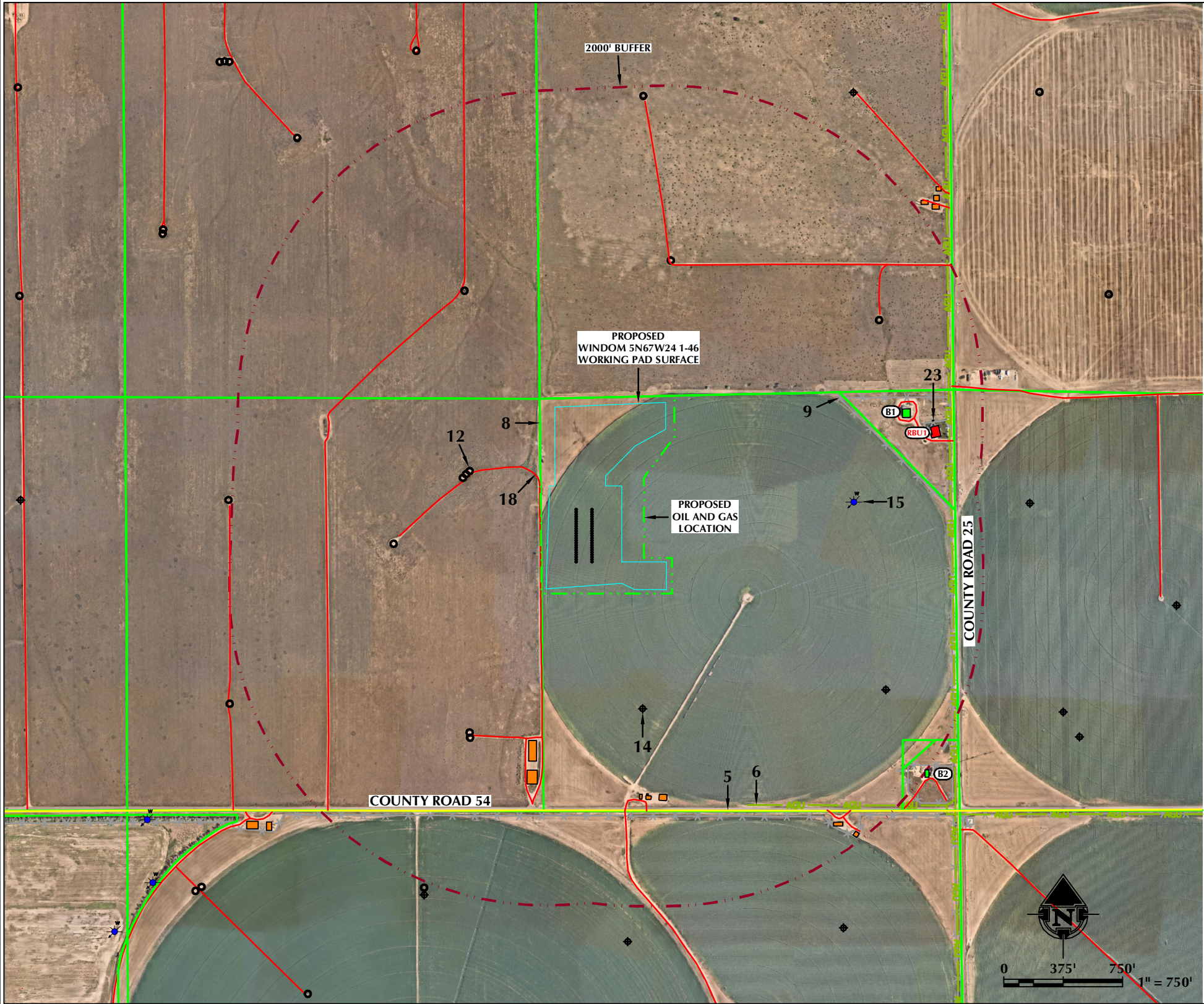
Waste Stream	Operational Phase	Regulatory Classification	General Description	Estimated Volume (daily)	Frequency of Disposal	Duration of Waste Stream	Lab Analysis Required for any Physical or Chemical Hazards	Method of Storage	Method of treatment (If applicable)	Method of Disposal
Cement Water	Plugging and Abandonment	E&P Exempt Waste	Cement returns brought back to surface during plugging.	120 bbls (Per well)	As each well is plugged	Duration of abandonment of each well	No	Tank	N/A	Commercial Disposal

Figure 1

Facility Location and Layout Plan

LOCATION DRAWING
WINDOM 5N67W24 1-46

SECTION 24, TOWNSHIP 5 NORTH, RANGE 67 WEST, 6TH P.M., WELD COUNTY, COLORADO



ID	IMPROVEMENT	DISTANCE/BEARING (MEASURED FROM WORKING PAD SURFACE)
B	BUILDING	B1 ±1494' E, B2 ±1990' SE
RBU/NBU	RESIDENTIAL/NON-RESIDENTIAL BUILDING UNIT	RBU1 ±1672' E
1	HIGH OCCUPANCY BUILDING UNIT	N/A
2	SCHOOL FACILITY	N/A
3	DESIGNATED OUTDOOR ACTIVITY AREA	N/A
4	DISPROPORTIONATELY IMPACTED COMMUNITY	N/A
5	PUBLIC ROAD (COUNTY ROAD 54)	±1384' S, ±1801' E
6	ABOVE GROUND UTILITY	±1456' S, ±1788' E
7	RAILROAD	N/A
8	PROPERTY LINE	±29' W, ±29' W, ±40' N, ±108' NW, ±1095' E, ±1397' S, ±1770' SE, ±1818' E, ±1819' E, ±1873' SE
9	FENCE	±1098' E, ±1430' S, ±1633' E, ±1799' E, ±1850' SE, ±1884' SE
10	PIPELINE/PIPELINE MARKER/FLOWLINE	N/A
11	MINE	N/A
12	OIL AND GAS WELL AND FACILITY	±514' W, ±533' W, ±550' W, ±896' N, ±929' NW, ±960' S, ±971' W, ±1028' SW, ±1056' SW, ±1148' S, ±1291' S, ±1292' S, ±1292' S, ±1301' S, ±1444' E, ±1809' SE, ±1939' N, ±1940' SE
13	INJECTION WELL	N/A
14	PLUGGED OIL AND GAS WELL	±753' S, ±1523' SE
15	WATER WELL - GIS LOCATION	±1242' E
16	WATER WELL - SURVEYED LOCATION	N/A
17	SEWER/SEPTIC MANHOLE	N/A
OTHER VISIBLE IMPROVEMENTS		
18	PRIVATE ROAD	±34' W, ±869' N, ±931' NW, ±938' S, ±953' S, ±1327' S, ±1461' E, ±1462' E, ±1725' SE, ±1811' E, ±1820' SE, ±1995' W
19	UTILITY - ELECTRIC	N/A
20	UTILITY - WATER	N/A
21	UTILITY - TELEPHONE	N/A
22	UTILITY - FIBER OPTIC	N/A
23	UTILITY - PROPANE TANK	±1684' E
24	UTILITY - OTHER	N/A
25	BRIDGE	N/A
26	MISCELLANEOUS	N/A

	EXISTING WELL		WORKING PAD SURFACE BUFFER		PROPERTY LINE		SCHOOL
	P&A WELL		PROPOSED OIL AND GAS LOCATION		EXISTING FACILITY		CHILD CARE
	WATER WELL		PROPOSED WORKING PAD SURFACE		EXISTING BUILDING		
	PROPOSED WELL		EXISTING PIPELINE		RESIDENTIAL BUILDING UNIT		
	PUBLIC ROAD		ABOVE GROUND UTILITY		NON-RESIDENTIAL BUILDING UNIT		
	PRIVATE ROAD		EXISTING FENCE		DISPROPORTIONATELY IMPACTED COMMUNITY		

LOVELAND OFFICE
6706 North Franklin Avenue
Loveland, Colorado 80538
Phone 970-776-4331

SHERIDAN OFFICE
1095 Saberton Avenue
Sheridan, Wyoming 82801
Phone 307-674-0609

CONSULTING, LLC

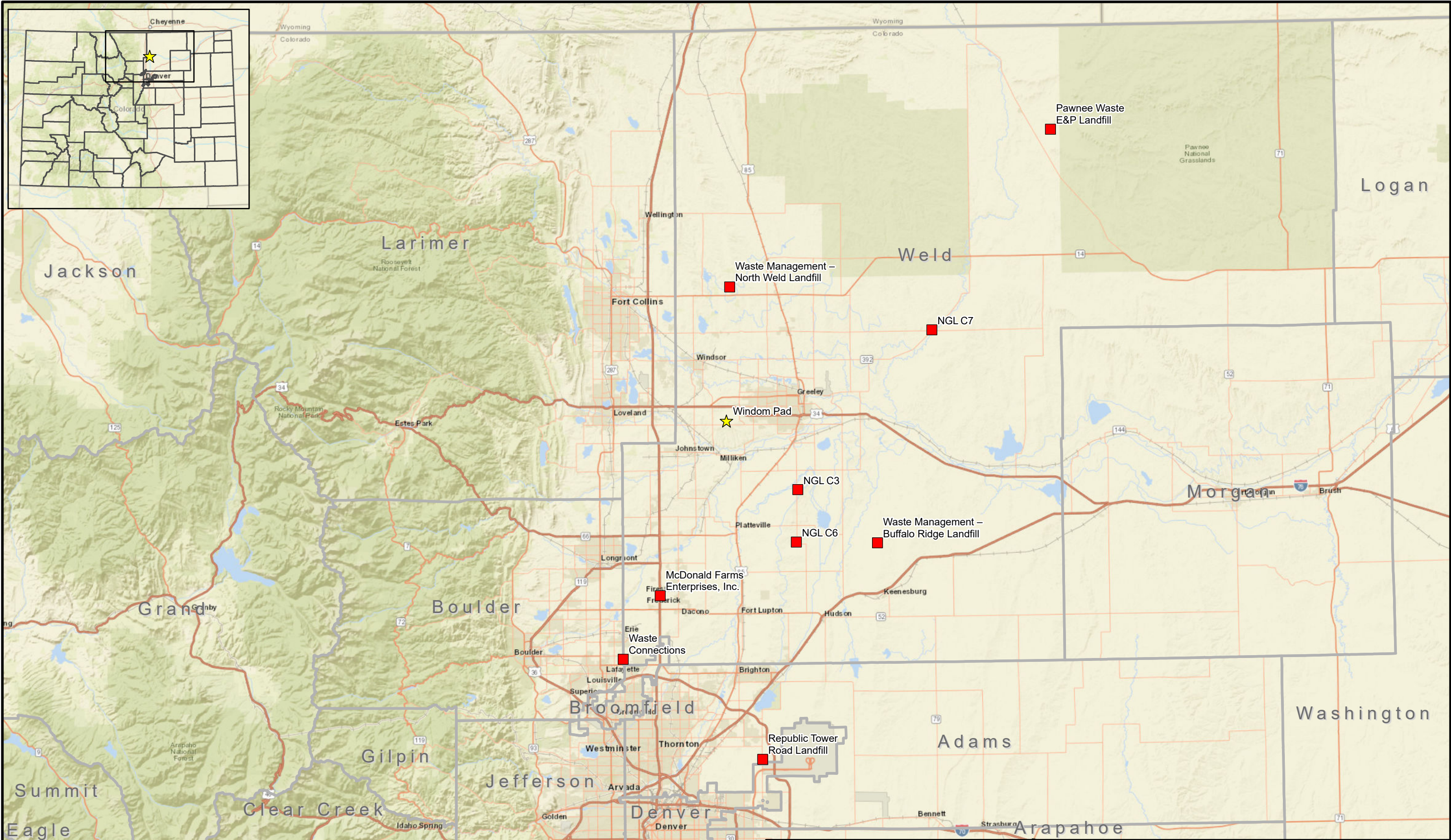
PDC ENERGY
1775 Sherman, Suite 3000
Denver, Colorado 80203

DATE SURVEYED:	10/29/21
DATE:	11/5/21
DRAFTER:	SJM
REVISED:	

NOTES:
-ALL MEASUREMENTS ARE MADE FROM THE WORKING PAD SURFACE.
-VISIBLE IMPROVEMENTS SHOWN AND LISTED HEREON THAT ARE LYING OUTSIDE THE SURFACE PROPERTY MAY HAVE BEEN OBTAINED FROM THE AERIAL PHOTO AND OTHER PUBLICLY AVAILABLE DATA. EXISTING CONDITIONS MAY DIFFER FROM WHAT IS SHOWN.

Figure 2

Disposal Location Map





LEGEND

- ★ Windom Pad
- Waste Disposal Location
- ▭ County Boundary

0 5 10 20
Miles

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PROJECT NO.	20233982
CREATED:	4/5/2023
CREATED BY:	ALeonard
CHECKED BY:	Fallen & DMartin
FILE NAME:	Fig2_Waste_Cameron2

Guanella CAP Waste Disposal Locations	FIGURE 2
Windom Pad PDC Energy, Inc. Weld County, Colorado	

Appendix A

Waste Determination Forms

E&P Wastes

905.c	Produced Water (Completions and Production)
905.d-1	Drilling Fluids (Flowback and Workover)
905.d-2	Drilling Fluids (Oil and Water-Based)
905.g	Drill Cuttings (Oil and Water-based)

Waste Determination Form

WDF No.	Waste Stream	Last Updated	Page
905c	Produced Water (Completions & Production)	03/05/2021	1 of 1
Final Status Determination	E&P Waste	Applies to Generator Status	No
Potential EPA Waste Codes	N/A		



Description of process generating the waste: Water (brine) brought up from the hydrocarbon bearing strata during the extraction of oil and gas. It may include formation water, water that has been injected into the formation and any chemicals added down hole or during the oil/water separation process.

Applicable Solid Waste exclusion: None

Basis for the Solid Waste exclusion: N/A

Basis for Listed EPA codes: N/A

Basis for the characteristic EPA codes: N/A.

Applicable hazardous waste exemption: E&P Exempt Waste.

Basis for the hazardous waste exemption: 40 CFR 261.4(b)(5)

Applicable recycling criteria under RCRA: None

Basis for the recycling criteria: N/A

Characterization for disposal profile: Generator knowledge will be used to profile the waste with the disposal facility.

Onsite Treatment: Produced water will be separated from the total fluids extracted from the well by applying heat and possibly with the use of chemical emulsion breakers injected downhole.

Onsite Management and Storage: Accumulate produced water in storage tanks (aboveground, or partially buried vaults). Water levels in the tanks are monitored by pumpers and/or electronic gauging. Secondary containment for the produced water wastes tanks meets SPCC requirements.

Transport: Produced water will be transported for disposal via pipeline.

Records of waste that is transported off-site shall be maintained for 5-years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Records will include:

Date of transport	Name of the generator
Name of the transporter	Location of the waste site
Type and volume of waste	Name and location of the disposal facility

Disposal: Produced water will be transported to the following facility for disposal under 905.c(2)A:

NGL Water Disposal C-7	NGL Water Disposal C-9
33888 WC Rd 74	WC Rd 95
Galeton CO 80622	Grover, CO 80022

Waste Determination Form			
Waste Number	Waste Stream	Last Updated	Page
905d1	Flowback and Workover Fluid (Used)	03/03/2021	1 of 1
Final Status Determination	E&P Exempt	Applies to Generator Status	No
Potential EPA Waste Codes	N/A		



Description of process generating the waste: Used flowback and workover fluids, muds, completion, treatment, stimulation, and packing fluid, blowdown, swabbing and bailing wastes, and pipe dope from well development and workover.

Applicable Solid Waste exclusion: None

Basis for the Solid waste exclusion: N/A

Basis for Listed EPA codes: N/A

Basis for the characteristic EPA codes: N/A

Applicable hazardous waste exemption: E&P Exempt Waste

Basis for the hazardous waste exemption: 40 CFR 261.4(b)(5)

Applicable recycling criteria under RCRA: None

Basis for the recycling criteria: N/A

Characterization for disposal profile: Generator knowledge will be used to profile the waste with the disposal facility.

Onsite Treatment: Flowback fluids are not treated on-site, only temporary storage pending disposal.

Onsite Management and Storage: Flowback and Workover Fluid wastes will be stored in a container that is compatible with the waste. The waste storage location will have proper containment in the case of a spill, and be protected from run-off or storm drains, to comply with SPCC regulations. Flowback and Workover Fluid wastes will be stored no more than 24 hours on-site. During active drilling hauling operates 12 hours per day to ensure adequate storage in tanks.

Transport: The waste container should be labeled "Non-Hazardous" with a description of the chemical waste listed on the label. Keep records of any test results, waste analysis, waste profiles, manifests, shipping papers and any waste determinations made for at least 3 years from the date the waste was sent off-site. (See State Requirements)

Records of waste that is transported off-site shall be maintained for 5-years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Records will include:

Date of transport	Name of the generator
Name of the transporter	Location of the waste site
Type and volume of waste	Name and location of the disposal facility

Disposal: Drilling fluids from flowback/completions and workovers will be transported to the following facility for disposal under 905.d(2)B and 905.f(1):

Pawnee Waste, LLC	Republic Services Tower Road Landfill
47368 Co Rd 118	8480 Tower Rd
Grover CO 80729	Commerce City, CO 8002

Waste Determination Form

WDF No.	Waste Stream	Last Updated	Page
905.d2	Drilling Fluids Oil and Water-Based (Mud)	03/05/2021	1 of 1
Final Status Determination	E&P Exempt	Applies to Generator Status	No
Potential EPA Waste Codes	N/A		



Description of process generating the waste: Oil and water-based drilling fluids are used to lubricate and remove drill cuttings during the drilling process. Drilling fluids are processed to remove solids and recirculated. When drilling is complete, or the drilling fluid is spent the drilling fluids are sent for disposal.

Applicable Solid Waste exclusion: None

Basis for the Solid waste exclusion: N/A

Basis for Listed EPA codes: N/A

Basis for the characteristic EPA codes: N/A

Applicable hazardous waste exemption: E&P Exempt Waste

Basis for the hazardous waste exemption: 40 CFR 261.4(b)(5)

Applicable recycling criteria under RCRA: None

Basis for the recycling criteria: N/A

Characterization for disposal profile: Generator knowledge will be used to profile the waste with the disposal facility.

Onsite Treatment: Drilling fluids/muds are recirculated and process through shakers to remove solids during the drilling process.

Onsite Management and Storage: Spent drilling fluids/muds are collected upon completion of the drilling phase into vac trucks for disposal. Drilling muds are stored in the recirculating equipment during the transport phase for less than 24 hours.

Transport: Drilling Fluids will be transported for disposal by licensed haulers with proper manifests, shipping papers, labels and placards, and waste determination or profiles approved by the disposal facility. PDC requires all transporters participate in an annual safety training provided by PDC. In addition, transporters are required to participate in and have a good rating in the ISNetworld contractor management program along with a drug testing program.

Records of waste that is transported off-site shall be maintained for 5-years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Records will include:

Date of transport	Name of the generator	
Name of the transporter	Location of the waste site	
Type and volume of waste	Name and location of the disposal facility	

Disposal: Drilling fluids will be transported to the following facility for disposal under 905.d(2)B:

Pawnee Waste, LLC	Republic Services Tower Road Landfill
47368 Co Rd 118	8480 Tower Rd
Grover CO 80729	Commerce City, CO 8002

WASTE DETERMINATION FORM			
WDF No.	Waste Stream	Last Updated	Page
905.g	Drill Cuttings (Oil and Water-Based Drilling Muds)	03/05/2021	1 of 1
Final Status Determination		E&P Exempt	Applies to Generator Status
Potential EPA Waste Codes		N/A	



Description of process generating the waste: Small pieces of rock and soil (including spall and carvings) that break away from the well walls during drilling and are screened out of the liquid mud system.

Applicable Solid Waste exclusion: None

Basis for the Solid Waste exclusion: N/A

Basis for Listed EPA codes: N/A

Basis for the characteristic EPA codes: N/A

Applicable hazardous waste exemption: E&P Exempt Waste

Basis for the hazardous waste exemption: 40 CFR 261.4(b)(5)

Applicable recycling criteria under RCRA: None

Basis for the recycling criteria: N/A

Characterization for disposal profile: Drill cuttings are generated from oil and water-based drilling fluids and will be characterized as Oily Waste (Rule 905.g(1) A and C). Generator knowledge will be used to profile the waste with the disposal facility.

Onsite Treatment: Drill cuttings will be separated from drilling muds to facilitate reuse of the mud through a mechanical shaker. Drill cuttings will be solidified on site by adding manure to the cuttings inside the cutting boxes to remove free liquids prior to offsite disposal.

Onsite management and Storage: Drill cuttings will be stored in cutting bins at the rig until loaded for disposal in side-dump trailers. Drill cuttings are stored on location next to the rig shaker boxes. Cuttings are stored on-site less than 24 hours prior to disposal.

Transport: Drill cuttings will be transported for disposal by licensed haulers with proper manifests, shipping papers, labels and placards, and waste determination or profiles approved by the disposal facility. PDC requires all transporters participate in an annual safety training provided by PDC. In addition, transporters are required to participate in and have a good rating in the ISNetwork contractor management program along with a drug testing program.

Records of waste that is transported off-site shall be maintained for 5 years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Records will include:

Date of transport, Name of the generator,
Name of the transporter, Location of the waste site,
Type and volume of waste, Name, and location of the disposal facility

Disposal: Drill cuttings will be transported to the following facility for disposal in accordance with 905.g(1)A and 905.g(2)A:

Waste Management Buffalo Ridge
11655 Co Road 59
Keenesburg, CO 80643

Appendix B

Waste Determination Forms

Other E&P Wastes

905.f-1 Tank and Vessel Bottoms

905.f-2 Impacted Soil

Waste Determination Form

WDF No	Waste Stream	Last Updated	Page
905f-1	Tank and Vessel Bottoms (Basic Sediment and Water, Crude Oil)	03/05/20201	1 of 2
Final Status Determination		E&P Exempt	Applies to Generator Status
Potential EPA Waste Codes		N/A	



Description of process generating the waste: Tank and vessel bottoms include basic sediment and water (BS&W), heavy hydrocarbons, solid sands and emulsions, that settle in the bottom of storage tanks and/or treating vessels. BS&W usually consists of water, paraffin, sand, scale, rust, and other sediments. This form only applies to those tank and vessel bottoms that do not contain technologically enhance naturally occurring radioactive material (TeNORM). See Waste Determination Form 906(5) for TeNORM tank and vessel bottoms.

Applicable Solid Waste exclusion: None

Basis for the Solid Waste exclusion: N/A

Basis for Listed EPA codes: N/A

Basis for the characteristic EPA codes: N/A

Applicable hazardous waste exemption: E&P Exempt Waste

Basis for the hazardous waste exemption: 40 CFR 261.4(b)(5)

Applicable recycling criteria under RCRA: None

Basis for the recycling criteria: N/A

Characterization for disposal profile: Samples will be collected of the tank and vessel bottoms to determine if the material contains regulated levels of technologically enhanced naturally occurring radioactive materials (TeNORM).

Onsite Treatment: Tank and vessel bottoms will be placed into sealed DOT-rated containers pending laboratory analysis to determine if the material contains TeNORM.

Onsite Management and Storage: Tank and vessel bottoms will be allowed to accumulate in the tank or vessel until operation requirements necessitate removal. The tank and vessel waste will be stored onsite as stated above with containment. Tank and vessel bottoms will be sent off site after receipt of laboratory analysis that indicates TeNORM is not present. The waste will be sent to a disposal facility that is licensed to accept E&P wastes that can contain hydrocarbons or possible benzene contamination.

Transport: Tank and vessel bottoms will be transported for disposal by licensed haulers with proper manifests, shipping papers, labels and placards, and waste determination or profiles approved by the disposal facility. PDC requires all transporters participate in an annual safety training provided by PDC. In addition, transporters are required to participate in and have a good rating in the ISNetwork contractor management program along with a drug testing program.

Records of waste that is transported off-site shall be maintained for 5 years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Records will include:

Date of transport,	Name of the generator,
Name of the transporter,	Location of the waste site,
Type and volume of waste,	Name, and location of the disposal facility

Waste Determination Form			
WDF No	Waste Stream	Last Updated	Page
905f-1	Tank and Vessel Bottoms (Basic Sediment and Water, Crude Oil)	03/05/20201	2 of 2
Final Status Determination		E&P Exempt	Applies to Generator Status
Potential EPA Waste Codes		N/A	

Disposal: Tank and Vessel Bottoms will be transported to one or more of the following facilities for disposal in accordance with 905.f(1):

Pawnee Waste, LLC 47368 Co Rd 118 Grover CO 80729	Republic Services Tower Road Landfill 8480 Tower Rd Commerce City, CO 8002
NGL Water Disposal C-7 33888 WC Rd 74 Galeton CO 80622	NGL Water Disposal C-9 WC Rd 95 Grover, CO 80022

Waste Determination Form

WDF	Waste Stream	Last Updated	Page
905.f-2	Soil/Gravel (Crude Oil/Condensate/Produced Water/Other E&P Waste Impacted)	03/05/2021	1 of 1
Final Status Determination		E&P Exempt	Applies to Generator Status
Potential EPA Waste Codes		N/A	



Description of process generating the waste: Soil that has been impacted with crude oil, condensate, produced water, or any other E&P waste.

Applicable Solid Waste exclusion: None

Basis for the Solid Waste exclusion: N/A

Basis for Listed EPA codes: N/A

Basis for the characteristic EPA codes: N/A

Applicable hazardous waste exemption: E&P Exempt Waste

Basis for the hazardous waste exemption: 40 CFR 261.4(b)(5)

Applicable recycling criteria under RCRA: None

Basis for the recycling criteria: N/A

Characterization for disposal profile: Generator knowledge will be used to profile the waste with the disposal facility.

Onsite Treatment: In the event of a spill or leak of E&P wastes, PDC will immediately contain and control the release to protect and minimize adverse impacts. If a reportable quantity is released, PDC will notify the COGCC and Weld County within 24-hours. PDC will investigate, clean up and document the impacts from the release. If the release occurred outside of a lined containment, PDC will collect samples to document the effectiveness of the remediation in accordance with the criteria listed in Table 915-1 and document in accordance with Rule 912 and 913.

Onsite Management and Storage: Impacted soil and gravel will be transported for disposal at the time that the impacted material is removed. Only if hauling or the disposal facilities are not available at the time of removal then impacted soil be placed in a temporary lined berm, 55-gallon drums pending disposal the next day. Storage of impacted soil/gravel will not exceed 24 hours.

Transport: Impacted soil/gravel will be transported for disposal by licensed haulers with proper manifests, shipping papers, labels and placards, and waste determination or profiles approved by the disposal facility. PDC requires all transporters participate in an annual safety training provided by PDC. In addition, transporters are required to participate in and have a good rating in the ISNetworld contractor management program along with a drug testing program.

Records of waste that is transported off-site shall be maintained for 5 years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Records will include:

Date of transport, Name of the generator,
Name of the transporter, Location of the waste site,
Type and volume of waste, Name, and location of the disposal facility

Disposal: Impacted soil/gravel will be transported to the following facility for disposal in accordance with 905.f(1):

Waste Management Buffalo Ridge
11655 Co Road 59
Keenesburg, CO 80643

Appendix C

Waste Determination Forms

Non-E&P Waste

906-1 Used Oil

906-2 TeNORM

Waste Determination Form

WDF No.	Waste Stream	Last Updated	Page
906-1	Oil (Used)	03/05/2021	1 of 2
Final Status Determination	Hazardous(Disposal); Used Oil (Recycled)	Applies to Generator Status	Y / N
Potential EPA Waste Codes	D006, D007, D008		



Description of process generating the waste: Used oil from equipment maintenance. Examples of oils included in this description are: Pumpjack crankcase, regen compressor, instrument air compressor, lube oil compressor oil, turbine/expander compressor oil, inlet compressor oil.

Applicable Solid Waste exclusion: None

Basis for the Solid Waste exclusion: N/A

Basis for Listed EPA codes: N/A

Basis for the characteristic EPA codes: According to EPA publications, used oil may be contaminated with lead (D008), cadmium (D006), and chromium (D007) [EPA530-K99-004].

Applicable hazardous waste exemption: None

Bases for hazardous waste exemption: N/A

Applicable recycling criteria under RCRA: Used oil that is recycled and is also a hazardous waste solely because it exhibits a hazardous characteristic is not subject to regulation as a hazardous waste but is regulated under 40 CFR 279. Used oil that is recycled includes any used oil which is reused, following its original use, for any purpose (including the purpose for which the oil was originally used). Recycling includes re-refining, burning for energy recovery, or reprocessing. Used oil mixed with hazardous waste is considered a hazardous waste.

Basis for the recycling criteria: 40 CFR 261.6(a)(4)

Characterization for disposal profile: Used oil will be characterized based on generator knowledge will be used to profile the waste with the recycling facility.

Onsite Treatment: No treatment will be done to used oil other than proper storage and containment pending disposal or recycling.

Onsite Management and Storage: If used oil is being disposed of or exhibits hazardous characteristics, it will be managed as a hazardous waste. Used Oil will be stored in a closed container, that is in good condition, and does not leak, or stored in a tank designated as a used oil container. Lids, funnels, and bungs will be kept closed when not adding used oil. Used oil containers will be stored inside containment pending disposal if disposal is not completed on the same day it is collected.

Transport: Used Oil will be transported for disposal/recycling by licensed haulers with proper manifests, shipping papers, labels and placards, and waste determination or profiles approved by the disposal facility. PDC requires all transporters participate in an annual safety training provided by PDC. In addition, transporters are required to participate in and have a good rating in the ISNetwork contractor management program along with a drug testing program.

Records of waste that is transported off-site shall be maintained for 5 years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Records will include:

Date of transport,	Name of the generator,
Name of the transporter,	Location of the waste site,
Type and volume of waste,	Name, and location of the disposal facility

Waste Determination Form			
WDF No.	Waste Stream	Last Updated	Page
906-1	Oil (Used)	03/05/2021	2 of 2
Final Status Determination	Hazardous(Disposal); Used Oil (Recycled)	Applies to Generator Status	Y / N
Potential EPA Waste Codes	D006, D007, D008		

Disposal: Used Oil will be transported to the following facility for disposal/recycling in accordance with Rule 906:

Waste Management Buffalo Ridge
11655 Co Road 59
Keenesburg, CO 80643

Waste Determination Form

WDF	Waste Stream	Last Updated	Page
906-2	TENORM (Scale or Sludge)	03/05/2021	1 of 2
Final Status Determination	NORM/TENORM	Applies to Generator Status	No
Potential EPA Waste Codes	N/A		



Description of process generating the waste: Scale or sludge containing Naturally Occurring Radioactive Material (NORM) or Technically Enhanced Naturally Occurring Radioactive Material (TENORM) typically removed from pipes, heater-treaters, tank bottom sludges, and other equipment. The scale typically consists of barium, calcium, or strontium sulfate that has precipitated out of solution in produced water along with radium, a radioactive nuclide.

Applicable Solid Waste exclusion: None

Basis for the Solid Waste exclusion: N/A

Basis for Listed EPA codes: N/A

Basis for the characteristic EPA codes: N/A

Applicable hazardous waste exemption: E&P Exempt Waste

Basis for the hazardous waste exemption: 40 CFR 261.4(b)(5)

Applicable recycling criteria under RCRA: None

Basis for the recycling criteria: N/A

Characterization for disposal profile: Sampling will be required to characterize the material, at the point of generation, in accordance with Section 20.3.2 of 6 CCR 1007-1, Part 20. If the data indicates the waste contains regulated levels of TENORM the data will be provided to the disposal facility to determine acceptance.

Onsite Management and Storage: Accumulate TENORM scale and sludge in sealed DOT-rated containers. Keep containers closed when not adding waste. Store TENORM scale and sludge containers in a secure area. TENORM pipe should be marked and kept in a separate area to prevent cross contamination and wrapped or stored in a closed container to prevent loose scale from contacting soil or contact with rain or snow. Ensure TENORM wastes are only disposed of at permitted disposal facilities, that can accept wastes with low level radiation and possible hydrocarbon content.

Transport: TENORM waste will be transported for disposal by licensed haulers with proper manifests, shipping papers, labels and placards, and waste determination or profiles approved by the disposal facility. PDC requires all transporters participate in an annual safety training provided by PDC. In addition, transporters are required to participate in and have a good rating in the ISNetwork contractor management program along with a drug testing program.

Records of waste that is transported off-site shall be maintained for 5 years including copies of each invoice, bill, or ticket and such other records as necessary to document waste disposal. Records will include:

Date of transport, Name of the generator,
 Name of the transporter, Location of the waste site,
 Type and volume of waste, Name, and location of the disposal facility

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Disposal: TENORM wastes will be transported to the following facility for disposal in accordance with 905.f(1):

Pawnee Waste, LLC
 47368 Co Rd 118
 Grover CO 80729