WASTE MANAGEMENT PLAN
WESTERN DIVISION

SAN JUAN BASIN
DURANGO, CO

May 19, 2014
Revision 5

WASTE MANAGEMENT PLAN
WESTERN DIVISION-SAN JUAN BASIN
DURANGO, COLORADO
Revised May 19, 2014

1. WASTE MANAGEMENT PLAN

The purpose of the waste management plan is to:

- Ensure compliance with Federal, State and local laws governing the treatment, storage, disposal, and transportation of wastes generated during exploration, development, and production of oil and natural gas.
- Minimize the volume and toxicity of wastes.
- Manage waste in the most cost effective way.

2. RESPONSIBLITIES

MANAGER

- Maintain a current Waste Management Plan for area.
- Ensure all employees and contractors know their responsibilities in waste management.
- Ensure all employees receive required training.
- Monitor contractors for compliance with Waste Management Plan.

EMPLOYEE

- Adhere to the Waste Management Plan and follow waste management standards.
- Report any spills or waste management issue to XTO manager/supervisor.

CONTRACTOR

- Comply with waste standards set by XTO.
- Ensure that Federal, State and local waste laws, rules and regulations are followed.
- Obtain XTO approval before implementing new waste management techniques.
- Report any spills or waste management issues to XTO EH&S Department.
- Remove all wastes brought onto XTO property and dispose of the wastes properly.

3. DEFINED AREA

This manual is to be used for the Western Division, Durango, Colorado Field Office.

4. WASTE DEFINED

WASTE: Any material that:

- Consists of garbage, refuse, sludge or spent materials.
- Is normally disposed of, burned or incinerated.
- Can be recycled, including reclamation, or burned for energy recovery.
- Is applied to the ground intentionally or accidentally through spills or leaks (this does not include materials intended for application to the ground, like pesticides, if they are used in accordance with the manufacturer's instructions).

WASTE CLASSIFICATION: All wastes are classified into one of the following categories:

a. E&P Exempt Waste is exempt from management as hazardous waste under the Resource Conservation and Recovery Act (RCRA). Exempt Wastes are defined by RCRA to include "drilling fluids, produced water, and other wastes associated with the exploration, development, or production of crude oil or natural gas…" Municipal and industrial landfills that are prohibited from accepting hazardous waste under RCRA, may require testing to determine the level of toxicity of the waste before disposal to ensure the waste is non-hazardous. There are several disposal facilities in the Durango area that are permitted to accept oilfield wastes, listed later in this document.

b. E&P Non-Exempt Waste is a waste that is not uniquely associated with an exploration and production activity, such as cleaning wastes or lubricating oil. Non-exempt wastes may be non-hazardous like empty drums or insulations, or they may be hazardous wastes subject to regulation as hazardous wastes under RCRA Subtitle C, like spent solvents and unused fracturing materials.

c. Hazardous Waste is waste that has been found to be hazardous through testing or by generator knowledge. Waste is classified as hazardous if it:

- Exhibits one of the four hazardous waste characteristics:
  - *ignitability*, as described in 40 CFR 261.21
  - *corrosivity*, as described in 40 CFR 261.22
  - *reactivity*, as described in 40 CFR 261.23
  - and *toxicity*, as described in 40 CFR 261.24; or
- If it is listed as a hazardous waste appearing on one (1) of the four (4) hazardous waste lists established by EPA regulations:
  - *The F-List* (non-specific source wastes) listed in 40 CFR 261.31
  - *The K–List* (source-specific wastes) listed in 40 CFR 261.33

- *The U-List* (discarded commercial chemical products) listed in 40 CFR 261.33
- *The P-List* (discarded commercial chemical products) listed in 40 CFR 261.33

Under RCRA regulations, hazardous wastes must be managed under a "cradle-to-grave" management system- that is, hazardous wastes must be handled in a specific way to ensure their proper generation, treatment, storage, and disposal to protect human health and the environment. The generator is responsible for these wastes from the cradle (generation) to the grave (disposal). If the disposal facility ever becomes a Superfund site, the generator is responsible for cleaning up the disposal facility, along with the owner and other generators. Hazardous wastes have strict limitations on the length of time they can be stored prior to being transported to disposal. Keeping records of the date the waste was generated and the date it was sent to disposal is imperative.

d. Non-Hazardous Waste is waste that has not been found to be hazardous through testing or by generator knowledge. This includes inert wastes such as paper, glass, concrete, and plastic.

e. Universal Wastes are hazardous wastes that the EPA has chosen to manage separately because they are generated at high frequencies and quantities and over a wide range of the community. The EPA has a separate set of regulations for managing these wastes that are not as stringent as the hazardous waste regulation. These wastes include batteries, pesticides, mercury containing equipment and bulbs and aerosol can equipment. These wastes can typically be recycled.

5. WASTE MINIMIZATION STANDARD

- Operations personnel may not purchase or use certain chemicals which will likely produce hazardous waste streams without the approval of their Operations Vice President, after consultation with the EH&S Department. These chemicals include halogenated solvents (solvents with =chlor-, brom-, or fluor- in their names) and biocides that contain formaldehyde. The MSDS will list a chemical as hazardous under "disposal considerations."
- Keep hazardous and non hazardous wastes completely segregated. A mixture of these two (2) waste classifications will cause the entire mixture to be considered a hazardous waste.

6. TRAINING

- All employees will be trained in general waste management.
- Selective district employees and managers will be trained in developing and maintaining Waste Management Plans.
- Selective EH&S personnel will be trained in HAZWOPER, HAZCOM, and state hazardous waste training.
- Selective hazardous waste generators (EH&S personnel) will be trained annually in EPA hazardous training.
- Supplemental training will be conducted when new waste streams and disposal options are introduced.
- To ensure competency, refresher training will be conducted on a frequency of at least every 3 years.

7. MANAGEMENT AND DISPOSAL BY WASTE MATERIAL

Profile #	Waste
1	Absorbent Materials
2	Antifreeze
3	Batteries, Waste
4	Construction Debris
5	Filters, Oil
6	Filters, Produced Water
7	Fluids, Packing
8	Oil, Used
9	Paint Related Materials
10	Paraffin
11	Pit Sludge
12	Production Sand
13	Production Water
14	Rags, Oily
15	Refractory Water
16	Sanitary Waste
17	Scrap Metal
18	Scrubber Liquid
19	Soil, Contaminated
20	Solvent, Spent
21	Tank Bottoms
22	Trash, General
23	Vegetation, Brush
24	Wash-down Water, (Rig wash)
25	Bio Hazard
26	Aerosol Contents (After Puncture)

WASTE STREAM PROFILE #1

Absorbent Materials	Area – San Juan Basin, Durango, Colorado
Description	Absorbent pads, socks, mats, pig mats and wipes used to clean up spills and leaks of oil, condensate, and other liquids. Include three groups: natural organic, natural inorganic and synthetic absorbents.
Classification	Based on what was absorbed
Special Handling	Do not place with general trash
Testing	Handled by EH&S Representative or disposal contractor. Non-Exempt – TPH, TCLP Metals, BTEX Exempt – Landfill Specifications
Disposal Procedure	All other materials are collected on-site in plastic bags Stored in collection dumpster at Durango Compressor Station. Contain leaks from dumpster. Contact disposal contractor for disposal.
Laws and Regulations	Regulated by Colorado Oil & Gas Conservation Commission and Colorado Department of Public Health & Environment
Required Record Keeping	Disposal contractor keeps DOT records on material collection. No records kept by XTO.
Transportation Regulations	Regulations for Disposal Contractor by DOT, XTO not involved in transportation Class 4.1 Flammable Solid placard required.
Disposal Facilities and Contractors	*Contractors*- Safety Kleen, Thermo Fluids
Waste Minimization Recommendations	Preventative Maintenance Job Planning Use recyclable and/or re-usable materials instead of granular materials.

WASTE STREAM PROFILE #2

Antifreeze	Area – San Juan Basin, Durango, Colorado
Description	Used as freeze protection and as a heat transfer medium for motor vehicles, heavy equipment, buildings in jacket water cooling systems and Ajax engines. Most common type is ethylene glycol, toxic to humans and animals.
Classification	Non-Exempt/Hazardous
Special Handling	DO NOT collect antifreeze in containers used to hold other substances. DO NOT combine with used oil.
Testing	May need testing, depending on disposal requirements, for pH and lead content to determine if hazardous.
Disposal Procedure	Collect antifreeze on-site in company approved container (5 gallon GI cans that are metal and rubber sealed). Do not use containers that hold other substances, like gasoline. Insure container is tightly sealed and labeled "Used Antifreeze." Transport antifreeze to disposal facility.
Laws and Regulations	No specific state regulations. Federal general rules for hazardous waste apply.
Required Record Keeping	File waste manifest or shipping receipt from disposal company
Transportation Regulations	Handled by contractor
Disposal Facilities and Contractors	Safety Kleen
Waste Minimization Recommendations	Recycle at an EPA-approved facility

WASTE STREAM PROFILE #3

Batteries, Waste	Area – San Juan Basin, Durango, Colorado
Description	Lead-Acid, NiCad, Silver-Oxide, Mercury-Oxide, Lithium, Zinc-Air, Zinc-Carbon and Alkaline batteries.
Classification	Universal Waste
Special Handling	If battery is damaged and may leak it must be individually over-packed in a closed container and labeled.
Testing	None
Disposal Procedure	Hensley Battery & Electrics- Core (Recycle) - Picks-up every two weeks at a minimum.
Laws and Regulations	Regulated by Hazardous Waste 6 CCR 1007-3 260-268, 99-100, Universal Waste Part 273
Required Record Keeping	File Manifest
Transportation Regulations	Handled by Contractor
Disposal Facilities and Contractors	Core Change (Recycle)
Waste Minimization Recommendations	Replace as needed. Use newer alkaline and zinc-carbon batteries with reduced mercury content when possible.

WASTE STREAM PROFILE #4

Construction Debris	Area – San Juan Basin, Durango, Colorado
Description	General non-contaminated debris removed from well locations including; brush, stumps, aggregate, paper, cardboard, etc.
Classification	Non-Exempt/Non Hazardous
Special Handling	None
Testing	None
Disposal Procedure	Collected on-site. Transported to Durango Compressor Station. Disposed of in general trash dumpster.
Laws and Regulations	Regulated by Colorado Department of Public Health & Environment
Required Record Keeping	None
Transportation Regulations	None
Disposal Facilities and Contractors	*Facilities*- Bondad Landfill
Waste Minimization Recommendations	Plan site to minimize size. Crush uncontaminated concrete for use as aggregate. Compost vegetation and use as soil supplements. Send scrap metals to a recycler.

WASTE STREAM PROFILE #5

Filters, Oil	Area – San Juan Basin, Durango, Colorado
Description	Generally used filters for oil. Most common type of oil filter used is 10 micron string wound injection filters.
Classification	Non-Exempt/Non Hazardous (If DRAINED) Terne plated oil filters are hazardous waste
Special Handling	Filters must be properly drained
Testing	Handled by Contractors
Disposal Procedure	Require vendors to take filters with them, otherwise; collected on-site. Transport to Durango Compressor Station and dispose of filters in filter dumpster. Label dumpster "Used Oil Filters." Prevent any leaks or spills of fluid from dumpster. Collect any fluids, dispose with used oil.
Laws and Regulations	Regulated by Colorado Department of Public Health and Environment Section 261.4 (b)(13)
Required Record Keeping	File manifest from disposal company
Transportation Regulations	Handled by disposal contractor
Disposal Facilities and Contractors	*Contractors*- Safety Kleen, Thermo Fluids
Waste Minimization Recommendations	Service companies should service equipment off-site if possible. Isolate all drained fluids in a re-sealable container for "used oil". Change filters only when necessary.

WASTE STREAM PROFILE #6

Filters, Produced Water (SWD)	Area – San Juan Basin, Durango, Colorado
Description	Sock filters used for the filtering of produced water before injection at SWD sites.
Classification	Exempt/Non-Hazardous
Special Handling	None
Testing	Must be sampled for TCLP metals, corrosivity, BTEX and pH.
Disposal Procedure	Safety Kleen picks up filters on a as needed basis
Laws and Regulations	Filters must be classified as non-hazardous and a waste profile must be completed and approved prior to disposal
Required Record Keeping	Waste manifest handled by contractor
Transportation Regulations	Handled by disposal contractor
Disposal Facilities and Contractors	*Facility-Safety Kleen* *Transportation-Safety Kleen*
Waste Minimization Recommendations	Change filters only when necessary

WASTE STREAM PROFILE #7

Fluids, Packing	Area – San Juan Basin, Durango, Colorado
Description	Fluid placed in tubing-casing annulus above a packer to minimize corrosion or scale formation. Fluid may contain additives.
Classification	Exempt
Special Handling	Check MSDS
Testing	None
Disposal Procedure	Prevent spillage on soil. Circulated into system. Disposed of with production water in SWD. Contact EH&S coordinator if spilled on the ground.
Laws and Regulations	Regulated by Colorado Oil & Gas Conservation Commission and Colorado Department of Public Health & Environment Section 261.4(b)
Required Record Keeping	None
Transportation Regulations	Handled by contracted disposal service
Disposal Facilities and Contractors	*Transportation*- Three Rivers Trucking, Overright Trucking, C&J Trucking, Dawn Trucking, M&R Trucking *Disposal Facility*- Circulated with production water in DCS SWD.
Waste Minimization Recommendations	Practice good housekeeping. Prevent spills.

WASTE STREAM PROFILE #8

Oil, Used	Area – San Juan Basin, Durango, Colorado
Description	Used oil that is generated from the operation of motor vehicles, hydraulic equipment, engines, BOPS, pumps, and other mechanical equipment. Typically used oil is drained out of engines and compressors.
Classification	Non-Exempt May require testing to determine if hazardous
Special Handling	Do not mix used oil with other exempt waste, solvents, or used chemicals. Do not dump oil on the ground or down any drain.
Testing	Potential solvent testing required
Disposal Procedure	CDP pumped into separate oil tank and is removed by disposal contractor. All other used oil is collected on location. XTO employees pull and transport oil "Used Oil" tank. Oil is transported only in steel heat-traced tanks on company vehicles. Tanks are to be labeled "Used Oil" and not to exceed 55 gallons in volume.
Laws and Regulations	Regulated by Special EPA Regulations (40 CFR 279)
Required Record Keeping	Invoices filed from contractor
Transportation Regulations	Do not exceed 55 gallon transport. Transport tanks must be labeled.
Disposal Facilities and Contractors	Facilities- Safety Kleen Transporter-Safety Kleen
Waste Minimization Recommendations	Change oil only when needed. Use synthetic longer-life oils. Practice good housekeeping. Use drip pans and other containment devices.

WASTE STREAM PROFILE #9

Paint Related Materials	Area – San Juan Basin, Durango, Colorado
Description	Product used or abandoned from painting includes: cans (full or empty), paint (leaded or unleaded, oil based or water based), etc.
Classification	Non-Exempt. May require testing for hazardous characteristics.
Special Handling	Do not dispose of paint/thinner waste in drains or ground. Store in weatherproof area with lids on tightly.
Testing	TCLP Metals- Full TCLP lab analysis if material is unknown
Disposal Procedure	Require contractors to remove all their paint materials- they shall not stockpile supplies. Combine like cans. Use all paint (apply second coat, paint pallets, etc.). Air dry empty cans. Empty dry cans and aerosol cans be disposed of at municipal or commercial landfill in general trash. With all other material, contact EH&S for approved disposal facility.
Laws and Regulations	Permit required for landfill disposal
Required Record Keeping	File disposal permit, if required, lab analysis if required and retain MSDS on all materials purchased
Transportation Regulations	Have lids tightly sealed before moving
Disposal Facilities and Contractors	*Facilities*- Bondad Landfill *Contractors*- Safety Kleen *Transportation*- Waste Management
Waste Minimization Recommendations	Require contractors to remove waste. Use at another site. Buy only the quantity needed. Use unleaded and water based paints whenever possible.

WASTE STREAM PROFILE #10

Paraffin	Area – San Juan Basin, Durango, Colorado
Description	Waxy buildup of hydrocarbons in flow lines and production tubing due to cooling of the production fluids. Typically found in tanks and rod pump wells where paraffin collects on rods.
Classification	Exempt
Special Handling	None
Testing	If required, NORM testing
Disposal Procedure	Prevent solid buildup in tanks by hot oiling. Hot oiling- contact trucking contractor. Heated oil is circulated to tank or production line, oil and paraffin mix in production stream, 24 hours after treatment water is pulled off and disposed of as produced water in injection well. Chemical treatment- contact chemical contractor. Chemical is applied at any point in oil production process where paraffin builds up, can be pumped in with truck or added to well pump, paraffin will breakdown and mix with oil. If solids accumulate in tanks treat as "tank bottoms."
Laws and Regulations	Regulated by Colorado Department of Public Health and Environment Section 261.4(b) if applicable see NORM regulations
Required Record Keeping	File Waste Manifest
Transportation Regulations	Handled by disposal contractor
Disposal Facilities and Contractors	*Contractors*- Hot Oil- MOTE Chemical- MultiChem Group *Disposal*-IEI
Waste Minimization Recommendations	Schedule regular chemical or hot-oil treatments of flow lines and tubing

WASTE STREAM PROFILE #11

Pit Sludge	Area – San Juan Basin, Durango, Colorado
Description	Fluid and solid waste material remaining in production sumps, blow-down pits, emergency pits, and work-over pits.
Classification	Exempt
Special Handling	Be aware of what materials were discharged into pit
Testing	Generally no testing. May require TPH, TCLP, BTEX
Disposal Procedure	Wear proper PPE, contact supervisor if waste is unknown, use vac truck to de-water pit, (hauled by trucking company), haul sludge to approved disposal facility, contact EH&S department.
Laws and Regulations	Regulated by Colorado Oil & Gas Conservation Commission and Colorado Department of Public Health & Environment Section 261.4(b)
Required Record Keeping	File load tickets from disposal contractor.
Transportation Regulations	Handled by contracted transportation service
Disposal Facilities and Contractors	*Facilities*- Bondad Landfill, Envirotech Landfarm, IEI Landfarm *Transportation*- Three Rivers Trucking, Overright Trucking, C&J Trucking, Dawn Trucking, M&R Trucking
Waste Minimization Recommendations	Prevent spills and leaks. Manage location to prevent illegal dumping.

WASTE STREAM PROFILE #12

Production Sand	Area – San Juan Basin, Durango, Colorado
Description	Formation sand or frac sand brought to the surface while swabbing or flowing back a treated well. Also includes unused frac sand left by service company.
Classification	Exempt Non-Exempt if unused
Special Handling	None
Testing	For onsite treatment: COGCC Table 910 and operator knowledge. For disposal: sample per landfill request.
Disposal Procedure	Uncontaminated flow back sand- collected in flow back pit tank, cover on-site after job is completed or racked onsite. Sand containing oil, NORM, condensate, or other contaminate is hauled off by disposal contractor- contact EH&S department. Sand left in equipment is taken by service company. Unused sand is spread on location.
Laws and Regulations	Regulated by Colorado Oil & Gas Conservation Commission and Colorado Department of Public Health & Environment Section 261.4(b)
Required Record Keeping	File waste manifest and waste profile
Transportation Regulations	Handled by contracted transportation service
Disposal Facilities and Contractors	*Facilities*- Bondad Landfill, Envirotech Landfarm, IEI Landfarm, *Transportation*- Three Rivers Trucking, Overright Trucking, C&J Trucking, Dawn Trucking, M&R Trucking
Waste Minimization Recommendations	Do not mix sand with other waste streams

WASTE STREAM PROFILE #13

Production Water	Area – San Juan Basin, Durango, Colorado
Description	Saline waters swabbed/flowed/pumped to the surface while testing, cleaning or producing a well. Salinities can range from a few thousand ppm to over one hundred thousand ppm.
Classification	Exempt
Special Handling	None
Testing	Chlorides
Disposal Procedure	On-site containment in steel or fiberglass tanks. Durango Compressor Station & Ignacio Central Compressor Facility locations pump water to disposal via closed system. Contact disposal company for removal, water injected in Class II disposal wells. If spill occurs contact supervisor and EH&S department.
Laws and Regulations	Regulated by Colorado Oil & Gas Conservation Commission and Colorado Department of Public Health & Environment Section 261.4(b)
Required Record Keeping	File load ticket from disposal contractor
Transportation Regulations	Handled by contracted transportation service
Disposal Facilities and Contractors	*Facilities*- Durango Compressor Station SWD *Transportation*- Three Rivers Trucking, Overright Trucking, C&J Trucking, Dawn Trucking, M&R Trucking
Waste Minimization Recommendations	Minimize leaks, spills or drips

WASTE STREAM PROFILE #14

Rags, Oily	Area – San Juan Basin, Durango, Colorado
Description	Materials that have been soaked with crude oil or other exempt waste.
Classification	Exempt or Non-Hazardous
Special Handling	None
Testing	None
Disposal Procedure	If rags or paper towels are not dripping, dispose of in general trash. If rags are dripping, collect in absorbent materials containers at Durango Compressor Station. Containers are to be DOT approved and fully sealed. Contracted disposal company is to be contacted to collect containers.
Laws and Regulations	Regulated by Colorado Oil & Gas Conservation Commission and Colorado Department of Public Health & Environment Section 261
Required Record Keeping	Disposal contractor keeps DOT records on material collection. File manifests, load tickets, or receipt from disposal contractor.
Transportation Regulations	Handled by contracted disposal service Class 4.1 Flammable Solid placard required
Disposal Facilities and Contractors	*Facilities*- Trash- Bondad Landfill Oil- Safety Kleen
Waste Minimization Recommendations	Maintain equipment and facilities to prevent drips, leaks, and spills which would require cleanup. Use drip pans or other containment devices to collect leaks, drips or accidental spills. Keep separate from other wastes and wash for re-use. Send to recycler. Use Rag-in-a-Box in place of rags; can be disposed of in general trash.

WASTE STREAM PROFILE #15

Refractory Water	Area – San Juan Basin, Durango, Colorado
Description	Water or hydrocarbon based fluid that is used to fracture a reservoir and re-circulated to the surface. Fluid will contain various amounts of sand or inert propping material.
Classification	Exempt
Special Handling	None
Testing	Contact EH&S representative; characterization may be required for disposal
Disposal Procedure	Collected on-site. Hauled to a pit. Allow time for sand to fall out. Contact trucking company to pull off water and haul to disposal. Contact EH&S department to test/dispose of sand.
Laws and Regulations	Regulated by Colorado Oil & Gas Conservation Commission and Colorado Department of Public Health & Environment Section 261.4(b)
Required Record Keeping	File load ticket from disposal contractor
Transportation Regulations	Handled by contractor
Disposal Facilities and Contractors	*Transportation*- Three Rivers Trucking, Overright Trucking, C&J Trucking, Dawn Trucking, M&R Trucking *Facilities*- IEI
Waste Minimization Recommendations	Treat and recycle on site where possible

WASTE STREAM PROFILE #16

Sanitary Waste	Area – San Juan Basin, Durango, Colorado
Description	Waste mixed with chemicals in portable toilets. Chemicals used in chemical toilets are harsh and may be hazardous.
Classification	Non-Exempt
Special Handling	Avoid any direct contact with waste
Testing	None
Disposal Procedure	No on-site disposal. Contact disposal contractor for removal of chemical toilet waste. If spill occurs contact supervisor, EH&S coordinator and disposal contractor.
Laws and Regulations	Regulated by Colorado Department of Public Health and Environment
Required Record Keeping	Keep copies of lease agreement with contractor
Transportation Regulations	Handled by disposal contractor
Disposal Facilities and Contractors	*Contractors*- Bob's Johns
Waste Minimization Recommendations	

WASTE STREAM PROFILE #17

Scrap Metal	Area – San Juan Basin, Durango, Colorado
Description	Non-hazardous scrap/trash metal and steel; including old tankage, wireline, junk compressor parts, rods, casing and tubing.
Classification	Non-Exempt/Non-Hazardous
Special Handling	Check for NORM before disposing. NORM will build up in tanks that hold a constant level around rings and in valves and tubing where a pressure drop occurs. Check for lead based paint prior to cutting scrap metal.
Testing	Will require NORM testing if taken to landfill
Disposal Procedure	Collect on-site at Durango Compressor Station in designated bin supplied by disposal contractor. Collection area must be an enclosure and not a scrap pile. Contact disposal contractor for pickup.
Laws and Regulations	Regulated by Colorado Department of Public Health and Environment
Required Record Keeping	File pickup tickets or manifest
Transportation Regulations	Handled by disposal contractor
Disposal Facilities and Contractors	*Facilities*- Bondad Landfill, Valley Scrap Metals, Inc. *Transportation*- Waste Management
Waste Minimization Recommendations	Sell to recycler as scrap metal if available

WASTE STREAM PROFILE #18

Scrubber Liquid	Area – San Juan Basin, Durango, Colorado
Description	Liquid used to remove dirt, water, foreign matter and compressor oil out of the gas flow stream.
Classification	Exempt/Non-Hazardous
Special Handling	None
Testing	Contact EH&S representative; characterization may be required; TCLP
Disposal Procedure	Liquid is collected in separator. Liquid is automatically dumped into water tank. Containment around tank must be 1.5 times the capacity of the tank. Contact trucking contractor to transport liquid to disposal well.
Laws and Regulations	Regulated by Colorado Oil & Gas Conservation Commission and Colorado Department of Public Health & Environment Section 261.4(b)
Required Record Keeping	Keep load tickets or manifest
Transportation Regulations	Handled by disposal contractor
Disposal Facilities and Contractors	*Transportation*- Three Rivers Trucking, Overright Trucking, C&J Trucking, Dawn Trucking, M&R Trucking *Facilities*- Durango Compressor Station SWD
Waste Minimization Recommendations	Use gas as alternative media

WASTE STREAM PROFILE #19

Soil, Contaminated	Area – San Juan Basin, Durango, Colorado
Description	Soils that have come in contact with chemicals, solvents, lube oil, crude oil, fuel spillage, mercury, PCB's, or production water. Typical spills are produced water or condensate, which are exempt wastes.
Classification	Based on the material spilled on soil. Can be non-exempt, exempt or hazardous.
Special Handling	DO NOT handle mercury spills
Testing	Pre- and Post-cleanup testing. May need testing for TPH, TCLP, benzene and chlorides.
Disposal Procedure	Contact EH&S department for instruction. For hazardous spill third party specialty contractor may be required. Pick up all free liquids, contain spill, collect soil in environmental drums/bins or on tarp, collect sample for testing, contact disposal contractor for soil removal.
Laws and Regulations	Regulated by Colorado Oil & Gas Conservation Commission 907, Colorado Department of Public Health and Environment or Bureau of Land Management
Required Record Keeping	File spill report (where applicable), analysis, MSDS and waste manifests
Transportation Regulations	Handled by disposal contractor
Disposal Facilities and Contractors	*Facilities*- Bondad Landfill, IEI, Envirotech *Disposal*- Hocker Construction, Diamondback Excavation *Testing*- LT Environmental
Waste Minimization Recommendations	Utilize best management practices including buckets or drip pans to catch releases during routine work. Place plastic under valves during maintenance and rinse plastic into a sump. Plug all ¼ turn valves on storage containers. Maintain secondary containment. Remediate impacted soil in place if possible. Use as landfill cover or as construction material if oil is removed. On-site treatment is ineffective for inorganic materials (i.e. arsenic).

WASTE STREAM PROFILE #20

Solvent, Spent	Area – San Juan Basin, Durango, Colorado
Description	Hydrocarbon based fluids used in cleaning or degreasing operations; can be chlorinated or non-chlorinated. Many solvents contain listed hazardous wastes and/or are ignitable. Examples of solvents are paint thinner, WD-40, varsol, xylene, brake cleaner, starter fluid and trichloroethylene.
Classification	Non-Exempt. Requires testing or MSDS to determine hazardous. Look to 40 CFR 261 to determine if it is a listed waste.
Special Handling	Contact EH&S department for handling procedure. DO NOT handle toxic solvents. Read MSDS.
Testing	Lab analysis required if substance is unknown, TCLP metals and Benzene
Disposal Procedure	Contact EH&S department for assistance. Contact vendor to pick up unused solvent. Read MSDS. Use all solvent in a container before discarding. DO NOT combine solvents. Dispose of empty containers in general trash. Contact disposal contractor for removal. Contact disposal contractor for used liquids.
Laws and Regulations	If hazardous, disposal regulated by Colorado Oil & Gas Conservation Commission/RCRA
Required Record Keeping	File minor permit if required for disposal, lab analysis, waste manifest and maintain MSDS
Transportation Regulations	Handled by contracted disposal service
Disposal Facilities and Contractors	*Contractors*- Safety Kleen
Waste Minimization Recommendations	Use drip pans to contain small leaks. Switch to a less toxic solvent. Buy only quantity needed.

WASTE STREAM PROFILE #21

Tank Bottoms	Area – San Juan Basin, Durango, Colorado
Description	Solids that accumulate in heater treaters, separators, and stock tanks due to normal operations. The bottoms include sediment, scale and sometimes oil and water.
Classification	Exempt
Special Handling	May contain NORM- contact EH&S for testing
Testing	May require testing: TPH, TCLP, Benzene, NORM
Disposal Procedure	Contact EH&S department before disposal. Remove back manhole plate and wash tank with water into lined pit or open bin. Remove bottoms and liquids with vac-truck. Contact disposal company for removal. Bottoms are taken to an exempt waste disposal facility.
Laws and Regulations	Regulated by Colorado Oil & Gas Conservation Commission
Required Record Keeping	File waste analysis and manifest
Transportation Regulations	Handled by disposal contractor
Disposal Facilities and Contractors	*Contractors*- Riley Industrial Services *Facilities*- IEI, Envirotech
Waste Minimization Recommendations	Use cone bottom tanks. Circulate bottoms through heater-treaters on a regular cycle.

WASTE STREAM PROFILE #22

Trash, General	Area – San Juan Basin, Durango, Colorado
Description	General non-contaminated debris referred to as general household trash including; concrete, paper, brush, scrap metal, etc. No dope buckets or paint cans. General trash may be profiled to be disposed of with other non-hazardous waste streams.
Classification	Non-Exempt/Non-Hazardous
Special Handling	None
Testing	None
Disposal Procedure	Collected on-site in trash bins provided by contracted disposal service. Trash bins are located at Durango Compressor Station. Trash is scheduled for weekly pickup.
Laws and Regulations	None
Required Record Keeping	None
Transportation Regulations	Handled by contracted disposal service
Disposal Facilities and Contractors	*Facilities*- Bondad Landfill *Transportation*- Waste Management
Waste Minimization Recommendations	Do not mix with hazardous or oil and gas wastes. Return pallets to vendors when possible. Recycle paper, metal, cardboard, aluminum cans whenever possible. Combine non-hazardous waste streams on landfill profiles to eliminate additional waste disposal costs.

WASTE STREAM PROFILE #23

Vegetation, Brush	Area – San Juan Basin, Durango, Colorado
Description	Vegetation and debris that is non-hazardous and cleared from a construction site and right-of-ways. Includes brush, trees, soil, rock, paper, cardboard, plastic, etc.
Classification	Non-Exempt/Non-Hazardous
Special Handling	None
Testing	None
Disposal Procedure	Collected on-site. Place debris in company approved disposal bags. Transport bags to Durango Compressor Station and dispose of in general trash.
Laws and Regulations	None
Required Record Keeping	None
Transportation Regulations	No DOT requirements. Secure bags in vehicle during transport to prevent littering of roadways.
Disposal Facilities and Contractors	*Facilities*- Bondad Landfill *Transportation*- Waste Management
Waste Minimization Recommendations	Spray locations for weeds to prevent growth.

WASTE STREAM PROFILE #24

Wash-down Water (Rig wash)	Area – San Juan Basin, Durango, Colorado
Description	Waste water from rig and skid washing and cleaning operation. Major volumes consist of fresh water. May contain detergents and hydrocarbons.
Classification	Non-Exempt
Special Handling	None
Testing	None
Disposal Procedure	Collect any liquids or oil leaks with absorbent pads. Use biodegradable soap to wash. Collect waste water on skid pad when washing. Use mats to soak up oil. Allow mats to soak for a minimum of one day. Collect mats. Contact disposal company to vacuum out wash water. Minimize and control leaks on skid.
Laws and Regulations	Regulated by Colorado Oil & Gas Conservation Commission and Colorado Department of Public Health & Environment Section 261.4(b)
Required Record Keeping	File characterization and manifest
Transportation Regulations	Handled by contractor
Disposal Facilities and Contractors	*Contractors*- Riley Industrial Services *Facilities*- IEI, Envirotech
Waste Minimization Recommendations	Use washes only when necessary. Use high pressure, low volume hose nozzles with automatic cutoffs. Set up a regular maintenance program for water systems to reduce leaks and drips. Reduce rig wash use by sweeping or other dry cleaning when feasible.

WASTE STREAM PROFILE #25

Bio-Hazard	Area – San Juan Basin, Durango, Colorado
Description	A Biological agent or condition that is hazardous to humans. A typical bio-hazard will be any activity that causes human matter to be released into an environment.
Classification	Non-Exempt
Special Handling	Contact EHS or individual that has been HazWopper trained. Proper PPE should be worn to prevent personnel from coming into direct contact of human matter.
Testing	None
Disposal Procedure	Collect all materials that have come into contact with bio-hazard and should be placed into receptacles labeled "Infectious Waste" or with the biohazard symbol. Most common receptacle is a red bag or bin.
Laws and Regulations	Regulated by Colorado Department of Public Health & Environment Title 25 Article 15 Part and 6 CCR 1007-2-13 and OSHA CFR 1910.1030
Required Record Keeping	An exposure incident is evaluated to determine if the case meets OSHA's Recordkeeping Requirements (29 CFR 1904). This determination and the recording activities are done by Lisa Luna.
Transportation Regulations	Handled by contractor and facility owner
Disposal Facilities and Contractors	*Contractors*- Waste Management *Facilities*- Waste Management Facility
Waste Minimization Recommendations	Reduce the amount of individuals and material that comes into contact with bio hazard to reduce the amount of material that needs to be disposed of. Have well placed first aid kits in place to quickly reduce the amount and contain the biohazard released

WASTE STREAM PROFILE #26

Aerosol Can Content (After Puncturing)	Area – San Juan Basin, Durango, Colorado
Description	Contents of an Aerosol Can that are released at the time of puncturing into an enclosed drum with a filter cartridge for venting.
Classification	Non-Exempt
Special Handling	Employees are trained on how to puncture spent/used aerosol cans. Cans are then disposed of by waste management. The contents of the drum are then considered waste at time of removal
Testing	Before removal will be tested by contractor per RCRA standards.
Disposal Procedure	Cans are punctured with contents being released into puncture drum. Cans are disposed of and contents of the drum are sampled by contractor and removed to a TSDF.
Laws and Regulations	Regulated by Colorado Department of Public Health & Environment 6 CCR 1007-3 Part 273
Required Record Keeping	For a small quantity generator of universal waste record keeping is not needed. The content of the drum has to meet the requirements of the hazardous waste generator standards.
Transportation Regulations	Handled by contractor
Disposal Facilities and Contractors	*Contractors*- Safety Kleen *Facilities*- Safety Kleen (TSDF)
Waste Minimization Recommendations	Protect unused aerosol cans to reduce the amount of cans that still contain a majority of their contents but have to be punctured due to lack of usability, so at the time of puncturing it is a smaller amount of content releasing into the puncture drum. Ensure that aerosol cans are completely spent before puncturing.

Appendix

Government Agencies

Colorado Oil & Gas Commission (COGCC) http://oil-gas.state.co.us/	1120 Lincoln St., Suite 801 Denver, CO 80203 (303) 894-2100
Colorado Dept. of Public Health & Environment (CDPHE) www.cdphe.state.co.us/hm/index.htm	4300 Cherry Creek Dr. South Denver, CO 80246-1530 (303) 692-3300

EH&S Contacts

Martin Nee EH&S Manager Western Division	Englewood, CO (303) 397-3701 (505) 793-6694 Cell
James McDaniel EH&S Supervisor Farmington, NM	Aztec, NM (505) 333-3701 (505) 787-0519 Cell
Logan Hixon EH&S Coordinator Farmington, NM	Aztec, NM (505) 333-3683 (505) 386-8018 Cell

Sampling and Spill Response Contractors

Three Rivers Trucking Response	(505) 632-5300
LT Environmental Sampling, Response	(970) 946-1093 Ashley Agers

Analytical Labs

ESC Located in TN	(602) 377-2696 Dave Veratti
Envirotech Location in Farmington, NM	(505) 632-0615 Greg Crabtree

Disposal Facilities

XTO Salt Water Disposal Facilities

Durango Compressor Station	La Plata County, CO

Solid Waste Disposal Facilities

Bondad Landfill Bondad, CO	(970) 247-8295 Paula
San Juan County Landfill Aztec, NM	(505) 334-1121

Landfarms

IEI Inc. Aztec, NM	(505) 632-1782 Terry Latin
Envirotech Farmington, NM	(505) 632-0615 Greg Crabtree

Transportation Contractors

OFT Construction	4273 U.S. 64 Kirtland, NM 87417 (505) 598-3152
Bob's Johns Rob Fogleman	406 Snowcap Lane Durango, CO 81303 (970) 247-4131
C&J Trucking Michael Kitts	PO Box 1246 Farmington, NM 87499 (505) 325-7770
Dawn Trucking Danny Nelson	PO Box 1498 Farmington, NM 87499 (800) 843-3205
Diamondback Excavation Shawn Harper	919 Farraday Rd Durango, CO 81303 (970) 247-9434
Hocker Construction Roy Hocker	PO Box 627 Ignacio, CO 81137 (970) 562-9533

Transportation Contractors Cont.

Mo-Te Drilling	1104 South Lake Farmington, NM 87499 (505) 325-1666 (505) 325-9711
Multi-Chem Group	PO Box 1137 Sonora, TX 76950 (915) 560-2906
Overright Trucking Michael Overright	614 N. Dustin Farmington, NM 87401 (505) 324-0332
Riley Industrial Service	PO Box 2014 Farmington, NM 87499 (505) 327-4949
Safety Kleen	4210 A Hawkins Road Farmington, NM 87401 (505) 327-9070
Thermo Fluids	1810 L Street Colorado Springs, CO 81240 (719) 275-4075
Three Rivers Trucking	PO Box 2728 Farmington, NM 87499 (505) 632-5300
Waste Management	258 Stewart Street Durango, CO 81303 (970) 247-1821

RCRA Hazardous Waste Standards

Type	Compound	Limit (mg/l or ppm)
Organics:	Benzene	0.5 mg/l
	Carbon tetrachloride	0.5 mg/l
	Chlordane	0.03 mg/l
	Chlorobenzene	100.00 mg/l
	Chloroform	6.0 mg/l
	o-Cresol	200.0 mg/l
	m-Cresol	200.0 mg/l
	p-Cresol	200.0 mg/l
	Cresol	200.0 mg/l
	2,4-D	10.0 mg/l
	1,4-Dichlorobenzene	7.5 mg/l
	1,2-Dichlorobenzene	0.5 mg/l
	1,1-Dichloroethylene	0.7 mg/l
	2,4-Dininitrotoluene	0.13 mg/l
	Endrin	0.02 mg/l
	Heptachlor	0.008 mg/l
	Hexachlorobenzene	0.13 mg/l
	Hexachlorobutadiene	0.5 mg/l
	Hexachloroethane	3.0 mg/l
	Lindane	0.4 mg/l
	Methoxychlor	10.0 mg/l
	Methyl ethyl ketone	200.0 mg/l
	Nitrobenzene	2.0 mg/l
	Pentachlorophenol	100.0 mg/l
	Pyridine	5.0 mg/l
	Tetrachloroethylene	0.7 mg/l
	Toxaphene	0.5 mg/l
	Trichloroethylene	0.5 mg/l
	2,4.5-Trichlorophenol	400.0 mg/l
	2,4,6-Trichlorophenol	2.0 mg/l
	2,4,5-TP (Silvex)	1.0 mg/l
	Vinyl chloride	0.2 mg/l
Metals:	Arsenic	5.0 mg/l
	Barium	100.0 mg/l
	Cadmium	1.0 mg/l
	Chromium	5.0 mg/l
	Lead	5.0 mg/l
	Mercury	0.2 mg/l
	Selenium	1.0 mg/l
	Silver	5.0 mg/l

FEDERAL LIST OF E&P EXEMPT WASTES

1. Produced water
2. Drilling fluids
3. Drill cuttings
4. Rig wash
5. Drilling fluids and cuttings from offshore disposed of onshore
6. Geothermal production fluids
7. Hydrogen sulfide abatement wastes from geothermal energy production
8. Well completion, treatment and stimulation fluids
9. Basic sediment and water and other tank bottoms from storage facilities that hold product and exempt waste
10. Accumulated materials such as hydrocarbons, solids, sand and emulsion from production separators, fluid treating vessels and production impoundments
11. Pit sludge and contaminated bottoms from storage or disposal of exempt wastes
12. Gas plant dehydration waste, including glycol-based compounds, glycol filters, filter media, backwash and molecular sieves
13. Workover wastes
14. Gases from the production stream, such as hydrogen sulfide and carbon dioxide, and volatilized hydrocarbons
15. Materials ejected from a producing well during blow down
16. Cooling tower blow down
17. Gas plant sweetening waste for sulfur removal, including amine, amine filters, amine filter media, backwash, precipitated amine sludge, iron sponge, and hydrogen sulfide scrubber liquid and sludge
18. Spent filters, filter media and backwash – assuming that the filter itself is not hazardous, for example from lead used in manufacturing the filter, and that the filter has been used in an exempt waste stream
19. Pipe scale, hydrocarbon solids, hydrates and other deposits removed from pigging and equipment prior to transportation
20. Produced sand
21. Packing fluids
22. Hydrocarbon bearing soil
23. Pigging waste from gathering lines
24. Waste from subsurface gas storage and retrieval, except for the listed non-exempt wastes
25. Constituents removed from produced water before it is injected or otherwise disposed of
26. Liquid hydrocarbons removed from the production stream but not from oil refining
27. Waste crude oil from primary field operations
28. Light organics volatilized from exempt wastes in reserve pits, impoundments, or production equipment

FEDERAL LIST OF NON-EXEMPT WASTES

1. Unused fracturing fluids or acids
2. Gas plant cooling tower cleaning waste
3. Painting waste
4. Oil and gas service company waste, such as empty drums, drum rinsate, sandblast media, painting waste, spent solvents, spilled chemicals and waste acids
5. Vacuum truck and drum rinsate from truck and drums
6. Refinery waste
7. Liquid and solid wastes generated by crude oil and tank bottom reclaimers
8. Used equipment lubrication oils
9. Waste compressor oil, filters and blow down
10. Used hydraulic fluids
11. Waste in transportation pipeline related pits
12. Caustic or acid cleaners
13. Boiler cleaning waste
14. Boiler refractory bricks
15. Boiler scrubber fluids, sludge and ash
16. Incinerator ash
17. Laboratory waste
18. Sanitary waste
19. Pesticide waste
20. Radioactive tracer waste
21. Drums, insulation and miscellaneous solids

Reference: EPA Exemption of Oil and Gas Exploration and Production Wastes from Federal Hazardous Regulations