



Substantially Equivalent Waste Management Plan

This document is being submitted as a substantially equivalent Waste Management Plan for the Washington Pad Form 2A. This waste management plan was developed as a part of the operator agreement process with City of Thornton. This document complies with all requirements outlined in Colorado Oil and Gas Conservation Commission Rule 304.c.(11). For this reason, Extraction believes this satisfies the substantially equivalent information requirements and requests that it is accepted pursuant to Rule 304.e.

6.0 WASTE MANAGEMENT PLAN



MATERIALS & WASTE MANAGEMENT PRACTICES

The following Materials & Waste Management Practices were prepared by Extraction Oil & Gas Inc. (XOG) to ensure compliance with applicable federal, state, and local materials management regulations by utilizing a comprehensive program of materials handling and waste minimization, segregation, transportation, and disposal. The program is maintained by environmental professionals employed by XOG with formal education in materials and waste management, and years of experience in the oil and gas (O&G) industry. These personnel oversee a team of environmental professionals and consultants responsible for implementing the program and ensuring processes are consistent with current regulations.

The following provides a brief overview of XOG's Materials and Waste Management Best Management Practices and summarizes waste streams and practices for ensuring compliance with exploration and production (E&P) waste regulations administered by the Colorado Oil & Gas Conservation Commission (COGCC), and applicable solid, hazardous, and universal waste regulations administered by the Colorado Department of Public Health and Environment (CDPHE).

Best Management Practices

1. Consistent with good materials and waste management practices, XOG maintains records of material/waste source, transporter, and final disposition or disposal. These records are maintained under usual and customary practice and are made available upon request. See attached list of waste disposal facilities that XOG has active waste disposal profiles with. Depending on operational considerations, the type of waste in question, and approved disposal profiles, XOG may send waste to one or more approved facilities on a single, individual project.
2. XOG minimizes the generation of waste by ensuring that material products are fully used for their intended purpose. If unused materials remain following an activity, contractors are required to take unused product with them for reuse at the next applicable project. Contractors are contractually required to comply with applicable material and waste management practices.
3. In the event of an unintended release of material by a contractor, XOG requires the contractor to report the release, and to remediate impacts in accordance with applicable cleanup standards. XOG tracks all contractor releases to closure by requiring formal documentation, supported by laboratory analysis demonstrating cleanup of site impacts, any required waste characterization, waste disposal approval, and manifests or load tickets tracking waste from source, through transport, to final disposal.
4. If there are unanticipated hazardous waste streams not listed in the attached Waste Streams Spreadsheet, the hazardous waste will be stored and disposed of in compliance with all rules and regulations applicable to that specific waste.
5. Produced water with no commercial value or reuse potential is typically disposed of via underground injection. In all instances, produced water is disposed of at an offsite location(s) via properly permitted disposal facilities including but not limited to UIC wells intended specifically for produced water disposal.
6. Soils impacted with produced fluids may be either remediated onsite with COGCC, landowner, and, if required, local government approval, or transported offsite for disposal at a disposal facility permitted to receive E&P waste. All incidents are reported in accordance with COGCC 900-Series Rules.
7. All drill cuttings generated during drilling operations are transported offsite with proper manifesting for disposal at facilities properly permitted to receive E&P waste. Drilling fluids will be stored on-site and recycled for use in future drilling operations.
8. All surface trash, debris and material not intrinsic to the operation of the oil and gas facility shall be removed stored in a roll off container or other trash bin and disposed of at a commercial solid waste disposal location.



WASHINGTON PAD WASTE STREAM TABLE
(Volumes and frequencies are estimated)

<u>Waste Stream</u>	<u>Est. Volume (daily)</u>	<u>Method of Storage</u>	<u>Method of Treatment (if applicable)</u>	<u>Frequency of Disposal</u>	<u>Method of Disposal (*Approved Waste Disposal Locations)</u>	<u>Duration of Waste Stream (days)</u>	<u>Phase</u>
Surface Cuttings	110 Tons	High Wall Containment		16 Loads/Day	Commercial Solids Disposal	10	Drilling
Production Cuttings	146 Tons	High Wall Containment		15 Loads / Day	Commercial Solids Disposal	60	Drilling
Drilling Fluids	140 BBL	Storage Tanks		Never/Recycled	N/A	60	Drilling
General Trash	40 Yards	Roll off dumpster		1 dumpster/week	Landfill	268	Drilling/ Completions
Millout Sand	9090 lbs	3 sided bin	NA	Daily	Side Dump Trailer	30	Completions
Millout Water	546 bbls	Closed loop frac tanks	Biocide	3 days	Tanker Truck/Trailer	30	Completions
Flowback Sand	4 bbls	Frac Tank		1 time	Commercial Solids Diposal	30 to 60	Completions
Flowback Water	4400 bbls	Pipeline		Daily	Commercial Fluid Disposal	60	Completions
Produced Water	40 bbls	Pipeline		Daily	Commercial Fluid Disposal	Life of Wells	Production
Tank Bottoms	4 bbls	Pipeline		Bi-weekly	Commercial Fluid Disposal	Life of wells	Production
Basic sediment and water	As needed	Concrete pit		As needed	Commercial Fluid Disposal	Life of wells	Production
Oily Soils	Varies	Trucked to approved waste site	Media will be characterized/ screened, removed, and disposed of in compliance with remediation practices required by 900-series rules.	As needed	Commercial Solids Disposal	Life of wells	Production
Chemical Fluid Totes	55 gallons	Plastic Tote		As needed	Commercial Fluid Disposal	Life of wells	Production

***APPROVED WASTE DISPOSAL FACILITIES**

Operational considerations, the type of waste in question, and approved disposal profiles, will determine where waste is disposed of on an individual project. XOG has active waste disposal profiles with the following facilities:

Solids Disposal Locations

- Waste Management-Buffalo Ridge Landfill: COD-00227827
- Waste Management-Denver Arapahoe Disposal Site (DADS): COD-149366106
- Waste Management-North Weld Landfill: COD-983790684
- Waste Management-Conservation Services, Inc. (CSI): COD-983767674
- Waste Connections: COD-910629
- Pawnee Waste, LLC: EPL03443

Liquids Disposal Locations

- NGL Energy Partners, LP (dba NGL Water Solutions DJ LLC) – Various locations throughout the basin.

Please note – XOG reserves the right to add additional approved waste disposal facilities at any time; the above list is subject to change without notice.