



MATERIALS & WASTE MANAGEMENT PRACTICES

Extraction Oil & Gas, Inc. (Extraction) ensures compliance with applicable federal, state, and local materials and waste 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 Extraction 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 consultants and professionals responsible for implementing the program and ensuring processes are consistent with current regulations.

The following provides a brief overview of Extraction's Materials and Waste Management Practices, and summarizes activities 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).

Consistent with good materials and waste management practices, Extraction 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 as necessary.

E&P Waste

As an upstream O&G operator, most waste streams generated by Extraction are subject to exploration and production (E&P) waste regulations administered by the COGCC and detailed in the 900 Series Rules

Typically, the largest volume of E&P waste generated on an annual basis is drill cuttings. To minimize waste volumes, Extraction separates surface cuttings generated with water-based mud, from production cuttings generated with oil-based mud. Water-based surface cuttings may be applied to farmer's fields with sandy soil to improve soil texture for agricultural use, under an approved COGCC beneficial reuse plan. Oil-based mud is transported offsite with proper manifesting for disposal at landfills permitted to receive E&P waste.

Produced water with no commercial value is disposed of in permitted injection wells. In the event produced water needs to be disposed of at an offsite location, properly permitted disposal facilities are utilized.

Soils impacted with production fluids may be remediated onsite with COGCC, landowner, and if necessary local authority approval, or transported offsite for disposal at landfills permitted to receive E&P waste. All incidents are reported in accordance with COGCC 900 Series Rules.

Solid, Hazardous, and Universal Waste

Extraction 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.

In the event of an unintended release of material by a contractor, Extraction requires the contractor to report the release as needed, and to remediate impacts in accordance with applicable cleanup standards. Extraction tracks all contractor releases to closure by requiring formal documentation, supported by laboratory analysis demonstrating cleanup of site impacts, proper waste characterization as needed, waste disposal approval, and manifests or load tickets tracking waste from source, through transport, to final disposal.

Please direct any questions about this practice to Blake Ford (Environmental Coordinator) at 970-576-3446, or bford@ExtractionOG.com.



WASTE MANAGEMENT PLAN

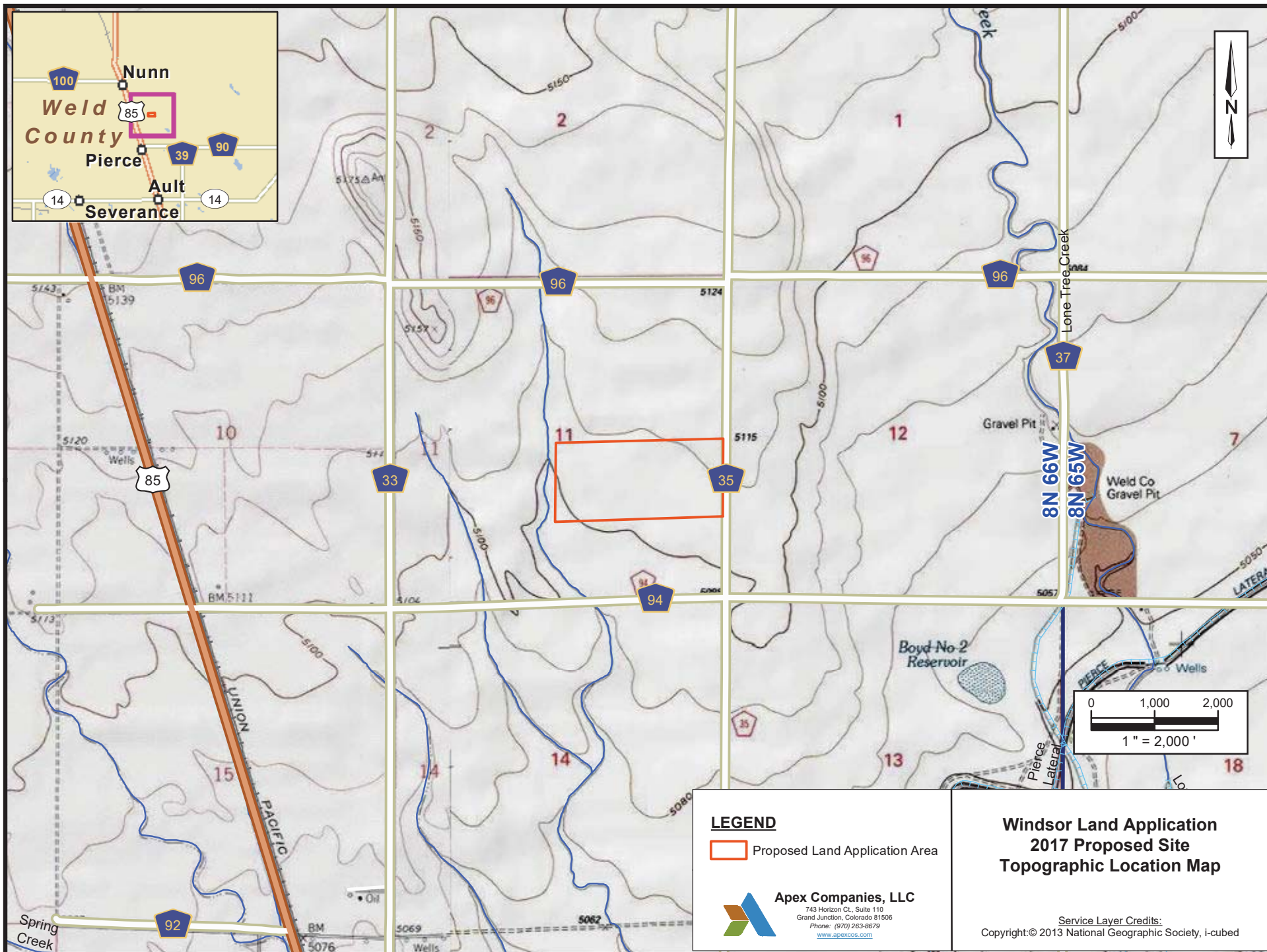
Land Application of Water-Based Bentonitic Drill Cuttings

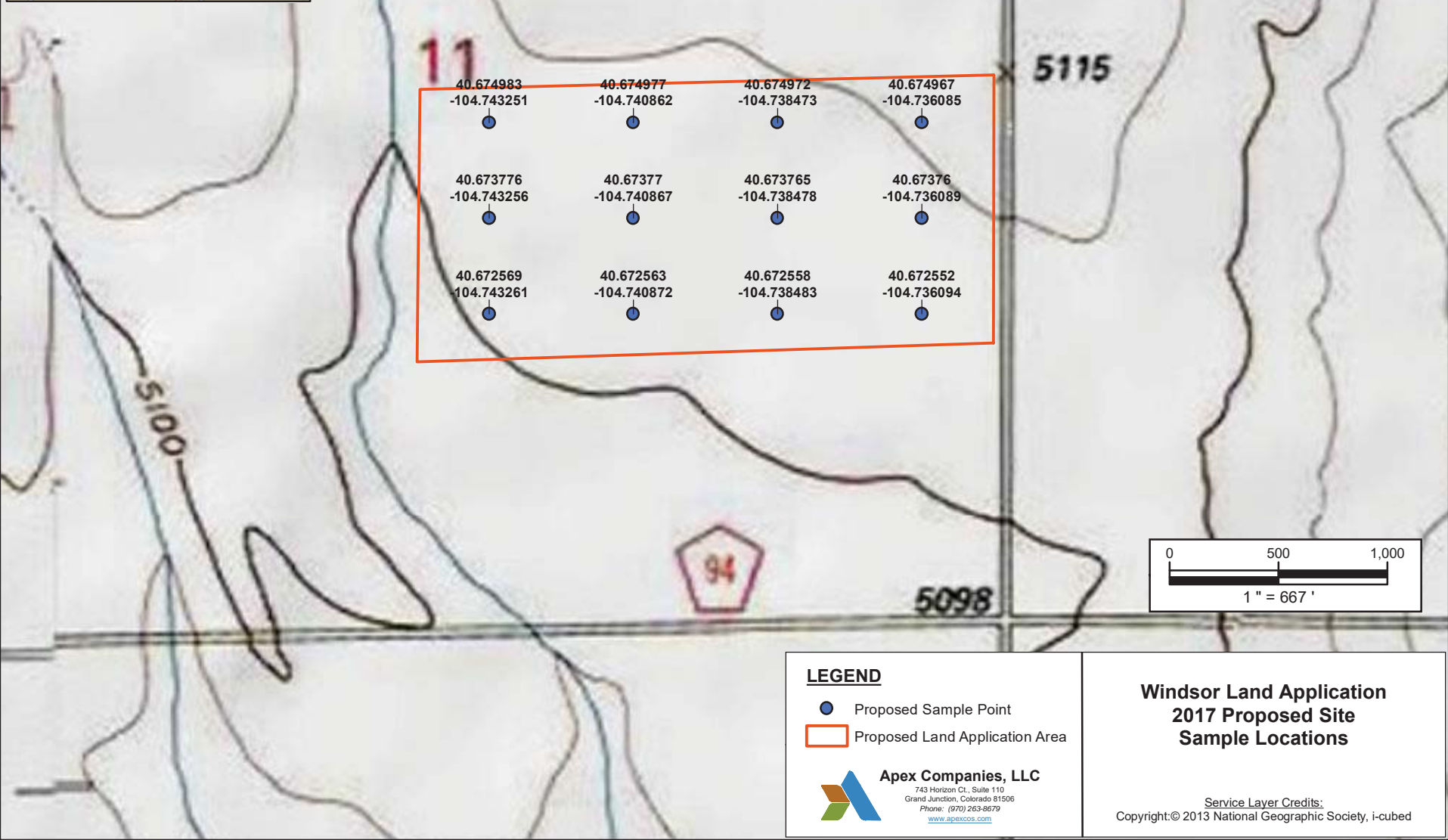
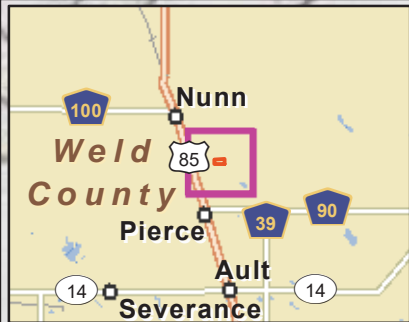
In accordance with Colorado Oil & Gas Conservation Commission (COGCC) rules for the management of exploration and production (E&P) waste, Extraction Oil & Gas, Inc. (Extraction) proposes the following waste management plan (WMP) procedures for land application and beneficial reuse of water-based bentonitic drill cuttings. These guidelines were developed to comply with applicable portions of the 900 (E&P Waste Management) and 1000 (Reclamation Regulations) Series Rules, and the Drill Cuttings Management Policy issued by the COGCC on September 15, 2014.

Extraction will secure written authorization from the landowner, and approval from the COGCC prior to initiating operation at any land application site proposed for beneficial soil amendment of water-based bentonitic drill cuttings. The landowner agreement shall state that only water-based bentonitic drill cuttings originating from surface drilling, and from Extraction operated wells and locations will be allowed at the land application site.

1. Prior to transport, cuttings will be stabilized at the drill site to remove or immobilize free liquid, to minimize the potential for unintentional discharges of liquids from the load during transport.
2. Transport of drill cuttings will be carried out by a licensed third party contractor, with proper material transfer tickets.
3. Drill cuttings will be offloaded into a designated staging area with proper BMPs to contain any residual fluids prior to spreading.
4. Appropriately designed stormwater management features will be maintained at each application site to prevent offsite sediment discharge. Responsibility for stormwater compliance, whether the facility operator or Extraction, will be determined during the planning phase of the project, with current plans and inspection records maintained by the responsible party designated for each site, and will be available upon request.
5. Drill cuttings will not be applied to a depth of greater than three (3) inches prior to incorporation, and will remain on the surface for no more than ten (10) days before incorporation.
6. Current records will be maintained for drill cuttings received at each land application site. These records will be maintained under usual and customary practice, and Extraction will assure that records are available for review if requested. Material tracking records will include the following information:
 - a. Name of well where material was generated.
 - b. Date of material transfer to the approved beneficial amendment site.
 - c. Volume of material transported and received at the land application site.
 - d. Name of transporter.
7. To assure compliance with COGCC Table 910-1 allowable levels for analytical constituents of concern, samples will be collected throughout the life cycle of each approved beneficial reuse land application site. At least one sample will be collected for each 8 acres of the site. Sample point coordinates will be established during the planning phase for each site, and samples will be collected during the following phases of operation for the land application site:
 - a. Baseline sample of soil conditions prior to first land application;
 - b. A minimum of one sample per year to assure ongoing compliance with COGCC Table 910-1;
 - c. Prior to requested closure of the facility; and
 - d. At least one representative sample of incoming drill cuttings prior to land application.

End of procedure.





LEGEND

- Proposed Sample Point
- Proposed Land Application Area

Apex Companies, LLC
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**Windsor Land Application
2017 Proposed Site
Sample Locations**

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