

# **BONANZA CREEK ENERGY, INC.**

## **Wattenberg Operations Waste Management Plan**

E&P Waste Management Plan for Wattenberg Field Well New Drills and Producing Wells (12/2011)

### **Bentonitic Drilling Fluid**

Approximately 500 bbls of bentonitic drilling fluid waste is produced as part of the drilling of a typical Wattenberg Field vertical or deviated well. The wells are drilled using pitless “closed loop” mud handling systems. Drilling fluid is contained in a series of metal tanks and “pits” associated with the drilling rig. Excess used drilling fluid is transferred to an offsite and application area via vacuum track and transport tanker trucks on an as-needed basis. The land application area is operated under a COGCC approved plan of operations, and in accordance with Rule 907.d.(3). When practicable, drilling fluid is re-used on the subsequent well to be drilled; however used drilling fluid from a well drilled to Total Depth usually presents a solids control issue.

### **Drill Cuttings**

Approximately 2500 cy of drill cuttings are produced during drilling of a typical Wattenberg Field vertical or deviated well. The wells are drilled using pitless “closed loop” mud handling systems. Drill cuttings coming off of the shale shakers drop into a 20 cubic yard metal rolloff container. The cuttings are transferred to a 10 cubic yard standard dumptruck and transferred to an offsite land application area and spread out in a pre-determined section of the land application area. A farm tractor pulling rime discs is used to incorporate the drill cuttings in with the drilling fluid and native soil. This operation is also conducted under an approved plan of operations in accordance with Rule 907.d.(3).

### **Oily Waste**

Drill cuttings and drilling fluids exhibiting free oil or condensate will be transferred to an approved offsite T&D Facility or Centralized E&P Waste Management Facility.

### **Frac Flowback**

Frac Flowback (well stimulation) fluids are diverted to frac tanks temporarily stored onsite. At the completion of flowback operations on a typical vertical or deviated well, approximately 2000 barrels of fluid are recovered. Recovered flowback fluids are then transferred to a permitted Class II injection well via vac truck or 5,000 gallon transport tanker.

### **Produced Water**

Water produced from an operating Wattenberg area vertical or deviated well is separated from other fluids via an oil/gas/water separator and diverted to a cement or fiberglass produced water storage vessel (60-bbl typical). Produced water storage tanks are emptied twice per month, on average, and transferred to a permitted Class II injection well via vacuum truck.

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**Tank Bottoms**

Liquid wastes consisting of Sand/Bacteria/Water, resulting from the cleaning out of a production tank or produced water tank are transferred via hydro-vac truck to High Sierra Water Holdings, located at 25849 WCR 46, Kersey, CO 80644 for recycling and/or disposal in their Class II Injection Well.

Solid wastes derived from cleaning out the bottom of production tanks and produced water tanks including, but not limited to, sand, sludge and solids are transferred to the Conservation Services, Inc. (CSI) – Waste Management Facility located at 41800 East 88<sup>th</sup> Ave., Bennett, CO80102. Solid Waste is disposed of at the facility under Waste Profile 02-10-9853-CO (Frac Sand and Hydrocarbon impacted E&P Waste).