PROPOSED WASTE MANAGEMENT BMPS

All wastes associated with this application would be contained and disposed according to BLM and COGCC regulatory requirements and at state-approved facilities.

Drilling Operations

A. A shallow cutting trench will be utilized during the installation of the surface casing only. The trench will be properly reclaimed before the drilling of the actual wellbore is initiated.
B. A closed-loop drilling system would be employed and drill cuttings from the wellbore (mainly shale, sand, and miscellaneous rock minerals) would be directed to a cuttings containment to be stored for a period prior to site reclamation (see Grading Plan and Pad Layout). The cuttings containment will be monitored daily to prevent accumulation of liquids greater than de minimis amounts.
C. The cuttings will be amended and sampled to confirm they meet the applicable concentration levels of Table 910-1. Drill cuttings will be utilized as backfill material in the former completions pit after analytical results indicate compliance with Table 910-1 and/or COGCC approval. All management of drill cuttings will done in accordance with the requirements of COGCC rules.

Completion Operations

A. A completion pit would be lined according to BLM and COGCC regulations and would store water for frac operations and flowback fluids. In addition, a temporary lined surface containment may be placed on the pad to store flowback sands.
B. The completion pit is located in cut material, inboard of the location along the south side of the pad and would be constructed so as not to leak, break or allow any discharge. Pit walls would be sloped no greater than 1 1/2:1 and a minimum 2 foot freeboard would be maintained in the pit at all times during completion operations. Spoil from the pit would be stockpiled within a drainage control berm along the edge of the pit and adjacent to the edge of the well pad. BBC would install and maintain adequate measures to exclude all types of wildlife (e.g., big game and birds) from all fluid pits/ponds with fencing, flagging and other appropriate exclusion measures.
C. Well effluent during flowback and cleanout operations prior to encountering hydrocarbon gas of salable quality or significant volumes of condensate would be directed to tanks such that oil or condensate volumes shall not be allowed to accumulate in excess of twenty (20) barrels and would be removed within twenty-four (24) hours. The gaseous phase of non-flammable effluent may be directed to a flare pit or vented from tanks for safety purposes until flammable gas is encountered. Well effluent containing more than ten (10) barrels per day of condensate or within two (2) hours after first encountering hydrocarbon gas of salable quality would be directed to a combination of sand traps, separators, surge vessels, and tanks or other equipment as needed to ensure safe separation of sand, hydrocarbon liquids, water, and gas and to ensure salable products are efficiently recovered for sale or conserved and that non-salable products are disposed of in a safe and environmentally responsible manner.
D. If it is safe and technically feasible, closed-top tanks would utilize backpressure systems that exert a minimum of four (4) ounces of backpressure and a maximum that does not exceed the pressure rating of the tank to facilitate gathering and combustion of tank vapors. Vent/backpressure values, the combustor, lines to the combustor, and knock-outs would be sized and maintained so as to safely accommodate any surges the system may encounter.
E. All salable quality gas would be directed to the sales line as soon as practicable or shut in and conserved. Temporary flaring or venting would be conducted as a safety measure during upset conditions and in accordance with all other applicable laws, rules, and regulations.

F. A flare pit would be constructed a minimum of 110 feet from each wellhead and would be used, as necessary, during completion work. In the event a flare pit proves to be unworkable for a specific well, a flare stack would be installed. The fluid would then either be returned to the pit or placed in a tank. Natural gas would be directed into the flare pit or flare stack with a constant source of ignition until either shut-in or flowlines and pipelines are constructed and natural gas is directed into the gas gathering system. Flare lines would be directed so as to avoid environmental damage and as required by regulations. A deflector and/or directional orifice would be used to safeguard both personnel and the adjacent environment.

G. All "frac" flowback water would be confined to the lined completion pit or storage tanks for a period not to exceed ninety (90) days and would be recycled for re-use, piped or trucked offsite to one of the approved disposal facilities below. Flowback sands stored on location would be remediated and buried on location or hauled off location.

Produced water not re-used would also be sent to one of the facilities below:

Disposal Facilities
1. Circle B Land 33A-35-692SWD, API# 05-045-18493, UIC# 159277
2. GGU Rodreick #21B-31-691 SWD, API# 05-045-13803, UIC# 159176
3. Specialty #13A-28-692 SWD, API# 05-045-14054, UIC# 159212
4. Scott 41D-36-692 SWD, API# 05-045-11169, UIC# 159159

GENERAL

A. Pits would be fenced as appropriate and in accordance with BLM and COGCC guidelines.

B. Any spills of oil, gas, salt water or other produced fluids would be remediated and reported as defined by the COGCC.

C. Any salts and/or chemicals, which are an integral part of the drilling system, would be disposed of in the same manner as the drilling fluid.

D. Chemicals on the EPA's Consolidated List of Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) in quantities over 10,000 pounds that may be used, produced, stored, transported or disposed of annually in association with the drilling, testing or completion of each well include diesel fuel, hydrochloric acid and silica sand. This material would be consumed in the drilling and completion process. No extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities would be used, produced, stored, transported or disposed of in association with the drilling, testing or completion of the well.