

Attachment E

Monitoring, Recording, and Reporting Plan

PART J

Monitoring, Recording, and Reporting Plan

Prior to receiving an authorization to drilling a cavern in the Permit Area, Magnum will submit to the DWQ for approval by the Utah Division of Water Quality Director a dedicated Monitoring, Recording, and Reporting Plan (MRRP) for injection wells being drilled for the specific type of storage product (natural gas, CAES, refined products, crude, etc.). This requirement is in accordance with UIC Permit condition Part III E(2). The MRRP will comply with federal and state regulations 40CFR144.54 and R317-7-10.3(B) and industry standard API RP 1170 for the development of natural gas storage caverns. **Magnum will also comply with permit conditions that pertain to the drilling and construction of the well and to cavern development.**

The purpose of the MRRP is to outline clear processes and procedures for the monitoring, reporting and recording of solution mining activities for storage caverns within the Permit Area. The MRRP will include detailed methods and type of equipment necessary to monitor, document, and report: the minimum and maximum operating pressures; the development of the cavern volume and shape; the brine/nitrogen interface and pressure, volume and temperature of the nitrogen blanket; the characterization of the injected fluids; the daily flow rate, saturation, pressure and temperature of injected water; the daily flow rate, saturation, pressure and temperature of produced brine; and, the weekly analysis of the composition of produced brine.

In addition, the MRRP will include detailed methods for the mechanical integrity testing of injection wells during drilling (casing pressure tests), prior to solution mining, and prior to the DWQ providing authorization to initiate storage operations. Once storage operations of a cavern have commenced, mechanical integrity will continue to be tested periodically in accordance with the requirements set forth by the DOGM. The schedule for the required reporting will also be included in the MRRP.

Once approved by the Director, the MRRP will become an enforceable attachment to the UIC Permit and any subsequent changes will have to be authorized by the agency.