Attachment K
Injection Procedures
SAMMY-MAR LLC Povlik Injection Well

Injection Procedures:

Injection fluid will be brought in by trucks and a sample taken from each load prior to unloading. Sammy-Mar will measure the specific gravity, ph and conductivity of the sample. If the measured specific gravity of the injection fluid is above 1.18 the specific gravity will be adjusted by adding a diluting fluid to the injection fluid until the specific gravity is 1.18 or less. The produced fluids will then be unloaded through a discharge manifold into lined storage tanks. The fluid will then be treated with an oxygen scavenging agent and corrosion control additives.

The fluid will be pulled from the off loading tanks through a 20 micron filter to remove large suspended solids and transported through connecting pipes to additional tanks to hold the filter fluid until injection. From the tanks holding the filtered water the fluid will be transported by pipeline to high pressure pumps for transportation to the injection point where the rate of injection and pressure will be monitored and regulated so as not to exceed the maxim injection pressure and rate stated in the permit. The fluids will be pumped through a checkvalve at the wellhead down the 2 7/8" tubing to the Huntersville Chert/Oriskany injection zone.

The specific gravity will be continuously monitored by a recording meter. Should the specific gravity exceed 1.18 at the well head the P-max will be automatically adjusted to a lower P-max by installed logic controls to compensate for the change in specific gravity or if unable to compensate for the change in specific gravity, shut in the injection well until the specific gravity of the fluid can be adjusted or the P-max is adjusted manually.

Surface tubing and the tubing casing annulus pressures will be monitored and recorded by a 2 pen recorder. A minimum of 100 psi of positive pressure, or the pressure required by permit, will be maintained on the annulus. Installed logic controls connected to the recorder will automatically shut in the injection well if a 15% increase in annular pressure is detected.

Fluid levels will be checked in all monitoring wells on a quarterly schedule or more frequently if required by permit by either running in a bailer from a service rig or a wireline with a float/bobber on the end. Results will be reported to the EPA quarterly or as required by permit.

11/20/2013