

Leak Detection Plan: To ensure protection for the surface during fracturing treatment, the location will be specifically constructed to contain any releases or spills. A steel containment berm or structure will be used for secondary containment. They will have a capacity of 110% or greater of the largest tank plus largest annual rainfall. Secondary containment from any chemical spills or leaks will surround any trucks that carry, mix, or add chemicals to the flow stream as well as connections that could possibly leak fluid. Should any spill or release occur, every reasonable step will be taken to quickly remediate the area disturbed. Ward will utilize tank level indicators with an alarming system, and remote shut in capability. Tanks will alarm if the float reads above set threshold. Well can be shut in remotely or tank can be sold or moved to another tank.

One to seven audio, visual, olfactory inspections per week will be recorded and kept in the district office and available to COGCC upon request. Ward has implemented a Leak Detection and Repair (LDAR) program in accordance with the schedule set forth in Regulation 7 Section XVII.F.4. for all facilities. Records will be kept electronically indefinitely. Ward will also abide by EPA mandated SPCC rules to ensure proper fluid containment.

During transfers Oil and water load lines will have drip pots.

Ward has a Flowline Integrity Program in place. Lines are either to be welded or threaded, some lines may be non-metallic. Welded Flowlines will be installed with welded or flanged connections. All threaded metallic pipe will be joined with appropriate lubricant/sealant. All non-metallic pipes that require welded joints will be installed with appropriate equipment to meet manufacturer recommendations and welded with qualified welders. All buried non-metal Flowline installation will contain a continuous metallic tracer line attached to the pipeline with surface access or other means of surface location. All flowlines will be pressure tested to their maximum manufactured value (at minimum 80%) prior to hydrocarbon production use. 10% of welds will be x-rayed for integrity. Chemical inspection program begins as soon as well begins flowback. Ward will perform yearly flowline inspections to ensure flowline integrity and prevent leaks/spills. Records of inspections will be available to COGCC upon request.