

FLUID LEAK DETECTION PLAN

**Carbon Storage Solutions, LLC
Headquarters
31375 Great Western Dr.
Windsor, CO 80550**

**Carbon Storage Solutions – Front Range #1
NW¼ SE¼, Section 26, T6N, R67W, 6th P.M.
Lat: 40.454964, Long: -104.859761
Windsor, Colorado
Weld County**

The Carbon Storage Solutions (CSS) non-oil & gas, Front Range #1 location is in Township 6 North, Range 67 West, Section 26 in the City of Windsor, Colorado on privately owned land. The location for the stratigraphic test well is wholly located within an industrial complex and zoned as such. The Parent Parcel and all adjacent parcels are industrial in nature and are also zoned as such. The location is encompassed on three sides by a rail-loop serving the complex.

The finished grade elevation of the Carbon Storage Solutions Pad will be 4,740 feet above mean sea level. Construction of the location is anticipated to take approximately one month. Drilling, completion, and testing is anticipated to take about 3 months.

Drilling and Completions Leak Detection Measures

The following Best Management Practices (BMP) and monitoring procedures will be utilized at the CSS location during drilling and completions to minimize the potential for fluid leaks and to ensure prompt discovery and mitigation should any occur.

- Use of pit-less drilling systems
- Use of closed-loop drilling systems
- Pressure is monitored throughout drilling and casing operations (note, no hydraulic fracturing is proposed).
- Surrounding the pad with a system of ditches and berms that are intended to collect stormwater runoff from the pad areas and convey it around the edges of the pad.
 - The perimeter berm is also intended to divert any off-site storm water drainage around the site and prevent flooding of the facilities on the site.
 - Sized to convey the 100-year storm event.

Monitoring and Recordkeeping

- While this well is permitted as a stratigraphic test well, any daily activity after setting casing will involve temporary equipment necessary for the testing process. This will include but not be limited to equipment such as wireline loggers, wellhead monitoring equipment, etc.
- Daily visual inspections of any onsite equipment if needed.
- Recordkeeping
 - Date, time, description of issues encountered, date and description of corrective actions if any, and personnel performing corrective actions.
 - Records are maintained for a minimum of three years

Injection Leak Detection Measures

As this well is proposed as a stratigraphic test well, no large-scale injection activities are planned or expected. In the course of testing the formation, small fluid injection testing may be necessary and the following BMPs and monitoring procedures will be utilized at the CSS location during these operations to minimize the potential for fluid leaks and to ensure prompt discovery and mitigation should any occur.

- Stormwater BMPs provide tertiary containment around the perimeter of the well pad.
- Wells are equipped with remote shut-in capability.
- Load lines are bull-plugged or capped and located inside secondary containment

CSS will conduct daily Audio, Visual, and Olfactory (AVO) inspections of any onsite equipment, CSS will conduct and document formal site-specific audits by third-party consultants at least annually to inspect for general site conditions as well as condition of equipment if present. Statewide and site-specific Spill Prevention Control and

Countermeasures (SPCC) plans are in place to address any possible spills. CSS conducts annual personnel training and will conduct and document formal SPCC inspections. All documented inspection records will be provided to the COGCC upon request.

Production Monitoring Requirements and Recordkeeping

- CSS Does not plan to have any production activities on this location. All activity will be constrained to stratigraphic testing of the downhole formation.

As this well is permitted as a Stratigraphic test well, no flow lines will be present. In the event this changes, a formal sundry notice will be filed with the COGCC.

Leak Response

If a fluid leak occurs during drilling, CSS will safely control and contain the release. The well will be shut in, leaking valves will be closed, ignition sources will be eliminated, berms will be constructed on the downslope side of the leak, and absorbent socks or cloths will be utilized to soak up the fluids. Regardless of the volume released, CSS field staff will notify their supervisor who will immediately notify EHS staff to determine a response plan and reporting procedures in accordance with COGCC Rule 912.

Carbon Storage Solutions will conduct site investigation activities, field screening, and confirmation sampling activities in accordance with COGCC 900 Series Rules. If necessary, discrete soil and groundwater samples will be collected and analyzed pursuant to Rule 915 for contaminants of concern listed in Table 915-1, following the general sample collection guidance in Rule 915.e.(2) and Rule 915.e.(3). All waste generated will be managed and disposed of in accordance with Rules 905 and 906.

Summary of All Applicable BMPs for Fluid Leak Detection Plan

1. Minimization BMPs

- a. AVO inspections
- b. Inspections of all equipment, wellheads, temporary equipment.
- c. Approved Instrument Monitoring Method (AIMM) inspections.
- d. Spill prevention training to all field employees
- e. Spill response procedures.
- f. Use of pit-less drilling systems
- g. Use of closed-loop drilling systems
- h. Surrounding the pad with a system of ditches and berms that are intended to collect stormwater runoff from the pad areas and convey it around the edges of the pad.
- i. Stormwater BMPs provide tertiary containment around the perimeter of the location.
- j. Wells equipped with remote shut-in capability.
- k. Load lines are bull-plugged or capped and located inside secondary containment

2. Mitigation BMPs

- a. Sized secondary containment for 150% capacity of the largest primary vessel within the containment.