Activity	Location(s)	Method	Analytical Technique	Lab/Custody	Purpose
Carbon dioxide stream analysis	Central sampling point	High pressure vessel	Standard gas analysis at lab	As provided by lab	Monitor injectate for accounting
Injection mass	Central sampling point	Mass flow meter,	Mass Measurement	NA	Measurement of CO_2 mass delivered to site
Volume in each well	Distributed meters at injection wells	distributed temperature – corrected meters at wells	Volume measurements	NA	Volume of CO_2 distributed to each well
Injection pressure	Wellhead gauge each injection well	Pressure and temperature gauge	Direct measurement	NA	Surface pressure on tubing
Annular pressure	Wellhead gauge each injection well	Pressure and temperature gauge	Direct measurement	NA	Surface pressure on tubing
Downhole pressure/ temperature	Downhole gauge on wireline each injection well	Downhole pressure and temperature gauge	Direct measurement	NA	Pressure downhole near sand face injection zone
Wireline logging	Conducted at each injection well	Injection profile log	Provided by vendor	NA	Model input showing which zones are accepting CO_2.
Corrosion monitoring	Holder at each injection well	Weight loss	ASTM G1 - 03(2017) and/or NACE Standard RP0775-2005 Item No. 21017 standards	As provided by lab	Monitor corrosion
Chicot water sampling	Slected freshwater wells	Water sampling with intact gas	Laboratory analysis	As provided by lab	Document groundwater chemistry
Pressure monitoring in Miocene Above-zone monitoring interval	1 selected wells	Downhole pressure and temperature gauge, perforated in Miocene interval (s)	Direct measurement	NA	Pressure downhole above confining system
External Mechanical integrity	Each injection well	Temperature survey	Analysis of thermal anomaly	NA	Detect leakage in casing
Pressure fall-off testing	Each injection well	EPA Region 6 UIC Pressure Falloff Testing Guideline-Third Revision (August 8, 2002)	EPA Region 6 UIC Pressure Falloff Testing Guideline-Third Revision (August 8, 2002)	NA	Assess injectivity
In-zone pressure tracking	Selected wells	Downhole pressure and temperature gauge, perforated in Frio interval (s)	Direct measurement	NA	P In-zone pressure tracking
CO_2 plume tracking	Fiber in wells, sources on azimuths	Vertical seismic profile (VSP)	VSP	NA	CO_2 plume tracking
Environmental monitoring	Selected sites in AoR	Soil gas and surface water sampling	GC and laboratory analysis	As provided by lab	Environmental monitoring

Table 4.1.4.1-1 Summary of Testing and Monitoring