

**Subpart RR Annual Monitoring Report**  
**Red Hills Gas Processing Plant**  
**Monitoring Period: 1/1/2022 – 12/31/2022**

**Summary Table of Monitoring Activities**

Below find a table which specifies potential leakage pathways according to MRV plan 1011064-1 for reporting year 2022. The table contains each possible leakage pathway, detection protocol, and facility response plan.

<b>Leakage Pathway</b>	<b>Detection Monitoring</b>	<b>Response Plan</b>
Surface Equipment	<ul style="list-style-type: none"> <li>• Distributed control system (DCS) surveillance</li> <li>• Visual inspections, in-line inspections</li> <li>• Fixed gas monitors/CO<sub>2</sub> monitoring network</li> <li>• Personal and hand-held H<sub>2</sub>S monitors</li> </ul>	<ul style="list-style-type: none"> <li>• Immediate response</li> <li>• Quantify leaks according to the requirements of 98.448(d)</li> </ul>
New Other Wells	<ul style="list-style-type: none"> <li>• Monitoring of fluid returns during drilling</li> <li>• Gas monitoring points around drilling</li> <li>• Personal and hand-held H<sub>2</sub>S monitors</li> </ul>	<ul style="list-style-type: none"> <li>• Immediate response</li> <li>• Blowout preventers</li> </ul>
Red Hills AGI Well	<ul style="list-style-type: none"> <li>• DCS surveillance of well operating parameters</li> <li>• Visual inspections</li> <li>• Mechanical Integrity tests (MIT)</li> <li>• Fixed gas monitors/CO<sub>2</sub> monitoring network</li> <li>• In-well Pressure and Temperature sensors</li> </ul>	<ul style="list-style-type: none"> <li>• Immediate response</li> </ul>
Existing Other Wells	<ul style="list-style-type: none"> <li>• Monitoring of well operating parameters</li> <li>• Visual inspections</li> <li>• MITs</li> </ul>	<ul style="list-style-type: none"> <li>• Immediate response</li> </ul>
Fracture/Faults	<ul style="list-style-type: none"> <li>• DCS surveillance of well operating parameters</li> <li>• Fixed gas monitors/CO<sub>2</sub> monitoring network</li> <li>• Personal and hand-held H<sub>2</sub>S monitors</li> </ul>	<ul style="list-style-type: none"> <li>• Keep pressures below parting pressure</li> <li>• Shut in injectors near faults</li> </ul>
Confining Zone/Seal	<ul style="list-style-type: none"> <li>• DCS surveillance of well operating parameters</li> <li>• Personal and hand-held H<sub>2</sub>S monitors</li> </ul>	<ul style="list-style-type: none"> <li>• Shut in injectors</li> </ul>
Seismicity	<ul style="list-style-type: none"> <li>• DCS surveillance of well operating parameters</li> <li>• Seismic monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• Shut in injectors near seismic events</li> </ul>
Lateral Migration	<ul style="list-style-type: none"> <li>• DCS surveillance of well operating parameters</li> <li>• Fixed gas monitors/CO<sub>2</sub> monitoring network</li> </ul>	<ul style="list-style-type: none"> <li>• Shut in injectors</li> </ul>

**Narrative History of Monitoring Efforts**

Targa considers H<sub>2</sub>S to be a proxy for CO<sub>2</sub> leakage to the surface and as such has employed and expanded upon methodologies detailed in its H<sub>2</sub>S Contingency plan to detect, verify, and quantify CO<sub>2</sub> surface leakage. To implement this plan, Targa collected pressure, temperature, and flow characteristics at the Red Hills Gas Plant. These metrics were monitored hourly by computer software and flagged if outside a previously established threshold for safe practices. Operations personnel review and investigate any indications flagged through these systems.

Volumetric flow meters are used to measure volumes of CO<sub>2</sub> received and injected. Fluid samples are taken at the inlet to the compressor and gas fractional analysis is performed in a laboratory to

## **Subpart RR Annual Monitoring Report**

### **Red Hills Gas Processing Plant**

#### **Monitoring Period: 1/1/2022 – 12/31/2022**

determine CO<sub>2</sub> concentration. CO<sub>2</sub> volume and concentration is then used to determine the mass of CO<sub>2</sub> received and injected according to the equations found in 40 CFR 98.443.

Targa consulted 40 C.F.R. Part 98, Subpart W to inform potential avenues for leaks from equipment located on the surface between the volumetric flow meter measuring injection quantity and the AGI #1 wellhead. Avenues of consideration are: valves, connectors, open ended lines, pressure relief valves, and meters. Any mass of CO<sub>2</sub> lost from surface equipment leakage is parameter CO<sub>2FI</sub> used in equation RR-12. The mass of CO<sub>2</sub> lost from all other surface leakage pathways are combined as parameter CO<sub>2E</sub> in equation RR-12.

#### **Non-Material Changes to MRV Plan:**

For this monitoring period, there have been no non-material changes to the monitoring program.

#### **Narrative History of Monitoring Anomalies Found:**

For this monitoring period, there were no monitoring anomalies observed.

#### **Description of Surface Leakage:**

For this monitoring period there were no equipment leaks found and there was no surface leakage from the subsurface at the Red Hills facility.

Red Hills Gas Plant is manned 24 hours a day, 7 days a week. During this time, workers routinely checked for leakage through numerous avenues: visual inspections of equipment, analyzation of pressure, temperature, and flow data, groundwater monitoring, wellhead mechanical integrity tests, and seismic monitors. Small leak identification is conducted through the implementation of handheld H<sub>2</sub>S monitors on all personnel and across the grounds which activate if a concentration greater than 5ppm is detected. CO<sub>2</sub> flux collars are also installed from which a soil baseline was established. Any large, consistent changes above this baseline would be investigated to determine if a leak may have occurred.