

# Gadeco LLC

## Graefe #1

### 304.c.(12): Gas Capture Plan

The gas capture plan will demonstrate compliance with the requirements of Rules 903.b–d and include the following information:

Rule 903.b.: Emissions During Drilling Operations: Not applicable, well previously drilled.

Rule 903.c.: Emissions During Completion Operations: Not applicable, well previously completed.

Rule 903.d.: Emissions During Production: Addressed in the 903.e.(1).B. summary below.

Rule 903.e.(1). B. **Gas Capture Plan**

i. A description and map of the location of the closest or contracted natural gas gathering system or point of sale. **See Figure 1**

ii. The name of the company operating the closest or contracted natural gas gathering system. **Summit Midstream**

iii. The Operator's plan for connecting their facility to a natural gas gathering system or otherwise putting gas to beneficial use, including:

aa. Discussion of potential rights of way issues; **Several surface owners to negotiate with and a small compressor station will be required to access the 1,100 psi Summit Midstream Pipeline. Summit will not hot tap the gathering line for 6-10 Mscf/day of natural gas.**

bb. Construction schedules; **Not applicable**

cc. Date of availability of the gas Gathering Line; **Not applicable**

dd. Whether the nearest or contracted gas gathering system has capacity to accept the anticipated gas to be produced at the location at the time of application; **While there is capacity in the Summit Midstream Pipeline, Summit will not hot tap the gathering line for 6-10 Mscf/day of natural gas.**

ee. Options for beneficial use of natural gas that are alternatives to Flaring during production operations prior to connection to gas Gathering Lines, including, but not limited to: onsite use, natural gas liquid processing, electrical power generation, gas to liquid, reinjection for enhanced oil recovery, or other options.

- Should an adequate volume of natural gas be produced with this well, the gas will be used to generate electricity to power the electric motor on the pump jack. The previous operator was unable to generate enough electricity for this purpose and therefore brought in grid power to operate the pump jack and water disposal pump. Major Electrical Loads: Rod Pump and Saltwater Disposal Pump. When Rod Pump is inoperable, well will not be producing.

- The estimated volume and content of the gas to be Flared or Vented; **5.9 Mscf/day**.

- Gas analysis including hydrogen sulfide for the subject Well;

No gas analysis has been taken as the wells have not yet produced. Representative wells in the area have shown 0% hydrogen sulfide.

- Beneficial Use Calculations

$$\dot{Q} = 10 \text{ mscfd}, \quad GHV = 1861.39 \frac{\text{BTU}}{\text{scf}}, \quad (\text{Estimated}) \text{ Motor Efficiency} = 0.75$$

Motor efficiency value to be confirmed after motor selection, Generator elevation derate = 75% (5,008 ft above sea level)

$$4.1 \text{ mscfd} \times 1,000 \times 1861.39 \frac{\text{BTU}}{\text{scf}} \times 0.75 \times 0.75 \times \frac{1 \text{ day}}{24 \text{ h}} \times \frac{0.00039 \text{ hp} \cdot \text{h}}{1 \text{ BTU}} = 70 \text{ hp}$$

With a 70 hp pump used, 41% of peak produced gas will be used for the rod pump motor electrical load.

Operator will comply with Rule 903 and use a CDPHE approved flaring method and acquire permitting required by the CDPHE. Additional gas not used for electrical power generation will be sent to the enclosed combustion device to be flared.

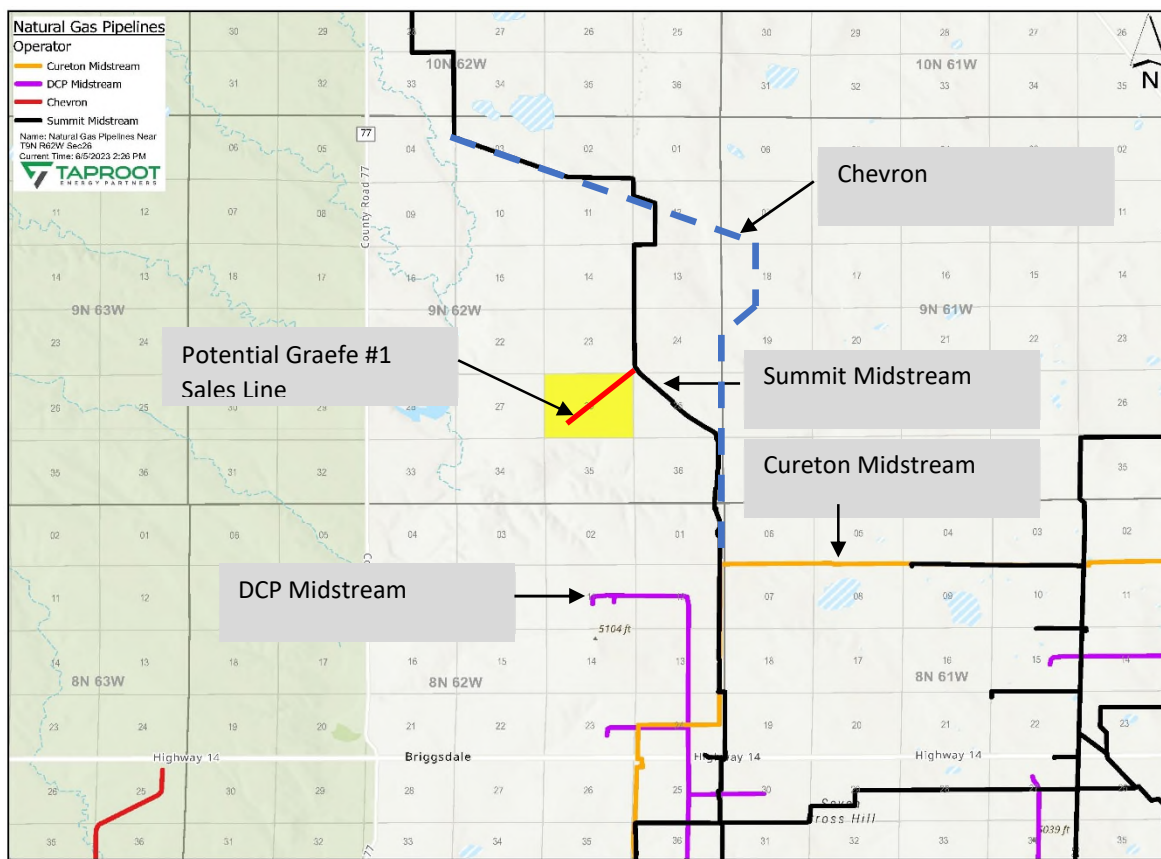


Figure 1: Nearby Gas Gathering Pipelines to Graefe #1 Well & Production Facility