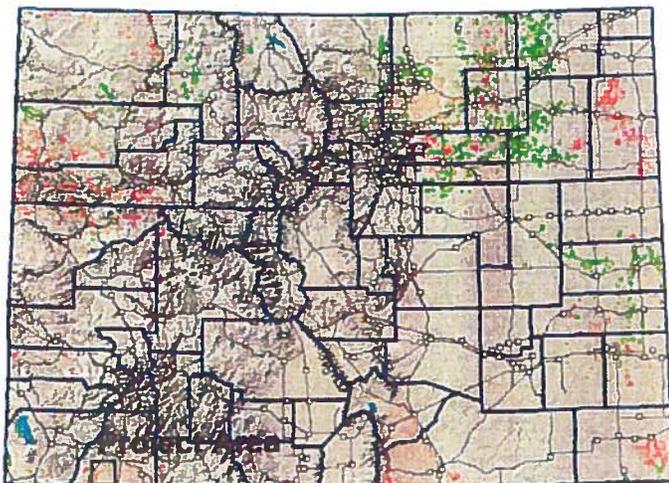
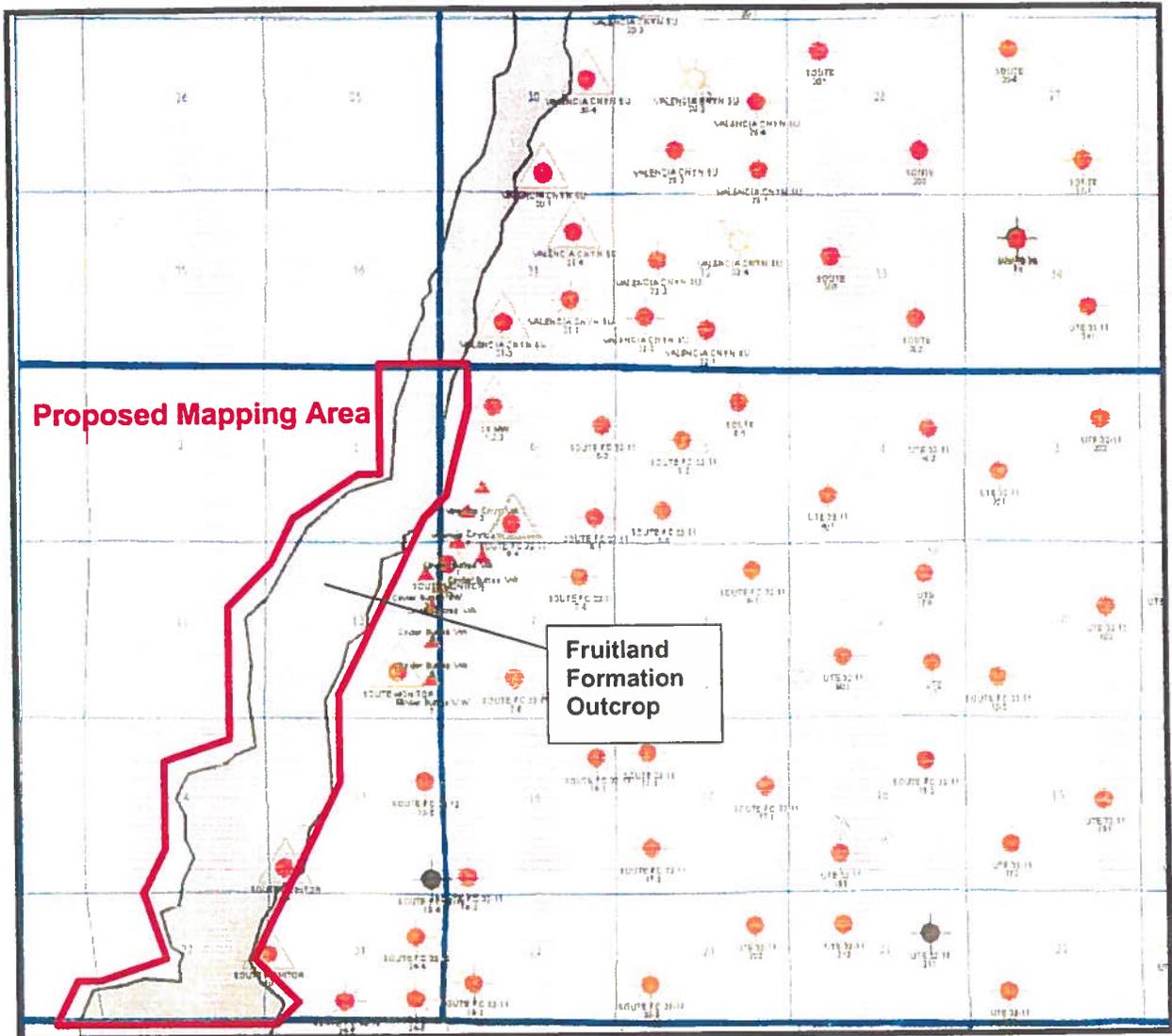




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Project Area Map



Colorado



NORTH

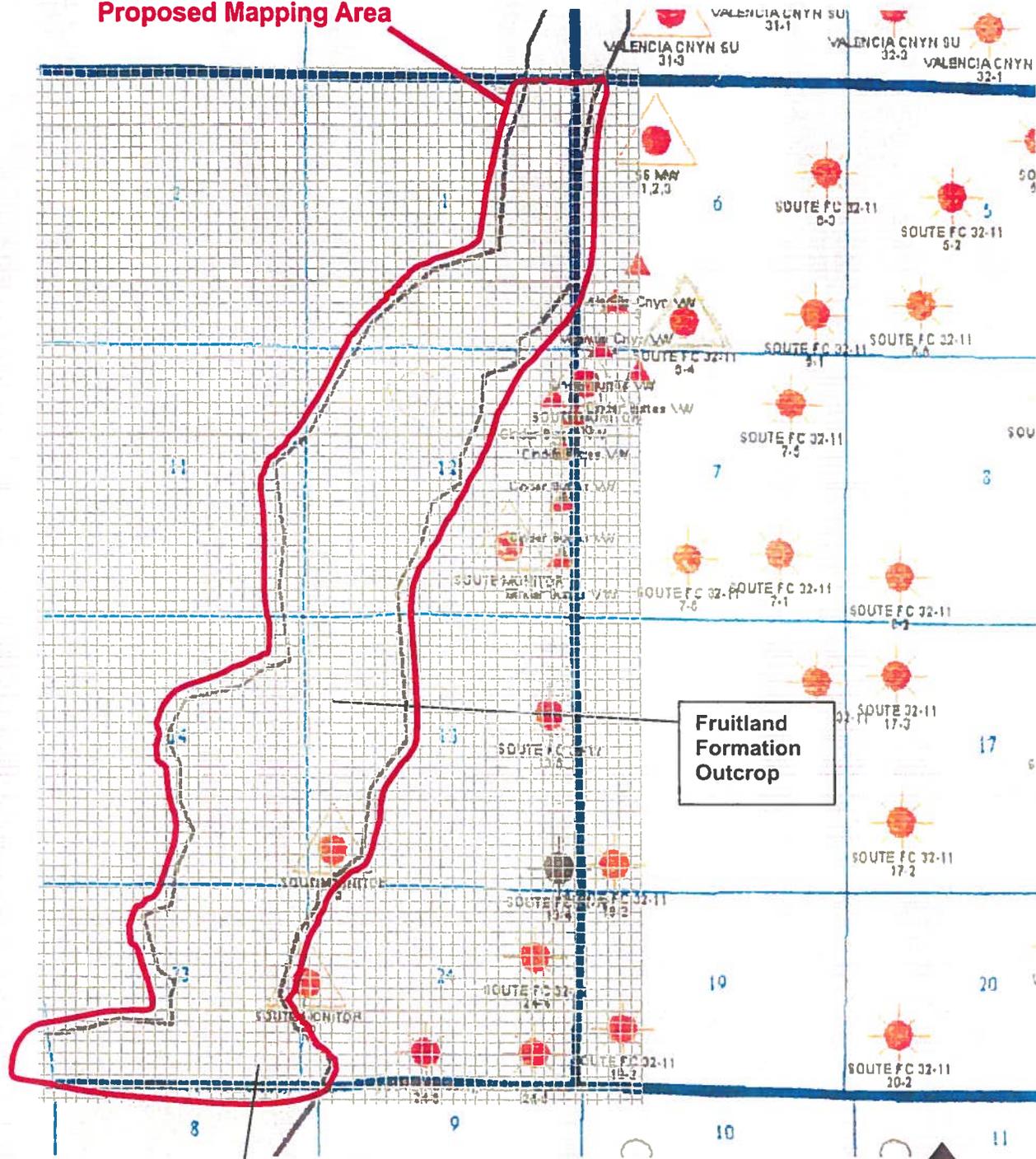
Approximate Scale



(1 mile)

Grid Area Map

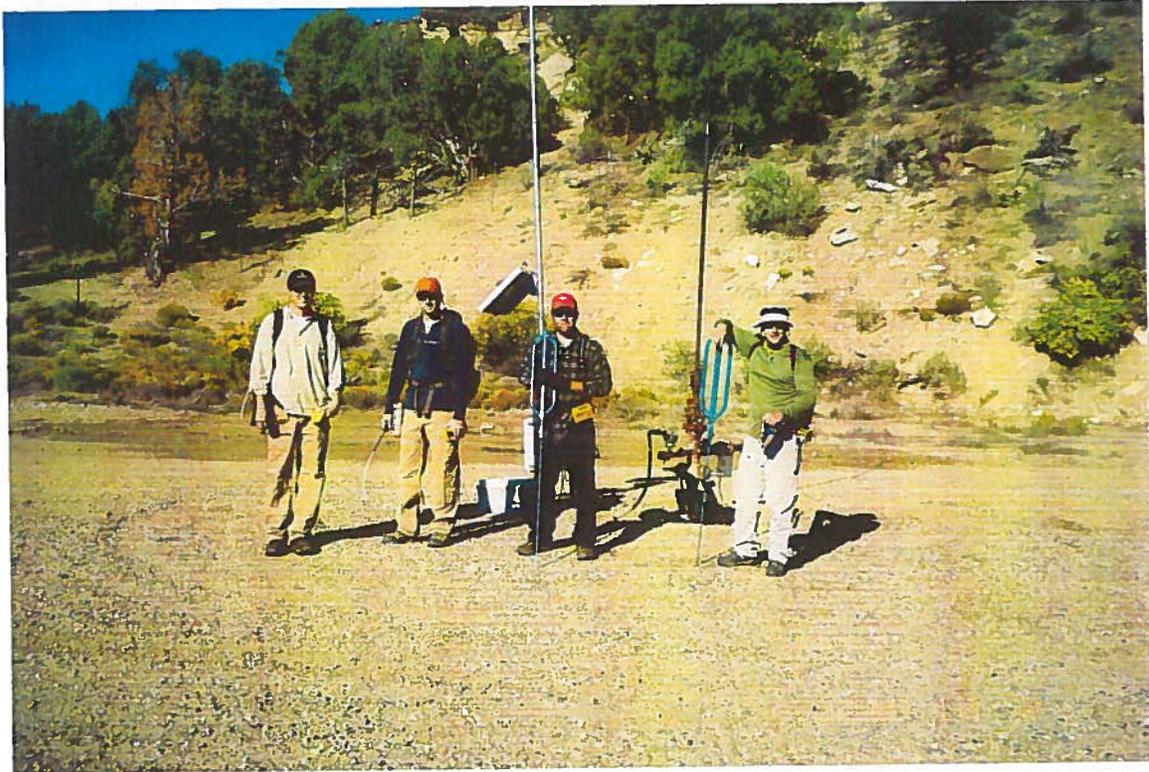
Proposed Mapping Area



200-foot grid spacing
(approx 1,500 points)

Approximate Scale
1 mile

NORTH



The seep mapping data collection will incorporate subsurface field measurements of gas concentration and flow rate through the advancement of a small diameter borehole into the upper three feet of the ground surface. The borehole will be advanced using a hand-driven slide hammer to drive a steel rod into the ground surface. The rod will then be removed from the ground and ¼-inch diameter polyethylene tubing will be inserted into the borehole. The tubing will be perforated at the bottom six inches to allow soil gas to enter the tubing at depth.

Once the temporary tubing is in place, LTE will attach a Mine Safety Appliances (MSA) Gasport[®] multi-gas meter to the tubing. An internal pump will draw gas from the tubing into the gas sensors. The Gasport[®] will measure the concentration of methane, carbon monoxide, hydrogen sulfide, and oxygen concentrations in the gas. A portable carbon dioxide field meter will be attached to the tubing following use of the Gasport[®]. LTE will record the maximum concentration value observed during sampling. All field measurements of gas concentration will be directly input into the GPS database in the field.

Concurrent with gas concentration measurements, LTE will record the geographic position of the sampling point using the GPS. A minimum of 25 logged position points will be used to establish the position of the grid node sampling point.

Following gas concentration measurements, LTE will attach a portable low-flow gas flow meter to the tubing in the borehole. LTE plans to use an ADM 2000[®] flow meter to measure gas flow. The ADM 200[®] is capable of measuring gas flow ranging from 0.5 milliliters per minute (mL/min) to 1,000 mL/min. LTE will record the maximum stable flow rate observed during the measurement period. Flow rate measurements will also be input into the GPS database.

Once all concentration, flow, and positional measurements are complete, LTE will relocate on foot to the next grid node and repeat the process described above.