

Statement of Work (SOW)

Project: Portable nitrous oxide gas analyzer with batteries

GENERAL INFORMATION

- 1.0 Scope of Work:** Purpose is to procure 2 trace gas analyzer for nitrous oxide (N₂O) concentration measurement with batteries capable of continuous operation for 8 hours. The gas analyzer will be utilized to take static chamber based measurements of nitrous oxide fluxes at USDA-ARS SDRU's edge-of-field research sites. This will enable quantification of greenhouse gas production from ag systems and headwater streams, and enable improved understanding of nitrogen cycling processes.
- 2.0 Background:** SDRU is conducting research in Northwest and Central Ohio to examine how agricultural conservation practices and headwater stream characteristics impact greenhouse gas emissions and nitrogen losses at the edge-of-field. The nitrous oxide gas analyzer will provide capability to conduct in situ measurements of N₂O trace gas fluxes.

CONTRACTOR REQUIREMENTS

- 3.0 Technical Requirements/Tasks:** Provide and deliver 2 gas analyzer (including batteries) for nitrous oxide flux measurement with the following characteristics/capabilities:
- Nitrous oxide measurement range of 0 to at least 100 ppm N₂O.
 - Nitrous oxide measurement precision of <0.5 ppb N₂O.
 - Measurement rate of 1 sample per second or faster.
 - Typical battery life of 8 hours.
 - Operating temperature range at least -20°C to 40°C to allow for year-round operation in Ohio's climate.
 - Total carrying weight (including batteries) should be no more than 25 pounds to allow for a single person to operate for a full day in the field.
 - Built in data storage of > 1 month of continuous measurement.
 - Capable of direct connection with computer via USB or ethernet cables.
- 4.0 Government Furnished:** N/A

5.0 Deliverables / Schedule: The nitrous oxide dioxide gas analyzer should be delivered before October 1st to be deployed in the field.

Components

ITEM		QTY
Nitrous oxide gas analyzer		1
Batteries for nitrous oxide gas analyzer		1

Delivery location: USDA/ARS; Attn: Jedediah Stinner, 590 Woody Hayes Dr., Columbus, Ohio 43146

6.0 Travel: N/A

7.0 Contractor's Key Personnel: N/A

8.0 Security Requirements: None

9.0 Data Rights: N/A

10.0 Section 508 – Electronic and Information Technology Standards: N/A

Attachment: