

Scope of Work (SOW)

Project Title:

Sierra Valley Groundwater Cross-Sectional Analysis- 2025 Update

Date:

January 25, 2025

Project Overview:

This project aims to replicate the Sierra Valley Groundwater Cross-Sectional Analysis conducted in 2021. The original analysis investigated the water quality of private domestic drinking wells and agricultural irrigation wells in the Sierra Valley Groundwater District. Key water properties studied included Nitrate+Nitrite as N, Arsenic, Boron, and Total Dissolved Solids. The purpose of the project is to provide a recent update to groundwater quality, aiding in the implementation of the Sierra Valley Groundwater Sustainability Plan (SVGSP) as required by the California Sustainable Groundwater Management Act (SGMA).

2021 **Sierra Valley Groundwater Cross-Sectional Analysis** report:

<https://ucanr.edu/sites/Rangelands/files/358503.pdf>

2. Scope of Work Deliverables:

2.1. Data Collection and Site Selection:

- **Site Selection:**
Resample private domestic drinking wells (10) and private agricultural irrigation wells (5) for analysis that were originally sampled in 2021. If the landowner is unwilling or wells are no longer operable, find an alternative well in geographic area.
- **Logistics and Coordination:**
Coordinate with well owners to secure permission and access to wells for sampling. Ensure the safety of all sample collections.

2.2. Water Sample Collection:

- **Sampling Process:**
 - Conduct water sampling at the nearest accessible point of the well (e.g., faucet at well head or irrigation outlet).
 - Allow stagnant water to flow out before collecting samples to ensure fresh water is used for analysis.
 - Use sterile containers provided by Pace Analytical, Chico (previously Basic Laboratory), and store collected samples on ice immediately after collection.

- Document the sampling procedure to ensure consistency and accuracy.
- **Sampling Date:**
Sampling will take place in April of 2025 to match the seasonality of the original study.

2.3. Water Quality Testing and Analysis:

- **Laboratory Testing:**
 - Deliver collected samples to Pace Analytical in Chico, accredited under the California State Water Resources Control Board Environmental Laboratory Accreditation Program, for the analysis of the following constituents:
 - Nitrate+Nitrite as N
 - Arsenic
 - Boron
 - Total Dissolved Solids (TDS)

2.4. Data Interpretation and Reporting:

- **Data Analysis:**
 - Analyze results for each constituent (Nitrate+Nitrite as N, Arsenic, Boron, Total Dissolved Solids) and compare findings with state and federal guidelines, including Maximum Contaminant Levels (MCLs) and Secondary Maximum Contaminant Levels (SMCLs).
- **Report Preparation:**
 - Prepare a report summarizing the analysis, findings, and comparisons with state and federal standards.
 - Include tables to visualize the data clearly.

2.5. Stakeholder Communication and Support:

- **Engagement with Key Stakeholders:**
 - Present findings to the Sierra Valley Groundwater Management District Board.
 - Share study results with local stakeholders (e.g. UCCE Newsletter, Sierra Valley Resource Conservation District, Plumas Sierra Cattlemen's Association).

3. Timeline:

Phase 1: Site Identification and Coordination

- Duration: 1 month
- Tasks: Select wells, coordinate with well owners, and prepare for sampling.

Phase 2: Water Sample Collection

- Duration: 1 month
- Tasks: Conduct water sampling and ensure all samples are transported to the laboratory.

Phase 3: Laboratory Testing and Data Analysis

- Duration: 1 month
- Tasks: Complete laboratory testing, analyze data, and prepare report with findings.

Phase 4: Final Reporting and Outreach

- Duration: 2 months
 - Tasks: Present final report to Groundwater District and share results with stakeholders.
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4. Budget Estimates: Attached

5. Team and Roles:

Project Manager:

- Tracy Schohr will oversee the entire project, ensuring compliance with timelines, and facilitating communication with stakeholders.

Laboratory:

- Pace Analytical in Chico, accredited under the California State Water Resources Control Board Environmental Laboratory Accreditation Program

Budget

Project Title:

Sierra Valley Groundwater Cross-Sectional Analysis- 2025
Update

Date: February 4, 2025

Personnel Costs:

60 Hours for logistics, data collection, analysis and reporting.

Salary			\$	3,087.00
Benefits			\$	1,337.00
GAEL (Auto liability and insurance)			\$	63.00

Miles

Sample collection (316 miles @ \$0.70 mile)			\$	221.00
Samples delivery to Chico - 2 trips (520 miles @ \$0.70 mile)			\$	364.00
Presentation to SVGWMD Board and Stakeholder meeting (144 miles @ \$0.70 mile)			\$	101.00

Laboratory Costs:

Fees for analysis of water quality constituents (per sample)

Nitrate+Nitrite as N	15	51.9	\$	778.50
Boron	15	28.5	\$	427.50
Arsenic	15	28.5	\$	427.50
Total Dissolved Solids	15	\$ 50.60	\$	759.00
Metals digest fee	15	\$ 27.90	\$	418.50
Disposals Fee (per order)	2	7	\$	14.00
Environmental Fees (per order)	2	30	\$	60.00

Miscellaneous Costs:

Supplies and materials (ice, ice chest, copies, report printing etc.)			\$	500.00
Shipping for bottles for sampling			\$	50.00

				Subtotal	\$	8,608.00
Indirect Cost Rate (26%)						\$2,238.00
				Total		\$10,846.00