



Authorized Professional Services Schedule (PSS)
Industrial Group: 00CORP

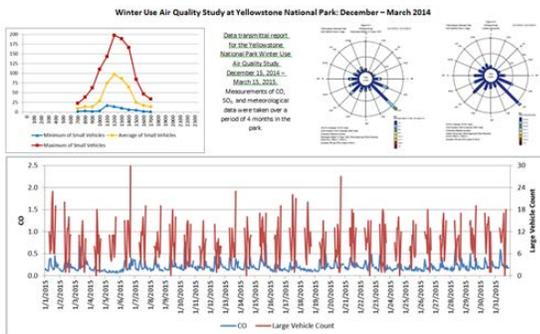
Environmental Consulting Services Catalog and Price List

Air Resource Specialists, Inc. (ARS) specializes in ambient air quality monitoring, modeling, permitting, analysis, and research.



Areas of special expertise include:

- Criteria pollutant, visibility, meteorology, and air toxic monitoring;
- Data analysis;
- Research, audit, and instrument services;
- Air quality and visibility modeling; and
- Environmental compliance services.



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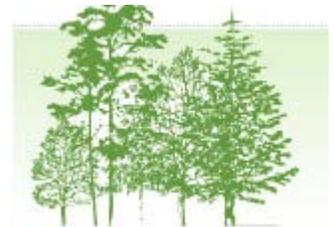
Professional Services Schedule (PSS)
Industrial Group: 00CORP
GSA Contract GS-10F-0046U

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Services and Experience

- SIN 899-1 & 899 1RC - Environmental Consulting Services
- SIN 899-1 & 899 1RC - Environmental Consulting Experience



Ordering Contract Services

Air Resource Specialists, Inc. (ARS) was awarded the first option period renewal to GSA Professional Services Contract No. GS-10F-0046U in November 2012. Initiated in 2007, Contract GS-10F-0046U provides for orders to be placed as Fixed-Price, Labor-Hour, or Time-and-Materials Task/Delivery Orders using the labor categories and ceiling rates defined in this catalog (see [Price List](#)).

In accordance with GSA Order ADM 4800.2H, this contract is available for use by:

- All federal government agencies and specified organizations
- Executive agencies
- Other federal agencies
- Mixed-ownership government corporations, as identified in the government Corporation Control Act
- The District of Columbia
- Government cost-reimbursement contractors, authorized in writing by a federal agency pursuant to 48 CFR 51.1, and other activities and organizations authorized by statute or regulation to use GSA as a source of supply
- Tribes and tribal organizations, as provided in Section 102(13) of Pub. L. 103-413

ARS is also authorized to sell their services to state and local government entities via the Disaster Recovery Purchasing Program  (RC Specialty Item Numbers).

For more information on ordering from Professional Services Schedules, select the "For Federal Agency Customers – Ordering Guidelines" links on the left side of the [GSA Schedules](#) page. You may also consult with your internal contracting support personnel or the GSA point of contact noted below.

GSA Contract Information

Professional Services Schedule (PSS)

Industrial Group: 00CORP

Contract: GS-10F-0046U

PSS Special Item Number (SIN) 899: Environmental Services

Contract Duration: November 20, 2007 through November 19, 2017

Business Size: Small Business (designation under GS-10F-0046U)

Data Universal Numbering System (DUNS) number: 10-255-0670

ARS Point of Contact for Orders and Services:

Kristi Savig - GSA Contracting Administrator/Negotiator Point of Contact

Joe Adlhoch - President

Address: 1901 Sharp Point Drive Suite E, Fort Collins, Colorado, 80525

Telephone: 970-484-7941, Fax: 970-484-3423

E-mail: environmentalss@air-resource.com

or ksavig@air-resource.com

Web site: <http://www.air-resource.com>

GSA Government Point of Contact:

See the e-Library Government Contracting Officer denoted on our

[GSA eLibrary Contractor Profile](#)



Customer Information

Contract Number: GS-10F-0046U
Contractor: Air Resource Specialists, Inc.
Company Internet Site: <http://www.air-resource.com>



Awarded Special Item Number (SINs) services:
[SIN 899-1 & 899 1RC - Environmental Consulting Services](#)

Maximum Order: \$1,000,000.00
Minimum Order: \$100.00

Geographic Coverage (delivery area): Domestic only

Point(s) of production: Fort Collins, Colorado (Larimer County)

Discount from list prices or statement of net price: Government net [prices](#) (discounts already deducted)

Quantity discounts: None Offered

Prompt payment terms: Net 30 days

Notification that government purchase cards are accepted up to the micro-purchase threshold: Yes

Notification whether government purchase cards are accepted or not accepted above the micro-purchase threshold: ARS will accept over \$2,500

Foreign items (list items by country of origin): None

Time of Delivery: To be negotiated with ordering agency for each Task/Delivery Order.

Expedited Delivery: To be negotiated with ordering agency for each Task/Delivery Order.

Overnight and 2-Day Delivery: To be negotiated with ordering agency for each Task/Delivery Order.

Urgent Requirements: The "Urgent Requirements" clause of this contract is applicable. Ordering agency can contact the contractor's representative to affect a faster delivery.

F.O.B. Points(s): Destination



Ordering Address: Air Resource Specialists, Inc.
Attn: Kristi Savig (GSA Contract Administrator)
1901 Sharp Point Drive, Suite E
Fort Collins, Colorado 80525-4429
environmentalss@air-resource.com or ksavig@air-resource.com

Ordering procedures: For supplies and services, the [ordering procedures](#) information on Blanket Purchase Agreements (BPAs) and a sample BPA can be found at the *GSA Schedules/ Federal Agency Customers/Ordering Guidelines* page at <http://www.gsa.gov/portal/category/100639>.

Payment address: Air Resource Specialists, Inc.
Attn: Accounts Receivable
1901 Sharp Point Drive, Suite E
Fort Collins, Colorado 80525-4429

Environmental attributes, (e.g., recycled content, energy efficiency, and/or reduced pollutants): N/A

Data Universal Numbering System (DUNS) number: 10-255-0670

Air Resource Specialists, Inc. is registered in the System for Award Management (SAM) database.



Company Overview

<http://www.air-resource.com/>

Air Resource Specialists, Inc. (ARS) specializes in ambient air quality monitoring, modeling, permitting, analysis, and research.

Areas of special expertise include:

- Criteria pollutant, visibility, meteorology, and air toxic monitoring;
- Data analysis;
- Research, audit, and instrument services;
- Air quality and visibility modeling; and
- Environmental compliance services.



ARS maintains monitoring sites and supports customers throughout North America, and has demonstrated project management experience in both government and industrial environments. The staff maintains close, cooperative, and professional working relationships with its clients. Services are provided through personal, team, and management consulting agreements and are generally performed out of the corporate offices in Fort Collins, Colorado. Individuals within ARS designated as contacts will be pleased to answer any of your questions or provide you with additional information.

Typical ARS services associated with GSA 899 SINs include:

SIN 899-1 & 899 1RC Environmental Consulting Services

- *Environmental Assessments and Impact Statements under NEPA*
- *Air Modeling*
- *Regulatory and Research Monitoring (Air Quality, Visibility, Meteorology)*
- *Advisory Services in Support of Agency Environmental Programs*
- *Environmental Regulation Development*
- *Environmental Compliance Audits*
- *Permitting*
- *Spill Prevention/Control and Countermeasure Plans*
- *Community Right-to Know Act Reporting*

Brief descriptions of ARS' experience related to SIN 899-1 follow on page 11.

Satisfied ARS Clients include:

- Department of Interior
 - National Park Service
 - Bureau of Land Management
- Department of Defense
- Department of Energy
 - National Laboratories
- Department of Agriculture
 - U.S. Forest Service
- Environmental Protection Agency



Services Contract Act (SCA) Awarded Labor Categories

The Service Contract Act (SCA) is applicable to GSA Contract Gs-10F-0046U and includes SCA applicable labor categories. The prices for the indicated SCA labor categories are based on the U.S. Department of Labor Wage Determination Number(s) identified in the Table 1 matrix below. The prices offered are based on the preponderance of where work is performed and should the contractor perform in an area with lower SCA rates, resulting in lower wages being paid, the task order prices will be discounted accordingly.

Table 1
Air Resource Specialists, Inc.
SCA Awarded Labor Categories
November 20, 2007, through November 19, 2017

Labor Category non-exempt	SCA Labor Category and Occupational Code	SCA Wage Determination Number
Field Technician	General Maintenance Worker - 23370	05-3009
Electronics Technician Maintenance I	Electronics Technician Maintenance I - 23181	05-3009
Laboratory Technician	Laboratory Technician - 30210	05-3009
Senior Data Analyst (Environmental Tech)	Environmental Technician - 30090	05-3009
Data Analyst	Engineering Technician II - 30082	05-3009
Data Technician	Engineering Technician I - 30081	05-3009
Computer Operator III	Computer Operator III - 14043	05-3009
Computer Operator II	Computer Operator II - 14042	05-3009
Computer Operator I	Computer Operator I - 14041	05-3009
Secretary I	Secretary I - 01311	05-3009



Option 1 – Price Lists

Table 2 reflects GSA Contract GS-10F-0046U remaining Option 1 Year 9 and 10 discounted GSA labor rates, including the Industrial Funding Fee of 0.75%.

Table 2
Air Resource Specialists, Inc. Option 1 Price Lists
November 20, 2015, through November 19, 2017

Labor Category	Option 1 Hourly GSA Rates	
	Year 9 (11/20/2015- 11/19/2016)	Year 10 (11/20/2016- 11/19/2017)
Senior Scientist/Program Manager	\$208.12	\$214.16
Sr. Project Manager	\$190.28	\$195.80
Project Manager	\$136.77	\$140.73
Sr. Programmer/GIS Specialist	\$142.71	\$146.85
QA Manager/Technical Writer	\$124.87	\$128.49
Technical Field Manager	\$118.93	\$122.38
Programmer/Data Modeler	\$118.93	\$122.38
Sr. Field Specialist	\$101.09	\$104.02
Field Specialist	\$89.19	\$91.78
Field Technician	\$77.30	\$79.54
Sr. Project Scientist	\$89.19	\$91.78
Project Scientist	\$77.30	\$79.54
Electronics Technician Maintenance I	\$89.19	\$91.78
Laboratory Technician	\$77.30	\$79.54
Sr. Data Analyst (Environmental Tech)	\$101.09	\$104.02
Data Analyst (Engineering Tech II)	\$77.30	\$79.54
Data Technician (Engineering Tech 1)	\$59.46	\$61.19
Computer Operator III	\$77.30	\$79.54
Computer Operator II	\$59.46	\$61.19
Computer Operator I	\$53.52	\$55.07
Secretary I	\$59.46	\$61.19

ARS will accept payment by Master Card, Visa, or Government Commercial Purchase Card (GCPC) / SmartPay®2 for purchases up to and including the micro-purchase threshold (currently \$2,500). ARS will also accept the GCPC/ SmartPay®2 for purchases over the micro-purchase threshold.

If required, the following items will be negotiated by individual Task/Delivery Order:

- Terms and Conditions of Installation
- Terms and Conditions of Maintenance and Repair Parts

Professional Labor Categories and Qualifications

Air Resource Specialists, Inc. (ARS) staff includes more than 40 scientists, field specialists, computer scientists, and support personnel with over 500 years of combined experience. Areas of special expertise include: environmental compliance; air quality and visibility modeling; quality assurance; criteria pollutant, visibility and meteorology monitoring; data analysis; database management; and research, audit, instrument, and policy analysis services. Staff scientists also contribute to air quality science by presenting papers and participating in national, regional, and state committees and forums.

Table 3 describes ARS' staff qualifications and experience by GSA labor category. All personnel meet one or both of the labor experience and education requirements noted. ARS employees are categorized as exempt (salaried) and nonexempt (hourly) as defined by the Fair Labor Standards Act (FLSA). Staff labor is billed to federal contracts based on hours worked. There are no uncompensated overtime hours. All overtime hours for nonexempt employees are paid in accordance with the FLSA.

Table 3
Professional Labor Categories and Qualifications

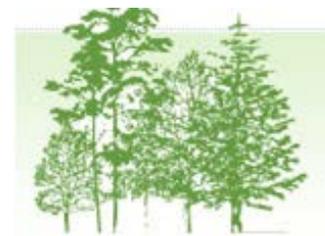
Labor Category (SCA Code)	Functional Responsibilities/Qualifications	Minimum Education	Minimum Experience
Senior Scientist/ Program Manager	Advanced technical and management experience in environmental sciences and natural resources, including a broad range of operational applications and research projects.	M.S.	15 yrs
Sr. Project Manager	Advanced expertise in one or more of the following areas: environmental-related compliance issues and federal and state regulations; performing and managing ambient air monitoring and meteorology monitoring programs, as well as operating principles and field applications for a wide variety of monitoring instrumentation; performing and managing data analysis and research programs, as well as data interpretation and/or designing and managing technical aspects of comprehensive monitoring and data analysis projects.	M.S.	10 yrs
Project Manager	Advanced expertise in one or more of the following areas: environmental-related compliance issues and federal and state regulations; designing, maintaining, and managing ambient air monitoring and meteorology monitoring programs, as well as development and implementation of operating principles and field applications for a wide variety of monitoring instrumentation; and/or performing and managing technical reviews, data analysis including data interpretation, and research programs.	Pertinent B.S. degree	5 yrs
Sr. Programmer/ GIS Specialist	Advanced expertise and experience in one or more of the following areas: computer software and applications design and development; data handling and analysis; maintenance of air quality database management systems and Web sites; design and development of graphical user interfaces and programming systems.	Pertinent B.S. degree	5 yrs

Table 3 (continued)
Professional Labor Categories and Qualifications

Labor Category (SCA Code)	Functional Responsibilities/Qualifications	Minimum Education	Minimum Experience
QA Manager/Technical Writer	Advanced knowledge in the composition and editorial review of scientific and technical documents, reports, training and instrument operations materials, and Internet publications specifications.	Pertinent B.A. degree	5 yrs
Technical Field Manager	Advanced experience with ambient air quality and meteorological monitoring technologies and quality assurance requirements necessary to support EPA-reference method monitoring networks. Technical Field Manager responsibilities often require interfacing with field specialists and data analysts for complete oversight of network quality assurance.	Pertinent B.S. degree	10 yrs
Programmer/Data Modeler	Advanced expertise in atmospheric science, dispersion modeling, and air quality regulatory models. Relevant experience includes understanding of satellite imagery for evaluating the influence of complex terrain on mesoscale meteorology.	Pertinent M.S. degree	10 yrs
Sr. Field Specialist	Advanced experience with ambient air quality and meteorological monitoring technologies necessary to support ongoing equipment operations, efficient data acquisition, and quality control. Senior Field Specialist duties often include direction of field specialist and field technician staff and oversight of network personnel's scheduled responsibilities.	Pertinent B.S. degree	10 yrs
Field Specialist	Qualifications include experience with ambient air quality and meteorological monitoring technologies necessary to support ongoing equipment operations, efficient data acquisition, and quality control.	Pertinent B.S. degree	5 yrs
Field Technician (23370)	Qualifications include relevant experience and/or training with ambient air quality and meteorological monitoring equipment.	High School Diploma or equivalent	2 yrs
Sr. Project Scientist	Qualifications include intermediate expertise in one or more of the following areas: scientific data analysis protocols, data quality assurance, and/or regulatory analysis and interpretation.	Pertinent B.S. degree	5 yrs
Project Scientist	Qualifications include entry level experience in one or more of the following areas: scientific data analysis protocols, data quality assurance, and/or air emission calculations, and compliance reports.	Pertinent B.S. degree	5 yrs
Electronics Technician Maintenance I (23181)	Advanced experience with monitoring instrumentation and support acquisition systems. Oversight responsibilities include routine maintenance and servicing of visibility monitoring and data acquisition system instrumentation.	Pertinent A.A.S. degree	5 yrs

Table 3 (continued)
Professional Labor Categories and Qualifications

Labor Category (SCA Code)	Functional Responsibilities/Qualifications	Minimum Education	Minimum Experience
Laboratory Technician (30210)	Qualifications include relevant experience and/or training in electronics required.	High School Diploma or equivalent	2 yrs
Sr. Data Analyst (Environmental Technician) (30090)	Qualifications include advanced expertise in one or more of the following areas to support ongoing network operations: scientific data analysis protocols, data quality assurance, and/or ambient air quality and meteorological monitoring technologies.	Pertinent B.S. degree	10 yrs
Data Analyst (30082)	Qualifications include intermediate expertise in one or more of the following areas to support ongoing network operations: scientific data analysis protocols, data quality assurance, and/or ambient air quality and meteorological monitoring technologies.	Pertinent B.S. degree	5 yrs
Data Technician (30081)	Works under direct supervision to assist in data collection and validation processes for air monitoring networks. Responsibilities include data acquisition, data management, and data validation. Relevant experience and/or training with scientific data analysis protocols, and/or ambient air quality and meteorological monitoring technologies.	Pertinent B.S. degree	0 yrs
Computer Operator III (14043)	Position requires experience with hardware and software technologies necessary to support data acquisition, quality control, processing, analysis, and reporting; air quality database management systems and Internet Web sites; GIS; and modeling.	Pertinent B.S. degree	10 yrs
Computer Operator II (14042)	Position requires experience with hardware and software technologies necessary to support data acquisition, quality control, processing, analysis, and reporting; air quality database management systems and Internet Web sites; GIS; and modeling.	Pertinent B.S. degree	5 yrs
Computer Operator I (14041)	Qualifications include relevant experience and/or training in computer technologies.	High School Diploma or equivalent	0 yrs
Secretary I (01311)	Qualifications include relevant experience with composition and editorial review of scientific and technical documents, reports, and Internet publication methods.	High School Diploma or equivalent	2 yrs



SIN 899-1 & 899 1RC Environmental Consulting Services

- Environmental Assessments and Impact Statements under NEPA
- Air Modeling

Air Resource Specialists, Inc. (ARS) provides environmental consulting services to support federal, state, tribal, and local government and private sector clients. ARS' in-house Environmental Compliance Section has reviewed hundreds of permit and environmental impact statement (EIS) modeling protocols, assessed environmental impacts, prepared air quality EIS sections, and developed and implemented modeling protocols for EIS documents in compliance with the National Environmental Policy Act (NEPA). ARS is qualified to create or participate in any team arrangement required for EIS planning and documentation services.



ARS environmental consulting experience includes:

- Air quality regulatory models
- Dispersion modeling
- Impact assessment and regulatory planning tools
- Visibility modeling
- Stationary and mobile source analysis
- Permit applications
- State Implementation Plan (SIP) conformity analyses
- Model use publications
- Compliance monitoring strategies
- Management of complex projects from technical review to agency approval

- Regulatory and Research Monitoring

Air Resource Specialists, Inc. (ARS) is nationally recognized for its expertise in air quality monitoring, modeling, analysis, and research for federal and state agencies, regional planning organizations, municipalities, Indian nations, and private industry.

ARS offers a full range of traditional and special purpose monitoring services to support compliance-related regulatory or research requirements, including:

- Design, implementation, coordination, and operation of monitoring sites (stationary and mobile), networks, major air quality field programs, and special studies;
- Monitoring of ambient gaseous pollutants and particulates (e.g., O₃, SO₂, NO_x, NO_y, CO, H₂S, NH₃, PM₁₀, PM_{2.5}, hydrocarbons, speciated aerosols, and VOCs);
- Meteorological monitoring including portable systems, 10 meter towers, tall towers, SODAR, and other configurations;
- Visibility monitoring including digital cameras, nephelometers, transmissometers, IMPROVE samplers, and visibility Web sites;
- Toxic and hazardous air pollutant (HAPs) monitoring;
- Real-time data polling and uploads to data presentation Web sites;
- Data collection, validation, analysis, and reporting;
- Research, audit, and instrument services; and
- Visibility and air quality modeling, including visibility metrics research.



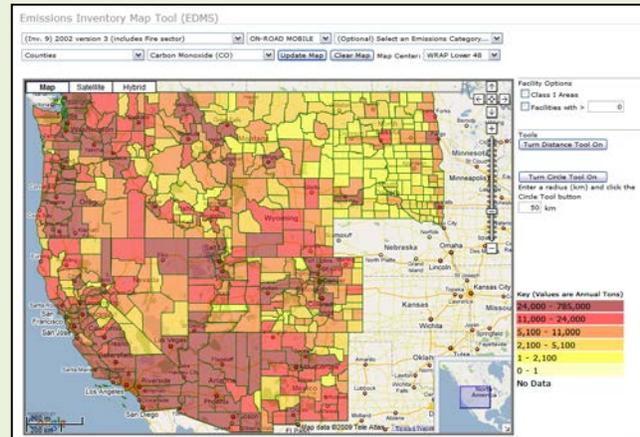
SIN 899-1 & 899 1RC Environmental Consulting Services (continued)

- Advisory Services in Support of Agency Environmental Programs
- Environmental Regulation Development

Air Resource Specialists, Inc. (ARS) provides environmental data services to support historical and ongoing research and regulatory monitoring. Data analyses often include spatial and temporal characterization to support national, regional, state, and urban regulatory issues.

Deliverable products and services include:

- Regulatory data summaries;
- Statistical analyses and interpretation;
- Emissions density maps;
- Human perception of visibility studies; and
- Internet-based databases, analytical tools, and presentation formats.



- Environmental Compliance Audits
- Permitting
- Spill Prevention/Control and Countermeasure Plans
- Community Right-to-Know Act Reporting

ARS supports an array of environmental compliance services from environmental program advisory services, routine audits and permit reviews to extensive facility permits, compliance assessments, and New Source Review (NSR), New Source Performance Standards (NSPS), Prevention of Significant Deterioration (PSD), and Non-Attainment area report requirements.

ARS' Environmental Compliance Section consists of highly qualified and experienced atmospheric scientists, environmental scientists, project engineers, and water quality specialists. These professionals help regulated facilities, as well as reviewing agencies, identify permitting needs and monitor compliance requirements of the Clean Air Act, Greenhouse Gas Rules, Clean Water Act, and state/local regulations. Project activities include:

- Permit applications for new/modified plant construction (PSD, Title V, etc.);
- Stormwater and wastewater discharges under the National Pollutant Discharge Elimination System (NPDES);
- Defining applicable and non-applicable regulations;
- Expert testimony;
- Compliance audits and assistance;
- Preparation of facility air quality and stormwater permits;
- Emission inventories (including Greenhouse Gas);
- Dispersion modeling and impact assessment (see SIN 899-1);
- Air, water, stormwater, and toxic release inventories; and
- Spill Prevention/Control and Countermeasure Plans (SPCC), NPDES, Title V permits, and "Form R" reports under the Emergency Planning and Community Right-to Know Act (EPCRA).

Corporate experience that highlights ARS' SIN 899-1 & 899 1RC capabilities:

- National Park Service Gaseous Pollutant Monitoring Program
- IMPROVE / National Park Service Visibility Monitoring Program
- U.S. Forest Service National Ambient Air Monitoring and NEPA Support
- Wyoming Department of Environmental Quality Air Quality Monitoring Network
- Office of Surface Mining Reclamation and Enforcement
- Abengoa Bioenergy Corporation
- Real-Time Data Presentations and Information Services
- Western Regional Air Partnership – Comprehensive Tools and Analyses to Investigate Regional Haze
- Alberta Environment and Water – Data Quality Standard

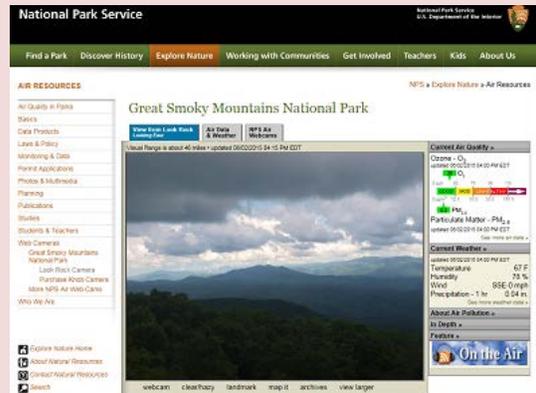


The Fairplay Colorado Mobile Station was installed for the Bureau of Land Management (BLM) in April 2015. The use of a mobile station design typically brings down costs and provides flexibility for future use in other areas of interest. This station also includes a portable particulate monitoring using solar power. Fairplay air quality and meteorology parameters are transmitted hourly back to ARS offices for validation, reporting, and archive.

These data will be used to establish baseline conditions in order to support current and future resource management planning efforts in the Rockies of central Colorado.



[US Forest Service Air Quality Image Web Camera Network](#)



[The National Park Service Air Quality Web Camera Network](#) includes a current image, air quality, and meteorology data for 24-hours every day.

Corporate experience that highlights ARS' SIN 899-1 & 899 1RC capabilities (continued):

National Park Service (NPS) Gaseous Pollutant Monitoring Program (1988-Present)

The National Park Service established its Gaseous Pollutant Monitoring Program (GPMP) in 1988 to monitor criteria pollutants linked to effects on NPS resources. ARS has performed the operation and maintenance aspects of the NPS GPMP since 1988, and the data collection, validation, and reporting aspects of the program since 1996. ARS works closely and cooperatively with the National Park Service Air Resources Division to develop and implement continued advancements that make the GPMP network a leader in national monitoring programs. These advancements have included creating the Information Management Center to collect and validate data, developing DataView software to provide site operators with an easy, electronic means of performing instrument checks, fabricating portable ozone monitoring systems (POMS), and enabling real-time Internet data availability.

Currently, the GPMP operates approximately 50 monitoring sites in 40 units of the National Park System. Monitored parameters include ozone, sulfur dioxide, carbon monoxide, nitrogen oxides, particulates, meteorological, and Clean Air Status and Trends Network (CASTNet) dry deposition filter pack sampling, and special monitoring systems, including portable ozone monitors, pollution alert systems, and enhanced high sensitivity monitoring systems.

ARS is responsible for site selection, installation, network operations, instrument calibration and maintenance, site operator support, calibration standards and certifications, quality assurance documentation, and all other aspects of monitoring network operations. ARS makes all validated GPMP data available to researchers and the public on a Web page linked to the NPS air quality site (<http://ard-request.air-resource.com>), and EPA's [Air Quality System](#) (AQS) and [AIRNow](#).

Three-State Intermountain West Pilot Study (2011–present)

The U.S. Environmental Protection Agency, the federal land managers (Bureau of Land Management, National Park Service, and US-Forest Service) and the states of Colorado, Utah, and Wyoming, have coordinated efforts to conduct a Three-State Pilot Study to determine the impacts of ozone and other pollutants in oil and natural gas development areas in the three-state region. Collected data are used to provide a collaborative data warehouse and regional modeling center that serves the Intermountain West region, establishes baseline air quality conditions, tracks air quality trends, and evaluates air quality modeling systems.

ARS' ongoing role in the study is to assist agency partners with day-to-day monitoring, maintenance, and data management. ARS supports several stations specifically for this study: Escalante, UT (sponsored by EPA and U.S. Forest Service in cooperation with NPS); Walden, CO (sponsored by U.S. Forest Service in cooperation with NPS); Elk Springs and Paradox, CO (sponsored by the Colorado Department of Public Health and Environment).

Corporate experience that highlights ARS' SIN 899-1 & 899 1RC capabilities (continued):

IMPROVE/NPS Visibility Monitoring Program (1983 – Present)

The National Park Service (NPS) Visibility Monitoring Program joined with the Interagency Monitoring of Protected Visual Environments (IMPROVE) program in the mid-1980s. The primary goals of the IMPROVE/NPS programs are to establish baseline data on existing visibility conditions in Class I areas, identify trends of deterioration or improvement, determine the relative importance of various atmospheric constituents to visibility impairment, determine the sensitivity of individual areas or views, and identify potential areas of impairment. The regulatory and research program has three components. The first component, aerosol monitoring, measures the atmospheric aerosols responsible for reduced visibility. The second component, optical monitoring, measures the optical properties of atmospheric aerosols. The third component, scene monitoring (accomplished with digital or video cameras) documents the visual clarity or impairment of specific unique vistas.

ARS is the prime contractor for the optical and scene components of the NPS Visibility Monitoring Program. ARS provides technical and operational support services of the IMPROVE and NPS visibility monitoring networks at approximately 20 sites nationwide. Regulatory and research monitoring services include:

- Calibration, maintenance, data collection, processing, validation, reporting, and quality assurance documentation (SOPs and TIs).
- Research and development of visibility monitoring instrumentation and analysis techniques, including digital camera systems, transmissometers, nephelometers, and meteorological instrumentation.
- Support of field research programs, including ROMANS (Rocky Mountain Atmospheric Nitrogen and Sulfur study), Yosemite Aerosol Characterization Study, BRAVO (Big Bend Regional Aerosol and Visibility Observational study), Grand Canyon Regional Aerosol and Visibility Study, and other major special studies.
- Technical and operational support for the 19-site National Park Service air quality Web-based digital camera network. (<http://www.nature.nps.gov/air/WebCams/index.cfm>).
- Software development to provide real-time images and content to the NPS Webcam network.

ARS is currently conducting a research program for the NPS to understand the impact of particulates on light intrusion into night sky environments. The program utilizes a sensitive camera system designed by ARS and deployed in Bryce Canyon National Park, which has some of the darkest night skies in the U.S.

Bureau of Land Management – Conformity Analyses (2013 – Present)

Section 176(c) of the Clean Air Act prohibits Federal entities from taking actions in air quality non-attainment or maintenance areas that do not conform to the applicable State Implementation Plans (SIP) for attaining and maintaining the National Ambient Air Quality Standards (NAAQS). One approach to addressing conformity under 40 CFR Part 93 is to generate a "Presumed to Conform" list. ARS and its subcontractor (ICF International) worked with the Bureau of Land Management (BLM) Wyoming State Office, in cooperation with the EPA, Wyoming Department of Environmental Quality (WDEQ), and local oil and gas production companies, to develop a Presumed to Conform listing for BLM's activities in the Upper Green River Basin ozone non-attainment area in southwestern Wyoming. ARS documented expected volatile organic compound (VOC) and nitrogen oxide (NO_x) emissions associated with various agency activities, and those activities having emissions less than a specified threshold would qualify as Presumed to Conform. ARS is currently assisting BLM to prepare a Federal Register notice listing the Presumed to Conform activities and required technical documentation. Once approved, the listed Presumed to Conform activities would be exempt from further technical analysis under conformity.

Corporate experience that highlights ARS' SIN 899-1 & 899 1RC capabilities (continued):

U.S. Forest Service (FS) National Ambient Air Monitoring and NEPA Support (2002 - Present)

Under ARS' current GSA 899-1 Schedule Contract, ARS provides technical and operational support for the Forest Service's Air Monitoring Network. This includes support of 19 Web-based digital cameras and one ambient air quality monitoring station consisting of ozone, carbon monoxide, nitrogen oxides, and a meteorological monitoring system. Network support services also include software development to provide images and air quality data content to the Forest Service Air Quality Images Web Site (<http://www.fsvisimages.com>), and long term archive of image monitoring data.

ARS has also provided the Forest Service air program staff with routine compliance assistance and planning assistance with respect to air permitting regulations, as well as State Implementation Plan (SIP), Environmental Site Assessments (EA) and Environmental Impact Statement (EIS) preparation. Current compliance efforts include air quality modeling and documentation to support oil and gas development EISs, including the White River (Colorado) Oil and Gas Leasing EIS (2011) and the Bridger-Teton National Forest (Wyoming) Oil and Gas Leasing final supplemental EIS (pending completion in 2015).

Wyoming Department of Environmental Quality (WDEQ) Air Quality Monitoring Network (2000 – Present)

ARS fully supports monitoring of air quality (O₃, SO₂, CO, NO_x, NO_y, hydrocarbons and PM), visibility, and meteorology at approximately 15 monitoring stations in the WDEQ Network, including the Cheyenne National Core (NCore) station. Regulatory monitoring services include site selection, station fabrication, installation, operation, data collection, processing, validation, analyses, reporting, QAPP, SOP, and TI quality assurance documentation. ARS also provides enhanced data and trends analyses, participates in regional planning meetings, and provides specialized training and consulting on air quality and visibility issues related to the dynamic energy industry in the state.

Green Monitoring Station

ARS staff includes experts in installing and operating ambient air quality stations in remote areas, without typical electrical power or accessibility. The ARS-designed and installed Hiawatha station is the WDEQ's first ambient air quality monitoring station that uses renewable energy as its primary power source. The solar/wind powered monitoring station was established to assess ambient air quality in a remote area of oil and gas development.

Mobile Monitoring Stations

ARS has designed and operates three mobile stations for WDEQ to support short-term monitoring needs. Each station monitors continuous ozone, oxides of nitrogen, sulfur dioxide, hydrocarbons, PM_{2.5}, PM₁₀, and meteorology (on a telescoping 10-meter tower). Each is also equipped with a visibility Web camera to document scenic conditions and a satellite communications system for remote locations. Station setup and takedown is simple for one person to do alone.



Corporate experience that highlights ARS' SIN 899-1 & 899 1RC capabilities (continued):

Department of the Interior – Office of Surface Mining Reclamation & Enforcement (OSMRE): Trapper Mine Environmental Assessment (2015-Present)

ARS provided the air and climate resources evaluation to support an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the Trapper Mine, a surface coal mine located in northwest Colorado. ARS staff also participated in public involvement meetings organized by OSMRE. ARS' technical activities for the EA including developing baseline data on air and climate resources, calculating direct and indirect air emissions associated with the mining operations, including PM₁₀ and PM_{2.5} emissions associated with mining activities. ARS also quantified air emissions associated with fuel combustion from the mining equipment and haul trucks. Greenhouse gas (GHG) emissions were quantified and evaluated, including fugitive GHG emissions released at the coal seams and GHGs associated with fuel combustion from the mining equipment and trucks. Direct mining emissions were evaluated using the EPA AERMOD model for compliance with National Ambient Air Quality Standards (NAAQS). ARS also addressed the indirect mining impacts associated with coal combustion at the adjacent Craig Generating Station, including SO₂, NO_x, and GHGs along with air quality emissions associated with the permanent storage of coal combustion residuals within the mine site. Estimates of mercury emissions from coal combustion were also determined and used as data for the biological assessment conducted in conjunction with the EA.

National Park Service – Glen Canyon National Recreation Area: Air Permitting for New Electric Power Generators (2014-2015).

ARS supported the acquisition of air quality permits for new diesel-fired electric power generators to be installed by the National Park Service (NPS) at recreation sites in the Glen Canyon National Recreation Area (GCNRA). Given the remote location of the area (Lake Powell), electrical power to support GCNRA recreation facilities such as marinas, concessionaires, restaurants and lodging, etc. is generated on-site. Permits were obtained for new generators at three recreation sites: Bullfrog, Halls Crossing, and Hite. NPS selected Tier-3 and Tier-4 engines for the project to minimize emissions and the impact on the environment. ARS supported the permitting activities by:

- 1) consulting with the state regulatory agency on permit requirements
- 2) estimating emissions from the selected engines
- 3) documenting that engine emissions would satisfy regulatory requirements for Best Available Control Technology (BACT)
- 4) performing air dispersion modeling using AERMOD to demonstrate that air quality impacts would be below the National Ambient Air Quality Standards
- 5) completing all permit application forms and addressing questions from the regulatory agency on the permit applications
- 6) assisting NPS prepare comments on the draft air quality permits issued by the regulatory agency.

Corporate experience that highlights ARS' SIN 899-1 & 899 1RC capabilities (continued):

Abengoa Bioenergy Corporation – Various Sites (1997 to Present)

ARS provides environmental permitting and compliance services for Abengoa Bioenergy Corporation (Abengoa), operator of corn-to-ethanol biofuel production facilities in multiple states (Illinois, Indiana, Nebraska, Kansas, and New Mexico). ARS provides Abengoa support for Clean Air Act and Clean Water Act permitting on capital projects, including air quality permit applications for new/modified plant construction (PSD, Title V, etc.), along with wastewater and stormwater discharge applications under the National Pollution Discharge Elimination System (NPDES) program. ARS also provides the technical and regulatory analyses required to support these permit applications, including emission calculations, air dispersion modeling, and emissions control technology assessments under Best Available Control Technology (BACT) and Lowest Achievable Emissions Rate (LAER).

In addition, ARS assists Abengoa by representing the client at meetings with the regulatory agencies and at public hearings and other administrative proceedings concerning the permit applications. Once the permits are issued, ARS provides continuing support for plant-level environmental compliance activities, including preparing emissions inventory reports for criteria air pollutants and greenhouse gas (GHG) emissions, preparing toxic release inventory (Form R) reports, assessing plant environmental compliance status through audits and similar reviews, providing user-friendly tools that enhance the plant's environmental programs, preparing stormwater management plans and Spill Prevention Control and Countermeasure (SPCC) plans, training plant staff on required environmental compliance activities, and managing stack emissions testing programs conducted by third parties.

Real-Time Data Presentations and Information Services (various contracts)

In conjunction with air quality related regulatory and research monitoring services, ARS supports responsive web-design (RWD) as well as real-time data presentations and information services. Current project Web sites include:

- Gaseous Pollutant Monitoring Program (GPMP) and database access utility (<http://ard-request.air-resource.com>).
- National Park Service Visibility Camera Web site (<http://www.nature.nps.gov/air/WebCams/index.cfm>).
- US Forest Service Air Program Web site (<http://www.fsvisimages.com>).
- Wyoming Air Resource Monitoring System (WARMS) Web site (<http://www.blmwarms.net>).
- Colorado BLM White River Field Office Web site (<http://colowhiteriverairquality.net/>).
- Arizona DEQ Phoenix Visibility Web Cameras Web site (<http://www.phoenixvis.net>).
- Garfield County, Colorado, Real-Time Air Quality Information Web site (<http://www.garfieldcountyaq.net>).

Corporate experience that highlights ARS' SIN 899-1 & 899 1RC capabilities (continued):

Western Regional Air Partnership (WRAP) – Comprehensive Tools and Analyses to Investigate Regional Haze (2004 – Present)

The Western Regional Air Partnership (WRAP) is comprised of representatives from cooperating western states, tribes, and federal agencies. The WRAP was established in 1996 to develop technical and policy tools to assist western states and tribes to comply with the U.S. EPA Regional Haze Rule.

AoH Project: ARS compiled and analyzed a variety of techniques designed to attribute haze at over 100 tribal and mandatory federal Class I areas in the source categories and geographic regions. ARS prepared a policy-level report and Web page presenting these results. The final Phase I project report is available on the Web at: <http://wrapair.org/forums/aoh/ars1/report.html>.

TSS Project: Phase II of the AoH project consisted of development of a comprehensive Web-based Technical Support System (TSS) which has been used by states to support development of their Regional Haze SIPs (<http://vista.cira.colostate.edu/tss>). This system houses monitoring, modeling, emissions, and attribution data related to the WRAP region.

Regional Haze Reasonable Progress Report Project: ARS completed the WRAP's Regional Haze Reasonable Progress Report in 2013. The report is an in depth analysis of 15 western states' progress in addressing regional haze over the last 10 years. Contents of the report include regional, state, and Class I Area – specific analyses of IMPROVE speciated particulate matter, especially changes and trends over the last decade, and regional and state summaries of changes in emissions inventories.

WRAP Web Site Project: ARS developed, hosts, and maintains the WRAP Project Web Site (<http://www.wrapair2.org>) and hosts an archived version of the WRAP's original web site.

Alberta Environment and Water – Data Quality Standard

In early 2012, ARS developed a Data Quality Standard for ambient air quality for Alberta Environment and Water (AEW), a division of Canada's Ministry of Environment. This standard was developed as part of Alberta's Air Monitoring Directive, which is similar in scope to U.S. Environmental Protection Regulations for air quality, and specifies environmental monitoring and reporting requirements designed to ensure that air data are consistent, of known quality, and defensible.

ARS reviewed, evaluated, and reported on methodologies from AEW, and from select U.S. jurisdictions that follow U.S. EPA regulations, to assess what requirements and guidelines would best meet AEW's data quality objectives. The assessment included recommendations for processes including data handling, storage, verification and validation procedures, and reporting requirements. The final regulatory document drafted by ARS was the result of a consensus-based approach involving numerous stakeholders, including AEW, airshed, and industry representatives.