Comprehensive Water Management Tool for Shale Oil and Gas Operations

WHAT’S THE BIG DEAL?

Effective water management is essential to successful shale oil and gas operations, where sufficient quantities of water of suitable quality must be available at the right place at the right time to avoid costly disruptions. Although water and wastewater typically represent a small fraction of overall well development costs, compound inefficiencies in water planning, procurement, and management disproportionately inflate well development costs.

Operations managers count on water managers to address a wide range of technical and logistical challenges to achieve company goals, meet critical schedules, and respond to rapidly changing conditions. With currently available software tools, even the most adept and efficient water managers are limited in their capacity to process large volumes of information necessary to support critical decision-making and sustain efficient day-to-day water management practices.

PROBLEMS SOLVED

GSI’s Comprehensive Water Management Tool for Shale Oil and Gas Operations integrates key hydrologic analyses with mapping, data management, and scheduling functionality within an intuitive, interactive, and flexible dashboard-style environment. This software facilitates efficient day-to-day water logistics for shale oil and gas field operations, such as drilling, completions, flowback recovery, and production. It combines fundamental water flow/chemical mass balance calculations with optimization and forecasting modules to improve reliability and reduce uncertainty in the procurement, delivery, and utilization of water and related resources. Alternative water supply, storage, disposal, recycling, and transport options are evaluated and optimized to improve efficiency and reduce costs.
• Project Management
  Manage multiple regional or basin-wide projects and site-specific evaluation scenarios.

• Data Management
  Enter, edit, query and report project-specific activities, locations, resources, criteria, and references.

• Activity/Resource Management
  Interactively manage planned activities (water demands) and availability of required resources (water supply, storage, transport, treatment and disposal).

• Water Transport Planning
  Identify optimal routes.

• Logistics Management
  View and manage the near-term status of water demands and resources utilization.

• Graphical Output
  At a glance, track and compare actual past, present and projected values of user-specified metrics.