

HYDROGEOLOGIST SERIES

SUMMARY	Provide technical support to the department and the public in the areas of hydrogeology, groundwater and wells. Lead projects and tasks related to hydrology and hydrogeology using different scientific and engineering principles and disciplines.
PRIMARY DUTIES & RESPONSIBILITIES	Responsible for a variety of skilled hydrogeologic work in office and field. Scope, design, conduct, and develop analytical studies, numerical models, technical projects, data collection, groundwater analyses and research. Convey results and information to agency management, internal and external customers, and stakeholders. Position exercises considerable individual judgment and technical decision-making on assigned work. Applies hydrogeologic and engineering principles and methods to complex groundwater and surface water projects.
KSA's	The candidate should have the recommended knowledge to the extent possible but does not necessarily have to include all requirements. The requirements are different according to the levels of responsibility. Principles of hydrogeology and engineering and their application in a regulatory environment. Knowledge of principles of geology, hydraulics, mathematics, physics, fluid mechanics, geophysics and meteorology as applied to hydrogeology; extent and availability of hydrologic and related literature; computer modeling techniques as applied to groundwater and surface water problems. Ability to perform technical studies and to write technical reports. Research and investigation techniques and statistical and engineering analyses as applied to surface and subsurface hydrology. Ability to work independently as well as in a team environment. Ability to manage multiple tasks/assignments and prioritize work activities. Skills in process improvement and problem-solving identification and analysis, utilizing Lean principles. Bachelor's degree with major in hydrology, civil engineering, geology, watershed management, or related field and hydrologic or related field experience.

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JOB CODE	S10275	S10276	S10277	S10278	S10279	S10280
PROPOSED GRADE	21	22	23	25	27	28
FLSA STATUS	NON-EXEMPT	NON-EXEMPT	EXEMPT	EXEMPT	EXEMPT	EXEMPT
DETAILED DUTIES AND RESPONSIBILITIES	Collect hydrologic data from the field including groundwater levels, stream flow, and well discharge. Collect data on existing wells including location, depth, and diameter. Research information on existing wells, including method of construction, type of pump, and water use. Identify pump and aquifer test data, lithologic logs, and geophysical logs. Participate in simple, well-defined tasks to support hydrologic studies, models, or other projects, with regular guidance. Perform simple tasks related to numerical groundwater modeling, e.g., extract and format water budgets. Review discrete components of various permits and applications	Compile hydrologic field data. Perform database entry and QA/QC. Collect specialized field data, e.g., geophysical, microgravity, and GPS. Conducts water resources field investigations Compile data on existing wells. Evaluate the quality of existing pump and aquifer test data, lithologic logs, and geophysical logs. Participate in tasks of increasing complexity to support hydrologic studies, models, or other projects, with regular guidance. Run and perform structured troubleshooting of numerical groundwater models, under guidance. Review various permits and applications for	Organize and lead the field effort to collect and compile hydrologic data, including groundwater levels, stream and well discharge, microgravity and GPS data. Verify data QA/QC. Interpret well data, pump and aquifer test data, lithologic logs, and geophysical logs. Guide simple, well-defined tasks related to professional hydrologic studies, models, or other projects, under general supervision. Run manual and automated calibration on numerical groundwater models, under general supervision. Modify and adapt established techniques to meet unique characteristics of particular investigation problems	Direct the field team on what data to collect and how it will be used. Plan, direct, and oversee simple field projects. Develop recommendations based on well data, pump and aquifer test data, lithologic logs, and geophysical logs. Direct tasks of increasing complexity involved in hydrologic studies, models, or other projects. Provide knowledge in a specialty field such as modeling, geophysics, geochemistry, or water rights law. Interpret model results and guide model construction, calibration, and documentation. Oversee the review of various permits and applications for AAWS, Recharge, and Wells. Assist in leading large and/or complex	Responsible for defining objectives and directing efforts on data collection projects. Plan, direct, and oversee complex hydrologic projects, often leading a project or a technical team. Review and act with internal resources based on recommendations based on field and well data. Develop objectives and tasks for hydrologic studies, models, or other projects. Provide expertise in a specialty field such as modeling, geophysics, geochemistry, or water rights law. Develop planning projections for numerical groundwater models consistent with agency regulatory constraints. Provide direction and coordinating efforts on large technical or complex and	Design and manage complex water management studies and programs involving the collection of hydrogeological field data and data interpretation/evaluation. Identify and coordinate with outside resources and agencies to review and act on recommendations based on field and well data. Develop scopes of work, schedules, and multi-disciplinary considerations for hydrologic studies, models, or other projects. Propose new projects to achieve long-term agency objectives. Interpret and effectively communicate model results to stakeholders and the public. Work directly with Division Director as technical authority on

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	for AAWS, Recharge, and Wells, under direct guidance. Generally capable of researching available source materials for information relative to project assignment. Review and prepare basic hydrologic maps. Write simple technical memos and reports.	AAWS, Recharge, and Wells, under guidance. Research and summarize basic hydrologic characteristics of watershed areas, including analysis and interpretation of rainfall and runoff relationships, classification of cover, soils, and topographic conditions. Calculate frequency of occurrence and magnitude of hydrologic events such as storms and floods, and determine relationships of runoff to stream stage, peak discharge, and area inundated, and assist in the preparation of reports. Conduct hydrologic studies and assist in preparation of reports. Interpret surface and subsurface geology maps and reports to evaluate pertinent hydrologic and geological conditions.	Review current activity in weather modification practices and licensing Review various permits and applications for AAWS, Recharge, and Wells, independently. Conduct studies to determine hydrologic information necessary for the design of flood control structures. Draft designs to route flood flows through reservoirs and stream channel systems under supervision of senior staff. Coordinate investigations of the water resources of groundwater basins to determine the impact of present and projected water demands. Understand and communicate hydrologic factors affecting infiltration, evapotranspiration, and surface and subsurface flows. Coordinate with other staff to write and compile technical memos and	hydrologic design studies. Assist in the direction and coordinating efforts on large technical or complex studies and reports. Represent the department at public, interagency, and scientific group meetings. Provide technical assistance to community, staff, and public pertaining to hydrologic questions. Respond to public information requests. Review technical memos and reports; provide targeted feedback to support growth. Recommend policy, procedures, and regulations for pertinent agency programs. Mentor staff to support their growth and professional development.	multifaceted studies and reports. Lead, review, and stamp hydrologic design studies. Ability to serve as head of a project team within a single discipline. Responsible for determining and defining objectives and directing efforts on straightforward projects. Respond to complex or highly sensitive public information requests. Write and review technical memos and reports on projects of high complexity and/or sensitivity. Review recommended policy and procedures for pertinent agency programs to assure compliance with technical standards and legal requirements. Serve as the subject matter expert for matters pertaining to hydrogeology and groundwater. Serve as	the most difficult and high-profile issues and provide final technical opinion for the agency. Ability to serve as head of a project team across multiple disciplines. Responsible for determining and defining objectives and directing efforts on large, considerably complex or sensitive hydrologic studies. Represent the department at high-profile public and multi-agency meetings. Direct methodologies to improve existing policies and procedures and implement new/recommended policy and procedures. Serve as the subject matter expert for matters pertaining to hydrogeology and groundwater. Serve as an expert witness for the

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		Write technical memos and reports of increasing complexity.	reports of increasing complexity. Stay abreast of current technology and best practices as related to hydrogeology and hydrology. Participate in planning and evaluating the state-federal cooperative hydrologic data collection program.		an expert witness for the department in legal proceedings. Maintain familiarity with state-of-the-practice for hydrogeological data collection, processing, and analysis.	department in legal proceedings.
MANAGEMENT OF RESOURCES	N/A	N/A	N/A	Train, schedule, and monitor resources. May participate in hiring.	Identify required resources. Identify opportunities to improve efficiency and reduce waste.	Lead initiatives to develop solutions and processes to meet needs. Identify unique, innovative approaches. Use logic and reasoning to identify weaknesses of alternative solutions, conclusions, or approaches to problems.
SUPERVISION RECEIVED	High degree of supervision. Regularly provided specific instructions to complete tasks.	Moderate degree of supervision. Regularly provided specific instructions to complete tasks.	Works with minimal supervision and guidance. Regularly provided with the objectives of the work.	Works with minimal supervision. Collaborates with others to determine objectives of the work.	Works independently.	Works independently.

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BUDGETARY RESPONSIBILITY	N/A	N/A	N/A	N/A	N/A	N/A
DECISION MAKING AUTHORITY	N/A	N/A	N/A	Assist in the development of new standards, rules, innovative technologies, statutes, policies, procedures, and guidance.	Lead the development of new standards, rules, innovative technologies, statutes, policies, procedures, and guidance.	Guide and direct the development of new standards, rules, innovative technologies, statutes, policies, procedures, and guidance.
EDUCATION & EXPERIENCE	Bachelor's degree or higher in a related field.	Bachelor's degree or higher in a related field and two (2) years of professional level water resources/hydrogeological experience; OR Master's degree or higher in a related field.	Bachelor's degree or higher in a related field and five (5) years of professional level water resources/hydrogeological experience; OR Master's degree or higher in a related field and three (3) years of professional level water resources/hydrogeological experience; OR Doctorate in a related field and one (1) year of professional level water resource/hydrogeological experience.	Bachelor's degree or higher in a related field and eight (8) years of professional level water resources/hydrogeological experience; OR Master's degree or higher in a related field and six (6) years of professional level water resources/hydrogeological experience; OR Doctorate in a related field and four (4) years of professional level water resource/hydrogeological experience.	Bachelor's degree or higher in a related field and ten (10) years of professional level water resources/hydrogeological experience; OR Master's degree or higher in a related field and eight (8) years of professional level water resources/hydrogeological experience; OR Doctorate in a related field and six (6) years of professional level water resource/hydrogeological experience.	Master's degree or higher in a related field and fifteen (15) years of professional level water resources/hydrogeological experience; OR Doctorate in a related field and eleven (11) years of professional level water resource/hydrogeological experience.
LICENSURE/ CERTIFICATION	May require Arizona State Driver License.	May require Arizona State Driver License.	May require Arizona State Driver License.	May require Arizona State Driver License.	May require Arizona State Driver License. Professional registration through the Arizona	May require Arizona State Driver License. Professional registration through the Arizona

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					Board of Technical Registration or an equivalent organization in a reciprocal jurisdiction required if available. If not available, professional certification through an accredited institution is required.	Board of Technical Registration or an equivalent organization in a reciprocal jurisdiction required if available. If not available, professional certification through an accredited institution is required.
OTHER SELECTIVE PREFERENCES				Professional registration through the Arizona Board of Technical Registration or an equivalent organization in a reciprocal jurisdiction. If not available, professional certification through an accredited institution.	N/A	N/A