

<b>MAJOR GROUP:</b>	19-0000 Life, Physical, and Social Science Occupations	<b>ESTABLISHED:</b>	11/03/2023
<b>MINOR GROUP:</b>	19-4000 Life, Physical, and Social Science Technicians	<b>REVISED:</b>	
<b>BROAD GROUP:</b>	19-4040 Environmental Science and Geoscience Technicians		
<b>LEVELS &amp; PAY BAND ASSIGNMENT:</b>	Level 1 – Pay Band 1, Labor Grades 6-8 Level 2 – Pay Band 2, Labor Grades 9-11 Level 3 – Pay Band 3, Labor Grades 12-14 Level 4 – Pay Band 4, Labor Grades 15-17 Level 5 – Pay Band 5, Labor Grades 18-20 Level 6 – Pay Band 6, Labor Grades 21-23	<b>PAY SCHEDULE:</b>	19 A000
<b>PREVIOUS TITLES:</b>	Air Pollution Technician II-III, Environmental Technician I-III, Environmentalist I, Intern, Program Specialist II, Teacher Assistant		

*Descriptions, Tasks, and KSAs excerpted from O\*NET OnLine (<https://www.onetonline.org>) Sept 2022- Aug 2023.*

<b>DESCRIPTION:</b>	<p><u><a href="https://www.onetonline.org">19-4042.00 - Environmental Science and Protection Technicians, Including Health (onetonline.org)</a></u>          Perform laboratory and field tests to monitor the environment and investigate sources of pollution, including those that affect health, under the direction of an environmental scientist, engineer, or other specialist. May collect samples of gases, soil, water, and other materials for testing.</p> <p><b>Sample of reported job titles:</b> Environmental Technician, Laboratory Technician, Public Health Sanitarian, Sanitarian, Water Quality Analyst, Water Quality Specialist</p> <p><u><a href="https://www.onetonline.org">19-4044.00 - Hydrologic Technicians (onetonline.org)</a></u>          Collect and organize data concerning the distribution and circulation of ground and surface water, and data on its physical, chemical, and biological properties. Measure and report on flow rates and ground water levels, maintain field equipment, collect water samples, install and collect sampling equipment, and process samples for shipment to testing laboratories. May collect data on behalf of hydrologists, engineers, developers, government agencies, or agriculture.</p> <p><b>Sample of reported job title:</b> <i>This title represents an occupation for which data collection is currently underway.</i></p>
<b>TASKS:</b>	<p><u><a href="https://www.onetonline.org">19-4042.00 - Environmental Science and Protection Technicians, Including Health (onetonline.org)</a></u></p> <ul style="list-style-type: none"> <li>• Record test data and prepare reports, summaries, or charts that interpret test results.</li> <li>• Develop or implement programs for monitoring of environmental pollution or radiation.</li> <li>• Investigate hazardous conditions or spills or outbreaks of disease or food poisoning, collecting samples for analysis.</li> <li>• Calibrate microscopes or test instruments.</li> <li>• Provide information or technical or program assistance to government representatives, employers, or the general public on the issues of public health, environmental protection, or workplace safety.</li> <li>• Collect samples of gases, soils, water, industrial wastewater, or asbestos products to conduct tests on pollutant levels or identify sources of pollution.</li> <li>• Monitor emission control devices to ensure they are operating properly and comply with state and federal regulations.</li> </ul>

	<ul style="list-style-type: none"> <li>• Examine and analyze material for presence and concentration of contaminants, such as asbestos, using variety of microscopes.</li> <li>• Perform statistical analysis of environmental data.</li> <li>• Set up equipment or stations to monitor and collect pollutants from sites, such as smoke stacks, manufacturing plants, or mechanical equipment.</li> <li>• Distribute permits, closure plans, or cleanup plans.</li> <li>• Maintain files, such as hazardous waste databases, chemical usage data, personnel exposure information, or diagrams showing equipment locations.</li> <li>• Calculate amount of pollutant in samples or compute air pollution or gas flow in industrial processes, using chemical and mathematical formulas.</li> <li>• Initiate procedures to close down or fine establishments violating environmental or health regulations.</li> <li>• Prepare samples or photomicrographs for testing and analysis.</li> <li>• Determine amounts and kinds of chemicals to use in destroying harmful organisms or removing impurities from purification systems.</li> </ul> <p><u>19-4044.00 - Hydrologic Technicians (onetonline.org)</u></p> <ul style="list-style-type: none"> <li>• Analyze ecological data about the impact of pollution, erosion, floods, and other environmental problems on bodies of water.</li> <li>• Apply research findings to minimize the environmental impacts of pollution, waterborne diseases, erosion, or sedimentation.</li> <li>• Assist in designing programs to ensure the proper sealing of abandoned wells.</li> <li>• Collect water and soil samples to test for physical, chemical, or biological properties, such as pH, oxygen level, temperature, and pollution.</li> <li>• Investigate complaints or conflicts related to the alteration of public waters by gathering information, recommending alternatives, or preparing legal documents.</li> <li>• Locate and deliver information or data as requested by customers, such as contractors, government entities, and members of the public.</li> <li>• Measure the properties of bodies of water, such as water levels, volume, and flow.</li> <li>• Perform quality control checks on data to be used by hydrologists.</li> <li>• Prepare, install, maintain, or repair equipment used for hydrologic study, such as water level recorders, stream flow gauges, and water analyzers.</li> <li>• Provide real time data to emergency management and weather service personnel during flood events.</li> </ul>
<p><b>KSAs:</b></p>	<p><u>19-4042.00 - Environmental Science and Protection Technicians, Including Health (onetonline.org)</u></p> <p><i>Data collection is currently underway for: 19-4044.00 – Hydrologic Technicians</i></p> <p><b>Knowledge</b></p> <p>English Language — Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.</p> <p>Biology — Knowledge of plant and animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment.</p> <p>Law and Government — Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.</p> <p>Mathematics — Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.</p> <p>Chemistry — Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.</p>

Customer and Personal Service — Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.

Engineering and Technology — Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.

Computers and Electronics — Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

Communications and Media — Knowledge of media production, communication, and dissemination techniques and methods. This includes alternative ways to inform and entertain via written, oral, and visual media.

Geography — Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.

### **Skills**

Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

Reading Comprehension — Understanding written sentences and paragraphs in work-related documents.

Speaking — Talking to others to convey information effectively.

Science — Using scientific rules and methods to solve problems.

Writing — Communicating effectively in writing as appropriate for the needs of the audience.

Complex Problem Solving — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

Judgment and Decision Making — Considering the relative costs and benefits of potential actions to choose the most appropriate one.

Monitoring — Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

Social Perceptiveness — Being aware of others' reactions and understanding why they react as they do.

### **Abilities**

Oral Comprehension — The ability to listen to and understand information and ideas presented through spoken words and sentences.

Written Comprehension — The ability to read and understand information and ideas presented in writing.

Oral Expression — The ability to communicate information and ideas in speaking so others will understand.

	<p>Problem Sensitivity — The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing that there is a problem.</p> <p>Deductive Reasoning — The ability to apply general rules to specific problems to produce answers that make sense.</p> <p>Written Expression — The ability to communicate information and ideas in writing so others will understand.</p> <p>Inductive Reasoning — The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).</p> <p>Near Vision — The ability to see details at close range (within a few feet of the observer).</p> <p>Speech Clarity — The ability to speak clearly so others can understand you.</p> <p>Information Ordering — The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).</p>
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FACTOR ANALYSIS		
LEVEL 1	FACTOR	TYPICAL RATING
<b>JOB CODE:</b> <b>19404001</b>	<b>KNOW-HOW:</b>	1 entry-level, prevalence of on-the-job training
	<b>SCOPE and EFFECT:</b>	1 focused on own work, supportive
	<b>COMPLEXITY:</b>	2 exercising of choice, multi-step tasks, introductory problem solving
	<b>WORK ENVIRONMENT:</b>	3 low-medium physical exertion and risk exposure, frequent fieldwork
	<b>COMMUNICATION:</b>	2 standardized, external, more involved verbal or written interactions
<b>EEO CATEGORY:</b> <b>05 - Paraprofessional</b>	<b>INDEPENDENT ACTION:</b>	1 daily work is highly directed, prioritized, and monitored
<b>EXEMPT:</b>	N	
<b>In-band Advancement(s):</b>	None	
<b>Broad Group Level Advancement:</b>	None	
<b>Pay Assignment Change:</b>	None	
<b>Minimum Qualifications:</b>	<b>Education/Experience:</b>	8th grade education
	<b>License/Certification(s):</b>	None unless specified on the Supplemental Job Description (SJD)
<b>Special Requirements:</b>	Not Applicable	

FACTOR ANALYSIS		
LEVEL 2	FACTOR	TYPICAL RATING
<b>JOB CODE:</b> <b>19404002</b>	<b>KNOW-HOW:</b>	2 semi-skilled, varied, prior training or experience
	<b>SCOPE and EFFECT:</b>	1 focused on own work, supportive
	<b>COMPLEXITY:</b>	2 exercising of choice, multi-step tasks, introductory problem solving
	<b>WORK ENVIRONMENT:</b>	3 low-medium physical exertion and risk exposure, frequent fieldwork
	<b>COMMUNICATION:</b>	2 standardized, external, more involved verbal or written interactions
<b>EEO CATEGORY:</b> <b>03 - Technician</b>	<b>INDEPENDENT ACTION:</b>	1 daily work is highly directed, prioritized, and monitored
<b>EXEMPT:</b>	N	
<b>In-band Advancement(s):</b>	None	
<b>Broad Group Level Advancement:</b>	None	
<b>Pay Assignment Change:</b>	None	
<b>Minimum Qualifications:</b>	<b>Education/Experience:</b>	10th grade education with 3 months of experience
	<b>License/Certification(s):</b>	None unless specified on the Supplemental Job Description (SJD)
<b>Special Requirements:</b>	Not Applicable	

FACTOR ANALYSIS		
<b>LEVEL 3</b>	<b>FACTOR</b>	<b>TYPICAL RATING</b>
<b>JOB CODE:</b> <b>19404003</b>	<b>KNOW-HOW:</b>	3 intermediate, specialized education and experience
	<b>SCOPE and EFFECT:</b>	2 limited, coordination with others, internal impact
	<b>COMPLEXITY:</b>	2 exercising of choice, multi-step tasks, introductory problem solving
	<b>WORK ENVIRONMENT:</b>	3 low-medium physical exertion and risk exposure, frequent fieldwork
	<b>COMMUNICATION:</b>	3 variety of tools, regular interactions, solicit information and explain facts
<b>EXEMPT:</b>   N	<b>INDEPENDENT ACTION:</b>	2 priorities set by supervisor, training and experience used to problem-solve
<b>EEO CATEGORY:</b> 03 - Technician	<b>In-band Advancement(s):</b>	None
	<b>Broad Group Level Advancement:</b>	None
	<b>Pay Assignment Change:</b>	None
<b>Minimum Qualifications:</b>	<b>Education/Experience:</b>	High school diploma or equivalent credential with 1.5 years of additional education or experience
	<b>License/Certification(s):</b>	None unless specified on the Supplemental Job Description (SJD)
<b>Special Requirements:</b>	Not Applicable	

FACTOR ANALYSIS		
<b>LEVEL 4</b>	<b>FACTOR</b>	<b>TYPICAL RATING</b>
<b>JOB CODE:</b> <b>19404004</b>	<b>KNOW-HOW:</b>	3 intermediate, specialized education and experience
	<b>SCOPE and EFFECT:</b>	2 limited, coordination with others, internal impact
	<b>COMPLEXITY:</b>	3 basic analysis, varied problems
	<b>WORK ENVIRONMENT:</b>	3 low-medium physical exertion and risk exposure, frequent fieldwork
	<b>COMMUNICATION:</b>	3 variety of tools, regular interactions, solicit information and explain facts
<b>EXEMPT:</b>   N	<b>INDEPENDENT ACTION:</b>	3 general direction, established policies and practices used to problem-solve
<b>EEO CATEGORY:</b> 03 - Technician	<b>In-band Advancement(s):</b>	None
	<b>Broad Group Level Advancement:</b>	None
	<b>Pay Assignment Change:</b>	None
<b>Minimum Qualifications:</b>	<b>Education/Experience:</b>	High school diploma or equivalent credential with 1.5 years of additional education or experience
	<b>License/Certification(s):</b>	None unless specified on the Supplemental Job Description (SJD)
<b>Special Requirements:</b>	Not Applicable	

FACTOR ANALYSIS		
<b>LEVEL 5</b>	<b>FACTOR</b>	<b>TYPICAL RATING</b>
<b>JOB CODE:</b> <b>19404005</b>	<b>KNOW-HOW:</b>	4 skilled, professional-level, comprehensive
	<b>SCOPE and EFFECT:</b>	2 limited, coordination with others, internal impact
	<b>COMPLEXITY:</b>	4 moderate analysis, research, frequent and complex problems
	<b>WORK ENVIRONMENT:</b>	3 low-medium physical exertion and risk exposure, frequent fieldwork
	<b>COMMUNICATION:</b>	3 variety of tools, regular interactions, solicit information and explain facts
<b>EXEMPT:</b>   N	<b>INDEPENDENT ACTION:</b>	3 general direction, established policies and practices used to problem-solve
<b>EEO CATEGORY:</b> <b>03 - Technician</b>	<b>In-band Advancement(s):</b>	None
	<b>Broad Group Level Advancement:</b>	None
	<b>Pay Assignment Change:</b>	None
<b>Minimum Qualifications:</b>	<b>Education/Experience:</b>	High school diploma or equivalent credential with 3 years of additional relevant education or experience
	<b>License/Certification(s):</b>	None unless specified on the Supplemental Job Description (SJD)
<b>Special Requirements:</b>	Not Applicable	

FACTOR ANALYSIS		
<b>LEVEL 6</b>	<b>FACTOR</b>	<b>TYPICAL RATING</b>
<b>JOB CODE:</b> <b>19404006</b>	<b>KNOW-HOW:</b>	4 skilled, professional-level, comprehensive
	<b>SCOPE and EFFECT:</b>	3 small-scale accountability, external impact, errors have moderate effects
	<b>COMPLEXITY:</b>	4 moderate analysis, research, frequent and complex problems
	<b>WORK ENVIRONMENT:</b>	3 low-medium physical exertion and risk exposure, frequent fieldwork
	<b>COMMUNICATION:</b>	4 variety of contacts, work cooperatively, explain detailed information
<b>EXEMPT:</b>   N	<b>INDEPENDENT ACTION:</b>	4 independent functioning within set parameters, periodic review of work
<b>EEO CATEGORY:</b> <b>02 - Professional</b>	<b>In-band Advancement(s):</b>	None
	<b>Broad Group Level Advancement:</b>	None
	<b>Pay Assignment Change:</b>	None
<b>Minimum Qualifications:</b>	<b>Education/Experience:</b>	High school diploma or equivalent credential with 3 years of additional relevant education or experience
	<b>License/Certification(s):</b>	None unless specified on the Supplemental Job Description (SJD)
<b>Special Requirements:</b>	Not Applicable	

## FACTOR RATING SUMMARY

<b>19-4040</b>	<b>KNOW-HOW</b>	<b>SCOPE &amp; EFFECT</b>	<b>COMPLEXITY</b>	<b>WORK ENVIRONMENT</b>	<b>COMMUNICATION</b>	<b>INDEPENDENT ACTION</b>	<b>PREVIOUS LABOR GRADES</b>
<b>LEVEL 1</b> Points: 95-152	1	1	2	3	2	1	6-8
<b>LEVEL 2</b> Points: 153-210	2	1	2	3	2	1	9-11
<b>LEVEL 3</b> Points: 211-260	3	2	2	3	3	2	12-14
<b>LEVEL 4</b> Points 261-304	3	2	3	3	3	3	15-17
<b>LEVEL 5</b> Points: 305-352	4	2	4	3	3	3	18-20
<b>LEVEL 6</b> Points: 353-405	4	3	4	3	4	4	21-23

**DISCLAIMERS:**

This broad group specification is descriptive of general duties and is not intended to list every specific function of the job title(s) it contains.