

1316,Hydrologic Technician,GS-07

Based on PD Tracking Number 0002017

PD Tracking Number 0005099

Major Duties

GS-1316-07 (Standard PD)

Major Duties

Surface Water: Uses resourcefulness to make stream discharge measurements, using the various techniques, equipment and protocols depending upon field conditions or other unforeseen circumstances. Observes and makes detailed notes of various hydraulic or environmental conditions which may have a bearing on discharge. Computes and checks surface-water records from field data where hydrologic conditions are fairly stable. Reviews the plotting of discharge measurements. Develops stage-discharge and/or velocity index curves and ratings. Estimates periods of missing record and non-routine flow such as tidal, backwater, or ice periods. Performs office review for selected surface-water records. Reviews gage-height data and discharge measurements to check methods and accuracy of computation. Plots and analyzes differences in hydrographs by comparing records and makes changes to correct inconsistencies in data. Performs routine phases of statistical and technical analyses of the hydrologic data collected in the field. Prepares material for publication, including maps, tables, and other illustrative material. Prepares plots, drafts, or sketches from surveying field notes. Reviews surface-water records to assure accuracy, uniformity, and compliance with Division standards. Verifies the accuracy of data summaries. Documents the procedure used to compute records.

Ground Water: Performs water-level and discharge measurements from wells and springs adjusting approach for unforeseen circumstances. Observes and notes various hydraulic and environmental conditions. Computes and checks ground-water records from field data where hydrologic conditions are fairly stable. Reviews plots of water-level measurements. Performs routine statistical and technical analyses of the hydrologic data collected in the field. Reviews ground-water records to assure accuracy, uniformity, and compliance with technical standards. Verifies the accuracy of data summaries. Documents the procedure used to compute records. Performs ground-level measurements in support of aquifer tests. Performs routine analyses and computation of data assembled during pumping tests.

Water Quality: Performs routine field measurements such as water temperature, specific conductance, pH, dissolved oxygen and alkalinity selecting the appropriate technique, protocol, and equipment. Observes and notes various hydraulic or environmental conditions. Collects and processes a wide variety of samples modifying approaches as necessary in order to ensure the integrity of the data. Performs various field or lab analyses of sample constituents. Prepares representative samples for lab analyses. Computes and checks water-quality monitoring records using basic techniques. Performs routine phases of statistical and technical analysis of the hydrologic data collected. Prepares summaries and basic data reports of results of field activities, including the preparation of materials for publications such as tables of data, maps, and other illustrative material. Documents the procedure used to compute records. Conducts quality

assurance review of water-quality records to ensure accuracy, uniformity, and compliance with technical standards.

Sediment: Collects, processes, computes and checks varied suspended sediment and bedload samples modifying approaches due to unforeseen conditions. computes and checks measurements for analyses and computation. Performs routine phases of statistical and technical analysis of hydrologic data collected. Enters sediment data into the water-quality and/or daily-values file using automated systems. Assembles and prepares data for tabulation and subsequent publication. Documents the procedure used to compute records. Uses sediment computation programs to process routine sediment load data. Input data for the programs are: (1) sediment grain-size data and (2) discharge data. Applies initial quality-control techniques and makes corrections to sediment data based on review of the sediment data.

Instrumentation: Installs, maintains and services a variety of sensing, recording and communications equipment and instrumentation. Troubleshoots selected hydrologic instrumentation in the office. Maintains repair logs on hydrologic instrumentation. Calibrates meters and analytical equipment. Determines appropriate equipment for field or laboratory activities depending upon data collection needs and field conditions.

Infrastructure: With general instructions, performs simple construction of gages and supporting structures. Identifies and procures materials for construction and repair jobs. Schedules and/or obtains appropriate vehicles, equipment, and supplies. Performs routine safety inspections of equipment and work areas.

Datums/Altitude/Elevation: With general instructions, establishes vertical and horizontal datums using appropriate survey and geo-stationary reference techniques. Flags high-water marks and documents their reliability. Measures and records crest-stage gage high-water marks. Determines cross-sections for indirect measurements of flow and/or area ratings.

Operates a government motor vehicle as an incidental driver.

FACTOR STATEMENTS

FACTOR 1 - KNOWLEDGE REQUIRED BY THE POSITION (Level 1-4, 550 points)

- Practical knowledge of hydrologic principles, practices, procedures and techniques in addition to the ability to sequentially apply a wide range of standard hydrologic data collection and office computation procedures in order to collect and/or compute and compile hydrologic data.
- Ability to perform standard data compilation and computation activities that include, but are not limited to, applying datum corrections, plotting and analyzing hydrographs, transferring data to maps and reconstructing short periods of inconsistent or missing records.
- Knowledge of and ability to follow field and lab safety procedures.
- Knowledge of one or more computer systems and automated databases in order to enter, transfer, retrieve and manipulate hydrologic data; to operate computerized equipment; to generate a variety of standard reports; and/or respond to routine hydrologic data requests.
- Practical knowledge of electronic technology and equipment mechanics in order to operate, maintain, install, and service a variety of scientific instruments and equipment.

FACTOR 2 - SUPERVISORY CONTROLS (Level 2-3, 275 points)

Works under the general direction of the supervisor or a higher graded employee. Assignments

involving prescribed or standard methods are given in terms of objectives to be achieved. The employee uses initiative to independently accomplish such assignments with the supervisor providing assistance in solving unfamiliar technical problems. Methods applied by the technician in performing tasks are not normally reviewed. Completed work is reviewed for accuracy and technical adequacy.

FACTOR 3 - GUIDELINES (Level 3-3, 275 points)

Guidelines include a series of manuals on techniques of water resources investigations (TWRI), WRD Data Reports Preparation Guide, agency procedural directives, oral instructions, standard accepted recording forms, protocols and previously established methods. The employee locates and selects the appropriate guideline or procedure; however, the guidelines may not be completely applicable to the assignment or contain gaps in specificity. The employee independently resolves technical problems by deviating from or adapting guides. The technician formulates and recommends revised approaches and procedures. Situations involving significant deviation from established guidelines are generally discussed with the supervisor for additional guidance.

FACTOR 4 - COMPLEXITY (Level 4-3, 150 points)

Work consists of the full range of data collection and computation duties that typically involve the application of differing and unrelated technical approaches and procedures to complete an assignment. The work requires the employee to consider and select from several possible courses of action, methods, and techniques. The technician displays initiative, resourcefulness, and judgment to adjust work methods and procedures to accommodate unusual conditions found at the worksite and to identify and resolve anomalies or inconsistencies in data.

FACTOR 5 - SCOPE AND EFFECT (Level 5-3, 150 points)

The purpose of the work is to perform conventional assignments involving the collection, computation and compilation of hydrologic data that affect the understanding of the hydrologic environment and to disseminate hydrologic data through reports and other mediums. Work efforts have an impact on the accuracy and adequacy of field, office and/or laboratory processes and methods used, the data and resulting reports, and/or data-resource management decisions.

FACTOR 6 - PERSONAL CONTACTS (Level 6-2, 25 points)

Primary contacts are with personnel within the District. On occasion, contacts may be made with personnel from higher level organizations, State or local governments, or other Federal agencies. Contacts with the general public occur during the performance of routine field or office activities.

FACTOR 7 - PURPOSE OF CONTACTS (Level 7-2, 50 points)

Contacts are chiefly to clarify or exchange information, provide advice, plan or coordinate work activities, resolve technical problems, and provide technical assistance or training.

FACTOR 8 - PHYSICAL DEMANDS

(Level 8-2, 20 points)

{ } The work requires some physical exertion such as:

long periods of standing;

walking over rough, uneven, or rocky surfaces;

recurring bending, crouching, stooping, stretching, reaching, or similar activity; or

recurring lifting of moderately heavy items weighing less than 23 kilograms (under 50 pounds) such as lifting and carrying stream gauging weights, data collection and monitoring devices, or sample trays.

Or

(Level 8-3, 50 points)

{ } The work regularly requires considerable dexterity, agility, and strenuous physical exertion such as that needed to:

climb, or work from, tall ladders or scaffolding;

work in areas where footing is treacherous such as on slippery river banks, in steep or rocky terrain, and in fast-moving water;

lift heavy objects weighing 23 kilograms (over 50 pounds) or more;

crouch or crawl in constricted areas; and

defend oneself or others against physical attack.

FACTOR 9 - WORK ENVIRONMENT (Level 9-2, 20 points)

The work regularly involves moderate risks or discomforts associated with visiting field sites with limited access, under adverse weather or flooding conditions, or exposure to irritant or toxic chemicals. Work may require the use of special clothing or gear such as masks, coats, boots, goggles, respirators, or life jackets.

TOTAL POINTS: 1515

GRADE CONVERSION: GS-7

GS-1300T, JFS for Technical Work in the Physical Sciences Group 08/02

Source Document STD PD #S0266

Rev 8/2004