

POSITION DESCRIPTION						
1. Position Number			2. Explanation (show any positions replaced)			
3. Reason for Submission <input type="checkbox"/> New <input type="checkbox"/> Redescription <input type="checkbox"/> Reestablishment <input type="checkbox"/> Standardized PD <input type="checkbox"/> Other						
4. Service <input type="checkbox"/> HQ <input type="checkbox"/> Field	5. Subject to Identical Addition (IA) Action <input type="checkbox"/> Yes (multiple use) <input type="checkbox"/> No (single incumbent)					
6. Position Specifications Subject to Random Drug Testing <input type="checkbox"/> Yes <input type="checkbox"/> No Subject to Medical Standards/Surveillance <input type="checkbox"/> Yes <input type="checkbox"/> No Telework Suitable <input type="checkbox"/> Yes <input type="checkbox"/> No Fire Position <input type="checkbox"/> Yes <input type="checkbox"/> No Law Enforcement Position <input type="checkbox"/> Yes <input type="checkbox"/> No			7. Financial Statement Required <input type="checkbox"/> Executive Personnel-OGE-278 <input type="checkbox"/> Employment and Financial Interest-OGE-450 <input type="checkbox"/> None required		10. Position Sensitivity and Risk Designation <u>Non-Sensitive</u> <input type="checkbox"/> Non-Sensitive: Low-Risk <u>Public Trust</u> <input type="checkbox"/> Non-Sensitive: Moderate-Risk <input type="checkbox"/> Non-Sensitive: High-Risk <u>National Security</u> <input type="checkbox"/> Noncritical-Sensitive: Moderate-Risk <input type="checkbox"/> Noncritical-Sensitive: High-Risk <input type="checkbox"/> Critical-Sensitive: High-Risk <input type="checkbox"/> Special Sensitive: High-Risk	
		8. Miscellaneous Functional Code: -- BUS: --	9. Full Performance Level Pay Plan: Grade:			
11. Position is <input type="checkbox"/> 2-Supervisory <input type="checkbox"/> 4-Supervisor (CSRA) <input type="checkbox"/> 5-Management Official <input type="checkbox"/> 6-Leader: Type I <input type="checkbox"/> 7-Leader: Type II <input type="checkbox"/> 8-Non-Supervisory		12. Position Status <input type="checkbox"/> Competitive <input type="checkbox"/> SES <input type="checkbox"/> Excepted (specify in remarks) <input type="checkbox"/> SL/ST			15. Fair Labor Standards Act <input type="checkbox"/> Exempt <input type="checkbox"/> Nonexempt	
	13. Duty Station	14. Employing Office Location	16. Cybersecurity Code #1:                    #2: --                    #3: --	17. Competitive Area Code: Competitive Level Code:		
18. Classified/Graded by	Official Title of Position		Pay Plan	Occupational Code	Grade	Initial      Date
a. Department, Bureau, or Office						
b. Second Level Review			--		--	
19. Organizational Title of Position (if different from, or in addition to, official title)			20. Name of Employee (if vacant, specify)			
21. Department, Agency, or Establishment U.S. Department of the Interior			c. Third Subdivision			
a. Bureau/First Subdivision			d. Fourth Subdivision			
b. Second Subdivision			e. Fifth Subdivision			
22. Supervisory Certification. I certify that this is an accurate statement of the major duties and responsibilities of this position and its organizational relationships and that the position is necessary to carry out Government functions for which I am responsible. This certification is made with the knowledge that this information is to be used for statutory purposes relating to, but not limited to: FLSA determinations; position sensitivity and requirements; and appointment/payment of public funds. False or misleading statements may constitute violations of such statutes or their implementing regulations.						
a. Typed Name and Title of Immediate Supervisor			b. Typed Name and Title of Higher-Level Supervisor or Manager (optional)			
Signature		Date	Signature		Date	
23. Classification/Job Grading Certification. I certify that this position has been classified/graded as required by Title 5, U.S. Code, in conformance with standards published by the U.S. Office of Personnel Management or, if no published standards apply directly, consistently with the most applicable published standards.			24. Position Classification Standards Used in Classifying/Grading Position			
Typed Name and Title of Official Taking Action						
Signature		Date				
25. Position Review	Initials	Date	Initials	Date		
a. Supervisor				Information for Employees. The standards, and information on their application, are available in the personnel office. The classification of the position may be reviewed and corrected by the agency or the U.S. Office of Personnel Management. Information on classification/job grading appeals, and complaints on exemption from FLSA, is available from the personnel office or the U.S. Office of Personnel Management.		
b. Classifier						
26. Remarks						

## DOI Standard PD

PD# DN00500

**Classification: Geophysicist, GS-1313-7**

### INTRODUCTION

This is a trainee position in geophysics. The purpose of this position is to perform a variety of technical tasks, such as selecting samples, interpolating missing data, uncovering clear discrepancies, solving minor problems, and performing scientific analyses in support of projects assigned to higher level scientists.

### MAJOR DUTIES (include percentages of time equal to 100)

Performs data acquisition, processing, archiving and retrieval activities for a conventional monitoring network with channels of continuous seismic, geodetic or other geophysical data. Assists senior scientists in planning monitoring station locations, installation, and repairs to be conducted by field staff. Performs real-time and near real-time data acquisition.\_\_\_\_%

Implements conventional geologic, geophysical, and/or geochemical studies. Work is within clear precedent but may require some adaptation of standard equipment and methodologies to meet project requirements. Studies include conventional methods and techniques.\_\_\_\_\_%

Collects seismic, geodetic or other geophysical data; participates in geophysical data analysis to improve forecasting strategies. Applies geophysical approaches to visualize volcanic, geodetic or seismic processes. Applies models from available data to geophysical domains.\_\_\_%

Participates in application of signal processing techniques, data acquisition methods and interpretation in marine, continental margin, and/or terrestrial systems. Uses interactive processing software to determine parameters to be used in processing flow; uses amplitude versus offset analysis to infer rock and fluid properties.\_\_\_\_\_%

Processes of multispectral and hyperspectral remotely sensed data using computer and manual techniques. Uses commercial and in-house remote sensing analysis software to process and interpret data sets.\_\_\_\_\_%

Contributes ground motion estimates, foundation performance, seismic source characterization, and soil liquefaction assessments for use in engineering analysis. Applies data pertaining to seismic hazard characterization, including recurrence information, zonation source characteristics, wave propagation, site attenuation and response to assigned projects.\_\_\_\_\_%

Studies detailed subsurface analyses to determine the resource and reserve potential using geophysical interpretation of seismic and well data. Interpretations are typically computer based using a range of existing software applications.\_\_\_%

Conducts conventional geophysical investigations incorporating information and data from lease, field, and other studies in conjunction with geological data to produce geophysical and geological maps for resource evaluation.\_\_\_\_\_%

Participates in data collection activities used in earthquake hazards, coastal change, engineering projects, environmental hazards studies, and assessments. Performs preliminary interpretation of data, fault

geometry of active zones and other important geologic features. Applies data management and interpretation tools to geophysical models. \_\_\_\_\_%

Participates in studies involving surface and borehole geophysics to evaluate foundation conditions, materials engineering properties, and stratigraphic correlations. Results of studies inform the evaluation of existing structures and design and construction of planned structures. \_\_\_\_\_%

Conducts seismological and geophysical investigations and reports of geotechnical engineering applications at various sites. Works with staff geophysicists, geologists, and engineers to correlate geophysical data with geologic data and engineering materials properties. \_\_\_\_\_%

Participates in communications and coordination activities with scientists and engineers. Reads and analyzes a wide variety of technical information. \_\_\_\_\_%

## FACTOR STATEMENTS

### FACTORS 1 - KNOWLEDGE REQUIRED BY THE POSITION FL 1-6 950 points

Position requires knowledge of geophysics and related physical sciences such as geology, oceanography, or physics to design, conduct, and interpret a range of conventional investigations. Projects are typically general, however specialization to one or more areas including seismology, active source seismic methods, strong motion instrumentation and analysis, electromagnetism, physics of the earth, potential fields, radiometrics, electrical methods, spectroscopy, geodesy, and resources assessments for petroleum, geothermal, and mineral exploration may occur at this level.

Knowledge of data collection methods, data base management and computer sciences and programming language(s) as they relate to the field of geophysics. Knowledge of mathematics, statistical sampling and statistical modeling techniques applied to conventional problems in geophysical, physical, and/or geochemical processes. Knowledge of risk assessments techniques applied to one or more areas of geophysics, which may include methods of assessing economic risk.

Knowledge of a range of conventional data analysis methods applied to geosciences. Knowledge of principles and techniques of real-time data telemetry signal processing. Skill in computer operating systems and hardware platforms to interface field and laboratory geophysical instrumentation with computers.

Knowledge of geophysical instrumentation, electronics, and communications as related to the acquisition, recording, transmission, storage and analysis of geophysical data. Knowledge of one or more specialized areas of geophysical studies such as those involving seismic reflection and refraction, tomography, electrical, electromagnetic, and borehole geophysics.

Ability to plan, organize, and independently carry out projects involving geophysical interpretation, mapping, hazard prediction, and other projects within the area of geoscience.

Knowledge of and skill in using a range of techniques to collect, store, retrieve, and analyze geophysical data, including non-seismic data such as gravity, magnetics and electromagnetics. Familiarity with the full range of equipment used in geophysics and seismology to visualize movement of the earth. Knowledge of current practices in geophysical studies and current literature and sources.

### FACTOR 2 - SUPERVISORY CONTROLS

FL 2-2 125 points

The supervisor defines objectives, priorities and deadlines and specific instructions on methods for any new assignments.

The employee works independently but within the framework of the project as established by the supervisor. Problems and situations not covered by the instructions are brought to the attention of the supervisor.

The scientist's analysis, recommendations, and conclusions are closely reviewed by the supervisor or senior scientist to accuracy of technical approach and conclusions. New or unfamiliar work is reviewed in close detail.

#### FACTOR 3 – GUIDELINES

FL 3-2 125 points

Guidelines consist of bureau, agency, and government-wide policy, regulations and operating procedures; technical reports, and published and unpublished scientific reports. Guidelines also include technical documentation related to mapping and visualization systems, statistical modeling software, and mainframe and desktop computers. Guidelines are typically directly applicable to assignments.

The employee must use judgment in determining the most applicable guidelines to apply. Minor deviations from the guidelines are made by the employee to account for conditions. More significant deviations are referred to the supervisor for resolution.

#### FACTOR 4 – COMPLEXITY

FL 4-3 150 points

Work consists of range of duties requiring the employee to apply different, unrelated processes, methods, and technologies.

The scientist devise techniques to resolve discrepancies between data systems and interpret data requiring extension of existing methods. Courses of action are chosen from a variety of conventional approaches.

The employee must exercise judgment and resourcefulness to adapt and refine techniques in order to understand interrelationships between different strategies and to explain and justify approaches used.

#### FACTOR 5 - SCOPE AND EFFECT

FL 5-2 75 points

Work of the position involves applying precedents and established techniques to a range of conventional geophysical projects designed to orient the scientist to professional work of the position.

Products of the work typically include data sets, maps, and models. The work impacts the reliability and acceptability of the products and services of the immediate organization.

#### FACTOR 6 & 7 – NATURE AND PURPOSE OF CONTACTS FL6-2& 7-B 75 points

Contacts are typically with scientists, technicians, and administrative personnel in the immediate organizations. Contacts may also be outside the immediate office with scientific and technical personnel in other offices of the bureau/office or contracted firms or cooperators.

The purpose of contacts is to plan and coordinate work efforts. Discussions typically involve identifying mutually acceptable options for resolving problems.

#### FACTOR 8 - PHYSICAL DEMANDS

FL 8-1 or 8-2 5 or 20 points

Some work of the position takes place mostly in an office or laboratory setting. No special physical effort is required.

Field work may require hiking distances of several kilometers over uneven surfaces, the use of proper personal protective gear, working in dusty, hot, humid, and extreme cold environments, occasional off-road driving of 4-wheel drive vehicles, traveling to remote field sites in helicopters or small fixed wing planes, and/or boats. Lifting of equipment and objects weighing up to 20 kilograms may be necessary.

FACTOR 9 - WORK ENVIRONMENT

FL 9-1 or 9-2 5 or 20 points

Most work takes place in office or laboratory settings with adequate heat, light, and ventilation.

Office conditions do not require special safety precautions; field conditions may include extreme heat or cold, rain or snow, and hazardous conditions such as exposure to extreme temperature, noxious or toxic gasses, ice or flooding.

Field work may occasionally also involve encounters with snakes, bears, and other wilderness dangers. International field work may be conducted in culturally hostile areas.

Note: Positions involving field work under arduous conditions and those involving on-site emergency response require a pre-employment medical examination to ensure the applicant can perform the essential duties and responsibilities of the position, with or without accommodation.

TOTAL POINTS: 1510 to 1540

1355-1600 = GS-7

## EVALUATION STATEMENT

### STANDARD APPLIED

Job Family Standard (JFS) for Professional Work in the Physical Science Group, GS-1300 December 1997.

### SERIES AND TITLE DETERMINATION

The standard defines the Geophysics series as work requiring application of knowledge of the principles and techniques of geophysics and related sciences in the investigation, measurement, analysis, evaluation, and interpretation of geophysical phenomena and artificially applied forces and fields related to the structure, composition, and physical properties of the earth and its atmosphere. Like work described in the standard, positions covered by this standard PD perform a broad range of geophysical studies and provide technical review and oversight of tasks or programs related to geophysics, seismology, geodesy, hazards assessments and other areas related to physical properties of the earth. The title for such positions is Geophysicist.

### GRADE LEVEL DETERMINATION

The 1300 JFS is a narrative standard. When applying narrative standards each position is placed at the grade with the descriptive material that best represents the overall work of the position. The standard describes work at the GS-05 as the level of basic trainee for the series. Work is closely controlled and designed to prepare the employee for higher level work. At the GS-05 level both one-of-a kind and repetitive tasks are assigned with clear, detailed, and specific instructions.

Work of this position exceeds the GS-05 level. Like work described at the GS-07 level in the standard, employees assigned to this standard PD perform work involving standard methods and procedures. The employee exercises judgment in selecting the appropriate methods and procedures to carry out the analyses and tests; independently completes recurring assignments, but refers all deviations and problems not covered by instructions to the supervisor.

Work does not reach the GS-09 level where employees exercise independent judgment to perform moderately difficult independent scientific investigations or contribute to larger projects, determining methods to apply, observing and making preliminary conclusions and preparing results for reports.