POSITION DESCRIPTION

1. Position Number DN00400

2. Explanation (show any positions replaced)
New DOI Standard PD

3. Reason for Submission
☐ New ☐ Redescription ☐ Reestablishment ☒ Standardized PD ☐ Other

4. Service
☐ HQ ☐ Field

5. Subject to Identical Addition (IA) Action
☐ Yes (multiple use) ☐ No (single incumbent)

6. Position Specifications
Subject to Random Drug Testing ☐ Yes ☐ No
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Subject to Medical Standards/Surveillance ☐ Yes ☐ No
Telework Suitable ☐ Yes ☐ No
Fire Position ☐ Yes ☐ No
Law Enforcement Position ☐ Yes ☐ No

7. Financial Statement Required
☐ Executive Personnel-OGE-278
☐ Employment and Financial Interest-OGE-450
☐ None required

8. Miscellaneous
Functional Code: --
BUS: --

9. Full Performance Level
Pay Plan: --
Grade: --

10. Position Sensitivity and Risk Designation
Non-Sensitive
☐ Non-Sensitive: Low-Risk
Public Trust
☐ Non-Sensitive: Moderate-Risk
☐ Non-Sensitive: High-Risk
National Security
☐ Noncritical-Sensitive: Moderate-Risk
☐ Noncritical-Sensitive: High-Risk
☐ Critical-Sensitive: High-Risk
☐ Special Sensitive: High-Risk

11. Position is
☐ 2-Supervisory
☐ 4-Supervisor (CSRA)
☐ 5-Management Official
☐ 6-Leader: Type I
☐ 7-Leader: Type II
☒ 8-Non-Supervisory

12. Position Status
☐ Competitive ☐ SES
☐ Excepted (specify in remarks) ☐ SL/ST

13. Duty Station

14. Employing Office Location

15. Fair Labor Standards Act
☐ Exempt ☐ Nonexempt

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	Geophysicist	GS	1313	9	rl	8/12/20
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
Department of the Interior

c. Third Subdivision

a. Bureau/First Subdivision
U.S. Geological Survey

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

Signature | **Date**

b. Typed Name and Title of Higher-Level Supervisor or Manager *(optional)*

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.*

Typed Name and Title of Official Taking Action
Renae Lockwood, Classification Program Manager

Signature RENAE LOCKWOOD Digitally signed by RENAE LOCKWOOD Date: 2020.08.12 07:17:10 -06'00' **Date** 8/12/20

24. Position Classification Standards Used in Classifying/Grading Position
Job Family Position Classification Standard for Professional Work in the Physical Science Group, GS-1300, HRCD-4 December 1997

25. Position Review	Initials	Date	Initials	Date
a. Supervisor				
b. Classifier				

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.

26. Remarks

DOI Standard PD

PD# DN00400

Classification: Geophysicist, GS-1313-09

INTRODUCTION

Position performs scientific work involving investigation of recognized phenomena that involves conventional methods and techniques but may go beyond clear precedents. The purpose of this position is perform independent responsibility for applying established technology in routine ways to well-defined, moderate sized physical science projects and may also work in support of larger projects using less established technology.

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 in planning monitoring station locations, installation, and repairs to be conducted by field staff. Performs real-time and near real-time data acquisition, processing, reporting and post-reporting activities. _____%

Designs and 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 the integration of different methods and techniques. _____%

Analyzes 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 in an active geographic area. Applies seismic methods to the needs of the assigned network. Applies models from available data to geophysical domains. Using specialized interpretive software tools, generates geophysical models and associated data products over specific geographic areas. _____%

Applies processing algorithms for analysis of reflection and refraction data. 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 analyze data and determine parameters to be used in processing flow; uses amplitude versus offset analysis to infer rock and fluid properties to enhance geologic interpretations. _____%

Processes and interprets sets 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 complex data sets. _____%

Contributes ground motion estimates, foundation performance, seismic source characterization, and soil liquefaction assessments for use in engineering analysis. Investigates the use of strong ground motion information to define appropriate ground motions for use in the analysis of design of engineered structures. Applies data pertaining to seismic hazard characterization, including recurrence information, zonation source characteristics, wave propagation, site attenuation and response to a range of standard 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 complex but 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 major data collection activities used in earthquake hazards, coastal change, engineering projects, environmental hazards studies, and assessments. Interprets data, fault geometry of active zones and other important geologic features. Applies data management and interpretation tools to geophysical models. ____%

Performs 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. Publishes curated datasets to interactive web platforms or data repositories. _____%

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 2-3 275 points

The supervisor defines objectives, priorities and deadlines. The employee independently plans the work, coordinating with other scientists to resolve problems. Most conventional problems are handled by the employee based on policies, training, or accepted practices. Unusual situations or potential adverse publicity are brought to the attention of the supervisor.

The scientist's analysis, recommendations, and conclusions are reviewed by the supervisor or senior scientist to ensure soundness of technical approach and conclusions. Methods are not typically reviewed in detail.

FACTOR 3 – GUIDELINES FL 3-3 275 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. Precedents are typically available, but not always directly applicable.

The employee must use judgment adapting guidelines to resolve specific, complex issues. While equipment and software are generally commercially produced, such equipment and software may require adaptation to suit the needs of the work. The scientist must apply judgment in adapting equipment, devising new techniques and developing methods that depart from established practices.

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 5-3 150 points

Work of the position involves applying precedents and established techniques to projects involving protection of life and property, design and construction of engineering projects, exploration and management of valuable petroleum and mineral resources, and provision of science information tools and technologies.

Products of the work typically include data sets, maps, and models. The work affects the safety of people, safe operation of facilities or equipment directly impacted by work products, and agency credibility with external customers.

FACTOR 6 & 7 – NATURE AND PURPOSE OF CONTACTS FL 6-3 & 7-B 110 points

Contacts are with technical, administrative, and scientific personnel within and outside the immediate organization. Other contacts typically include scientific and technical personnel from other Federal and State Agencies, regulatory bodies, industrial and consulting firms, professional and scientific societies and academic institutions.

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: 1770-1800

GS-9 = 1855-2100

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. At the GS-07 level work is performed under general supervision with limited practice of independent judgment. At this level, trainees 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.

As described in the standard, GS-9 scientists plan and carry out routine work. They select and make minor adaptations to procedures and accepted practices and handle unexpected conditions arising in the normal course of the work. For recurring assignments, GS-9 scientists are responsible for organizing the work, following prescribed methods and guidelines, and recognizing conditions and results that may affect the findings. Employees assigned to this standard PD, like described at the GS-9 perform conventional research projects of their own design and participate on broader projects with other scientists. Scientists at this level perform a full range of conventional data collection, data analysis, and geophysical studies. Like positions in the standard, the scientist plans and carries out the successive steps and handles problems and deviations in accordance with instructions, policies, previous training, or accepted practices.

Work does not reach the GS-11 level, where professional scientists plan and execute complex studies. These studies usually involve intensive investigations into one or more recognized phenomena. The work typically involves conventional methods and techniques, though going beyond clear precedents, and requires adapting methods to the problems at hand.

FINAL CLASSIFICATION
Position classifies as GS-1313-09, Geophysicist