

## EXPLOSIVE EXAMINERS JOB DESCRIPTION

General Definition of an explosives examiner: Laboratory personnel using scientific techniques to examine explosive material in the form of post-blast residue and/or unexploded material.

### Designated Personnel and Responsibilities:

**Technical/Laboratory Aide**- A designated person that performs basic laboratory duties but does not examine evidence.

**Support Analyst**-A designated person responsible for the examination and analysis of evidentiary samples on laboratory instrumentation.

**Explosive Chemist/Analyst**- A designated person who receives, examines and analyzes evidence, interprets results, writes reports, technically or administratively reviews reports, and testifies to findings concerning casework. They may also teach, perform research, and develop procedures and methods, and may evaluate new technology and scientific equipment.

**Explosives Chemist/Analyst Supervisor**- A designated person who has supervisory duties. The Explosive Chemist/Analyst Supervisor may receive, examine and analyze evidence, interpret results, write reports, technically or administratively review reports, and may testify to findings concerning casework. They may also teach, perform research, and develop procedures and methods, and may evaluate new technology and scientific equipment.

**Explosive Device Specialist**-A designated person who has the duty to construct and/or reconstruct destructive devices. This person does not perform scientific laboratory analysis on post-blast residues or unexploded material. The Explosive Device Specialist has knowledge of electrical components potentially useful in constructing explosive devices, methods of initiation, containment and concealment, and various explosives and their resultant post-blast effects on various materials. This designated individual provides the technical information about whether a set of items would be considered a destructive device.

**Case Coordinator**-A designated person with extensive knowledge of the forensic capabilities of the laboratory system. This person must have enough knowledge about forensic science to be able to prioritize cases and direct work flow.

**Technical Manager**-A designated person who has the overall responsibility and authority for the technical operation of the explosives examinations. Technical operations include, but are not limited to: protocols, analytical methodology, evaluating report writing and conclusions.

**Technical Consultant**- In the event that no personnel in the laboratory system has the qualifications described for a technical manager, a consultant having those qualifications must be retained from outside the laboratory system to perform technical consultant duties until such qualifications are attained.

## **Technical/Laboratory Aide**

### **Academic Requirements**

High School education is required. Additional coursework (college level) with strong emphasis on physical science is recommended.

### **Requirements/Certifications**

The technician must have the ability to understand and operate the analytical tools and instruments, which they are required to use.

### **Agency Training Requirements**

The training will consist of training to operate any analytical tool that they are required to use. An appropriate training period is recommended for each task.

### **Position Duties**

Technicians/Laboratory Aides will assist the analyst with whatever is deemed appropriate work. This can include, but is not limited to, creation of standards, collection of background information, aspects of research, and library creation. The technician shall not perform casework.

## **Support Analyst**

### **Academic Requirements**

The support analyst will exhibit knowledge of the theories, procedures and analytical techniques necessary to produce reliable results and conclusions. This person will have a minimum of a BA/BS degree in a natural or applied science, (may include criminalistics or forensic science) with recommended course work in general chemistry, organic chemistry, and instrumental analysis.

### **Experience Requirements/Certifications**

No experience is required.

### **Agency Training Requirements**

The Support Analyst must complete an appropriate training program that includes the type of explosives analyzed, standards/samples for analysis, and instrumentation use. The analyst must have completed and passed a competency test and yearly proficiency testing in explosives analysis.

### **Position Duties**

The duties are to assist the explosive analyst in the analysis of explosive material, both unexploded and post-blast. Other duties include assisting the explosive analyst as needed.

## **Explosive Chemist/Analyst**

### **Academic Requirements**

The explosive chemist will exhibit knowledge of the theories, procedures and analytical techniques necessary to produce reliable results and conclusions. This person will have a minimum of a BA/BS degree in a natural or applied science, (may include criminalistics or forensic science) with recommended course work in general chemistry, organic chemistry, and instrumental analysis.

### **Experience Requirements/Certifications**

None. Must complete a training program.

### **Agency Training Requirements**

Complete an appropriate training program that includes the analysis of low and high explosives standards, samples for analysis, and instrumentation used. It is recommended that the analyst complete a class in explosives analysis and a post blast investigation course such as those taught at the California Criminalistics Institute, at regional forensic science seminars, and at federally sponsored schools. The Explosive Chemist/Analyst may acquire knowledge of the theories, procedures and techniques necessary to construct or reconstruct an explosive device. The analyst must have completed and passed a competency test and yearly proficiency testing in explosives analysis.

### **Position Duties**

The Explosive Chemist/Analyst is a person who receives, examines, and analyzes evidence, interprets results, writes reports and testifies to findings concerning casework. The qualified Explosive Chemist/Analyst may technically or administratively review other analyst's explosives reports. The experienced chemist/analyst may teach, perform research, develop procedures and methods, and may evaluate new technology and scientific equipment.

## **Explosives Chemist/Analyst Supervisor**

### **Academic Requirements**

The Explosives Chemist/Analyst Supervisor shall possess knowledge, skills, and abilities of an Explosives Chemist/Analyst including the theories, procedures and analytical techniques necessary to produce reliable results and conclusions. This person will have a minimum of a BA/BS degree in a natural or applied science (may include criminalistics and forensic science) with recommended course work in general chemistry, organic chemistry, and instrumental analysis.

### **Experience Requirements/Certifications**

The Explosives Chemist/Analyst Supervisor shall have five (5) years experience in performing explosives analysis.

## **Explosives Chemist/Analyst Supervisor** (continued)

### **Agency Training Requirements**

It is recommended that the Explosives Chemist/Analyst Supervisor have at least a one day workshop in supervision provided by a local college, commercial group, or corporate training program. It is preferred that the Explosives Chemist/Analyst Supervisor attend at least a one week class on supervision of technical/scientific personnel.

### **Position Duties**

In addition to regular supervisory duties, the Explosive Chemist/Analyst Supervisor may receive, examine and analyze evidence, interpret results, write reports, technically or administratively review reports, and may testify to findings concerning casework. They may also teach, perform research, and develop procedures and methods, and may evaluate new technology and scientific equipment.

## **Explosive Device Specialist**

### **Academic Requirements**

The Explosive Device Specialist will exhibit knowledge of the theories, procedures and techniques necessary to construct or reconstruct an explosive device. This person will have at least a high school diploma or equivalent.

### **Experience Requirements/Certifications**

A minimum of one-year training is recommended for the Explosive Device Specialist in the manufacture of pyrotechnics and explosives, in explosive ordnance devices, and in the manufacture of improvised explosive devices.

### **Agency Training Requirements**

Training will include successful completion of schools involving bomb-making courses, for example, but not limited to, the Federal Bureau of Investigation Hazardous Devices School (Redstone Arsenal at Hunstville, Ala.), Post-Blast Explosives Investigation and/or Advanced Post-Blast Explosives class, and the Bureau of Alcohol, Tobacco, and Firearms explosives schools at Glync, Georgia.

### **Position Duties**

The Explosive Device Specialist is a person who receives, examines, constructs, or reconstructs improvised explosive devices (pre and post blast), interprets results, writes reports, and testifies to findings concerning casework. The Explosive Device Specialist may teach, perform research, develop procedures and methods for the examination, construction, and reconstruction of explosive devices.

## **Technical Manager**

### **Academic Requirements**

The Technical Manager shall possess knowledge, skills, and abilities of an Explosives Chemist/Analyst including the theories, procedures and analytical techniques necessary to produce reliable results and conclusions. This person will have a minimum of a BA/BS degree in a natural or applied science (may include criminalistics and forensic science) with recommended course work in general chemistry, organic chemistry, and instrumental analysis.

### **Experience Requirements/Certifications**

The Explosives Technical Manager shall have five (5) years experience in performing explosive analysis.

### **Agency Training Requirements**

Prior to becoming the Explosives Technical Manager, they shall have completed an appropriate training program that includes the analysis of low and high explosives standards, samples for analysis, and instrumentation used. It is recommended that the Technical Manager successfully complete a class in explosives analysis and a post blast investigation course such as those taught at the California Criminalistics Institute, at regional forensic science seminars, and at federally sponsored schools. The Technical Manager may acquire knowledge of the theories, procedures and techniques necessary to construct or reconstruct an explosive device. If the Technical Manager continues to perform casework, they must complete and pass yearly proficiency testing in explosives analysis.

### **Position Duties**

In addition to technical supervisory duties, such as, but not limited to, teaching/training, mentoring of new analyst(s), performing research in both the literature and laboratory, developing procedures and methods, technically reviewing casework and proficiency tests in explosives analysis, the Explosives Technical Manager may receive, examine and analyze evidence, interpret results, write reports, administratively review reports, and testify to findings concerning casework. With the support of information provided by the Explosive Chemist/Analyst(s), the Technical Manager may suggest new instrumentation for capital asset purchases for the explosives section. The Technical Manager may allocate resources in the explosives section.

## **Technical Consultant**

The Technical Consultant shall meet the same requirements as a Technical Manager include earned a BA/BS in a natural or physical science (may include criminalistics or forensic science), completed a training course in explosives analysis, have a minimum of 5 (five) years experience in explosives analysis, and pass proficiency tests on a yearly basis.

The Technical Consultant may then act as a Technical Manager for a laboratory without personnel qualified as a Technical Manager.