



### MINE SEARCH AND RESCUE (SAR) TECHNICIAN

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| RESOURCE CATEGORY                       | Search and Rescue                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| RESOURCE KIND                           | Personnel                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| OVERALL FUNCTION                        | The Mine Search and Rescue (SAR) Technician performs search, rescue, and recovery in various mine environments                                                                                                                                                                                                                                                                                                                                                   |
| COMPOSITION AND ORDERING SPECIFICATIONS | <ol style="list-style-type: none"><li>1. This position can be ordered as a single resource or in conjunction with a NIMS typed team (Mine Search and Rescue Team).</li><li>2. Discuss logistics for deploying this position, such as working conditions, length of deployment, security, lodging, transportation, and meals, prior to deployment</li><li>3. The requestor should consider the need for additional recognized capability or endorsement</li></ol> |

Each type of resource builds on the qualifications of the type below it. For example, Type 1 qualifications include the qualifications in Type 2, plus an increase in capability. Type 1 is the highest qualification level.

| COMPONENT   | TYPE 1                                                                                                                                                                                                                                                                                             | TYPE 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | NOTES         |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| DESCRIPTION | Same as Type 2, PLUS:<br>Performs search, rescue, and recovery in active mine environments, including:<br><ol style="list-style-type: none"><li>1. Firefighting and explosion operations</li><li>2. Bulkhead building and timbering operations</li><li>3. Post fire/explosion operations</li></ol> | The Mine SAR Technician:<br><ol style="list-style-type: none"><li>1. Performs search, rescue, and recovery in abandoned and inactive mine environments, including:<ol style="list-style-type: none"><li>a. Technical rope operations</li><li>b. Ventilation operations</li><li>c. Small fire extinguishment operations</li></ol></li><li>2. Works in or around mines with a National Incident Management System (NIMS) typed Canine Search and Rescue Team - Land Live</li><li>3. Provides first aid</li><li>4. Reports to a Mine SAR Team Leader, if applicable</li><li>5. Operates within the Incident Command System (ICS) in an entry level position within a Mine SAR Team</li><li>6. Operates in environments with and without infrastructure, including those affected by disasters and terrorism; with compromised access to roadways, utilities, and transportation; and with limited availability of shelter, food, and water</li><li>7. Provides:<ol style="list-style-type: none"><li>a. Safety of self and team members</li><li>b. Basic medical care of self, team members, and survivors</li><li>c. Simple decontamination of self and team members</li></ol></li><li>8. Basic ground support capability for helicopter operations</li><li>9. Coordinates with ground vehicles, watercraft, and aircraft for support, transportation, and evacuation</li></ol> | Not Specified |
| EDUCATION   | Not Specified                                                                                                                                                                                                                                                                                      | Not Specified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Not Specified |



| COMPONENT | TYPE 1                                                                                                                                                                                                                                                                                                                                                                       | TYPE 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | NOTES                                                                         |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| TRAINING  | <p>Same as Type 2, PLUS:</p> <ol style="list-style-type: none"><li>1. AHJ-verified completion of training that meets or exceeds the requirements of NFPA, ASTM, U.S. Department of Labor Mine Safety and Health Administration (MSHA) for the following:</li><li>2. Appropriate endorsements for SAR operations for specific types of active mines defined by MSHA</li></ol> | <p>Completion of the following:</p> <ol style="list-style-type: none"><li>1. NIMS Type 2 Land SAR Technician training</li><li>2. State and local safety and health regulations</li><li>3. OSHA based coursework on:<ol style="list-style-type: none"><li>a. Annual hazardous materials first responder awareness</li><li>b. Federal regulations related to environment for this type</li></ol></li><li>4. Completion of the following awareness-level training:<ol style="list-style-type: none"><li>a. Hazards and safety in and around:</li><li>b. Active mine environments</li><li>c. Submerged environments, including stillwater, swiftwater, and dive operations</li><li>d. Other various underground and confined space environments</li><li>e. Related hazard and hazardous material guides and references</li></ol></li><li>5. Initial response to an incident including:<ol style="list-style-type: none"><li>a. Size up and initial report</li><li>b. Rescue vs. recovery assessment</li><li>c. Pre-planning and emergency response plans for an incident</li></ol></li></ol> <p>Authority Having Jurisdiction (AHJ)-verified completion of training that meets or exceeds a National Fire Protection Agency (NFPA) or ASTM International (ASTM) for the following:</p> <ol style="list-style-type: none"><li>1. Surface and underground communications equipment</li><li>2. Go/No-go processes at every level, ensuring personnel accountability, and tracking systems and checklists for surface entry and exit</li><li>3. Atmospheric hazards, gas/atmosphere metering, maintenance, care of equipment hazards, and safety and mitigation of utilities, such as powered, electrical, and mechanical</li><li>4. Additional resources for information, safety, and SAR for this environment</li><li>5. Environment stability and collapse hazards</li><li>6. Effects of air flow, current, and barometric pressure in the environment and related measuring devices</li></ol> <p>(Continued)</p> | <p>The AHJ may require additional training capabilities and endorsements.</p> |



Position Qualification for Mass Search and Rescue Operations  
Search and Rescue

| COMPONENT | TYPE 1 | TYPE 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | NOTES |
|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| TRAINING  |        | <p>(Continued)</p> <p>7. Ventilation needs and related equipment</p> <p>8. General travel, exploration, route finding, marking, and mapping</p> <p>9. Recognizing and mitigating self and personnel claustrophobia</p> <p>10. Any necessary intrinsically safe, permissible, and explosion proof-related equipment requirements, per 30 CFR 23</p> <p>11. Care, use, inspection, and maintenance of any required breathing protection devices, masks, respirators, and apparatus, per 30 CFR 23 and 49</p> <p>12. Surface team makeup and tactics</p> <p>13. Entry team makeup and tactics</p> <p>14. Entry teams travel, unity, safety, and survival</p> <p>15. Patient medical problems, care, and evacuation</p> <p>16. Self-help and self-rescue, including sheltering and safe havens</p> <p>17. Response to team members needing help in the hazard zone, such as MAYDAY and Rapid Intervention Crews</p> <p>18. Endorsements, as required by the AHJ, for animal rescue in this environment</p> <p>19. Endorsements, as required by the AHJ, for submerged operations, including stillwater, swiftwater, and dive operations</p> <p>20. Environment stability and collapse hazards and mitigation</p> <p>21. Personnel accountability and tracking system for surface and entry/exit, including use of entry and exit checklists</p> <p>22. Fire and explosion safety training in the active mine environment, including mitigation and suppression, extinguishment methods and equipment, and post-fire and post-explosion safety actions</p> <p>Training specific to technical rope rescue needed in this environment:</p> <p>1. Rope rescue equipment</p> <p>2. Knots, ropes, webbing, and webbing characteristics and handling</p> <p>3. Anchor</p> <p>(Continued)</p> |       |



## Position Qualification for Mass Search and Rescue Operations Search and Rescue

| COMPONENT  | TYPE 1         | TYPE 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | NOTES         |
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| TRAINING   |                | (Continued)<br>s<br>4. Belaying<br>5. Short distance ascending and descending a rope<br>6. Long distance ascending and descending a rope<br>7. Patient packaging and litter rigging<br>8. Rigging and operating raising and lowering systems<br>9. Low-angle or scree evacuation<br>10. Steep angle evacuation<br>11. High angle evacuation<br>12. Improvised rescue techniques<br>13. Highline and high directional rigging and operating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |
| EXPERIENCE | Same as Type 2 | Knowledge, Skills, and Abilities:<br>1. Function at the Technician level<br>2. Identifies and applies the role of the Mine SAR Technician within the incident management structure<br>3. Knowledge of mine rescue and associated hazards<br>4. Knowledge of rescue procedures in the mine environment during day and night operations<br>5. Knowledge of canine search capabilities<br>6. Knowledge of use, care, inspection, and maintenance of all PPE, tools, devices, and equipment specific to this position<br>7. Carries out the following:<br>a. Technical rescue operations<br>b. Rope rescue<br>c. Mine SAR<br>d. Confined space SAR<br>e. Machinery rescue<br>f. Trench and excavation SAR<br><br>Experience:<br>1. Scene management and dynamic assessment of risk<br><br>2. Mine SAR techniques<br>3. Identify hazards, including potential operating environments<br>4. Completion of the Mine SAR Technician Position Task Books (PTB) or equivalent AHJ documentation | Not Specified |



## Position Qualification for Mass Search and Rescue Operations Search and Rescue

| COMPONENT                                                     | TYPE 1         | TYPE 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | NOTES                                                                                                                                                                                                                                                     |
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| <b>PHYSICAL/MEDICAL FITNESS</b>                               | Same as Type 2 | <ol style="list-style-type: none"><li>1. Arduous</li><li>2. Meets minimum physical fitness and swimming standards, in accordance with the AHJ's Job Related Physical Ability Test (JRPAT)</li><li>3. Maintains AHJ-determined physical fitness standards suitable for the environment and typing</li><li>4. Maintains immunizations in accordance with the U.S. Department of Health and Human Services Centers for Disease Control and Prevention recommended adult immunization schedule for the United States of America</li></ol> | The NIMS Guideline for the National Qualification System (NQS) defines Physical/Medical Fitness level for NIMS positions.                                                                                                                                 |
| <b>CURRENCY</b>                                               | Same as Type 2 | <ol style="list-style-type: none"><li>1. Annual refresher of related SAR skills and abilities in mine environments</li><li>2. Functions in this position during an operational incident, planned event, exercise, drill, or simulation once every three years</li><li>3. Background checks as applicable law permits or requires</li></ol>                                                                                                                                                                                            | Provider must carry out and use any background checks as applicable law specifies. This may include background check completed within past 12 months; sex-offender registry check; and a local, state, and a local, state, and national criminal history. |
| <b>PROFESSIONAL AND TECHNICAL LICENSES AND CERTIFICATIONS</b> | Same as Type 2 | <ol style="list-style-type: none"><li>1. Certification or completion of mine SAR training that relates to the job standards</li><li>2. AHJ-required BLS-level medical care certification or recertification</li></ol>                                                                                                                                                                                                                                                                                                                 | The AHJ determines the emergency medical certifications the technician needs to meet the minimum criteria, which can include first aid, cardiopulmonary resuscitation (CPR), and BLS.                                                                     |



## Position Qualification for Mass Search and Rescue Operations Search and Rescue

### NOTES

Nationally typed resources represent the minimum criteria for the associated category.

### REFERENCES

1. FEMA, NIMS 508: Mine Search and Rescue Team
2. FEMA, NIMS 509: Mine Search and Rescue Team Leader
3. FEMA, National Incident Management System (NIMS), October 2017
4. FEMA, NIMS Guideline for the National Qualification System (NQS), November 2017
5. ASTM International F2890-12: Standard Guide for Hazard Awareness for Search and Rescue Personnel, 2012
6. U.S. Department of Labor, Mine Safety and Health Administration (MSHA), Most Frequently Cited Standards by Mine Type, 2014
7. Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations (CFR) Part 1910.120: Hazardous Waste Operations and Emergency Response
8. OSHA 29 CFR Part 1910.134: Respiratory Protection
9. OSHA 29 CFR Part 1910.146: Permit-Required Confined Spaces
10. OSHA 29 CFR Part 1910.1030: Blood borne Pathogens
11. MSHA 30 CFR Part 23: Telephones and Signaling Devices
12. MSHA 30 CFR Part 49: Mine Rescue Teams