

# QUALITY ASSURANCE SEEDING

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**US Army Corps  
of Engineers**



# QUALITY ASSURANCE SEEDING OVERVIEW

- Quality Management –  
Quality Control (QC) vs. Quality Assurance (QA)
- QA Seeding
- QA Template
- Multiple Award Task Order Contract (MATOC) – Third-Party Seeding, Range Support Center



# QC and QA – Aspects of Quality Management

## Quality Management System

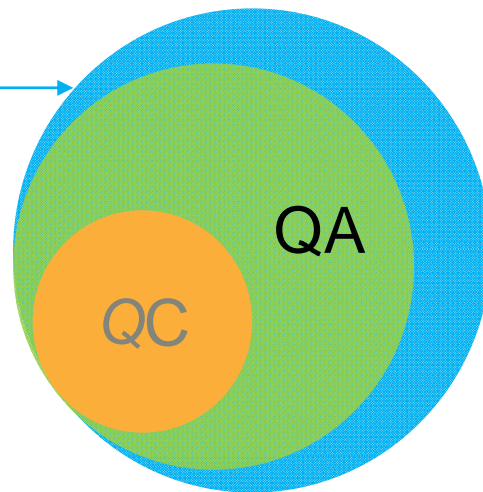
- Conformance to requirements
- Goal – customer satisfaction

## Quality Control (QC) –

Focused on achieving requirements  
Conduct inspections

## Quality Assurance (QA) –

Focused on the process  
Provides confidence



# WHAT IS SEEDING?

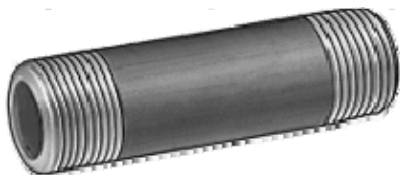
Emplacement of

- Industry Standard Objects (ISOs)
- Inert Munitions

Throughout an area to be surveyed.

Applied to:

- Surface
- Subsurface



# QC and QA SEEDING

## QC Seeds –

Placed by Contractor

Tests:

- Instrument function
- Limits of thresholds
- Coverage



## QA Seeds –

Placed by Government or  
3<sup>rd</sup> Party Contractors

Tests:

- Process



# QC vs QA SEEDS

## QC Seed –

- Blind to UXO teams, data collectors, and data processors
- Known to Contractor’s QC manager
- Challenging locations



## QA Seed –

- Blind to UXO teams, data collectors, data processors, and QC personnel
- Known only by Government or 3<sup>rd</sup> party
- Less challenging placement



# CONFORMANCE TO REQUIREMENTS

Munitions Response –

Quality Assurance

Project Plan (MR-  
QAPP)

- Data Quality Objectives (DQO)
- Measurement Quality Objectives (MQO)
- Measurement Performance Criteria (MPC)



# QA SEEDING

## Type

- Representative of targets on Site

## Depth

- Surface
- Subsurface

## Distribution

- Throughout area of survey

## Number

- Analog sensor
  - 5-6 seeds/day/operator
- Digital Geophysical Mapping (DGM) or Advanced Geophysical Classification (AGC) sensor
  - 1-3 seeds/day/instrument





# SEED PLACEMENT



# QC SEED FAILURE

Nonconformance –  
Failure to meet conformance requirements

Triggers a Root Cause Analysis (RCA)

Corrective Measures



# QA SEED FAILURE



# QA SEED TEMPLATE

## QA Tool

## Quality Assurance Surveillance Plan (QASP)

**CLOSE-HOLD INFORMATION – DO NOT  
DISTRIBUTE**

Quality Assurance Seeding Plan  
Range Support Center

Template



Prepared by  
Army Corps of Engineers  
Sacramento District

Lays out seed plan:

- Types
- Depth
- Distribution
- Number



# MATOC – THIRD PARTY VALIDATION SEEDING AND AGC DATA COLLECTION AND PROCESSING SUPPORT

## DAGCAP Accredited Companies Qualified

- APTIM
- ARCADIS
- BLACK TUSK
- CH2M (Jacobs)
- PARSONS
- TETRA TECH
- WESTON
- TPMC-WRT JV

Award March 2018

First Task Order: Camp Fannin

## Typical Task Order Examples

- Work Plan, UFP/MR-QAPP, and other Planning Documents Development
- Standard Environmental and/or Geophysical Reports
- Professional Surveying
- Other standard Military Munitions Response Program (MMRP) Document Preparation
- Procurement of Industry Standard Objects (ISO) Seeds
- Geophysical and Geospatial Equipment Rental or Supply
- UXO Technician Support (primarily for anomaly avoidance and escort roles and responsibilities)
- Geophysicist Support
- Intrusive Investigations (primarily as part of QC/QA)
- AGC Data Collection and Processing
- DoD or Site-Specific Target or Interest (TOI) Library Modifications
- Establishment of an Instrument Verification Strip (IVS)



# Summary



# QUESTIONS

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