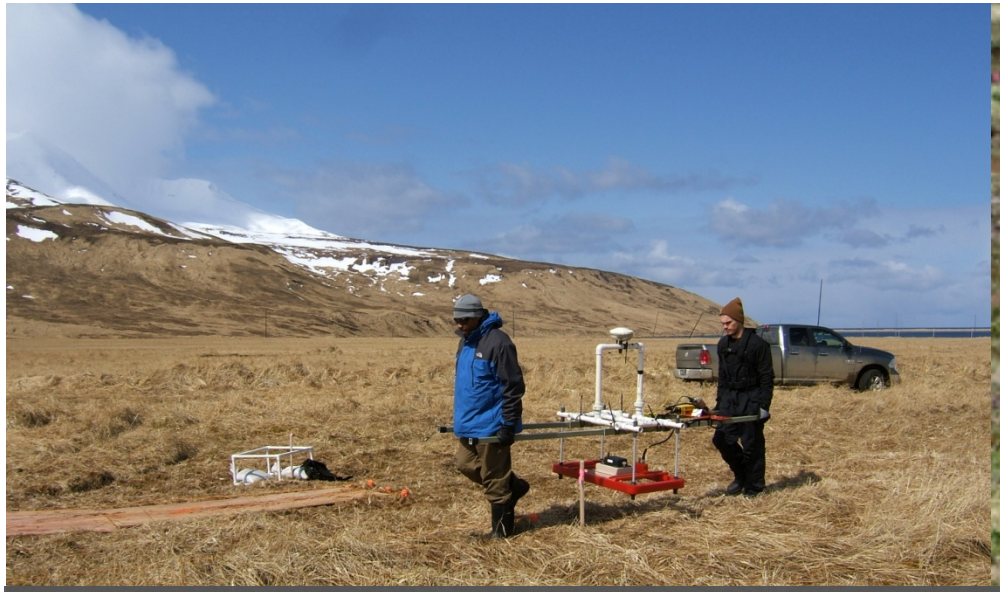

QA for Munitions Response: Independent Government QA

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Introduction

The theme for this presentation is to describe the activities we perform in our role as independent Government Quality Assurance (QA) on munitions response projects, using Adak as an example, and to demonstrate how those activities support the Project Team's objectives. Included is a discussion of the following topics:

- Roles for quality control (QC) and QA; Rules, and Communication;
- QA input to contractor work documents;
- QA of digital geophysical mapping (DGM), Intrusive Investigation and other field activities;
- QA of QC activities; and,
- How the QA supports the Project Team's objectives.

Adak Experience (2007-Present)

- (2007-2012) QA for 3 separate projects
  - Time Critical Removal Action (TCRA) at a 40mm Range
  - Remedial Investigation/Feasibility Study (RI/FS) in Operable Unit B2
  - Remedial Action, Operable Unit B1
- (2011 – Present) QA for Non-Time Critical Removal Action (NTCRA), Operable Unit B2

Roles

- What we DID want to do….
  - Provide independent data, for the Navy, that the contractor was complying with the approved work plans
  - Provide independent data, for the regulatory agencies, that the work was performed according to the approved plans
  - Provide independent verification and documentation that any non-conformances were investigated and corrections applied
- What we DID NOT want to do….
  - Duplicate QC
  - Direct any of the work

Defined the Responsibilities

- QC is responsible for controlling the work
  - QC has primary responsibility for establishing that routine work is performed according to the established (approved) procedures
    - Implements the 3-phase inspection process
    - Identifies non-conforming work
    - Oversee/implement corrective action
  - Conducts final inspections and documents grid completion

Defined the Responsibilities

- QA is responsible for monitoring QC and for conducting and documenting independent inspections
  - Identifying and reporting production and/or QC work which deviates from the approved project plans or is incomplete
  - Independent auditing of DGM, intrusive and other field definable features of work (DFW)
  - Documenting grid completion
  - Performing root-cause-analysis and recommending corrective actions
  - Developing lessons learned

Rules

- QC has full responsibility for the satisfactory completion of all definable features of work. QA does not:
  - Approve work in the field
  - Accept completed work in the field
  - Provide exceptions to approved procedures/processes
- QA only accepts documentation of completed work from QC (not the production staff)
- Rules formalized in Quality Assurance Project Plan (QAPP) and Quality Assurance Surveillance Plan (QASP)

Communication

- Weekly Quality Management Meeting
  - Key participants are QC, QA and Navy
  - Senior UXO Supervisor (SUXOS), UXO Safety Officer (UXOSO), geophysicist and data manager also attend
  - No Regulators
- Purpose
  - Discuss schedule (completed or to-be-completed production and QA work)
  - Discuss in-process documents (Plans, Standard Operating Procedures (SOP), Field Change Requests (FCR), Non-Conformance Reports (NCR), etc.)
  - Detailed technical discussions, as needed

Communication

- Weekly QC Meeting
  - Standard format and agenda
  - Regulators participate
- QA communicates formally to the contractor via the client (Navy)
  - Informal communication between QA Lead and Unexploded Ordnance Quality Control Manager (UXOQCM)
  - Informal communication between QA Geophysicist and Project Geophysicist and/or Project QC Geophysicist
  - No ‘official’ communication between QA field personnel and contractor field personnel

Communication

- Pre-Deployment QA Training
  - Detailed like a Preparatory Inspection only for the QA staff
    - Where are the audit points?
    - What are the audit criteria and how are they to be applied?
    - Who are the decision-makers and what are the limits to their authority?
    - What is the problem-solving process?
    - What are your safety responsibilities (e.g., stop work authority)?
  - Attended by Navy site staff (Remedial Project Manager (RPM), Navy Technical Representative (NTR))
  - Attended by Regulators and their Consultants

QA Input to Contractor Work Documents

- Pre-2012, QA was part of the formal document review process
- For current work, QA prepared the basic work plans up to the Draft version
  - Munitions and Explosives of Concern (MEC) QAPP
  - Munitions Constituents (MC) QAPP
  - Geophysical Systems Verification (GSV) Plan (plus picking thresholds for all Removal Action Areas (RAAs))
- Draft Work plans were provided with the Request for Proposal (RFP)
- Did not prepare SOPs, Health and Safety Plan (HASP), Explosives Safety Submittal (ESS), however, QA did participate in the review

QA Input to Contractor Work Documents

- QA reviews all in-process documents (FCR, revisions to work plans and SOPs, etc.)
  - Review for alignment with project objectives
  - Review for alignment with existing plans and processes
  - Review for adequate QC audit and documentation
  - Review to determine whether changes to QA procedures are needed
  - All reviews prior to regulatory review

QA of DGM, Intrusive Investigation and other Field Activities

- QA of DGM is intensive on these projects
  - Requirement is to reprocess 100% of DGM data, select and compare targets and concur with target list, in writing
    - Evaluate Instrument Verification Strip (IVS) results and blind seeds
    - Evaluate the data coverage
    - Evaluate data density
    - Make the target pick comparisons and add targets if deemed appropriate and with proper justification
  - All of the QA results are reported in the Quality Assurance Surveillance Report at the end of each field season

QA of DGM, Intrusive Investigation and other Field Activities

- QA of Intrusive Investigation and other Field Activities
  - Audit each DFW according to the frequency and metrics specified in the QA Surveillance Plan
    - Audits begin at an intense rate (e.g., 1 per team/per day) and diminish frequency as satisfactory reports are logged (down to 1 per day for the DFW)
    - Also audit the QC surveillances of these same DFW (e.g., frequency of audits and integrity of the audit)
  - Cumulative audits and results are posted for the weekly QM meeting

Final Grid QA

- Final Grid QA
  - Review of all QC documentation for the grid
  - Review of the final QC inspection of the grid
  - Randomly select targets for audit (completeness of removal and restoration)
  - Collect DGM data in grid (transect or mini-grid)
    - DGM location semi-biased based on production results
    - Process data, select targets and investigate
    - Same metrics as production DGM/Intrusive work
  - Document Pass/Fail per project criteria

QA of QC Activities

- Project data managed on a common, accessible site
- Posting of QC reports mandated in the QAPP
  - Specifies whether a formal QC surveillance is required or just a log book entry; Specifies who makes the log entry (QC, Team Leader (TL), other)
  - Specifies when the surveillance/log entry will be posted for review
- QA audits QC surveillance frequencies against QAPP criteria
- QA audits QC surveillance results against QA audit results

How QA supports the PT Objectives

- What are the overall Project Team objectives?
  - Navy has contractual objectives
    - Contractor agreed to perform specific tasks, to a specific metric
    - QA knows the tasks and metrics (Performance Work Statement [PWS]); does not know the $$ involved
  - Regulatory agencies have approved a set of work plans with the expectation that if the work is performed as approved, the site will be acceptable for its intended future use
    - Specifies that DFWs will be performed to exact metrics
    - Specifies that QC will document the production work at agreed upon intervals to the approved metrics

How QA supports the PT Objectives

- QA Role in documenting Project Team objectives
  - Reporting production/QC work which deviates from approved plans or is incomplete. This is a critical QA component and is accomplished through:
    - Audits of QC documentation
    - Independent spot-checks of all processes (QA surveillances)
  - Reprocessing of DGM data and target list concurrence
    - Verifies GSV requirements (IVS and blind seeds)
    - Provides independent verification that target lists meet project criteria (e.g., data coverage, data density, threshold values, etc.)

How QA supports the PT Objectives

- QA Role in documenting Project Team objectives
  - Document Grid Completion
    - Review of QC documentation (administrative review for consistency of information between documents)
    - Review of QC documentation (completeness, results of production work, results of QC inspection, results of corrective action, if any, results of QC DGM mini-grids, etc.)
    - Results of QA checks (completeness of intrusive investigation, completeness of restoration, etc.)
    - Results of QA DGM (transect or mini-grid)
  - All supports ‘weight of evidence’ approach to documenting cleanup

Questions

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