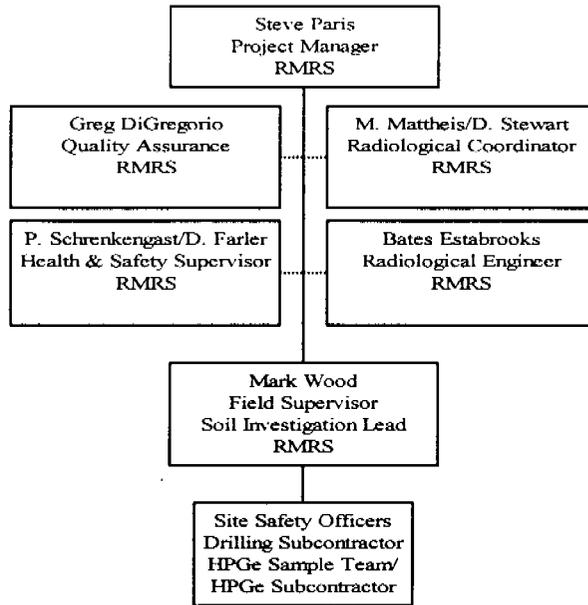


guidelines mandated by the EPA, CDPHE and DOE. In general, the applicable categories of quality control are as follows: Quality Program; Training; Quality Improvement; Documents and Records; Work Processes; Design; Procurement; Inspection/Acceptance Testing; Management Assessments; and Independent Assessments.

Figure 4.1
903 Pad, 903 Lip Area, and Americium Zone
Organizational Chart



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The project manager will be in direct contact with QA to identify and correct issues with potential quality affecting issues. Field sampling quality control will be conducted to ensure that data generated from all samples collected in the field for laboratory analysis represent the actual conditions in the field. The confidence levels of the data will be maintained as described in Section 2.0 by the collection of QC and duplicate samples, equipment rinsate samples, and trip blanks.

Duplicate samples will be collected on a frequency of one duplicate sample for every twenty real samples. Rinsate samples will be generated at a frequency of one rinsate sample for every 20 real samples collected. Trip blanks will be generated at a frequency of one trip blank for every 20 real VOC samples and detections not associated with a trip blank will be considered real. Trip blanks will not be required for samples shipped for radiochemical analysis only. Data validation will be performed on 25% of the laboratory data according to the Rocky Flats ASD, Performance Assurance Group procedures. Samples will be randomly selected from adequate surface and subsurface sample sets (RINS) by ASD personnel to fulfill data validation of 25% of the total number of VOC and radioisotopic analyses. Table 5.1 provides the QA/QC samples and frequency requirements of QA sample generation.

Analytical data that is collected in support of the of the 903 Pad SAP will be evaluated using the guidance developed by the Rocky Flats Procedure RF/RMRS-98-200, Evaluation of Data for Usability in Final Reports. This procedure establishes the guidelines for evaluating analytical data with respect to precision, accuracy, representativeness, completeness, and comparability (PARCC) parameters.

Table 5.1 QA/QC Sample Type, Frequency, and Quantity

Sample Type	Frequency	Comments	Quantity (estimated)
Duplicate	One duplicate for each twenty real samples		25
Rinse Blank	One rinse blank for each twenty real samples	To be performed with reusable sampling equipment following decontamination procedures	25
Trip Blank	One trip blank for each twenty real VOC samples	VOC analyses only	25

Analytical data that is collected in support of the of the 903 Pad SAP will be evaluated using the guidance developed by the Rocky Flats Administrative Procedure 2-G32-ER-ADM-08.02,

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Evaluation of ERM Data for Usability in Final Reports. This procedure establishes the guidelines for evaluating analytical data with respect to precision, accuracy, representativeness, completeness, and comparability (PARCC) parameters.

A definition of PARCC parameters and the specific applications to the investigation are as follows:

Precision - A quantitative measure of data quality that refers to the reproducibility or degree of agreement among replicate or duplicate measurements of a parameter. The closer the numerical values of the measurements are to each other, the lower the relative percent difference and the greater the precision. The relative percent difference (RPD) for results of duplicate and replicate samples will be tabulated according to matrix and analytical suites to compare for compliance with established precision DQOs. Specifications on repeatability are provided in Table 5.2. Deficiencies will be noted and qualified, if required.

Accuracy- A quantitative measure of data quality that refers to the degree of difference between measured or calculated values and the true value of a parameter. The closer the measurement to the true value, the more accurate the measurement. The actual analytical method and detection limits will be compared with the required analytical method and detection limits for VOCs and radionuclides to assess the DQO compliance for accuracy. Sensitivities of analytical and radiochemical methods scheduled are listed in Tables 2.1 and 2.2.

Representativeness - A qualitative characteristic of data quality defined by the degree to which the data absolutely and exactly represent the characteristics of a population. Representativeness is accomplished by obtaining an adequate number of samples from appropriate spatial locations within the medium of interest. The actual sample types and quantities will be compared with those stated in the SAP or other related documents and organized by media type and analytical suite. Deviation from the required and actual parameters will be justified.

Completeness - A quantitative measure of data quality expressed as the percentage of valid or acceptable data obtained from a measurement system. A completeness goal of

90% has been set for this SAP. Real samples and QC samples will be reviewed for the data usability and achievement of internal DQO usability goals. If sample data cannot be used, the non-compliance will be justified, as required.

Comparability - A qualitative measure defined by the confidence with which one data set can be compared to another. Comparability will be attained through consistent use of industry standards (e.g., SW-846) and standard operating procedures, both in the field and in laboratories. Statistical tests may be used for quantitative comparison between sample sets (populations). Deficiencies will be qualified, as required. Quantitative values for PARCC parameters for the project are provide in Table 5.2.

Laboratory validation shall be performed on 25% of the characterization data collected in support of this project. Laboratory verification shall be performed on the remaining 75% of the data. Data usability shall be performed on laboratory validated data according to procedure 2-G32-ER-ADM-08.02, Evaluation of ERM Data for Usability in Final Reports.

Table 5.2 PARCC Parameter Summary

PARCC	Radionuclides	Non-Radionuclides
Precision	Duplicate Error Ratio ≤ 1.42	RPD $\leq 30\%$ for Organics RPD $\leq 40\%$ for Non-Organics
Accuracy	Detection Limits per method and APO Laboratory SOW. HPGe Detection limits per Technical Basis Document and per SAP	Comparison of Laboratory Control Sample Results with Real Sample Results
Representativeness	Based on SOPs and SAP	Based on SOPs and SAP
Comparability	Based on SOPs and SAP	Based on SOPs and SAP
Completeness	90% Useable	90% Useable

6.0 SCHEDULE

Subsurface soil field activities are scheduled to begin in February with an expected completion in May 1999. Surface soil field activities are scheduled to begin in September with an expected completion in January 1999. A data summary report is expected to be completed by August 1999.

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