New Mexico Copper Corporation
Quality Assurance Project Plan
Copper Flat Mine Site

September 2010

Prepared for:
New Mexico Copper Corporation

Submitted to:
Mining and Minerals Division
New Mexico Energy, Minerals and Natural Resources Department

Prepared by:
INTERA

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Abbreviations and Acronyms

CFR	Code of Federal Regulations
COC	chain of custody
CPR	cardiopulmonary resuscitation
DQA	data quality assessment
EPA	United States Environmental Protection Agency
ER	equipment rinsate
FTL	field team leader
ID number	identification number
LCS	laboratory control sample
MDL	method detection limit
MMD	New Mexico Mining and Minerals Division
MQO	measurement quality objectives
MS	matrix spike
NMCC	New Mexico Copper Corporation
NMWQCC	New Mexico Water Quality Control Commission
OSHA	Occupational Safety and Health Administration
PARCC	precision, accuracy, representativeness, completeness, and comparability
PM	Project Manager
PPE	personal protective equipment
PRRL	project-required reporting limits
QA	quality assurance
QAPP	quality assurance project plan
QC	quality control
RPD	relative percent difference
SAP	sampling and analysis plan
Site	Copper Flat Mine Permit Area
SQL	sample quantitation limits

1 Project Description and Management

This document establishes the quality standards for products and services that have been established within the industry and through government regulations. New Mexico Copper Corporation (NMCC) and its contractors shall meet or exceed these quality standards throughout the duration of this project.

NMCC is currently initiating permitting activities for the re-opening of the Copper Flat Mine located approximately six miles northeast of Hillsboro, New Mexico, in Sierra County (Site). NMCC and its contractors will assess baseline conditions of for climate, vegetation, wildlife, topsoil, surface water, groundwater, and historical and cultural properties.

The project organizational flow chart for NMCC's geosciences and engineering contractor, INTERA Incorporated (INTERA) of Albuquerque, New Mexico, identifies key personnel and their functions (Figure 1). The INTERA Incorporated (INTERA) Program Manager, Cynthia Ardito, is responsible for project direction and quality assurance (QA) for this project. The Project Manager (PM), Peter Castiglia, is responsible for organizing and implementing field activities, project oversight, data management, and report preparation. Mr. Castiglia is also responsible for ensuring that the Quality Assurance Project Plan (QAPP) and Sampling and Analysis Plan (SAP) are appropriately developed and adhered to. The PM, Dr. John Sigda, is responsible for data analysis and modeling. Dr. Sigda will also provide technical support and will assist in data management and report preparation. INTERA's subcontractors include Class One Technical Services, Inc. of Albuquerque, New Mexico, for air quality services, and Hall Environmental Analysis Laboratories (HEAL) for analytical laboratory services. Subcontractor PMs will be responsible for QA, project oversight, data management, and coordination of field activities.

NMCC has contracted with Parametrix Incorporated of Albuquerque, New Mexico, for ecological and cultural resources services. Parametrix will be responsible for data collection for these resource areas. An organizational chart is included as Figure 2. The Parametrix PM, Mr. Jens Deichmann, is responsible for data collection and data quality. For geologic sampling, NMCC has contracted with SRK Consulting Engineers (SRK). The SRK PM is Mr. Mark Willow. The principal geochemist supporting Mr. Willow and overseeing the geologic sampling program is Dr. Robert Bowell.

1.1 Project Definition and Background

A 12-month baseline characterization of pre-mining site conditions must be completed prior to submittal of a Mine Permit Application to the New Mexico Energy, Minerals, and Natural Resources Department Mining and Minerals Division (MMD). As noted previously, this baseline characterization involves sampling, analysis, and assessment of site-specific climatic, vegetation, wildlife, soil, surface water, groundwater, and historical and cultural properties conditions. The MMD requires that a SAP be submitted for agency review. The SAP is a detailed work plan that describes how baseline data will be collected. The SAP must thoroughly describe the proposed sampling methodology and frequency, proposed data sources, and proposed sampling locations to document existing resource conditions within the permit boundary.

1.2 Quality Objectives and Criteria

The following sections present the measurement quality objectives (MQO) identified for this project.

1.2.1 Measurement Quality Objectives for Analytical Laboratory Data

All analytical results for water samples will be evaluated in accordance with precision, accuracy, representativeness, completeness, and comparability (PARCC) parameters to document the quality of the data and promote data that are of sufficient quality to meet the project objectives. With regard to these PARCC parameters, precision and accuracy method blanks will be prepared at the frequency prescribed in the individual analytical method, or at a rate of 5 percent of the total samples if a frequency is not prescribed in the method. The subsections below describe each of the PARCC parameters and how they will be assessed for this task.

1.2.1.1 Precision

Precision is the degree of mutual agreement between individual measurements of the same property under similar conditions. Usually, combined field and laboratory precision is evaluated by collecting and analyzing field duplicates and then calculating the variance between the samples, typically as a relative percent difference (RPD).

$$RPD = \frac{|A - B|}{(A + B)} \times 100\%$$

where:

A	=	First duplicate concentration
B	=	Second duplicate concentration

Field sampling precision is evaluated by analyzing field duplicates. One duplicate groundwater sample will be collected during the initial groundwater sampling event to establish laboratory analytical precision at the onset of the investigation. The duplicate groundwater sample will be collected by completely filling two separate vials by alternating between the primary sample set and the replicate sample set in the order shown below:

- Fill vial #1 - primary sample set
- Fill vial #1 - replicate sample set
- Fill vial #2 - primary sample set
- Fill vial #2 - replicate sample set

Laboratory analytical precision is evaluated by analyzing matrix (laboratory) duplicates. Results for each laboratory duplicate pair will be used to determine the RPD in order to evaluate precision.

1.2.1.2 Accuracy

A program of sample spiking will be conducted to evaluate laboratory accuracy. This program will include analysis of matrix spike (MS), laboratory control samples (LCS) or blank spikes, and method blanks. The results for the spiked samples will be used to calculate the percent recovery for use in evaluating accuracy.

$$\text{Percent Recovery} = \frac{S - C}{T} \times 100\%$$

where:

S	=	Measured spike sample concentration
C	=	Sample concentration
T	=	True or actual concentration of the spike

Results that fall outside the accuracy goals will be further evaluated on the basis of the results of other quality control (QC) samples.

1.2.1.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent: (1) the characteristics of a population, (2) variations in a parameter at a sampling point, or (3) an environmental condition that they are intended to represent.

Representativeness of data will also be promoted through the consistent application of established field and laboratory procedures. Equipment rinsate (ER) blanks and laboratory blanks will be evaluated for the presence of contaminants to aid in evaluating the representativeness of sample results. Data determined to be non-representative by comparison with existing data will be used only if accompanied by appropriate qualifiers.

1.2.1.4 Completeness

Completeness is a measure of the percentage of project-specific data that are valid. Valid data will be obtained when samples are collected and analyzed in accordance with QC procedures as outlined in this QAPP and when none of the QC criteria that affect data usability are exceeded. When all data evaluation is completed, the percent completeness value will be calculated by dividing the number of useable sample results by the total number of sample results planned for this investigation.

As discussed further in Section 8.0, completeness will also be evaluated as part of the data quality assessment process (EPA, 2000b). This evaluation will help assess whether any limitations are associated with the decisions to be made based on the data collected.

1.2.1.5 Comparability

Comparability expresses the confidence with which one data set can be compared with another. Comparability of data will be achieved by consistently following standard field and laboratory procedures and by using standard measurement units in reporting analytical data.

1.2.1.6 Detection and Quantitation Limits

The method detection limit (MDL) is the minimum concentration of an analyte that can be reliably distinguished from background noise for a specific analytical method. The quantitation limit represents the lowest concentration of an analyte that can be accurately reproduced in a sample matrix. Project-required reporting limits (PRRL) are contractually specified minimum quantitation limits for specific analytical methods and sample matrices, such as soil or water, and are typically several times the MDL to allow for matrix effects. PRRLs, which are established in the project scope of work for subcontract laboratories, are set to establish minimum criteria for laboratory performance. Actual laboratory quantitation limits may be substantially lower.

For this project, analytical methods have been selected so that the PRRL for each target analyte is below the applicable regulatory screening criteria, the New Mexico Water Quality Control Commission (NMWQCC) Standards for groundwater. Also, sample concentrations will be reported as estimated values if concentrations are less than PRRLs but greater than MDLs. The MDL for each analyte will be listed as the detection limit in the laboratory’s electronic data deliverable.

1.2.2 Measurement Quality Objectives for Meteorological and Air Quality Data

Laboratory and field quality assurance procedures for meteorological and air quality data are described in detail in Section 2 of the Sampling and Analysis Plan (SAP). Please refer to Section 2.8 of this SAP for more information.

1.2.3 Measurement Quality Objectives for Ecological Data

A single field crew chief will be assigned to ensure data collection is consistent between crews. This individual will review a sub-set of the field forms following each field day. Formalized data collection training will also be completed prior to field sampling. All field botanists will be familiar with plant systematics and techniques to identify plants using taxonomic keys. Plant species not readily identifiable in the field will be collected and preserved for identification at the University of New Mexico Herbarium.

Vegetation material produced during the previous growing season will be discarded before placing samples into a paper bag. Rocks, soil, and/or litter will not be placed into sample bags. Biomass production will only be calculated as an actual dry-weight sample. No double sampling or estimations will occur.

Field data entered into an electronic format such as MS Excel or Access will be evaluated for integrity, consistency, and completeness before data analysis. Oversights or incorrect entries will be corrected. A sub-set of the field forms will be compared to the electronic version for an accuracy assessment. If significant differences are identified, a thorough re-evaluation of each of the forms will be completed.

For wildlife data, field biologists will have a minimum of a BA/BS in Biology and five to ten years of field experience conducting a wide variety of animal surveys ranging from reptiles and amphibians, to birds, mammals, insects, and other invertebrates. This includes experience in recognizing and identifying signs of wildlife. All findings and results will be reviewed by senior scientists.

1.2.4 Measurement Quality Objectives for Cultural Resources Data

Reporting will follow the standards in BLM manual H-8100-1, Chapter 1.B.1 and Appendix 2 (2005). In addition, work will be performed in compliance with all aspects of the NMAC, including NMAC 4.10.15.

1.3 Project Organization

Table 1 presents the roles and responsibilities for key personnel who will be involved in the investigation at the Site. In some cases, more than one responsibility has been assigned to one person.

1.4 Special Training and Certification

This section outlines the training and certifications required to complete the activities described in this QAPP. The following sections describe the requirements for personnel working on-site.

1.4.1 Health and Safety Training

INTERA Personnel who collect water and sediment samples from the Site are required to meet the Occupational Safety and Health Administration (OSHA) training requirements defined in Title 29 of the Code of Federal Regulations (CFR) Part 1910.120(e). These requirements include (1) 40 hours of formal off-site instruction, (2) a minimum of three days of actual on-site field experience under the supervision of a trained and experienced field supervisor, and (3) 8 hours of annual refresher training. Field personnel who directly supervise employees engaged in work at the site shall also receive at least 8 additional hours of specialized supervisor training. The supervisor training covers health and safety program requirements, training requirements, personal protective equipment (PPE) requirements, the spill containment program, and health-hazard monitoring procedures and techniques. Every member of the field team will maintain current certification in the American Red Cross "Multimedia First Aid," and "Cardiopulmonary Resuscitation (CPR) Modular," or equivalent.

Copies of health and safety training records, including course completion certificates for the initial and refresher health and safety training, specialized supervisor training, and first aid and CPR training, are maintained in corporate files.

1.5 Documents and Records

Documentation is critical for evaluating the success of any environmental data collection activity. The following sections discuss the requirements for documenting field activities and for preparing laboratory data packages. This section also describes reports that will be generated as a result of this project.

1.5.1 Field Documentation

Field personnel will use permanently bound field logbooks with sequentially numbered pages to record and document field activities. The logbooks will list a contract name and number, the project number, the site name, the names of subcontractors, the client, and the PM. At a minimum, the following will be recorded in the field logbook:

- Names and affiliations of all on-site personnel or visitors
- Weather conditions during the field activity
- Summary of daily activities and significant events
- Notes of conversations with coordinating officials
- References to other field logbooks or forms that contain specific information
- Discussions of problems encountered and their resolutions
- Discussions of deviations from the SAP or other governing documents
- Descriptions of all photographs taken

The field team may also use the field forms during certain sampling or data collection activities to document field activities. The same level of detail will be required for all field forms used during this investigation. Copies of the completed field forms will be stored in the project file.

2 Data Generation and Acquisition

This section describes the requirements for the following:

- Sampling Design (Section 2.1)
- Field Activities (Section 2.2)
- Sample Handling and Custody (Section 2.3)
- Laboratory Quality Assurance/Quality Control (QA/QC) (Section 2.4)
- Equipment Testing, Inspection, Maintenance, and Calibration (Section 2.5)

2.1 Sampling Design

Samples or data will be collected as outlined in the SAP. The SAP for this project is a collection of quarterly or one-time field sampling or data collection events that were prepared by NMCC and its contractors. Field activities will be implemented to optimize the time spent in the field by adhering to established scientific methods and procedures, leading coordinated field schedules, and sharing data with contractors to minimize duplication of data.

Data collected from these field activities will be used in the mine permitting process. This baseline data will also be useful in the design of mine facilities and as a reference during site reclamation activities.

2.2 Field Activities

Field activities have been broken into eight separate activities. These activities, which are outlined in the SAP, will be used to establish the baseline conditions at the Site:

- Climatological factors – The purpose of the monitoring program will be to collect baseline climatological data representative of the Site that satisfies the criteria of the New Mexico Surface Mining Act and the U.S. Environmental Protection Agency (EPA) on-site meteorological program guidance for dispersion modeling
- Vegetation survey – The purpose of the survey is to delineate current vegetation stratified according to disturbance history and to describe specific vegetation attributes for plant communities delineated within the Site. In addition, the survey will identify the presence of potential habitat for threatened and endangered species.
- Wildlife survey – Delineate and map current habitat, describe wildlife use of the area, complete a bird species inventory, complete a threatened or endangered species survey by comparing known records and habitat requirements with current field conditions to determine the likelihood of occurrence of all federal and state listed wildlife species, and determine species distribution by habitat and season.
- Soil survey and sampling – To determine the suitability of in-place soils in areas of proposed disturbance for use as a topdressing material during reclamation.
- Surface water sampling – To characterize the volumetric flow and water quality of seeps, springs, streams, and the pit lake.
- Groundwater sampling – To obtain necessary data to evaluate quantity and quality of all aquifers at the Site that could be impacted by mining activities, address data gaps identified during evaluation of the Draft EIS (BLM, 1996), meet the requirements set forth in the regulations in NMAC Title 19, Chapter 10, Part 6, and to meet the guidelines set forth in MMD's draft Guidance Document for Part 6 New Mining Operations Permitting under the New Mexico Mining Act.
- Historical and cultural properties survey – To locate and assess all cultural resources and historic properties within the area of potential effects.

2.3 Sample Handling and Custody

The following section describes sample handling procedures, including sample identification and labeling, documentation, chain of custody (COC), and shipping. This section applies to water, sediment, and geologic samples that are submitted to an analytical laboratory. Other sample handling and custody procedures for vegetation and other resources are described, where appropriate, in the SAP.

Each sample collected at the Site will be identified using a unique sample identification (ID) number. The description of the sample type and the point name will be recorded on the COC form, as well as in the field notes. Note that field duplicates and ERs will be given a unique sample ID. The association between primary, duplicate, and ER samples will be noted on the COC form.

A sample label will be affixed to each sample container. The label will be completed with the following information written in indelible ink: project name and location, sample ID number, date and time of collection, preservative used (if applicable), collector's initials, and analysis requested. After labeling, each sample will be refrigerated or placed in a cooler containing ice.

Documentation of sample collection will be completed in permanent black or blue ink in the field logbook. All entries will be legible. The field team leader (FTL) and sampling personnel are responsible for proper documentation of all Site activities.

Standard sample custody procedures will be used to maintain and document sample integrity during collection, transportation, storage, and analysis. COC procedures provide an accurate written record that traces the possession of individual samples from the time of collection in the field to the time of acceptance at the laboratory.

The COC form will be placed in a waterproof plastic bag and taped to the inside of the shipping container used to transport the samples. The laboratory sample custodian will receive all incoming samples, sign the accompanying COC forms, and retain copies of the forms as permanent record. The laboratory sample custodian will record all pertinent information concerning the samples, including the persons delivering the samples, the date and time received, sample condition at the time of receipt (sealed, unsealed, or broken container; temperature; or other relevant remarks).

All samples will be either hand delivered or shipped to an accredited laboratory. Samples may need to be shipped to the laboratory in order to have them analyzed before the expiration of a particular sample's holding time.

2.4 Laboratory QA/QC

This section applies to water, sediment, and geologic samples submitted to accredited analytical laboratories. To ensure quality of laboratory analysis, the analytical laboratory will be required to analyze QA/QC samples as specified by the analytical methods. The laboratory will analyze method blanks, MSs, and LCSs.

Method blanks will be prepared at the frequency prescribed in the individual analytical method or at a rate of 5 percent of the total samples if a frequency is not prescribed in the method.

MSs will be analyzed at a frequency of 5 percent for soil and aqueous samples. The percent recoveries will be calculated for each of the spiked analytes and used to evaluate analytical accuracy. The RPD between spiked samples will be calculated to evaluate precision.

LCSs, or blank spikes, will be analyzed at the frequency prescribed in the analytical method or at a rate of 5 percent of the total samples if a frequency is not prescribed in the method. If percent recovery results for the LCS or blank spike are outside of the established goals, laboratory-specific protocols will be followed to gauge the usability of the data.

Sample quantitation limits (SQL), also referred to as practical quantitation limits, are PRRLs adjusted for the characteristics of individual samples. The PRRLs are chemical-specific levels that a laboratory should be able to routinely detect and quantitate in a given sample matrix. The PRRL is defined in the analytical method or in laboratory method documentation, and incorporates precision (reproducibility) assumptions for the analysis. The SQL takes into account changes in the preparation and analytical methodology that may alter the ability to detect an analyte, including changes such as use of a smaller sample aliquot or dilution of the sample extract. Physical characteristics such as sample matrix and percent moisture that may alter the ability to detect the analyte are also considered. The laboratory will calculate and report SQLs for all environmental samples.

The laboratory activities are overseen by a comprehensive quality assurance program to assure that laboratory practices and results adhere to its policies. The laboratory will provide a standard QA/QC report with all reports. This includes surrogate recoveries, spike recoveries, and method blanks.

The laboratory participates in the Wibby Environmental, third party, proficiency testing program. Wibby is accredited by A2LA and NIST/NVLAP. Results of all proficiency results are sent, by Wibby, to both the laboratory and to their accrediting authorities. The laboratory will also perform proficiency testing on a semiannual basis for all accredited tests. Water proficiencies in the water supply and water pollution studies will be performed in addition to soil proficiencies in hazardous waste pollution studies.

Proficiency results are reviewed by the laboratory manager and all personnel involved in reporting the data. Results that are marked as “check for error” and “unacceptable” are thoroughly reviewed and corrective actions are written for “unacceptable” data.

2.5 Equipment Testing, Inspection, Maintenance, and Calibration

All equipment used during the investigation will be properly tested, inspected, maintained, and calibrated. Samples collected during this investigation will be analyzed using both field and laboratory equipment. Calibration of the field equipment shall be recorded in the field logbook after each calibration event. The calibration procedure for each piece of field equipment used will be outlined in the final report.

The laboratory’s QA plan and written operating procedures describing specific testing, inspection, maintenance, and calibration procedures for equipment will be followed. If required, maintenance procedures and schedules will be performed and documented.

3 Inspection and Acceptance of Supplies and Consumables

PMs have primary responsibility for identifying the types and quantities of supplies and consumables needed to complete projects and are responsible for identifying acceptance criteria for these items.

Supplies and consumables can be received either at the contractor’s office or at a work site. When supplies are received at an office, the PM or FTL will sort them according to vendor, check packing slips against purchase orders, and inspect the condition of all supplies before they are accepted for use on a project. If an item does not meet the acceptance criteria, deficiencies will be noted on the packing slip and purchase order and the item will then be returned to the vendor for replacement or repair.

Procedures for receiving supplies and consumables in the field are similar. When supplies are received, the PM or FTL will inspect all items against the acceptance criteria. Any deficiencies or problems will be noted in the field logbook and deficient items will be returned for immediate replacement.

Analytical laboratories are required to provide certified clean containers for all analyses. These containers must meet EPA standards as described in *Specifications and Guidance for Obtaining Contaminant-Free Sampling Containers* (EPA, 1992).

4 Data Management

All field and analytical data collected during this investigation will be provided to MMD in the Baseline Characterization Report. Field data will be recorded in the logbook and/or field forms and will be included in the appendices. Analytical data will be summarized, tabulated, analyzed, and provided in the body of the final report. The original laboratory data will be provided in an appendix of the final report. Some data may be presented graphically.

5 Assessment, Response Actions, and Reports to Management

NMCC and MMD will oversee collection of environmental data using the appropriate assessment and audit activities. Any problems encountered during an assessment of field investigation or laboratory activities will require appropriate corrective action to ensure that the problems are resolved. The corrective actions will be discussed with MMD and will be implemented after approval from MMD is received. NMCC will perform routine audits of their subcontractor's performance. In addition, the subcontractor's project managers will ensure that the work done under their assigned tasks complies with the QAPP and will report non compliance, problems, or other issues to NMCC in a timely manner agreed upon between NMCC and its subcontractors.

Effective management of environmental data collection requires: 1) timely assessment and review of all activities, and 2) open communication, interaction, and feedback among all project participants. NMCC and its contractors will use verbal communication with MMD oversight personnel, electronic communication, and monthly status reports to address any project-specific quality issues and to facilitate timely communication of these issues. NMCC and its contractors will develop a communications protocol to communicate with the MMD and solicit the MMD for concurrence with these communication procedures.

6 Data Evaluation and Usability

This section describes the procedures that are planned to review and evaluate field and laboratory data. This section also discusses procedures for verifying that the data are sufficient to meet MQOs for the project.

Review and evaluation of the data generated during field and laboratory activities are essential to obtaining defensible data of acceptable quality. Project team personnel will review field data to identify inconsistencies or anomalous values. Any inconsistencies discovered will be resolved as soon as possible by seeking clarification from field personnel responsible for data collection. All field personnel will be responsible for following the sampling and documentation procedures described in this SAP so that defensible and justifiable data are obtained.

Data values that are significantly different from the population are called "outliers." A systematic effort will be made to identify any outliers or errors before field personnel report the data. Outliers can result from improper sampling or measurement methodology, data transcription errors, calculation errors, or natural causes. Outliers that result from errors found during data verification will be identified and corrected; outliers that cannot be attributed to errors in sampling, measurement, transcription, or calculation will be clearly identified in project reports.

6.1 Laboratory Data Verification

Laboratory personnel will verify analytical data at the time of analysis and reporting and through subsequent reviews of the raw data for any nonconformances to the requirements of the analytical method. Laboratory personnel will make a systematic effort to identify any outliers or errors before they report the data. Outliers that result from errors found during data verification will be identified and corrected; outliers that cannot be attributed to errors in analysis, transcription, or calculation will be clearly identified in the case narrative section of the analytical data package.

6.2 Laboratory Data Evaluation and Usability

All laboratory data will be evaluated. The data evaluation strategy will not be a full data validation process, but will determine if the analytical results are within the QC limits set for the project. As part of this evaluation, the data usability will be assessed.

7 Reconciliation with User Requirements

After environmental data have been reviewed and evaluated in accordance with the procedures described in Section 7.0, the data must be further evaluated to assess whether MQOs have been met.

To the extent possible, EPA's data quality assessment (DQA) process will be followed to verify that the type, quality, and quantity of data collected are appropriate for their intended use. DQA methods and procedures are outlined in EPA's *Guidance for Data Quality Assessment, Practical Methods for Data Analysis* (EPA, 2000b). The DQA process includes five steps: (1) review the sampling objectives and sampling design, (2) conduct a preliminary data review, (3) select a statistical test, (4) verify the assumptions of the statistical test, and (5) draw conclusions from the data. In the case of water, sediment, and geologic samples, no statistical analysis is planned at this time. Statistical analyses planned for ecological and cultural resources data are defined in Sections 4, 5, and 10 of the SAP.

When the five-step DQA process is not completely followed because the sampling objectives are qualitative, data quality and data usability will be systematically assessed. This assessment will include:

- A review of the sampling design and sampling methods to verify that these were implemented as planned and are adequate to support project objectives.
- A review of project-specific data quality indicators for PARCC and project reporting limits to evaluate whether acceptance criteria have been met.
- A review of project-specific sampling objectives to assess whether they have been achieved by the data collected.
- An evaluation of any limitations associated with the decisions to be made based on the data collected (for example, if data completeness is only 90 percent compared to a project-specific completeness objective of 95 percent, the data may still be usable to support a decision, but at a lower level of confidence).

The final report for the project will discuss any potential impacts of these reviews on data usability and will clearly define any limitations associated with the data.

8 References

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Figures

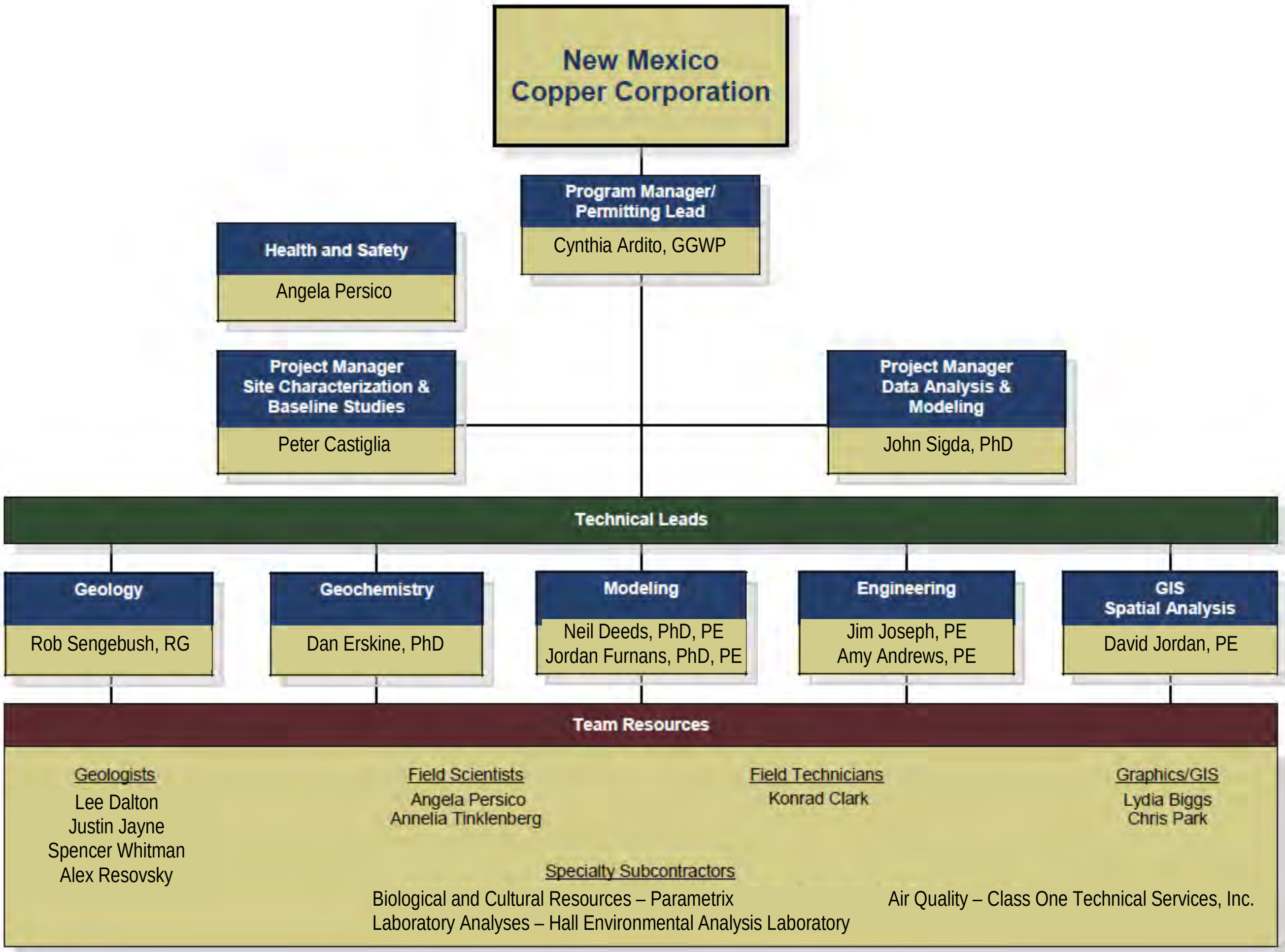

Figure 1. Project Organization

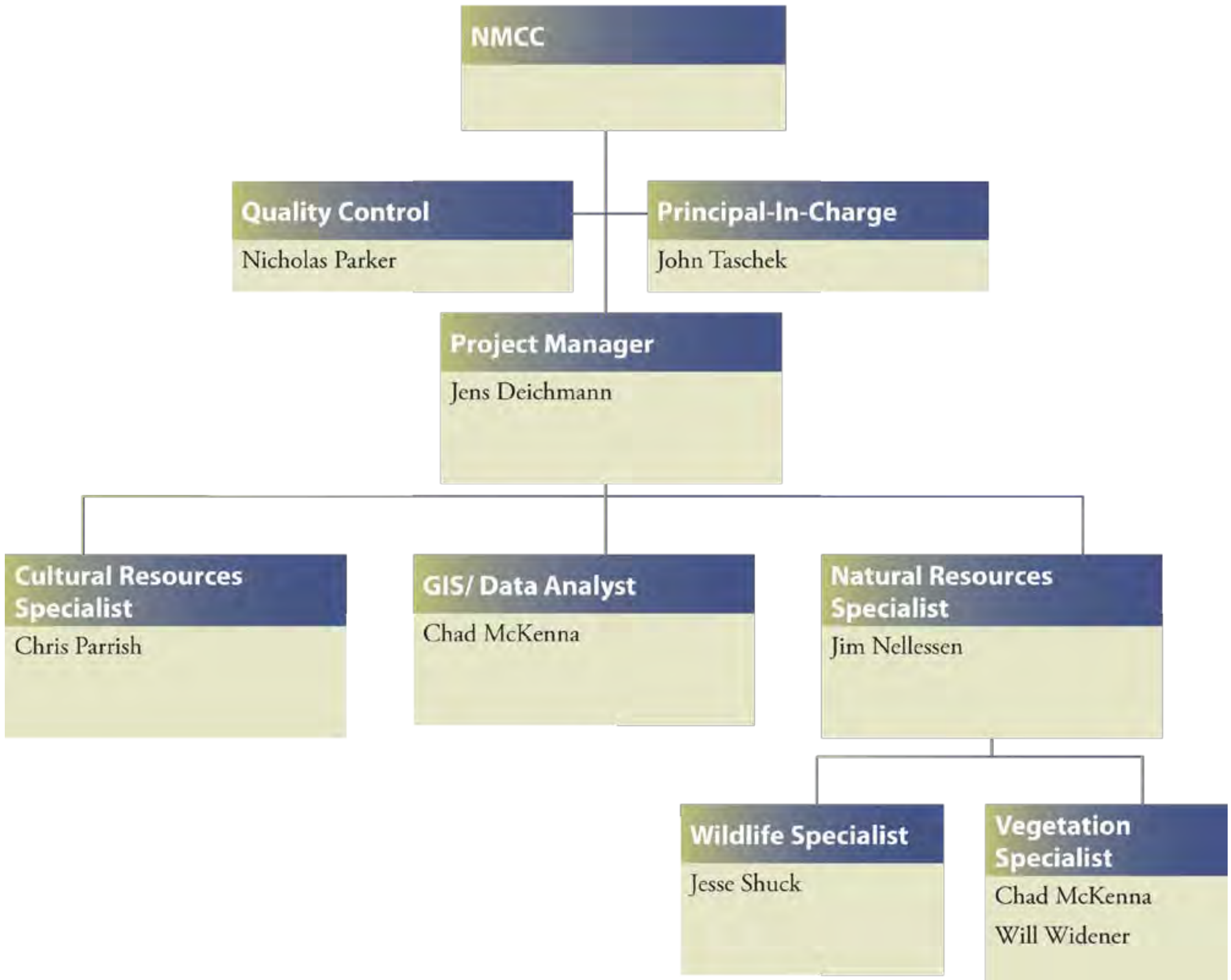

Figure 2. Parametrix Organizational Chart

Table

Table 1
INTERA Key Personnel and Responsibilities

Name	Organization	Role	Responsibilities	Contact Information
Ms. Cindy Ardito	INTERA	Program Quality Assurance (QA) Officer	Participates in development of technical approach. Reviews technical deliverables. Provides technical oversight during data collection	INTERA Inc. 6000 Uptown Blvd. NE, Suite 220 Albuquerque, NM 87110 (505) 246-1600, (505) 246-2600 FAX ext. 1206 cardito@intera.com
Mr. Peter Castiglia	INTERA	Project Manager/ Technical Lead	Responsible for overall project execution and for coordination with regulatory agencies and contractors. Actively participates in Data Quality Objective process. Provides management and technical oversight during data collection.	INTERA Inc. 6000 Uptown Blvd. NE, Suite 220 Albuquerque, NM 87110 (505) 246-1600, (505) 246-2600 FAX ext. 1217 pcastiglia@intera.com
Mr. Lee Dalton	INTERA	Field Team Leader (FTL) – Groundwater	Responsible for directing day-to-day field activities conducted by INTERA and subcontractor personnel. Verifies that field sampling and measurement procedures follow the Sampling and Analysis Plan. Provides project manager with regular reports on status of field activities.	INTERA Inc. 6000 Uptown Blvd. NE, Suite 220 Albuquerque, NM 87110 (505) 246-1600, (505) 246-2600 FAX ext. 1213 ldalton@intera.com
Mr. Justin Jayne	INTERA	Field Team Leader (FTL) – Surface Water	Responsible for directing day-to-day field activities conducted by INTERA and subcontractor personnel. Verifies that field sampling and measurement procedures follow the Sampling and Analysis Plan. Provides project manager with regular reports on status of field activities.	INTERA Inc. 6000 Uptown Blvd. NE, Suite 220 Albuquerque, NM 87110 (505) 246-1600, (505) 246-2600 FAX ext. 1220 jjayne@intera.com
Ms. Angela Persico	INTERA	On-Site Safety Officer	Responsible for implementing health and safety plan for determining appropriate site control measures and personal protection levels. Conducts safety briefings for INTERA and subcontractor personnel and site visitors. Can suspend operations that threaten health and safety.	INTERA Inc. 6000 Uptown Blvd. NE, Suite 220 Albuquerque, NM 87110 (505) 246-1600, (505) 246-2600 FAX ext. 1207 apersico@intera.com
Ms. Angela Persico Mr. Spencer Whitman Mr. Konrad Clark Ms. Annelia Tinklenberg	INTERA	Field Sampler(s)	Responsible for collecting representative samples and conducting necessary field activities specified in Sampling and Analysis Plan. Works under supervision of field team leader. Ensures proper sampling and handling procedures.	INTERA Inc. 6000 Uptown Blvd. NE, Suite 220 Albuquerque, NM 87110 (505) 246-1600, (505) 246-2600 FAX

Name	Organization	Role	Responsibilities	Contact Information
Mr. Bob Powell	Class One Technical Services, Inc.	Project Manager	Responsible for overall project execution and for coordination with regulatory agencies and contractors. Actively participates in Data Quality Objective process. Provides management and technical oversight during data collection by Class One Technical Services.	Class One Technical Services, Inc. 3500 Comanche Rd. NE Suite G Albuquerque, NM 87107 (505) 830-9680
Mr. Jens Deichmann	Parametrix	Project Manager – Ecological and Cultural Resources	Responsible for coordination with regulatory agencies and contractors. Actively participates in Data Quality Objective process. Provides management and technical oversight during data collection by Parametrix.	Parametrix Incorporated 8801 Jefferson NE; Bldg. 2 Albuquerque, NM 87113 (505) 998-5552 jdeichmann@parametrix.com
Mr. Chris Parrish	Parametrix	FTL - Cultural Resources	Responsible for directing day-to-day field activities conducted for cultural resources by Parametrix and subcontractor personnel. Verifies that field sampling and measurement procedures follow the Sampling and Analysis Plan. Provides project manager with regular reports on status of field activities.	Parametrix Incorporated 8801 Jefferson NE; Bldg. 2 Albuquerque, NM 87113 (505) 821-4700
Mr. Jim Nellessen	Parametrix	FTL – Natural Resources	Responsible for directing day-to-day field activities conducted for natural resources by Parametrix and subcontractor personnel. Verifies that field sampling and measurement procedures follow the Sampling and Analysis Plan. Provides project manager with regular reports on status of field activities.	Parametrix Incorporated 8801 Jefferson NE; Bldg. 2 Albuquerque, NM 87113 (505) 821-4700
Mr. Chad McKenna	Parametrix	Technical Lead – Geographic Information Systems (GIS)	Responsible for directing day-to-day activities conducted for GIS by Parametrix and subcontractor personnel. Verifies that GIS data collection procedures follow the Sampling and Analysis Plan. Provides project manager with regular reports on status of GIS data.	Parametrix Incorporated 8801 Jefferson NE; Bldg. 2 Albuquerque, NM 87113 (505) 821-4700
Mr. Mark Willow	SRK Consulting	Project Manager – Geologic Sampling	Responsible for coordination with regulatory agencies and contractors. Actively participates in Data Quality Objective process. Provides management and technical oversight during data collection by SRK.	SRK Consulting 250 Neil Road, Suite 300 Reno, Nevada 89502 (775) 828-6800 mwillow@srk.com
Dr. Robert Bowell	SRK Consulting	Technical Lead – Geologic Sampling	Responsible for directing day-to-day activities conducted for geologic by SRK and subcontractor personnel. Verifies that geologic data collection procedures follow the Sampling and Analysis Plan. Provides project manager with regular reports on status of geologic data collection and results.	SRK Consulting (UK) Ltd. 5th Floor, Churchill House 17 Churchill Way Cardiff, CF10 2HH, UK +44 (0) 29 2034 8150 egrbowel@srk.co.uk