



CSA-SCF-SOW-0001

Canadian Space Agency

OSIRIS-REx Sample Curation Facility (SCF)

Science Support Contract Statement of Work (SOW)

Initial Release IR

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1 INTRODUCTION

1.1 BACKGROUND

The Canadian Space Agency (CSA) is recognized worldwide for its support to the exploration of space. An example of this support is the CSA's contribution of the OSIRIS-REx Laser Altimeter (OLA) instrument to the asteroid sample return mission OSIRIS-REx. OSIRIS-REx is a NASA-led mission to return a sample from asteroid Bennu to Earth in September 2023.

In return for Canada's contribution of OLA, Canada will receive 4% by mass of the returned sample, marking Canada's first samples returned from another solar system body and the 5th country in the world to have samples collected in space. The sample is unique and is deemed irreplaceable. It is expected to allow scientists to answer fundamental questions about the origin of life, water delivery to Earth, and solar system composition.

Under the OSIRIS-REx Implementing Arrangement between CSA and NASA, Canada must arrange for a suitable curation facility and sample distribution process. This is Canada's first involvement in a planetary exploration sample return mission; as such, a proper facility and distribution process meeting all requirements for the curation of this sample does not presently exist. The facility will consist of a class 100 cleanroom where the sample will be kept and manipulated, as well as a class 10,000 cleanroom where the final cleaning steps of the materials and tools that will be in contact with the sample will be performed. Cleanroom classifications will follow the ISO 14644 standard. Beyond the cleanrooms, the facility will be equipped to characterize the samples using optical and electronic microscopes, part of which are already at the CSA, and to prepare subsamples according to the needs of the researchers that will request them (e.g., preparing thin and polished sections).

Given the extraterrestrial origin of the samples, the terrestrial environment can modify, alter, or destroy the intrinsic components and properties of the samples. Therefore, in preparation for their arrival in Canada, the CSA is expanding its laboratory capacity and will be developing protocols in order to ensure that exposure to terrestrial contamination is mitigated during the handling of the samples. The CSA is seeking expert support to define and develop the handling protocols that will be utilized in the OSIRIS-REx Sample Curation Facility.

1.2 OBJECTIVE

The objective of this Curation Science Support Contractor is to provide technical services and expertise to support the development of various aspects of the OSIRIS-REx Sample Curation Facility. Specifically, the Contractor will develop the sample handling and processing procedures that ensure the samples are properly characterised, handled, and processed with special care to avoid terrestrial contamination as much as possible. In addition, specific tools and equipment will need to be identified by the Contractor so that the CSA is well positioned for the arrival of the samples and to meet the needs of the scientific community.

At the end of this contract, the CSA should have all the scientific and technical information necessary to characterize, catalogue, handle, and manipulate the Bennu samples. The primary goal, as defined in this SOW, is to generate the activities and the resulting information in the form of documents, meetings, reviews and other means of communication to attain the objective stated above.

1.3 SCOPE

The scope of this SOW includes (1) defining all the tools and equipment that will be required for sample characterization and manipulation; (2) developing the sample handling techniques and methodologies; (3) developing the sample characterization and cataloguing procedures; and (4) providing technical input on questions relating to the advanced curation of astromaterials. The final product of this work will be included in the facility's curation plan.

The contractor must address this scope in the context of the CSA's curation requirements and common curation standards used in the sample handling of extraterrestrial samples from organizations such as NASA and JAXA. The contractor must ensure that any interaction with the samples will minimize contamination. The CSA will review any tools and techniques to ensure that they are within the breadth of the capabilities of the planned facility, and if necessary, will provide guidance for alternative methodologies or techniques.

The detailed descriptions of the specific tasks in this SOW can be found in the Work Requirements section.

1.4 LOCATION

The work will be conducted both at the CSA headquarters in Saint-Hubert, Québec and remotely. A preference is given to remote work. Whenever possible, scheduled in-person work will be mutually agreed upon between the contractor and the CSA.

1.5 CONVENTION

A number of the sections in this document describe controlled requirements and specifications and therefore the following verbs are used in the specific sense indicated below:

- a) "Must" is used to indicate a mandatory requirement;
- b) "Should" indicates a goal or preferred alternative. Such goals or alternatives must be treated as requirements on a best efforts basis, and verified as for other requirements. The actual performance achieved must be included in the appropriate verification report, whether or not the goal performance is achieved;
- c) "May" indicates an option;
- d) "Will" indicates a statement of intention or fact, as does the use of present indicative active verbs.

2 DOCUMENTS

2.1 APPLICABLE DOCUMENTS

The latest versions of the following documents are applicable and form an integral part of this SOW to the extent specified herein. If a document is not publically available for free or with a licence, a copy of said document can be provided to the Contractor upon request, once the contract has been awarded and the appropriate NDAs have been signed. The list of applicable documents can be found in Table 2-1.

TABLE 2-1 APPLICABLE DOCUMENTS

The revision Numbers and Dates identified in this table are the latest official versions available at the time of the RFP issuance and are subject to updates				
AD No.	Document Number	Document Title	Rev. No.	Date
AD-1	PLA-OSIRIS-REx-PLAN-0041	The Origins Spectral Interpretation Resource Identification Security-Regolith Explorer (OSIRIS-REx) Curation Plan	A	Jan 6, 2022
AD-2	JAXA-RR-20-004E	Cleanliness level of the Extraterrestrial Sample Curation Center of JAXA	E	Feb, 2021
AD-3	ISO 14644:1 to ISO 14644:18	ISO 14644: Cleanrooms and Associated Controlled Environments		

2.2 REFERENCE DOCUMENTS

The following documents provide additional information or guidelines that either may clarify the contents or are pertinent to the history of this document. If a document is not publically available for free or with a licence, a copy of said document can be provided to the Contractor upon request, once the contract has been awarded and the appropriate NDAs have been signed. The list of reference documents can be found in Table 2-2.

TABLE 2-2 REFERENCE DOCUMENTS

RD No.	Document Number	Document Title	Rev. No.	Date
RD-1		Advanced Curation of Astromaterials for Planetary Science		2019
RD-2		Organic Contamination Baseline Study in NASA Johnson Space Center Astromaterials Curation Laboratories		2014
RD-3		Concerns of Organic Contamination for Sample Return Space Missions		2020

RD-4		Sample Return Missions: The Last Frontier of Solar System Exploration		2021
RD-5		IEST-RP-CC012.1 – Considerations in Cleanroom Design		1998

3 WORK REQUIREMENTS

3.1 TECHNICAL REQUIREMENTS

For planning purposes, various technical requirements are described here that each activity within this SOW must abide by. These include material properties, procedures, and processes that must be followed in the completion of the tasks.

PROHIBITED MATERIALS: Certain materials must not be used in the facility due to their high contamination potential. If a prohibited material is identified as being necessary, the Contractor must justify the inclusion of the material and demonstrate that an alternative material is not possible. Prohibited materials include:

- Latex, nylon, and polyamide materials (Polyimides, like Kapton, are acceptable).
- Open solder.
- Mercury-containing light bulbs (use light-emitting diode (LED) lights instead).
- Magnetic materials (best effort will be made to avoid use, although total elimination is not realistic or feasible).
- Silicones.
- Foams.
- Paints.
- Metal oxides.
- Bare (untreated) aluminum and magnesium, iron, and non-corrosion-resistant steel.
- Shedding materials (or those with thin films) that erode, crack, or flake, and pose particulate contamination.
- Other astromaterials that could potentially cross-contaminate the samples.

ACCEPTABLE MATERIALS: Samples must be stored, handled, and processed using tools and containers made of acceptable materials that limit the amount of organic and inorganic contamination. Acceptable materials include:

- Teflon®
- Aluminum
- 316L stainless steel
- Borosilicate glass

The type of material that can be used also depends on the type of investigation for which the sub-sample will be eventually used. If the contractor wishes to use a material that is not listed, they

must demonstrate that it will not result in contamination of the sample. All materials must be compatible with the cleaning procedures that will be developed by the CSA.

CLEANING PROCEDURES: Cleaning procedures are currently under development for all tools that will come in contact with the samples. It will use a combination of ultrasonic bath, a series of organic solvents, a series of acid and alkali treatments, and ultra-pure water to fulfill the needs of the various analyses that will eventually be made on the samples. Tools must be compatible with the applicable cleaning procedures.

ASTEROID BENNU SAMPLES: The sample handling protocol requested in this SOW will be for samples returned from the asteroid Bennu. The exact nature of these materials is currently unknown; however, the regolith material is likely to be dominated by sub-cm sized particles with a mix of fine (<100 μm), intermediate (100–500 μm), and coarse (>500 μm) particles. The protocols must accommodate sampling handling of particles of all sizes. Similarly, the protocols will need to account for a range of physical properties (density, friability, etc.). Given the extraterrestrial origin of the sample, the Bennu sample is likely to be highly reactive with the terrestrial atmosphere and special attention must be made to ensure the sample is kept under curation-grade nitrogen as much as possible.

3.2 TASKS DESCRIPTION

The scope of work defined herein consists of developing all the protocols for the handling and characterization of sample at the OSIRIS-REx Sample Curation Facility. An alignment with common standards implemented in the curation of astromaterials is a requirement of this work (see applicable documents AD-01 and AD-02; see reference documents RD-01– RD-03).

The overall scope of work is to perform the following tasks:

1. Cleanroom Requirement Review
 - a. Review the cleanroom requirements for the design and construction SOW and propose any changes or adjustments¹.
2. Sample Characterization
 - a. Requirements confirmation
 - b. Define the characterization that will be required for cataloguing
 - c. Develop the characterization protocols
 - d. Dry run test with analogue material for development and testing
 - e. Confirmation and finalization of protocols
3. Sampling Handling and Manipulation
 - a. Requirements confirmation
 - b. Define the sample handling and manipulation that will be required
 - c. Develop the sampling handling and manipulation procedures
 - d. Dry run test with analogue material for development and testing

¹ This is depending on when the contract for the science support is finalized. If the contract is finalized after design and construction SOW is released then then this task can be ignored.

- e. Confirmation and finalization of protocols
- 4. General Curation Tasks
 - a. Scope confirmation
 - b. Inputs and advice
 - c. Additional project and assignments
- 5. Equipment Requirements
 - a. Requirements confirmation for the tools and equipment
 - b. List of required tools and equipment
 - c. Compatibility with cleaning procedure
 - d. Confirmation and finalization of list
- 6. Closeout
 - a. Final Report

Each activity is described in detail within this section for planning purposes, and the technical specification and descriptions of all these activities is provided for planning purposes only. The final specification will have similar scope and will be confirmed by the CSA at the contract Kick-Off-Meeting (KOM). If trade-offs are required between requirements, the contractor must discuss trade-offs in their Bid.

3.2.1 Cleanroom Requirement Review

The CSA is planning to release the design and build Request for Proposals (RFP) for the OSIRIS-REx Curation Facility in late 2022. The SOW for this RFP contains the ISO cleanroom standards and cleanliness standards that the contractor must meet in the construction of the facility. If there is sufficient time once this Science Support Contract has been awarded and if the design and build RFP for the facility in 2022 has yet to be release, then the Contractor will review the requirements listed in the SOW. These curation requirements are to ensure that the facility's environmental conditions, design, and infrastructure meets the scientific needs of the samples and ensure their pristinity. The Contractor will provide their technical expertise to verify the requirements are sufficient and propose any amendments that may be necessary.

3.2.2 Sample Characterization

Following the samples' arrival in Canada, a catalogue of the samples will be required so that investigators can identify which samples are most appropriate for their proposed studies. To this end, the samples will need to be characterized and documented so that important information is readily available to the public via the collection database, which will be hosted on a CSA website.

The Contractor must identify what information and measurements need to be collected and displayed to the public. Once the characteristic requirements have been identified, the Contractor must determine the steps and the order in which samples will be processed in the characterization process. As previously mentioned, the procedure must ensure the pristinity of the samples and any potential contamination must be identified. To this end, the Contractor will identify how the proposed characterization protocols minimize contamination and any potential sources of contamination. As part of this task, the Contractor may be required to join meetings with the CSA's

IT department to provide technical expertise during the development of the public database on a CSA website. This is to ensure that the website will display all the necessary information and meet the needs of the scientific community.

3.2.3 Sample Handling and Manipulation

Through both the sample characterization process and preparing samples for requested investigations, the samples will need to be handled and manipulated in a manner that preserves the pristinity of the samples. The Contractor must develop the following procedures:

- Sample workflow from the original containers to creating sample splits.
- Dividing and splitting samples.
- Cutting and polishing samples.
- Preparing thin sections and polished mounts.
- Analysis and characterization using optical microscopy (i.e., manipulation of the sample from storage to the microscope and what information should be collected; the usage of the microscope itself does not need to be included in the procedure).
- Analysis and characterization using Scanning Electron Microscope (SEM) (i.e., manipulation of the sample from storage to the microscope and what information should be collected; the usage of the microscope itself does not need to be included in the procedure).

Any additional procedures to be examined during this contract will be agreed upon by both the Contractor and the CSA. Within the protocols, the Contractor must draft the procedures in the style of a laboratory procedural manual. It should be noted that the sample handling and manipulation protocols will be informed by manipulating simulant material using equipment similar to that which will be incorporated in the final curation facility. The Contractor will utilize the simulant materials to demonstrate the effectiveness of the protocols. Both the simulant and analogue equipment (such as, a mock glovebox, handling tools, etc.) will be located at CSA headquarters, therefore, trips to CSA should be planned as part of this task. In addition, two dry run exercises will be conducted to test the effectiveness and functionality of all developed procedures (i.e., the procedures developed for sample characterization, cataloguing, handling, and manipulation). The protocols will also be informed by the common practices implemented at other astromaterial curation facilities, i.e. documents AD-01 and RD-01.

3.2.4 General Curation Tasks

Throughout the duration of the contract, the Contractor's technical expertise will be consulted to address questions and provide input during the development of the curation facility and its protocols. Topics where expertise may be sought include:

- Cleanroom monitoring

- Cleaning procedures for tools and equipment
- Design of specific equipment such as the glovebox
- Sample storage
- Sample loan and transportation

Additional topics that are mutually agreed upon between the Contractor and the CSA may be added throughout the contract. This work could include informal meetings to solicit technical advice or more formal assignments to address particular aspects of the project. The scope and requirements of any general curation tasks will be developed and defined and mutually agreed by both the Contractor and the CSA. The Contractor may choose to allocate a portion of this contract's budget for travel costs related to training in curation techniques. If specific training is required by the contractor to advance or enhance knowledge in the above tasks, a dedicated report highlighting the important learnings must be provided following the training.

A minimum of one trip to the JSA curation facility should be planned during the autumn 2022 to assist in CSA-JSC curation meeting.

3.2.5 Equipment Requirements

Throughout all the activities described, the Contractor will identify equipment that is necessary for the proposed sample handling, manipulation, and characterization. The Contractor will compile a list of recommended tools and equipment, including the recommended supplier, which will be reviewed by the CSA. All proposed tools and equipment should meet the technical requirements highlighted in this SOW.

4 PROJECT MANAGEMENT

The Contractor is responsible for establishing and maintaining a project management control system to ensure that the schedule, technical and programmatic requirements of this SOW are met. If any information for the Contractor to fulfill its responsibilities to complete the contract is missing from this SOW, it is the duty of the Contractor to inform the CSA as soon as this situation comes to light. If the CSA does not have the information on hand or cannot obtain the information, the Contractor and the CSA must make and document assumptions so that the work will not be stopped.

4.1 COMMUNICAITONS AND ACCESS

The Contractor must establish and maintain a close management and technical interface with the CSA to coordinate program effort and monitor the schedule and performance. All documentation and data generated by the Contractor for the project must be accessible to the CSA PA and TA for review.

4.2 SCHEDULE

The Contractor must prepare and maintain a detailed schedule for all the work to be performed under this contract. The schedule must be updated at each major milestone. The schedule must include all the milestones listed in Table 4-1: Proposed Project Milestones. Details on the meetings associated with each milestone are provided in section 4.3. Details for the reports associated with the meetings are provided in section 5.

TABLE 4-1: PROPOSED PROJECT MILESTONES

ID	Milestone Description	Nominal Date
MS1	Kick-off Meeting	Contract start + 1 week
MS2	Cleanroom Requirements Review	Contract start + 1 month
MS3	Protocol Requirements Report	Contract start + 3 months
MS4	Definition of the Protocols Report	Contract start + 9 months
MS5	Development of Procedures Report	Dry Run Exercise #1 – 1 month
MS6	Pre-Dry Run Report #1	Dry Run Exercise #1 – 2 weeks
MS7	Dry Run Exercise #1	Sample Arrival in Canada – 12 months
MS8	Post-Dry Run Report #1	Dry Run Exercise #1 + 1 month
MS9	Pre-Dry Run Report #2	Dry Run Exercise #2 – 1 month
MS10	Dry Run Exercise #2	Sample Arrival in Canada – 6 month
MS11	Post-Dry Run Report #2	Dry Run Exercise #2 + 1 month
MS12	Finalized Procedures Report	Sample Arrival in Canada – 1 month
MS13	Final Report and Project Close-Out	Sample Arrival in Canada + 3 months

4.3 MEETINGS

The Contractor must hold the meetings described in Table 4-2: Planned Meetings. These meetings will be attended by representatives of the CSA. Individuals from other organizations designated by the CSA may be invited.

TABLE 4-2: PLANNED MEETINGS

ID	Meetings	Nominal Data	Venue
M1	Kick-off Meeting (KoM)	Contract start + 1 week	Telecon.
M2	Cleanroom Requirements Review	Contract start + 1 month	Telecon.
M3	Protocol Requirements	Contract start + 3 months	Telecon.
M4	Definition of Protocols	MS4 – 2 weeks	Telecon.
M5	Development of Procedures	MS5 – 2 weeks	Telecon.
M6	Pre-Dry Run #1	MS6 – 2 weeks	Telecon.
M7	Dry Run Exercise #1	Sample Arrival in Canada – 12 months	In person
M8	Post-Dry Run Debrief #1	MS8 – 2 weeks	Telecon.
M9	Pre-Dry Run #2	MS9 – 2 weeks	Telecon.
M10	Dry Run Exercise #2	Sample Arrival in Canada – 6 month	In person
M11	Post-Dry Run Debrief #2	MS11 – 2 weeks	Telecon.
M12	Finalized Procedures	MS12 – 2 weeks	Telecon.
M13	Final Report	MS13 – 2 weeks	Telecon
	Teleconference Meetings	As required	Telecon.

All meetings, except the M7 and M10 (the dry run exercise meetings), will be held by videoconference and will be held at a mutually agreed time. M7 and M10, the dry run exercises, will be held in-person at the CSA headquarters in Saint-Hubert, QC. For meetings M1–M13, the Contractor will:

- Suggest the meeting content and deliver the suggested meeting agenda to the PA and the TA at least two business days before the meeting;

- Deliver to the PA and the TA one (1) electronic copy of the milestone report at least two weeks before the meeting and one (1) electronic copy of presentations prepared for the meeting at least two business days before the meeting;
- Record the minutes of the meeting; and
- Deliver one (1) electronic copy of the minutes of the meeting to the PA within five business days after the meeting.

4.3.1 Teleconference Meetings

The Contractor should hold teleconference meetings with the CSA PA and TA when necessary. Frequent exchanges between the Contractor and the CSA throughout the duration of the contract are necessary to ensure that the CSA's input into the work is carried out. The teleconferences are mainly to address technical issues and to discuss progress.

4.3.2 M1 – Kick-off Meeting

The KoM will serve as an opportunity for CSA and Public Services and Procurement Canada (PSPC) to review the Contractor's plans, the requirements of the work (SOW), schedules, deliverables, risks, and to address issues. A presentation can be prepared but is not mandatory.

4.3.3 M2 – Cleanroom Requirements

The M2 – Cleanroom Requirements meeting serves as an opportunity for the Contractor to provide feedback on the technical requirements design and build SOW for the OSIRIS-REx curation facility. The Contractor must have reviewed the technical requirements and present any recommendations or necessary amendments. A presentation can be prepared but is not mandatory if the Contractor feels an open discussion is better suited.

4.3.4 M3 – Protocol Requirements

The M3 – Protocol Requirements meeting serves as an opportunity for the CSA and the Contractor to review the requirements for the sample characterization (section 3.2.2) and sample handling and manipulation (section 3.2.3) protocols. This will review will include all the technical, operational, and logistical requirements that must be considered in the development of the protocols. This will include requirements for the tools and equipment that will be needed in the protocols, including any technical or infrastructure requirements that the equipment needs. During this meeting, the CSA and the Contractor will also review the recommended considerations that the Contractor highlighted within their bid (Annex C, Section C.4.1.3). A presentation can be prepared but is not mandatory. Following the meeting the MS3: Protocol Requirements Report will be prepared, which will be a finalized report that includes all requirements that the CSA and Contractor have agreed upon (more details provided in section 5.3).

4.3.5 M4 – Definition of the Protocols

The purpose of the M4 – Definition of Protocols meeting is for the Contractor to present the work done defining the protocols for sample characterization (section 3.2.2) and sample handling and manipulation (section 3.2.3). The presentation will provide an overview of the MS4 Definition of the Protocols Report. The purpose of this meeting is for:

- 1) The Contractor to present the required measurements that will be included in the catalogue database and available to the public for sample selection.
- 2) The Contractor to provide a high-level workflow for characterizing and cataloguing the sample and subsamples.
- 3) The Contractor to present a high-level workflow for the common procedures that will be carried out in the facility for sample manipulation, i.e. sub-sampling; polishing; mount and thin section preparation; and analysis using optical microscopy and SEM.
- 4) The Contractor to provide a preliminary list of required tools and equipment as identified in the workflows for sample characterization and sample handling.
- 5) Prior to the meeting, the CSA will review the MS4 Definition of the Protocols Report prepared by the Contractor and put forth any questions and suggestions.

This milestone is complete when the meeting items above are addressed and a final version of the MS4 Definition of the Protocols Report, which must incorporate any comments or revisions that arise in the M4 meeting, is received by the CSA TA.

4.3.6 M5 – Development of Procedures

The purpose of M5 – Development of Procedures meeting is for the Contractor to present the work done on developing the procedures for sample characterization (section 3.2.2) and sample handling and manipulation (section 3.2.3). The presentation will provide an overview of the MS5 Development of Procedures Report. The purpose of this meeting is for:

- 1) The Contractor to provide an overview of the initial draft of the procedures for sample characterization and cataloguing.
- 2) The Contractor to provide an overview of the initial draft of the procedures for sample handling and manipulation.
- 3) The Contractor to identify any potential sources of contamination that could arise through the procedures and the measures in place to mitigate contamination.
- 4) The Contractor to provide an updated list of required tools and equipment required for the procedures, highlighting any additions, removals, or changes since M5.
- 5) Prior to the meeting, the CSA will review the MS5 Development of Procedures Report prepared by the Contractor and put forth any questions and suggestions.

This milestone is complete when the meeting items above are addressed and the final version of the MS5 Development of Procedures Report, which must incorporate any comments or revisions that arise in the M5 meeting, is received by the CSA TA.

4.3.7 M6 – Pre-Dry Run #1

The purpose of the M6 – Pre-Dry Run meeting is for the Contractor to provide an overview of the first planned dry run exercise. The presentation will provide an overview of the MS6: Pre-Dry Run #1 Report. The purpose of this meeting is for:

- 1) The Contractor to walk through the plan for the first dry run exercise that will test the proposed procedures from the MS5 Development of Procedures Report.
- 2) The Contractor to coordinate with the CSA to schedule when the M7 – Dry Run Exercise #1 will take place. A time and date will be mutually agreed up by the CSA and the Contractor. The exercise can be executed over multiple days if a single day is not sufficient.

This milestone is complete when the meeting items above are addressed and the final version of the MS6: Pre-Dry Run Report, which must incorporate any comments or revisions that arise in the M6 meeting, is received by the CSA TA.

4.3.8 M7 – Dry Run Exercise #1

The purpose of the M7 Dry Run Exercise is for the Contractor to execute the first dry run test at CSA headquarters in Saint-Hubert, QC. The Contractor will have access to a replica glovebox and analogue material and they will step through the procedures they finalized in the MS6: Pre-Dry Run #1 Report. Representatives from the CSA will be in attendance for the dry run and will be observing and able to assist in the exercise. As highlighted in section 4.3.7, this exercise can occur over multiple days if a single day is not sufficient to complete all the activities. Both the CSA and Contractor will take notes during the exercise. MS7: Dry Run Exercise #1 milestone will be completed once M7 has concluded.

4.3.9 M8 – Post-Dry Run Debrief #1

The purpose of the M8 – Post-Dry Run Debrief #1 meeting is for the Contractor to provide an overview of the completed dry run exercise (MS7: Dry Run Exercise #1). The presentation will provide an overview of the MS8: Post-Dry Run #1 Report. The purpose of this meeting is for:

- 1) The Contractor to provide an overview of the results of the dry run tests using analogue material to demonstrate the functionality and feasibility of the methodology.
- 2) The Contractor to highlight the lessons learned from the first dry run exercise such as successes, deficits, required modifications, etc.
- 3) Prior to the meeting, the CSA will review the MS8: Post-Dry Run #1 Report prepared by the Contractor and put forth any questions and suggestions.

This milestone is complete when the meeting items above are addressed and the final version of the MS8: Post-Dry Run #1 Report, which must incorporate any comments or revisions that arise in the M8 meeting, is received by the CSA TA.

4.3.10 M9 – Pre-Dry Run #2

The purpose of the M9 – Pre-Dry Run #2 meeting is for the Contractor to provide an overview of the second planned dry run exercise. The presentation will provide an overview of the MS9: Pre-Dry Run #2 Report. The purpose of this meeting is for:

- 1) The Contractor to highlight the changes to the preliminary version of the Procedures Report and how the lessons learned in the MS8: Post-Dry Run #1 Report have been incorporated.
- 2) The Contractor to walk through the plan for the second dry run exercise that will test the modified version of the MS5 Development of Procedures Report that includes the lessons learned in the MS8: Post-Dry Run #1 Report.
- 3) The Contractor to coordinate with the CSA to schedule when the M10 – Dry Run Exercise #2 will take place. A time and date will be mutually agreed upon by the CSA and the Contractor. The exercise can be executed over multiple days if a single day is not sufficient.

This milestone is complete when the meeting items above are addressed and the final version of the MS9: Pre-Dry Run Report, which must incorporate any comments or revisions that arise in the M9 meeting, is received by the CSA TA.

4.3.11 M10 – Dry Run Exercise #2

The purpose of the M10 Dry Run Exercise #2 is for the Contractor to execute the second dry run test at CSA headquarters in Saint-Hubert, QC. The Contractor will have access to a replica glovebox and analogue material and they will step through the procedures they finalized in the MS9: Pre-Dry Run #2 Report. Representatives from the CSA will be in attendance for the dry run and will be observing and able to assist in the exercise. As highlighted in section 4.3.10, this exercise can occur over multiple days if a single day is not sufficient to complete all the activities. Both the CSA and Contractor will take notes during the exercise. MS10: Dry Run Exercise #2 milestone will be completed once M10 has concluded.

4.3.12 M11 – Post-Dry Run Debrief #2

The purpose of the M11– Post-Dry Run Debrief #2 meeting is for the Contractor to provide an overview of the second completed dry run exercise (M10 Dry Run Exercise #2). The presentation will provide an overview of the MS11: Post-Dry Run #2 Report. The purpose of this meeting is for:

- 1) The Contractor to provide an overview of the results of the dry run tests using analogue material to demonstrate the functionality and feasibility of the methodology.

- 2) The Contractor to highlight the lessons learned from the second dry run exercise such as successes, deficits, required modifications, etc.
- 3) Prior to the meeting, the CSA will review the MS11: Post-Dry Run Report prepared by the Contractor and put forth any questions and suggestions.

This milestone is complete when the meeting items above are addressed and the final version of the MS11: Post-Dry Run Report, which must incorporate any comments or revisions that arise in the M11 meeting, is received by the CSA TA.

4.3.13 M12 – Finalized Procedures

The purpose of the M12 – Finalized Procedure meeting is for the Contractor to provide an overview of the finalized procedures for sample characterization (section 3.2.2) and sample handling and manipulation (section 3.2.3). The presentation will provide an overview of the MS12: Finalized Procedure Report. The purpose of this meeting is for:

- 1) The Contractor will provide an overview of the finalized version of the procedures for sample characterization and cataloguing.
- 2) The Contractor will provide an overview of the finalized version of the procedures for sample handling and manipulation.
- 3) The Contractor to highlight the equipment or tools that are necessary for the successful execution of the protocols.
- 4) The Contractor to confirm that the equipment is compatible with the cleaning methods and identify which type of scientific investigations each tool and equipment is compatible with.
- 5) Prior to the meeting, the CSA will review the MS12: Finalized Procedure Report prepared by the Contractor and put forth any questions and suggestions.

This milestone is complete when the meeting items above are addressed and the final version of the MS12: Finalized Procedure Report, which must incorporate any comments or revisions that arise in the M12 meeting, is received by the CSA TA.

4.3.14 M13 – Final Report

The purpose of the M13 – Final Report meeting is for the Contractor to provide an overview of the work done for this contract and the lessons learned. The presentation will provide an overview of the MS13: Final Report and Project Close-Out. The purpose of this meeting is for:

- 1) The Contractor to provide an overview of work done throughout this contract.
- 2) The Contractor to highlight the lessons learned from the contract.
- 3) Prior to the meeting, the CSA will review the MS13: Final Report and Project Close-Out prepared by the Contractor and put forth any questions and suggestions.

This milestone is complete when the meeting items above are addressed and the final version of the MS13: Final Report and Project Close-Out, which must incorporate any comments or revisions that arise in the M13 meeting, is received by the CSA TA.

5 DOCUMENTATION, REPORTING AND OTHER DELIVERABLES

5.1 GENERAL

For all project reporting the contractor must provide a report in electronic copy to the Project Authority (PA) and the Technical Authority (TA). Acceptable electronic formats are: MS Word or PDF. Refer to Section 5.15 for instructions on how to name electronic documents.

5.2 AGENDA AND MINUTES OF MEETING

The Contractor must provide a meeting agenda for all reviews and meetings, including teleconferences, and must deliver these to the CSA TA no less than 5 working days before the reviews and 2 working day before a meeting, and must have it approved by the CSA TA. The agenda can be combined with the meeting presentation as long as the information required is provided.

The Contractor must produce the minutes for all reviews and meetings including teleconferences, and must deliver these to CSA. In the case of teleconferences, they must be delivered within 5 working days of the meeting.

5.3 MS3: PROTOCOL REQUIREMENTS REPORT

Following the M3 meeting (section 4.3.4), the Contractor must compile a report on all the technical, operational, and logistical requirements for the sample characterization (section 3.2.2) and sample handling and manipulation (section 3.2.3) protocols. This will include the requirements for the tools and equipment that will be needed to execute the protocols. Once finalized, the report will be submitted to the CSA TA and once accepted this milestone will be complete.

5.4 MS4: DEFINITION OF PROTOCOLS REPORT

The Contractor must provide the initial release of the MS5: Definition of the Protocols Report to the CSA TA 2 weeks prior to the M4 meeting (section 4.3.5). This report will build off the requirements in MS3 and will define the measurements and methodologies that will be implemented in the protocols. Therefore, this report must include the following aspects:

- The list of required measurements that will necessary for the catalogue database;
- A workflow for characterizing and cataloguing the sample and subsamples;
- A workflow for each of the common procedures (listed in section 3.2.2 and 3.2.3) that will be carried out in the facility; and
- A preliminary list of required tools and equipment needed to successfully execute the workflows.

After presenting the report at the M4 meeting, the Contractor must incorporate any comments from the CSA within 2 weeks and submit the finalized report to the CSA TA to complete this milestone.

5.5 MS5: DEVELOPMENT OF THE PROCEDURES REPORT

The Contractor must provide the initial release of the MS5: Development of the Procedures Report to CSA TA 2 weeks prior to the M5 meeting (section 4.3.6). This report will contain the initial release of the procedures that will be tested during M7 – Dry Run Exercise #1 (section 4.3.8). Therefore, this report must include the following aspects:

- An initial release of the procedures for sample characterization and cataloguing;
- An initial release of the procedures for sample handling and manipulation;
- Identification of all potential sources of contamination in the procedures and the measures in place to mitigate any contamination; and
- An updated list of required tools and equipment required for the procedure, highlighting any additions, removals, or changes since the M4 meeting.

The final draft of the procedures will be included in the Curation Plan for the facility and therefore the draft should be written in the style of a laboratory procedural manual. The reader must be able to follow the steps of each procedure with ease. After presenting the report at the M5 meeting, the Contractor must incorporate any comments from the CSA within 2 weeks and submit the finalized report to the CSA TA to complete this milestone.

Over the course of the contract, multiple versions of the Procedure Report will be produced. Appendix A and B highlights document versions and the timeline for the Procedures Report. A preliminary version of the procedures must be provided for MS5 completion. Following the first dry run exercise (MS7; section 4.3.8), the procedures will be modified, incorporating the lessons learned presented in the MS8: Post-Dry Run #1 Report. An initial release version of the Procedures Report must be provided for MS9 completion. Following the second dry run exercise ((MS10; section 5.10), the Procedure Report will be modified, incorporating the lessons learned presented in the MS9: Post-Dry Run #2 Report. An updated version must be provided for MS12 completion. Following sample arrival in Canada, additional modifications can be made to the Procedure Report if they arise during handling of the actual Bennu sample in the facility. A final version of the Procedure Report must be provided for MS13 completion.

5.6 MS6: PRE-DRY RUN #1 REPORT

The Contractor must provide the initial release of the MS6: Pre-Dry Run Report to the CSA TA 2 weeks prior to the M6 meeting (section 4.3.7). This report will detail the schedule for the first dry run exercise for the procedures (section 4.3.8). The Contractor may schedule the exercise in a single day or over multiple days depending on the time they feel is required to complete the exercise. After presenting the report at the M6 meeting, the Contractor must incorporate any comments from the CSA within 2 weeks and submit the finalized report to the CSA TA to complete this milestone.

5.7 MS7: DRY RUN EXERCISE #1

No formal report or document is required for the completion of the MS7: Dry Run Exercise #1. This milestone is complete once the M7 Dry Run Exercise #1 meeting has finished at CSA headquarters (section 4.3.8).

5.8 MS8: POST-DRY RUN #1 REPORT

The Contractor must provide the initial release of the MS8: Post-Dry Run #1 Report to the CSA TA 2 weeks prior to the M8 meeting (section 4.3.9). This report must summarize the completed dry run exercise (section 4.3.8) and must include the following aspects:

- An executive summary of the results of the dry run test using analogue material to demonstrate the functionality and feasibility of the methodology; and
- The lessons learned from the dry run exercise such as successes, deficits, required modification, etc.

After presenting the report at the M8 meeting, the Contractor must incorporate any comments from the CSA within 2 weeks and submit the finalized report to the CSA TA to complete this milestone.

5.9 MS9: PRE-DRY RUN #2 REPORT

The Contractor must provide the initial release of the MS9: Pre-Dry Run #2 Report to the CSA TA 2 weeks prior to the M9 meeting (section 4.3.10). This report will highlight the procedural changes made to the preliminary version of the Procedures Report from the MS5 milestone and how the lessons learned in the MS8: Post-Dry Run #1 Report have been incorporated. An initial release version of the Procedures Report must be provided for the completion of this milestone.

This report will also detail the schedule for the second dry run exercise for the procedures (section 4.3.11). The Contractor may schedule the exercise in a single day or over multiple days depending on the time they feel is required to complete the exercise. After presenting the report at the M9 meeting, the Contractor must incorporate any comments from the CSA within 2 weeks and submit the finalized report to the CSA TA to complete this milestone.

5.10 MS10: DRY RUN EXERCISE #2

No formal report or document is required for the completion of the MS10: Dry Run Exercise #2. This milestone is complete once the M10 Dry Run Exercise #2 meeting has finished at CSA headquarters (section 4.3.11).

5.11 MS11: POST-DRY RUN #2 REPORT

The Contractor must provide the initial release of the MS11: Post-Dry Run Report to the CSA TA 2 weeks prior to the M11 meeting (section 4.3.12). This report must summarize the completed second dry run exercise (section 4.3.11) and must include the following aspects:

- An executive summary of the results of the dry run test using analogue material to demonstrate the functionality and feasibility of the methodology; and

- The lessons learned from the second dry run exercise such as successes, deficits, required modification, etc.

After presenting the report at the M11 meeting, the Contractor must incorporate any comments from the CSA within 2 weeks and submit the finalized report to the CSA TA to complete this milestone.

5.12 MS12: FINALIZED PROCEDURES REPORT

The Contractor must provide the initial release of the MS10: Finalized Procedures Report to the CSA TA 2 weeks prior to the M12 meeting (section 4.3.13). The report must detail the finalized procedures for sample characterization (section 3.2.2) and sample handling and manipulation (section 3.2.3). Therefore, this report must include the following aspects:

- 1) The finalized version of the procedures for sample characterization and cataloguing.
- 2) The finalized version of the procedures for sample handling and manipulation.
- 3) The finalized list of equipment or tools that are necessary for the successful execution of protocols.
- 4) The specification of the cleaning method that is compatible with each tool and what type of scientific investigations each tool and equipment is compatible with.

This report represents the final version of the procedures that will be included in the Curation Plan for the facility and therefore the report should be written in the style of a laboratory procedural manual. The procedure must be detailed in a comprehensive manner and the reader must be able to follow the steps of the procedures with ease. After presenting the report at the M12 meeting, the Contractor must incorporate any comments from the CSA within 2 weeks and submit the finalized report to the CSA TA to complete this milestone.

5.13 MS13: FINAL REPORT AND PROJECT CLOSE OUT

The Contractor must provide the initial release of the MS13: Final Report and Project Close Out to the CSA TA 2 weeks prior to the M13 meeting (section 4.3.14). The final report will be an overview of the work done throughout the contract. The document must include:

- A summary of the work done for each milestone.
- An overview of an outstanding questions, procedures, or protocols that need to be addressed in the future, but were outside the scope of this contract.
- A Contractor self-evaluation including a summary of issues, lessons learned and recommendations related to the scope of this contract.

After presenting the report at the M13 meeting, the Contractor must incorporate any comments from the CSA within 2 weeks and submit the finalized report to the CSA TA to complete this milestone.

5.14 TRAINING REPORTS

Should the Contractor participate in specific training as part of this contract, they must produce a dedicated report highlighting the important learnings and must schedule a meeting to present the results to the CSA. Both the report and presentation may be formatted as the Contractor sees fit but must be delivered to the CSA within 2 weeks of the trip.

5.15 CONTRACT DELIVERABLES

This section contains the lists of deliverables and describes their respective content and format. All documents must be typed and all diagrams must be clearly drawn and labeled. The Contractor must submit an electronic copy of each of the deliverable documents.

Each electronic file must be named in a meaningful manner so as to be easily identified. No specific format is imposed. However, the following element should be considered to ease the identification of the contents in a wider context:

- 1 Contract reference number;
- 2 Short project name or acronym
- 3 Nature of the document (e.g., milestone report)
- 4 Version and/or date

Non-Disclosure

The documents delivered will not be placed in the public domain, except those designed to be in the public domain, i.e. website pages and virtual platform instructions and technical support. The Contractor should expect that documents produced for this contract will be reviewed by the Curation Facility's Curation Consultation Committee. This committee is comprised of leading experts who provide expertise to Canada for the design, construction and future operation of the curation facility as well as for the handling, characterization, cataloguing, loan, and transportation of the allocated Canadian sample.

6 ACRONYMS AND ABBREVIATIONS

AD	Applicable Document
CDRL	Contract Data Requirements List
CSA	Canadian Space Agency
DID	Data Item Description
HR	Human Resources
IENT	Institute of Environmental Sciences and Technology
ISO	International Organization for Standardization
IT	Information Technology
JAXA	Japan Aerospace Exploration Agency
LED	Light-Emitting Diode
NASA	National Aeronautics and Space Administration
NDA	Non-Disclosure Agreement
OLA	OSIRIS-REx Laser Altimeter
OSIRIS-REx	Origins, Spectral Interpretation, Resource Identification, Safety – Regolith Explorer
PA	Project Authority
PDF	Portable Document Format
PSPC	Public Services and Procurement Canada
RD	Reference Document
RFP	Request for Proposals
RP	Recommended Practice
SE	Space Exploration
SEM	Scanning Electron Microscope
SOW	Statement of Work
TA	Technical Authority

APPENDICES

A CONTRACT DATA REQUIREMENTS LIST (CDRL)

This Appendix defines the documentation to be delivered by the Contractor.

LEGEND:

- 1) DID No.
 - CF = Contractor's format
 - DIDs are provided in Appendix B, these provide the purpose and format of all deliverables for the contract.
- 2) Document Versions (this refers to the version of the document that will be delivered though the duration of the Phase 0 contract):
 - D: Draft (under Version Control, expected to be updated – up to 50% complete and correct).
 - P:Preliminary (under Version Control, expected to be updated - 70% complete and correct).
 - IR: Initial Release (under Configuration Control, may well be revised during normal project life - 95-100% complete and correct).
 - U: Update (expected revision, but not final; under Configuration Control, previous versions remain unchanged under Configuration Control).
 - F: Final (under Configuration Control, normally not expected to be revised, but could be if necessary - 100% complete and correct).

TABLE 6-1: CONTRACT DATA REQUIREMENTS LIST

CDRL No.	Title	SOW Section No.	DID No.	MS1	MS2	MS3	MS4	MS5	MS6	MS7	MS8	MS9	MS10	MS11	MS 12	MS 13
1	Meeting Agenda	5.2	110	IR	IR	IR	IR	IR	IR	IR		IR	IR	IR	IR	IR
2	Minutes of Meetings	5.2	111	IR	IR	IR	IR	IR	IR	IR		IR	IR	IR	IR	IR
3	Meeting Presentations	4.3	CF	IR	IR	IR	IR	IR	IR	IR		IR	IR	IR	IR	IR
4	Protocol Requirements Report	5.3	1000			F										
5	Definition of Protocols Report	5.4	1010				F									
6	Procedures Report	5.5	1020					P				IR			U	F
7	Pre-Dry Run Report	5.6 & 5.9	1030						IR			U				
8	Post-Dry Run Report	5.7 & 5.11	1040								IR			U		
9	Final Report and Project Close-Out	5.13	1050													F
10	Training Reports	5.14	CF	Report will be produced as training activities occur.												

B DATA ITEMS DESCRIPTIONS (DID)

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DID-110 – Meeting Agenda

DID Issue: IR

Date: 2013-12-19

PURPOSE:

The Meeting Agenda specifies the purpose and content of a meeting.

PREPARATION INSTRUCTIONS:

The meeting agendas must contain the following information, as a minimum.

1. DOCUMENT HEADER:

- a) Title;
- b) Type of meeting;
- c) Project title, project number, and contract number;
- d) Date, time, and place;
- e) Chairperson; and
- f) Expected duration.

2. DOCUMENT BODY:

- a) Introduction;
- b) Opening Remarks: CSA;
- c) Opening Remarks: Contractor;
- d) Review of previous minutes and all open action items;
- e) Project technical issues;
- f) Project management issues;
- g) Other topics;
- h) Review of newly created/closed action items, decisions, agreements and minutes; and
- i) Set or confirm dates of future meetings.

DID-111 – Meeting Minutes

PURPOSE:

The minutes of meetings provide a record of decisions and agreements reached during reviews/meetings.

PREPARATION INSTRUCTIONS:

- 1) Minutes of meeting must be prepared for each formal review or meeting in the Contractor's format and must, as a minimum, include the following information:
 - a) Title page containing the following:
 - b) Title, type of meeting and date
 - c) Project title, project number, and contract number
 - d) Space for signatures of the designated representatives of the Contractor, the CSA and the Public Services and Procurement Canada (PSPC) if required, and
 - e) Name and address of the Contractor.
- 2) Purpose and objective of the meeting;
- 3) Location;
- 4) Agenda;
- 5) Summary of the discussions, decisions and agreements reached;
- 6) List of attendees by name, position, phone numbers and e-mail addresses as appropriate;
- 7) Listing of open action items and responsibility for each action to be implemented as a result of the review;
- 8) Other data and information as mutually agreed; and
- 9) The minutes must include the following statement:

“All parties involved in contractual obligations concerning the project acknowledge that minutes of a review/meeting do not modify, subtract from, or add to the obligations of the parties, as defined in the contract.”

DATA ITEM DESCRIPTION

DID-1000 – Protocol Requirement Report

DID Issue: IR

Date: 2013-12-19

PURPOSE:

The Protocol Requirement Report defines all the requirements that have to be met during the development of the sample characterization and sampling handling technique. This includes any requirements that the tools and equipment used in the procedures must meet. This document will be used as a reference throughout the rest of the contract by both the CSA and the Contractor when developing and reflecting on proposed procedures.

PREPARATION INSTRUCTIONS:

- 1) Title page containing the following information:
 - a. Title and date
 - b. Project title, project number, and contract number
 - c. Space for signatures of the designated representatives of the Contractor, the CSA and the Public Services and Procurement Canada (PSPC), and
 - d. Name and address of the Contractor
- 2) Technical Requirements: These requirements pertain to the sample itself, such as environmental conditions, cleanliness, etc.
- 3) Operational Requirements: These requirements pertain to the intended procedures, such prohibited materials, required inputs and outputs, required infrastructure, etc.
- 4) Logistical Requirements: These requirements pertain to the workflow itself, such as the order of process, nomenclature system, personnel, etc.
- 5) Equipment and Tool Requirements: These requirements pertain to the tools and equipment that will be used in the procedures, such as prohibited materials, specifications, etc.

DATA ITEM DESCRIPTION

DID-1010 – Definition of Protocols Report

DID Issue: IR

Date: 2013-12-19

PURPOSE:

The Definition of Protocols Report provides greater details on the protocols that will be developed. In particular the technique, measurements, methodology, and processes contained in each protocol must be defined; however, detailed, step-wise procedures for each task are not required.

PREPARATION INSTRUCTIONS:

- 1) Title page containing the following information:
 - a. Title and date
 - b. Project title, project number, and contract number
 - c. Space for signatures of the designated representatives of the Contractor, the CSA and the Public Services and Procurement Canada (PSPC), and
 - d. Name and address of the Contractor
- 2) Required measurements: a list of all the measurements that will be required for the sample catalogue database, including a description of how each measurement will be taken (e.g., mass will be measured using an analytical balance to a stated level of precision).
- 3) Workflow for the characterizing and cataloguing the samples and subsamples: The general order in which samples will be processed, detailing when each measurement needs to take place.
- 4) Workflow for sample handling and manipulation: The general order of steps that will be taken for each procedure in sample handling and manipulation. The following procedures will be examined:
 - a. Sample flow from the original containers to creating sample splits
 - b. Dividing and splitting samples
 - c. Cutting and polishing samples
 - d. Preparing thin sections and polished mounts
 - e. Analysis and characterization using optical microscopy
 - f. Analysis and characterization using Scanning Electron Microscope (SEM)
 - g. Any additional procedures will be agreed upon by both the Contractor and the CSA.

- 5) A preliminary list of tools and equipment: all tools and equipment required in the workflows must be listed.

DATA ITEM DESCRIPTION

DID-1020 – Procedures Report

DID Issue: IR

Date: 2013-12-19

PURPOSE:

The Procedures Report details the procedures for both sample characterization and sample handling and manipulation. These procedures will be followed during dry run exercises and therefore tested to ensure functionality. Various versions of the Procedures Report will be produced throughout the contract has highlighted in Appendix A.

PREPARATION INSTRUCTIONS:

- 1) Title page containing the following information:
 - a. Title and date
 - b. Project title, project number, and contract number
 - c. Space for signatures of the designated representatives of the Contractor, the CSA and the Public Services and Procurement Canada (PSPC), and
 - d. Name and address of the Contractor
- 2) Procedure for sample characterization and cataloguing: A detailed procedure for the sample characterization and cataloguing of the samples. It will follow the workflow from the Definition of Protocols Report but must detail the exact procedural steps for each methodology implemented.
- 3) Procedure for sample handling and manipulation: A detailed procedure for each of the procedures in sample handling and manipulation. It will follow the workflow from the Definition of Protocols Report but must detail the exact procedural steps for each methodology implemented.
- 4) A list of all potential sources of contamination in the procedures: All potential sources of contamination within the developed procedures will be listed and the measures in place to mitigate the contamination will be provided.
- 5) List of required tools and equipment: An updated list of the tools and equipment listed in the Definition of Protocols, highlighting any additions, removals, or changes will be provided.

DATA ITEM DESCRIPTION

DID-1030 – Pre-Dry Run Report

DID Issue: IR

Date: 2013-12-19

PURPOSE:

The Pre-Dry Run Report details the agenda for the dry-run exercise that will be followed during the Dry Run Exercises. The purpose of the dry run exercises is to test the developed procedures. The number of days over which the exercise will take place will be agreed upon by the CSA and Contractor, closer to when these reports are due.

PREPARATION INSTRUCTIONS:

- 1) Title page containing the following information:
 - a. Title and date
 - b. Project title, project number, and contract number
 - c. Space for signatures of the designated representatives of the Contractor, the CSA and the Public Services and Procurement Canada (PSPC), and
 - d. Name and address of the Contractor
- 2) The Agenda will contain:
 - a. Purpose and objective of the exercise;
 - b. Location;
 - c. Agenda and procedure for each day; and
 - d. List of materials and tools required.

DATA ITEM DESCRIPTION

DID-1040 – Post-Dry Run Report

DID Issue: IR

Date: 2013-12-19

PURPOSE:

The Post-Dry Run Report is a debrief report created following the dry run exercise. It highlights the overall success and failures of the procedures as tested on the analogue materials and what modifications need to take place before sample arrival.

PREPARATION INSTRUCTIONS:

- 1) Title page containing the following information:
 - a. Title and date
 - b. Project title, project number, and contract number
 - c. Space for signatures of the designated representatives of the Contractor, the CSA and the Public Services and Procurement Canada (PSPC), and
 - d. Name and address of the Contractor
- 2) An executive summary of the result from the dry run tests.
- 3) Lesson learned with the following sections:
 - a. Successes: a detailed overview of what worked well during the dry run exercise.
 - b. Deficits: a detailed overview of what did not work or needs improvement within the procedures.
 - c. Required modification: a detailed overview of what changes are required in the procedure to correct the highlighted deficits.
 - d. General comments: Any additional comments from the dry exercise that are worth noting.

DATA ITEM DESCRIPTION

DID-1050 – Final Report and Project Closeout

DID Issue: IR

Date: 2013-12-19

PURPOSE:

The purpose of the Final Report is to record formally the history of the Project, its achievements, financial, material and human resources expenditure, problems encountered and solutions implemented.

PREPARATION INSTRUCTIONS:

The Final Report will encompass all the work done in the project. It should be a comprehensive summary of the project work with the emphasis on the problems encountered, solutions implemented, successes encountered and lessons learned. It must include sufficient drawings, graphs, tables, figures, sketches and photographs as appropriate. The Phase Closure Report must be a standalone document and must contain at least the following information:

- 1) Executive Summary.
- 2) Comparison of system performance results against system requirements and objectives.
- 3) Comparison of run-out costs with estimates by major Work Package (if applicable).
- 4) Comparison of actual versus planned schedules and milestones.
- 5) Comparison of risks anticipated versus actual experience.
- 6) Problems encountered and solutions implemented.
- 7) Final CDRL.
- 8) Lessons learned.