Data Management Plan

The objectives of this data management plan are the following:

1. Ensure that all pertinent location and sample metadata and descriptive information is captured, so that samples can be linked to station, location coordinates, depth, core, core segment, sample type, sample matrix, etc., (see Data Capture Forms).
2. Ensure that Sample IDs are unique and trackable from the vessel, through onboard analysis, through laboratory analysis back into a database(s), (see Sample Naming Convention).
3. Ensure that each sampling team follows the sample naming convention, which is based on BP’s theatre-wide convention), (see Sample Naming Convention).
4. Ensure that each sampling team has control over its sample IDs while working within the required sample naming convention), (see Sample Naming Convention).
5. Allow the data manager to identify and document core numbers based on the random number approach, (see Random Core Identification Procedures).

Data Capture Forms

Data capture forms are contained in the Excel workbook entitled Sediment\_Location\_Sample\_Result\_Forms.xlsx. The following worksheets are included:

* Information – contains a list of the worksheets and contact information
* Locations\_Data\_Entry – Entry of station coordinates, depth, date sampled, and observed surface conditions
* Locations\_Field\_Descriptions – Descriptions and formats for each locations data field
* Sample\_Data\_Entry – Entry of SampeID, Core random numbers, Core and sample dimensions, sample descriptions and date and time information
* Samples\_Field\_Descriptions – Descriptions and formats for each samples data field
* Results\_and\_Observations–
* Res\_Obs\_Fields\_Descriptions – Descriptions and formats for each results data field
* Tox\_Data\_Entry --
* Tox\_Field\_Descriptions -- Descriptions and formats for each tox data field

The Descriptions worksheets are sufficient to explain the formats and use of each of the fields.

Sample Naming Convention

Sample ID nomenclature is:

(Matrix)-(Date)-(Vessel Code)-(Station Number)-(Analysis)-(Sample Number)

Matrix:

* SU for Supernatant Water
* SD for Sediment
* DI for Distilled Water used for QA blank samples

Date: in form *YYYYMMDD* for date samples collected

Vessel Code: GY for Gyre

Station Number:

* Pre-defined stations (see table ??)
* Two digit alphanumeric and three-digit sequential numbers
* Alphanumeric is FF for far field, NF for near field, or BG for background.

Analysis:

* MF for Macrofauna
* MT for Meiofauna/toxicology
* SP for sediment properties
* CT for contaminants
* BC for bacteria
* NO for no analysis

Sample Number:

Sequential three-digit number starting with 001 for each analysis type for each day. Each sample team will control this part of the sample ID and must ensure that no Sample IDs are repeated and that the sample ID submitted on the data form is the same as the sample ID on associated sample labels, chain of custody forms, onboard lab sheets, and/or sample logbook entries.

Example sample ID are shown and described in Table ??

**Table ??. Examples of Sample IDs**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  Sample ID | Matrix | Date | VC | Station as ideintified in Table ?? | Analysis | SN |
| SU-20100911-GY-FF001-MF-001 | Supernatant | In YYYYMMDD | Vessel code always GY for GYRE | First far field station  | Macrofauna (MF) | First sample for this analysis on this day |
| SD-20100921-GY-NF004-MT010 | Sediment |  |  | Fourth near field station | Meiofauna/toxicology (MT) | Tenth sample for this analysis on this day |
| DI-20100916-GY-BG015-BC-001 | Distilled water |  |  | Fifteenth Background station | BC for bacteria | First QA sample for this analysis on this day |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

Distilled water samples can be equipment blanks, trip blanks, field blanks. The specific QA type will be identified in SampleType database field.

## Random Core Identification Procedures

Figure 1 shows a typical distribution of core positions (CP) and core numbers (CN) for the mega-corer. The mega-corer can collect up to 12 box cores per drop. The maxi-corer, which can collect up to 8 cores, would have a similar distribution. The core positions are number sequentially and clockwise. The core numbers are generated randomly. The random numbers will be generated for each station using the macro-enhanced Excel workbook, entitled Core\_Random\_Number\_Generator.xlsm. The data manager will use this workbook to assign cores to each sample group. The data manager will run the macro and complete the worksheet called data\_table for each station to provide cross-referencing of each sample to each core. The table includes identification of the station number, cast number, core position, core number, and sample ID(s) associated with each core.

Core sampling system

The Core positions is 1 through 12 for a ---- or 1 through 8 for a numbered clockwise. The core numbers are randomly generated numbers again either 1 through 12 or 1 through 8. The data manager will be assigned a set of these numbers to apply to each core array when they are sampled and taken aboard. The sample ID will include the core positions but will not include the core positions.