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Contract No. N68711-92-D-4670

**COMPREHENSIVE LONG-TERM ENVIRONMENTAL  
ACTION NAVY  
CLEAN II**

**TECHNICAL MEMORANDUM  
FINAL DATA MANAGEMENT PLAN  
PHASE II REMEDIAL INVESTIGATION/  
FEASIBILITY STUDY  
MCAS EL TORO, CALIFORNIA**

**CTO-0142/0011**

**June 1997**

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Date: 6-2-97

## **TECHNICAL MEMORANDUM FOR THE FINAL DATA MANAGEMENT PLAN PHASE II REMEDIAL INVESTIGATION/ FEASIBILITY STUDY**

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This Technical Memorandum for the Final Data Management Plan, Phase II Remedial Investigation/Feasibility Study, Marine Corps Air Station El Toro was prepared by Bechtel National, Inc. (BNI), on behalf of the U.S. Department of the Navy (DON), Southwest Division Naval Facilities Engineering Command (SWDIV), in accordance with Contract Task Order (CTO)-0142. This CTO was issued under the Comprehensive Long-Term Environmental Action Navy (CLEAN) II Program, Contract No. N68711-92-D-4670.

This Technical Memorandum outlines changes to the Final Data Management Plan so it is suitable for use during the Groundwater Remediation Pilot Testing proposed for 1997 and 1998 as part of CTO-0142. The Data Management Plan is applicable to the proposed pilot test work with the following changes.

- Page 3-1: the program database content, format, and utility are defined in the updated program procedure T2.2 and not T2.1 as indicated.
- Page 3-2 and 3-3: Table 3-1 is replaced with the attached Table 3-1.
- Pages 3-6, 3-7, and 3-8: Table 3-2 is replaced with the attached Tables 3-2 and 3-3.

Technical Memorandum for the Final Data Management Plan Phase II RI/FS

**Table 3-1  
 CLEAN II Data Tables and Information Categories**

| Table Type  | Table Name              |
|-------------|-------------------------|
| Reference   | ANALYTES                |
| Reference   | ANALYTE_ALIASES         |
| Reference   | ANALYTE_TYPES           |
| Descriptor  | BOREHOLES               |
| Tracking    | CHAINS_OF_CUSTODY       |
| Reference   | COLLECTION_METHODS      |
| Tracking    | CONTAINERS              |
| Reference   | CONTAINER_TYPES         |
| Reference   | CRITERIA                |
| Tracking    | DATA_PACKAGES           |
| Tracking    | DATA_SOURCES            |
| Descriptor  | FACILITIES              |
| Measurement | FIELD_MEASUREMENTS      |
| Measurement | FIELD_RESULTS           |
| Reference   | INSTRUMENTS             |
| Descriptor  | LITHOLOGY               |
| Tracking    | LOG_BOOKS               |
| Reference   | MATRICES                |
| Reference   | METHODS                 |
| Reference   | METHOD_DETECTION_LIMITS |
| Reference   | PAY_ITEMS               |
| Reference   | PAY_ITEM_METHODS        |
| Reference   | PRESERVATIVES           |
| Reference   | QUALIFICATION_CODES     |
| Reference   | QUALIFIERS              |
| Reference   | QUALITY_LEVELS          |
| Tracking    | REQUESTED_ANALYSIS      |
| Measurement | RESULTS                 |
| Tracking    | RESULT_QUALCODE         |
| Reference   | RESULT_TYPES            |
| Measurement | SAMPLES                 |
| Descriptor  | SAMPLE_STATIONS         |
| Reference   | SAMPLE_TYPES            |
| Tracking    | SAMPLING_EVENTS         |
| Descriptor  | SITES                   |

(table continues)

Technical Memorandum for the Final Data Management Plan Phase II RI/FS

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**Table 3-1** (continued)

| <b>Table Type</b> | <b>Table Name</b>        |
|-------------------|--------------------------|
| Descriptor        | STATION_TYPES            |
| Tracking          | TRANSFERS                |
| Descriptor        | UNITS                    |
| Measurement       | WATER_LEVEL_MEASUREMENTS |
| Descriptor        | WELLS                    |
| Measurement       | WELL_CONSTRUCTION        |

**Table 3-2  
Navy CLEAN Electronic Format for Data Deliverables**

| Field Name             | Format | Len | Start | End | LOV* | Description   |
|------------------------|--------|-----|-------|-----|------|---|
| CONTAINER_ID           | C      | 15  | 1     | 15  |      | Container ID (Bottle Label ID or LABQC for laboratory QC results)   |
| SDG_ID                 | C      | 15  | 16    | 30  |      | Sample delivery group identifier  |
| LAB_SAMPLE_ID          | C      | 15  | 31    | 45  |      | The unique identifier assigned to a sample by the laboratory.   |
| LAB_QC_BATCH_ID        | C      | 15  | 46    | 60  |      | The identifier of an autonomous batch or group of environmental samples prepared together sharing the same quality control batch within the same time period.                   |
| ANALYTE_ID             | C      | 15  | 61    | 75  | Y    | CAS number  |
| ANALYTE_NAME           | C      | 80  | 76    | 155 | Y    | Analyte name  |
| ANALYTE_TYPE           | C      | 4   | 156   | 159 | Y    | The type of analyte being reported.   |
| PAY_ITEM               | C      | 10  | 160   | 169 | Y    | Pay item  |
| FILTER_CODE            | C      | 1   | 170   | 170 | Y    | Indicates whether analysis was performed on filtered or unfiltered sample aliquot.  |
| EXTRACTION_METHOD_CODE | C      | 15  | 171   | 185 | Y    | A code indicating the method which was used to extract or prepare a sample for analysis.  |
| ANALYTICAL_METHOD_CODE | C      | 15  | 186   | 200 | Y    | A code indicating the method of analysis by which the sample was analyzed.  |
| ANALYSIS_TYPE          | C      | 6   | 201   | 206 | Y    | The type of analysis being reported.  |
| RESULT                 | N      | 15  | 207   | 221 |      | The actual analytical value for a compound/analyte generated after a sample has been analyzed or a test performed. Report the percent recovery for surrogate and spike results. |
| ERROR                  | N      | 15  | 222   | 236 |      | Radiological counting error (2 sigma error).  |
| RESULT_UNITS           | C      | 10  | 237   | 246 | Y    | Unit of measurement for the result. Use % for surrogate and spike results.  |
| RESULT_TYPE            | C      | 6   | 247   | 252 | Y    | Identifies diluted runs, re-extractions, re-analyses, and medium level preps.   |
| LAB_QUALIFIER          | C      | 5   | 253   | 257 | Y    | A code assigned by the laboratory qualifying the analytical results.  |

(table continues)

**Table 3-2** (continued)

| Field Name                 | Format | Len | Start | End | LOV | Description   |
|----------------------------|--------|-----|-------|-----|-----|---|
| TCLP_PREP_DATE             | D      | 11  | 258   | 268 |     | Date of TCLP sample preparation. Required for TCLP results. (DD-MON-YYYY)   |
| PREP_DATE                  | D      | 11  | 269   | 279 |     | The date a sample was prepared for analysis. (DD-MON-YYYY)  |
| PREP_TIME                  | T      | 5   | 280   | 284 |     | The time of day, 24-hour clock, a sample was extracted or prepared for analysis. (HH:MM) (OPTIONAL)   |
| ANALYSIS_DATE              | D      | 11  | 285   | 295 |     | The date a sample or extract was analyzed. (DD-MON-YYYY)  |
| ANALYSIS_TIME              | T      | 5   | 296   | 300 |     | The time of day, 24-hour clock, a sample or extract was analyzed. (HH:MM)   |
| SQL                        | N      | 15  | 301   | 315 |     | The sample quantitation limit. This is the sample's reporting limit (PQL or CRQL) adjusted for dilution factor, percent moisture, aliquot size, final volume, etc.  |
| SQL_UNITS                  | C      | 10  | 316   | 325 | Y   | Units used for sample quantitation limit.   |
| METHOD_DETECTION_LIMIT     | N      | 15  | 326   | 340 |     | The laboratory established method detection limit (i.e., the minimum detectable concentration of an analyte that can be measured and reported with 99% confidence that the analyte concentration is different from a blank for a given matrix.) |
| METHOD_DETECTION_UNITS     | C      | 10  | 341   | 350 | Y   | Unit of measurement of the method detection limit.  |
| INSTRUMENT_DETECTION_LIMIT | N      | 15  | 351   | 365 |     | Instrument detection limit.   |
| INSTRUMENT_DETECTION_UNITS | C      | 10  | 366   | 375 | Y   | Unit of measurement of the instrument detection limit.  |
| DILUTION_FACTOR            | N      | 8   | 376   | 383 |     | Dilution factor.  |
| MOISTURE_CONTENT           | N      | 5   | 384   | 388 |     | Percent moisture of the sample. Use for solids only.  |
| RETENTION_TIME             | N      | 7   | 389   | 395 |     | Retention time in minutes (must be supplied for all TIC results).   |
| ALIQOT_SIZE                | N      | 15  | 396   | 410 |     | Size of the aliquot used for analysis.  |
| ALIQOT_UNITS               | C      | 10  | 411   | 420 | Y   | Unit of measurement of the aliquot size.  |
| SPIKE_AMOUNT               | N      | 15  | 421   | 435 |     | Amount of analyte added for matrix spike or surrogate spike.  |
| SPIKE_UNITS                | C      | 10  | 436   | 445 | Y   | Unit of measurement of the spike amount.  |

(table continues)

**Table 3-2 (continued)**

| Field Name     | Format | Len | Start | End | LOV | Description   |
|----------------|--------|-----|-------|-----|-----|---|
| EXPECTED_VALUE | N      | 15  | 446   | 460 |     | The target result for a quality control sample or surrogate spike. An entry is required in this field for all QC analysis.              |
| PVC_CODE       | C      | 8   | 461   | 468 | Y   | Parameter value classification code. Indicates primary (reportable) result, confirmatory column result, GC/MS confirmation result, etc. |

Notes:

- \* LOV - Value in field must match an entry in a list of valid values provided by Bechtel.

Technical Memorandum for the Final Data Management Plan Phase II RI/FS

**Table 3-3  
 List of Valid Values**

| Field                      | Value  | Description   |
|----------------------------|--|---|
| LAB_CODE                   | To be determined   | To be supplied to CONTRACTOR prior to any deliverable submission (5 or fewer characters)  |
| ANALYTE_ID                 | CAS Numbers or other analyte identification as specified in the Chemical Abstract Services Association or as specified by CONTRACTOR | To be supplied by contractor  |
| ANALYTE_NAME               | Compounds as specified in the Chemical Abstract Services Association or as specified by CONTRACTOR                                   | To be supplied by contractor  |
| FILTER_FLAG                | F<br>U   | FILTERED<br>UNFILTERED  |
| RESULT_UNITS               | examples:  |   |
| SQL_UNITS                  | PH   | pH units  |
| METHOD_DETECTION_UNITS     | MG/KG<br>MG/L<br>UG/KG   | milligrams per kilogram<br>milligrams per liter<br>micrograms per kilogram  |
| INSTRUMENT_DETECTION_UNITS | UG/L<br>G/CC   | micrograms per liter<br>density in grams per cubic centimeter   |
| ALIQUOT_UNITS              | %REC<br>RPD<br>PCI/L<br>PCI/G<br>UMHOS/CM<br>MEQ/G<br>MEQ/L  | percent recovery<br>relative percent difference<br>picocuries/liter<br>picocuries/gram<br>micromhos per centimeter<br>milliequivalent per gram<br>milliequivalent per liter |
|                            | (complete list to be supplied by contractor)   |   |
| ANALYTE_TYPE               | SURR<br>TIC<br>TRG   | surrogate<br>tentatively identified compound<br>target analyte  |

(table continues)

Technical Memorandum for the Final Data Management Plan Phase II RI/FS

Table 3-3 (continued)

| Field                         | Value   | Description  |
|-------------------------------|---|--|
| RESULT_TYPE                   | 000   | Regular  |
|                               | DLn   | Dilution runs (n = 1 - 9)                                    |
|                               | MD0   | Medium level prep  |
|                               | MDn   | Medium level with dilutions (n = 1 - 9)                      |
|                               | RA0   | Reanalysis   |
|                               | RAn   | Reanalysis with dilutions (n = 1 - 9)                        |
| ANALYSIS_TYPE                 | REG   | Regular sample   |
|                               | MSn   | Matrix spike (n = 1 - 9)                                     |
|                               | SDn   | Matrix spike duplicate (n = 1 - 9)                           |
|                               | LBn   | Lab blank (n = 1 - 9)  |
|                               | RMn   | Reference material (LCS) (n = 1 - 9)                         |
|                               | LRn   | Lab replicate (n = 1 - 9)                                    |
|                               | KDn   | Reference material duplicate (LCS duplicate) (n = 1 - 9)     |
|                               | BSn<br>BDn                                    | Blank spike (n = 1 - 9)<br>Blank spike duplicate (n = 1 - 9) |
| PVC_CODE                      | PR  | Primary (reportable) result                                  |
|                               | 1C  | First column   |
|                               | 2C  | Second column  |
|                               | MS  | Confirmation by GC/MS  |
| PAY_ITEM                      | examples:                                     |  |
|                               | 1.1   | TCL VOCs with TICs   |
|                               | 2.17  | TCLP SVOCs   |
|                               | 15.13   | Phenol and Cresol (HPLC)                                     |
|                               | (complete list supplied in contract document) |  |
| METHOD_CODE                   | examples:                                     |  |
|                               | EPA 8015-M                                    | TPH-Gas  |
|                               | CA LUFT                                       | TPH-Diesel   |
|                               | EPA 8330                                      | Explosives   |
|                               | EPA TO-14                                     | VOCs   |
|                               | ASTM D1945                                    | Methane and fixed gases                                      |
|                               | EML RA-03                                     | RA-226 Emanations  |
|                               | SM 9221-B                                     | Total Coliform   |
|                               | (complete list supplied in contract document) |  |
| LAB_QUALIFIER<br>(Inorganics) | *   | Duplicate analysis not within control limits                 |
|                               | +   | Correlation coefficient for the MSA is less than 0.995       |
|                               | A   | Method qualifier - Flame AA                                  |
|                               | AV  | Method qualifier - Automated cold vapor                      |
|                               | B   | Value less than the IDL, but greater than or equal to CRDL   |

(table continues)

Technical Memorandum for the Final Data Management Plan Phase II RI/FS

**Table 3-3** (continued)

| Field      | Value | Description  |
|------------|-------|--|
| (Organics) | C     | Method qualifier - Manual spectrophotometric                     |
|            | CV    | Method qualifier - Manual cold vapor                             |
|            | E     | Value estimated due to interference                              |
|            | F     | Method qualifiers - Furnace AA                                   |
|            | M     | Duplicate inject precision did not agree                         |
|            | N     | Spiked sample recovery not within control limits                 |
|            | NR    | Method qualifier - analyte was not required                      |
|            | P     | Method qualifier - ICP   |
|            | S     | Reported value determined by Method of Standard Additions (MSA)  |
|            | U     | The value was less than the IDL or the analyte was not detected  |
|            | W     | Post-digestion spike out of control limits                       |
|            | A     | Indicates that the TIC is a suspected aldol-condensation product |
|            | B     | Analyte found in both sample and associated blank                |
|            | C     | Pesticides only. Presence confirmed by GC/MS                     |
|            | D     | Dilution, Initial run outside linear range of instrument         |
|            | E     | Estimate, result outside linear range of instrument; GC/MS only  |
|            | J     | Estimated value  |
|            | JX    | Result is less than SQL that would have been displayed for "U"   |
|            | U     | Compound was analyzed for, but was not detected                  |
|            | X     | Indicates manual modification of result or EPA qualifier         |

**Note:**

These values are not an inclusive list, others may be used as needed and agreed upon by the CONTRACTOR. Values must be approved by CONTRACTOR prior to their use in deliverable submissions.