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**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

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

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

Table 3-1 (continued)

Table Type	Table Name
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)

5

9
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 U	FILTERED UNFILTERED
RESULT_UNITS	examples:	
SQL_UNITS	PH	pH units
METHOD_DETECTION_UNITS	MG/KG MG/L UG/KG	milligrams per kilogram milligrams per liter micrograms per kilogram
INSTRUMENT_DETECTION_UNITS	UG/L G/CC	micrograms per liter density in grams per cubic centimeter
ALIQUOT_UNITS	%REC RPD PCI/L PCI/G UMHOS/CM MEQ/G MEQ/L	percent recovery relative percent difference picocuries/liter picocuries/gram micromhos per centimeter milliequivalent per gram milliequivalent per liter
	(complete list to be supplied by contractor)	
ANALYTE_TYPE	SURR TIC TRG	surrogate tentatively identified compound 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	Blank spike (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 (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.