100% COST ESTIMATE

REMEDIATION OF
PESTICIDE-CONTAMINATED SOIL
OPERABLE UNIT NO. 11 (SITE 80)
PARADISE POINT GOLF COURSE
MAINTENANCE AREA

MARINE CORPS BASE, CAMP LEJEUNE NORTH CAROLINA

CONTRACT TASK ORDER 0274

DECEMBER 15, 1995

Prepared For:

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES
ENGINEERING COMMAND
Norfolk, Virginia

Under:

LANTDIV CLEAN Program Contract N62470-89-D-4814

Prepared by:

BAKER ENVIRONMENTAL, INC. Coraopolis, Pennsylvania

COST ESTIMATE

Introduction

In order to compare and contrast different costing options, two cost estimates have been developed for the remediation of pesticide-contaminated soil at Operable Unit No. 11 (Site 80). Cost Estimate A reflects the cost of remediating soil in only the west/northwest area of concern (i.e., the area of concern located east of the golf course road and north of the machine shop road). Cost Estimate B reflects the cost of remediating all areas of concern at Site 80 (including the west/northwest area). The Basis of Design report (Baker, 1995) and the Statement of Work and Technical Specifications report (Baker, 1995) developed for Contract Task Order 0274 describe in more detail the remediation of pesticide-contaminated soil at Site 80.

COST ESTIMATE A

PRO.	JECT LOCATION: MARINE CORPS BASE, CAMP LEJEUNE JECT NAME: REMEDIATION OF PESTICIDE-CONTAMINATION OF PE	TED SOIL, OU NO. 11 (SITE 80)	DESIGN STATUS: 100% DATE: 15-Dec-95 PREPARED BY: Baker Environmental, Inc.
	LABOR		
1	Direct Labor		\$27,822
2	Indirect Costs		\$26,388
3	TOTAL LABOR	(1 + 2)	\$54,210
	SUBCONTRACTOR COSTS		
4	TOTAL SUBCONTRACTOR COSTS		\$362,017
	TRAVEL COSTS		
5	TRAVEL COSTS (Air Fares + Per Diem [Meals, Lodging])		\$3,662
	OTHER DIRECT COSTS		
6	Equipment		\$6,209
7	Site Operations Costs		\$1,252
8	Operating & Maintenance Costs (FOG)		463
9	TOTAL OTHER DIRECT COSTS	(6 + 7 + 8)	\$7,924
	TOTAL COSTS LESS AWARD FEES & FCCOM		
10	SUBTOTAL	(3+4+5+9)	\$427,813
11	G & A COSTS		\$24,164
12	SUBTOTAL COST LESS AWARD FEES & FCCOM	(10 + 11)	\$451,977
	MAXIMUM AWARD FEES		
13	Contractor Award Fee		\$8,630
14	Contractor Award Fee on Subs		\$18,101
15	TOTAL MAXIUM AWARD FEES	(13 + 14)	\$26,731
	FCCOM		·
16	FCCOM Labor		\$297
17	FCCOM Equipment		
18	FCCOM G & A	•	\$501
19	FCCOM Project Supplies		\$20
20	TOTAL FCCOM	(16 + 17 + 18 + 19)	\$818
21	TOTAL ESTIMATED COST INCLUDING AWARD FEES	(12 + 15 + 20)	\$479,526

PROJECT LOCATION: MARINE CORPS BASE, CAMP LEJEUNE
PROJECT NAME: REMEDIATION OF PESTICIDE-CONTAMINATED SOIL, OU NO. 11 (SITE 80)

DESIGN STATUS: 100%
DATE: 15-Dec-95

PROJECT N	AME: REMEDIATION OF PESTICIDE-CONTAMINATE NUMBER: CTO-0274	D SOIL, C	U NO. 11 (SI	TE 80)				DATE:	15-Dec-95 BY: Baker B	'n dran manta	l Ino
HTRW ACCT. NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	TOTAL MAT'L. COST(\$)	TOTAL LABOR COST(\$)	TOTEQU COST (\$)	TAL JIPT	TOTAL SUBCON.	TOTAL TRAVEL COST(\$)	TOTAL CONTRACT COST(\$)
33,01	MOBILIZATION AND PREPARATORY WORK	1	LS	15,399	2,756	9,578	308	33	1,225	1,500	15,399
33.02	MONITORING, SAMPLING, TESTING, ANALYSIS	1 .	LS	11,143	396	924			9,823		11,143
33.03	SITE WORK .	1	LS								
33.08	SOLIDS COLLECTION AND CONTAINMENT	1	ĹS	1,200		630	383	188			1,200
33.19	DISPOSAL (COMMERCIAL)	1	LS	347,448					347,448		347,448
33.20	SITE RESTORATION	1	LS	2,644	146	803	1,695				2,644
33.21	DEMOBILIZATION	1	LS	7,070	•	4,605	35	5	1,425	1,000	7,070
33.99	DISTRIBUTIVE COSTS	1	LS	15,269	491	11,282		238	2,096	1,162	15,269
	TOTAL (overhead, markups, award fees and FCCOM n	ot include	ed)	_	3,788	27,822	2,420	463	362,017	3,662	400,173

Cost Estimate

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PROJECT NAME	ATION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMINA MBER: CTO-0274	TED SOIL, (OU NO. 11 (S	ITE 80)							DATE:	STATUS: 10 15-Dec-95 ED BY: Bal	er Environn	
HTRW			UNIT	COST/		COST		UNIT	UNIT		VIT	UNIT	UNIT	TOTAL
ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	OF MEASURE	UNIT (\$)	DESCRIPTION	BASIS (OHM Contract/Other)	SUB (Y/N)		LABOR	COST	FOG	SUB COST	TRAVEL	CONTRACT COST(\$)
33.01,	MOBILIZATION AND PREPARAT	ORY W	ORK											
33.01.01	MOBILIZATION OF CONSTRUCTIO	N EQUIF	MENT A	ND FACIL	ITIES							-		
33.01.01.90	Equipment						-	l						
	Backhoe, Shovel, or Dragline	1	EA	250	Assume Backhoe, Case 580	OHM contract	Y					250		250
	Dozer or Loader	1	EA	100	Assume Loader, JD 544, Wheel, 2.5 CY	OHM contract	Y				j	100		100
	Dump Truck	1	EA	150	Assume 12 Ton Dump Truck	OHM contract	Y	ĺ				150	1	150
	Diesel Tractor Truck	1 !	EA	75	Diesel Tractor Truck	Assume same mob/demob cost as OHM contract for lowboy trailer) Y	l		1		75	1	75
	Office Trailer	1 1	EA	150	Trailer, Decon/Office	OHM contract	Y					150	1	150
33.01.01	SUBTOTAL	1	LS	725										725
33.01.02	MOBILIZATION OF PERSONNEL													
33.01.02.01	Relocation of Supervisory Personnel	1					ı							
	Site Supervisor	1 1	EA	676		Assume 1-Site Supervisor (General	l N		176				500	676
						Superintendent) at \$22/hr 8 hr X \$22/hr = \$176 Airfare = \$500								
	Project Control Technician	1	EA	612	Excavation & Sampling	Assume 1-Project Control Tech (Field Engineer)	N		112				500	612
						at \$20/hr 8 hr X \$14/hr = \$112 Airfare = \$500								
33.01.02.90	Relocation of Labor Crew	1	EA	0	Assume crew local - no mob									
					Crew will include: 1 Equipment Operator (EO) \$11/hr, 1 Truck Driver (TD) @ \$11/hr, and Remedial Technicians (RTs) @ \$10/hr									,
33.01.02	SUBTOTAL	1	LS	1,288			+-		-	-				1,288
					l		i	1					1	

PROJECT NAME	NTION: MARINE CORPS BASE, CAMP LEJEUNE REMEDIATION OF PESTICIDE-CONTAMINAT UBER: CTO-0274	ED SOIL, G	DU NO. 11 (S	ITE 80)							DATE:	STATUS: 10 15-Dec-95 ED BY: Bak		nental, Inc.
HTRW ACCOUNT	DESCRIPTION OF ITEM	QUANT.	UNIT OF	COST/ UNIT	DESCRIPTION	COST BASIS	SUB		UNIT LABOR	EQ	NIT . UIPT	UNIT	UNIT TRAVEL	TOTAL CONTRACT
NUMBER			MEASURE	(\$)		(OHM Contract/Other)	(Y/N)	COST	COST	COST	FOG	COST	COST	COST(\$)
33.01.03	PRECONSTRUCTION SUBMITTALS					OHM contract rates								
33.01.03.04	Environmental Protection Plan	1	LS	440	Environmental Protection Plan	Assume 20 hr x \$22/hr = \$440	N		440					44
33.01.03.08	Site Safety and Health Plan	1	LS	880	Site Safety and Health Plan	Assume 40 hr x \$22/hr = \$880	N		880					88
33.01.03.13	General Site Work Plan	1	LS	3520	General Site Work Plan	Assume 160 hr x \$22/hr = \$3,520	N		3,520					3,52
3.01.03.14	Construction Quality Control Plan	1	LS	880	Construction Quality Control Plan	Assume 40 hr x \$22/hr = \$880	N		880					84
3.01.03.30	Local Permits	1	LS	550	Local Permits	Assume 25 hr x \$22/hr = \$550	N		550					55
33.01.03.90	Site Visit, Miscellaneous	1	LS	1383	Site Visit, Misc.	Assume 1-Site Visit Trip by Proj. Mgr.	N		801	83			500	1,38
						Assume (8 hr travel + 8 hr on site) x \$34/hr = \$544 Proj. Mgr. Labor								
						OHM Per Diem = \$171/day x 1.5 days = \$256.50 OHM rate Car Rental = \$55/day x 1.5 days = \$82.50								
						Assume Plane Fare = \$500	1							
3.01.03.91	Complete Remedial Design Plans	1	LS	940	Complete Remedial Design Plans:	OHM contract rates:								
- 1		8	HR		Proj. Mgr.	Assume Proj. Mgr. at \$34/hr	N	1	34				ļ	27
ì		16	HR		Civil Engr.	Assume Civil Engr. at \$22/hr	N	1	22		1			35
		8	HR		Cost Engr.	Assume Cost Engr. at \$19/hr	N	İ	19					15
		8	HR		Draftsman - CADD	Assume Draftsman - CADD at \$15/hr	N	l	15					12
		4	HR	11	Word Processor/Clerical	Assume Word Processor/Clerical at \$11/hr	N		11				1	4
33.01.03	SUBTOTAL	1	LS	8,593			+	 			\vdash			8,593
				-,	ł	1]	1						1

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PROJECT NAM		TED SOIL,	OU NO. 11 (S	ITE 80)							DATE:	STATUS: 10 15-Dec-95		
HTRW ACCOUNT NUMBER	MBER: CTO-0274 DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)	UNIT MAT'L COST	UNIT LABOR COST	UF EQC COST		ED BY: Bak UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRACT COST(\$)
33.01.04	SETUP/CONSTRUCT TEMPORARY	FACILI'	TIES											
33.01.04.01	Office Trailer	. 1	EA	40	32' x 8' Office Trailer	Assume 2-RTs 2-hr each to level & block up trailer Labor = 2 x 2 hr x \$10/hr = \$40	N		40					40
33.01.04.05	Decontamination Facilities for Construction Equipment/Vehicles	1	LS	1841	Decon Station	Assume steel sections furnished by Contractor Decon Area 20' x 50' = 112 SY	N	810	253	61	17	500		1,841
					Steel Decon Pans: 6' x 24' steel sections connected by clamps in field Shipping for Steel Sections = \$500 (Sub) Labor: 2-RTs 1 hr each @ \$10/hr. 2 x 1 hr x \$10/hr = \$20 1-Equip.Operator 1-hr @ \$11/hr. 1 x 1 hr x \$11/hr = \$11 Equip: 1-15 ton cherry picker 1 hr. Means 016-460-3000 renk \$1395/40 hr = \$35/hr 1 hr x \$35/hr = \$35 FOG: assume \$5/hr x 1 hr = \$5 Wood 'Nooring' & side rails: Assume: 2 x 4 wood grating & side rails 40 - 10' 2x4s @ \$3 es. 2 x 6 wood bottom bracing 5 - 10' 2x6s @ \$6 ea. Wood Installation - 2-RTs, 7-hr each	Liner for decon area Material: Geomembrane, 40 mli polyethelene OHM Contract \$3.43/SY x 112 SY = \$384 Labor: 2-RTs 2 hours each @ \$10/hr. (OHM contract) 2 x 2 hr x \$10/hr = \$40 1-Equip. Operator 1-hr @ \$11/hr. (OHM contract) 1 x 1 hr x \$11/hr = \$11 Equip: 1-utility tractor 1-hr. OHM contract - Case 580 @ \$102/day Cost = \$102/8 hr = \$13/hr x 1 hr = \$13 FOG = \$50/8 hr = \$6/hr x 1 hr = \$6 Stone/gravel for decon area Material: 112 SY x 6*depth = 19 CY OHM Contract #57 gravel @ \$14.50/CY \$14.50/CY x 19 CY = \$276 Labor: 2-RTs 1 hours each @ \$10/hr. (OHM contract) 2 x 1 hr x \$10/hr = \$20 1-Equip. Operator 1-hr @ \$11/hr. (OHM contract) 1 x 1 hr x \$11/hr = \$11 Equip: 1-utility tractor 1-hr. OHM contract - Case 580 @ \$102/day Cost = \$102/8 hr = \$13/hr x 1 hr = \$13 FOG = \$50/8 hr = \$6/hr x 1 hr = \$8	Site Pans Wood	660	82 31 140	26 35	12 5	500		
					Math: 40 x \$3 ea + 5 x \$6 ea = \$150 Labor: 2 x 7-hr x \$10/hr = \$140	Sitework Costs: Matt: 384 + 276 = \$660 Labor: 40 + 11 + 20 + 11 = \$82 Equip: 13 + 13 = \$26 FOG: 6 + 6 = \$12							:	
33.01.04.24	Security Fencing (Temporary Safety Fencing)	420	LF	2	Safety Fencing (Temporary Fencing)	Assume orange plastic fencing Assume Means 028-320-4800, 4' high snow fence approximates costs Matt: \$1.15/LF Labor: \$1.22/LF	N	1.15	1.22		-			995

PROJECT NAM	ATION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMIN MBER: CTO-0274	ATED SOIL,	OU NO. 11 (S	ITE 80)							DATE:	STATUS: 10 15-Dec-95 ED BY: Bel		rental, Inc.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT,	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)		UNIT LABOR COST		VIT JIPT FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRACT COST(\$)
33.01.04.25	Equipment Laydown Area	111	SY	6.96		Stabilization Fabric for laydown area Assume 20' x 50' area so 1000 SF = 111 SY Mat1: (LANTDIV) \$0.60/SY Labor: 2-RTs 3 hours each @ \$10/hv. 2 x 3 x 10 = \$60 \$60/111 SY = \$0.54/SY 1-Equip.Operator 3-hr 1 x 3 hr x \$11/hr = \$33 \$33/111 SY = \$0.30/SY Equip: 1-utility tractor 3-hr. OHM contract - Case 580 @ \$102/day Cost = \$102/10 hr x 3 hr = \$30.80 = \$30.60/111 SY = \$0.28/sy FOG = \$50/10 hr x 3 hr = \$30.80 = \$10.60/111 SY = \$0.28/sy FOG = \$50/10 hr x 3 hr = \$15 = \$15/111 SY = \$0.14/SY 6" Stone/gravel for access roads & laydown area. 111 SY x .17 YD (6" depth) = 19 CY Means 015-552-0050 temp. roads, gravel fill 4" Increase Material 50% for 6" depth & small area Mat1: 1.45 x 1.5 = \$2.18/SY Labor: 1.67 x 1.5 = \$2.50/SY Equip: 0.28 x 1.5 = \$0.42/SY Total Unit Costs: Mat1: 0.60 + 2.18 = \$2.78/SY Labor: 0.54 + 0.30 + 2.50 = \$3.34/SY Equip: 0.28 + 0.42 = \$0.70/SY FOG: \$0.14/SY	N	2.78	3.34	0.70	0.14			773

Cost Estimate.

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PROJECT NAV	ATION: MARINE CORPS BASE, CAMP LEJEUNE ME: REMEDIATION OF PESTICIDE-CONTAMINA MABER: CTO-0274	TED SOIL,	OU NO. 11 (SITE 80)							DATE:	STATUS: 10 15-Dec-95 ED BY: Bak		nental, Inc.
ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)	UNIT MAT'L COST	UNIT LABOR COST	UN EQU COST	IIT JIPT FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRACT COST(\$)
33.01.04.91	Soil Stockpile Area	111	SY	4,793	Stockpile Area - assume 20' x 50' = 111 SY	Assume spill containment provided by geomembrane liner anchored by soll/gravel over straw bale berm. Geomembrane Liner: 30' x 80' = 200 SY	X	10.04	1.29	0.78				1,344
		'		4,733										4,793
33.01	TOTAL	1	LS	15,399										15,399

PROJECT NAMI	ATION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMINATED SC MBER: CTO-0274	DIL, OU NO.	11 (SITE 80)							DATE:	STATUS: ED BY:	100% 15-Dec-95 Baker Environ		
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)	UNIT MAT'L COST	UNIT LABOR COST	EQ	VIT UIPT FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRAC COST(\$)
33.02	MONITORING, SAMPLING, TESTING,	ANALY	sıs											
33.02.05.—	SAMPLING LIQUID WASTE													
33.02.05.05	Shipping and Handling	1	EA	100	OHM Contract	FEDEX \$ 100	Y					100		,
33.02.05.03	Liquid Waste (i.e., Decontamination Fluids)	3	. EA	40	Sampling-Labor OHM DL rate Misc. Sampling & Decon Expenses OHM Contract	Project Control Tech Assume 2 hr/sample x \$14 hr Assume \$ 12 /sample	N	12	28					1
33.02.05	SUBTOTAL	1	LS	220			 							2
33.02.06.—	SAMPLING SOIL													
33.02.06.90	Excavation Area - Confirmation Samples	30	EA	40	Sampling-Labor CHM DL rate Misc. Sampling & Decon Expenses CHM Contract (Assume 16 samples from excavation and 14 from excavation sidewalls)	Assume \$ 12 /sample	N	12	28					1,2
33.02.06	SUBTOTAL	1	LS	1,200										120
33.02.09	LABORATORY CHEMICAL ANALYSIS													
33.02.09.90	TCL Pesticides/PCBs Excavation Area Confirmation Samples	30	EA	215	OHM Contract rate	\$ 215 /sample	4					215		6,41
33.02.09.91	Full TCL Organics/TAL Inorganics Liquid Waste Characterization Samples	3	EA	1,091	OHM Contract rate	\$ 1,081 /sample	Y					1,091		3,27
33.02.09	SUB-TOTAL	1	LS	9,723			\vdash							9,72
33.02	TOTAL	1	LS	11,143										11,14

Cost Estima ITRW

PROJECT NAME	ATION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMINATED SO MBER: CTO-0274	IL, OU NO	11 (SITE 80))					DATE:	STATUS: ED BY:	100% 15-Dec-95 Baker Environ		
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)	UNIT LABOR COST		VIT JIPT FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRACT COST(\$)
33.03	SITE WORK												
33.03.02	CLEARING AND GRUBBING												
33.03.02.90	Clearing and grubbing		ACRE			No clearing and grubbing for west/northwest area	N						
33.03.02	SUBTOTAL	1	LS										
33.03	TOTAL	1	LS										
33.08	SOLIDS COLLECTION AND CONTAIN	MENT		-									
33.08.01	EXCAVATION												
33.08.01.90	Excavation by backhoe	278	CY	4.32		Assume 1-EO & 1-RT Assume 30 hours total excavation time	N	2.27	1.38	0.67			1,200
					OHM DL rate	Lebor: 1 - RT \$ 10 fbr 1 x 30 hours x \$ 10 fbr = \$ 300 1 - EO \$ 11 fbr 1 x 30 hours x \$ 11 fbr = \$ 330					:		
					OHM contract	Equipment: 1 - Backhoe, Case 580 Cost = \$ 102 / day = \$ 12.75 /hr FOG = \$ 50 / day = \$ 6.25 /hr 1 x 30 hours x \$ 12.75 /hr = \$ 383 (Cost)							
33.08.01	SUB-TOTAL	1	LS	1,200		1 x 30 hours x \$ 6.25 /hr = \$ 188 (FOG)							1,200
33.08	TOTAL	1	LS	1,200									1,200

PROJECT LOCAT PROJECT NAME: CONTRACT NUMI		DIL, OU NO	. 11 (SITE 80)						DATE:	STATUS: 10 15-Dec-95 ED BY: Bal		nental, Inc.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)	UNIT MAT'L COST	UNIT LABOR COST	VIT JIPT FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRACT COST(\$)
33,19	DISPOSAL (COMMERCIAL)												
33.19.02.—	TRANSPORTATION TO STORAGE/DISF	POSAL I	FACILITY								1		
33.19.02.01	Transportation to Off-Site Incineration Facility	1	LS		Assume 44 CY Dump Trailers add 20% to soil volume after excavati 278 CY x 1.20 = 334 CY 334 CY/44 CY = 8 truckloads Transport to Culvert City, Kentucky	Engineering estimate; vendor quote: \$2800/load \$50/liner/truckload (\$2800 + \$50) x 8 loads = \$22,800	¥				22800		22,800
33.19.02	SUB-TOTAL	1	LS	22,800									22,800
33.19.03.— 33.19.03.90	DISPOSAL FEES & TAXES Disposal at off-site incineration facility	901,800	LBS	0.38	Assuming 20% Increase in the soil volume after excavation, soil volume = 334 CY = 9.018 CF	Vendor quote from Culvert City, Kentucky incineration facility \$0.36/lb incineration (taxes are included in this cost) Assume soil density is 100 lbs/CF	Y				0.36		324,648
-					334 CY = 8,016 CF	9,018 CF x 100 lbs/CF = 901,800 lbs							
33.19.03	SUB-TOTAL	1	LS	324,648			<u></u>						324,648
33.19	TOTAL	1	LS	347,448									347,448

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PROJECT NAM	ATION: MARINE CORPS BASE, CAMP LEJI IE: REMEDIATION OF PESTICIDE-CON' JMBER; CTO-0274		ED SOIL, OU	NO. 11 (SI	TE 80)					DATE:	STATUS	: 100% 15-Dec-95 Baker Enviro		ı.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)	UNIT MAT'L COST	UNIT LABOR COST	EQ	NIT UIPT FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRACT COST(\$)
33.20,	SITE RESTORATION													
33.20.01	EARTHWORK							,						
33.20.01.03	Backfill	278	CY		Backfill material from on-Base	Assume no material cost for backfill from an on-Base source	N							
33.20.01.05	Hauling	278	сч	7.54	portow pit	Means 022-226-0500, hauf 4-mile round trip Double for 8 mile round trip Labor: \$1.08/CY x 2 = \$2.16/CY Equip: \$2.69/CY x 2 = \$5.38/CY	N		2.16	5.38				2,096
33.20.01.06	Spreading	278	CY	1.10		Means 022-208-2020 spreading backfill material Labor: \$0.37/CY x 1.5 = \$0.55/CY Equip: \$0.37/CY x 1.5 = \$0.55/CY	N	5	0.55	0.55				306
33.20.01.—	SUB-TOTAL	1	LS	2,402				···						2,402
33.20.04	REVEGETATION AND PLANTING	•												
33.20.04.01	Seeding/Mulch/Fertilizer	8	MSF	32	Seeding cleared and grubbed areas and excavation areas	Means 029-308-5300 (+ 50% for small quantity) Mail: \$12.94MSF x 1.5 = \$19.41MSF Labor: \$4.44/MSF x 1.5 = \$6.66/MSF Equip: \$4.12/MSF x 1.5 = \$6.18/MSF	N	19	7	6				243
33.20.04	SUBTOTAL	1	LS	243	<u></u>			·						243
33.20	TOTAL	1	LS	2,644										2,644

PROJECT NAM	ATION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMIN MBER: CTO-0274		IL, OU NO. 1	1 (SITE 80)							DATE:	STATUS: 1 15-Dec-95 ED BY: Bal		mental, Inc.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION		SUB (Y/N)	UNIT MAT'L COST	UNIT LABOR COST	EQ	VIT JIPT FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRACT COST(\$)
33.21	DEMOBILIZATION													
33.21.01	REMOVAL OF TEMPORARY FACILIT	ies								-				
33.21.01.01	Office Trailer Clean, unblock trailer	1	EA	80		Assume 2-RTs 4-hr. each to demob (OHM: RT \$10/hr) 2 x 4 hr x \$10/hr = \$80	N		80,					80
	Trailer, decon / office, demob	1	EA	150		OHM contract	Y					150		150
	Office furniture, demob	1	EA	50		OHM contract	Y					50		50
33.21.01.05	Decontamination Facilities for Construction Equipment	1	LS	631	Remove Decon Facilities for Const. Equipment	Remove metal decon pad (OHM: RT \$10/hr, EO \$11/hr) Assume: Wood demoition 2-RTs 3-hr each Metal sections 2-RTs 1-hr each 1-EO 1 hr 1-cherry picker 1 hr Shipping: \$500 Labor: (2x3x\$10/hr) + (2x1x\$10/hr) + (1x1x\$11/hr) = \$91 Equip: 1 hr x \$35/hr = \$35 (Cherry picker - see 33.01.04. FOG: 1 hr x \$ 5/hr = \$5	N 05)		91	35	5	500		631
33.21.01.24	Security Fencing (Temporary Fencing)	420	LF	1	Remove Security Fencing (Temp. Fencing)	Assume installation labor to remove See 33.01.04.24	N		1.22		·			512
33.21.01.25	Equipment Laydown Area	278	SY	3	Remove Equipment Laydown Area	Assume installation labor to remove See 33.01.04.25	N		3.34					929
33,21.01.90	Excavated Soil Stockpile Area	45	SY	1	Remove Excavated Soil Stockpile Area	Assume installation labor to remove See 33.01.04.92	N		1.29					58
33.21.01.—	SUB-TOTAL	1	LS	2,410										2,410

Cost Estimate A

Level 4

PROJECT NAM	ATION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMIN IMBER: CTO-0274		IL, OU NO. 1	1 (SITE 80)						DATE:	STATUS: 1 15-Dec-95 ED BY: Ba		nental, Inc.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)	UNIT LABOR COST		VIT VIPT	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRAC COST(\$)
33.21.04	DEMOBILIZATION OF CONSTRUCTI	ON EQU	JIP.										
33.21.04.07	Construction Equipment	1	EA	200	Decon	Decon of major equipment Assume 2-RTs 2-hr each for each piece of major equipment ((OHM: RT \$10/hr) 10 x 2 hr x \$10/hr = \$200	N	200					20
		1	LS	725	Demob	Assume demobilization costs same as mobilization costs (see 33.01.01.90)	Y						72
33.21.04	SUB-TOTAL	1	LS	925							!		925
33.21.05	DEMOBILIZATION OF PERSONNEL												
33.21.05.01	Relocation of Supervisory Personnel	1	เธ	1,288	Demob Supervisory Personnel	Assume same costs as mobilization (33.01.02.01)	٧		ļ				1,28
33.21.05.92	Relocation of Labor Crew	1	LS		Demob Labor Crew	Assume same costs as mobilization (33.01.02.91) Since local crew, no demob costs	Y						
33.21.05	SUBTOTAL	1	LS	1,288			1						1,288
33.21.06	POST-CONSTRUCTION SUBMITTAL	S I											
33.21.06.01	Punch List	1	LS	132	Punch List	Assume Site Supervisor 6-hr: 6 hr x 22/hr = \$132 (OHM rate)	N	132					133
33.21.06.03	Post-Construction Documentation (Disposal Certifications)	1	เธ	132	Post-Construction Documentation	Assume Site Supervisor 6-hr: 6 hr x 22/hr = \$132 (OHM rate)	N	132					13
33.21.06.06	Construction Documentation Report (Final Engineering Report)	1.5 8 8 8 8 4 4 4 8 16 20 5	hrs	22 22 22 22 22 22 22 22 22 22 21 34 12	OHM rates	Introduction - Tech. Summary of Action - Tech. Final Health & SAfety Report - Tech. Summary of Record Documents - Tech. Field Changes/Contract MODs - Tech. Final Documents - Tech. Summary of Testing - Tech. Off-Site Disposal of Materials - Tech. QC Summary Report - Tech. Technical Supervision Clerical Reproduction	N N N N N N N N N N N N N N N N N N N	22 22 22 22 22 22 22 22 22 22 22 34 12					3: 17: 17: 17: 17: 17: 84 8: 17: 544 24(
33.21.06.07	As Built Drawings	6 2	hrs hrs	22 15	OHM rates	Site Supervisor Drafting Tech	N N	22 15					13:
33.21.06	SUBTOTAL	1	LS	2,447									2,447
33.21,	TOTAL	1	LS	7,070									7,070

V Level 4 Page 12

PROJECT LOCATION: MARINE CORPS BASE, CAMP LEJEUNE DESIGN STATUS: 100% PROJECT NAME: REMEDIATION OF PESTICIDE-CONTAMINATED SOIL, OU NO. 11 (SITE 80) DATE: 15-Dec-95 CONTRACT NUMBER: CTO-0274 PREPARED BY: Baker Environmental, Inc. HTRW COST UNIT UNIT UNIT UNIT UNIT TOTAL ACCOUNT DESCRIPTION OF ITEM QUANT OF UNIT DESCRIPTION BASIS MAT'L LABOR CONTRACT SUBİ EQUIPT SUB TRAVEL NUMBER MEASURE (\$) (OHM Contract/Other) (Y/N) COST COST COST FOG COST COST COST(\$) 33.99.--.-DISTRIBUTIVE COSTS Field Construction: 0.75 months = 3 weeks Per Diem (OHM rate): Lodging = \$40 Meals = \$26 33.99.01.--SUPERVISION/MANAGEMENT 33.99.01.01 Project Manager EΑ 1,870 Project Manager: N 1.870 1,870 OHM DL rate Assume \$34 Avr 33.99.01.02 General Superintendent (Site Supervisor) EA 2,640 General Superintendent (Site Supervisor): N 2.640 2,640 OHM DL rate Assume 40 hr/week x \$22 Avr Field Engineer (Project Control Tech) 1 EA 1,680 Project Control Tech - Excavation & Sampling: 1,680 1,680 OHM DL rate Assume 40 hr/week x 3 weeks x \$14 /hr SUBTOTAL 33.99.01.-1 LS 6,190 6,190 33.99.03.-OFFICE MANAGEMENT 33.99.03.03 Accountant EA 300 Accountant: N 300 300 Assumed DL rate Assume 3 hrAveek x \$20 Am 33.99.03.09 Typist/Secretary 1 EA 280 Typist/Secretary: N 280 280 OHM DL rate Assume 4 hr/week x 7 weeks x \$10 /hr 33.99.03.-SUBTOTAL LS 580 580 33.99.04.-ENGINEERING 33.99.04.02 Civil Engineer EA 132 Civil Engineer: N 132 132 OHM DL rate Assume 2 hriveek x \$22 hr 33.99.04.17 Quality Control Engineer EΑ 66 QA/QC Oversight (QA Engineer): 66 66 OHM DL rate Assume 1 hr/week x 3 weeks x \$22 Avr 33.99.04.--SUBTOTAL 198 198 33.99.05.-**PURCHASING** 33.99.05.02 Purchasing Agent EΑ 1,000 Purchasing Agent: N 1.000 1,000 Assumed DL rate Assume 40 hr/week x 1 weeks x \$25 /hr 33.99.05.--SUBTOTAL LS 1,000 1,000 133.99.07.--EQUIPMENT MAINTENANCE AND MOTOR POOL 33.99.07.02 Mechanic EA 150 N 150 Mechanic (RT): 150 OHM DL rate Assume 5 hr/week x 3 weeks x \$10 /hr 33.99.07.- SUBTOTAL LS 150 150

PROJECT NAM CONTRACT NU	ATION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMINATI MBER: CTO-0274	ED SOIL, C	`						 	DATE:	STATUS: 1 15-Dec-95 RED BY: Ba		nental, Inc.
ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)		UNIT LABOR COST	UNIT EQUIPT . COST FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRAC COST(\$
33.99.08	TEMPORARY CONSTRUCTION FACILIT	IES											
33.99.08.01	Office Trailer	0.75	МО	540	\$18/day x 30 days=\$540/mo	Office Trailer - OHM contract: 1 @ 0.75 mo each = 0.75 mo	Y		·		540		
33.99.08.09	Tollets (Portable)	0.75	МО	150	\$5/day x 30 days=\$150/mo + delivery	Tollets (Portable) - OHM contract: 1	Y				150		,
33.99.08.17	Office Equipment/Furnishings	0.75	МО	300	\$10/dey x 30 days = \$300/mo + delivery	Office Equipment/Furnishings - OHM contract: 1	٧				300		;
33.99.08.90	Water Cooler	0.75	МО	20	\$0.67/day x 30 days = \$20/mo	Water Cooler - OHM contract: 1	٧				20		
33.99.08	SUBTOTAL	1	LS	758									78
33.99.09.—	TEMPORARY UTILITIES												
33.99.09.01	Power	0.50	мо	450	\$15/day x 30 days=\$450/mo	OHM Contract	٧				450		. 2
33.99.09.02	Water - Bottled Water	0.75	MO	117	Assume 1-5 gal bottle/day@\$5.30 ea \$5.30/day x 22 days = \$117/mo	Bottled Water, 5 gal - OHM contract: 1 @ 0.75 mo each≃ 0.75 mo	Y	·			117		
33.99.09.04	Telephone - regular	0.75	МО	220	\$10/day x 22 days = \$220/mo	OHM Contract 1	Y				220		1
33.99.09.07	Radio - hand held	2	EA	22	\$1/day x 22 days = \$22/mo	OHM Contract 2 @ 0.75 mo each = 1.5 mo	Y				22		
33.99.09.08	FAX	0.75	МО	66	\$3/day x 22 days = \$66/mo	DHM Contract 1 @ 0.75 mo each = 0.75 mo	Y				66		
33.99.09.90	Telephone - cellular	0.75	мо	400		OHM Contract 1 @ 0.75 mo each ≈ 0.75 mo	Υ		·		400		3
33.99.09	SUBTOTAL	1	LS	860									86
33.99.13	VEHICLES FOR PERSONNEL												
33.99.13,01	Pickup Trucks (1)	0.75	МО	902	Cost: \$29/day x 22 days = \$638/mo FOG: \$12/day x 22 days = \$264/mo	OHM Contract 1	\ Y		Į	264	638		63
33.99.13	SUBTOTAL	1	LS	677			+		\dashv				67

Cost Estimate

PROJECT NAME	TION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMINATION UBER: CTO-0274	ED SOIL, C	OU NO. 11 (SI	TE 80)							DATE:	STATUS: 1 15-Dec-95 ED BY: Bak		mental, Inc.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)	UNIT MAT'L COST	UNIT LABOR COST	UN EQU COST	IT IPT	UNIT SUB COST	UNIT TRAVEL COST	TOTAL
33.99.15.—	HEALTH AND SAFETY													
33.99.15.01	Certifled Industrial Hygienist	1	EA	102	OHM DL rate	Certified industrial Hygienist: Assume 1 hr/week x 3 weeks x \$34 /hr	N		102					1
33.99.15.10	Site Safety & Health Officer	1	EA	2,850	OHM DL rate	Site Safety & Health Officer: Assume 50 hr/week x 3 weeks x \$19 /hr	N		2,850					2,8
33.99.15.17	Personnel Protective Equipment (HNu, LEL, tyveks, etc.)	1	LS	491	OHM Contract	Personnel Protective Equipment (Hnu, LEL, tyveks, gloves): Assume HNu = \$270 /month LEL ≈ \$120 /month Tyveks,gloves = 4 persons x 0.75 months x (\$2 /tyvek + \$1 /tgloves) = \$198 LS	N	491						4
						Total = \$198 + 0.75 months x \$390 /month = \$491 LS								
33.99.15.—	SUBTOTAL	1	LS	3,443										3,44
33.99.16	MISCELLANEOUS COSTS	Ì												
33.99.16.06	Project Travel - Home Office Personnel	1	EA	566	Home Office to Site OHM DL rate OHM Contract Assume plane fare	Project Manager - Assume 1 trip Labor: 4 tri/rip x \$34 /hr = \$136 \$136 Car Rental: 2 days x \$55 /day = \$110 Travel: \$300 /trip	N		136		20		410	56
		1	EA	506	OHM DL rate OHM Contract Assume plane fare	Site Safety & Health Officer - Assume 1 trip Labor: 4 hr/frip x \$19 /hr = \$76 Car Rental: 2 days x \$55 /day = \$110 Travel: plane fare = \$300 /hrlp	N		76		20		410	5
33.99.16.90	Per Diem - Home Office Personnel	2	EA	171	Per Diem - Home Office Personnel	Per Diem - Home Office Personnel: Assume	N			·		-	171	34
33,99.16	SUB-TOTAL	1	LS	1,414										1,414
33.99	TOTAL	1	LS	15,269										15,269
	TOTAL (overhead, markups,	award	fees ar	ıd FCCC	M not included)									400,17

COST ESTIMATE B

PRO.	JECT LOCATION: MARINE CORPS BASE, CAMP LEJEUNE JECT NAME: REMEDIATION OF PESTICIDE-CONTAMINA TRACT NUMBER: CTO-0274	TED SOIL, OU NO. 11 (SITE 80)	DESIGN STATUS: 100% DATE: 15-Dec-95 PREPARED BY: Baker Environmental, Inc.
	LABOR		
1	Direct Labor		\$40,201
2	Indirect Costs		\$38,129
3	TOTAL LABOR	(1 + 2)	\$78,330
	SUBCONTRACTOR COSTS		
4	TOTAL SUBCONTRACTOR COSTS		\$673,402
	TRAVEL COSTS		
5	TRAVEL COSTS (Air Fares + Per Diem [Meals, Lodging])		\$3,662
	OTHER DIRECT COSTS		
6	Equipment		\$9,631
7	Site Operations Costs		\$1,809
8	Operating & Maintenance Costs (FOG)		911
9	TOTAL OTHER DIRECT COSTS	(6 + 7 + 8)	\$12,351
	TOTAL COSTS LESS AWARD FEES & FCCOM		
10	SUBTOTAL	(3+4+5+9)	\$767,745
11	G & A COSTS		\$42,394
12	SUBTOTAL COST LESS AWARD FEES & FCCOM	(10 + 11)	\$810,139
	MAXIMUM AWARD FEES		
13	Contractor Award Fee		\$13,308
14	Contractor Award Fee on Subs		\$33,670
15	TOTAL MAXIUM AWARD FEES	(13 + 14)	\$46,978
	FCCOM		
16	FCCOM Labor		\$429
17	FCCOM Equipment		
18	FCCOM G & A		\$924
19	FCCOM Project Supplies		\$29
20	TOTAL FCCOM	(16 + 17 + 18 + 19)	\$1,382
21	TOTAL ESTIMATED COST INCLUDING AWARD FEES	(12 + 15 + 20)	\$858,499

PROJECT LOCATION: MARINE CORPS BASE, CAMP LEJEUNE

DESIGN STATUS: 100%

PROJECT N	AME: REMEDIATION OF PESTICIDE-CONTAMINATE NUMBER: CTO-0274	D SOIL, O	U NO. 11 (SI	TE 80)				DATE: PREPARED	15-Dec-95 BY: Baker B	nvironmenta	. Inc.
HTRW ACCT. NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	TOTAL MAT'L. COST(\$)	TOTAL LABOR COST(\$)	TO EQU COST (\$)		TOTAL SUBCON. COST(\$)	TOTAL TRAVEL COST(\$)	TOTAL CONTRACT COST(\$)
33.01	MOBILIZATION AND PREPARATORY WORK	1	LS	16,051	3,113	9,872	308	33	1,225	1,500	16,051
33.02	MONITORING, SAMPLING, TESTING, ANALYSIS	1	LS	24,370	936	2,184			21,250		24,370
33.03	SITE WORK	1	LS	100		100					100
33.08	SOLIDS COLLECTION AND CONTAINMENT	1	LS	2,800		1,470	893	438			2,800
33.19	DISPOSAL (COMMERCIAL)	. 1	LS	645,534					645,534		645,534
33.20	SITE RESTORATION	1	LS	4,846	223	1,480	3,143				4,846
33.21	DEMOBILIZATION	1	LS	7,848		5,383	35	5	1,425	1,000	7,848
33.99	DISTRIBUTIVE COSTS	1	LS	26,259	981	19,712		436	3,968	1,162	26,259
	TOTAL (overhead, markups, award fees and FCCOM r	ot include	ed)		5,253	40,201	4,378	911	673,402	3,662	727,807

PROJECT NAME	ATION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMINA MBER: CTO-0274	TED SOIL,	OU NO. 11 (S	SITE 80)						DATE:	STATUS: 10 15-Dec-95 ED BY: Bak		nental, Inc.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)	UNIT MAT'L COST	UNIT LABOR COST	IIT JIPT FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRACT COST(\$)
33.01	MOBILIZATION AND PREPARAT	ORY W	ORK	·									
33.01.01	MOBILIZATION OF CONSTRUCTION	N EQUIF	MENT A	I ND FACIL	ITIES								
33.01.01.90	Equipment Backhoe, Shovel, or Dragline Dozer or Loader Dump Truck Diesel Tractor Truck Office Trailer	1 1 1 1	EA EA EA EA	250 100 150 75 150	Assume 12 Ton Dump Truck	OHM contract OHM contract OHM contract OHM contract Assume same mob/demob cost as OHM contract for lowboy trailer OHM contract	Y Y Y Y				250 100 150 75 150		250 100 150 75 150
33.01.01	SUBTOTAL	1	LS	725			1						725
33.01.02	MOBILIZATION OF PERSONNEL												
33.01.02.01	Relocation of Supervisory Personnel Site Supervisor	1	EA	676		Assume 1-Site Supervisor (General Superintendent) at \$22hr 8 hr X \$22/hr = \$176 Airfare = \$500	N		176			500	676
	Project Control Technician	1	EA	612	Excavation & Sampling	Assume 1-Project Control Tech (Fleid Engineer) at \$20/hr 8 hr X \$14/hr = \$112 Airfare = \$500	N		112			500	612
33.01.02.90	Relocation of Labor Crew	1	EA		Assume craw local - no mob Crew will include: 1 Equipment Operator (EO) \$11/hr, 1 Truck Driver (TD) \$11/hr, and Remedial Technicians (RTs) \$10/hr								
33.01.02	SUBTOTAL	1	LS	1,288	_								1,288

Cost Estimate v

RW Level 4 Page 2

PROJECT NAMI CONTRACT NUI	ATION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMINAT MBER: CTO-0274	ED SOIL, (OU NO. 11 (S	ITE 80)							DATE:	STATUS: 16 15-Dec-95 ED BY: Bal		nental, Inc.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)		UNIT LABOR COST		NIT UIPT FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRACT COST(\$)
33.01.03	PRECONSTRUCTION SUBMITTALS					CHfM contract rates								
33.01.03.04	Environmental Protection Plan	1	LS	440	Environmental Protection Plan	Assume 20 hr x \$22/hr = \$440	N		440					440
33.01.03.08	Site Safety and Health Plan	1	LS	880	Site Safety and Health Plan	Assume 40 hr x \$22/hr = \$880	N		880					880
33.01.03.13	General Site Work Plan	1	LS	3520	General Site Work Plan	Assume 160 hr x \$22/hr = \$3,520	N		3,520					3,520
33.01.03.14	Construction Quality Control Plan	1	LS	880	Construction Quality Control Plan	Assume 40 hr x \$22/hr = \$880	N		880					880
33.01.03.30	Local Permits	1 .	ιs	550	Local Permits	Assume 25 hr x \$22/hr = \$550	N	Ì	550					550
33.01.03.90	Site Visit, Miscellaneous	1	LS	1383	Site Visit, Misc.	Assume 1-Site Visit Trip by Proj. Mgr. Assume (8 hr travel + 8 hr on site) x \$34/hr = \$544 Proj. Mgr. Labor OHM Per Diem = \$171/day x 1.5 days = \$256.50 OHM rate Car Rental = \$55/day x 1.5 days = \$82.50 Assume Plane Fare = \$500	N		801	83			500	1,383
33.01.03.91	Complete Remedial Design Plans	1 8 16 8 8	LS HR HR HR HR	940 34 22 19 15	Complete Remedial Design Plans: Proj. Mgr. CMI Engr. Cost Engr. Draftsman - CADD Word Processor/Clerical	OHM contract rates: Assume Proj. Mgr. at \$34/hr Assume Civil Engr. at \$22/hr Assume Cost Engr. at \$19/hr Assume Draftsman - CADD at \$15/hr Assume Word Processor/Clerical at \$11/hr	N N N N		34 22 19 15					272 352 152 120 44
33.01.03	SUBTOTAL	1	LS	8,593			+	[8,593

RW Level 4

PROJECT NAME		TED SOIL,	OU NO. 11 (S	SITE 80)							DATE:	STATUS: 10 15-Dec-95		: '.
	MBER: CTO-0274	т			<u> </u>	 						ED BY: Bal		
HTRW			UNIT	COST/		COST		UNIT	UNIT		VIT.	UNIT	UNIT	TOTAL
ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	OF MEASURE	UNIT	DESCRIPTION	BASIS (OHM Contract/Other)	SUB		LABOR	COST	JIPT FOG	SUB COST	COST	CONTRACT
		 		(\$)		(OFFIX CONTract/Outer)	(1/10)	C031	COSI	COS1	700	COST	COST	COST(\$)
33.01.04	SETUP/CONSTRUCT TEMPORARY	FACILI'	TIES										Ì	
33.01.04.01	Office Trailer	1	EA	. 40	32' x 8' Office Trailer	Assume 2-RTs 2-hr each to level	N		40			`		40
]]			& block up trailer Labor = 2 x 2 hr x \$10/hr = \$40		Ì						
					·									
33.01.04.05	Decontamination Facilities for Construction Equipment/Vehicles	1	LS	1641	Decon Station	Assume steel sections furnished by Contractor Decon Area 20' x 50' = 112 SY	·N	810	253	61	17	500		1,641
					Steel Decon Pans: 8' x 24' steel	Liner for decon area	Site	660	82	26	12			
1 1		ļ			sections connected by	Material: Geomembrane, 40 mil polyethelene	Pans	l	31	35	5	500	İ	l
		ł			clamps in field	OHM Contract \$3.43/SY x 112 SY = \$384	Wood	150	140					l
1	·				Shipping for Steel Sections = \$500 (Sub)	Labor: 2-RTs 2 hours each @ \$10/hr. (OHM contract) 2 x 2 hr x \$10/hr = \$40		1	1			{		
1 1		1			Labor: 2-RTs 1 hr each @ \$10/hr.	1-Equip.Operator 1-hr @ \$11/hr. (OHM contract)		1	1			1	1 .	I
1 1		1			2 x 1 hr x \$10/hr = \$20	1 x 1 hr x \$11/hr = \$11	. i	l						Í
1 1		1	'		1-Equip.Operator 1-hr @ \$11/hr.	Equip: 1-utility tractor 1-hr.		Ì		1		1	1	
1 1					1 x 1 br x \$11/br = \$11	OHM contract - Case 580 @ \$102/day		l	1					1
1 1		ł			Equip: 1- 15 ton cherry picker 1 hr.	Cost = \$102/8 hr = \$13/hr x 1 hr = \$13			i	l				
		ŀ			Means 016-460-3000 rent \$1395/40 hr = \$35/hr	FOG = \$50/8 hr = \$8/hr x 1 hr = \$6								
		1			1 hr x \$35/hr = \$35	Stone/gravel for decon area		İ	1					
\ \		1			FOG: assume \$5/fer x 1 fer = \$5	Material: 112 SY x 6"depth = 19 CY		ļ				1		
						OHM Contract #57 gravel @ \$14.50/CY \$14.50/CY x 19 CY = \$276	İ							ļ
			1 1		Wood "flooring" & side rails:	tabor; 2-RTs 1 hours each @ \$10/hr. (OHM contract)	1	i					1	ļ.
1 1]			Assume: 2 x 4 wood grating	2 x 1 hr x \$10/hr = \$20]	l				1	
i i		l]		& side rails	1-Equip.Operator 1-hr @ \$11/hr. (OHM contract)		ĺ		1			1	1
		1	1		40 - 10' 2x4s @ \$3 ea.	1 x 1 hr x \$11/hr = \$11		l				ĺ		ĺ
]		1			2 x 6 wood bottom bracing	Equip: 1-utility tractor 1-hr.		1	l		l '	1		l
-					5 - 10' 2x6s @ \$6 ea.	OHM contract - Case 580 @ \$102/day		ŀ						
		1			Wood Installation - 2-RTs,	Cost = \$102/8 hr = \$13/hr x 1 hr = \$13								
]		i			7-hr each	FOG = \$50/8 fr = \$6/fr x 1 fr = \$6	1	1		[
1					Mat1: 40 x \$3 ea + 5 x \$6 ea = \$150	Sitework Costs:					. i	l		l
{		l				Mat1: 384 + 276 = \$660	1 .	l	į			Ī		[
					Labor: 2 x 7-hr x \$10/hr = \$140	Labor: 40 + 11 + 20 + 11 = \$82		l	1					i
						Equip: 13 + 13 = \$26 FOG: 6 + 6 = \$12								
33.01.04.24	Security Fencing (Temporary Safety Fencing)	600	LF	2.37	Safety Fencing	Assume orange plastic fencing	N	1.15	1.22					1,422
	occurs, mining (sumposers cannels catching)	***	"	2.31	(Temporary Fencing)	Assume Means 028-320-4800, 4' high snow fence	"	"."	1.22				1	
		l	(((120,000)	approximates costs	1 1	1	ļ	į į		Į		(
1		Į .				Mat1: \$1.15/LF			}			l		1
					1	Labor: \$1.22/LF								
33.01.04.90	Silt Fencing	150	LF	1.50	Temporary Silt Fencing	Assume Mat1: \$1/LF, Labor : \$0.50/LF	N	1	0.50					225

PROJECT NAMI	ATION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMINAT MBER: CTC-0274	TED SOIL,	OU NO. 11 (S	ITE 80)							DATE:	STATUS: 10 15-Dec-95 ED BY: Bak		ental, Inc.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)		UNIT LABOR COST		JIPT FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRACT COST(\$)
33.01.04.25	Equipment Laydown Area	111	SY	6.96		Stabilization Fabric for laydown area Assume 20' x 50' area so 1000 SF = 111 SY Mat1: (LANTDIV) \$0.60/SY Labor: 2-RTs 3 hours each @ \$10/hr. 2 x 3 x 10 = \$60 \$60/111 SY = \$0.54/SY 1-Equip.Operator 3-hr 1 x 3 hr x \$11/hr = \$33 \$33/111 SY = \$0.30/SY Equip: 1-utility tractor 3-hr. OHM contract - Case 580 @ \$102/day Cost = \$102/10 hr x 3 hr = \$30.60 = \$30.60/111 SY = \$0.28/sy FOG = \$50/10 hr x 3 hr = \$30.60 = \$30.60/111 SY = \$0.14/SY 6" Stone/gravel for access roads & laydown area. 111 SY x .17 YD (6" depth) = 19 CY Means 015-552-0050 temp. roads, gravel fil 4" Increase Material 50% for 6" depth Increase Labor & Equipment 50% for 6" depth Remain area Mat1: 1.45 x 1.5 = \$2.18/SY Labor: 1.67 x 1.5 = \$2.50/SY Equip: 0.28 x 1.5 = \$0.42/SY Total Unit Costs: Mat1: 0.60 + 2.18 = \$2.78/SY Labor: 0.54 + 0.30 + 2.50 = \$3.34/SY Equip: 0.28 + 0.42 = \$0.70/SY FOG: \$0.14/SY	X	2.78	3.34	0.70	0.14			773

PROJECT NAM	ATION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMINA MBER: CTO-0274	TED SOIL,	OU NO. 11 (8	SITE 80)							DATE:	STATUS: 10 15-Dec-95 ED BY: Bak		nental, Inc.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)	UNIT MAT'L COST	UNIT LABOR COST		NIT UIPT FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRACT COST(\$)
33.01.04.91	Soil Stockpile Area	111	SY	12	Stockpile Area - assume 20' x 50' = 111 SY	Assume spill containment provided by geomembrane liner anchored by soil/gravel over straw bale berm. Geomembrane Liner: 30' x 60' = 200 SY Assume - 200/111 = 1.8 Mart: \$4.00/SY x 1.8 (oversize factor) = \$7.20/SY Labor: 2-RTs 1 hr each to install 2 x 1 hr x \$10/hr = \$ 20 \$20/111 SY = \$0.18/SY Straw Bales (180 LF/3LF per bale = 60 bales) Matt: Assume \$5/bale delivered 60 bales x \$5/bale = \$300 \$300/111 SY = \$2.7/SY Labor: 2-RTs 2 hr each to install 2 x 2 hr x \$10/hr = \$ 40 \$40/111 SY = \$0.36/SY 1-Equip.Operator 2-hr 1 x 2 hr x \$11/hr = \$ 22 \$22/111 SY = \$0.20/SY Means 016-408-0400, utility tractor Equip: 1-utility tractor 2-hr. RerUhr = \$595/40 hr = \$15/hr Operating Cost = \$7/hr Total = (15 + 7) x 2 hr = \$44 \$44/111 SY = \$0.40/SY Total Unit Costs: Matt: 7.20 + 2.70 + 0.14 = \$10.04/SY Labor: 0.18 + 0.36 + 0.20 + 0.06 + 0.27 + 0.22 = \$1.29/SY Equip: 0.40 + 0.18 + 0.20 = \$0.78/SY	N	10.04	1.29	0.78				1,344
33.01.04.—	SUBTOTAL	1	LS	5,445			-							5,445
33.01	TOTAL	1	LS	16,051										16,051

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PROJECT NAMI	ATION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMINATED SC MBER: CTO-0274	DIL, OU NO	. 11 (SITE 80)					-		DESIGN : DATE: PREPARI		100% 15-Dec-95 Baker Environ		
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)	UNIT MAT'L COST	UNIT LABOR COST	UN EQU COST	JIPT	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRACT COST(\$)
33.02	MONITORING, SAMPLING, TESTING,	ANALY	SIS											
33.02.05	SAMPLING LIQUID WASTE										,			
33.02.05.05	Shipping and Handling	1	EA	100	OHM Contract	FEDEX \$ 100	Y					100		. 1
33.02.05.03	Liquid Waste (i.e., Decontamination Fluids)	5	EA	40	Sampling-Labor OHM DL rate Misc. Sampling & Decon Expenses OHM Contract	Project Control Tech Assume 2 hr/sample x \$14 /hr Assume \$ 12 /sample	N	12	28				-	2
33.02.05	SUBTOTAL	1	LS	300										3(
33.02.06.—	SAMPLING SOIL					·								
33.02.06.90	Excavation Area - Confirmation Samples	73	EA	40	Sampling-Labor OHM DL rate Misc. Sampling & Decon Expenses OHM Contract	Project Control Tech Assume 2 hr/sample x \$14 /hr Assume \$ 12 /sample Assume sample analyses conducted on-site	N	12	28			-		2,9
33.02.06	SUBTOTAL	1	LS	2,920										292
33.02.09	LABORATORY CHEMICAL ANALYSIS			-		·								
33.02.09.90	TCL Pesticides/PCBs Excavation Area Confirmation Samples	73	EA	215	OHM Contract rate	\$ 215 /sample	٧					215		15,61
33.02.09.91	Full TCL Organics/TAL Inorganics Liquid Waste Characterization Samples	5	EA	1,091	OHM Contract rate	\$ 1,091 /sample	٧					1,091		5,4
33.02.09	SUB-TOTAL	1	LS	21,150				-						21,15
33.02	TOTAL	1	LS	24,370										24,37

PROJECT NAM	ATION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMINATED SO MBER: CTO-0274	OU NO	11 (SITE 80))		DESIGN STATUS: 100% DATE: 15-Dec-95 PREPARED BY: Baker Environmen	tal, inc.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	BASIS SUB MAT'L LABOR EQUIPT SUB T	UNIT TOTAL RAVEL CONTRACT COST COST(\$)
33.03	SITE WORK						
33.03.02	CLEARING AND GRUBBING						
33.03.02.90	Clearing and grubbing	0.1	ACRE			is ,000/acre - CHM contract rate Assume cost includes labor and equipment	100
33.03.02	SUBTOTAL	1	LS	100			100
33.03	TOTAL	1	LS	100			100
33.08	SOLIDS COLLECTION AND CONTAIN	MENT					
33.08.01	EXCAVATION						
33.08.01.90	Excavation by backhoe	518	CY	5.41		Assume 1-EO & 1-RT Assume 70 hours total excavation time abor: 1 - RT	2,800
33.08.01,-	SUB-TOTAL	1	LS	2,800			2,800
33.08	TOTAL	1	LS	2,800			2,800

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Page 8

PROJECT LOCAT PROJECT NAME: CONTRACT NUM		OIL, OU NO. 1	11 (SITE 80)							DATE:	STATUS: 19 15-Dec-95 ED BY: Bai		nental, Inc.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)	UNIT MAT'L COST	UNIT LABOR COST	NIT UIPT FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRAC COST(\$)
33.19	DISPOSAL (COMMERCIAL)												
33.19.02	TRANSPORTATION TO STORAGE/DISI	POSAL FA	ACILITY								-		
33.19.02.01	Transportation to Off-Site Incineration Facility	1	LS	40,950	Assume 44 CY Dump Trailers add 20% to soil volume after excavati 518 CY x 1.20 = 622 CY 622 CY/44 CY = 15 truckloads Transport to Culvert City, Kentucky	Engineering estimate; vendor quote: \$2680/fload \$50/finer/fruckload (\$2680 + \$50) x 15 loads = \$40,950	Υ.				40950		40,95
33.19.02	SUB-TOTAL	1	LS	40,950									40,95
33.19.03	DISPOSAL FEES & TAXES	<u> </u>											
33.19.03.90	Disposal at off-site incineration facility	1,679,490	LBS	0.36	Assuming 20% increase in the soil volume after excavation, soil volume = 622 CY = 16,974 CF	Vendor quote from Culvert City, Kentucky incineration facility \$0.36/fb incineration (taxes are included in this cost) Assume soil density is 100 lbs/CF 18,794 CF x 100 lbs/CF = 1,697,400 lbs	٧		-		0.36		604,584
33,19.03.—	SUB-TOTAL	1	LS	604,584									604,584
33.19	TOTAL	1	LS	645,534									645,534

33.20.04.- SUBTOTAL

33.20.-.- TOTAL

LS

LS

1

371

4,846

Cost Estimate L

371

4,846

PROJECT LOCATION: MARINE CORPS BASE, CAMP LEJEUNE PROJECT NAME: REMEDIATION OF PESTICIDE-CONTAMINATED SOIL, OU NO. 11 (SITE 80) CONTRACT NUMBER: CTO-0274										DATE:	STATUS	: 100% 15-Dec-95 Baker Enviro			
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)		UNIT LABOR COST		NIT UIPT FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRAC COST(\$)	
33.20	SITE RESTORATION	-													
33.20.01.—	EARTHWORK					·									
33.20.01.03	Backfill	518	CY		Backfill material from on-Base	Assume no material cost for backfill from an on-Base source	N								
33.20.01.05	Hauling	518	CY	7.54		Means 022-226-0500, haul 4-mile round trip Double for 8 mile round trip Labor: \$1.08/CY x 2 = \$2.16/CY Equip: \$2.69/CY x 2 = \$5.38/CY	N		2.16	5.38				3,90	
33.20.01.06	Spreading	518	СУ	1.10		Means 022-208-2020 spreading backfill material Labor: \$0.37/CY x 1.5 = \$0.55/CY Equip: \$0.37/CY x 1.5 = \$0.55/CY	N		0.55	0.55				57	
33.20.01	SUB-TOTAL	1	LS	4,476									-	4,47	
33.20.04. — 33.20.04.01	REVEGETATION AND PLANTING Seeding/Mulch/Fertilizer	12	MSF		Seeding cleared and grubbed areas and excavation areas	Means 029-308-5300 (+ 50% for small quantity) Mett: \$12.94/MSF x 1.5 = \$19.41/MSF	N	19	7	6		·		37	

PROJECT NAME	ATION: MARINE CORPS BASE, CAMP LEJEUNE IE: REMEDIATION OF PESTICIDE-CONTAMIN IMBER: CTO-0274		IL, OU NO. 11	(SITE 80)						DATE:	STATUS: 15-Dec-95 ED BY: Ba		mental, Inc.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION		SUB (YAN)	UNIT LABOR COST	UN EQU COST		UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRACT COST(\$)
33.21	DEMOBILIZATION												
33.21.01	REMOVAL OF TEMPORARY FACILITY	ries											
33,21.01.01	Office Trailer Clean, unblock trailer	1	EA	80		Assume 2-RTs 4-hr. each to demob (OHM: RT \$10/hr) 2 x 4 hr x \$10/hr = \$80	N	80					80
	Trailer, decon / office, demob	1	EA	150	,	OHM contract	Y				150	ļ. 	150
	Office furniture, demob	1	EA	50		OHM contract	Y				50		50
33.21.01.05	Decontamination Facilities for Construction Equipment	4	LS	631	Remove Decon Facilities for Const. Equipment	Remove metal decon pad (OHM: RT \$10/hr, EO \$11/hr) Assume: Wood demolition 2-RTs 3-hr each Metal sections 2-RTs 1-hr each 1-EO 1 hr 1-cherry picker 1 hr Shipping: \$500 Labor: (2x3x\$10/hr) + (2x1x\$10/hr) + (1x1x\$11/hr) = \$91 Equip: 1 hr x \$35/hr = \$35 (Cherry picker - see 33.01.04.	N 05)	91	35	5	500		631
33.21.01.24	Security and Silt Fencing (Temporary Fencing)	750	LF	2	Remove Security Fencing (Temp. Fencing)	Assume installation labor to remove See 33.01.04.24	N	1.72					1,290
33,21.01.25	Equipment Laydown Area	278	SY	3	Remove Equipment Laydown Area	Assume installation labor to remove See 33.01.04.25	N	3.34					929
33.21.01.90	Excavated Soil Stockpile Area	45	SY	1	Remove Excavated Soli Stockpile Area	Assume installation lebor to remove See 33.01.04.92	N	1.29					56
33.21.01.—	SUB-TOTAL	1	LS	3,188				1			 	1	3,188

PROJECT NAM	ATION: MARINE CORPS BASE, CAMP LEJEUNE IE: REMEDIATION OF PESTICIDE-CONTAMII JMBER: CTO-0274		IL, OU NO. 1	1 (SITE 80)					DATE:	STATUS: 1 15-Dec-95 ED BY: Ba		mental, inc.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)	UNIT LABOR COST	NIT UIPT FOG	UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRAC COST(\$)
33.21.04	DEMOBILIZATION OF CONSTRUCT	ON EQU	JIP.									
33.21.04.07	Construction Equipment	1	EA	200	Decon	Decon of major equipment Assume 2-RTs 2-hr each for each piece of mejor equipment ((OHM: RT \$10/hr) 10 x 2 hr x \$10/hr = \$200	N	200				21
		1	LS	725	Demob	Assume demobilization costs same as mobilization costs (see 33.01.01.90)	٧					7.
33.21.04	SUB-TOTAL	1	LS	925								92
33.21.05	DEMOBILIZATION OF PERSONNEL											
33.21.05.01	Relocation of Supervisory Personnel	1	LS	1,288	Demob Supervisory Personnel	Assume same costs as mobilization (33.01.02.01)	Y					1,28
33.21.05.92	Relocation of Labor Crew	1	LS		Demob Labor Crew	Assume same costs as mobilization (33.01.02.91) Since local crew, no demob costs	٧			r		
33.21.05	SUBTOTAL	1	LS	1,288								1,286
33.21.06	POST-CONSTRUCTION SUBMITTAL	.s										
33.21.06.01	Punch List	1	LS	132	Punch List	Assume Site Supervisor 6-hr: 6 hr x 22/hr = \$132 (OHM rate)	N	132				13
33.21.06.03	Post-Construction Documentation (Disposal Certifications)	1	LS	132	Post-Construction Documentation	Assume Site Supervisor 6-hr; 6 hr x 22/hr = \$132 (OHM rate)	N	132				13
33.21.06.06	Construction Documentation Report (Final Engineering Report)	1.5 8 8 8 4 4 4 8 16 20 6	hrs hrs hrs hrs hrs hrs hrs hrs hrs hrs	22 22 22 22 22 22 22 22 22 22 22 22 21 22 22	OHM rates	Introduction - Tech. Summary of Action - Tech. Final Health & SAfety Report - Tech. Summary of Record Documents - Tech. Field Changes/Contract MODs - Tech. Final Documents - Tech. Summary of Testing - Tech. Off-Site Disposal of Materials - Tech. QC Summary Report - Tech. Technical Supervision Cierical Reproduction	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	22 22 22 22 22 22 22 22 22 22 24 12				3: 17: 17: 17: 17: 6: 8: 8: 17: 54: 24:
33.21.06.07	As Bulk Drawings	6 2	. hrs	22 15	OHM rates	Site Supervisor Drafting Tech	N	22 15				13: 3:
33.21.06	SUBTOTAL	1	LS	2,447			-					2,447
33.21	TOTAL	1	LS	7,848								7,848

Cost Estimate

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PROJECT NAMI	ATION: MARINE CORPS BASE, CAMP LEJEUNE E: REMEDIATION OF PESTICIDE-CONTAMINAT MBER: CTO-0274	ED SOIL, O	U NO. 11 (SI	TE 80)						D	ATE:	STATUS: 1 15-Dec-95 ED BY: Bak		mental, Inc.
HTRW ACCOUNT NUMBER	DESCRIPTION OF ITEM	QUANT.	UNIT OF MEASURE	COST/ UNIT (\$)	DESCRIPTION	COST BASIS (OHM Contract/Other)	SUB (Y/N)	UNIT MAT'L COST	UNIT LABOR COST	UNIT		UNIT SUB COST	UNIT TRAVEL COST	TOTAL CONTRACT COST(\$)
33.99	DISTRIBUTIVE COSTS					Field Construction:								
33.99.01	SUPERVISION/MANAGEMENT													
33.99.01.01	Project Manager	1	EA	2,380	OHM DL rate	Project Manager: Assume 5 hr/week x 14 weeks x \$34 /hr	N		2,380					2,38
33.99.01.02	General Superintendent (Site Supervisor)	1	EA	5,280	OHM DL rate	General Superintendent (Site Supervisor): Assume 40 hr/week x 6 weeks x \$22 /hr	N		5,280					5,28
	Field Engineer (Project Control Tech)	1	EA	3,360	OHM DL rate	Project Control Tech - Excavation & Sampling: Assume 40 hr/week x 6 weeks x \$14 /hr	N		3,360					3,360
33.99.01	SUBTOTAL	1 .	LS	11,020	, , , , , , , , , , , , , , , , , , ,									11,020
33,99.03	OFFICE MANAGEMENT													
33.99.03.03	Accountant	1	EA	480	Assumed Dt. rate	Accountant: Assume 3 hr/week x 8 weeks x \$20 /hr	N		480					480
33.99.03.09 .	Typist/Secretary	1	EA	400	OHM DL rate	Typist/Secretary: Assume 4 hr/week x 10 weeks x \$10 /hr	N		400			•		400
33.99.03	SUBTOTAL	1	LS	880	,									880
33.99.04	ENGINEERING											****		
33.99.04.02	Civil Engineer	1	EA	264	OHM DL rate	Civil Engineer: Assume 2 hr/week x 6 weeks x \$22 /hr	N		264					26
33.99.04.17	Quality Control Engineer	1	EA	132	OHM DL rate	QA/QC Oversight (QA Engineer): Assume 1 hr/week x 6 weeks x \$22 /hr	N	,	132			-		133
33.99.04	SUBTOTAL	1	LS	396										396
33.99.05	PURCHASING													
33.99.05.02	Purchasing Agent	1	EA	1,000	Assumed DL rate	Purchasing Agent: Assume 40 hr/weekx 1 weeksx \$25 /hr	N		1,000					1,000
33.99.05.—	SUBTOTAL	1	LS	1,000										1,000
33.99.07.—	EQUIPMENT MAINTENANCE AND MO	TOR PO	OL											
33.99.07.02	Mechanic	1	EA	300	OHM DL rate	Mechenic (RT): Assume 5 hr/week x 6 weeks x \$10 /hr	N		300					300
33.99.07	SUBTOTAL	1	LS	300							\dashv			300

Cost Estimate L RW Level 4
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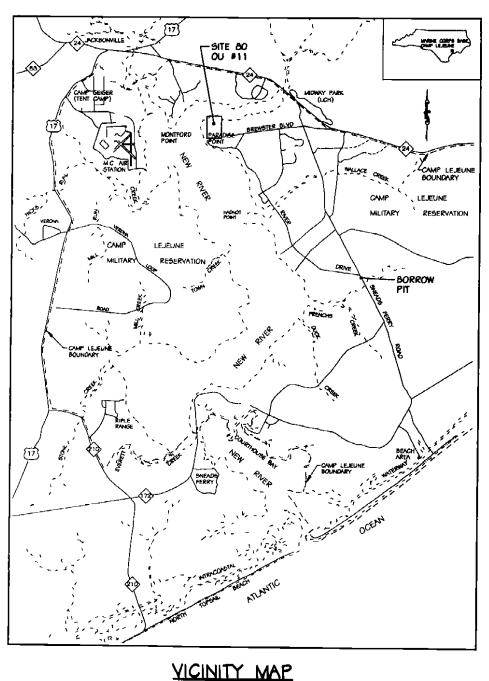
PROJECT LOCATION: MARINE CORPS BASE, CAMP LEJEUNE DESIGN STATUS: 100% PROJECT NAME: REMEDIATION OF PESTICIDE-CONTAMINATED SOIL, OU NO. 11 (SITE 80) DATE: 15-Dec-95 CONTRACT NUMBER: CTO-0274 PREPARED BY: Baker Environmental, Inc. HTRW COST/ COST UNIT UNIT UNIT UNIT UNIT TOTAL ACCOUNT DESCRIPTION OF ITEM QUANT. OF UNIT DESCRIPTION BASIS SUB MATL LABOR **EQUIPT** SUB TRAVEL CONTRACT NUMBER MEASURE (\$) (OHM Contract/Other) (Y/N) COST COST COST FOG COST COST COST(\$) 33.99.08.--TEMPORARY CONSTRUCTION FACILITIES 33.99.08.01 Office Trailer 1.50 MO 540 \$18/day x 30 days=\$540/mo Office Trailer - OHM contract: Υ 540 810 1. @ 1.5 mo each = 1.5 mo 33.99.08.09 Toilets (Portable) 1.50 MO 150 \$5/day x 30 days=\$150/mo | Toilets (Portable) - OHM contract: Υ 150 225 + delivery 1 @ 1.5 mo each = 1.5 mg 33,99,08,17 Office Equipment/Furnishings 1.50 MO 300 \$10/day x 30 days = \$300/mo Office Equipment/Furnishings - OHM contract: Y 300 450 + delivery 0 1.5 mo each = 1.5 mo 33.99.08.90 Water Cooler 1.50 MO 20 \$0.67/day x 30 days = \$20/mo Water Cooler - OHM contract: Υ 20 30 1.5 mo each = 1.5 mo 33.99.08.-SUBTOTAL 1,515 LS 1,515 33.99.09.-TEMPORARY UTILITIES 33.99.09.01 Power 0.50 MO 450 \$15/day x 30 days=\$450/mo OHM Contract Υ 450 225 33.99.09.02 Water - Bottled Water 1.50 MO 117 Assume 1-5 gal bottle/day@\$5.30 ea Bottled Water, 5 gal - OHM contract: 117 176 \$5.30/day x 22 days = \$117/mo 1.5 mo each = 1.5 mo 33.99.09.04 Telephone - regular 1.50 MO 220 \$10/day x 22 days = \$220/mo OHM Contract Υ 220 330 1.5 mo 33.99.09.07 Radio - hand held 3 EΑ 22 \$1/day x 22 days = \$22/mo OHM Contract Υ 22 1.5 mo each = 3 mo 33.99.09.08 1.50 MO 66 \$3/day x 22 days = \$66/mo OHM Contract Y 66 1.5 mo each = 1.5 mo 33.99.09.90 Telephone - cellular 1.50 MO 400 OHM Contract Υ 400 600 1.5 mo each ≈ 15 mo 33.99.09.-SUBTOTAL LS 1,496 1,496 33.99.13.-VEHICLES FOR PERSONNEL 33.99.13.01 Pickup Trucks (1) 1.50 MO 902 Cost: \$29/day x 22 days = \$638/mo OHM Contract Y 264 638 1,353 FOG: \$12/day x 22 days = \$264/mo 1.5 mo each = 1.5 mo SUBTOTAL 33.99.13.-1,353 LS 1,353

SIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN)

DESIGN STATUS: 100% PROJECT LOCATION: MARINE CORPS BASE, CAMP LEJEUNE DATE: 15-Dec-95 PROJECT NAME: REMEDIATION OF PESTICIDE-CONTAMINATED SOIL, OU NO. 11 (SITE 80) PREPARED BY: Baker Environmental, Inc. CONTRACT NUMBER: CTO-0274 TOTAL HTRW COST/ COST UNIT UNIT BASIS SUB MAT'L EQUIPT SUB TRAVEL CONTRACT ACCOUNT DESCRIPTION OF ITEM QUANT, OF UNIT DESCRIPTION LABOR MEASURE (OHM Contract/Other) (YAN) COST COST COST FOG COST COST COST(\$) NUMBER HEALTH AND SAFETY 33.99.15.-204 33.99.15.01 Certified Industrial Hygienist EA 204 Certified Industrial Hygienist: 204 OHM DL rate Assume \$34 Av 1 hr/week x 6 weeks x EΑ Site Safety & Health Officer: N 5,700 5,700 33.99.15.10 Site Safety & Health Officer 5,700 OHM DL rate Assume \$19 Ar 33.99,15.17 Personnel Protective Equipment LS 981 Personnel Protective Equipment (Hnu, LEL, tyveks, gloves): N 981 981 (HNu, LEL, tyveks, etc.) \$270 /month OHM Contract Assume HNu = \$120 /month 4 persons x \$396 LS \$2 /tyvek+ \$1 /gloves) = \$390 /month = Total = \$396 1.5 months x \$981 LS 6,885 33,99,15.- SUBTOTAL LS 6,885 33.99.16.~ **MISCELLANEOUS COSTS** 33.99.16.06 Project Travel - Home Office Personnel EΑ 566 Home Office to Site N 136 20 410 566 Project Manager - Assume 1 trip OHM DL rate Labor: 4 hr/trip x \$136 OHM Contract Car Rental: 2 days x \$55 /day≈ \$110 \$300 Arip Assume plane fare Travel: plane fare = 506 1 EΑ 506 Site Safety & Health Officer - Assume 1 trip Ν 76 20 410 OHM DL rate 4 hr/trip x \$19 /r= \$76 **OHM Contract** \$110 Car Rental: 2 days x \$55 /day≈ \$300 Arip Assume plane fare Travel: 33.99.16.90 2 EΑ N 171 342 Per Diem - Home Office Personnel 171 Per Diem - Home Per Diem - Home Office Personnel: Office Personnel 2 days on-site per trip with 2 nights lodging & 3.5 days meals \$26 /day Per Diem - Meals Lodging Meals: \$26 /day x Lodging: \$40 /day x 2 days ≠ \$80 Arip Total = \$171 Arip SUB-TOTAL 1,414 33.99.16.-LS 1,414 33.99.--.-TOTAL LS 26,259 26,259 1 TOTAL (overhead, markups, award fees and FCCOM not included) 727,807

REMEDIATION OF PESTICIDE-CONTAMINATED SOIL OPERABLE UNIT NO. 11 (SITE 80) - PARADISE POINT GOLF COURSE MAINTENANCE AREA

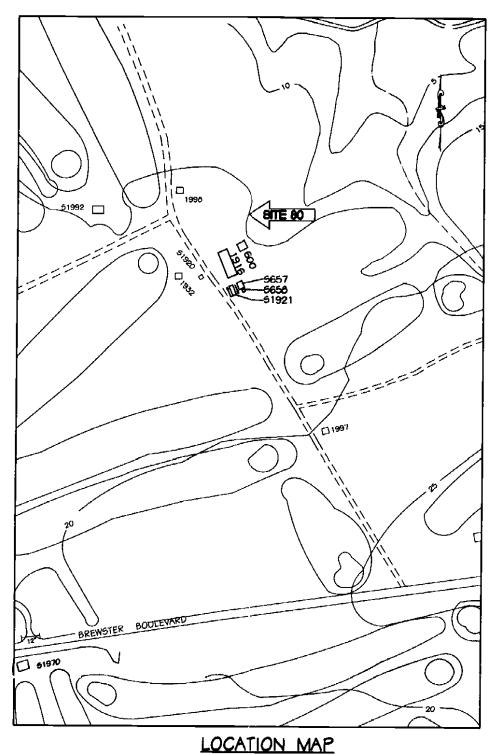
MARINE CORPS BASE, CAMP LEJEUNE NORTH CAROLINA



7

6

1"= 15 MHF9



200' 400'

5

600'

INDEX OF SHEETS

SHEET NO.

TITLE

COVER SHEET AND GENERAL NOTES

-1 SITE PLAN AND SURFACE SOIL CONTAMINANT LEVELS

C-2 EXCAVATION PLAN

ABBREVIATIONS

EAST ELEVATION FEET

N NORTH NAD NORTH AMERICAN DATUM

FEET
INCHES
L LEFT
MCB MARINE CORPS

NC NORTH CAROLINA

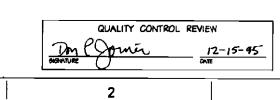
W WEST

GENERAL NOTES

- 1 MAPPING WAS PREPARED BY W.K. DICKSON 4 CO. INC. OF RALEIGH NORTH CAROLINA AND 19 DATED JANUARY 1995 AN ADDITIONAL SURVEY OF THE PESTICIDE-CONTAMINATED AREA WAS PREPARED BY THE SURVEY FIRM OF BRENT A. LANIER AND 19 DATED JULY, 1995
- 2 ELEVATIONS SHOWN ARE IN FEET AND ARE BASED ON SEA LEVEL NATIONAL VERTICAL GEODETIC DATUM 1929 VERTICAL CONTROL MONUMENT USED WAS A-32, ELEVATION = 31 93
- 3 HORIZONTAL CONTROL WAS ESTABLISHED USING CONTROL MONUMENT A-32 A-32 HAS GRID COORDINATES OF X(E) = 2,496 390 690 Y(N) = 356,379 133
- 4 GRID IS BASED ON NORTH CAROLINA STATE PLANE COORDINATE SYSTEM (SOUTH ZONE NAD 63)
- 5 DEVELOP AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN IN ACCORDANCE WITH STATE OF NORTH CAROLINA EROSION CONTROL LAW, REGULATIONS, AND HANDBOOK LATEST REVISION THE CONTRACT PLANS AND SPECIFICATIONS INDICATE MINIMUM EROSION CONTROL REQUIREMENTS AND SHALL BE ADAPTED AND MODIFIED TO SUIT THE SEGUIENCE OF CONSTRUCTION OPERATIONS
- 6 UTILITIES SHOWN ARE BASED UPON FIELD LOCATION OF VISIBLE APPURTENANCES LOCATE UTILITIES PRIOR TO THE COMMENCEMENT OF FIELD ACTIVITIES DAMAGE TO UTILITIES WILL BE REPAIRED AT NO EXPENSE TO THE GOVERNMENT
- 7 FIELD STAKE THE LOCATION OF ALL AREAS TO BE DISTURBED PRIOR TO ACTUAL WORK FIELD LOCATIONS MUST BE REVIEWED BY THE NTR PRIOR TO CLEARING, GRUBBING, AND EXCAVATION
- 8 LIMIT ALL WORK TO THE IMMEDIATE PROJECT AREA. RESTORE ALL AREAS DISTURBED OUTSIDE THE LIMITS OF WORK TO THEIR ORIGINAL CONDITION
- 9 SITE RESTORATION EFFORTS ARE NOT TO BE PERFORMED UNTIL CONFIRMATION OF CONTAMINANT REMOVAL HAS BEEN ACHIEVED

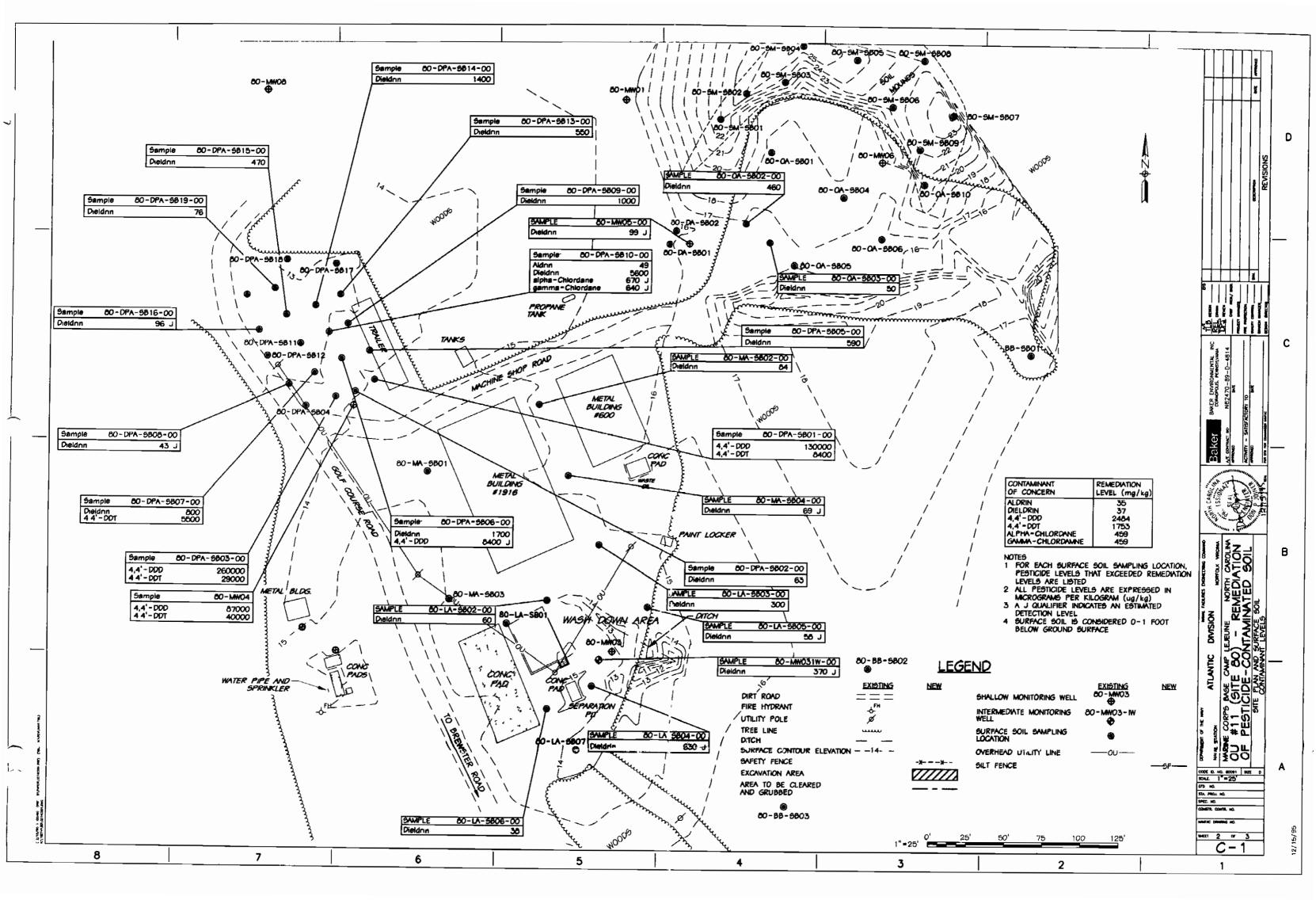
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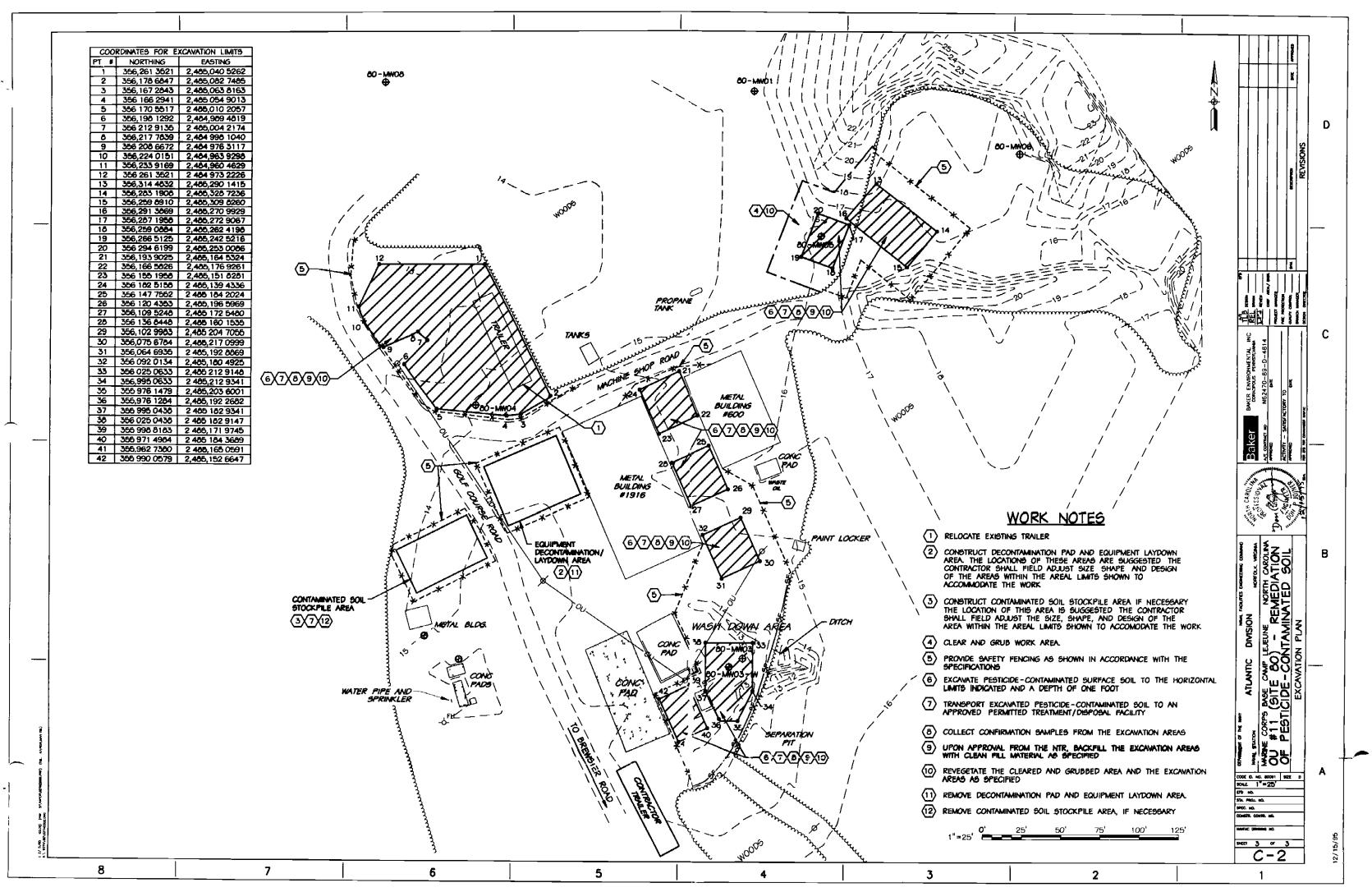
10 COMPLY WITH ALL FEDERAL STATE AND LOCAL ORDINANCES UNLESS OTHERWISE NOTED IN THE CONTRACT DRAWINGS AND SPECIFICATIONS



LEJEUNE NORTH CAROLI) - REMEDIATION NITAMINATED SOIL) GENERAL NOTES 2000 PHET 1 #11 (*)
PESTIC 1<u>3</u>99 T-1

01724 DD F 1X





State of North Carolina Department of Environment, Health and Natural Resources Division of Environmental Management

James B. Hunt, Jr., Governor Jonathan B. Howes, Secretary A. Preston Howard, Jr., P.E., Director



NAVY CLEAN

Date Received: 7/24/95

Groundwater Section July 14, 1995

Donald P. Joiner Barker Environmental, Inc. Airport Office Pk., Bldg 3 420 Rouser Road Coraopolis, PA 15108

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Incident #: 5902, 9299, 9300, 14175 and 14206

Site Name: USMC-Camp Lejeune

County: Onslow Regional Office: Wilmington

OTO Number: 174 2/77 D. Joinez Subfile No.

Project Manager:___

RE: Completion of Checklist for Corrective Action Plan under 15A NCAC sL .0106 (k), (l) or (m)

Dear Mr. Joiner:

The Groundwater Section Central Office has received your documentation requesting the approval of a Corrective Action Plan under 15A NCAC 2L .0106 (k), (l) or (m) and found the following omissions/errors:

- X The Checklist (GW-100 form) has not been submitted. The current version of the GW-100 form is enclosed for your use. This form is to be completed in full with no changes or modifications and returned to this office.
- X Each item on the Checklist (GW-100 form) must be included in the documentation and initialed on the form before the submittal can be considered complete. Please note that an original or photocopy of an original GW-100 form must be used with the GW form number on the lower left corner.
- X The CAP is not properly signed and sealed. Please submit a signed and sealed replacement title page or signature page.

Please submit the requested documents to my attention in the Pollution Control Branch, 441 North Harrington Street, Raleigh, North Carolina 27603-1323. Once these items have been received, the entire CAP will be forwarded to the appropriate Regional Office for technical review.

Sincerely,

Fay Sweat

Groundwater Section

Pollution Control Branch

Lenette Sherwood FOR

•	
Responsibl	Le Party: Department of the Navy, LANTDIV
	Address: Naval Facilities Engineering Command
	City: Norfolk , State: VA , Zip Code: 23511
•	
Si	te Name: Marine Corps Base, Camp Lejeune
	Address: Operable Unit No. 5
·	City: Camp Lejeune, Co.: Onslow, Zip Code: 28542
· · ·	Groundwater Section Incident Number:
I, Don P. J	Joiner , a Professional Engineer/ License d
	(circle one) for Baker Environmental, Inc. do hereby
certify the the requiremy knowled other asso	at the information indicated below is enclosed as part of ced Corrective Action Plan (CAP) and that to the best of dge the data, site assessments, engineering plans and ciated materials are correct and accurate. Each item must be initialed by hand by the certifying licensed professional)
1. N/A	A listing of the names and addresses of those
	individuals required to be notified to meet the
	notification requirements of 15A NCAC 2L .0114(b)
. •:	are enclosed. Copies of letters and certified mail
	receipts are also enclosed.
2. <u>DP.J</u>	A Professional Engineer or Licensed Geologist has prepared, reviewed, and certified all applicable parts of the CAP in accordance with 15A NCAC 2L .0103(e).
3. DPJ	A site assessment is attached on an file with the
	A site assessment is attached or on file with the appropriate Regional Office which provides the
•	information required by 15A NCAC 2L .0106(g).
70	
4. <u>DPJ</u>	A description of the proposed corrective action and supporting justification is enclosed.
5. DPJ	A schooled for the implementation of the same
· <u>1,7 · O</u>	A schedule for the implementation of the CAP is enclosed.
6. DPI	A monitoring plan is enclosed which has the capacity to
	evaluate the effectiveness of the remedial activity and
•	the movement of the contaminant plume, and which meets
	the requirements of 15A NCAC 2L .0110 and .0106(1).
DOI	DIV OILO OL ISA HORO 20 .0110 dilu .0100(1).
7. PHA	The activity which resulted in the contamination
	incident is not permitted by the State as defined in
	15A NCAC 2L.0106(e)

Attachments from Fay sweats.

Responsible Party: Department of the Navy, LANTDIV Address: Naval Facilities Engineering Command Norfolk Chapter PA 7 7 Code: 23511
Address: Naval Facilities Engineering Command City: Norfolk , State: PA , Zip Code: 23511
Site Name: Marine Corps Base, Camp Lejeune
Address Operable Unit No. 1, AOCS 2,44,0008
City: Camp Lejeune , Co.: Onslow , Zip Code: 23542
Groundwater Section Incident Number:
I, Donald P. Joiner , a Professional Engineer/Licensed Geologist (circle one) for Baker Environmental, Inc. do hereby certify that the information indicated below is enclosed as part of the required Corrective Action Plan (CAP) and that to the best of my knowledge the data, site assessments, engineering plans and other associated materials are correct and accurate. (Each item must be initialed by hand by the certifying licensed professional)
1. N/A A listing of the names and addresses of those individuals required to be notified to meet the
notification requirements of 15A NCAC 2L .0114(b) are enclosed. Copies of letters and certified mail receipts are also enclosed.
A Professional Engineer or Licensed Geologist has prepared, reviewed, and certified all applicable parts of the CAP in accordance with 15A NCAC 2L .0103(e).
A site assessment is attached or on file with the appropriate Regional Office which provides the information required by 15A NCAC 2L .0106(g).
4. DPJ A description of the proposed corrective action and supporting justification is enclosed.
5. DPJ A schedule for the implementation of the CAP is enclosed.
A monitoring plan is enclosed which has the capacity to evaluate the effectiveness of the remedial activity and the movement of the contaminant plume, and which meets the requirements of 15A NCAC 2L .0110 and .0106(1).
7. DPJ The activity which resulted in the contamination incident is not permitted by the State as defined in 15A NCAC 2L.0106(e).

.0114 Notification Requirements

Any person subject to the requirements of Rule .0106(c) of this Section shall submit to the local Health Director, and the chief administrative officer of the political jurisdictions in which the groundwater contamination has occurred, a report that describes:

- (1) The area extent of the contaminant plume;
- (2) The chemical constituents in the groundwater which exceed the standards described in Rule .0202 of this Subchapter;
- (3) Actions taken and intended to mitigate threats to human health;
- (4) The locations of any wells installed for the purpose of monitoring the contaminant plume and the frequency of sampling.

The report described in this Rule shall be submitted no later than five working days after submittal of the completed report assessing the cause, significance and extent of the violation as required by Rule .0106(c).

- (b) Any person who submits a request under Rule .0106(k), (l), or (m) of this Section shall notify the local Health Director and the chief administrative officer of the political jurisdictions in which the contaminant plume occurs, and all property owners and occupants within or contiguous to the area underlain by the contaminant plume, and under the areas where it is expected to migrate, of the nature of the request and reasons supporting it. Notification shall be made by certified mail concurrent with the submittal of the request to the Director. A final decision by the Director shall be postponed for a period of 30 days following receipt of the request so that the Director may consider comments submitted by individuals interested in the request.
- (c) Any person whose request under Rule .0106(k), (l), or (m) of this Section is granted by the Director shall notify parties specified in Paragraph (b) of this Rule of the Director's decision. Notification shall be made by certified mail within 30 days of receipt of the Director's decision.

Copyright 1995 The Bureau of National Affairs, Inc.

Responsibl	e Party: Department of the Navy, LANTDIV
	Address: Naval Facilities Engineering Command
	City: Norfolk , State: VA , Zip Code: 23511
Si	te Name: Marine Corps Base, Camp Lejeune
	Address: Operable Unit No. 1, AOCs 6 & 7
•	City: Camp Lejeune , Co.: Onslow , Zip Code: 28542
	Groundwater Section Incident Number:
I, Don	P. Joiner , a Professional Engineer/Ficensed (circle one) for Baker Environmental, Inc. do hereby
-Geologist	(circle one) for Baker Environmental, Inc. do hereby
certify the	at the information indicated below is enclosed as part of
the requir	ed Corrective Action Plan (CAP) and that to the best of
my knowled	lge the data, site assessments, engineering plans and
other asso	ciated materials are correct and accurate.
	Each item must be initialed by hand by the certifying
•	licensed professional)
1. DP3	A listing of the names and addresses of those
	individuals required to be notified to meet the
	notification requirements of 15A NCAC 2L .0114(b)
. •	are enclosed. Copies of letters and certified mail
	receipts are also enclosed.
	resorpts are arbo enorosea.
2. DET	A Professional Engineer or Licensed Geologist has
	prepared, reviewed, and certified all applicable parts
•	of the CAP in accordance with 15A NCAC 2L .0103(e).
*	the one of the decoration with tox hore in .0103(e).
3. DPJ	A site assessment is attached or on file with the
	appropriate Regional Office which provides the
	information required by 15A NCAC 2L .0106(g).
	intolimation required by 15A MCAC 21 .0106(g).
4. DPJ	A description of the proposed competition actions as
	A description of the proposed corrective action and supporting justification is enclosed.
	supporting justification is enclosed.
5 DPJ	A gabodule for the implementation of the second
J. <u> </u>	A schedule for the implementation of the CAP is
	enclosed.
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6. DrJ	A monitoring plan is enclosed which has the capacity to
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	the movement of the contaminant plume, and which meets
	the requirements of 15A NCAC 2L .0110 and .0106(1).
" TO	
7. De	The activity which resulted in the contamination
	incident is not permitted by the State as defined in
	15A NCAC 2L.0106(e).

In addition, the undersigned also certifies that to the best of my knowledge and professional judgement and in accordance with the requirements of 15A NCAC 2L.0106(1), the following determinations have been made and are documented in the CAP:

- 8. DPJ all free product has been removed to the extent practicable in accordance with 15A NCAC 2L .0106(f). (See guidance document).
- all sources of contamination have been removed or controlled in accordance with 15A NCAC .0106(f) and (1). (See guidance document).
- 10. Delta the contaminant has the capacity to degrade and attenuate under the site-specific conditions.
- 11. DPJ the time and direction of contaminant travel can be predicted with reasonable certainty.
- the migration of the contaminant will not result in any violation of the standards specified in 15A NCAC 2L .0202 at any existing or foreseeable receptor.
- the contaminants have not and will not migrate onto adjacent properties, or adjacent properties are served by public water supplies which cannot be influenced by contaminants migrating off-site, or adjacent landowners have consented in writing to a request allowing the contaminant upon their property.
- 14. Description all necessary access agreements needed to monitor groundwater quality have been or can be obtained.

(Please Affix Seal and Signature)



Note: Any modifications made to this form may result in the return of your submittal.

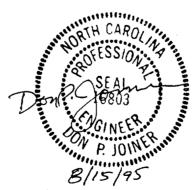
Responsible		epartment of t		
7		aval Facilitie	s Engineering	Command
	City: N	orfolk	State: PA	Zip Code: 23511
Sit	e Name: M	arine Corps Ba	se, Camp Lejeu	ne
7	Address: 0	perable Unit N	o. 1, AOCs 2,	4, & 8
	City: Camp L	ejeune , Co.	: Onslow . Zi	ip Code: 23542
•	-	•		
	Grou	ndwater Sect	ion Incident	Number:
I, Don P.	Joiner	. а	Professional	Engineer/ Licensed
Geologist (circle one) :	for Baker En	vironmental, In	Engineer/ Licensed
certify tha	t the informa	tion indicat	ed below is	enclosed as part of
the require	d Corrective	Action Plan	(CAP) and t	hat to the best of
my knowledg	ge the data,	site asses	sments. eng	ineering plans and
other assoc	iated materia	als are corr	ect and accu	rate.
(E	ach item mus	t be initial	ed by hand h	y the certifying
1	icensed profe	essional)	,	,
	•	,		•
1. <u>DPI</u>	A listing of	the names a	nd addresses	of those
	individuals :	required to	be notified	to meet the
	notification	requirement	s of 15A NCA	AC 2L .0114(b)
	are enclosed	. Copies of	letters and	certified mail
*	receipts are	also enclos	ed	. COLCILIOG MAIL
	accorpos de o	<u> </u>	cu.	
2. DPJ	A Profession	al Engineer	or Licensed	Geologist has
	prepared, re-	riewed and	certified al	l applicable parts
	of the CAP in	accordance	with 150 NC	CAC 2L .0103(e).
		- 40002441100	WICH IDA NO	AC 21 .0105(e).
3. DPJ	A site assess	ment is att	ached or on	file with the
	appropriate I	Regional Off	ice which ar	covided the
	information :	required by	153 MCAC OF	0106(~)
	**	edutied by	I SA NCAC ZLI	.0106(g).
4. DPJ	A description	of the pro-	2222	tive action and
	supporting ju	stification	is oneless	tive action and
	supporting Ju	scilication	is enclosed	· ·
5. DPI	A schedule fo	or the imple	mantation of	the din de
	enclosed.	or cite impre	mentation of	the CAP is
	encrosed.			
6. DPJ 1	\ monitomina			
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	evaluate the	errectivenes	s or the rem	medial activity and
	the movement	or the contra	aminant plum	e, and which meets
	the requireme	ents of 15A l	NCAC 2L .011	0 and .0106(1).
7. DPJ	Mho achdail			
	The activity	which result	ted in the c	ontamination
	inclaent is r	ot permitted	d by the Sta	te as defined in
	15A NCAC 2L.	1706(e).		ere e

(OVER)

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- 8. DRJ all free product has been removed to the extent practicable in accordance with 15A NCAC 2L .0106(f). (See guidance document).
- 9. PT all sources of contamination have been removed or controlled in accordance with 15A NCAC .0106(f) and (l). (See guidance document).
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- 11. Description of contaminant travel can be predicted with reasonable certainty.
- 12. DPS the migration of the contaminant will not result in any violation of the standards specified in 15A NCAC 2L .0202 at any existing or foreseeable receptor.
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- 14. PT all necessary access agreements needed to monitor groundwater quality have been or can be obtained.

(Please Affix Seal and Signature)



Note: Any modifications made to this form may result in the return of your submittal.

Keahouarpr	e Farcy. Department of the Navy, Lanibly
	Address: Naval Facilities Engineering Command
	City: Norfolk , State: VA , Zip Code: 23511
	, , , , , , , , , , , , , , , , , , , ,
Si	te Name: Marine Corps Base, Camp Lejeune
	Address: Operable Unit No. 5
	City: Camp Lejeune, Co.: Onslow , Zip Code: 28542
	Groundwater Section Incident Number:
I, Don P. J	oiner . a Professional Engineer/Licensed
Geologist	oiner , a Professional Engineer/ Licensed (circle one) for <u>Baker Environmental</u> , Inc. do hereby
certify th	at the information indicated below is enclosed as part of
the recuir	od Commation and indicated below is enclosed as part of
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my knowied	lge the data, site assessments, engineering plans and
other asso	ciated materials are correct and accurate.
(Each item must be initialed by hand by the certifying
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	prepared, reviewed, and certified all applicable parts
	of the CAP in accordance with 15A NCAC 2L .0103(e).
2	
3. <u>DPT</u>	A site assessment is attached or on file with the
	appropriate Regional Office which provides the
	information required by 15A NCAC 2L .0106(g).
٠,	10100 10401100 21 101 Next 21 .0100(g).
4. DPT	A description of the managed and the
•• —	A description of the proposed corrective action and
	supporting justification is enclosed.
- 7	
5. <u>DPJ</u>	A schedule for the implementation of the CAP is
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(OVER)

In addition, the undersigned also certifies that to the best of my knowledge and professional judgement and in accordance with the requirements of 15A NCAC 2L.0106(1), the following determinations have been made and are documented in the CAP:

- all free product has been removed to the extent practicable in accordance with 15A NCAC 2L .0106(f). (See guidance document).
- 9. PT all sources of contamination have been removed or controlled in accordance with 15A NCAC .0106(f) and (1). (See guidance document).
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- 14. DP3 all necessary access agreements needed to monitor groundwater quality have been or can be obtained.

(Please Affix Seal and Signature)



Note: Any modifications made to this form may result in the return of your submittal.

CORRECTIVE ACTION PLAN OPERABLE UNIT NO. 5, SITE 2

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

CONTRACT TASK ORDER 0174

MARCH 17, 1995

Prepared For:

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES
ENGINEERING COMMAND
Norfolk, Virginia

Under the:

LANTDIV CLEAN Program Contract N62470-89-D-4814

Prepared By:

BAKER ENVIRONMENTAL, INC.

Coraopolis, Pennsylvania

CORRECTIVE ACTION PLAN FOR OPERABLE UNIT NO. 1 (SITES 21, 24 and 78)

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

CONTRACT TASK ORDER 0177

MARCH 24, 1995

Prepared For:

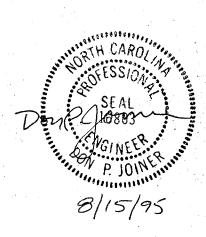
DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES
ENGINEERING COMMAND
Norfolk, Virginia

Under the:

LANTDIV CLEAN Program Contract N62470-89-D-4814

Prepared By:

BAKER ENVIRONMENTAL, INC. Coraopolis, Pennsylvania





March 24, 1995

Baker Environmental, Inc. Airport Office Park, Building 3 420 Rouser Road Coraopolis, Pennsylvania 15108

(412) 269-6000 FAX (412) 269-2002

Commander
Atlantic Division
Naval Facilities Engineering Command
1510 Gilbert Street (Building N-26)
Norfolk, Virginia 23511-2699

Attn: Ms. Linda Saksvig, P.E.

Code 1823

Re:

Navy CLEAN, District III

Contract Task Order (CTO) 0177

Corrective Action Plan for Operable Unit No. 1 (Sites 21, 24 and 78)

MCB, Camp Lejeune, North Carolina

Dear Ms. Saksvig:

Baker Environmental, Inc. (Baker) is pleased to submit three copies of the Corrective Action Plan (CAP) for Operable Unit No. 1, Sites 21, 24 and 78. Three copies of the CAP have been forwarded to Mr. Neal Paul at MCB, Camp Lejeune. Two copies of this report have also been submitted to the USEPA and two copies of the CAP and letter have been submitted to NC DEHNR.

The enclosed report summarizes data collected during the RI/FS performed at these sites.. The enclosed CAP also excerpts information from the Proposed Remedial Action Plan and Record of Decision, which have been accepted by USEPA and NC DEHNR, Superfund Section. The enclosed CAP is being submitted at the request of NC DEHNR, because contaminants will remain in the shallow groundwater at MCB, Camp Lejeune above NC DEHNR groundwater standards under the selected alternative.

In addition to soil remediation and the cleanup of two plumes containing VOCs, the approved remedy for this site includes long term groundwater monitoring of other areas of concern, which contain low levels of tetrachloroethene (AOCs 2, 4, and 8) and heptachlor epoxide (AOCs 6 and 7) above groundwater standards. Because of these exceedances specific criteria applicable to 15A NCAC 2L.0106 are addressed in Sections 1 and 5 of the CAP, and the results of a groundwater model are presented in Appendix A of the CAP. The results of the model indicate that the nearest receptor, which is Cogdel's Creek, will not be measurably impacted by potential migration of the groundwater contamination.

Two certifications are attached to this cover letter. The selected remedy provides for a higher standard for heptachlor epoxide (15 NCAC 2L.0106[k]) and natural attenuation for tetrachloroethene (15 NCAC 2L.0106 [l]).

bcc: APajak/CF; JMentz/RWattras/PRGM F; MPetroccia; M.Bartmen; T. Halapin/PRJ F; Daily File

S.O. #62470-177

Subfile 5

Initials HW



3aker ...

Ms. Linda Saksvig, P.E. March 24, 1995 Page 2

If you have questions regarding this submittal, please call Malcolm Petroccia at (412) 269-4695 or me at (412) 269-2016.

Sincerely,

BAKER ENVIRONMENTAL, INC.

Raymond P. Wattras

Deputy Program Manager

MWP/RPW/lq

cc: Ms. Beth Collier, Code 02115 (letter only)

Ms. Lee Anne Rapp, Code 183 (letter only)

Mr. Neal Paul, MCB Camp Lejeune (3 copies)

Mr. Patrick Watters, NC DEHNR (2 copies)

Responsible	Party: Department of the Navy, LANIDIV
A	ddress Naval Facilities Engineering Command
	City: Norfolk , State: PA , Zip Code: 23511
Sit	e Name: Marine Corps Base, Camp Lejeune
D.C.	Admong. Operable Unit No. 1. AOCs 2.44.888
	City: Camp Lejeune , Co.: Onslow , Zip Code: 23542
-	
·. · <u>.</u>	Groundwater Section Incident Number:
Donald D.	Joiner - Professional Engineer/Licensed
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Geologist (circle one) for
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` (E	Each item must be initialed by hand by the certifying
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	and the second addresses of those
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DOT	
3. <u>Dr. 3.</u>	A site assessment is attached or on file with the
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	information required by 15A NCAC 2L .0106(g).
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4.	A description of the proposed corrective action and
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- NDT	and the state of t
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	incident is not permitted by the State as defined in
•	15A NCAC 2L.0106(e).

Responsible	Party: Department of the wavy, mind Commond
A	Address: Naval Facilities Engineering Command
	City: Norfolk , State: VA , Zip Code: 23511
- • •	Tana Camp Lajeune
Sit	ce Name: Marine Corps Base, Camp Lejeune
P	Address: Operable Unit No. 1, AOCs 6 & 7 City: Camp Lejeune , Co.: Onslow , Zip Code: 23542
• *	City: Camp Lefeune, Co.: Onslow, Zip Code.
	Groundwater Section Incident Number:
certify that the require my knowled other associated (F	Circle one) for Baker Environmental, Inc. do hereby the information indicated below is enclosed as part of ded Corrective Action Plan (CAP) and that to the best of ge the data, site assessments, engineering plans and ciated materials are correct and accurate. Each item must be initialed by hand by the certifying Licensed professional)
1. <u>N/A</u>	A listing of the names and addresses of those individuals required to be notified to meet the notification requirements of 15A NCAC 2L .0114(b) are enclosed. Copies of letters and certified mail receipts are also enclosed.
2. <u>DPJ</u>	A Professional Engineer or Licensed Geologist has prepared, reviewed, and certified all applicable parts of the CAP in accordance with 15A NCAC 2L .0103(e).
3. <u>DPJ</u>	A site assessment is attached or on file at the appropriate Regional Office which provides the information required by 15A NCAC 2L .0106(g).
4. <u>DPJ</u>	A description of the proposed corrective action and supporting justification is enclosed.
5. <u>PPJ</u>	Specific plans and engineering details for the restoration of groundwater quality are enclosed. A listing of contaminants detected in groundwater in excess of standards prescribed in 15A NCAC 2L .0202 and the proposed cleanup goal for each contaminant is also enclosed.
6. DPJ	A schedule for the implementation of the CAP is enclosed.

Baker Environmental, Inc. 420 Rouser Road Airport Office Park Bldg. 3 Coraopolis, PA 15108 Telephone: (412) 269-6000 Fax: (412) 269-2002

Letter of Transmittal

cc: Ms. Linda Saksvig, P.E., Code 1823

To:	USEPA	, Region IV -	· Waste Manage	ement Divisio			70-177-		
	345 Co	artland Street			Project:	UO	No. 1 (S	lites 21,	24 & 78)
	Atlanta,	GA 30365			Date:	Ma	rch 24, 1	995	
Attn:	Ms. Ge	na Townsend							
We a	re forward	ling the follow	wing:	■ Attac	hed	☐ Under	Separat	e Cover	
DV	/G. NO.	NO. COPIES		TITLE	OR DESCRI	PTION			COMMENTS
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		2	Corrective Ac	tion Plan for	OU No. 1, MC	B, Camp Le	jeune, N		
II.									
			,						
<u>L</u>		<u> </u>	<u></u>						
		RANSMITT	ED as checke				_		
C) As	requested		□ No o	exceptions taken		0	Revise	and resubmit
t] Fo	r review and con	nment	☐ Reje	ected - See remar	KS	0	Submit	specified items
1	■ Fo	r your informatio	n	☐ Pro	ceed subject to co	rrections noted	۵		
GEN	IERAL C	OMMENTS	• .			В	AKER I	ENVIR	ONMENTAL, INC.
						В	y: T	ammi H	alapin

Title:

Page

Project Manager

of

Baker

bcc:

APajak/CF; JMentz/RWattras/PRGM F; MPetroceia; D. Shields/PRJ F; Daily File

S.O. #62470-174

Subfile 5

Initials Jww

Baker Environmental, Inc. Airport Office Park, Building 3 420 Rouser Road Coraopolis, Pennsylvania 15108

(412) 269-6000 FAX (412) 269-2002

March 17, 1995

Commander
Atlantic Division
Naval Facilities Engineering Command
1510 Gilbert Street (Building N-26)
Norfolk, Virginia 23511-2699

Attn: Ms. Linda Saksvig, P.E.

Code 1823

Re: Navy CLEAN, District III

Contract Task Order (CTO) 0174

Corrective Action Plan for Operable Unit No. 5 (Site 2)

MCB, Camp Lejeune, North Carolina

Dear Ms. Saksvig:

Baker Environmental, Inc. (Baker) is pleased to submit three copies of the Corrective Action Plan (CAP) for Operable Unit No. 5, Site 2. Three copies of the CAP have been forwarded to Mr. Neal Paul at MCB, Camp Lejeune. Two copies of this report have also been submitted to the USEPA and two copies of the CAP and letter have been submitted to NC DEHNR.

The enclosed report summarizes data collected during the RI/FS performed at Site 2. The enclosed CAP also excerpts information from the Proposed Remedial Action Plan and Record of Decision, which have been accepted by USEPA and NC DEHNER, Superfund Section. The enclosed CAP is being submitted at the request of NC DEHNER, because contaminants will remain in the shallow groundwater at MCB, Camp Lejeune above NC DEHNER groundwater standards under the selected alternative.

The approved remedy for this site is long term monitoring because the source of contamination has been removed and the groundwater contamination is limited to only a few compounds. Specific criteria applicable to 15A NCAC 2L.0106l are addressed in Sections 1 and 5 of the CAP, and the results of a simplistic groundwater model are presented in Appendix A of the CAP. The results of the model indicate that the nearest receptor, which is Overs Run, will not be measurably impacted by potential migration of the groundwater contamination.



Baker - Ms. Linda Saksvig, P.E. March 17, 1995
Page 2

If you have questions regarding this submittal, please call Malcolm Petroccia at (412) 269-4695 or me at (412) 269-2016.

Sincerely,

BAKER ENVIRONMENTAL, INC.

Raymond P. Wattras

Deputy Program Manager

jsl

cc: Ms. Beth Collier, Code 02115 (letter only)

Ms. Lee Anne Rapp, Code 183 (letter only)

Mr. Neal Paul, MCB Camp Lejeune (3 copies)

Mr. Patrick Watters, NC DEHNR (2 copies)

Baker

Baker Environmental, Inc. Airport Office Park, Building 3 420 Rouser Road Coraopolis, Pennsylvania 15108 (412) 269-6000 FAX (412) 269-6097

Letter of Transmittal

	01 114					
345 Cd	A, Region IV - V ourtland Street a, GA 30365	Vaste Managem	ent Division	S.O. No.: Project: Date:	62470-174-SRN OU No. 5 (Site 2 March 17, 1995	2)
Attn.: Ms. Ge	ena Townsend					
We are forwa	rding the follow	ring: ■ Atta	ached 🗆	Under Se	parate Cover	
DWG. NO.	NO. COPIES		TITLE OR DES	CRIPTION		COMMENTS
	2	Corrective Action NC	on Plan for OU No	o. 5, MCB, C	amp Lejeune,	
THESE ARE	TRANSMITTE	D as checked b	elow:			<u> </u>
☐ For	requested review and comme your information	ent Ci	No exception taken Rejected - See remar Proceed subject to co			Revise and resubmit Submit specified items
GENERAL C	GENERAL COMMENTS: BAKER ENVIRONMENTAL, INC.					

cc: Ms. Linda Saksvig, P.E., Code 1823

By: Donald Shields
Title: Project Manager

Page: 1 of 1

•	
Responsibl	
	Address: Naval Facilities Engineering Command
	City: Norfolk , State: VA , Zip Code: 23511
Si	te Name: Marine Corps Base, Camp Lejeune
	Address: Operable Unit No. 5
	City: Camp Lejeune, Co.: Onslow, Zip Code: 28542
•	
• • • • • • • • • • • • • • • • • • •	Groundwater Section Incident Number:
I, Don P. Jo	oiner , a Professional Engineer/Licensed
	(circle one) for Baker Environmental, Inc. do hereby.
	at the information indicated below is enclosed as part of
	ed Corrective Action Plan (CAP) and that to the best of
	ge the data, site assessments, engineering plans and
	ciated materials are correct and accurate.
	Each item must be initialed by hand by the certifying
	licensed professional)
1 N/A	A listing of the names and addresses of those
	individuals required to be notified to meet the
•	notification requirements of 15A NCAC 2L .0114(b)
. **	are enclosed. Copies of letters and certified mail
	receipts are also enclosed.
TOT	
2. DP.3	A Professional Engineer or Licensed Geologist has
• • •	prepared, reviewed, and certified all applicable parts
•	of the CAP in accordance with 15A NCAC 2L .0103(e).
3. DPJ	A site assessment is attached on an file with the
J	A site assessment is attached or on file with the appropriate Regional Office which provides the
	information required by 15A NCAC 2L .0106(q).
	intolmacton required by 15A MCAC 21 .0100(g).
4. DPJ	A description of the proposed corrective action and
	supporting justification is enclosed.
5. DPJ	A schedule for the implementation of the CAP is
	enclosed.
DOT	
6. <u>171 -</u>	A monitoring plan is enclosed which has the capacity to
	evaluate the effectiveness of the remedial activity and
	the movement of the contaminant plume, and which meets
	the requirements of 15A NCAC 2L .0110 and .0106(1).
7 DP4	The policine which we will be a first to the second be a second by the second beautiful to the second
	The activity which resulted in the contamination
•	incident is not permitted by the State as defined in
•	15A NCAC 2L.0106(e).

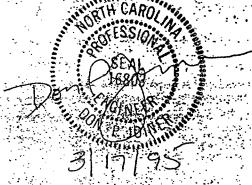
In addition, the undersigned also certifies that to the best of my knowledge and professional judgement and in accordance with the requirements of 15% NCAC 21.0106(1) the following determinations have been made and are documented in the CAP:

- all free product has been removed to the extent practicable in accordance with 15A NCAC 2L .0106(f).

 (See guidance document).
- giall sources of contamination have been removed or controlled in accordance with 15A NCAC .0106(f) and (l). (See guidance document).
- 10. The contaminant has the capacity to degrade and attenuate under the site-specific conditions.
- 11: The time and direction of contaminant travel can be predicted with reasonable certainty.
- the migration of the contaminant will not result in any violation of the standards specified in 15A NCAC 2L .0202 at any existing or foreseeable receptor.
- the contaminants have not and will not migrate onto adjacent properties, or adjacent properties are served by public water supplies which cannot be influenced by contaminants migrating off-site, or adjacent landowners have consented in writing to a request allowing the contaminant upon their property.
- 14. Detail necessary access agreements needed to monitor groundwater quality have been or can be obtained.

(Please Affix Seal and Signature)

N/A - Not applicable because this site is progressing under the Superfund process, with its own notification (community relations) requirements.



Note: Any modifications made to this form may result in the return of your submittal.



bcc: APajak/CF; WTrimbath/JMentz/PRGM F; THalapin/PRJF; RWattras (ck); Daily File

S.O.# 19177-SRN

Subfile #5
Initials: RPW

Baker Environmental, Inc. Airport Office Park, Building 3 420 Rouser Road Coraopolis, Pennsylvania 15108

(412) 269-6000 FAX (412) 269-2002

September 8, 1994

Commander Atlantic Division Naval Facilities Engineering Command 1510 Gilbert Street (Building N-26) Norfolk, Virginia 23511-2699

Attn: Ms. Linda Berry, P.E. Code 1823

Re: Contract N672470-89-D-4814

Navy CLEAN, District III

Contract Task Order (CTO) 0177

Final ROD for Operable Unit No. 1 (Sites 21, 24, and 78)

MCB, Camp Lejeune, North Carolina

Dear Ms. Berry:

Baker Environmental, Inc. (Baker) is pleased to submit one copy (unsigned) of the Final Record of Decision (ROD) for Operable Unit (OU) No. 1 - Sites 21, 24, and 78. The remaining copies of the ROD have been sent to Mr. Neal Paul at MCB, Camp Lejeune to be signed by the Commanding General and then distributed. The signed RODs should be distributed as per the attached list.

The Final ROD reflects the comments received from the NC DEHNR on August 19, 1994; the LANTDIV memorandum to Linda Berry from Mr. P. R. Smith, Assistant Counsel dated July 7, 1994; and the comments received during the public meeting held on July 27, 1994.

Submittal of this report meets the target deliverable date of September 9, 1994 (two weeks following the end of the public comment period).

If you have any questions regarding this submittal, please contact me at (412) 269-2023 or Mr. Raymond Wattras (Activity Coordinator) at (412) 269-2016.

Sincerely,

BAKER ENVIRONMENTAL, INC.

Tammi A. Halapin Project Manager

TAH/Idq

cc: Ms. Beth Hacic, Code 02145 (letter only)

Ms. Lee Anne Rapp, Code 183 (letter only)

Mr. Neal Paul, MCB Camp Lejeune (18 copies)



ROD DISTRIBUTION LIST

NAME	AGENCY/AFFILIATION	NUMBER OF COPIES
Mr. Neal Paul	MCB, Camp Lejeune	3
Ms. Linda Berry	LANTDIV	3
Ms. Gena Townsend	USEPA, Region IV	3
Mr. Patrick Watters	NC DEHNR	1
Mr. Rick Shiver	NC DEHNR	1
Mr. Arthur Mouberry	NC DEHNR	1
Mr. Stephen Tedder	NC DEHNR	1
Mr. Jerry Bittner	TRC	1
Mr. Cameron Lanier	TRC	1
Colonel (Retired) Jack Mader	TRC	1
Mr. Ray Humphries	TRC	1
Mr. Waynon Johnson	TRC	1
Mr. Tom Augspurger	TRC	0 (transmittal letter only)
Mr. James H. Lee	TRC	0 (transmittal letter only)

Baker

bcc: APajak/CF; WTrimbath/JMentz/PRGM F; THalapin/PRJF; RWattras (ck); Daily File S.O.# 19139-SRN 174

Subfile #5
Initials: (2/\//

Baker Environmental, Inc. Airport Office Park, Building 3 420 Rouser Road Coraopolis, Pennsylvania 15108

(412) 269-6000 FAX (412) 269-2002

September 8, 1994

Commander
Atlantic Division
Naval Facilities Engineering Command
1510 Gilbert Street (Building N-26)
Norfolk, Virginia 23511-2699

Attn:

Ms. Linda Berry, P.E. Code 1823

Re:

Contract N672470-89-D-4814 Navy CLEAN, District III

Contract Task Order (CTO) 0174

Final ROD for Operable Unit No. 5 (Site 2) MCB, Camp Lejeune, North Carolina

Dear Ms. Berry:

Baker Environmental, Inc. (Baker) is pleased to submit one copy (unsigned) of the Final Record of Decision (ROD) for Operable Unit (OU) No. 5 - Site 2. The remaining copies of the ROD have been sent to Mr. Neal Paul at MCB, Camp Lejeune to be signed by the Commanding General and then distributed. The signed RODs should be distributed as per the attached list.

The Final ROD reflects the comments received from the NC DEHNR on August 18, 1994, and the comments received during the public meeting held on July 27, 1994.

Submittal of this report meets the target deliverable date of September 9, 1994 (two weeks following the end of the public comment period).

If you have any questions regarding this submittal, please contact me at (412) 269-2038 or Mr. Raymond Wattras (Activity Coordinator) at (412) 269-2016.

Sincerely,

BAKER ENVIRONMENTAL, INC.

Donald C. Shields Project Manager

DCS/ldq

cc:

Ms. Beth Hacic, Code 02145 (letter only)

Ms. Lee Anne Rapp, Code 183 (letter only)

Mr. Neal Paul, MCB Camp Lejeune (18 copies)



ROD DISTRIBUTION LIST

NAME	AGENCY/AFFILIATION	NUMBER OF COPIES
Mr. Neal Paul	MCB, Camp Lejeune	3
Ms. Linda Berry	LANTDIV	3
Ms. Gena Townsend	USEPA, Region IV	3
Mr. Patrick Watters	NC DEHNR	1
Mr. Rick Shiver	NC DEHNR	1
Mr. Arthur Mouberry	NC DEHNR	1
Mr. Stephen Tedder	NC DEHNR	1
Mr. Jerry Bittner	TRC	1.
Mr. Cameron Lanier	TRC	1
Colonel (Retired) Jack Mader	TRC	1
Mr. Ray Humphries	TRC	1
Mr. Waynon Johnson	TRC-	1
Mr. Tom Augspurger	TRC	0 (transmittal letter only)
Mr. James H. Lee	TRC	0 (transmittal letter only)



Baker Environmental, Inc. Airport Office Park, Building 3 420 Rouser Road Coraopolis, Pennsylvania 15108

(412) 269-6000 FAX (412) 269-2002

July 22, 1994

Commander Atlantic Division Naval Facilities Engineering Command 1510 Gilbert Street (Building N-26) Norfolk, Virginia 23511-2699

Attn: Ms. Linda Berry, P.E.

Navy CLEAN, District III

Contract Task Order (CTO) 0177

Final FS Report and PRAP for Operable Unit No. 1 (Sites 21, 24, and 78)

MCB, Camp Lejeune, North Carolina

Dear Ms. Berry:

Baker Environmental, Inc. (Baker) is pleased to submit for your files two copies of the Final Feasibility Study (FS) Report and the Final Proposed Remedial Action Plan (PRAP) for Operable Unit (OU) No. 1 - Sites 21, 24, and 78. Copies of these reports have been forwarded to Mr. Neal Paul (MCB, Camp Lejeune), Ms. Gena Townsend (USEPA, Region IV), Mr. Patrick Watters (NC DEHNR), and to members of the Technical Review Committee (TRC) as indicated on the transmittal letters (included as Attachment A).

The FS Report has been revised based on comments received from USEPA (letter dated June 1, 1994) and from LANTDIV (memorandum from Paul Smith to Linda Berry dated July 7, 1994). The PRAP has been revised based on changes to the FS Report and on Mr. Paul Smith's legal review of the Record of Decision for OU No. 1. No additional comments were received. Responses to the USEPA comments are included as Attachment B of this letter. Also enclosed is a disc with the responses included under the file name of "FS-RESP".

Since the comments received did not result in significant revisions to the FS Report, the Final FS is being submitted as replacement pages only. Instructions for inserting the replacement pages are included as Attachment C. The Final PRAP has been submitted as a complete document.

If you have any questions regarding this submittal, please contact me at (412) 269-2023 or Mr. Raymond Wattras (Activity Coordinator) at (412) 269-2016.

Sincerely,

BAKER ENVIRONMENTAL, INC.

Tammi A. Halapin Project Manager

cc: Ms. Beth Hacic, Code 02115 (w/o attachments)
Ms. Lee Anne Rapp, Code 183 (w/o attachments)
Mr. Neal Paul, MCB Camp Lejeune (2 copies)



ATTACHMENT A TRANSMITTAL LETTERS



Baker Environmental, Inc.
Consulting Engineers
Airport Office Park - Bldg. 3
420 Rouser Road
Company in Day 15500 Coraopolis, PA 15108

	(412) 269-6000							
LETTE	R OF TRA	ANSMITTA	L		•			
To: Attn. We ar	Water Q Archdale Raleigh, Mr. Step	NC 27604- hen Tedder,	n I. Salisbury St.	Project: Date:	62470-177 OU No. 1, July 22, 19	MCB Camp Lejeune 1994		
DV	VG. NO.	NO. COPIES	TITLE OR D	ESCRIPTIO	N	COMMENTS		
	1		Final FS for Operable Unit No. 1 (Sites 21, 24, and 78) MCB, Camp Lejeune			Instructions for inserting replacement pages for the FS report are attached.		
		1	Final PRAP for Opera (Sites 21, 24, and 78)	able Unit N MCB, Cam	lo. 1 np Lejeune			
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c: M			ITDIV), Code 1823 EHNR	В	AKER ENVIRONMENTAL, INC. By: Tammi Halapin Title: Project Manager			
•		•		P	age 1	of 1		



Baker Environmental, Inc.
Consulting Engineers
Airport Office Park - Bldg. 3
420 Rouser Road Coraopolis, PA 15108 (412) 269-6000

	,							
LETTER	R OF TRA	NSMITTA	L .					
То:	NC Div. of Environmental Mgmt. 127 Cardinal Drive Ext.				62470-177 OU No. 1, MCB Camp Lejeune			
	Wilmington, NC 28405-3845			Date:	July 22, 19	, 1994		
Attn.	Mr. Rick	Shiver, Regio	onal Supv.					
We are	forwardi	ng the follov	wing: 図 Attached		Under Sepa	rate Cover		
DW	G. NO.	NO. COPIES	TITLE OR DE	SCRIPTION	ı	COMMENTS		
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		1	Final PRAP for Opera (Sites 21, 24, and 78)					
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GENERA	L COMMI	ENTS:		ВАК	ER ENVIRONM	MENTAL, INC.		
CC: Ms. Linda Berry, P.E. (LANTDIV), Code 1823 Mr. Patrick Watters, NC DEHNR				Ti	By: Tammi Halapin Title: Project Manager			



Baker Environmental, Inc.
Consulting Engineers
Airport Office Park - Bldg. 3
420 Rouser Road Coraopolis, PA 15108 (412) 269-6000

ETTE	R OF TRA	NSMITTA	L				
o:		NC Div. of Env. Mgmt.			62470-177 OU No. 1, MCB Camp Lejeune July 22, 1994		
	Archdale Bldg., 512 N. Salisbury St. Raleigh, NC 27604-1148			Project: Date:			
	•						
ttn.	Mr. Artni	ur Mouberry,	, Section Chief			•	
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ENE	RAL COMM	ENTS:		ВА	KER ENVIRON	MENTAL, INC.	
c: Ms. Linda Berry, P.E. (LANTDIV), Code 1823 Mr. Patrick Watters, NC DEHNR				T	By: <u>Tammi Halapin</u> Title: <u>Project Manager</u> Page 1 of 1		



Baker Environmental, Inc.
Consulting Engineers
Airport Office Park - Bldg. 3
420 Rouser Road
Coraopolis, PA 15108
(412) 269-6000

LETTER	OF TRA	NSMITTA	L					
To: <u>U</u>	US EPA, Region IV Waste Management Div.			S.O. No.	62470-177 OU No. 1, MCB Camp Lejeune			
				Project:				
		tland Street		Date:		y 22, 19		
<u>~</u>	tlanta,	GA 30365						
Attn. N	/ls. Gena	Townsend						
We are f	orwardi	ng the follov	ving: 🛛 Attached		Unde	er Sepai	rate Cover	
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GENERAL	СОММ	ENTS:		BA	KER EN	VIRONM	IENTAL, INC.	
		R	By: <u>Tammi Halapin</u>					
cc: Ms. Li	: Ms. Linda Berry, P.E. (LANTDIV), Code 1823				•	Project Manager		
					ane		of 1	



ETTE	R OF TRA	NSMITTA	L				
To: Attn. We are	and Natural Resources PO Box 27687, 401 Oberlin Road Raleigh, NC 27611			Project: Date:	_62470-177 OU No. 1, MCB Camp Lejeune July 22, 1994 Under Separate Cover		
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LETTI	R OF TRA	ANSMITTA	L				
To: Attn.	612 College Street Jacksonville, NC 28540				62470-177 OU No. 1, MCB Camp Lejeune July 22, 1994 Under Separate Cover		
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cc: M	s. Linda Ber	ry, P.E. (LAN	ITDIV), Code 1823		y: <u>Tamm</u> tle: <u>Projec</u> age 1		



Project: OU No. 1, Date: July 22, 19		
Date:July 22, 19	NDA	
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erable Unit No. 1 8) MCB, Camp Lejeune		
sken emarks t to corrections noted	☐ Revise and resubmit ☐ Submit specified items ☐	
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By: <u>Tamn</u>	ni Halapin	
	DESCRIPTION Die Unit No. 1 8) Perable Unit No. 1 78) MCB, Camp Lejeune Die McB, Camp Lejeune Die McB, Camp Lejeune Die McB, Camp Lejeune Die McB, Camp Lejeune	



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LETTER	OF TRA	NSMITTA	L			
·	PO Box 12	lle City Man 28 lle, NC 285		S.O. No. Project: Date:	OU No	-177 b. 1, MCB Camp Lejeune 2, 1994
	Mr. Jerry	Bittner ng the follov	ving: ⊠ Attached	םו	Under S	separate Cover
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		1 .	Final FS for Operable (Sites 21, 24, and 78) MCB, Camp Lejeune		I	Instructions for inserting replacement pages for the FS report are attached.
	·	1	Final PRAP for Operable Unit No. 1 (Sites 21, 24, and 78) MCB, Camp Lejeune			ne
		. '				
	\s requested		s checked below: No exception take Rejected - See ren	narks		☐ Revise and resubmit ☐ Submit specified items
GENERA	Linda Ber	ENTS:	☐ Proceed subject to	BA B	KER ENVIF	RONMENTAL, INC. ammi Halapin roject Manager



LETTE	R OF TRA	NSMITTA	L ,					
To:	Colonei (Retired) Jack	Mader	S.O. No.	6247	62470-177		
		ntry Club Ro			OU No. 1, MCB Camp Lejeune July 22, 1994			
		ille, NC 28		Date:				
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ATTACHMENT B

Response to Comments Submitted by the USEPA, Region IV on the Draft Final FS for Sites 21, 24, and 78

(Operable Unit No. 1),

MCB, Camp Lejeune, North Carolina

Comment Letter by Ms. Gena D. Townsend dated June 1, 1994

1. Section 1.2.5.1, Page 1-30, paragraph 2

The paragraph has been clarified per the comment.

2. Table 2-2, Page 2-8, Groundwater Criteria

Table 2-2 will be corrected to indicate that the child Federal Health Advisory value for vinyl chloride is 10 ug/L, and the child and adult Federal Health Advisory for heptachlor epoxide is 0.1 ug/L.

3. Table 2-3, Page 2-10, Surface Water Quality Criteria

The Federal AWQCS listed on Table 2-3 are for the protection of aquatic life. The table has been revised to indicate this fact.

4. Section 2.3.2.1, Page 2-19, Table 2-19, Page 2-40

The Navy agrees that the contribution to the site-specific potential risk is greater from incidental ingestion of surface soil than from dermal exposure to surface soil. The Risk Assessment conducted for Operable Unit No. 1 concluded that soil did not pose an appreciable risk with respect to the dermal contact and ingestion of soil. Therefore, for the FS, the most plausible (not most conservative) exposure pathway (i.e., dermal contact) was considered for the development of remediation goals.

ATTACHMENT C

INSERT/REPLACEMENT INSTRUCTIONS FOR THE FINAL FS REPORT FOR OU NO. 1, MCB, CAMP LEJEUNE, NORTH CAROLINA

REPLACEMENT PAGES FOR THE FINAL RI FOR OU NO. 1

Please replace the following pages in the Draft Final RI Report :

Title page and spine

Inside Title Page

Page ES-17, -20,-21, -22, -23

Page 1-30, -31

Page 2-8, -10, -19,-35, -36

Page 4-5, -9,

Page 5-5, -28, -29, -30, -31, -35



June 23, 1994

Baker Environmental, Inc. Airport Office Park, Building 3 420 Rouser Road Coraopolis, Pennsylvania 15108

(412) 269-6000 FAX (412) 269-2002

Commander
Atlantic Division
Naval Facilities Engineering Command
1510 Gilbert Street (Building N-26)
Norfolk, Virginia 23511-2699

Attn: Ms. Linda Berry, P.E.

Navy Technical Representative

Code 1823

Re:

Contract N62470-89-D-4814 Navy CLEAN, District III

Contract Task Order (CTO) 0174

Final FS and PRAP

Operable Unit No. 5 (Site 2)

MCB, Camp Lejeune, North Carolina

Dear Ms. Berry:

Baker Environmental, Inc. (Baker) is pleased to submit for your review two (2) copies of the Final Feasibility Study (FS) and Proposed Remedial Action Plan (PRAP) for Operable Unit (OU) No. 5 - Site 2. Two copies of this document have been forwarded to Mr. Neal Paul at MCB, Camp Lejeune. Copies of this document have also been submitted to the United States Environmental Protection Agency (USEPA), the North Carolina Department of Environmental Health and Natural Resources (NC DEHNR), and the Technical Review Committee (TRC) members as indicated on the attached transmittal letters.

If you have any questions regarding these submittals, please contact me at (412) 269-2038 or Mr. Raymond Wattras (Activity Coordinator) at (412) 269-2016.

Sincerely,

BAKER ENVIRONMENTAL, INC.

Donald C. Shields Project Manager

DCS/je Enclosure

cc: Ms. Beth Hacic, Code 02115 (w/o attachments)

Ms. Lee Anne Rapp, Code 183 (w/o attachments)

Mr. Neal Paul (two copies)

bce: APPajak/CF; WDTrimbath/JWMentz/PROG F; DShields/PJT F; RWattras(ck) (letter only); RBonelli (letter only); MBartman (letter only); Daily File

Daily File

S.O.#62470-174

Subfile: 5

Initials: DLB





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Consulting Engineers Airport Office Park - Bldg. 3 420 Rouser Road Coraopolis, PA 15108 (412) 269-6000

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MARINE CORPS BASE (MCB), CAMP LEJEUNE INVITES COMMENT AND PUBLIC MEETING PARTICIPATION ON THE PROPOSED PLANS FOR OPERABLE UNITS (OU) NO. 1 AND NO. 5 AT MCB, CAMP LEJEUNE, NORTH CAROLINA

The U.S. Navy/Marine Corps announces the availability of the Proposed Plens for OU No. 1 and OU No. 5 at MCB, Camp Lefeune, North Carolina for public review and comment. The sites do not pose any immediate harm to public health and the proposed plans outline methods for soil and groundwater cleanup and monitoring.

OU No. 1 includes Site 78 (Hadnot Point Industrial Area), Site 21 (Transformer Storage Lot 140), and Site 24 (Industrial Area Fly Ash Dump). A total of five cleanup options for groundwater and four cleanup options for soil were developed. The proposed alternative for groundwater is ex-traction, treatment, and discharge of the shallow groundwater and monitoring of the deeper groundwater. The proposed soil alternative is excevation and disposal at an off-site, permitted facility.
OU No. 5 includes Site 2

OU No. 5 includes Site 2 (Former Nursery/Day Care Center). Cleanup of pesticide contaminated soil at this site is already underway. The contaminated soil at this site is already underway. The contaminated soil is being dug up and sent to an approved landfill. Clean soil will be put in its place. In addition to the soil cleanup, a total of six cleanup options were developed for the shallow groundwater at the site. The proposed alternative for shallow groundwater is institutional controls with long term monitoring.

other information/reports pertaining to these recommended alternatives are available at the following information repositories: Onslow County Library 58 Doris Avenue East Jacksonville, NC 28540 910/455-7350 Hours: M-Th: 9:00 a.m. - 9:00 p.m. F-Sa: 9:00 a.m. - 6:00 p.m. Closed Sunday MCB Camp Lejeune Environmental Management Department Building 67, Room 237 Marine Corps Base Camp Lejeune, NC 28542 910/451-5068 Hours: M-F: 7:00 a.m. - 3:00 p.m. Closed Saturday and Sunday

MCB, Camp Lejeune will hold a public information meeting on July 27, 1994 at 7:00 P.M. at the Tarawa Terrace #1 Elementary School Gymnatorium located on Tarawa Boulevard, near the Intersection of Corbin Street and Lejeune Boulevard (Hwy, 24). This public information meeting will be held to describe the Proposed Plans for OU No. 1 and OU No. 5.

The Navy/Marine Corps will hold a 30-day public comment period from July 27, 1994 to August 27, 1994. The public comment period will allow for public participation in the selection process, Comments postmarked after the period will not be considered. Comments received during the public comment period will become part of the Admin-istrative Record for the instaliation Restoration Program at MCB, Camp Lejeune, Comments and responses will be addressed in a Responsiveness Summary and pub-lished with the Final Records of Decision for OU No. 1 and OU No. 5. Names of those who comment will not be included in the Responsiveness Summaries but are subject to Freedom of Information Act request Written comments should be directed to: Ms. Linda Berry, P.E., Code 1823 RPM, MCB, Camp Lejeune Commander, Atlantic Division Navel Facilities Engineering Command 1510 Gilbert Street (Building N-26) Norfolk, VA 23511-2699 804/322-4793