



BECHTEL NATIONAL INC.

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MCAS EL TORO
SSIC # 5090.3

CLEAN II TRANSMITTAL/DELIVERABLE RECEIPT

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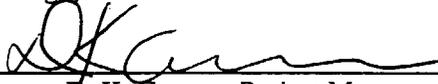
TO: Commanding Officer
Naval Facilities Engineering Command
Southwest Division
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Building 128
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DATE: 18 November 1996

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FROM:


D. K. Cowser, Project Manager

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MEETING MINUTES

Meeting Subject: Risk Assessment Results and Recommendations for OU-3A RI Report	Meeting Date: Wednesday, 2 October 1996 Meeting Time: 10:00 Meeting Place: SWDIV, Blue Room Meeting Notes Prepared By: Craig L. Carlisle
Attendees:	
<u>Navy</u> Andy Piszkin, Lead RPM Bernie Lindsey, RPM	<u>Bechtel</u> Craig L. Carlisle, CTOL Dante Tedaldi, CTOL
	<u>Other</u> (none)
Additional Distribution (In Addition to Attendees): Ginny Garelick, RTM; David Cowser, PM; and John Scholfield	

Item No.	Description of Discussion
1	The objective of the meeting was to present the Navy with the risk assessment results and obtain their recommendations (further action or no further action) for each of the OU-3A sites. These recommendations will be presented in the Draft Final RI Report.
2	Craig handed out the table "Working Draft Risk Summary for the Industrial and Residential Scenarios." A copy is attached.
3	Based on the risk assessment results, and consideration of the site conditions as well as the type and distribution of contaminants, Bernie and Andy requested that the Draft RI Report recommend no further action for all OU-3A sites except Site 12, Site 16, and Site 21. They also requested that the recommendations be for entire sites and not unit specific. For example, further action will be recommended for Site 21 on the basis of the catch basin having a residential risk greater than 10^{-4} , while Unit 1 at Site 21 has risk results within the acceptable range.
4	The recommendations for further action at Sites 12, 16, and 21 were based on the following discussions: <ul style="list-style-type: none"> At Site 12, Unit 3 (the drainage ditch) had industrial risk of approximately 9×10^{-5} mostly due to elevated PCBs. Since these concentrations are in a drainage ditch, it was thought that a hot spot removal may be appropriate for this unit. Site 16 was recommended for further action based on the impacted groundwater with concentrations of TCE above the MCL. Site 21 was recommended for further action since the risk for the catch basin is estimated to be greater than 1×10^{-4}.

CLC Notes for 10/2 mtg.
WORKING DRAFT

Risk Summary for the Industrial and Residential Scenarios

	Cancer Risk						Noncancer Risk					
	Industrial Scenario (0-2 feet bgs)			Residential Scenario (0-10 feet bgs) ^b			Industrial Scenario (0-2 feet bgs)			Residential Scenario (0-10 feet bgs) ^b		
	Risk U.S.EPA/ State ^a	Risk Drivers	EPC (mg/kg)	Risk U.S.EPA/ State	Risk Drivers	EPC (mg/kg)	HI	Risk Drivers	EPC (mg/kg)	HI	Risk Drivers	EPC (mg/kg)
<i>Navy Loc.</i> <i>@ 10/2 mtg</i> Site 4 Unit 1	5.7e-6	arsenic 99%	5.4 (0.4)	1.9e-5	arsenic 99%	5.9 (0.7)	0.049	--	--	1.4	manganese (44%)	277
Site 4 Unit 2 <i>no further action</i>	1.4e-5/ 1.8e-5	arsenic 57% / 44% benzo(a)pyrene 32% / 41% dieldrin 7% / 6%	* 7.5 * 0.22 * 0.033	3.0e-5/ 5.6e-5	arsenic 67% / 56% benzo(a)pyrene 23% / 31% dieldrin 6% / 5% benzo(k)fluoranthene -- / 4%	6.2 (1.5) * 0.22 * 0.033 * 0.27	0.12	--	--	0.75	--	--
Site 4, Catch basin	3.0e-8/ 9.1e-8	--	--	1.9e-7/ 5.8e-7	--	--	0.021	--	--	0.31	--	--
Site 6 Units 1, 2 & 3 <i>no further action</i>	1.3e-5/ 1.7e-5	benzo(a)pyrene 44% / 55% arsenic 28% / 21% dibenzo(ah)anthracene 12% / 9%	* 0.28 3.4 (0.4) * 0.078	1.9e-5/ 2.0e-5	arsenic 68% / 65% beryllium 23% / 22% benzo(a)pyrene 6% / 9%	3.9 (7.7) 0.58 (0.4) 0.036 (0.03)	0.11	--	--	1.4	manganese 41%	260
Site 6, Catch basin	1.6e-8	--	--	3.1e-8	--	--	0.0072	--	--	0.084	--	--
Site 8, Units 1 & 4 <i>No further action</i>	1.3e-5/ 1.5e-5	aroclor 1248 49% / 43% benzo(a)pyrene 24% / 33% aroclor 1260 16% / 14%	* 0.3 * 0.15 0.1 (0.4)	1.7e-5/ 2.0e-5	aroclor 1248 57% / 49% benzo(a)pyrene 27% / 38%	* 0.3 * 0.15	0.21	--	--	0.79	--	--
Site 8, Units 2 & 3 <i>No further action</i>	4.4e-6/ 4.5e-6	arsenic 82% / 80%	3.4 (1.4)	4.1e-5	aroclor 1254 32% arsenic 27% aroclor 1248 19% aroclor 1260 17%	* 0.4 3.5 (1.4) * 0.24 * 0.21	0.074	--	--	2.3	aroclor 1254 28% manganese 22% aroclor 1248 17% aroclor 1260 15% arsenic 8%	* 0.4 232 0.24 0.21 3.5

WORKING DRAFT

Cancer Risk							Noncancer Risk					
Industrial Scenario (0-2 feet bgs)				Residential Scenario (0-10 feet bgs) ^b			Industrial Scenario (0-2 feet bgs)			Residential Scenario (0-10 feet bgs) ^c		
	Risk U.S.EPA/ State ^a	Risk Drivers	EPC (mg/kg)	Risk U.S.EPA/ State	Risk Drivers	EPC (mg/kg)	HI	Risk Drivers	EPC (mg/kg)	HI	Risk Drivers	EPC (mg/kg)
Site 8, Unit 5 <i>no further action</i>	7.3e-5	indeno(123cd)pyrene 86% benzo(b)fluoranthene 6% arsenic 6%	* 31 * 2.1 3.8 (4.2)	1.0e-4	indeno(123cd)pyrene 96% benzo(b)fluoranthene 7% aroclor 1260 2%	* 31 * 2.1 * 0.046	0.13	--	--	1.1	manganese 55%	272 (177)
Site 9, Units 1 & 2 <i>no action</i>	1.1e-5/ 1.3e-5	arsenic 50% / 42% benzo(a)pyrene 30% / 42%	5.2 (12.2) 0.16	1.7e-5	arsenic 82% benzo(a)pyrene -- / 6%	4.3 (12.3) 0.02 (0.1)	0.11	--	--	1.4	manganese 45%	280
Site 10, Units 1, 2 and 3 <i>no action</i>	1.3e-5/ 1.8e-5	benzo(a)pyrene 55% / 67% arsenic 26% / 19%	0.35 (0.32) 3.2 (4.2)	1.3e-5	arsenic 92%	3.6 (5)	0.049	--	--	1.2	manganese 50%	270
Site 10, Unit 4 <i>no action</i>	5.8e-6	arsenic 98%	* 5.4	3.2e-5	arsenic 75% beryllium 23%	7.5 (8.5) * 1.0	0.036	--	--	2.2	manganese 42% aluminum 24%	420 (420) 38000
Site 11, Unit 1 <i>no further action</i>	6.0e-5	aroclor 1260 99%	* 2.8	9.7e-5	aroclor 1260 99%	* 2.8	1.1	aroclor 1260 99%	* 2.8	4.5	aroclor 1260 99%	2.8
Site 11, Unit 2 <i>no further action</i>	4.5e-5	aroclor 1260 99%	* 2.1	5.9e-6	aroclor 1260 99%	0.18 (3.53)	0.82	--	--	0.30	--	--
Site 11, Unit 3	1.7e-7	--	--	3.0e-7	--	--	0.0036	--	--	0.017	--	--
Site 12, Unit 1 <i>no further action</i>	3.7e-5/ 4.8e-5	benzo(a)pyrene 38% / 46% dibenzo(ah)anthracene 16% / 13% aroclor 1254 16% / 13% arsenic 16% / 12% benzo(k)fluoranthene -- / 4% benzo(b)fluoranthene 5% / 4% benzo(a)anthracene 4% / 3%	* 0.67 * 0.30 * 0.28 5.5 (1.7) * 0.54 * 0.84 * 0.69	6.0e-5/ 7.6e-5	benzo(a)pyrene 35% / 45% arsenic 22% / 17% dibenzo(ah)anthracene 15% / 12% aroclor 1254 15% / 12% benzo(k)fluoranthene -- / 4% benzo(b)fluoranthene 4% / 3% benzo(a)anthracene 4% / 3% indeno(123cd)pyrene 2% / 2%	* 0.67 4.1 (7.1) * 0.3 * 0.28 * 0.54 * 0.84 * 0.69 * 0.44	0.82	--	--	4.6	MCPP 52% manganese 14% aroclor 1254 10% MCPA 6%	* 94 (4.1) 292 0.28 5.5

WORKING DRAFT

	Cancer Risk						Noncancer Risk					
	Industrial Scenario (0-2 feet bgs)			Residential Scenario (0-10 feet bgs) ^b			Industrial Scenario (0-2 feet bgs)			Residential Scenario (0-10 feet bgs) ^c		
	Risk U.S.EPA/ State ^a	Risk Drivers	EPC (mg/kg)	Risk U.S.EPA/ State	Risk Drivers	EPC (mg/kg)	HI	Risk Drivers	EPC (mg/kg)	HI	Risk Drivers	EPC (mg/kg)
Site 12, Units 2 & 4 <i>no action</i>	1.5e-5/ 1.7e-5	arsenic 36 % / 32 % dibenzo(ah)anthracene 26 % / 23 % benzo(a)pyrene 11 % / 16 % aroclor 1260 10 % / 9 %	5.1 (2.4) 0.19 0.082 0.071 (0.4)	2.8e-5	arsenic 71 % beryllium 13 % dibenzo(ah)anthracene 5 % benzo(a)pyrene - % / 4 %	6.1 (2.4) 0.48 (1.1) 0.047 (0.11) 0.023 (0.03)	0.26	-	-	2.1	manganese 34% MCPA 18% arsenic 16%	320 7.5 6.1
Site 12, Unit 3 <i>rec. action (hot spot remove)</i>	8.8e-5/ 9.3e-5	aroclor 1254 61 % / 58 % aroclor 1260 16 % / 15 % arsenic 5 % / 5 % benzo(a)pyrene 5 % / 8 % dieldrin 4 % / 3 % dibenzo(ah)anthracene 3 % / 3 % DDT 3 % / 3 % benzo(b)fluoranthene 2 % / 2 % benzo(k)fluoranthene - / 2 %	2.5 0.64 0.21 (0.3) 4.4 4.4 0.1 0.13 3.7 0.93 0.55	4.5e-5/ 3.1e-5	arsenic 31 % / 27 % dibenzo(ah)anthracene 15 % / 13 % benzo(a)pyrene 14 % / 22 % dieldrin 12 % / 11 % DDT 9 % / 8 % benzo(b)fluoranthene 6 % / 6 % aroclor 1260 6 % / 5 % benzo(k)fluoranthene - / 4 % aroclor 1254 4 % / 3 %	4.2 (0.4) 0.22 0.21 0.1 3.70 0.93 0.085 (0.04) 0.36 (0.55) 0.048 (2.19)	2.3	aroclor 1254 49% MCPP 36% aroclor 1260 11%	2.5 150 0.64	5.9	MCPP 66% manganese 12% aluminum 5%	150 310 19000
Site 12, Catchbasin	5.7e-7	-	-	9.9e-7	-	-	0.02	-	-	0.18	-	-
Site 13, Units 1 & 2 <i>no action</i>	5.3e-6/ 8.8e-6	benzo(a)pyrene 81 % / 80 %	0.21	1.8e-5/ 2.3e-5	arsenic 53% / 42% benzo(a)pyrene 36% / 48%	3.0 (3.4) 0.21	0.012	-	-	1.1	manganese 53%	262
Site 15, Unit 2 <i>no action</i>	1.1e-5/ 1.2e-5	arsenic 70% / 64% dibenzo(ah)anthracene 10% / 9 % benzo(a)pyrene - / 11%	7.2 (10.3) 0.055 0.038	4.2e-6/ 3.1e-6	dibenzo(ah)anthracene 40% / 33 % benzo(a)pyrene 29% / 37% Aroclor 1260 24% / 20%	0.05 0.038 0.031	0.12	-	-	1.1	manganese 54%	262

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	Industrial Scenario (0-2 feet bgs)			Residential Scenario (0-10 feet bgs) ^b			Industrial Scenario (0-2 feet bgs)			Residential Scenario (0-10 feet bgs) ^b		
	Risk U.S.EPA/ State ^a	Risk Drivers	EPC (mg/kg)	Risk U.S.EPA/ State	Risk Drivers	EPC (mg/kg)	HI	Risk Drivers	EPC (mg/kg)	HI	Risk Drivers	EPC (mg/kg)
<i>(FS for site)</i> Site 16, Units 1 & 2 <i>Further action</i>	1.4e-6/ 1.7e-6	dibenzo(ah)anthracene 41 % / 34 % benzo(a)pyrene 38 % / 51 % indeno(123cd)pyrene 12 % / 10 %	* 0.028 * 0.026 * 0.084	1.7e-6/ 2.0e-6	dibenzo(ah)anthracene 38 % / 33 % benzo(a)pyrene 18 % / 26 % vinyl chloride 18 % / 15 % indeno(123cd)pyrene 13 % / 11 %	0.021 (0.021) 0.01 (0.021) * 0.00084 0.07 (0.07)	0.0068	--	--	0.077	--	--
Site 16, Unit 3 <i>no further action</i>	6.7e-6/ 6.9e-6	arsenic 55 % / 54 % dibenzo(ah)anthracene 36 % / 35 %	3.5 (5.2) * 0.12	1.9e-6/ 2.0e-6	arsenic 68 % / 65 % dibenzo(ah)anthracene 19 % / 19 % beryllium 11 % / 11 %	3.9 (6.2) * 0.12 0.28 (0.4)	0.11	--	--	1.3	manganese 50%	290
Site 16, Groundwater	NA	NA	NA	1.0e-5	TCE 99%	* 0.13 mg/L	NA	NA	NA	8.4	TCE 99%	* 0.13 mg/L
Site 19, Units 2,3 & 4 <i>no action</i>	3.9e-6/ 4.1e-6	arsenic 92% / 88%	3.3 (5.1)	1.3e-5	arsenic 85% dibenzo(ah)anthracene 8%	3.3 (5.1) * 0.035	0.036	--	--	0.95	manganese 60%	262
Site 20, Unit 1	1.3e-8/ 4.0e-8	--	--	1.3e-5	arsenic 93%	4.5 (6)	0.086	--	--	1.3	manganese 45%	280
Site 20, Unit 4	2.2e-6	aroclor 1254 91%	* 0.091	1.4e-6/ 1.5e-6	aroclor 1254 88% / 86%	* 0.091	0.043	--	--	0.61	--	--
Site 20, Catch basin	2.4e-6/ 2.6e-6	bis(2ethylhexyl)phthalate 96% / 88%	* 84	4.7e-6/ 6.0e-6	bis(2ethylhexyl)phthalate 83% / 65% cadmium - / 30 %	* 84 * 19	0.098	--	--	1.2	cadmium 45%	* 19
Site 21, Unit 1 <i>no action FS for catch basin</i>	1.1e-5	arsenic 91%	* 9.5	2.5e-5	arsenic 88% aroclor 1260 8%	6.8 (9.5) * 0.06	0.15	--	--	2.0	manganese 33% MCPP 21% arsenic 19%	292 16 6.8

WORKING DRAFT

	Cancer Risk						Noncancer Risk					
	Industrial Scenario (0-2 feet bgs)			Residential Scenario (0-10 feet bgs) ^a			Industrial Scenario (0-2 feet bgs)			Residential Scenario (0-10 feet bgs) ^a		
	Risk U.S.EPA/ State ^b	Risk Drivers	EPC (mg/kg)	Risk U.S.EPA/ State	Risk Drivers	EPC (mg/kg)	HI	Risk Drivers	EPC (mg/kg)	HI	Risk Drivers	EPC (mg/kg)
Site 21, Catchbasin	7.5e-5/ 1.1e-4	benzo(a)pyrene 55% / 61% dibenzo(ah)anthracene 16% / 11% arsenic 15% / 10% benzo(k)fluoranthene -- / 6% benzo(b)fluoranthene 6% / 4% benzo(a)anthracene 5% / 3% indeno(123cd)pyrene 3% / 2% chrysene -- / 1%	* 2.0 * 0.57 * 9.9 * 2.0 * 2.1 * 1.8 * 1.1 * 3.1	1.3e-4/ 1.8e-4	benzo(a)pyrene 48% / 56% dibenzo(ah)anthracene 14% / 10% arsenic 25% / 18% benzo(k)fluoranthene -- / 5% benzo(b)fluoranthene 5% / 4% benzo(a)anthracene 4% / 3% indeno(123cd)pyrene 3% / 2% chrysene -- / 1%	* 2.0 * 0.57 * 9.9 * 2.0 * 2.1 * 1.8 * 1.1 * 3.1	0.11	--	--	0.91	arsenic 60%	* 9.9
Site 22, Unit 1	1.4e-5/ 1.9e-5	benzo(a)pyrene 46% / 58% arsenic 36% / 26%	* 0.32 4.7 (5)	2.7e-5/ 3.9e-5	arsenic 52% / 40% benzo(a)pyrene 37% / 46% benzo(k)fluoranthene -- / 3% benzo(a)anthracene 4% / 3% benzo(b)fluoranthene 4% / 3%	4.3 (5) * 0.32 * 0.24 * 0.39 * 0.37	0.048	--	--	0.52	--	--
Site 22, Unit 2	4.7e-6	arsenic 100%	* 4.4	2.3e-8/ 9.8e-8	--	--	0.031	--	--	1.2	manganese 59%	* 320

^a Risk listed once when U.S. EPA derived risks equal state derived risks.

^b Cancer risk results shown are for the hypothetical resident adult. Adult cancer risks are higher than the child's cancer risk.

^c Systemic toxicity results shown are for the hypothetical resident child. Child noncancer risks are higher than the adult's cancer risk.

EPC- Exposure point concentration

*NO
action*