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MCRD PARRIS ISLAND
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EMAIL OF TRANSMITTAL AND DATA SUMMARY REPORT FOR SEDIMENT SAMPLING AT
SITE 3 AND SOLID WASTE MANAGEMENT UNIT 54 OLD WASTEWATER TREATMENT
PLANT MCRD PARRIS ISLAND SC
6/26/2003
U S EPA REGION IV

Sladic, Mark

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Subject: Draft MCRD Sediment Results Data summary and tables



MCRD Sed Table.xls (22 KB) MCRD PARRIS
LAND SEDIMENT SA

Hi all,

Here is the data from the Site 3 sampling and the OWWTP sampling. Site 3 seems to look pretty good. Some pesticide hits that we need to discuss. The OWWTP is definitely a topic for discussion. I guess Susan Byrd needs to look at this for SCDHEC.

Tom and Priscilla,
Please let us know what you think, too.

Thanks,

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----- Forwarded by Robert Pope/R4/USEPA/US on 06/26/2003 12:06 PM -----

Mac McRae
<mmcrae@Parallaxnet.com> To: Robert Pope/R4/USEPA/US@EPA
cc:
Subject: Draft MCRD Sediment Results Data summary and
06/23/2003 11:09 AM tables

Hey Rob, please find attached the draft summary report (Word) with tables (Excel) for the MCRD Parris Island Sediment sampling at Site 3, Area 4 and the OWWTP sites. Please edit as necessary and let me know what changes need to be made.

Thanks,
Mac

<<MCRD Sed Table.xls>> <<MCRD PARRIS ISLAND SEDIMENT SAMPLING SUMMARY.doc>> (See attached file: MCRD Sed Table.xls)(See attached file: MCRD PARRIS ISLAND SEDIMENT SAMPLING SUMMARY.doc)

MCRD PARRIS ISLAND SEDIMENT SAMPLING DATA SUMMARY REPORT

The field sampling team mobilized to MCRD Parris Island, South Carolina on April 3, 2003 to collect sediment samples from Site 3, Area 4 and the Old Waste Water Treatment Plant (OWWTP) locations. The sediment sampling and analyses was performed in general accordance with the Letter work Plan (EPA, 2003) prepared for this scope of work. Deviations to the letter work plan include changes to the OWWTP sediment sampling locations as determined by the MCRD Parris Island Partnering Team and the method of the grain size analysis. Grain size analysis was performed by a Wet Sieve Gravimetric technique and not by the 1986 PSEP method as specified in the Letter Work Plan. The following paragraphs provide a brief summary of the sediment sampling activities, analyses and results at each site.

Site 3, Sediment Area 4

Three (3) samples were collected from Site 3, Sediment Area 4. The first sample designated PAI-03-SD-61-01 was co-located with sample PAI-03-SD-59. The second sample designated PAI-03-SD-62-01 was collected at a location approximately 47.8-ft due east of the first sample location. The third sample designated PAI-03-SD-63-01 was located approximately North 25-degrees East and 59-ft from the first sample location.

Sediment samples were collected at low tide utilizing a hand-held, box dredge. Water depth at the time of sampling ranged from 4-6-inches at each location. An organic layer was encountered at each location and averaged approximately 6-inches in thickness. A Sediment Sampling Summary is presented in Table 1.

Analytical test results indicate that samples PAI-03-SD-61-01 and PAI-03-SD-62-01 were in excess of EPA Region 4 Sediment Ecological Screening Values (ESVs) for the pesticides DDE, DDD and Total DDT residues. Sample PAI-03-SD-63-01, which is located approximately 59-ft northeast of the rip-rap bank, measured below sediment ESVs for DDE, DDD and Total DDT residues. Mercury, lead and arsenic analysis of the three sediment samples indicates no exceedances above applicable sediment ESVs. A Sediment Results Summary is presented in Table 2.

Old Waste Water Treatment Plant (OWWTP)

Three samples were collected from the Old Waste Water Treatment Plant (OWWTP) location. The first sample designated SAR-SD-01-01 was collected approximately 17-ft from the concrete junction box, at the base of the slope and into the marsh along the general trend of the old clay discharge pipe. The second sample designated SAR-SD-02-01 is located along the trend of the discharge pipe approximately 80.5-ft from the first sample location. The third sample was collected at what visually appeared to be the terminus of the discharge pipe approximately 161-ft from the first sample location.

Sediment samples were collected at low tide utilizing a hand-held, box dredge. Water depth was negligible at each location at the time of sampling. Additionally, organic material was not encountered at any sample location. A Sediment Sampling Summary is presented in Table 1.

Analytical test results indicate that sample SAR-SD-01-01 detected Phenanthrene, Fluoranthene, Pyrene, Benzo(a)Anthracene, Benzo-a-Pyrene, (plus Total PAHs), DDE, DDE, (plus Total DDT Residues), copper, lead and mercury above applicable sediment ESVs. Sample SAR-SD-02-01 detected arsenic, copper, lead and zinc above applicable sediment ESVs. Sample SAR-SD-03-01 that was collected the greatest distance from the shoreline and the OWWTP site measured below all applicable ESVs. The only exception is arsenic which measured concentrations over two times the arsenic ESV for sediment. A Sediment Results Summary is presented in Table 2.

**TABLE 1
SEDIMENT SAMPLING SUMMARY**

Sample Location	Sample Designation	Sample Depth	Sample Analysis					
			TCL	TAL ¹	Pesticides	PCBs	Hg, Pb, As	Other ²
Site 3, Sediment Area 4								
PAI-03-SD-61	PAI-03-SD-61-01	0 - 0.5'			X ³		X	X
PAI-03-SD-62	PAI-03-SD-62-01	0 - 0.5'			X ³		X	X
PAI-03-SD-63	PAI-03-SD-63-01	0 - 0.5'			X ³		X	X
OWWTP								
SAR-SD-01	SAR-SD-01-01	0 - 0.5'	X	X	X	X		X
SAR-SD-02	SAR-SD-02-01	0 - 0.5'	X	X	X	X		X
SAR-SD-03	SAR-SD-03-01	0 - 0.5'	X	X	X	X		X

Notes:

- (1) TAL inorganics including mercury and cyanide.
- (2) Conventional Sediment variables including TOC, grain size and moisture content.
- (3) DDX series only.

**TABLE 2
SEDIMENT RESULTS SUMMARY**

Parameter	EPA Region 4 Sediment ESV	Site 3, Sediment Area 4 Sample Results			OWWTP Sample Results		
		PAI-03-SD-61-01	PAI-03-SD-62-01	PAI-03-SD-63-01	SAR-SD-01-01	SAR-SD-02-01	SAR-SD-03-01
ORGANICS (ug/kg)							
Phenanthrene	330	NA	NA	NA	640	170	37 J
Fluoranthene	330	NA	NA	NA	1500	280	96 J
Pyrene	330	NA	NA	NA	1000	230	80 J
Benzo(a)Anthracene	330	NA	NA	NA	450	80 J	37 J
Benzo-a-Pyrene	330	NA	NA	NA	460	93 J	60 J
Total PAHS	1684	NA	NA	NA	5070	1069	350
PESTICIDES (ug/kg)							
4,4'-DDE	3.3	5.2 J	2.8 J	2.5 J	28	9.1 J	ND
4,4'-DDD	3.3	5.7 J	4.9 J	ND	58	5.4 J	ND
Total DDT Residues	3.3	11 J	7.7 J	2.5 J	100 J	14.5	ND
METALS (mg/kg)							
Antimony	12	NA	NA	NA	ND	ND	ND
Arsenic	7.24	5.3 J	5.3 J	6.4 J	1.1 J	15 J	16 J
Copper	18.7	NA	NA	NA	39	22	15
Lead	30.2	13 J	18 J	22 J	80 J	36 J	21 J
Mercury	0.13	ND	ND	ND	1.6	ND	ND
Zinc	124	NA	NA	NA	86 J	160 J	83 J
PARTICLE SIZE DATA							
8 mm % (> sand in size)		0.32	0.25	0.01	0.82	0.47	0.15
Sand %		42.62	14.11	41.21	53.44	6.48	10.28
Silt %		14.16	26.87	16.59	3.77	15.62	16.15
Clay %		5.62	10.96	7.65	1.18	5.26	4.32
% Moisture		37.28	47.80	34.53	40.79	72.17	69.10
TOTAL ORGANIC CARBON (TOC) (mg/kg)							
		6700	11,000	15,000	35,000	72,000	33,000

Notes:

Shaded cells indicate sediment ESV exceedance

NA = Not Analyzed

ND = Not Detected

J - Identification of analyte is acceptable; reported value is an estimate