N62269.AR.000382
NAWC WARMINSTER
5090.3a

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation

16 September 1996

Mr. Steve Lehman, PE, REP
Northern Division
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, PA 19113

Re: OHM Prove Out Report for August 1996
Delivery Order No. 036
Contract No. N62470-93-D-3032

The water treatment system was in operation for the entire reporting period except 66 hours for electrical system repairs, surge suppression system installation, and computer and device recalibration.

Treatment plant water sampling events occurred August 7 + 21, 1996 as per the sampling plan. Sample results are included for sampling events this period.

The water treatment system discharge was within the effluent quality average monthly limitations for the reporting period.

3,583,604 gallons of treated water have been discharged as of 0800 hrs. August 29, 1996 The discharge for this period was 1,505,944 gallons. The average discharge flowrate for this reporting period was 40 gpm.

Calculation.
Pounds of PCE removed = 0 163
Avg. PCE concentration = 12.95 ug/l
Pounds of PCE removed = (40 g/m)(60 min/hr)(630 hr)(12.95ul/l)(3.785l/g) (g/1,000,000) (lb/454g)

Please contact me at (609) 588-6348 if you have any questions.

Sincerely,

Gary R Kowalski for P. Tully

Philip A. Tully, P.E.
Project Manager

200 Horizon Center Boulevard ▫ Trenton, New Jersey 08691-1904 ▫ 609-584-8900

Distribution List with Attachments.

Lonnie Monaco-NorthDiv
Nancy Crickman-PADEP
Tom Ames-NAWCAD Warminster
Frank Kurdziel-NAWCAD Warminster
Dave Fennimore-Earth Data Inc
Mike Hunter-NAWCAD Warminster
Ernest Beatty-NAWCAD Warminster
Dave Kennedy-PADEP
Darius Ostrauskas-EPA
Al Wills-Bucks County Dept. of Health
Dave Leadenham-OHM
Gary R.Kowalski-OHM
OHM Project File 16292

	6-21-96	7-3-96	7-5-96	7-8-96	7-10-96	7-12-96	7-15-96	7-17-96	7-24-96	7-31-96	8-7-96	8-21-96
Area 'C' Influent												
Flow	n/a	50-72 gpm	31-60 gpm	28-62 gpm	0-37 gpm	0-63 gpm	0-42GPM	0-37 gpm	0-47 gpm	3 5-35 gpm	0-35 gpm	0-39 gpm
pH	7 46-7 48	7.44-7.46	7 16-7.18	7 24-7 26	7.15-7 16	7,05-7,07	7 24-7 25	4.52-4.51	7 61-7.65	7 72-7 74	7.57	7 32
Total Sus Solids mg/l	31	23	bdl	bdl	55	43	141	14	157	13	110	34
Equalization Tank Effluent												
pH	7 56-7 58	7.46-7.50	7 20-7 22	7 38-7 41	7.01-7 04	7.22-7.25	7.53-7 55	7.26	7 81-7 83	7 48-7 49	7 6	7.02
TSS	44	8	bdl	bdl	36	7	10	18	125	bdl	18	bdl
Cadmium	bdl	bdl	bdl	empty	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Copper	bdl	bdl	bdl	empty	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Lead	bdl	bdl	9 9	empty	bdl	bdl	bdl	bdl	6.4	bdl	bdl	bdl
Zinc	630	270	300	empty	250	240	180	170	200	200	190	130
Arsenic	bdl	bdl	bdl	empty	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Chromium+6	bdl	bdl	empty	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Aluminum	600	400	610	empty	260	1300	210	250	310	490	bdl	bdl
Total Iron	2300	7400	5700	empty	470	2900	300	200	830	3000	500	270
Dissolved Iron	bdl	bdl	bdl	250	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Total Maganese	35	23	31	empty	10	58	11	6.4	16	29	7	5.7
Mercury	bdl	bdl	bdl	empty	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Carbon Tetrachloride	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Tetrachloroethene	8.09	11.1	9 75	9 96	11 6	10.5	10.4	8.88	8 06	8.62	13.1	12.8
Trichloroethene	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Vinyl Chloride	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
1,1 Dichloroethylene	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Clarifier Effluent												
pH	7 54-7 57	not taken	7.04-7.08	not taken	not taken	not taken	not taken	not taken	not taken	not taken	not taken	not taken
Total Sus Solids mg/l	18	9	bdl	bdl	9	12	6	bdl	13	bdl	bdl	13
Sand Filter Effluent												
pH	7.82-7 84	7.85-7.88	7.03-7.06	7.23-7 25	not taken	7.34-7.36	7.19-7.20	7.34-7.32	7 74-7.76	7 80-7.82	7 82	6.98
Total Sus. Solids mg/l	10	10	bdl	bdl	bdl	bdl	bdl	7	bdl	bdl	bdl	bdl
Cadmium	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Copper	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Lead	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Zinc	460	230	200	180	190	170	180	170	200	140	160	150
Arsenic	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Chromium+6	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Aluminum	170	150	110	110	bdl	180	140	120	bdl	140	130	170
Total Iron	350	290	bdl	bdl	450	370	bdl	bdl	3900	180	bdl	300
Dissolved Iron	bdl	bdl	broken	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Total Maganese	27	8 9	5 5	bdl	7 5	13	6 0	7 5	bdl	7 6	6 4	0 5
Mercury	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Air Stripper Effluent												
Carbon Tetrachloride	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Tetrachloroethene	bdl	0.42	0.271	0 446	bdl	1 96	2 2	1.33	0.984	bdl	bdl	bdl
Trichloroethene	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Vinyl Chloride	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
1,1 Dichloroethylene	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Carbon Midfluent												

	6-21-96	7-3-96	7-5-96	7-8-96	7-10-96	7-12-96	7-15-96	7-17-96	7-24-96	7-31-96	8-7-96	8-21-96
Carbon Midfluent												
Carbon Tetrachloride	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Tetrachloroethene	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Trichloroethene	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Vinyl Chloride	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
1,1 Dichloroethylene	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Plant Effluent												
Flow	n/a	43 gpm avg	56 gpm avg	79 gpm avg	45 gpm avg.	50 gpm avg	50 gpm avg	48 gpm avg	54 gpm avg	49 gpm avg	40 gpm avg	40 gpm avg
pH	8 75-8 77	8 61-8 62	8.82-8 84	8 57-8 59	8 45-8 46	8 30-8 33	7.96-7 99	8 09-8 06	8 21-8 22	8 53-8.55	7.98	7.65
TSS	14	7	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Cadmium	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Copper	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Lead	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	14	bdl	bdl	bdl
Zinc	bdl	bdl	bdl	bdl	bdl	bdl	70	130	120	100	140	61
Arsenic	17	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Chromium+6	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	broken	bdl
Aluminum	170	160	130	170	130	bdl	bdl	140	bdl	190	100	bdl
Total Iron	150	bdl	bdl	bdl	bdl	bdl	350	bdl	bdl	bdl	bdl	bdl
Dissolved Iron	bdl	bdl	bdl	140	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Total Maganese	6.9	5.3	bdl	bdl	bdl	bdl	6.8	bdl	bdl	bdl	bdl	bdl
Mercury	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Carbon Tetrachloride	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Tetrachloroethene	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Trichloroethene	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Vinyl Chloride	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl
1,1 Dichloroethylene	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl

ETC

DATA MANAGEMENT SUMMARY REPORT
(DM-OC) – All Parameters Tested, Selected Samples

DATE: 08/26/96
PAGE: 1

Chain of Custody Data Required for ETC Data Management Summary Report

See Below			See Below
ETC Sample No.	*Company*	*Facility*	*Sample Point* *Date*
	DHM REMEDIATION SERVICES CORP.	NAWF	

Sample Points, Sampling Dates, and ETC Sample No.'s

Parameters	*Units*	AIRSTRPEFF 960807 BRC809	AREACINFL 960807 BRC800	EQULTANKEF 960807 BRC801	EQULTANKEF 960807 BRC802	INCPLATSEP 960807 BRC803	LEADCARBON 960807 BRC806	SANDFILTEF 960807 BRC804	SANDFILTEF 960807 BRC805
Priority Poll. Volatiles GC/MS									
Carbon tetrachloride	ug/l	< 4	-	< .4	-	-	< 4	-	-
1,1-Dichloroethylene	ug/l	< 4	-	< .4	-	-	< 4	-	-
Tetrachloroethylene	ug/l	< 2	-	13.1	-	-	< 2	-	-
Trichloroethylene	ug/l	< 2	-	< .2	-	-	< 2	-	-
Vinyl chloride	ug/l	< 2	-	< .2	-	-	< 2	-	-
Metals Analysis Data									
Aluminum	ug/l	-	-	J 55	-	-	-	130	-
Arsenic	ug/l	-	-	J 2.5	-	-	-	J 2.3	-
Cadmium	ug/l	-	-	J .84	-	-	-	< 4.0	-
Copper	ug/l	-	-	< 10	-	-	-	< 10	-
Iron	ug/l	-	-	500	< 100	-	-	J 99	< 100
Lead	ug/l	-	-	< 5.0	-	-	-	< 5.0	-
Manganese	ug/l	-	-	7.0	-	-	-	6.4	-
Mercury	ug/l	-	-	< .20	-	-	-	< .20	-
Zinc	ug/l	-	-	190	-	-	-	160	-
Groundwater Conventionals									
Total Organic Carbon	mg/l	-	-	< 1.0	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	< 1.0	-	-	-	-	-
pH	std	-	7.57	7.60	-	-	-	7.82	-
pH	std	-	7.58	7.62	-	-	-	7.83	-
Miscellaneous Parameters									
Chromium, Hexavalent	ug/l	-	-	< 25	-	-	-	< 25	-
Solids, total suspended	mg/l	-	110	18	-	< 5	-	< 5	-

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected '-'=Parameter not tested J=BMDL(Value Reported) <=ND(MDL Reported)

ETC

DATA MANAGEMENT SUMMARY REPORT
(DM-OC) - All Parameters Tested, Selected Samples

DATE 08/26/96
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Chain of Custody Data Required for ETC Data Management Summary Report

See Below	DHM REMEDIATION SERVICES CORP	NAWF	See Below	
ETC Sample No.	*Company*	*Facility*	*Sample Point*	*Date*

Parameters	*Units*	*Sample Points, Sampling Dates, and ETC Sample No.'s*							
		TRIPLTEFF 960807 BRC807	TRIPLTEFF 960807 BRC808						
Priority Poll Volatiles GC/MS									
Carbon tetrachloride	ug/l	< .4	-						
1,1-Dichloroethylene	ug/l	< .4	-						
Tetrachloroethylene	ug/l	< .2	-						
Trichloroethylene	ug/l	< .2	-						
Vinyl chloride	ug/l	< .2	-						
Metals Analysis Data									
Aluminum	ug/l	100	-						
Arsenic	ug/l	J 2.7	-						
Cadmium	ug/l	< 4.0	-						
Copper	ug/l	< 10	-						
Iron	ug/l	J 60	J 26						
Lead	ug/l	< 5.0	-						
Manganese	ug/l	J 4.1	-						
Mercury	ug/l	< .20	-						
Zinc	ug/l	140	-						
Groundwater Conventionals									
Total Organic Carbon	mg/l	3.4	-						
Total Organic Carbon	mg/l	3.5	-						
pH	std	7.98	-						
pH	std	8.0	-						
Miscellaneous Parameters									
Chromium, Hexavalent	ug/l	-	-						
Solids, total suspended	mg/l	< 5	-						

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected '-'=Parameter not tested J=BMDL(Value Reported) <=ND(MDL Reported)

ETC

DATA MANAGEMENT SUMMARY REPORT
(DM-OC) - All Parameters Tested, Selected Samples

DATE: 09/06/96
PAGE: 1

Chain of Custody Data Required for ETC Data Management Summary Report

See Below ETC Sample No.	Company	Facility	See Below Sample Point	Date
	OHM REMEDIATION SERVICES CORP.	RMMF		

Sample Points, Sampling Dates, and ETC Sample No.'s

Parameters	Units	AIRSTRPEFF 960821 BRH509	AIREACINFL 960821 BRH500	EQULTANKEF 960821 BRH501	EQULTANKEF 960821 BRH502	INOPLATSEP 960821 BRH503	LEADCARBON 960821 BRH506	SANDFILTEF 960821 BRH504	SANDFILTEF 960821 BRH505
Priority Poll. Volatiles GC/MS									
Carbon tetrachloride	ug/l	< .4	-	< .4	-	-	< .4	-	-
1,1-Dichloroethylene	ug/l	< .4	-	< .4	-	-	< .4	-	-
Tetrachloroethylene	ug/l	< 2	-	12.8	-	-	< .2	-	-
Trichloroethylene	ug/l	< .2	-	< .2	-	-	< .2	-	-
Vinyl chloride	ug/l	< .2	-	< .2	-	-	< .2	-	-
Metals Analysis Data									
Aluminum	ug/l	-	-	J 94	-	-	-	170	-
Arsenic	ug/l	-	-	< 8.0	-	-	-	< 8.0	-
Cadmium	ug/l	-	-	J .81	-	-	-	< 4.0	-
Copper	ug/l	-	-	< 10	-	-	-	< 10	-
Iron	ug/l	-	-	270	< 100	-	-	300	< 100
Lead	ug/l	-	-	< 5.0	-	-	-	< 5.0	-
Manganese	ug/l	-	-	5.7	-	-	-	5.5	-
Mercury	ug/l	-	-	< .20	-	-	-	< .20	-
Zinc	ug/l	-	-	130	-	-	-	150	-
Groundwater Conventionals									
Total Organic Carbon	mg/l	-	-	2.6	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	2.6	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	2.8	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	2.8	-	-	-	-	-
pH	std	-	7.32	7.02	-	-	-	6.98	-
pH	std	-	7.32	7.03	-	-	-	7.01	-
Miscellaneous Parameters									
Chromium, Hexavalent	ug/l	-	-	< 25	-	-	-	< 25	-
Solids, total suspended	mg/l	-	34	< 5	-	13	-	< 5	-

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected *=Parameter not tested J=BMDL(Value Reported) <=ND(MDL Reported)

ETC

DATA MANAGEMENT SUMMARY REPORT
(DM-OC) — All Parameters Tested, Selected Samples

DATE: 09/06/96
PAGE: 2

Chain of Custody Data Required for ETC Data Management Summary Report

See Below ETC Sample No.	Company	Facility	See Below Sample Point	Date
	OHM REMEDIATION SERVICES CORP	NMF		

Parameters	Units	TRIP BLANK 960821 BRH510	TRIP EFF 960821 BRH507	TRIP EFF 960821 BRH508					
		Sample Points, Sampling Dates, and ETC Sample No.'s							
Priority Poll. Volatiles GC/MS									
Carbon tetrachloride	ug/l	< .4	< .4	-					
1,1-Dichloroethylene	ug/l	< .4	< .4	-					
Tetrachloroethylene	ug/l	< .2	< .2	-					
Trichloroethylene	ug/l	< .2	< .2	-					
Vinyl chloride	ug/l	< .2	< .2	-					
Metals Analysis Data									
Aluminum	ug/l	-	J 90	-					
Arsenic	ug/l	-	< 8.0	-					
Cadmium	ug/l	-	< 4.0	-					
Copper	ug/l	-	< 10	-					
Iron	ug/l	-	< 100	J 20					
Lead	ug/l	-	< 5.0	-					
Manganese	ug/l	-	< 5.0	-					
Mercury	ug/l	-	< .20	-					
Zinc	ug/l	-	61	-					
Groundwater Conventionals									
Total Organic Carbon	mg/l	-	-	-					
Total Organic Carbon	mg/l	-	-	-					
Total Organic Carbon	mg/l	-	-	-					
Total Organic Carbon	mg/l	-	-	-					
pH	std	-	7.65	-					
pH	std	-	7.68	-					
Miscellaneous Parameters									
Chromium, Hexavalent	ug/l	-	< 25	-					
Solids, total suspended	mg/l	-	< 5	-					

Footnotes: BMDL=Below Method Detection Limit ND=Parameter not detected -=Parameter not tested J=BMDL(Value Reported) <=ND(MDL Reported)