



DEPARTMENT OF THE NAVY
CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
300 HIGHWAY 361
CRANE, INDIANA 47522-5001

5090 IN REPLY REFER TO:
Ser 095/U5107

U.S. Environmental Protection Agency, Region V
Region V Waste Management Division
Attn: Ms. Carol Witt-Smith (HRP-8J)
77 West Jackson Blvd.
Chicago, IL 60604

26 APR 1995
26

Dear Ms. Witt-Smith:

On March 21, 1995, the Morrison Knudsen Corporation forwarded to your office the following documents:

- 1) Work Plan and Task specific Site Safety and Health Plan for Solid Waste Management Units #14/00 and #17/04
- 2) General Project Plans

This letter is to acknowledge submittal of these documents, and to provide the required certification statement, found in enclosure (1). The documents should be considered draft versions and will be finalized, pending comments from your office.

Enclosure (2) is a narrative concerning the work at solid waste management unit #20/00. This submittal explains the events that took place, and the remedial measures implemented, as previously discussed.

NAVSURFWARCENDIV Crane point of contact is Mr. Thomas J. Brent, Code 09510, telephone 812-854-6160.

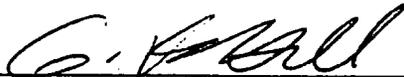
Sincerely,

A handwritten signature in black ink that reads "G. K. Hill".

G. K. HILL
Deputy Director, Public Works Directorate
By direction of the Commander

Copy to:
SOUTHNAVFACENCOM, (CODE 1864)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



SIGNATURE

G. K. HILL
Deputy Director
Public Works Directorate

26 APR 1995

TITLE

DATE

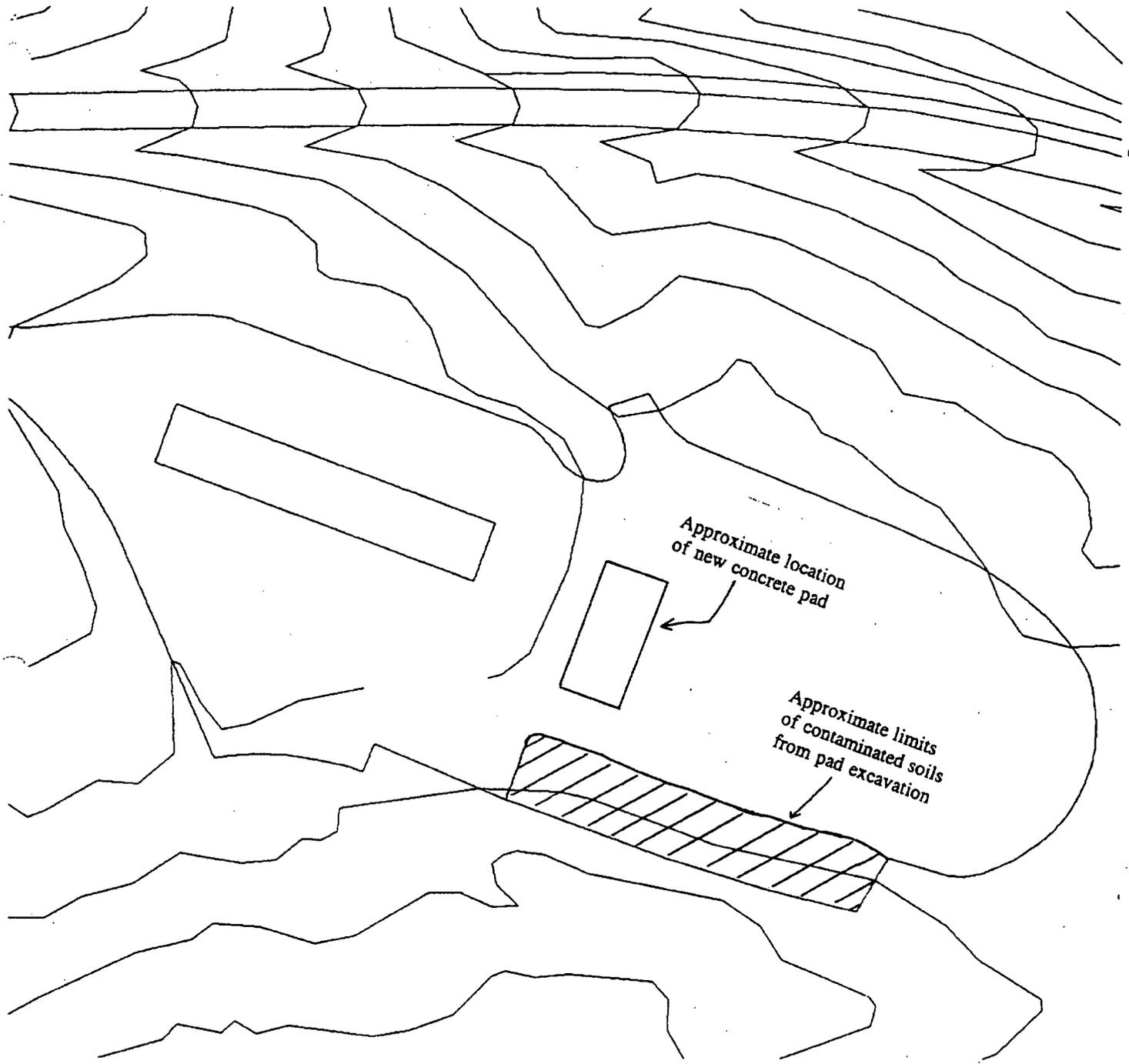
Enclosure (1)

QA/QC TEST AREA SOILS NARRATIVE

On March 10, 1995 contractors, under the supervision of the Officer In Charge of Construction, began installing a concrete pad at the Crane Army Ammunition Activity quality assurance/quality control test area (QA/QC Lot), which is solid waste management unit #20/00. The pad is to be used as a surface for conducting flare and smoke testing, thereby improving the environmental conditions of the testing operations. The Environmental Protection Department (Code 095) at Crane Division, Naval Surface Warfare Center (NSWC Crane) was notified of the pending job on March 7, 1995. Pad construction began before Code 095 was able to respond with guidance.

The contractor excavated an area approximately 70' l x 30' w x 1' d in preparation for the pad. The excavated soils were spread and graded along the southeast corner of the site within the perimeter fence (see figure 1). The spread soils covered an area approximately 190' x 35'. Three composite samples were taken on March 10, 1995 of the spread soils and sent to the NSWC Crane Explosives Sciences Branch for analyses. Analyses requested were total metals and explosives. The results of the analyses are provided in attachment (1).

Because the soils tested positive for explosives, the area of the spread soils were covered with plastic to prevent run-off. NSWC Crane, in consultation with the U.S. EPA decided to excavate the spread soils and take them to the Ammunition Burning Grounds (ABG) to be flashed. Flashing was done by placing the soils on top of wood dunnage on the contaminated scrap burn pads. The soils were burned, turned, and burned again. The resultant ash and soil mixture was then placed in the roll-off boxes at the ABG and taken off-site for disposal.



CAAA QA/QC Lot

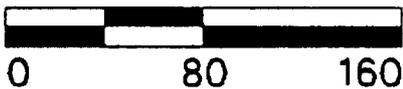


Figure (1)

- Boundary. 
- Hydro. 
- Crane Roads 
- TOPOB4 
- TOPOA 
- BLDGTX 
- BLDGS 





DEPARTMENT OF THE NAVY
CRANE DIVISION
NAVAL SURFACE WARFARE CENTER
300 HIGHWAY 361
CRANE, INDIANA 47522-5001

IN REPLY REFER TO:
8000/5
Ser 4076/5096
03 APR 1995

MEMORANDUM

From: 4076
To: 095 (T. Brent)

Subj: ANALYSIS OF PW SOIL SAMPLES

Ref: (a) Title 40, Code of Federal Regulations, 1992, Part 261, Identification and Listing of Hazardous Wastes

Encl: (1) Explosive Analysis Results of PW Soil Samples
(2) TCLP Metals Analysis Results of PW Soil Samples

1. Three soil samples were received on 13 March 1995 for analysis of explosives HMX, RDX and TNT. Toxicity Characteristic Leaching Procedure (TCLP) metals, found in reference (a), were also determined. The samples were collected by Code 09 personnel and delivered to Building 2707.

2. Prior to High Pressure Liquid Chromatography (HPLC) analysis for explosives the samples were passed through a U. S. #18 standard sieve (which had 1 millimeter openings). The soil samples were prepared for metals analysis by Atomic Absorption Spectrophotometer technique by digesting them in a CEM Model 81D Microwave Digestion System.

3. **Chemical Analysis:** The explosives present in the soil samples were extracted using acetone as a solvent. That is, three ten gram portions of each soil sample were extracted with acetone and carried through the remaining steps. The next step involved evaporating the acetone solvent. The third step involved dissolving the residue in acetonitrile. The acetonitrile solution was then subjected to HPLC separation and analysis. The HPLC analysis for the presence of HMX, RDX or TNT involved the use of an ultraviolet detector set at 425 nanometers. The explosive analysis results are summarized in enclosure (1) where it is apparent two of the three soil samples have explosive contamination at low concentration levels. Results indicate that pockets of explosive are present in the soil although the two samples taken as a whole have a low level of explosive contamination.

TCLP metals (cadmium, chromium, lead, silver, barium, arsenic, selenium and mercury) are listed in method 1311, reference (a). The maximum concentration level listed for each metal is for the TCLP extract. Method 1311 calls for a 100 gram sample of solid waste to be extracted with 2 liters of extraction solution. As an example, it would take 10 mg of arsenic

contained in 100 grams of solid waste to provide enough arsenic to exceed the 5.0 mg/l arsenic maximum level for the Toxicity Characteristic in TCLP extract. If the TCLP extract maximum level value is multiplied by 20 the result is the amount of metal needed in the waste so that enough metal would be present, assuming 100 percent extraction efficiency, for the TCLP extract to exceed the maximum limit of the Toxicity Characteristic criteria.

Total content of each metal listed above was determined on the soil samples. The analysis results are listed in enclosure (2). The three samples did not exceeded the twenty times the maximum level for the Toxicity Characteristic in TCLP extract. This indicates that it is not possible for the samples to meet the Toxicity Characteristic of hazardous waste..

3. Code 40 point of contact is Mr. Louis Schwenk, Code 4076, extension 5511. Reference Sciences Branch sample number N95-0080 when requesting further information.


B. R. HUBBLE

Copy to:
40211

EXPLOSIVE ANALYSIS RESULTS FOR PW SOIL SAMPLES

<u>SAMPLE ID</u>	<u>HMX</u> <u>MG/KG</u>	<u>RDX</u> <u>MG/KG</u>	<u>TNT</u> <u>MG/KG</u>	<u>AVG. MG/KG</u> <u>3 RUNS</u>	<u>AVG. MG/KG</u> <u>3 RUNS</u>	<u>AVG. MG/KG</u> <u>3 RUNS</u>
3182-1-03105	< 0.1	< 0.1	< 0.1			
3182-1-03105	< 0.1	< 0.1	< 0.1			
3182-1-03105	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
3182-2-03105	2.46	44.7	< 0.1			
3182-2-03105	< 0.1	< 0.1	< 0.1			
3182-2-03105	< 0.1	< 0.1	< 0.1	0.82	14.9	< 0.1
3182-3-03105	16.6	213.9	< 0.1			
3182-3-03105	< 0.1	< 0.1	< 0.1			
3182-3-03105	< 0.1	< 0.1	< 0.1	5.52	71.3	< 0.1

DETECTION LIMITS: HMX = 0.1 MG/KG
RDX = 0.1 "
TNT = 0.1 "

TCLP METALS ANALYSIS RESULTS OF PW SOIL SAMPLES

SAMPLE ID	THREE ANALYSIS RUNS							
	AVERAGE CONCENTRATION, MG/KG TOTAL METAL IN SOIL							
	CR	PB	CD	AS	SE	AG	BA	HG
3182-1-03105	34.5	65.0	1.0	6.5	< 0.1	1.3	264.2	0.2
3182-2-03105	36.0	79.8	1.3	6.9	< 0.1	1.6	326.9	0.2
3182-3-03105	34.9	48.8	1.6	7.0	< 0.1	1.0	315.3	0.3
TCLP EXTRACT								
MAXIMUM X 20	100.0	100.0	20.0	100.0	20.0	100.0	2000	4.0
DETECTION LIMITS, MG/KG=	2.0	5.0	1.0	0.1	0.1	1.0	50	0.1

Draft

General Project Plans

04/26/95

Replaced by

Draft

General Project Plans

09/12/95

**(NSWC) CRANE WORK PLAN
NAVAL SURFACE WARFARE CENTER**

**SOLID WASTE MANAGEMENT UNITS
#14/00 AND #17/04**

**NSWC CRANE
CRANE, INDIANA**

**Revision B
March 10, 1995**

**CONTRACT N62467-93-D-1106
DELIVERY ORDER 0009
STATEMENT OF WORK 007**

Prepared By:

**MORRISON KNUDSEN CORPORATION
2420 MALL DRIVE
CORPORATE SQUARE 1, SUITE 211
NORTH CHARLESTON, SOUTH CAROLINA 29406**

APPROVALS

Michael Fundley CRU,CSA
MK Safety and Health Program Manager

3/21/95
Date

Gregory J. Jones
MK Quality Program Manager

20 - March - 95
Date

[Signature]
MK Sr. Project Manager

20 Mar 95
Date

[Signature]
MK Program Manager

20 March 95
Date

ACCERTANCE

[Signature]
U.S. Navy Responsible Authority

13 APR 95
Date