DETAILS

Prepared by: Robert A. Brown 10-3-78
R. A. Brown, Radiation Specialist Date
Fuel Facilities and Materials Safety Section
Fuel Facility and Materials Safety Branch

Dates of Inspection: August 7-11 and 28-29, 1978

Reviewed by: J. P. Potter 10/3/78
J. P. Potter, Chief Date
Fuel Facilities and Materials Safety Section
Fuel Facility and Materials Safety Branch

1. Persons Contacted

Walter Pavlo, Plant Manager, L. B. Foster Company
Everett Harris, Assistant Plant Manager, L. B. Foster Company
B. DeBord, West Virginia Health Department
Employees of Atcor Inc. on duty at the L. B. Foster Plant
Marie Wood, Parkersburg Sentinel
Denise and Robert White, Elizabeth, W. Va. citizens group
Robert Graham, WSAZ-TV, Huntington, W. Va.

2. Instrument Surveys

a. On August 29, 1978, a survey was conducted of parts of the storm drainage system. Measurements were made with a 1 inch Ludlum NAI scintillation crystal. Background was determined to be 2200 counts per minute. The first manhole surveyed indicated readings of 4000, 7000 and 7500 counts per minute at 2, 6 and 7 foot depths beneath the surface, respectively. The 7 foot level corresponds to the bottom of the sewer. The second manhole surveyed showed readings of 6500, 7000, 7500, 7500, 8000 and 8000 counts per minute at depths of 6, 8, 10, 12, 14, 16 and 18 feet respectively.

b. Preliminary data received from the aerial survey indicated an area, south of the Foster property above background radiation levels. The area in question is on property owned by Monongahela Power and is approximately 1000 ft. south of the Foster property line and 400 to 500 feet east of the Ohio River. Radiation levels in this area measured 5000 counts per minute at 6 inches above the ground; background in this area was 1600 counts per minute. The instrument used for the survey was a one inch Ludlum sodium iodide scintillation crystal.

Mr. Mel Young of Amax was informed of these results by telephone on August 11, 1978.

c. Atcor Incorporated's survey to date is indicated on Attachment A.

Area A: Samples in this area have been obtained at depths of 2 to 4 feet from a grid pattern of 25 foot squares.

Area B, C, D: These areas have been surveyed to a maximum depth of approximately 20 feet. The survey consists of lowering a 1 inch scintillation crystal down the hole and recording the reading at intervals of 2 feet.

Ground level survey: This area has been surveyed 6 inches above ground level with a one inch scintillation crystal.

d. It appears that most of the radioactivity in the storm sewer manholes is associated with the clays used in the brick. The Monongahela radioactivity may or may not be naturally occurring.

3. Environmental Samples

A. Soil Samples

Two additional soil samples were obtained during this inspection. On August 10, 1978, a sample designated AMS-31 was collected from the shoreline of the Ohio River approximately 50 feet downstream for the storm drain outfall. This sample was taken from an area which indicated approximately twice natural background as measured with a 1 inch Ludlum NAI scintillation crystal.

Soil sample AMS-30 was obtained on August 11, 1978, from an area indicating radiation levels above background by the aerial survey as described in 2B of this report.

b. Water Samples

A sample (AMW-11) of the discharge into the Ohio River from the storm drainage system was obtained on August 10, 1978. This discharge was again sampled (AMW-12) on August 29, 1978; a sample of the water from the drinking fountain in "D" building was also obtained on August 29 (AMW-13). These water samples are being analyzed for gross alpha and gross beta activity.

c. Vegetation

A sample of corn growing on the western part of the L. B. Foster property was obtained on August 29, 1978.

All the above mentioned environmental samples are being analyzed at the DOE/RESL facility at Idaho Falls, Idaho. Data from these samples will be included in a later report.

4. Interviews

a. West Virginia Health Department

On August 10, 1978, Mr. B. DeBord of the West Virginia Department of Health met Mr. R. A. Brown (Region II inspector) at the L. B. Foster site for the purpose of observing the survey in progress and to be briefed on inspection activities to date.

b. Parkersburg Sentinel

On August 7, 1978, R. A. Brown, D. Montgomery and K. Clark of the NRC and Jac Watson of EG&G met with Marie Wood, a reporter for the Parkersburg Sentinel. Ms. Wood was briefed on the purpose and schedule of the aerial survey and other recent inspection activities.

c. WSAZ-TV

Mr. Bob Graham of WSAZ-TV (Channel 3), Huntington, W. Va., interviewed R. A. Brown at the L. B. Foster site on September 11, 1978. The purpose of the interview was to discuss the preliminary findings of the EG&G aerial survey.

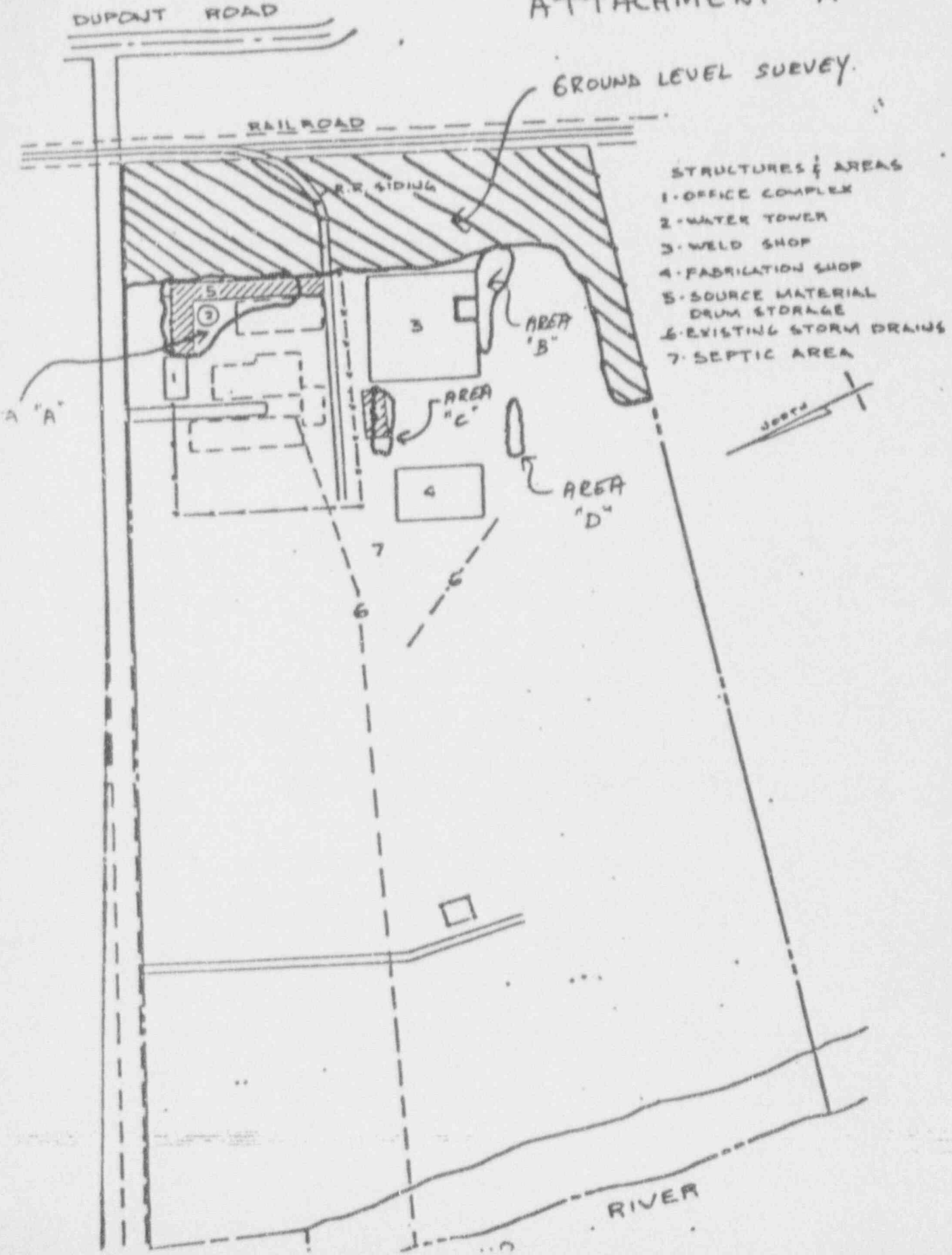
d. Other Media Contacts

On August 8, 1978, approximately five West Virginia television reporters interviewed D. Montgomery and K. Clark at the Parkersburg Airport. All interviews were in regard to details of the aerial survey.

e. Local Citizens Group

Denise and Robert White of Elizabeth, W. Va., who represented an as yet unnamed citizens group met with R. A. Brown, D. Montgomery, K. Clark and EG&G personnel on August 9, 1978. Their concerns were with potential health hazards at the L. B. Foster site and nuclear waste and power generation in general.

ATTACHMENT A



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

Report No.: 78-05

License No.: SMA-1219 and STB-440

Licensee: AMAX Specialty Metals, Inc.
P. O. Box 32
Akron, New York 14001

Facility Name: Parkersburg Facility

Inspection at: Washington, West Virginia

Inspection conducted: September 14 and 15, 1978

Inspector: R. L. Woodruff

Approved by: _____ 10/6/78
J. P. Potter, Chief Date
Fuel Facilities and Materials Safety Section
Fuel Facility and Materials Safety Branch

Inspection Summary

Inspection on September 14 and 15, 1978 (Report No. 78-05)
Areas Inspected: Special, unannounced inspection at the AMAX/Foster Washington plant to conduct an onsite evaluation of the ATCOR/AMAX environmental survey, and collection of environmental samples. The inspection involved approximately 12 inspector-hours by one NRC inspector.
Results: No items of noncompliance or deviations were identified.

DETAILS I

Prepared by: Richard L. Woodruff 10/5/78
Date

R. L. Woodruff, Radiation Specialist
Fuel Facilities and Materials Safety Section
Fuel Facility and Materials Safety Branch

Dates of Inspection: September 14 and 15, 1978

Approved by: J. P. Potter 10/4/78
Date

J. P. Potter, Chief
Fuel Facilities and Materials Safety Section
Fuel Facility and Materials Safety Branch

1. Persons Contacted

Walter Pavlo, Plant Manager, L. B. Foster Company
Everett Harris, Assistant Plant Manager, L. B. Foster Company
Daniel Milewski, ATCOR Inc., Job Supervisor
Stan Thielke, AMAX, Inc.
Owen Sullivan, ATCOR, Inc.

2. Environmental Samples

One quart samples of water were taken from 2 feet deep survey holes located in the "old fenced area". These samples were designated as AMW-14 and AMW-15, and mailed to the DOE/RESL in Idaho Falls for analysis. Sample number AMW-14 came from the hole in grid number 19, and sample number AMW-15 came from the hole in grid number 21. The holes located in grids 19, 20, and 21, were the only survey sample holes that contained water on this date. The survey data recorded by ATCOR personnel when the holes were excavated are as follows:

Item	Grid #19	Grid #21
Ludlum* reading at 6 inches	60K	46K
Ludlum reading at 2 feet (minus)	80K	30K
Ludlum reading on bottom sample	2.2K	2.6K
Ludlum reading at surface sample	16K	5K
Water sample number	AMW-14	AMW-15

The above areas are located north of the water tower. The holes revealed a characteristic black layer of material on the surface about 8 inches thick; whereas, the subsurface consisted of a sand, clay, and pebble mixture.

*One inch NaI scintillation detector

Additional samples of material were taken from a ditch area located west of the fenced area and north of the railroad tracks. One sample consisted of a black material that was determined to be contaminated (while using the ATCOR Ludlum 1 X 1 inch NaI(TL) crystal) and the second sample was taken from a rusty drum of material that appeared to have oxidation products inside. These samples are stored at the Region II office until a need for further analysis is determined.

3. Discussions

Discussions with above contacts revealed the following:

a. The water-jet drilling is about 80 percent complete, additional holes will be jetted south of building 4, south and between buildings 3 and 4, along the southern perimeter of the dump area, and inside the dump area. No work (water jetting) had been performed since Thursday, September 7, when the drillers struck pyrophoric materials. On September 14, the pipe was disconnected from the water and checked for explosive H_2 gas. Additional pipes were jetted into the ground without incident during the afternoon.

b. Most of the previously drilled holes were inspected and found to be partially "caved-in". Following evaluation of the raw survey data collected by ATCOR, Mr. Milewski was requested to have certain of the holes (#s 659, 678, and 698) re-drilled to a greater depth and additional survey readings taken to determine the depth of the buried radioactive contamination. Mr. Milewski stated that the holes may have caved-in because the pipes were pulled too soon after the drilling procedure.

c. The ATCOR survey data was documented, in field notes, but was still in a "raw" state. The data will require additional refinement before the results can be properly evaluated. A daily log book is maintained of the survey activities and quality assurance checks of the portable instrumentation and background measurements. Surface samples and samples taken at a depth of two feet have been collected in and to the east of the old fenced area. Ten percent of these samples (including the hot samples) will be sent to Teledyne for analysis. Survey data has been recorded for the Ludlum readings taken on the water-jet hole samples; however, these samples consisted of a composite of the material that flowed up and out of the hole during drilling, and because the samples probably contained zirconium compounds, they were subsequently dumped back onto

the ground in the contaminated areas. During the discussions, Mr. Milewski agreed that a sampling device could and would be fabricated so that hole scrapings could be obtained for analysis. He also agreed to wait until a NRC representative could be present before the hole interiors are sampled and before any holes are back-filled. The water-jet process was expected to require a minimum of three more days.

d. During the discussions, the inspector related to Mr. Thielke and to Mr. Milewski the need to determine where materials are located, their isotopic nature, and how deep the contamination extends under the surface, and enough data to show a three dimensional contour of the contamination levels.

e. A survey was conducted by ATCOR to determine if any contamination existed at the new construction site where Buildings 3 and 4 will be moved. The survey indicated that the new site is free of contamination with exception of a north-south ditch located just west of the present sewage treatment unit. This contamination probably came from storm drains that discharge into the area from the northeast and southeast directions. A copy of the survey was obtained for the docket files. The inspector made a visual survey of the new site area, no soil materials were found that would indicate the presence of contamination, (i.e. rubble, cinder-like material, or grayish-black materials found on the old site).

f. Preliminary ATCOR data shows that the railroad track bed is contaminated along side of the rails as well as the ties and the ballast materials. This material most likely came from loading operations at the tracks and from storm drains running north and south, that empty into the railroad bed. Mr. Pavlo was aware of this problem and was concerned about potential delays in their work if the siding were closed down during the ultimate cleanup activities. A road now exists at the western extreme of the tracks that will have to be crossed so that the tracks can be extended west past the sewer treatment unit to the "new site". Mr. Pavlo and Mr. Harris were told that contaminated road bed materials could be moved, provided the materials were piled in another known contaminated area.

g. ATCOR representatives stated that smears had been taken inside the buildings, but outside air samples have not been taken. The dust problem on windy days is being controlled by L. B. Foster with the application of oil to the road surfaces. No air sampling is presently planned by ATCOR.

h. Mr. Milewski stated that the Ludlum survey equipment would be used on another job next Monday and Tuesday, but would again be available for their use on Wednesday, September 20, 1978.

i. Upon arrival in Charleston, Mr. Debord of the West Virginia Health Department was called and a progress report on the survey activities was provided over the telephone. He was also informed of our intention to visit the site on September 19 for the purpose of collecting additional environmental samples from the water drilled holes.

4. Offsite survey activities were to be conducted when arrangements with adjacent landowners were complete.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

Report No.: 78-06

License Nos.: SMA-1219 and STB-440

Licensee: AMAX Specialty Metals, Inc.
P. O. Box 32
Akron, New York 14001

Facility Name: Parkersburg Facility

Inspection at: Washington, West Virginia

Inspection conducted: September 19-21 and 28, 1978

Inspector: Robert A. Brown

Approved by: John Potter 10/6/78
J. P. Potter, Chief Date
Fuel Facilities and Materials Safety Section
Fuel Facility and Materials Safety Branch

Inspection Summary

Inspection on September 19-21 and 28, 1978 (Report No. 78-06)
Areas Inspected: Special, announced inspection at the Amax/Foster Washington plant to conduct sub-surface radiation measurements at the site area; to obtain sub-surface soil samples; and to collect an off-site water sample. The inspection involved approximately 30 inspector-hours by one NRC inspector.
Results: No items of noncompliance or deviations were identified.

DETAILS

Prepared by: John Potter/jrs 10/4/78
Date

R. A. Brown, Radiation Specialist
Fuel Facilities and Materials Safety Section
Fuel Facility and Materials Safety Branch

Dates of Inspection: September 19-21 and 28, 1978

Reviewed by: John Potter 10/6/78
Date

J. P. Potter, Chief
Fuel Facilities and Materials Safety Section
Fuel Facility and Materials Safety Branch

1. Persons Contacted

Walter Pavlo, Plant Manager, L. B. Foster Company
Everett Harris, Assistant Plant Manager, L. B. Foster Company
Harold Kall, Vice President, Amax Specialty Metals, Inc.
Gene Lawson, Division Manager, Spiraweld Div., L. B. Foster Company
Fred Shinners, Borg-Warner Chemicals
Atcor, Inc., employees on duty at the L. B. Foster Plant

2. Instrument Surveys

The instrument used for obtaining sub-surface radiation measurements was an Eberline PRM-5 with a SPA-3 2"x2" NaI scintillation crystal. The background was determined to average 450 counts per minute. The measurements were taken in holes which had been water-jetted by Atcor, Inc. The results are included in Attachment A. The holes are identified by the grid number (grid system established by Atcor, Inc.) in which they are located.

In addition, three holes were surveyed with the water-jetting pipe in place and these are identified on Attachment A as Grid numbers 678, 679 and 698.

Attachment B shows the relative location of these holes.

3. Environmental Samples

A. Water Sample

A water sample, designated AMW-16, was obtained from Borg-Warner well number 15, located north of the L. B. Foster property. This sample was obtained as a result of concerns expressed by W. L. Harvey, President, Borg-Warner Chemicals: Analysis for gross alpha and gross beta activity will be performed at the DOE/RESL facility, Idaho Falls, Idaho.

b. Soil Samples

Samples of soil were obtained at various depths from holes water-jetted by Atcor, Inc. The grid number of the hole, the depth beneath the surface from which the sample was obtained, and the sample designation are indicated on Attachment C. Samples designated AMS-47 and AMS-48 were obtained from 2 of 10 holes which the L. B. Foster Company had drilled on the new building construction site. These samples have also been sent to the DOE/RESL facility in Idaho for analysis.

ATTACHMENT A

Grid Number	Number of Feet Below Surface	Counts Per Minute	Number of Times Background
921	0	47000	104.4
	2	5000	11.1
	4	2200	4.9
831	0	10000	22.2
	1	9000	20.0
	2	3000	6.7
	4	800	1.8
719	0	10000	22.2
	1	38000	84.4
	2	17000	37.8
	4	30000	66.7
	5	23000	51.1
643	0	8000	17.8
	2	12000	26.7
	4	12000	26.7
661	0	2000	4.4
	2	20000	44.4
	4	39000	86.7
782	0	600	1.3
	2	500	1.1
	4	450	1.0
	6	500	1.1
	8	475	1.1
701	0	1500	3.3
	2	1800	4.0
	4	10000	22.2
	6	3500	7.8
906	0	1200	3.3
	2	4200	4.0
	4	1000	22.2
	6	500	7.8
1236	0	3500	7.8
	2	4200	9.3
	4	8000	17.8
	6	5000	11.1
1177	0	4800	10.7
	2	11000	24.4
	4	11000	24.4
	6	6000	13.3

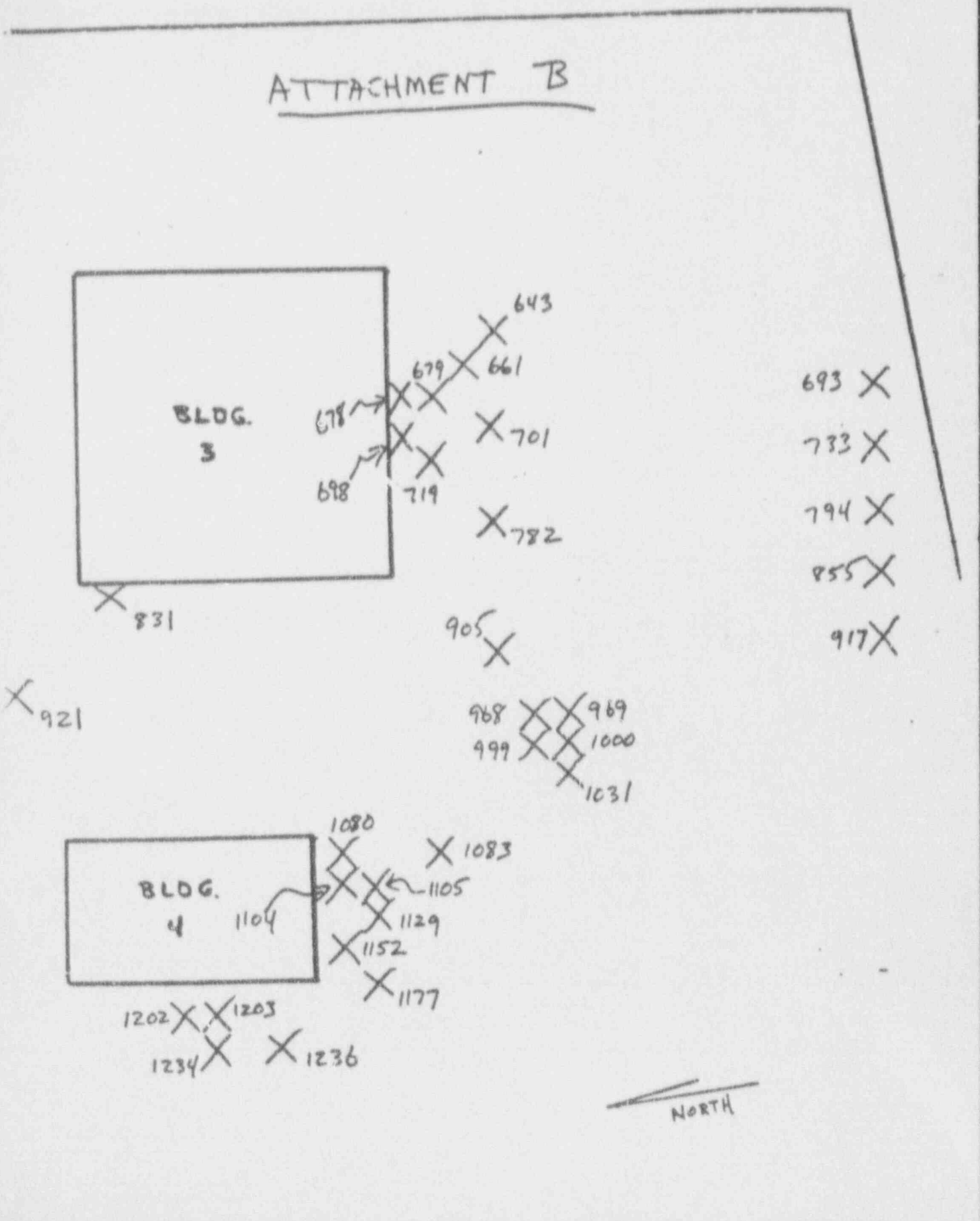
Grid Number	Number of Feet Below Surface	Counts Per Minute	Number of Times Background
1129	0	4500	10.0
	2	10000	22.2
	4	6000	13.3
1105	0	2500	5.6
	2	15000	33.3
	4	10000	22.2
	6	3000	6.7
	8-10	2200	4.9
1083	0	8000	17.8
	2	20000	44.4
	4	8000	17.8
	6-10	2500	5.6
1031	0	36000	80.0
	2	110000	244.4
	4	40000	88.9
	6	45000	100.0
1000	0	11000	24.4
	2	33000	73.3
969	0	7000	15.6
	2	35000	77.8
	4	12000	26.7
	6	4800	10.7
	8	2500	5.6
999	0	4000	8.9
	2	15000	33.3
	4	6000	13.3
	6	2500	5.6
	8	1800	4.0
968	0	8000	17.8
	2	10000	22.2
	4	3500	7.8
	6	1200	2.7
	10	450	1.0
1080	0	3500	7.8
	2	9000	20.0
	4	6000	13.3
	6	3500	7.8
	8	1800	4.0
1104	0	14000	31.1
	2	5000	11.1
	4	12000	26.7
	6	6000	13.3
	8	1500	3.3
	10	750	1.7
1152	0	400	< 1.0
	2	2000	4.4

Grid Number	Number of Feet Below Surface	Counts Per Minute	Number of Times Background
1202	0	5000	11.1
	2	2800	6.2
	4	2600	5.8
	6	3200	7.1
	8	3200	7.1
	10	2800	6.2
1203	0	8000	17.8
	2	14000	31.1
	4	3500	7.8
1234	0	8000	17.8
	1	17000	37.8
	2	3500	7.8
	4	2300	5.1
	6	2400	5.3
	8	2500	5.6
	10	2300	5.1
	12	1500	3.3
678*	0	160,000	355.6
	3	>500,000	>1111.1
	5	390,000	866.7
	7	430,000	955.6
	9	460,000	1022.2
	11	230,000	511.1
	13	140,000	311.1
	15	120,000	266.7
	17	70,000	155.6
	19	33,000	73.3
673*	0	8000	17.8
	2	18000	40.0
	4	33000	73.3
	6	40000	88.9
	8	43000	95.6
	10	41000	91.1
	12	10000	22.2
	14	12000	26.7
	15	10000	22.2
698*	0	20000	44.4
	2	5000	11.1
	4	44000	97.8
	6	150,000	333.3
917	0	450	1.0
	2	600	1.3
855	0	500	1.1
	3	500	1.1

Grid Number	Number of Feet Below Surface	Counts Per Minute	Number of Times Background
794	0	475	1.1
	2	600	1.3
	4	475	1.1
	5	475	1.1
733	0	450	1.0
	2	600	1.3
	4	600	1.3
	6	500	1.1
	7	475	1.1
693	0	450	1.0
	2	500	1.1
	4	475	1.1
	5	475	1.1

* These measurements made through the steel pipe used for water-jetting.

ATTACHMENT B



ATTACHMENT C

Grid Number	Depth of Sample	Sample Number
1031B	8'	AMS-32
831	1'	AMS-33
1031B	1'	AMS-34
1202	10'	AMS-35
831	4'	AMS-36
906	9'	AMS-37
1203	2'	AMS-38
679A	6'	AMS-39
643	6'	AMS-40
921	4'	AMS-41
701A	6'	AMS-42
917	4'	AMS-43
794	2'	AMS-44
733	2'	AMS-45
693	2'	AMS-46
LBF-4	2'	AMS-47
LBF-7	2'	AMS-48