IBM

REMEDIAL ACTION PROJECT
Building 906
Final Report
Poughkeepsie, N.Y.

Appendices

March, 1984
Ref. No. 1315

CONESTOGA-ROVERS & ASSOCIATES LIMITED

APPENDIX A-1

SOIL SAMPLE PREPARATION AND HANDLING PROTOCOL

SOIL SAMPLE PREPARATION AND HANDLING

Soil samples were obtained and prepared in the following manner:

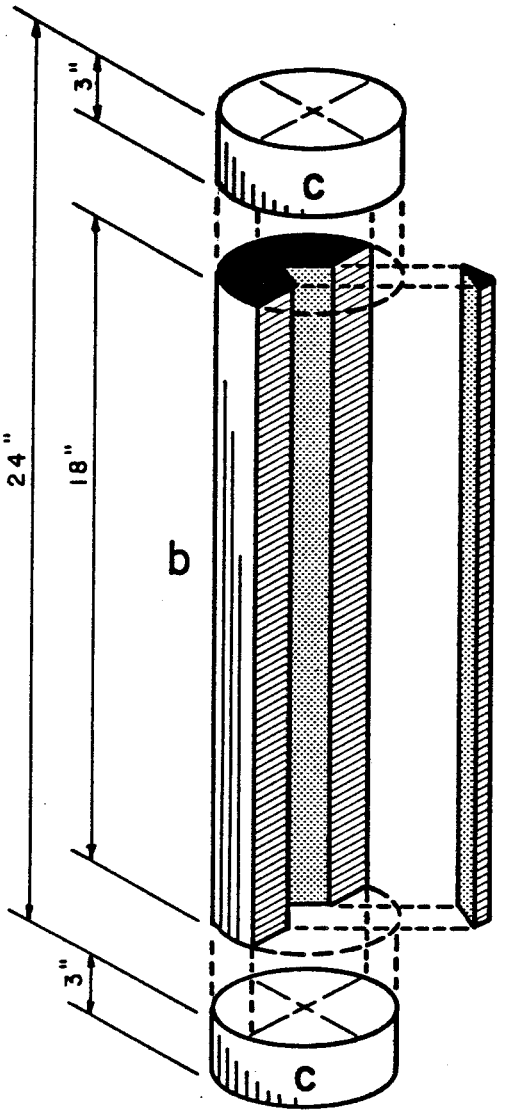
a) The split spoon sampler was opened upon a raised platform covered by a double sheet of 4 inch polyethylene.

b) Using a clean cutting tool (stainless steel knife) a 2 inch to 3 inch section was removed from the top and bottom of the core. The remaining core was cut in half longitudinally. From the centre of the exposed portion of the core, three pre-cleaned 40 ml vials were immediately filled for subsequent volatile organic analysis.

Where base neutral and acid phenolic analysis was to be performed, approximately 250 g. of soil from the center of the core was then placed in a precleaned glass mason jar fitted with alumium foil between the jar and the screw cap.

The remainder of the core was then placed in a single wide mouth Mason jar. This portion of the core was stored as geologic record.

The following figure illustrates the portion of the core sample collected for chemical



TYPICAL SOIL CORE

a

PORTION OF SAMPLE FOR CHEMICAL ANALYSIS

- CONTACT WITH UNSTERILIZED MATERIALS IS NOT ACCEPTABLE
- CONTAINER : PRECLEANSED 40 ml. CLEAR GLASS VIAL OR PRECLEANED WIDE MOUTH GLASS MASON JAR .
- GASKET - TEFLON OR ALUMINIUM FOIL
- STORAGE - REFRIGERATED (4°C)
- SHIPPING - ON ICE BY COURIER TO DESIGNATED LAB

b

PORTION OF SAMPLE TO BE RETAINED FOR RECORDS

- CONTACT WITH UNSTERILIZED MATERIALS IS NOT A PROBLEM
- CONTAINER : - CLEAN GLASS JAR
  - CLEAR GLASS IS SUITABLE
- GASKET - ANY SUITABLE GASKET
- STORAGE - IN STANDARD SHIPPING CARTON
  - NO REFRIGERATION REQUIRED

c

PORTION OF SAMPLE TO BE DISCARDED

figure 3

SAMPLE SELECTION DETAILS

I.B.M. Corporation

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analysis and the portion retained for geologic record.

c) Each sample collected for chemical analysis and each sample retained for geologic record was labelled with the following information:

1) Sample Station Identification Number
2) Time
3) Date
4) Depth of Sampling Interval
5) Engineering Company Name
6) Client's Name
7) Sampler's Name

d) Each sample collected for chemical analysis was stored in a cooler at 32°F (0°C) until ready for shipment. Prior to shipment, fresh ice was added to the coolers for shipment to the selected analytical laboratory via a commercial courier service under a Chain of Custody protocol.

e) All sampling and collection tools, including split spoon samplers, retainer baskets, spatulas, knives and spoons were cleaned prior to each sampling interval using a clean water-acetone-hexane-acetone-distilled water rinse sequence. Prior to the final distilled water rinse, each item was hand dried by papar towel and allowed to air dry with assistance from an electric forced air heater. Augers were washed with

a commercial detergent and steam cleaned prior to commencing each new borehole.

New, clean, disposable, latex gloves (TRU-TOUCH, No. 2203) were worn by personnel handling the sample and sampling tools at each sampling interval. After retrieving each sample, rubber gloves were placed in a 55 gallon ring top drum located on-site, and a new pair worn for each subsequent sample.

APPENDIX A-2

TOTAL VOLATILE ORGANIC ANALYTICAL DATA

TABLE 4 - Boreholes 1 to 57

TABLE 6 - Boreholes 58 to 75

TABLE 4

TOTAL VOLATILE ORGANICS (ug/kg)

Sampling Station	Sampling Interval (Depth in Feet) 0-2	2-4	4-6	6-8	8-10	10-12	12-14	14-15
1	ND	ND	ND	1,000*				
2	740	NS	1,400	4,100	1,200*			
3	850	600	150*					
4	ND	170	160*					
5	750	7,300	3,600*					
6	270	760	ND	260	310*			
7	380	1,100	320	2,460	1,600	2,300*		
8	ND	ND	ND*					
9	240	5,600	5,200	3,600	230	1,000	770*	
10	160	250	ND	840	380*			
11	ND	ND	380*					
12	ND	230	ND*					
13	120	210	580	NS	380*			
14	500	NS	350	440	520	1,930*		
15	250	460	470	550	560*			
16	320	520	830*					
17	210	250	260	100	450*			
18	530	770	1,200	1,100	520	1,500	2,400	5,500*
19	420	1,000	3,000	1,500*				
20	600	470	380*					
21	160	630	ND	ND	150*			
22	380	310	240	320	ND*			
23	ND	240	7,700	17,000	2,900	350*		
24	740	850	2,920	5,150*				
25	ND	ND	ND	ND*				
26	500	NS	150	210	280*			
27	ND	ND	2,300	630	ND	500*		
28	240	110	ND	220*				
29	ND	ND*						

NOTES: (1) All data reported as ug/kg (ppb)
(2) Limit of detection = 100 ppb
(3) ND - Not detected at stated limit of detection
(4) NS - Not sampled
(5) * - Auger refusal

TABLE 4 (Cont'd)

TOTAL VOLATILE ORGANICS (ug/kg)

Sampling Station	Sampling Interval (Depth in Feet) 0-2	2-4	4-6	6-8	8-10	10-12	12-14	14-15
30	920	250	530	200	260*			
31	ND	ND	ND*					
32	ND	150	ND	170*				
33	680	2,920	1,230*					
34	ND	ND	340	ND	ND*			
35	280	120	ND	ND	ND*			
36	3,200	1,400	100	130	230*			
37	200	380	ND	ND	100*			
38	170	ND	190	250	110	230*		
39	ND	130	350	120	150*			
40	300	130	250	ND	ND*			
41	490	250	310	ND	ND*			
42	110	280	140	120	ND	140*		
43	180	230	180	ND	120*			
44	ND	140	ND	ND	180*			
45	390	520	ND	ND	160*			
46	1,500	ND	ND	ND	ND	ND*		
47	130	230	1,800	550	130	260*		
48	260	920	ND	160	ND			
49	ND	850	ND	ND	ND			
50	190	NS	150	NS	ND	ND	ND	150*
51	850	270	120	710*				
52	280	3,100	1,800	ND*				
53	510	410*						
54	310	ND	190*					
55	ND	120	ND	ND	120*			
56	230	150	680	130	110	530*		
57	8,400	7,600	330	450	350	ND	180*	

NOTES:
(1) All data reported as ug/kg (ppb)
(2) Limit of detection = 100 ppb
(3) ND - Not detected at stated limit of detection
(4) NS - Not sampled
(5) * - Auger refusal

TABLE 6

TOTAL VOLATILE ORGANICS (ug/kg)

Sampling Station	Sampling Interval (Depth in Feet) 0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 15
BH58	280	160	690	350	ND*			
BH59	2600	6300	2500	1300	140*			
BH60	370	230	360*					
BH61	1000	440*						
BH62	1700	120	560	180	ND*			
BH63	140	2000	750	500	360	ND*		
BH64	1200	1400	2100	1800	580*			
BH65	190	120	120	110	ND	390*		
BH66	1600	1200	1000	NS	1500*			
BH67	5300	5200	1500	600	350	1800*		
BH68	1500	3900	1200	ND	180	220*		
BH69	1400	ND	170	ND	ND	ND*		
BH70	180	150	NS	ND	100	210	280*	
BH71	ND	ND	ND	ND	ND	110*		
BH72	14000	13000	15000*					
BH73	ND	ND	3800	1300	ND*			
BH74	ND	ND	ND*					
BH75	ND	ND	ND*					

Notes: (1) All data reported as ug/kg (ppb)
(2) Limit of detection = 100 ppb
(3) ND - Not detected at stated limit of detection
(4) NS - Not sampled
(5) * - Auger refusal

APPENDIX B

PRIORITY POLLUTANT VOLATILE ORGANIC SPECIATION

TABLE 7 - Samples Selected for Speciation

TABLE 8 - Speciation of Group 1 Samples

TABLE 9 - Speciation of Group 2 Samples

TABLE 9

PRIORITY POLLUTANT VOLATILE ORGANIC SPECIATION
GROUP 2
SOILS RETAINED ON-SITE

SAMPLING STATION	DEPTH INTERVAL IN FEET	BROMODICHLOROMETHANE	1,2-DICHLOROPROPANE	TRANS-1,3-DICHLOROPROPENE	TRICHLOROETHENE	DIBROMOCHLOROMETHANE	CIS-1,3-DICHLORO-1-PROPENE	1,1,2-TRICHLOROETHANE	BENZENE	2-CHLOROETHYLVINYL ETHER	2-BROMO-1-CHLOROPROPANE	BROMOFORM	TETRACHLOROETHENE	1,1,2,2-TETRACHLOROETHANE	1,4-DICHLOROBUTANE	CHLOROMETHANE	BROMOMETHANE
BH6	8-9.7	35	ND	ND	10	25	ND	ND	ND	ND	ND	ND	280	ND	ND	ND	ND
BH7	0-2	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	ND	750	ND	ND	ND	ND
BH7	4-6	10	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	340	ND	ND	ND	ND
BH10	8-10	ND	ND	ND	130	ND	ND	ND	ND	ND	ND	ND	190	ND	ND	ND	ND
BH11	4-5.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	250	ND	ND	ND	ND
BH13	8-10	ND	ND	ND	60	ND	ND	ND	ND	ND	ND	ND	50	ND	ND	ND	ND
BH14	4-6	ND	ND	ND	170	33	ND	ND	ND	ND	ND	ND	63	ND	ND	ND	ND
BH16	0-2	150	ND	ND	17	44	ND	ND	ND	ND	ND	ND	110	ND	ND	ND	ND
BH17	8-9	ND	ND	ND	89	25	ND	ND	ND	ND	ND	ND	170	ND	ND	ND	ND
BH19	0-2	150	ND	ND	210	ND	ND	ND	ND	ND	ND	ND	540	ND	ND	ND	ND
BH20	4-6	ND	ND	ND	160	20	ND	ND	ND	ND	ND	ND	190	ND	ND	ND	ND
BH22	0-2	ND	ND	ND	63	55	ND	ND	ND	ND	ND	ND	220	ND	ND	ND	ND
BH22	2-4	85	ND	ND	31	70	ND	ND	ND	ND	ND	ND	36	ND	ND	ND	ND
BH23	10-12	10	ND	ND	220	ND	ND	ND	ND	ND	ND	ND	48	ND	ND	ND	ND
BH34	4-6	16	ND	ND	55	ND	ND	ND	ND	ND	ND	ND	120	ND	ND	ND	ND
BH39	4-6	20	ND	ND	80	40	ND	ND	ND	ND	ND	80	30	ND	ND	ND	ND
BH45	0-2	ND	ND	ND	ND	30	ND	ND	ND	ND	ND	ND	280	ND	ND	ND	ND
BH57	4-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	360	ND	ND	ND	ND

Notes: 1) All data reported as ug/kg (ppb)
2) Limit of detection - 10 ppb
3) ND - Not detected at stated limit of detection

TABLE 9 (Cont'd)

PRIORITY POLLUTANT VOLATILE ORGANIC SPECIATION
GROUP 2
SOILS RETAINED ON-SITE

SAMPLING STATION	DEPTH INTERVAL IN FEET	VINYL CHLORIDE	CHLOROETHANE	METHYLENE CHLORIDE	TRICHLOROFLUOROMETHANE	1,1-DICHLOROETHENE	BROMODICHLOROMETHANE	1,1-DICHLOROETHANE	TRANS-1,2-DICHLOROETHENE	CHLOROFORM	1,2-DICHLOROETHANE	1,1,1-TRICHLOROETHANE	CARBON TETRACHLORIDE	TOLUENE	CHLOROBENZENE	ETHYL BENZENE
BH6	8-9.7	ND	ND	ND	ND	ND	ND	ND	ND	45	ND	ND	ND	ND	ND	ND
BH7	0-2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH7	4-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH10	8-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH11	4-5.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH13	8-10	ND	ND	ND	ND	ND	ND	ND	ND	30	ND	ND	ND	ND	ND	ND
BH14	4-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH16	0-2	ND	ND	ND	ND	ND	ND	ND	ND	150	ND	17	ND	ND	ND	16
BH17	8-9	ND	ND	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH19	0-2	ND	ND	ND	81	ND	ND	ND	ND	160	12	ND	ND	10	ND	13
BH20	4-6	ND	ND	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND
BH22	0-2	ND	ND	ND	ND	ND	ND	ND	ND	50	ND	ND	ND	ND	ND	ND
BH22	2-4	ND	ND	ND	ND	ND	ND	ND	ND	80	ND	ND	ND	ND	ND	ND
BH23	10-12	ND	ND	ND	ND	350	ND	ND	ND	10	ND	ND	ND	ND	ND	ND
BH34	4-6	ND	ND	ND	ND	ND	ND	ND	ND	11	88	ND	ND	75	ND	ND
BH39	4-6	ND	ND	ND	ND	ND	ND	ND	ND	20	ND	ND	ND	ND	ND	ND
BH45	0-2	ND	ND	ND	ND	ND	ND	ND	ND	40	ND	ND	ND	ND	ND	ND
BH57	4-6	ND	ND	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND

Notes: 1) All data reported as ug/kg (ppb)
2) Limit of detection - 10 ppb
3) ND - Not detected at stated limit of detection

TABLE 7

SAMPLES SELECTED FOR
PRIORITY POLLUTANT VOLATILE ORGANIC SPECIATION

SAMPLE STATION	SAMPLE INTERVAL (ft.)
	Soils Excavated and Disposed by Secure Landfill
Group 1	
1	(6-8)
2	(4-6), (6-8), (8-10)
3	(0-2)
5	(0-2), (4-6)
7	(2-4), (6-8), (8-10), (10-11.6)
9	(2-4), (4-6), (6-8), (10-12)
14	(10-11.8)
18	(4-6), (6-8), (10-12), (12-14), (14-15)
19	(2-4), (4-6), (6-8)
23	(4-6), (8-10)
24	(4-6), (6-8)
27	(4-6)
30	(0-2)
33	(2-4), (4-6)
36	(0-2), (2-4)
46	(0-2)
47	(4-6)
48	(2-4)
52	(2-4), (4-6)
57	(2-4)
Group 2	**Soils Retained On-site**
6	(8-9.7)
7	(0-2), (4-6)
10	(8-10)
11	(4-5.5)
13	(8-10)
14	(4-6), (6-8)
16	(0-2)
17	(8-9)
19	(0-2)
20	(4-6)
22	(0-2), (2-4)
23	(10-12)
34	(4-6)
39	(4-6)
45	(0-2)
57	(4-6)

TABLE 8

PRIORITY POLLUTANT VOLATILE ORGANIC SPECIATION
GROUP 1
SOILS EXCAVATED AND DISPOSED BY SECURE LANDFILL

SAMPLING STATION	DEPTH INTERVAL IN FEET	BROMODICHLOROMETHANE	1,2-DICHLOROPROPANE	TRANS-1,3-DICHLOROPROPENE	TRICHLOROETHENE	DIBROMOCHLOROMETHANE	CIS-1,3-DICHLORO-1-PROPENE	1,1,2-TRICHLOROETHANE	BENZENE	2-CHLOROETHYLVINYL ETHER	2-BROMO-1-CHLOROPROPANE	BROMOFORM	TETRACHLOROETHENE	1,1,2,2-TETRACHLOROETHANE	1,4-DICHLOROBUTANE	CHLOROMETHANE	BROMOMETHANE
BH1	6-8	60	ND	ND	70	ND	ND	ND	ND	ND	ND	ND	910	ND	ND	ND	ND
BH2*	4-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH2	6-8	40	ND	ND	23	30	ND	ND	ND	ND	ND	ND	27	ND	ND	ND	ND
BH2	8-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	670	ND	ND	ND	ND
BH3	0-2	150	ND	ND	110	2000	ND	ND	ND	ND	ND	ND	1900	ND	ND	ND	ND
BH5	0-2	130	ND	ND	ND	120	ND	ND	ND	ND	ND	ND	820	ND	ND	ND	ND
BH5	4-6	ND	ND	ND	10	10	ND	ND	ND	ND	ND	ND	3000	ND	ND	ND	ND
BH7	2-4	60	ND	ND	17	ND	ND	ND	ND	ND	ND	ND	970	ND	ND	ND	ND
BH7	6-8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2800	ND	ND	ND	ND
BH7	8-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1600	ND	ND	ND	ND
BH7	10-11.6	ND	ND	ND	30	20	ND	ND	ND	ND	ND	ND	1500	ND	ND	ND	ND
BH9	2-4	130	ND	ND	360	ND	ND	ND	ND	ND	ND	ND	4200	ND	ND	ND	ND
BH9	4-6	140	ND	ND	540	120	ND	ND	ND	ND	ND	ND	4500	ND	ND	ND	ND
BH9	6-8	16	ND	ND	210	ND	ND	ND	ND	ND	ND	ND	2200	ND	ND	ND	ND
BH9	10-12	110	ND	ND	280	110	ND	ND	ND	ND	ND	ND	720	ND	ND	ND	ND
BH14	6-8	ND	ND	ND	690	ND	ND	ND	ND	ND	ND	ND	300	ND	ND	ND	ND
BH14	10-11.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH18	4-6	200	ND	ND	620	140	ND	ND	ND	ND	ND	ND	600	ND	ND	ND	ND
BH18	6-8	200	ND	ND	460	160	ND	ND	53	ND	ND	ND	360	ND	ND	ND	ND
BH18	10-12	200	ND	ND	600	470	ND	ND	53	ND	ND	210	330	ND	ND	ND	ND
BH18	12-14	160	ND	ND	1800	64	ND	ND	53	ND	ND	ND	320	ND	ND	ND	ND
BH18	14-15	180	ND	ND	2700	200	ND	ND	49	ND	ND	ND	690	ND	ND	ND	ND

NOTES: 1) All data reported as ug/kg (ppb)
2) Limit of detection - 10 ppb
3) ND - Not detected at stated limit of detection
4) *NA - Not analyzed. Unable to locate on tapes. Probably lost when head-crash occurred on HP-5993 (8/83)

TABLE 8

PRIORITY POLLUTANT VOLATILE ORGANIC SPECIATION
GROUP 1
SOILS EXCAVATED AND DISPOSED BY SECURE LANDFILL

SAMPLING STATION	DEPTH INTERVAL IN FEET	VINYL CHLORIDE	CHLOROETHANE	METHYLENE CHLORIDE	TRICHLOROFLUOROMETHANE	1,1-DICHLOROETHENE	BROMODICHLOROMETHANE	1,1-DICHLOROETHANE	TRANS-1,2-DICHLOROETHENE	CHLOROFORM	1,2-DICHLOROETHANE	1,1,1-TRICHLOROETHANE	CARBON TETRACHLORIDE	TOLUENE	CHLOROBENZENE	ETHYL BENZENE
BH1	6-8	ND	ND	ND	ND	ND	ND	ND	ND	40	ND	120	ND	260	ND	ND
BH2*	4-6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BH2	6-8	ND	ND	ND	ND	ND	ND	ND	ND	40	ND	ND	ND	ND	ND	ND
BH2	8-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH3	0-2	ND	ND	ND	ND	ND	ND	ND	ND	150	ND	ND	ND	120	ND	ND
BH5	0-2	ND	ND	ND	ND	ND	ND	ND	ND	120	ND	ND	ND	ND	ND	ND
BH5	4-6	ND	ND	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND
BH7	2-4	ND	ND	ND	ND	ND	ND	ND	ND	30	ND	ND	ND	ND	ND	ND
BH7	6-8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH7	8-10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH7	10-11.6	ND	ND	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND
BH9	2-4	ND	ND	ND	ND	180	ND	ND	ND	120	ND	ND	ND	ND	ND	ND
BH9	4-6	ND	ND	ND	38	150	ND	ND	ND	130	ND	ND	ND	ND	ND	ND
BH9	6-8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH9	10-12	ND	ND	ND	ND	ND	ND	ND	ND	40	ND	ND	ND	ND	ND	ND
BH14	6-8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH14	10-11.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH18	4-6	ND	ND	ND	35	190	ND	ND	ND	140	ND	ND	ND	84	ND	ND
BH18	6-8	ND	ND	ND	ND	140	ND	ND	ND	140	ND	ND	ND	84	ND	ND
BH18	10-12	ND	ND	ND	ND	550	ND	ND	ND	190	ND	ND	ND	77	ND	ND
BH18	12-14	ND	ND	ND	ND	1700	ND	ND	ND	67	ND	ND	ND	73	ND	ND
BH18	14-15	ND	ND	ND	ND	3000	ND	ND	ND	130	ND	ND	ND	73	ND	ND

NOTES: 1) All data reported as ug/kg (ppb)
2) Limit of detection - 10 ppb
3) ND - Not detected at stated limit of detection
4) *NA - Not analyzed. Unable to locate on tapes. Probably lost when head-crash occurred on HP-5993 (8/83)

TABLE 8

PRIORITY POLLUTANT VOLATILE ORGANIC SPECIATION
GROUP 1
SOILS EXCAVATED AND DISPOSED BY SECURE LANDFILL

SAMPLING STATION	DEPTH INTERVAL IN FEET	BROMODICHLOROMETHANE	1,2-DICHLOROPROPANE	TRANS-1,3-DICHLOROPROPENE	TRICHLOROETHENE	DIBROMOCHLOROMETHANE	CIS-1,3-DICHLORO-1-PROPENE	1,1,2-TRICHLOROETHANE	BENZENE	2-CHLOROETHYLVINYL ETHER	2-BROMO-1-CHLOROPROPANE	BROMOFORM	TETRACHLOROETHENE	1,1,2,2-TETRACHLOROETHANE	1,4-DICHLOROBUTANE	CHLOROMETHANE	BROMOMETHANE
BH19	2-4	110	ND	ND	250	ND	ND	ND	ND	ND	ND	ND	1300	ND	ND	ND	ND
BH19	4-6	40	ND	ND	380	20	ND	ND	ND	ND	ND	10	2900	ND	ND	ND	ND
BH19	6-8	40	ND	ND	440	10	ND	ND	ND	ND	ND	ND	2300	ND	ND	ND	ND
BH23	4-6	30	ND	ND	140	80	ND	ND	ND	ND	ND	20	550	ND	ND	ND	ND
BH23	8-10	30	ND	ND	50	69	ND	ND	ND	ND	ND	ND	100	ND	ND	ND	ND
BH24	4-6	ND	ND	ND	970	ND	ND	ND	ND	ND	ND	ND	2500	ND	ND	ND	ND
BH24	6-8	ND	ND	ND	700	ND	ND	ND	ND	ND	ND	ND	1900	ND	ND	ND	ND
BH27	4-6	ND	ND	ND	42	ND	ND	ND	ND	ND	ND	ND	38	ND	ND	ND	ND
BH30	0-2	63	ND	ND	89	26	ND	ND	ND	ND	ND	ND	74	ND	ND	ND	ND
BH33	2-4	300	ND	ND	320	400	ND	ND	120	ND	ND	100	450	ND	ND	ND	ND
BH33	4-6	250	ND	ND	400	510	ND	ND	110	ND	ND	ND	490	ND	ND	ND	ND
BH36	0-2	320	ND	ND	210	270	ND	ND	50	ND	ND	55	370	ND	ND	ND	ND
BH36	2-4	250	ND	ND	250	270	ND	ND	98	ND	ND	ND	500	ND	ND	ND	ND
BH46	0-2	170	ND	ND	110	ND	ND	ND	ND	ND	ND	ND	2400	ND	ND	ND	ND
BH47	4-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	120	ND	ND	ND	ND
BH48	2-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND
BH51	0-2	ND	ND	ND	42	ND	ND	ND	ND	ND	ND	ND	520	ND	ND	ND	ND
BH52	2-4	ND	ND	ND	800	ND	ND	ND	ND	ND	ND	ND	760	ND	ND	ND	ND
BH52	4-6	40	ND	ND	910	20	ND	ND	ND	ND	ND	ND	990	ND	ND	ND	ND
BH57	2-4	ND	ND	ND	530	10	ND	ND	ND	ND	ND	ND	7200	ND	ND	ND	ND

NOTES: 1) All data reported as ug/kg (ppb)
2) Limit of detection - 10 ppb
3) ND - Not detected as stated limit of detection

TABLE 8

PRIORITY POLLUTANT VOLATILE ORGANIC SPECIATION
GROUP 1
SOILS EXCAVATED AND DISPOSED BY SECURE LANDFILL

SAMPLING STATION	DEPTH INTERVAL IN FEET	VINYL CHLORIDE	CHLOROETHANE	METHYLENE CHLORIDE	TRICHLOROFLUOROMETHANE	1,1-DICHLOROETHENE	BROMODICHLOROMETHANE	1,1-DICHLOROETHANE	TRANS-1,2-DICHLOROETHENE	CHLOROFORM	1,2-DICHLOROETHANE	1,1,1-TRICHLOROETHANE	CARBON TETRACHLORIDE	TOLUENE	CHLOROBENZENE	ETHYL BENZENE
BH19	2-4	ND	ND	ND	27	ND	ND	ND	ND	130	ND	ND	ND	ND	ND	ND
BH19	4-6	ND	ND	ND	ND	ND	ND	ND	ND	30	ND	ND	ND	ND	ND	ND
BH19	6-8	ND	ND	ND	ND	ND	ND	ND	ND	30	ND	ND	ND	ND	ND	ND
BH23	4-6	ND	ND	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND
BH23	8-10	ND	ND	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND
BH24	4-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH24	6-8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH27	4-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH30	0-2	ND	ND	ND	ND	ND	ND	ND	ND	47	ND	61	ND	43	ND	82
BH33	2-4	ND	ND	ND	ND	ND	ND	ND	ND	230	120	ND	ND	170	ND	500
BH33	4-6	ND	ND	ND	ND	ND	ND	ND	ND	180	ND	ND	ND	160	ND	ND
BH36	0-2	ND	ND	ND	ND	ND	ND	ND	ND	130	ND	ND	ND	85	ND	480
BH36	2-4	ND	ND	ND	ND	ND	ND	ND	ND	200	ND	ND	ND	94	ND	ND
BH46	0-2	ND	ND	ND	ND	ND	ND	ND	ND	130	ND	100	ND	91	ND	ND
BH47	4-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH48	2-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH51	0-2	ND	ND	ND	ND	ND	ND	ND	ND	19	ND	ND	ND	ND	ND	ND
BH52	2-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH52	4-6	ND	ND	ND	ND	ND	ND	ND	ND	60	ND	ND	ND	ND	ND	ND
BH57	2-4	ND	ND	ND	ND	ND	ND	ND	ND	190	ND	ND	ND	ND	ND	ND

NOTES: 1) All data reported as ug/kg (ppb)
2) Limit of detection - 10 ppb
3) ND - Not detected at stated limit of detection

APPENDIX C

PRIORITY POLLUTANT BASE/NEUTRAL AND ACID/PHENOLIC ANALYTICAL DATA

TABLE 10

PRIORITY POLLUTANT BASE NEUTRAL AND ACID PHENOLIC ANALYSIS

Sample Station	Sample Interval (ft.)	Base Neutral		Acid Phenolic
		di-n-butyl phthalate	bis(2-ethylhexyl) phthalate	
36	0 to 2	4.0	0.9	ND
	2 to 4	0.8	ND	ND
	4 to 6	ND	ND	ND
	6 to 8	3.8	2.1	ND
	8 to 9	8.4	ND	ND
39	2 to 4	2.3	ND	ND
	4 to 6	4.3	0.8	ND
	6 to 8	0.4	1.7	ND
41	0 to 2	1.3	1.7	ND
	6 to 8	5.1	ND	ND
43	0 to 4	2.1	ND	ND
	6 to 8	0.9	1.0	ND
	8 to 9.8	2.0	ND	ND
44	0 to 4	13.0	ND	ND
	6 to 8	10.0	ND	ND
45	2 to 4	1.8	ND	ND
	4 to 6	ND	ND	ND
	6 to 8	ND	ND	ND
	8 to 10	ND	ND	ND
46	0 to 2	ND	ND	ND
	2 to 4	6.5	ND	ND
	4 to 6	15.0	ND	ND
	6 to 8	17.0	ND	ND
	8 to 10	0.7	ND	ND
	10 to 12	4.6	1.6	ND

TABLE 10 (Cont'd)

PRIORITY POLLUTANT BASE NEUTRAL AND ACID PHENOLIC ANALYSIS

Sample Station	Sample Interval (ft.)	Base Neutral		Acid Phenolic
		di-n-butyl phthalate	bis(2-ethylhexyl) phthalate	
47	0 to 2	13.0	0.5	ND
	2 to 4	ND	ND	ND
	6 to 8	0.5	0.7	ND
	8 to 10	ND	ND	ND
	10 to 12	ND	ND	ND
48	2 to 4	3.5	ND	ND
	4 to 6	8.4	ND	ND
49	2 to 4	5.3	0.4	ND
	4 to 6	1.1	0.7	ND
	6 to 8	0.6	1.8	ND
	8 to 10	ND	0.5	ND
50	0 to 2	ND	ND	ND
	4 to 6	ND	ND	ND
	10 to 12	20.0	ND	ND
	14 to 15.5	7.5	ND	ND
56	0 to 2	7.4	ND	ND
	2 to 4	ND	ND	ND
	4 to 6	0.5	1.3	ND
	6 to 8	1.1	2.1	ND
	8 to 10	ND	ND	ND
57	4 to 6	ND	1.0	ND
	6 to 8	0.7	3.1	ND
	8 to 10	0.6	2.1	ND
	10 to 12	0.8	1.3	ND
	12 to 14	0.5	1.6	ND
58	6 to 8	ND	ND	ND
59	4 to 6	ND	ND	ND
	6 to 9.8	ND	ND	ND

TABLE 10 (Cont'd)

PRIORITY POLLUTANT BASE NEUTRAL AND ACID PHENOLIC ANALYSIS

Sample Station	Sample Interval (ft.)	Base Neutral		Acid Phenolic
		di-n-butyl phthalate	bis(2-ethylhexyl) phthalate	
60	2 to 4	ND	ND	ND
61	0 to 2	ND	ND	ND
62	8 to 9.1	4.7	ND	ND
63	6 to 8	ND	ND	ND
64	2 to 4	ND	ND	ND
	8 to 9.8	ND	ND	ND
65	8 to 10	ND	ND	ND
66	4 to 6	0.9	ND	ND
67	2 to 4	1.6	ND	ND
	8 to 10	0.9	ND	ND
68	0 to 2	ND	ND	ND
	10 to 12	ND	1.2	ND

NOTES: (1) All data reported as ug/g (ppm)
(2) Limit of detection = 0.4 ppm
(3) ND - Not detected at stated limit of detection

APPENDIX D

SPLIT SAMPLE ANALYSIS

Table 11 - Total Volatile Organic

Table 12 - Base/Neutral Fraction

Table 13 - Acid/Phenolic Fraction

TABLE 11

SPLIT SOIL SAMPLE ANALYSIS

TOTAL VOLATILE ORGANICS

SAMPLE STATION	SAMPLE INTERVAL (FEET)	TOTAL VOLATILE ORGANIC CONCENTRATIONS E.T.C.	VELSICOL
BH58	6 to 8	195	350
BH59	4 to 6	2002	2500
BH59	8 to 9.6	ND	140
BH60	2 to 4	141	230
BH61	0 to 2	90	1000
BH62	8 to 9.1	206	ND
BH63	6 to 8	574	500
BH64	2 to 4	1040	1400
BH64	8 to 8.9	324	580
BH65	10 to 12	71	390
BH66	4 to 6	886	1000
BH68	0 to 2	682	1500
BH68	10 to 12	ND	220

Notes: 1) All data reported as ug/kg (ppb)
2) Limit of detection: Velsicol - 100 ppb
: ETC - 50 ppb
3) ND - not detected at stated limit of detection

TABLE 12

SPLIT SOIL SAMPLE ANALYSIS

PRIORITY POLLUTANT BASE NEUTRAL FRACTION

SAMPLE STATION	SAMPLE INTERVAL (FEET)	di-n-butyl phthalate	bis(2-ethylhexyl) phthalate	di-n-octyl phthalate	diethyl phthalate	Fluoranthene
BH58	6 to 8	ND(VCC) ND(ETC)	ND(VCC) 0.153(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)
BH59	4 to 6	ND(VCC) ND(ETC).	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)
BH59	8 to 9.8	ND(VCC) 0.138(ETC)	ND(VCC) 0.349(ETC)	ND(VCC) 0.489(ETC)	ND(VCC) 0.034(ETC)	ND(VCC) ND(ETC)
BH60	2 to 4	ND(VCC) 0.301(ETC)	ND(VCC) ND(ETC)	ND(VCC) 0.089 (ETC)	ND(VCC) 0.038 (ETC)	ND(VCC) ND(ETC)
BH61	0 to 2	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)
BH62	8 to 9.1	4.7(VCC) 0.293(ETC)	ND(VCC) 0.392(ETC)	ND(VCC) 0.242(ETC)	ND(VCC) 0.039(ETC)	NC(VCC) ND(ETC)
BH63	6 to 8	ND(VCC) 0.033(ETC)	ND(VCC) 0.320(ETC)	ND(VCC) 0.158(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)
BH64	2 to 4	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)

TABLE 12 (Cont'd)

SPLIT SOIL SAMPLE ANALYSIS

PRIORITY POLLUTANT BASE NEUTRAL FRACTION

SAMPLE STATION	SAMPLE INTERVAL (FEET)	di-n-butyl phthalate	bis(2-ethylhexyl) phthalate	di-n-octyl phthalate	diethyl phthalate	Fluoranthene
BH64	8 to 8.9	ND(VCC) 0.369(ETC)	ND(VCC) ND(ETC)	ND(VCC) 0.104(ETC)	ND(VCC) 0.042(ETC)	ND(VCC) 0.036(ETC)
BH65	10 to 12	ND(VCC) 0.572(ETC)	ND(VCC) 2.32(ETC)	ND(VCC) 0.452(ETC)	ND(VCC) 0.047(ETC)	ND(VCC) ND(ETC)
BH66	4 to 6	0.9(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)
BH67	2 to 4	1.6 (VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)
BH67	8 to 10	0.9(VCC) 0.16(ETC)	ND(VCC) ND(ETC)	ND(VCC) 0.096(ETC)	ND(VCC) ND(ETC)	NC(VCC) ND(ETC)
BH68	0 to 2	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)
BH68	10 to 12	ND(VCC) 0.82(ETC)	1.2(VCC) ND(ETC)	ND(VCC) 0.338(ETC)	ND(VCC) ND(ETC)	ND(VCC) ND(ETC)

Notes:
1) (VCC): Velsicol Chemical Corporation - Memphis Environmental Center
2) (ETC): Environmental Testing & Certification
3) All data reported as ug/g (ppm)
4) Limit of detection: Velsicol - 0.4 ppm
: ETC - 0.05 ppm
5) ND - Not detected as stated limit of detection

TABLE 13

SPLIT SOIL SAMPLE ANALYSIS

PRIORITY POLLUTANT ACID/PHENOLIC FRACTION

SAMPLE STATION	SAMPLE INTERVAL (FEET)	ACID PHENOLIC CONCENTRATION VCC	ETC
BH58	6 to 8	ND	ND
BH59	4 to 6	ND	ND
BH59	8 to 9.8	ND	ND
BH60	2 to 4	ND	ND
BH61	0 to 2	ND	ND
BH62	8 to 9.1	ND	ND
BH63	6 to 8	ND	ND
BH64	2 to 4	ND	ND
BH64	8 to 8.9	ND	ND
BH65	10 to 12	ND	ND
BH66	4 to 6	ND	ND
BH67	2 to 4	ND	ND
BH67	8 to 10	ND	ND
BH68	0 to 2	ND	ND
BH68	10 to 12	ND	ND

Notes: 1) All data reported as ug/g (ppm)
2) Limit of detection: Velsicol - 0.4 ppm
: ETC - 0.05 ppm
3) ND - Not detected as stated limit of detection

APPENDIX E

DESIGN FIGURES FOR DELINEATION OF SOILS REQUIRING EXCAVATION AND OFF-SITE SECURE DISPOSAL

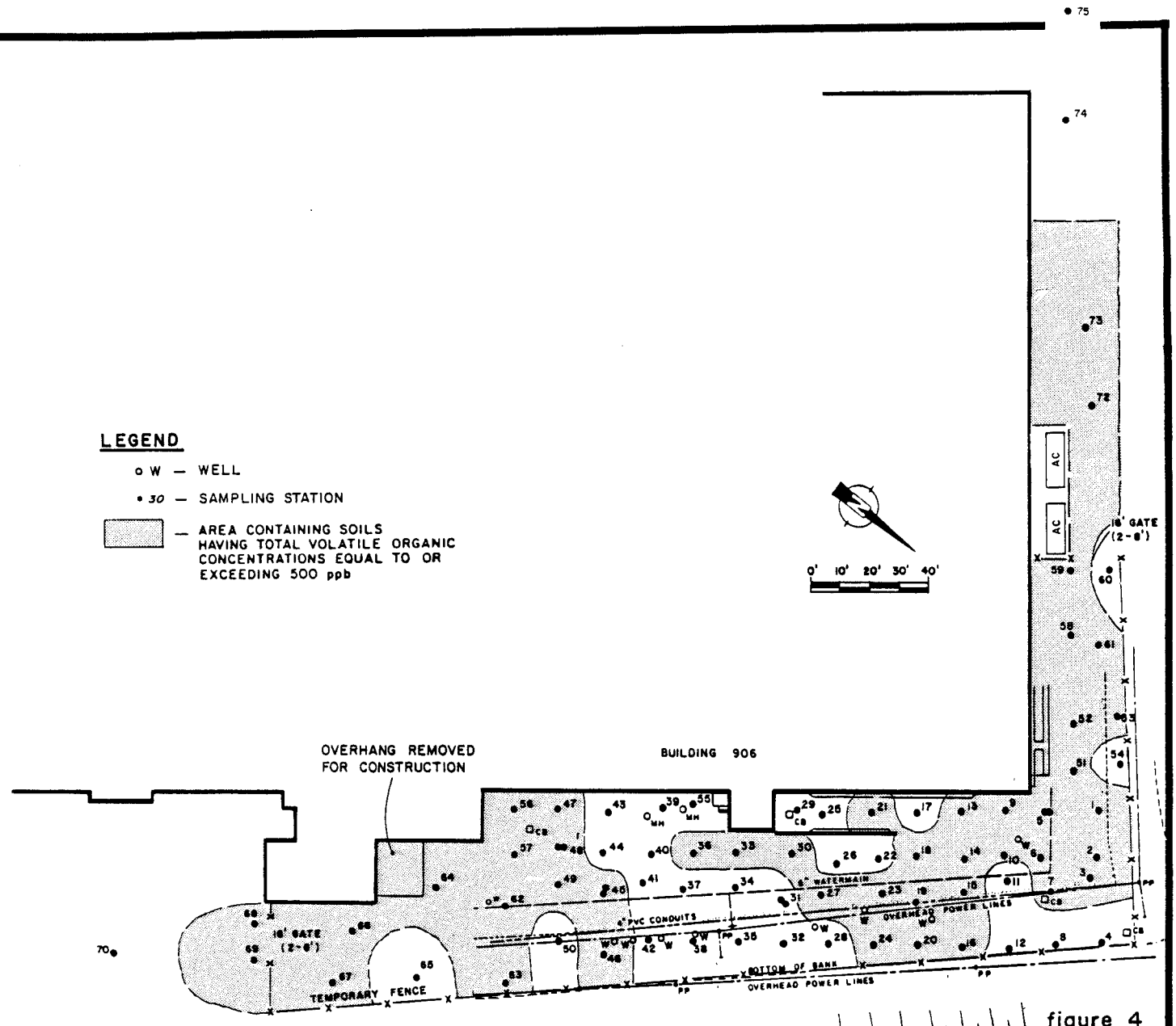


figure 4

ESTIMATED AREAL EXTENT OF SOILS FROM BOREHOLES HAVING ONE OR MORE SAMPLING INTERVAL EQUAL TO OR EXCEEDING A CONCENTRATION OF 500 ppb TOTAL VOLATILE ORGANICS

I.B.M. Corporation

CRA

1201 - 17/10/83

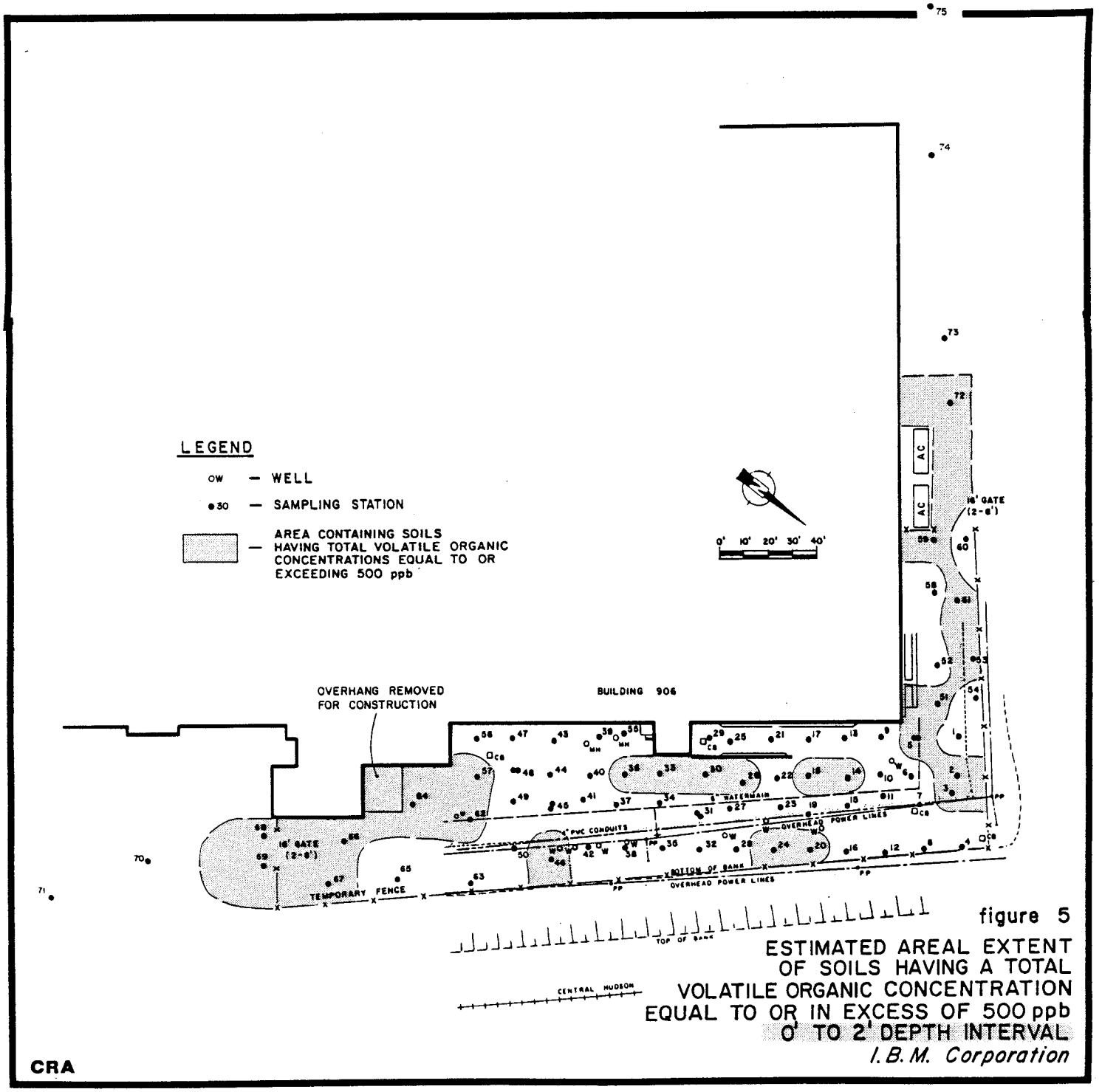


figure 5

ESTIMATED AREAL EXTENT OF SOILS HAVING A TOTAL VOLATILE ORGANIC CONCENTRATION EQUAL TO OR IN EXCESS OF 500 ppb 0' TO 2' DEPTH INTERVAL

I.B.M. Corporation

CRA

1201- 17/10/83

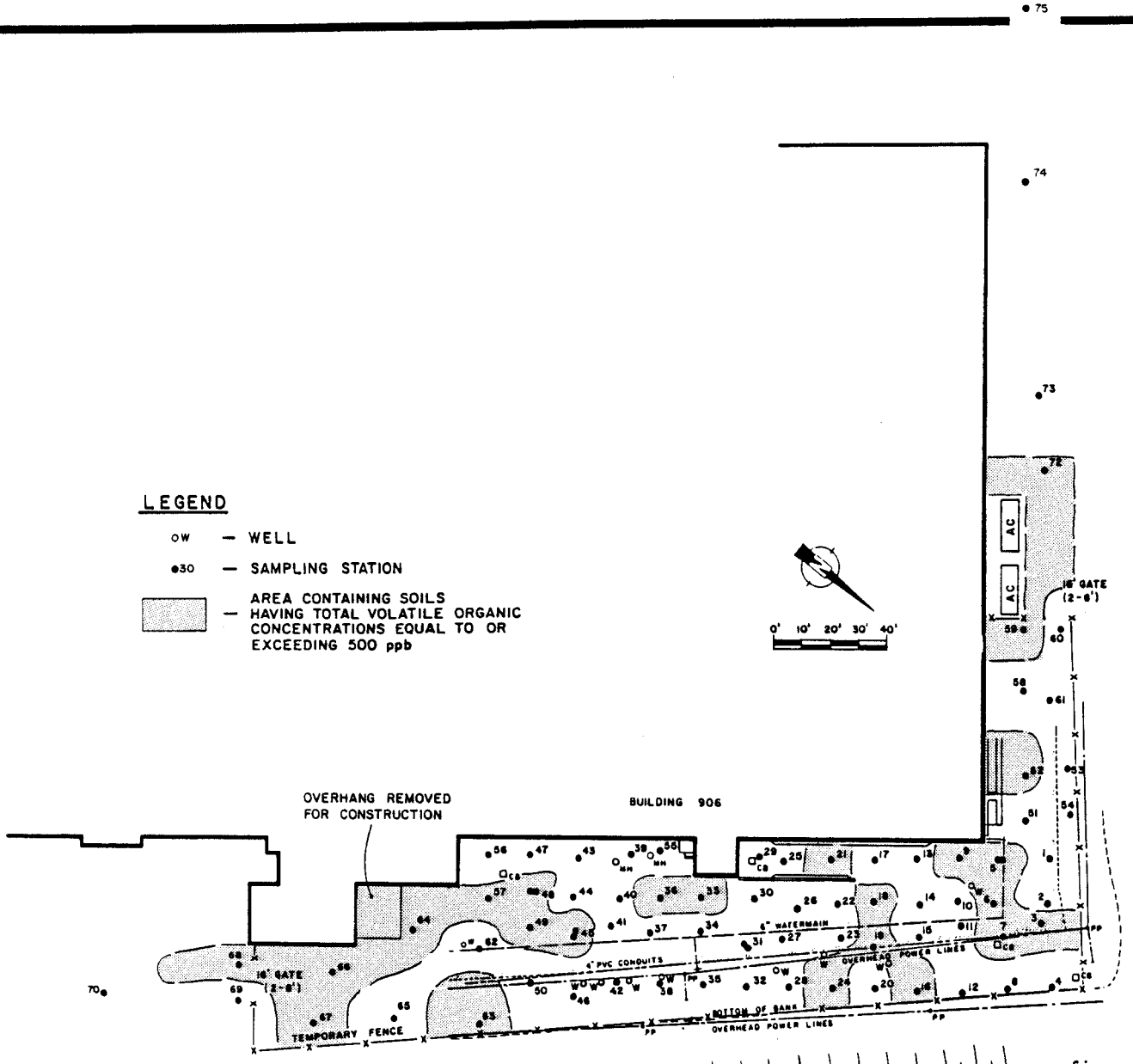


figure 6

ESTIMATED AREAL EXTENT OF SOILS HAVING A TOTAL VOLATILE ORGANIC CONCENTRATION EQUAL TO OR IN EXCESS OF 500 ppb 2' TO 4' DEPTH INTERVAL

I. B. M. Corporation

CRA

1201 - 17/10/83

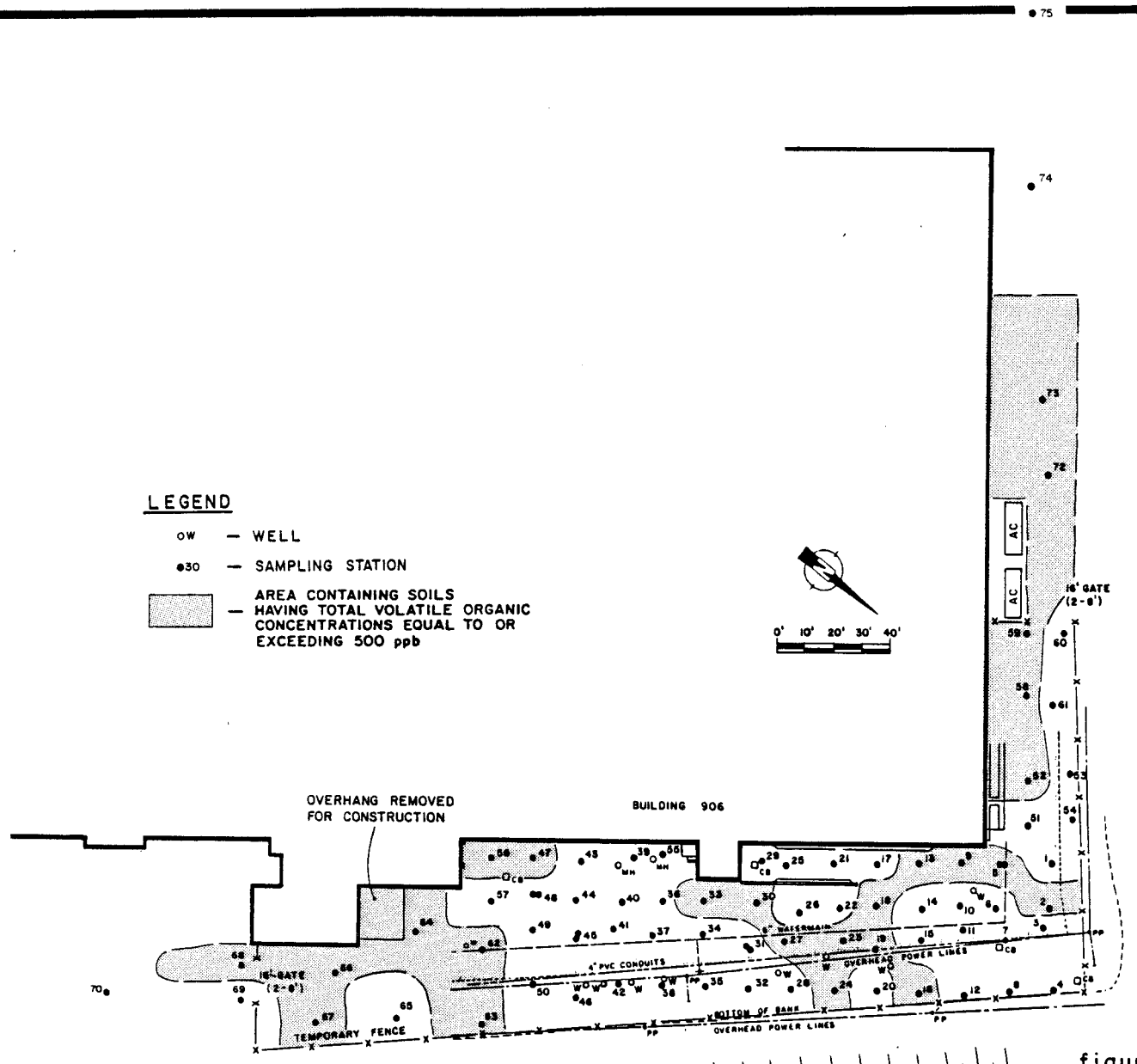


figure 7

ESTIMATED AREAL EXTENT OF SOILS HAVING A TOTAL VOLATILE ORGANIC CONCENTRATION EQUAL TO OR IN EXCESS OF 500 ppb 4 TO 6' DEPTH INTERVAL

I.B.M. Corporation

CRA

1201 - 17/10/83

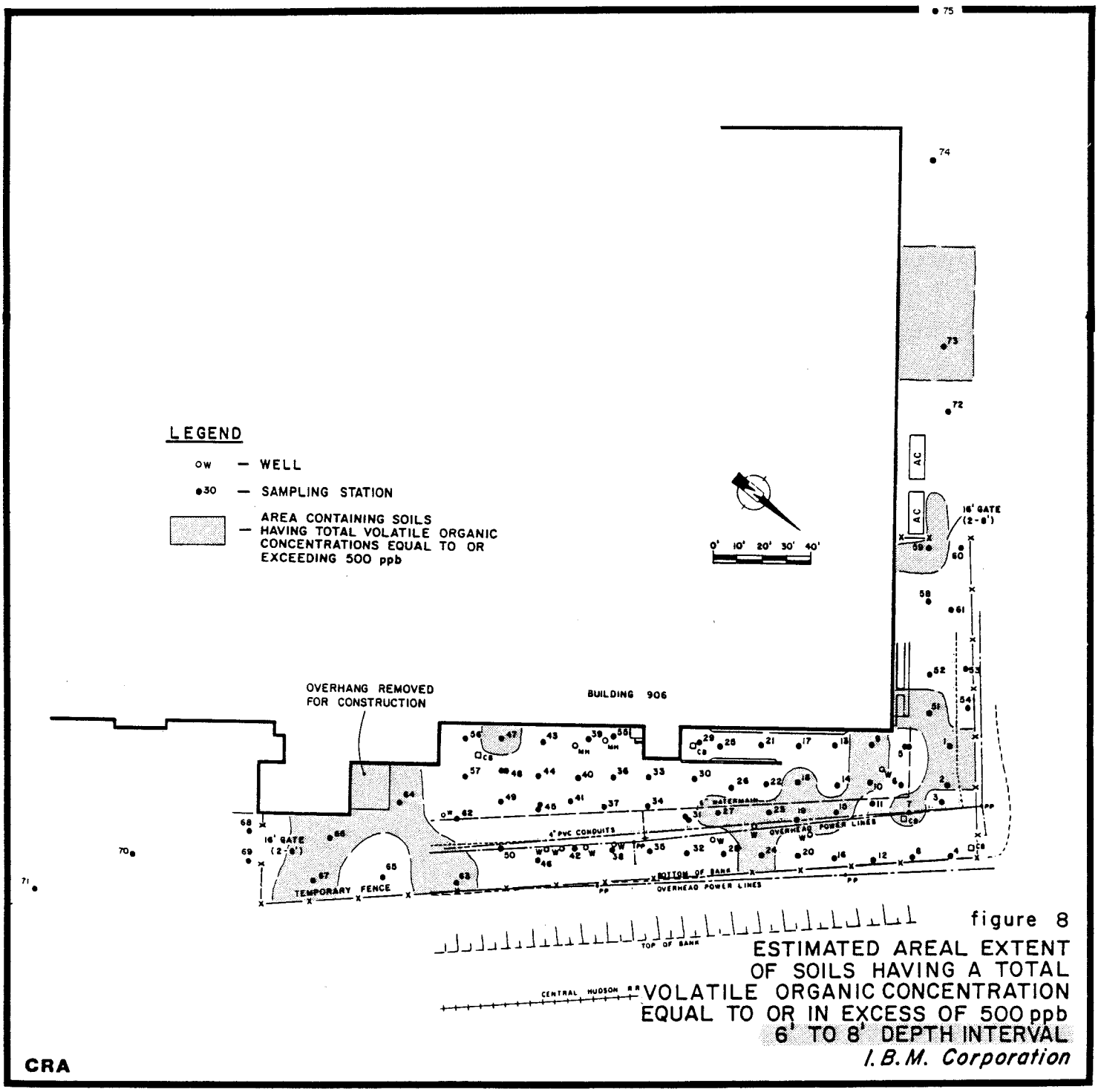


figure 8

ESTIMATED AREAL EXTENT OF SOILS HAVING A TOTAL VOLATILE ORGANIC CONCENTRATION EQUAL TO OR IN EXCESS OF 500 ppb 6' TO 8' DEPTH INTERVAL

I. B. M. Corporation

CRA

1201-17/10/83

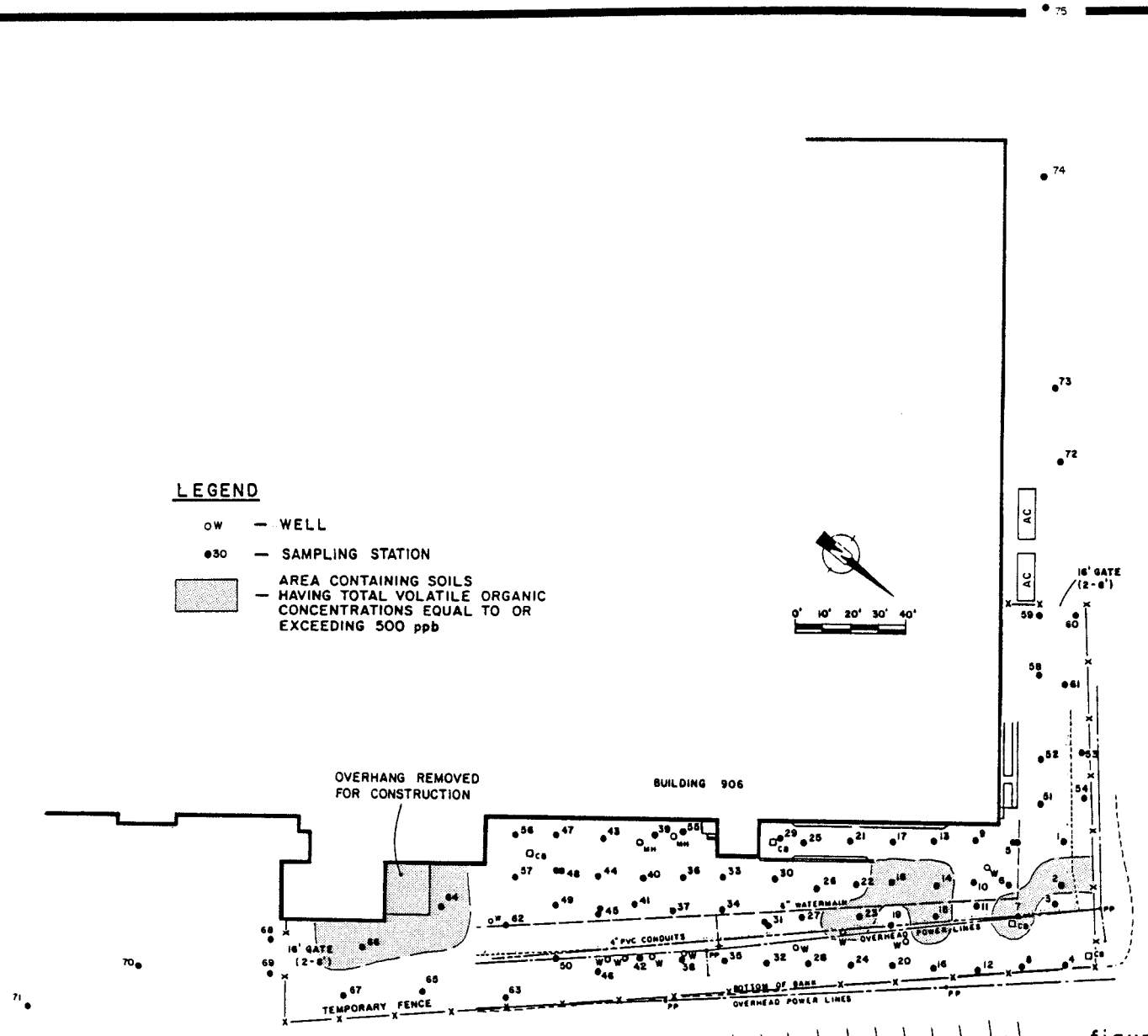


figure 9

ESTIMATED AREAL EXTENT OF SOILS HAVING A TOTAL VOLATILE ORGANIC CONCENTRATION EQUAL TO OR IN EXCESS OF 500 ppb
8' TO 10' DEPTH INTERVAL
I. B. M. Corporation

CRA

1201-17/10/83

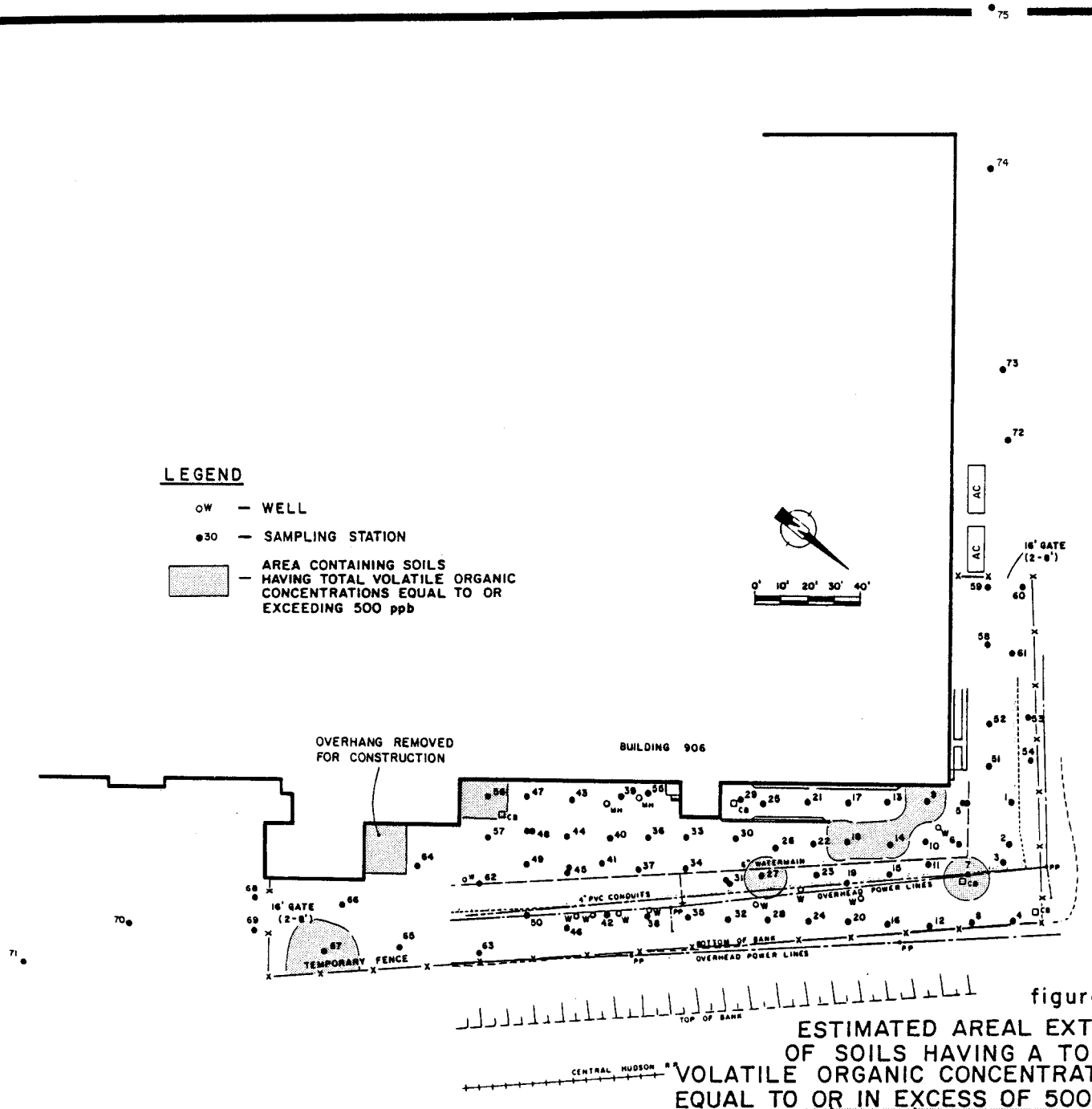


figure 10
ESTIMATED AREAL EXTENT OF SOILS HAVING A TOTAL VOLATILE ORGANIC CONCENTRATION EQUAL TO OR IN EXCESS OF 500 ppb
10' TO 12' DEPTH INTERVAL
I. B. M. Corporation

CRA

1201- 17/10/83

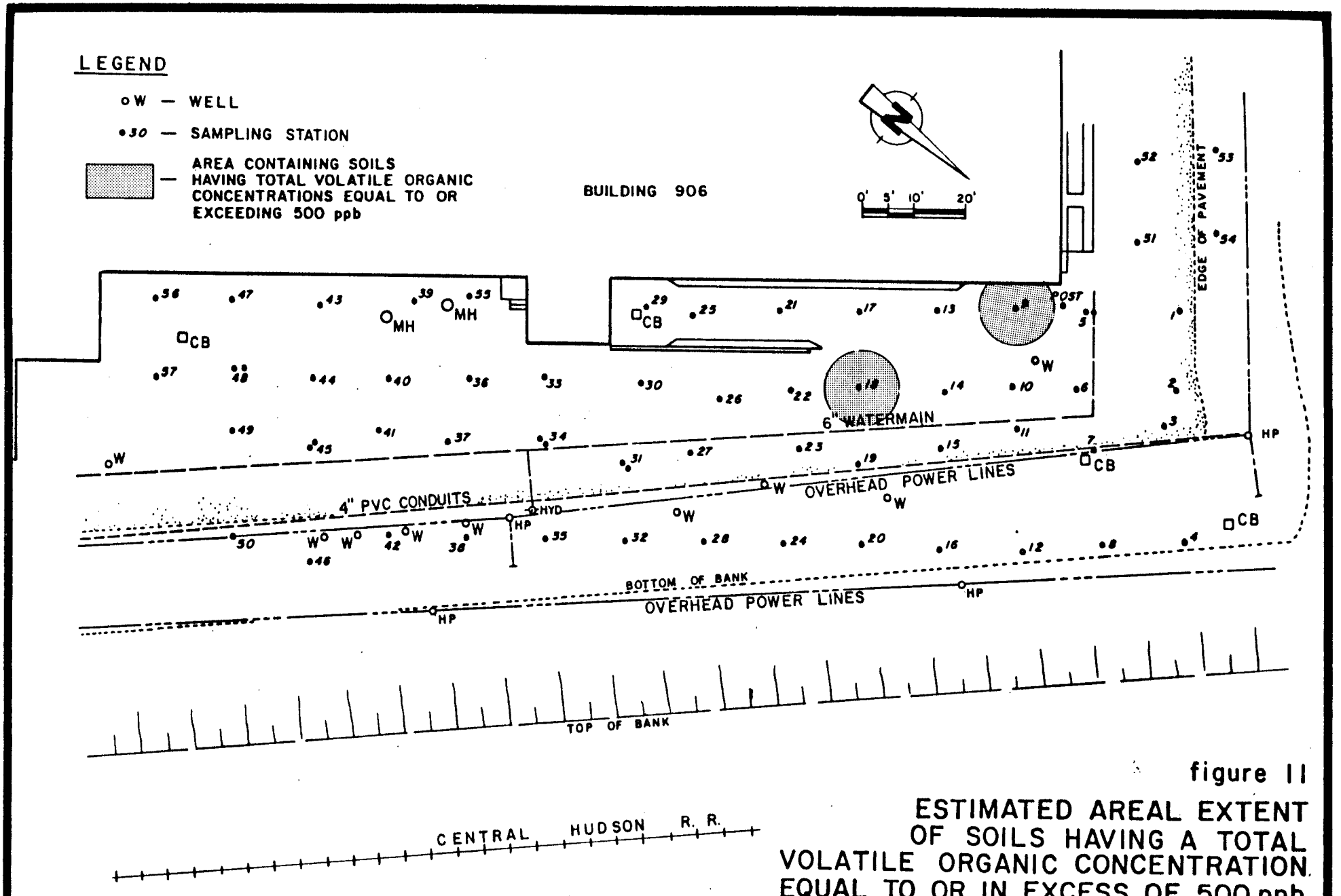


figure 11

ESTIMATED AREAL EXTENT OF SOILS HAVING A TOTAL VOLATILE ORGANIC CONCENTRATION EQUAL TO OR IN EXCESS OF 500 ppb
12' TO 14' DEPTH INTERVAL
I. B. M. Corporation

CRA

1201-17/10/83

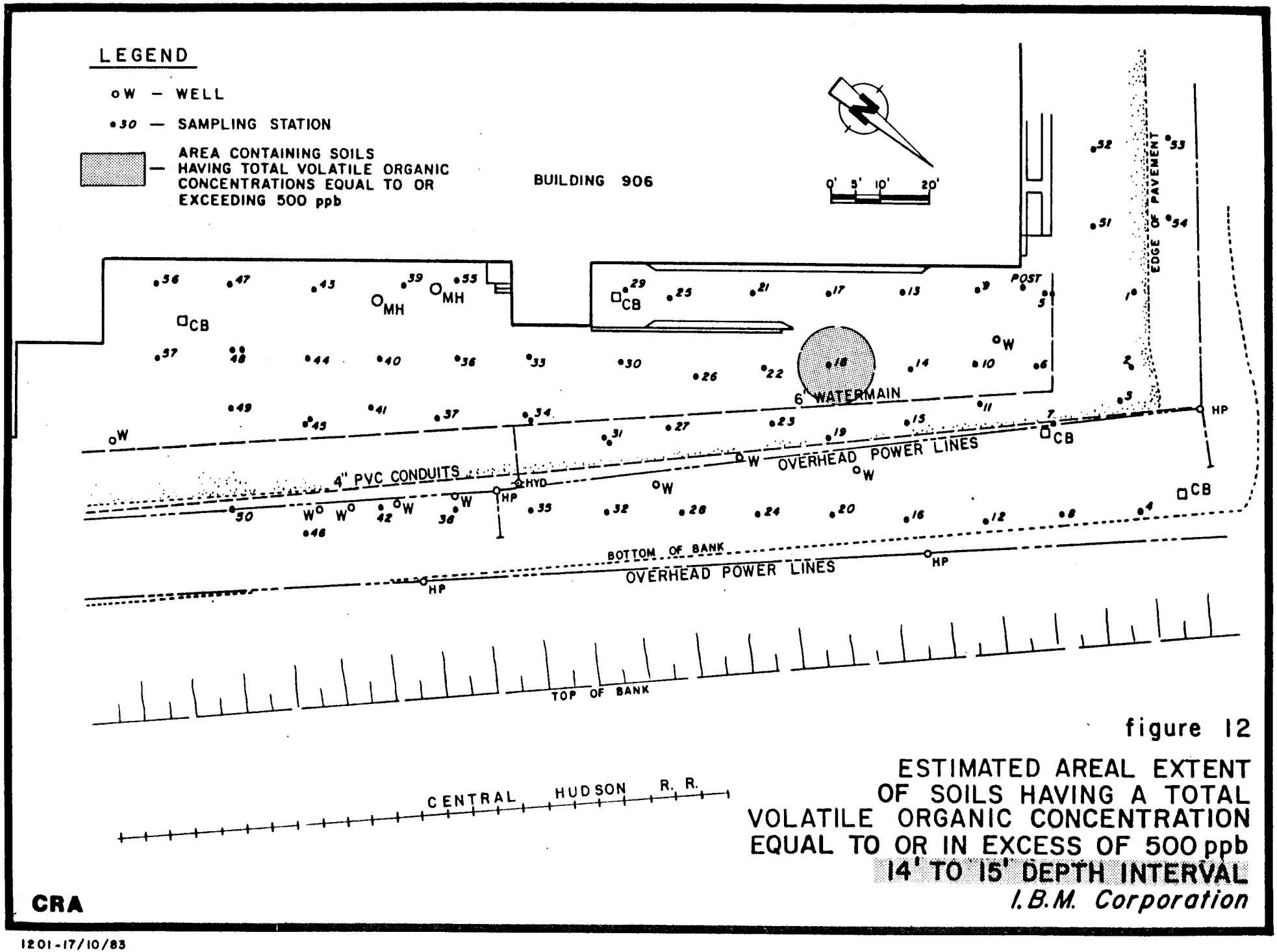
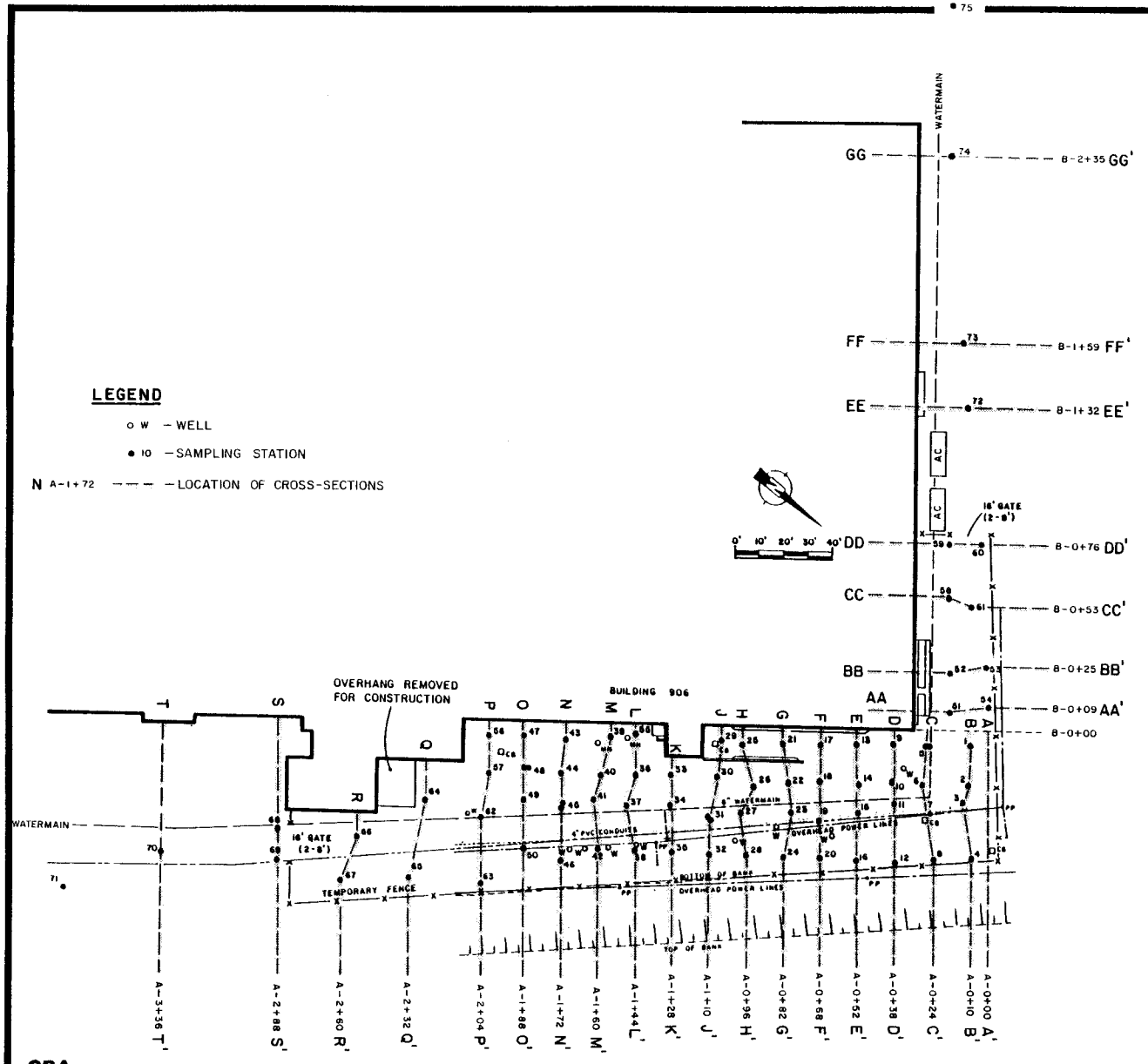


figure 12

ESTIMATED AREAL EXTENT OF SOILS HAVING A TOTAL VOLATILE ORGANIC CONCENTRATION EQUAL TO OR IN EXCESS OF 500 ppb
14' TO 15' DEPTH INTERVAL
I.B.M. Corporation

CRA

1201-17/10/83



CRA

figure 13
LOCATION OF CROSS-SECTIONS
I.B.M. Corporation

1201-19/10/83

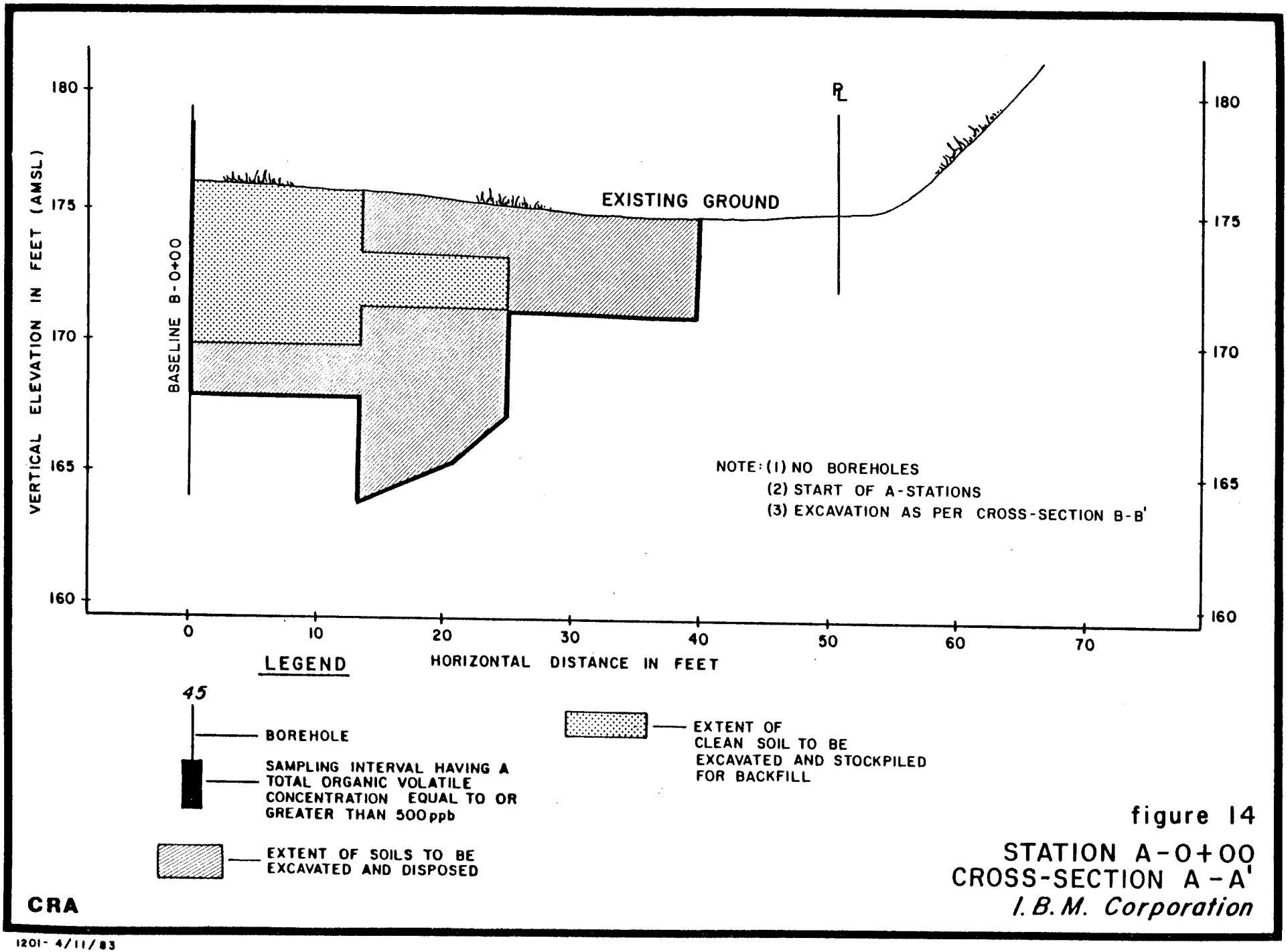
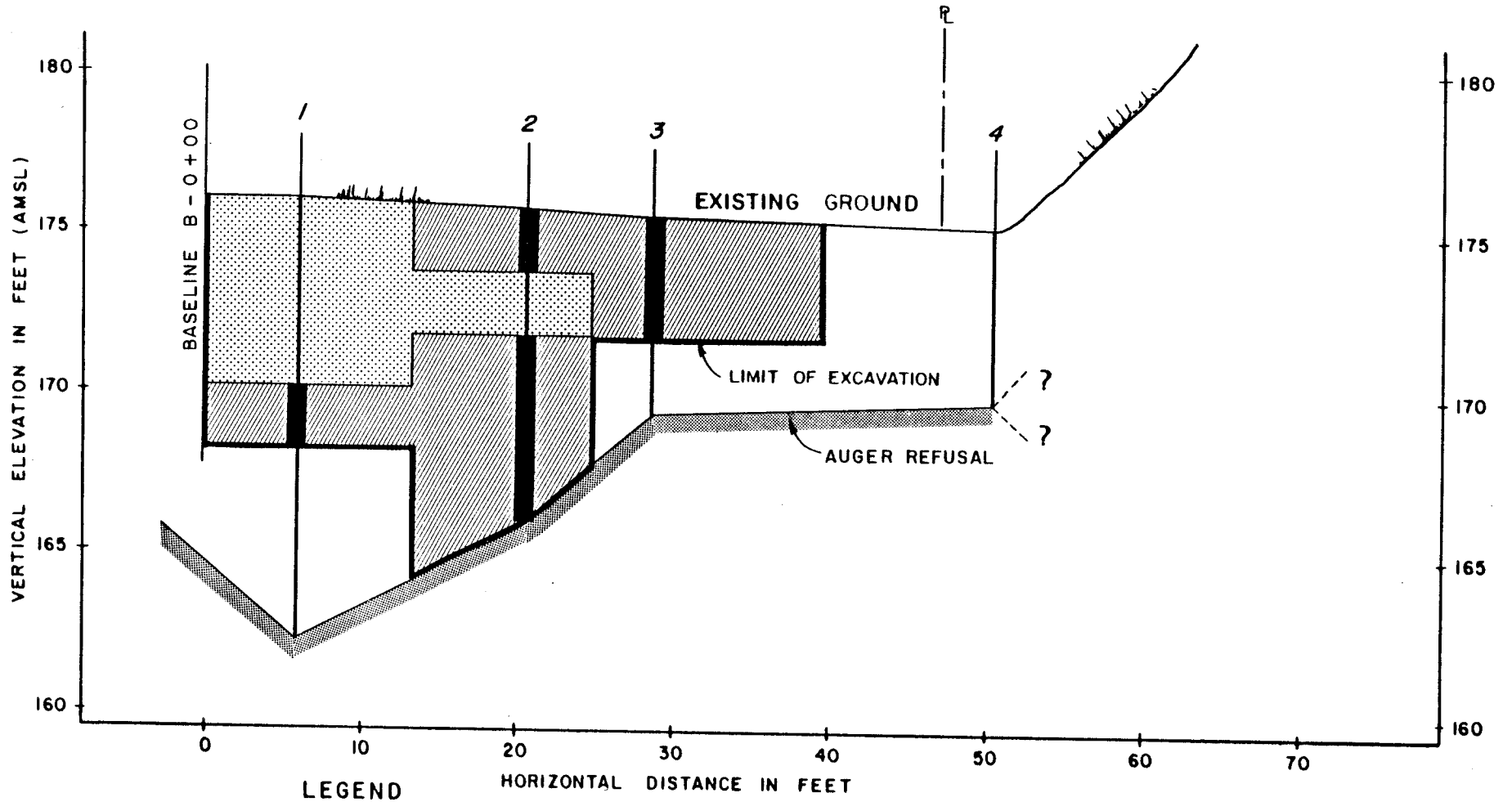


figure 14

STATION A-0+00
CROSS-SECTION A-A'
I.B.M. Corporation

CRA

1201- 4/11/83

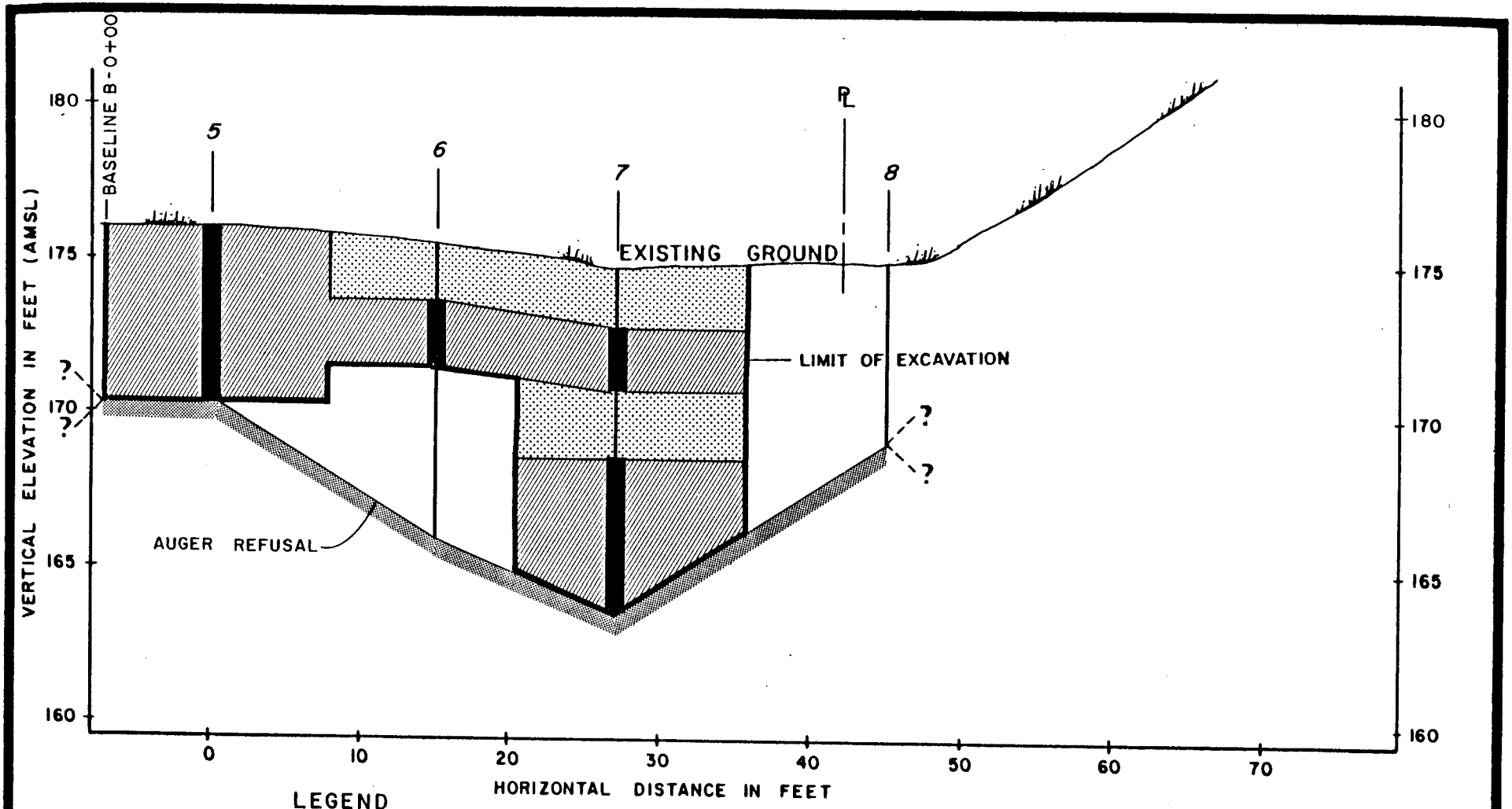


CRA

figure 15

STATION A - 0 + 10
CROSS-SECTION B - B'
I. B.M. Corporation

1201 - 4/11/83

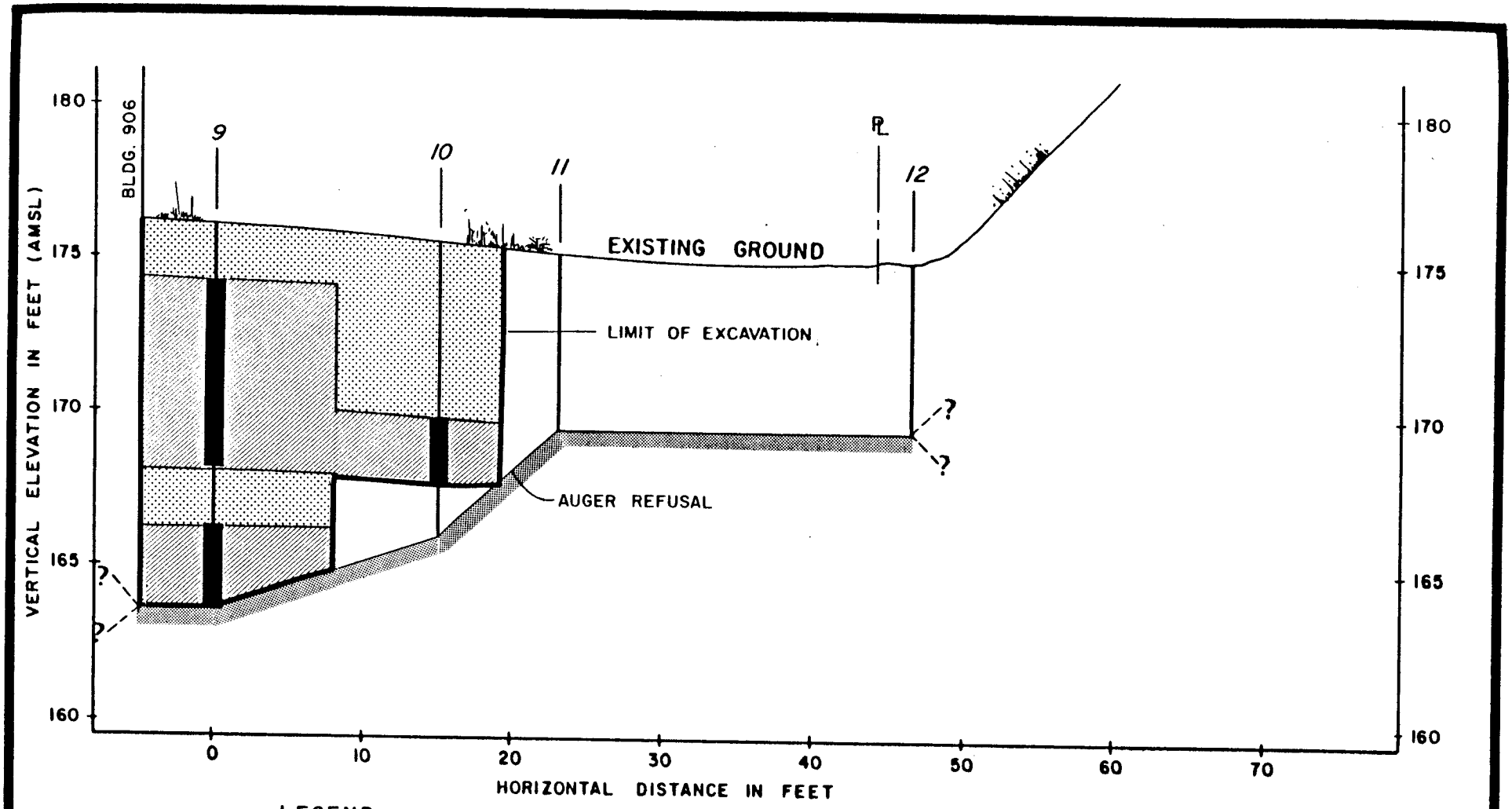


CRA

figure 16

STATION A-0+24
CROSS-SECTION C-C'
I.B.M. Corporation

1201- 4/11/83



CRA

figure 17

STATION A-0+38
CROSS-SECTION D-D'
I.B.M. Corporation

1201-4/11/83

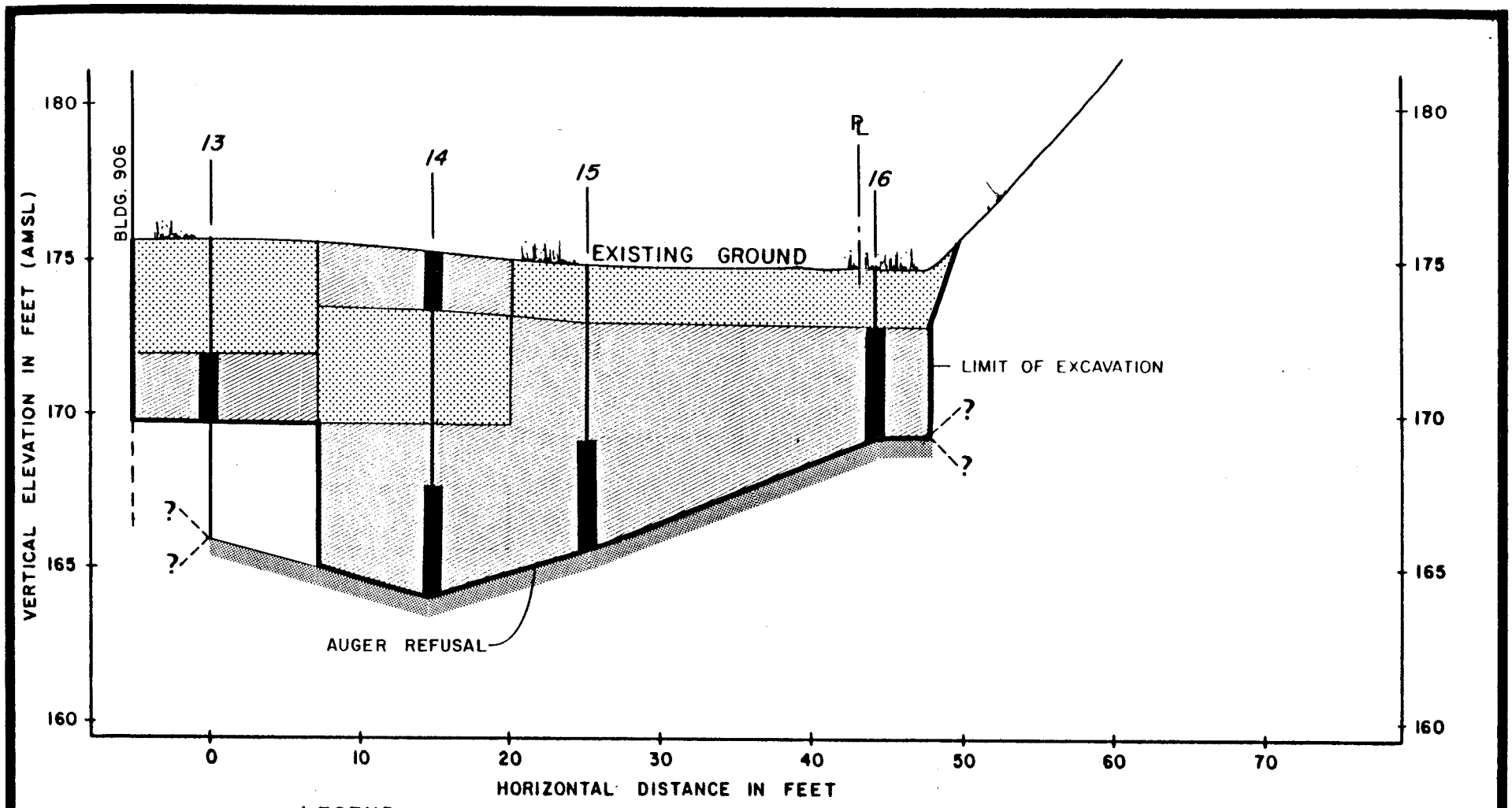


figure 18

STATION A-0+52
CROSS-SECTION E-E'
I.B.M. Corporation

CRA

1201-4/11/83

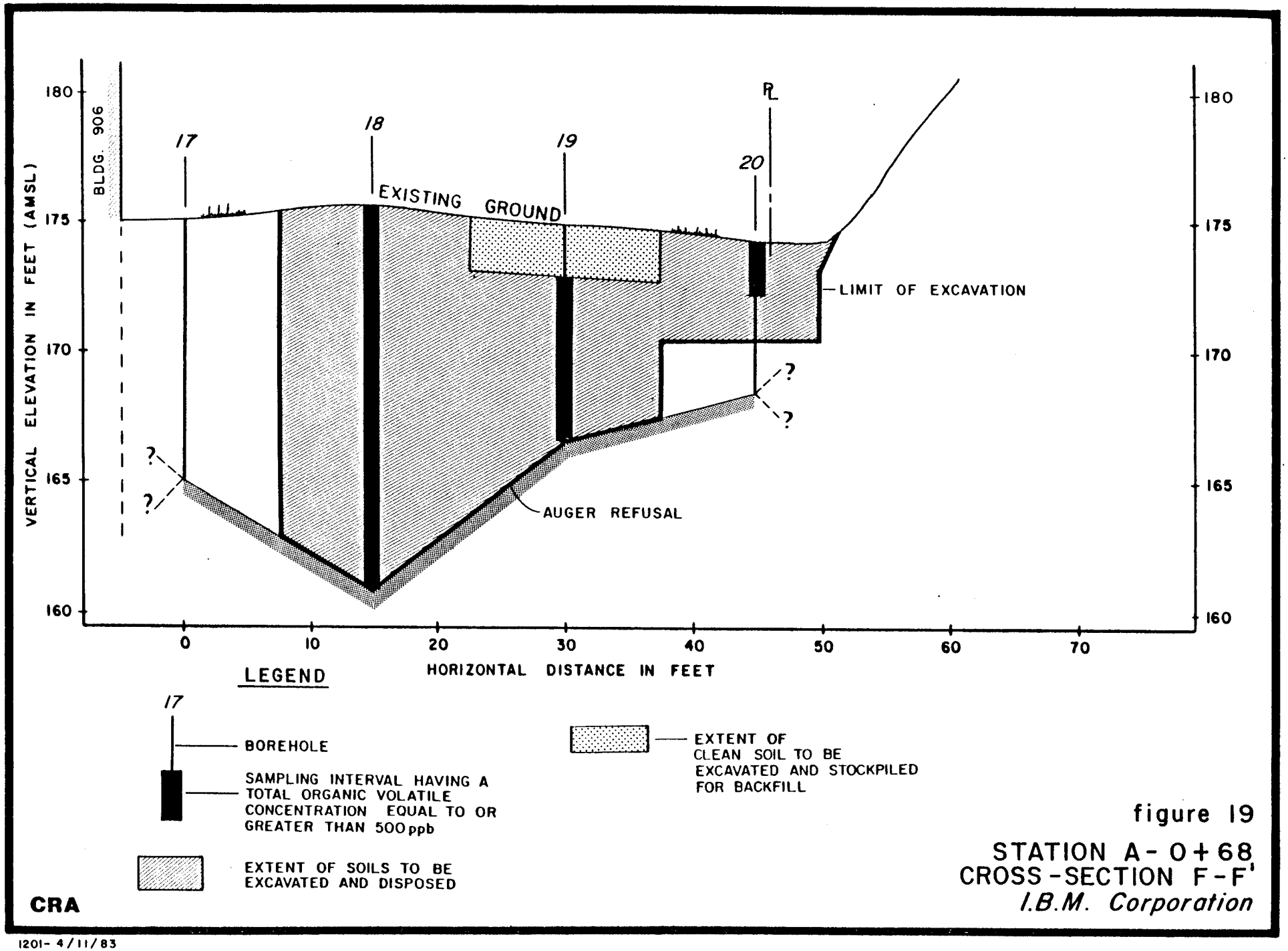


figure 19

STATION A-0+68
CROSS-SECTION F-F'
I.B.M. Corporation

CRA

1201-4/11/83

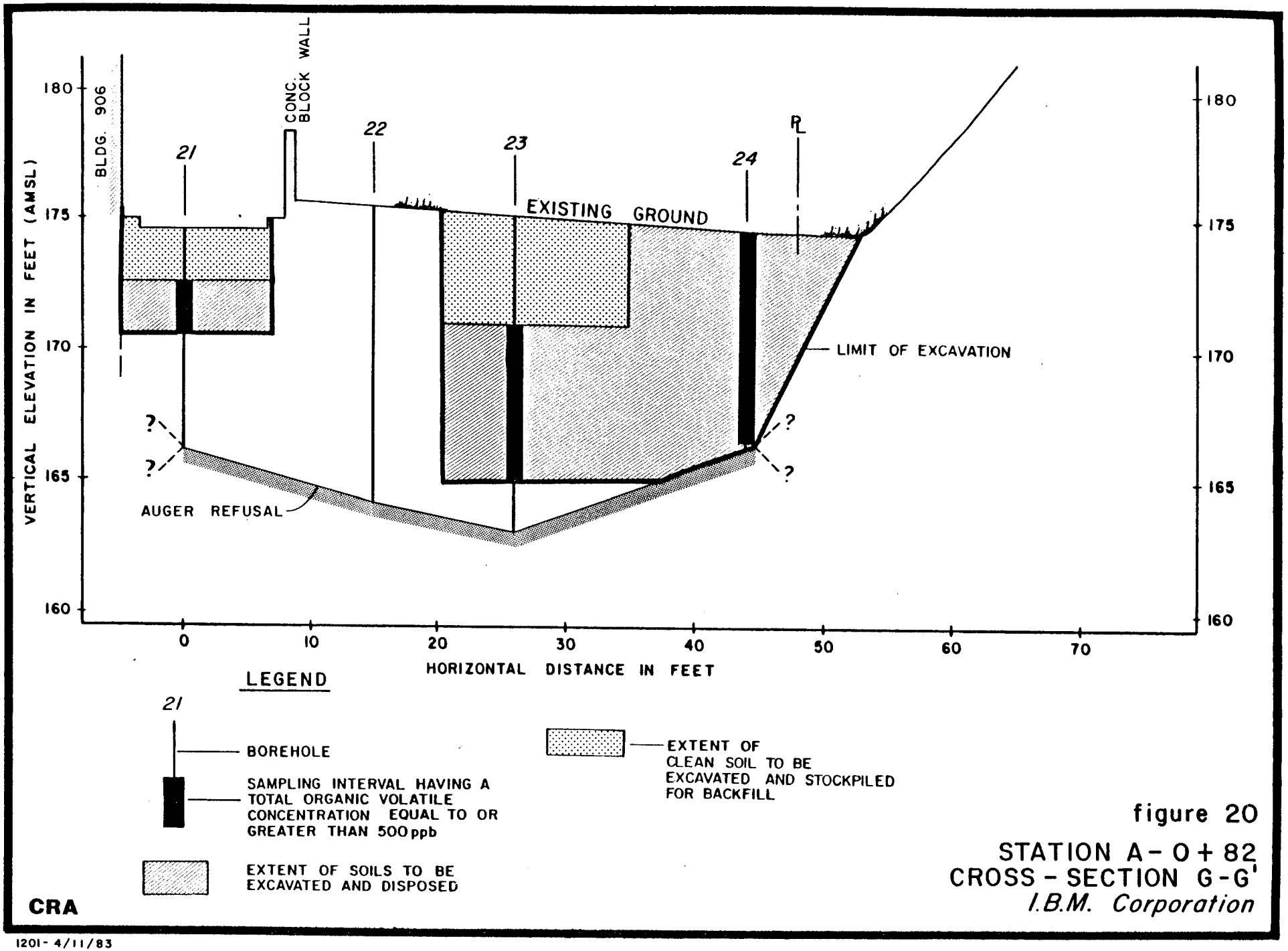


figure 20

STATION A - 0 + 82
CROSS - SECTION G-G'
I.B.M. Corporation

CRA

1201- 4/11/83

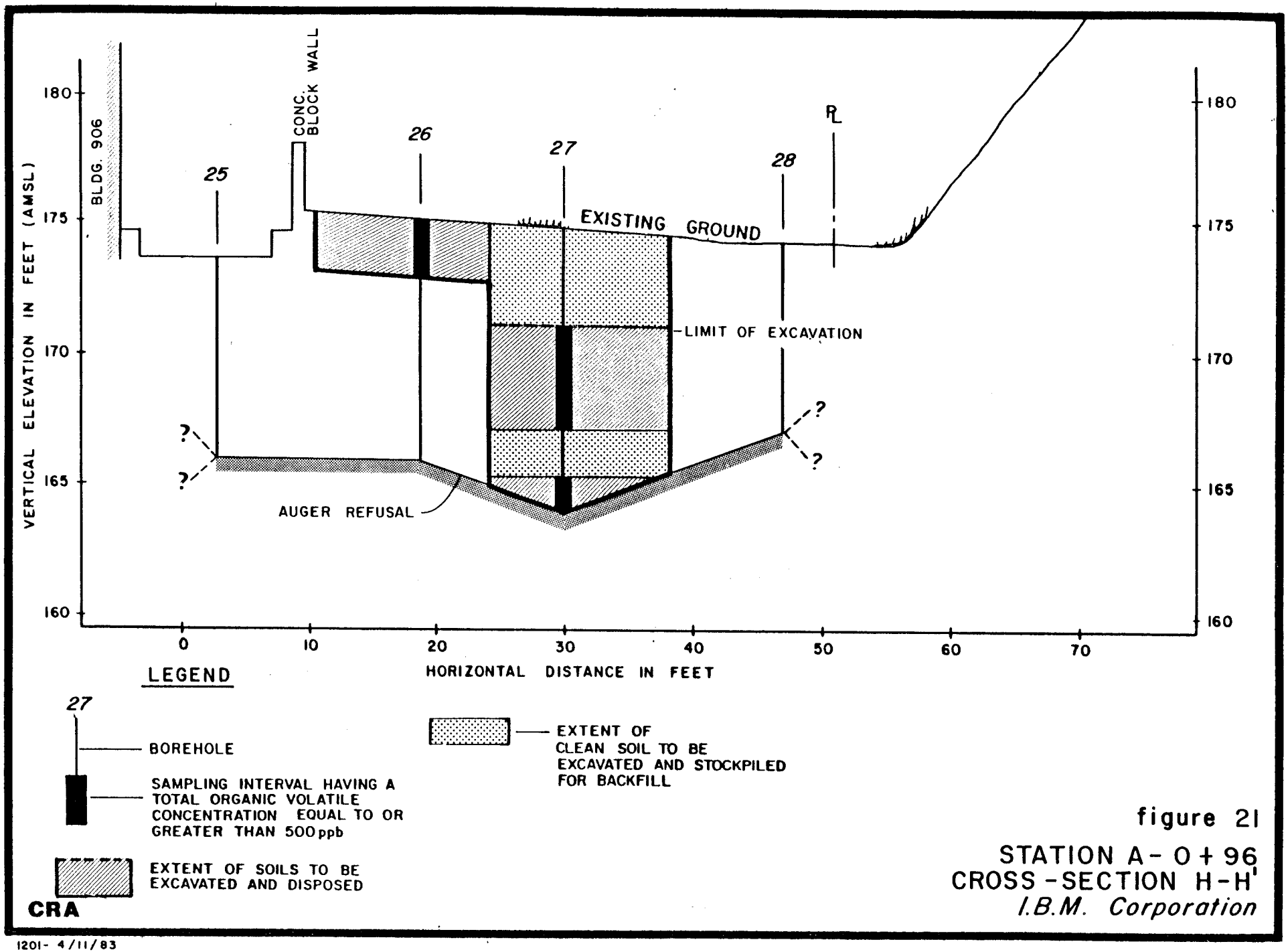
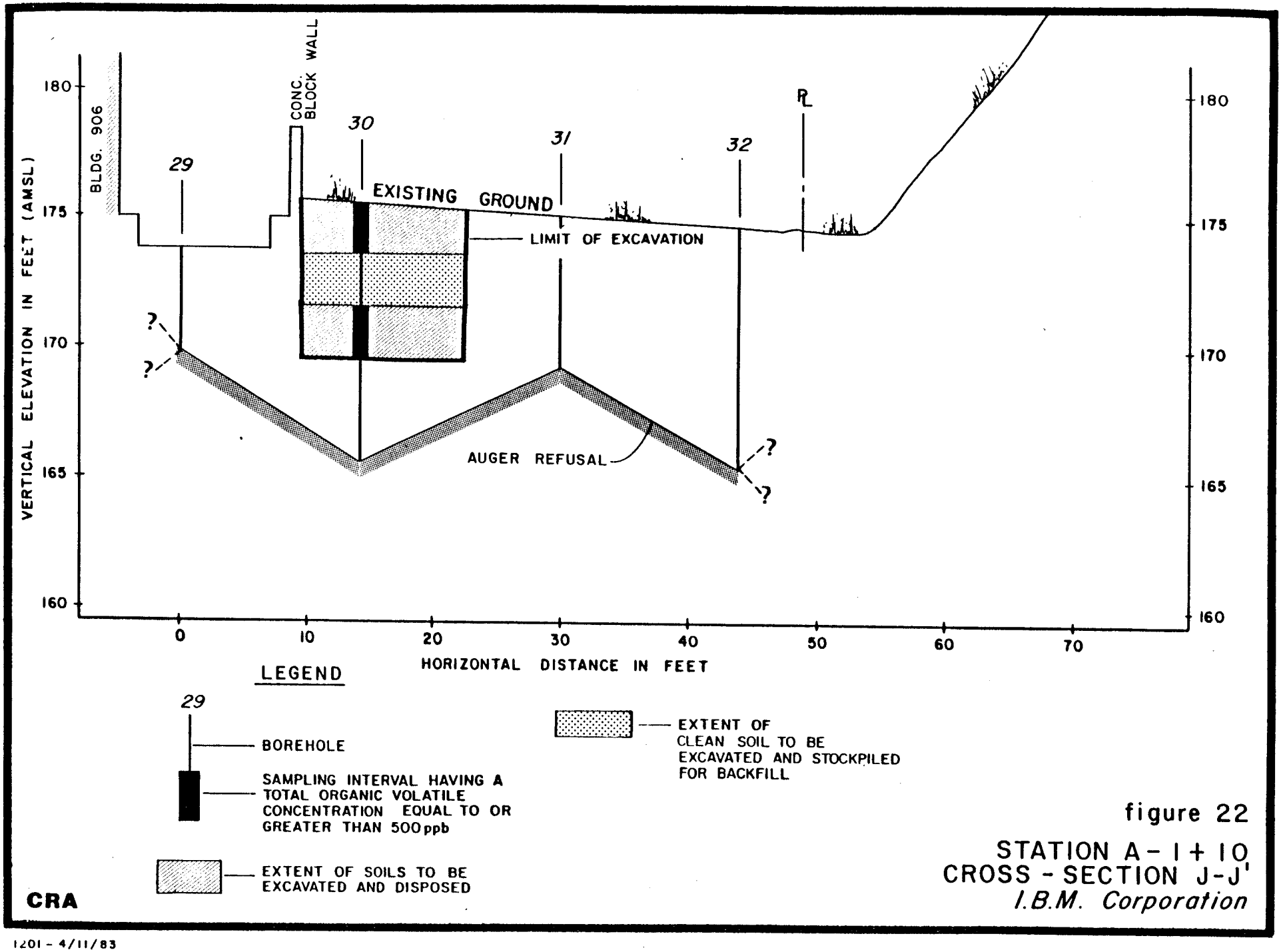


figure 21

STATION A - 0 + 96
CROSS - SECTION H - H'
I.B.M. Corporation

1201- 4/11/83



CRA

figure 22

STATION A-1+10
CROSS-SECTION J-J'
I.B.M. Corporation

1201-4/11/83

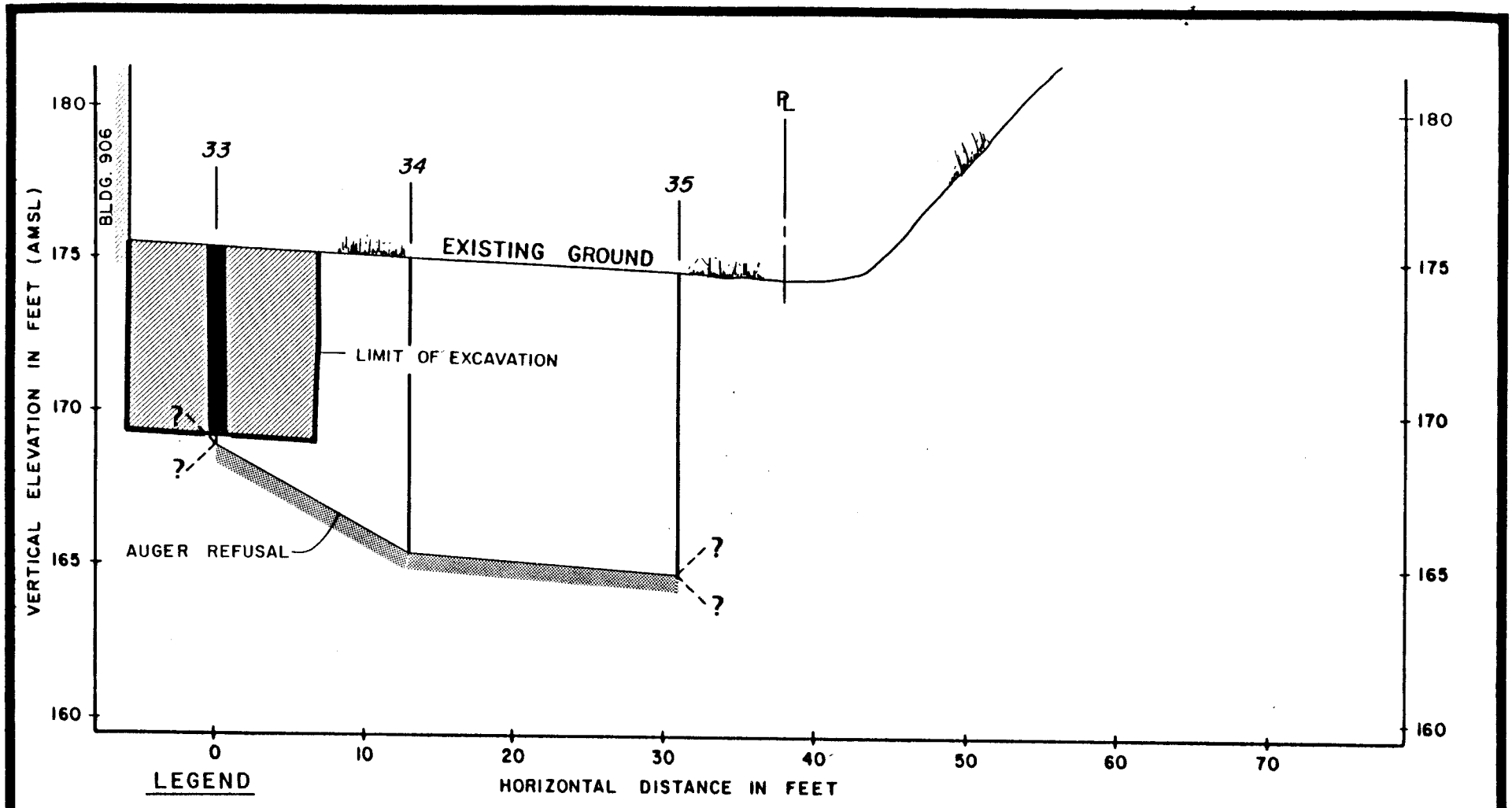
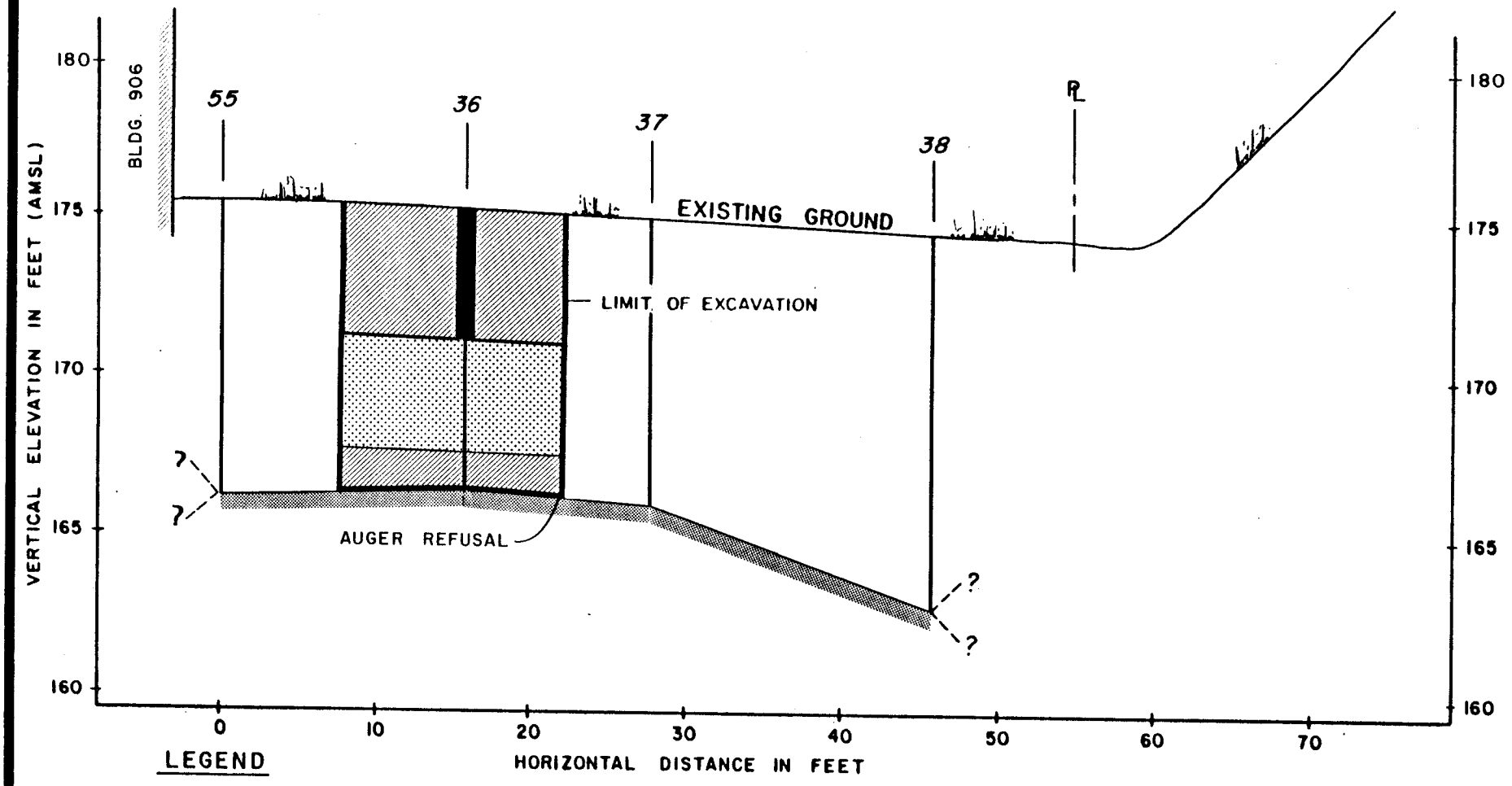


figure 23

STATION A - 1+28
CROSS-SECTION K-K'
I.B.M. Corporation

1201- 4/11/83



CRA

figure 24

STATION A-1+44
CROSS-SECTION L-L'
I.B.M. Corporation

1201-4/11/83

Revised for base neutrals

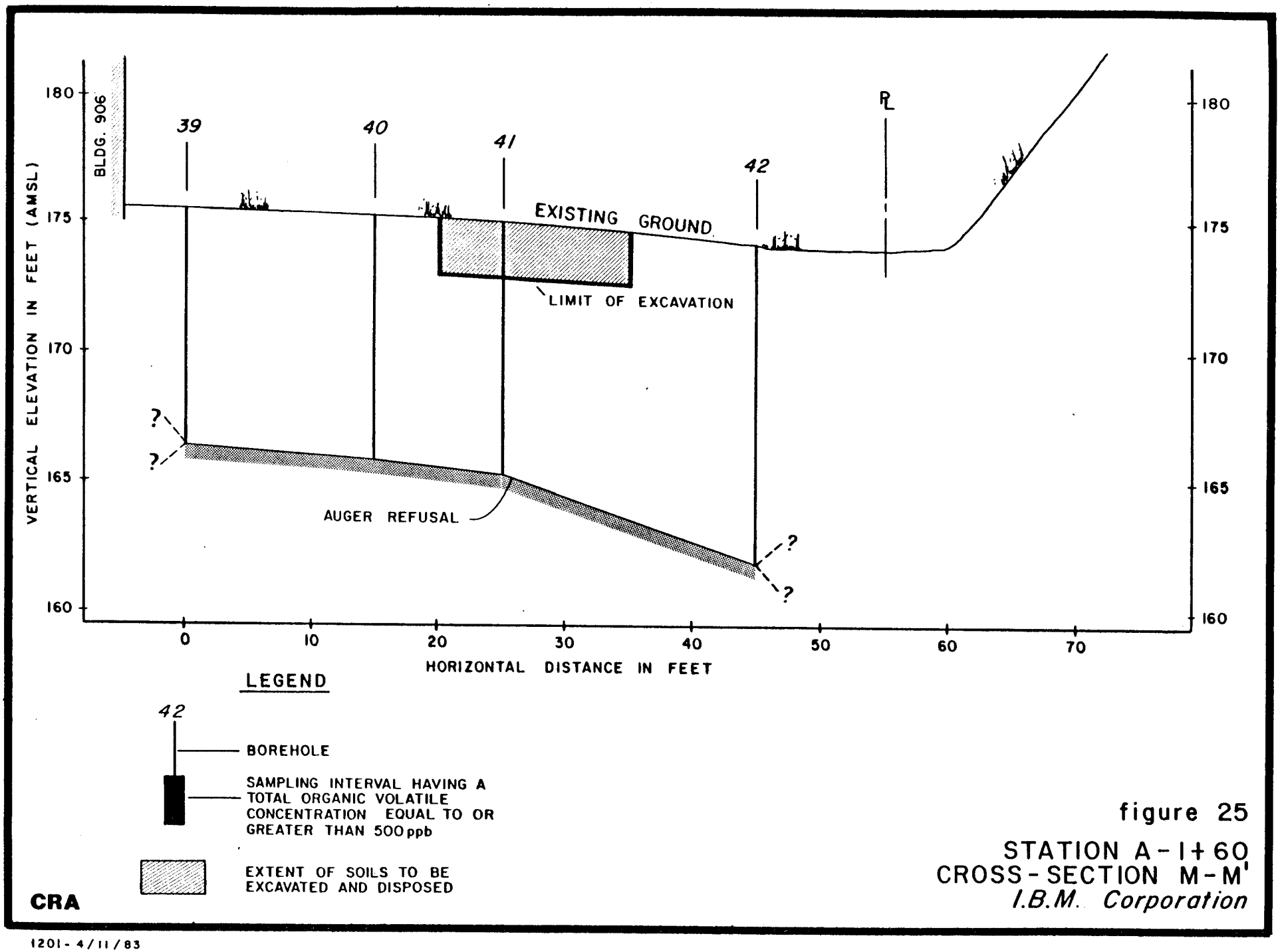


figure 25

STATION A-1+60
CROSS-SECTION M-M'
I.B.M. Corporation

1201-4/11/83

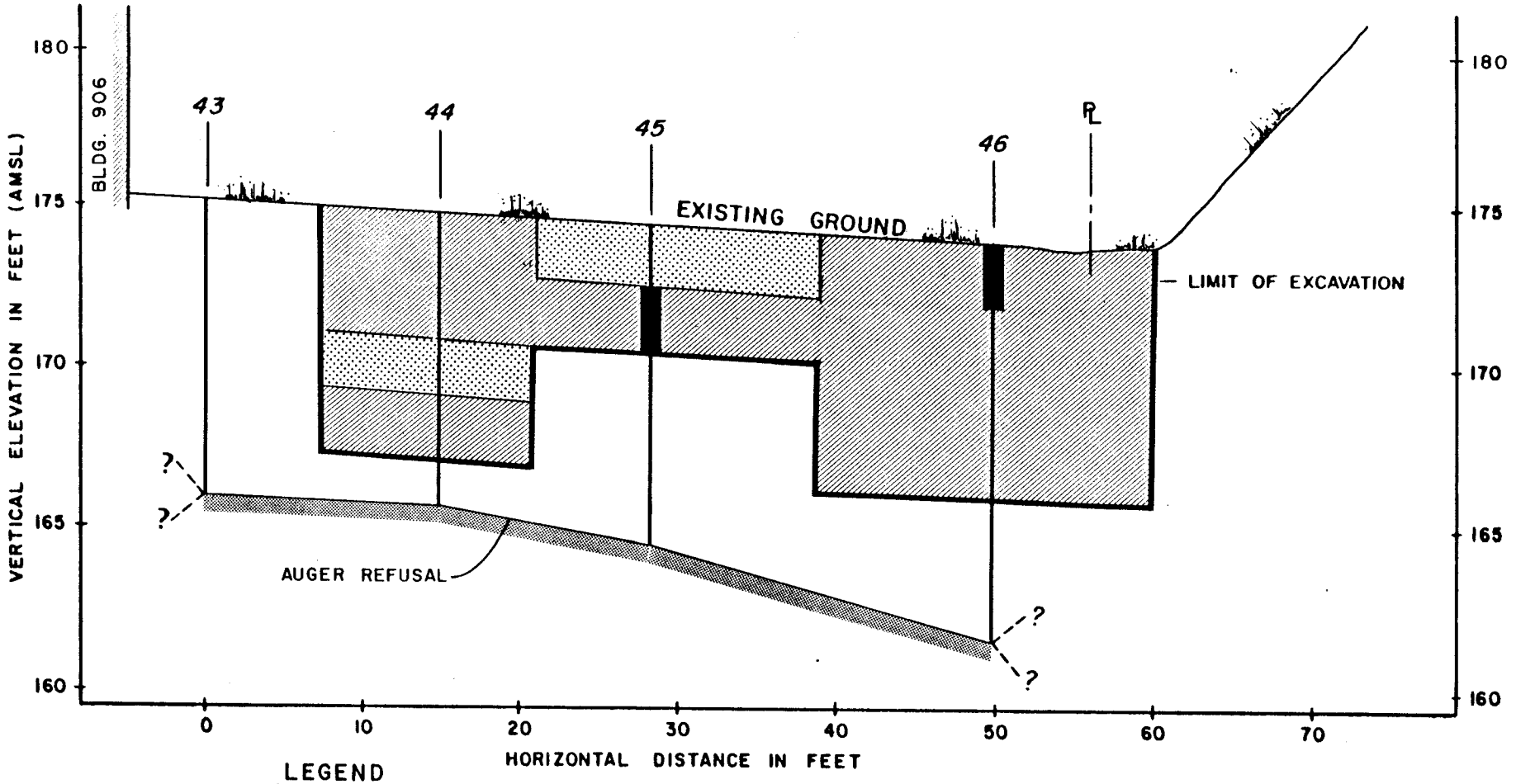


figure 26

STATION A-1+72
CROSS-SECTION N-N'
I.B.M. Corporation

CRA

1201- 4/11/83

Revised for base neutrals

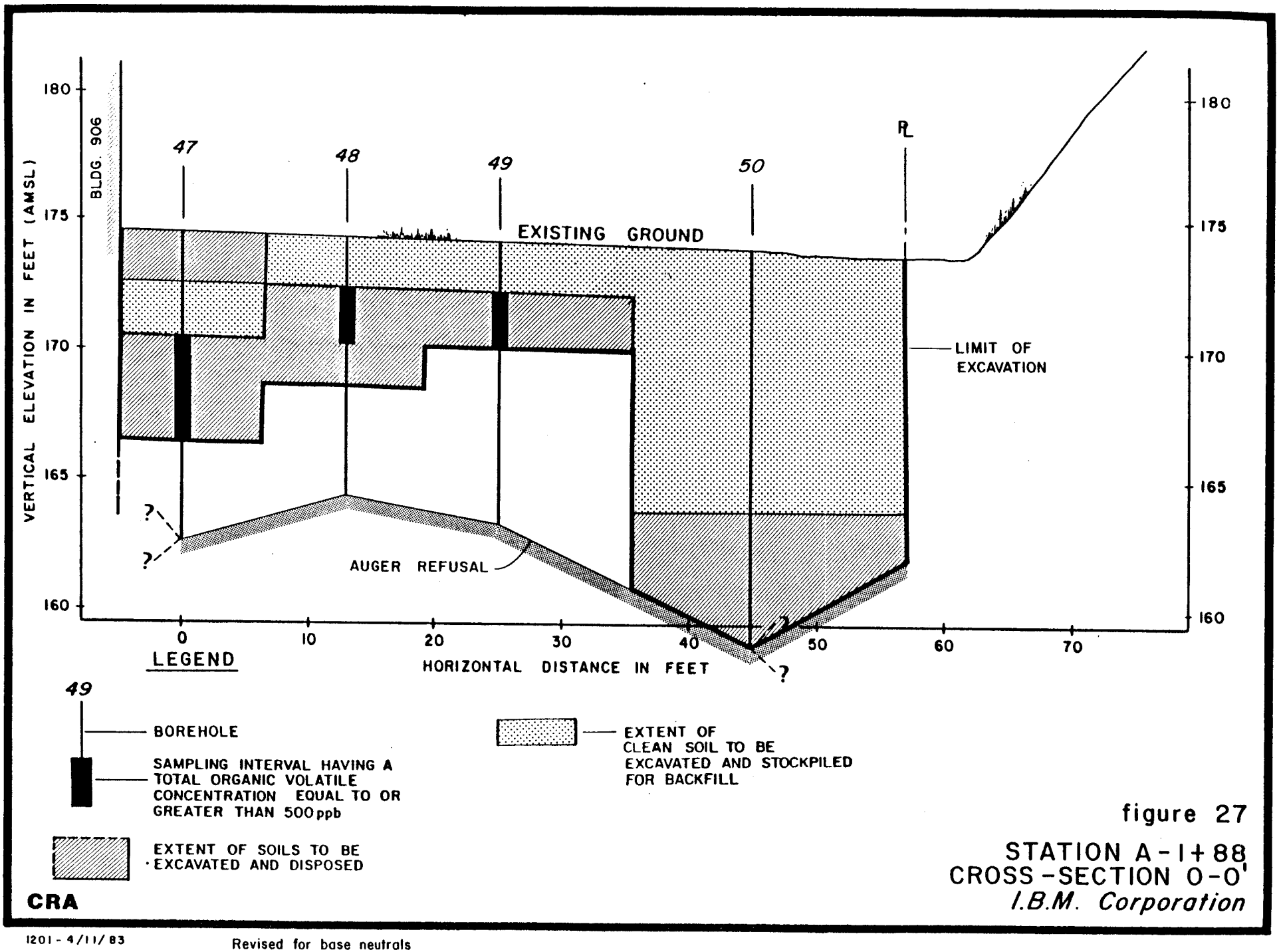


figure 27

STATION A-1+88
CROSS-SECTION O-O'
I.B.M. Corporation

CRA

1201-4/11/83

Revised for base neutrals

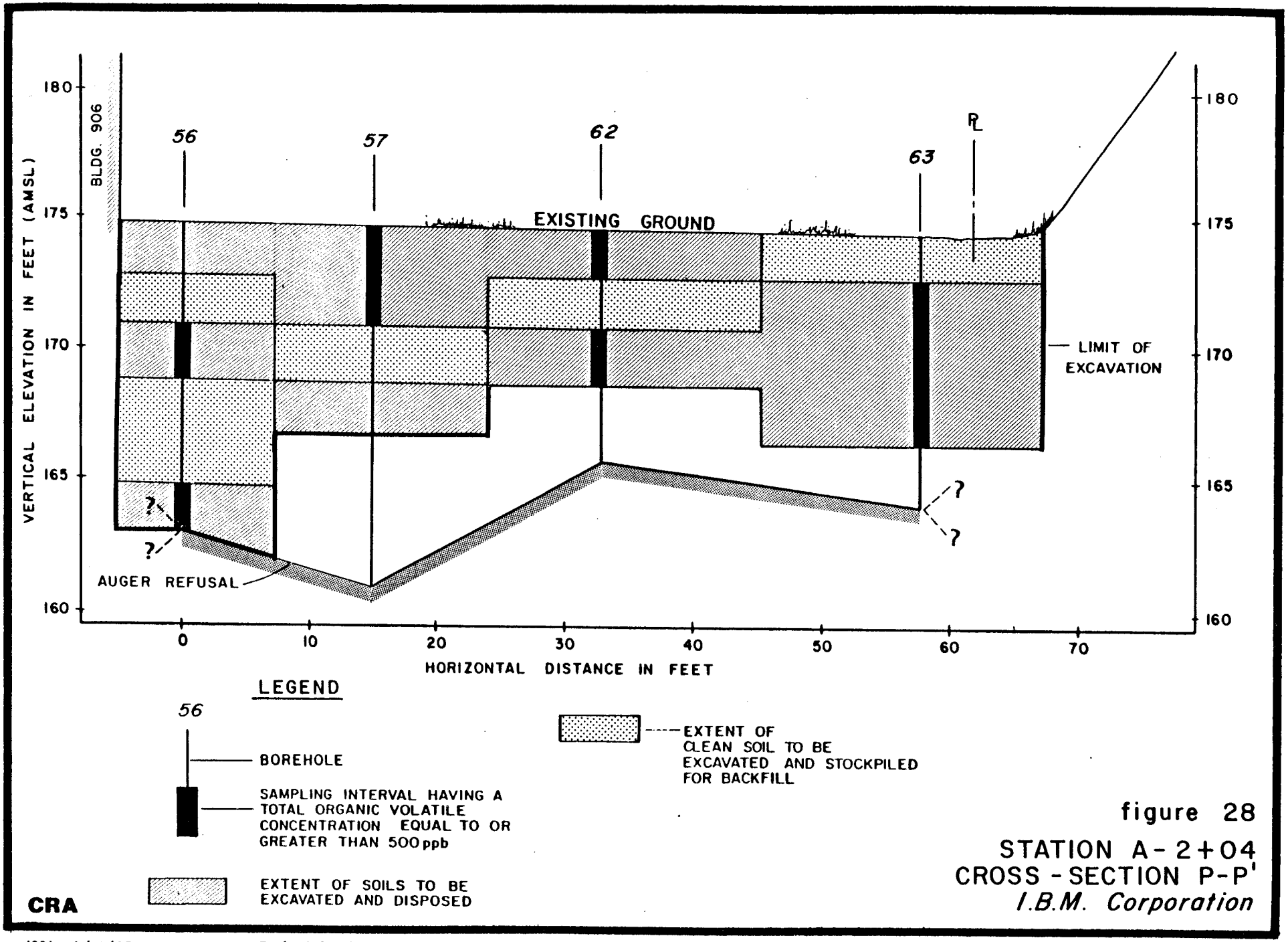


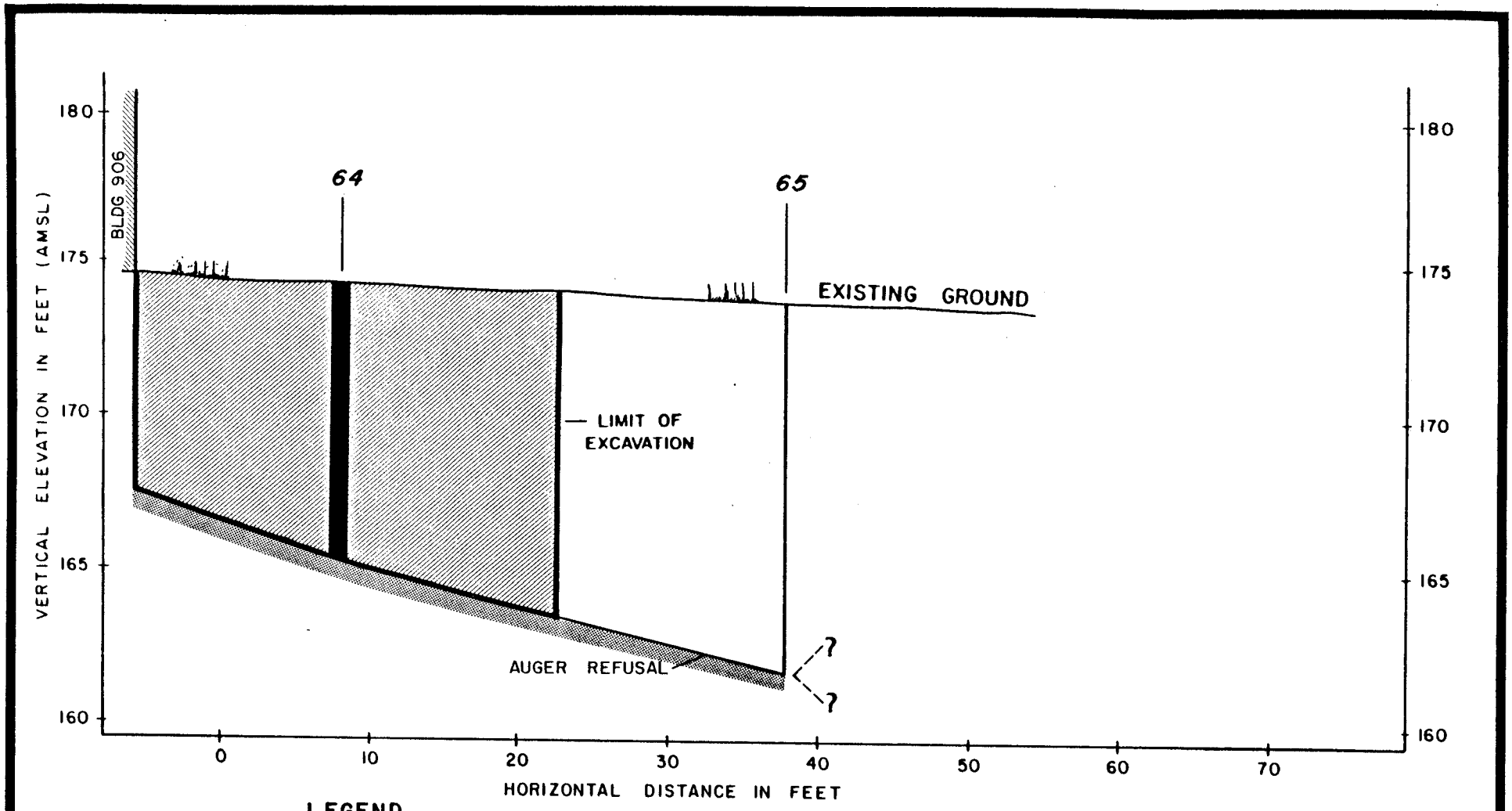
figure 28

STATION A-2+04
CROSS-SECTION P-P'
I.B.M. Corporation

CRA

1201 - 4/11/83

Revised for base neutrals



CRA

figure 29

STATION A-2+32
CROSS-SECTION Q-Q
I.B.M. Corporation

1201-4/11/83

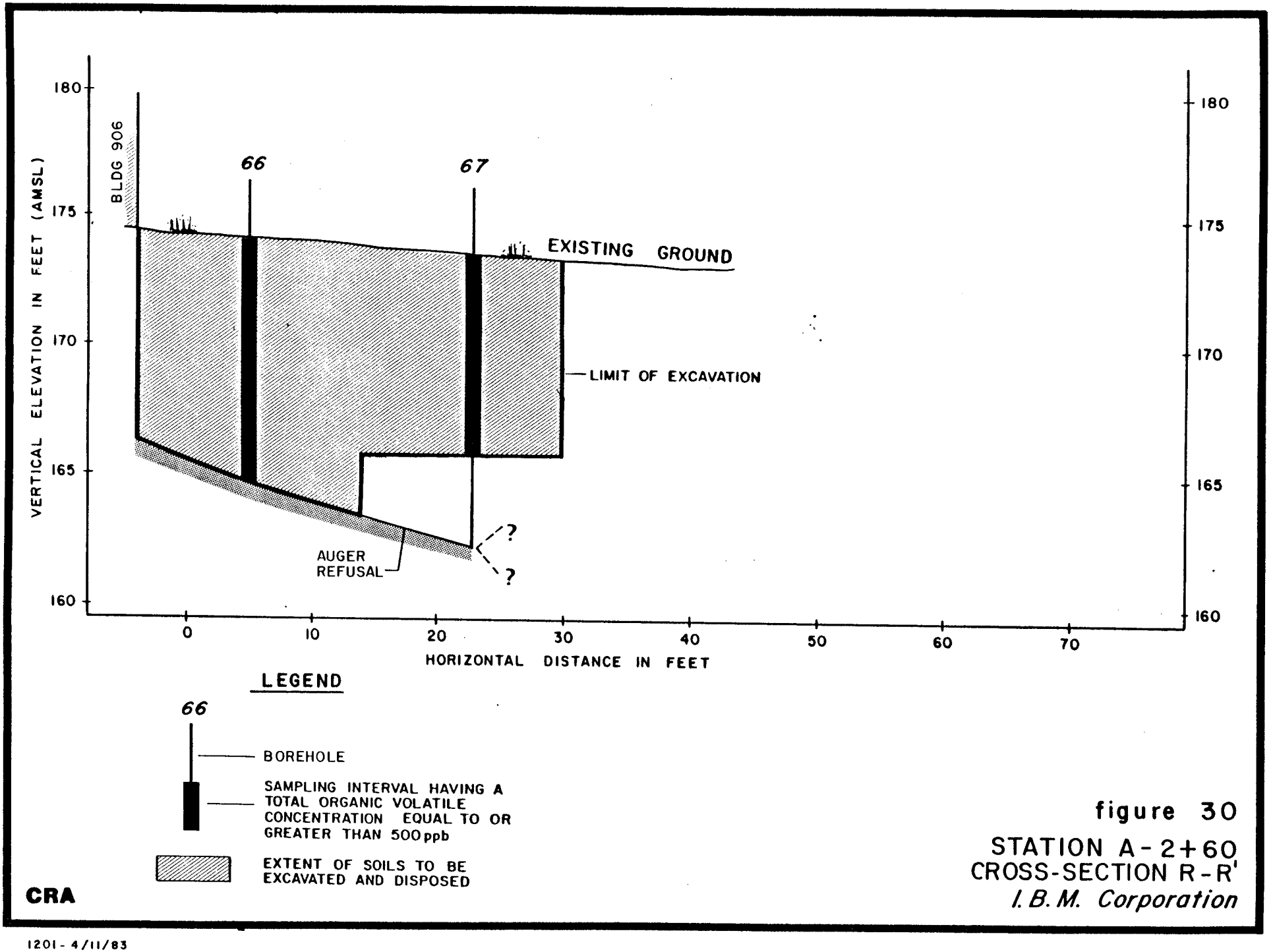
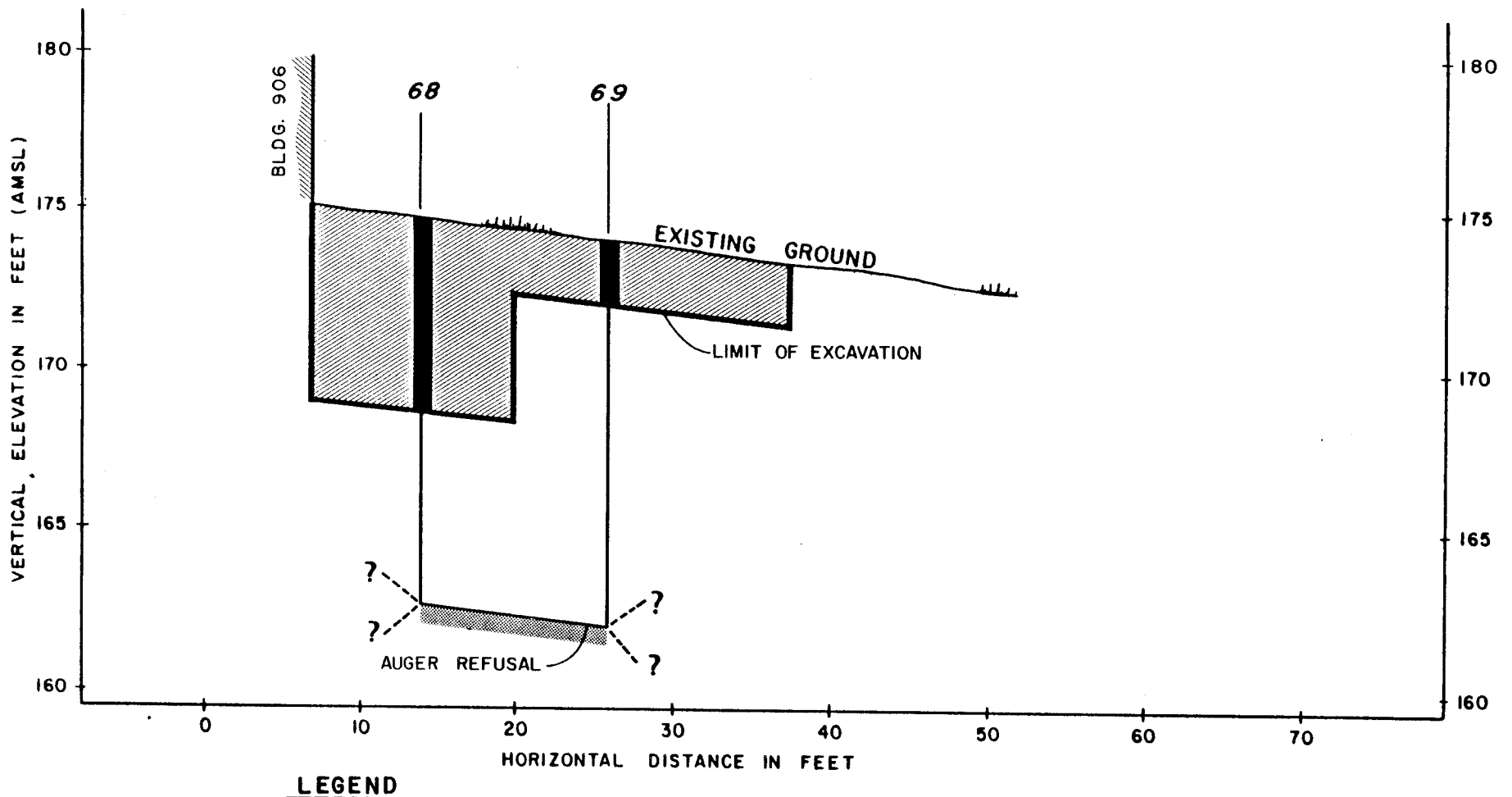


figure 30

STATION A-2+60
CROSS-SECTION R-R'
I.B.M. Corporation

1201-4/11/83



LEGEND

68

BOREHOLE

SAMPLING INTERVAL HAVING A TOTAL ORGANIC VOLATILE CONCENTRATION EQUAL TO OR GREATER THAN 500 ppb

EXTENT OF SOILS TO BE EXCAVATED AND DISPOSED

CRA

figure 31

STATION A-2+88
CROSS-SECTION S-S'
I.B.M. Corporation

1201-4/11/83

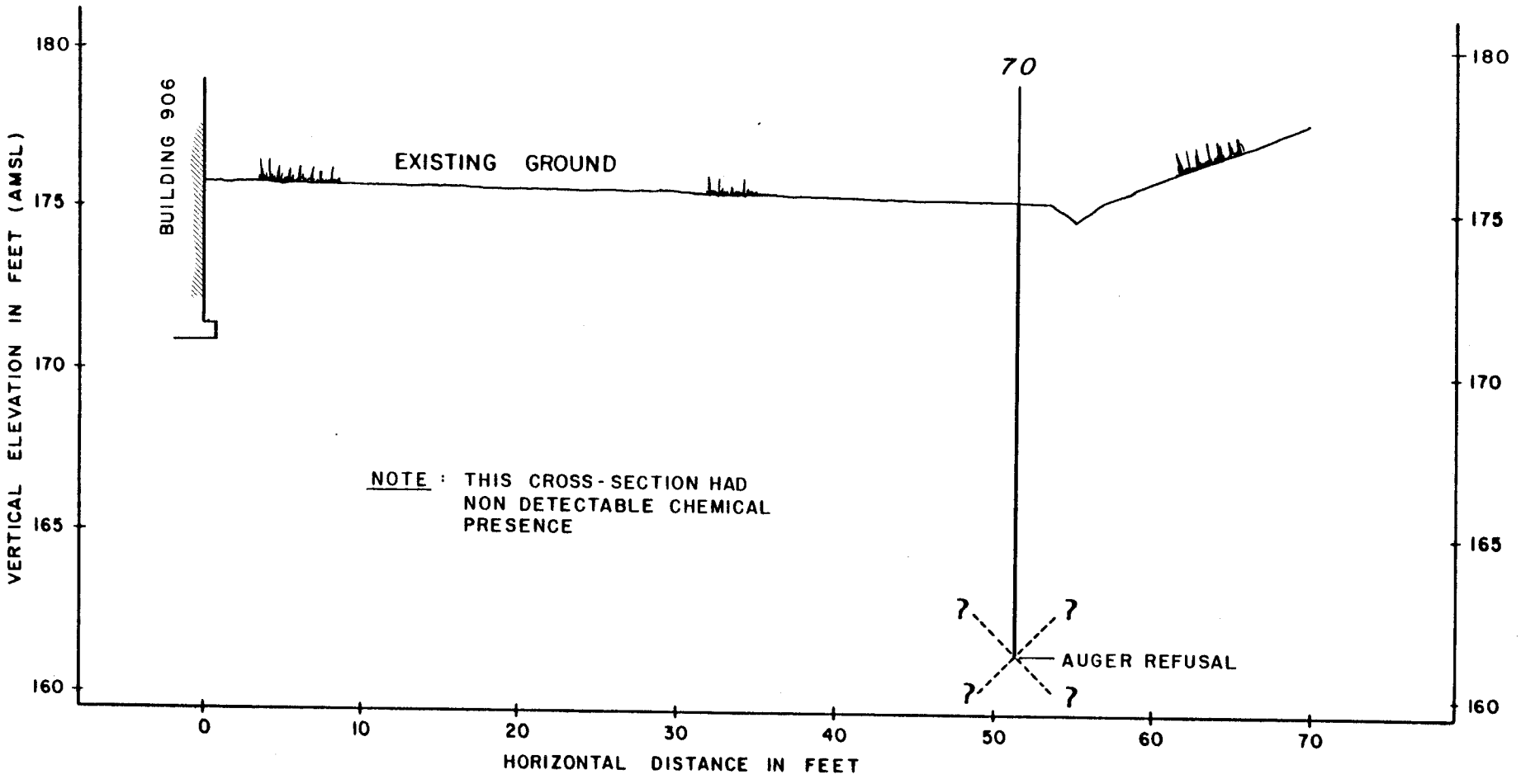


figure 32

STATION A-3+36
CROSS-SECTION T-T'
I.B.M. Corporation

CRA

1201 - 4/11/83

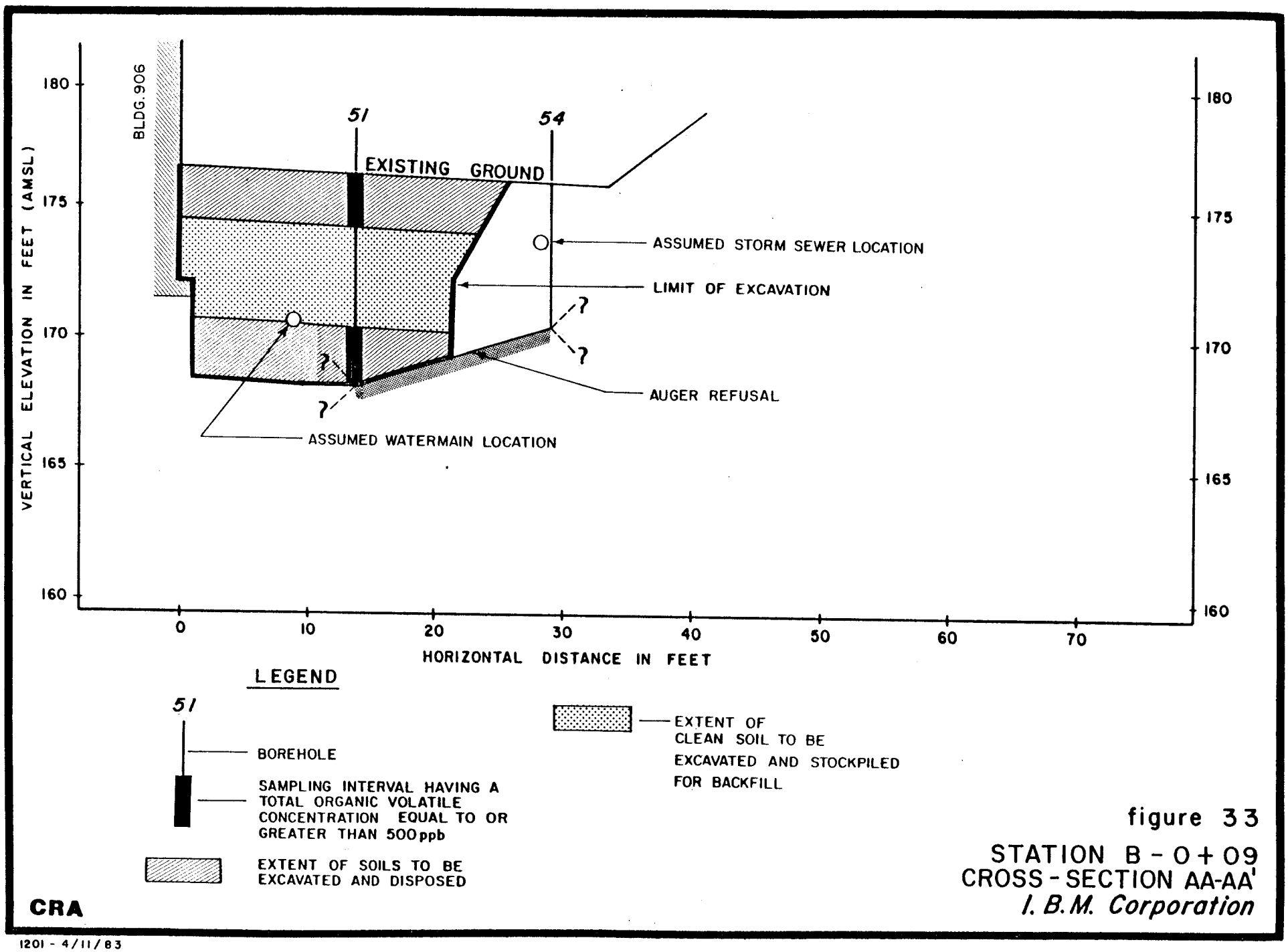
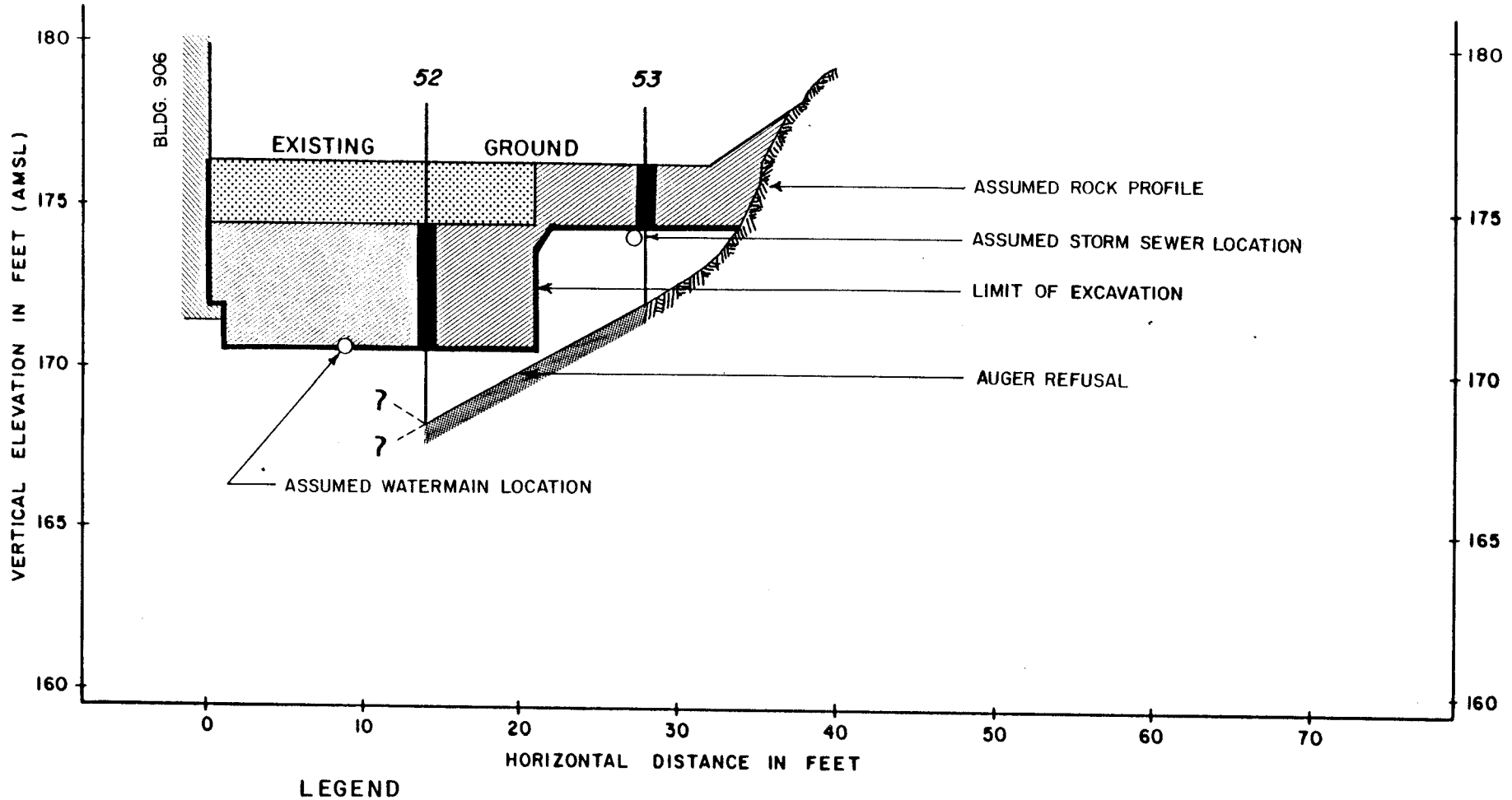


figure 33

STATION B - 0 + 09
CROSS - SECTION AA-AA'
I. B. M. Corporation

CRA

1201 - 4/11/83



LEGEND

52

BOREHOLE

SAMPLING INTERVAL HAVING A TOTAL ORGANIC VOLATILE CONCENTRATION EQUAL TO OR GREATER THAN 500 ppb

EXTENT OF SOILS TO BE EXCAVATED AND DISPOSED

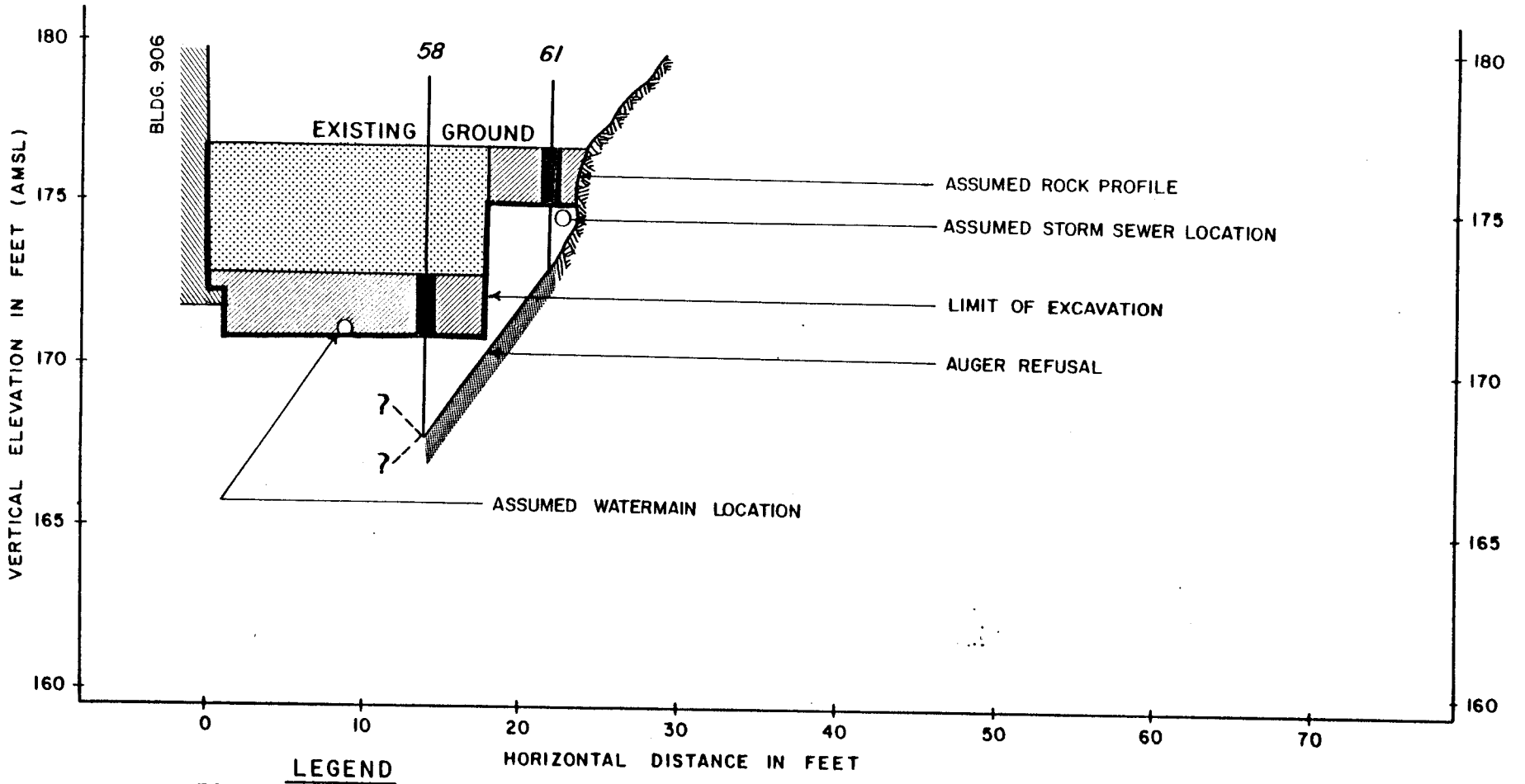
EXTENT OF CLEAN SOIL TO BE EXCAVATED AND STOCKPILED FOR BACKFILL

figure 34

STATION B - 0 + 24
CROSS - SECTION BB-BB'
I.B.M. Corporation

CRA

1201 - 4/11/83

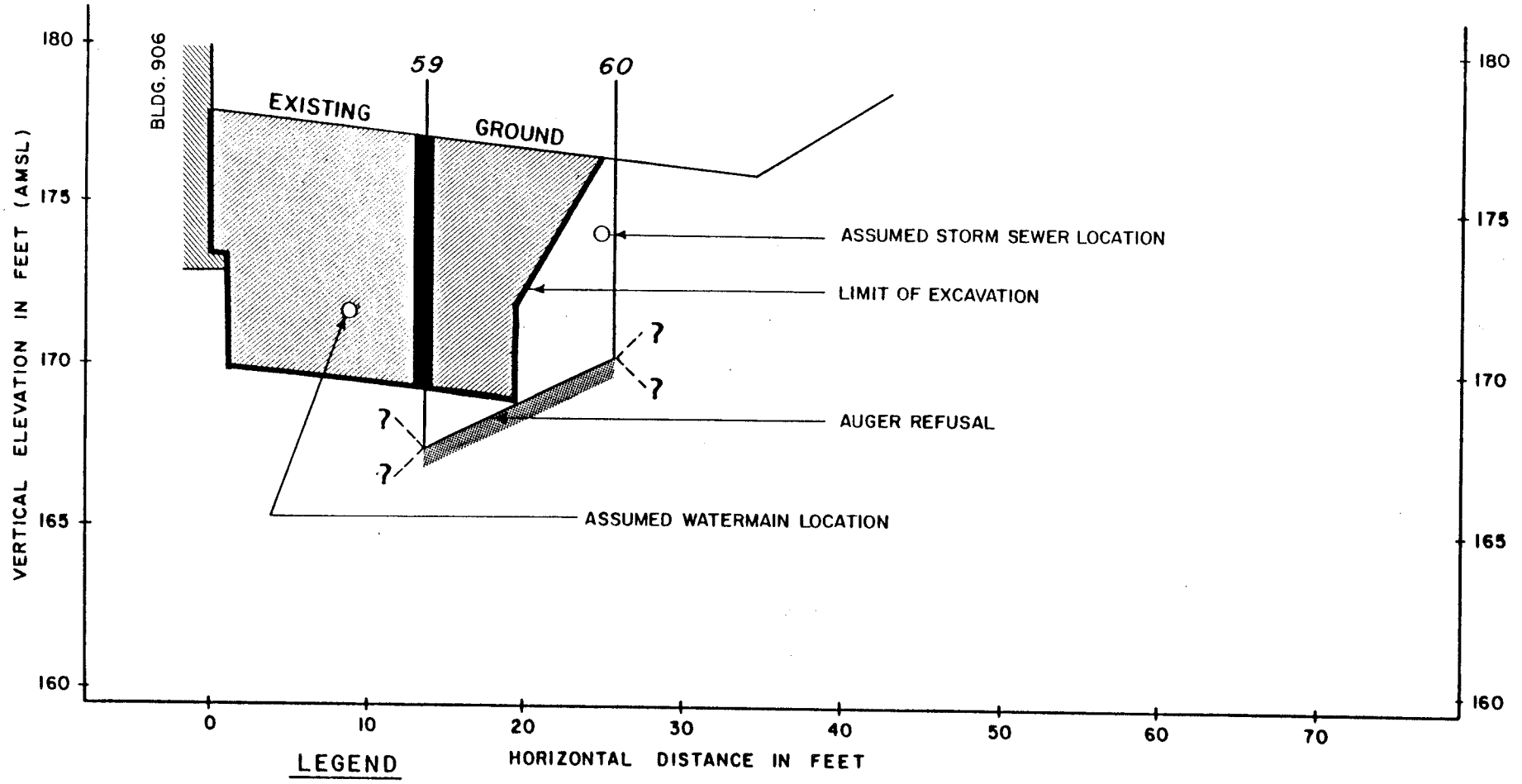


CRA

figure 35

STATION B-0+54
CROSS-SECTION CC-CC'
I.B.M. Corporation

1201-28/10/83



LEGEND

59

BOREHOLE

SAMPLING INTERVAL HAVING TOTAL ORGANIC VOLATILE CONCENTRATIONS GREATER THAN 500 ppb

EXTENT OF CLEAN SOIL TO BE EXCAVATED AND DISPOSED

CRA

figure 36

STATION B- 0+76
CROSS-SECTION DD-DD'
I. B. M. Corporation

1201-28/10/83

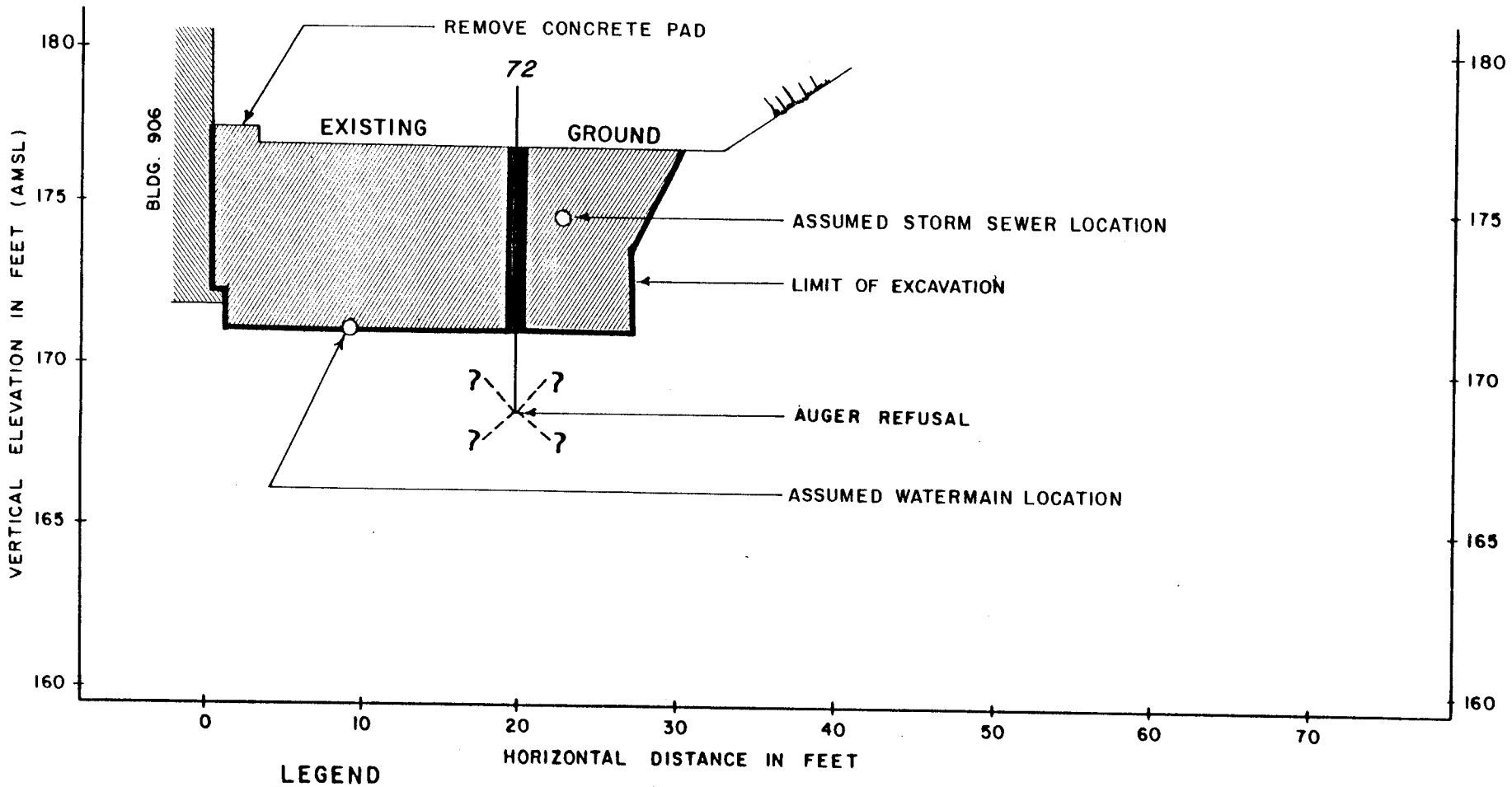
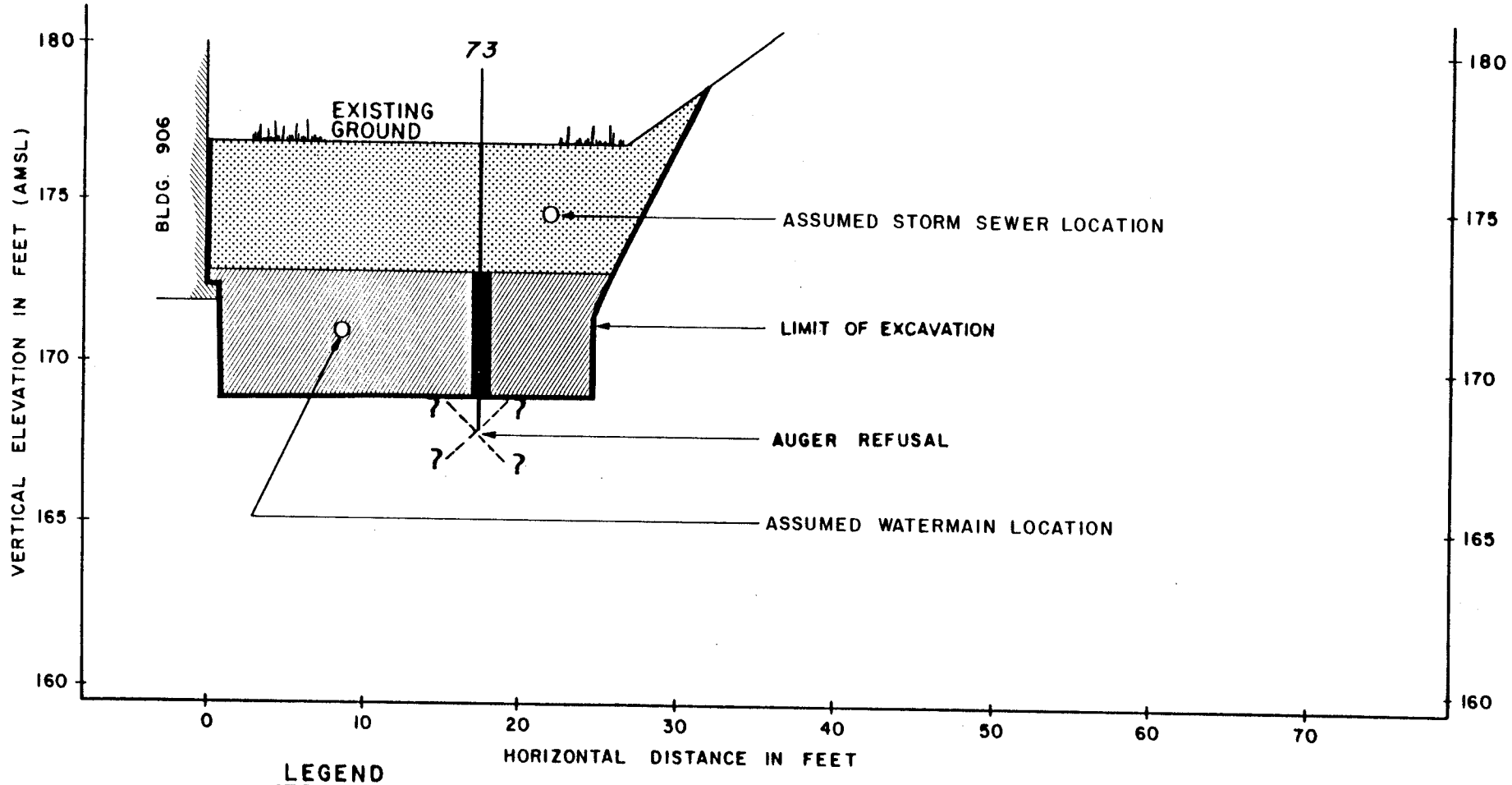


figure 37

STATION B-1+32
CROSS-SECTION EE-EE'
I.B.M. Corporation

CRA

1201-4/11/83



LEGEND

73

BOREHOLE

SAMPLING INTERVAL HAVING A TOTAL ORGANIC VOLATILE CONCENTRATION EQUAL TO OR GREATER THAN 500 ppb

EXTENT OF SOILS TO BE EXCAVATED AND DISPOSED

EXTENT OF CLEAN SOIL TO BE EXCAVATED AND STOCKPILED FOR BACKFILL

figure 38

STATION B - 1+60
CROSS - SECTION FF - FF'
I.B.M. Corporation

CRA

1201 - 4/11/83

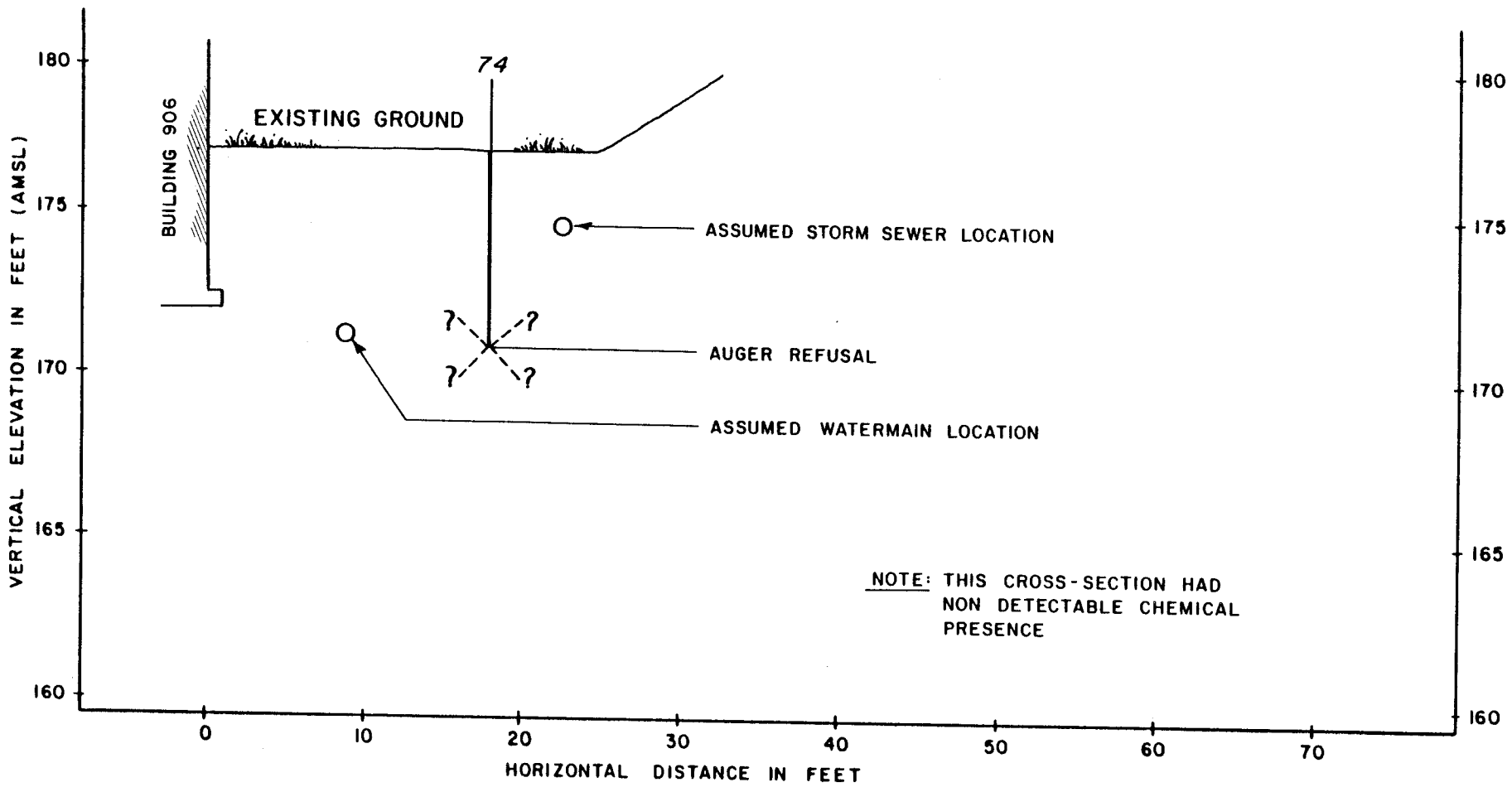


figure 39

STATION B-2+36
CROSS-SECTION GG-GG'
I.B.M. Corporation

CRA

1201-4/11/83

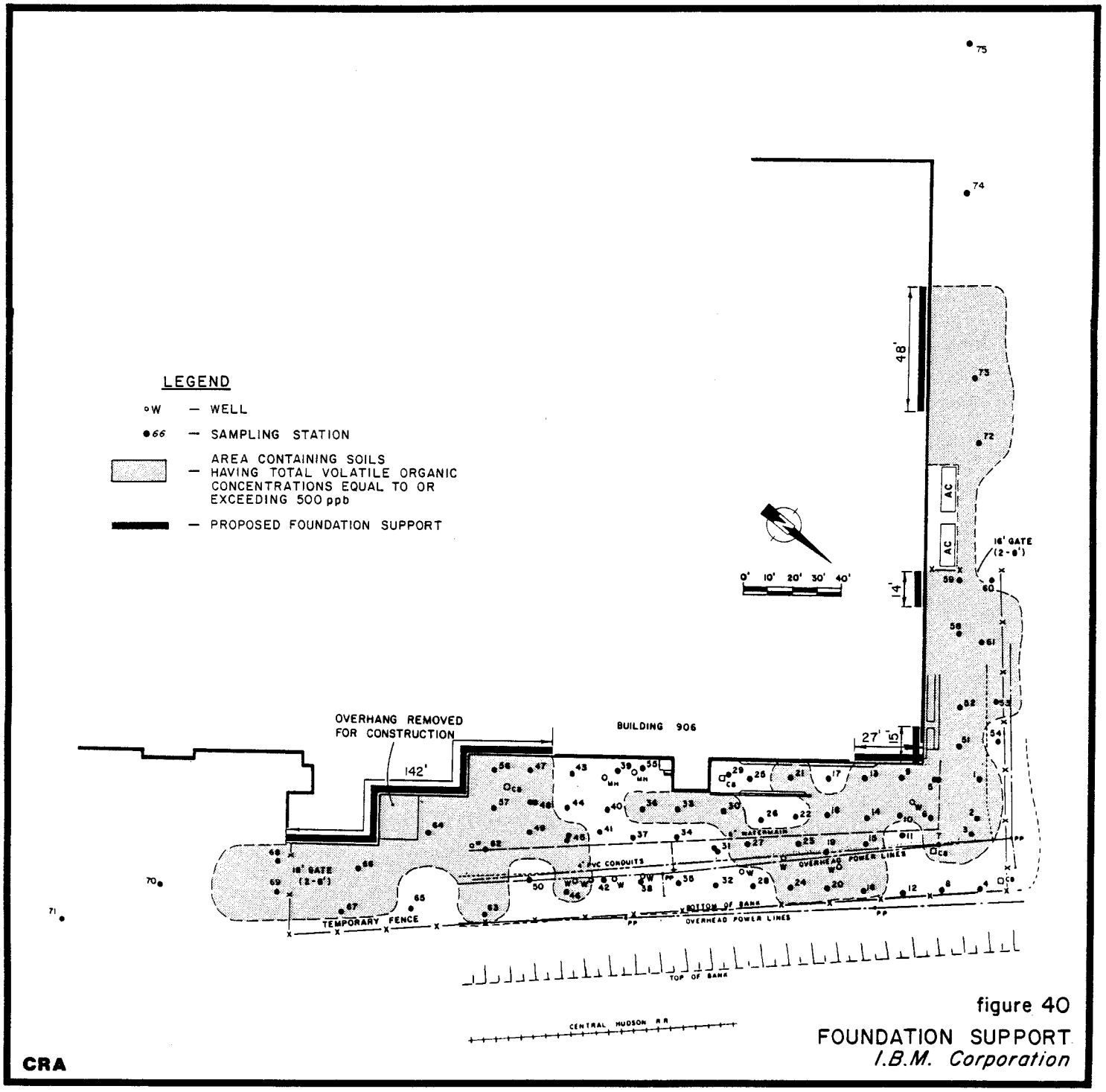


figure 40

FOUNDATION SUPPORT

I.B.M. Corporation

CRA

1201 - 19/10/83

APPENDIX F

HEALTH AND SAFETY PLAN
AS DESIGNED FOR BUILDING 906
REMEDIAL CONSTRUCTION PROJECT

HEALTH AND SAFETY PLAN
AS DESIGNED FOR BUILDING 906
REMEDIAL CONSTRUCTION PROGRAM

A. BASIS

The Occupational Safety and Health Administration (OSHA) Standards and Regulations contained in Title 29, Code of Federal Regulations, Parts 1910 and 1926 (29 C.F.R. 1910 and 1926) provide the basis for the safety and health program. Additional Specifications within this Section are in addition to OSHA regulations and reflect the positions of both the EPA and the National Institute for Occupational Safety and Health (NIOSH) regarding procedures required to insure safe operations at a hazardous waste disposal site. It is also recognized that IBM has included procedures in addition to those contained herein.

The safety and health of the public and on-site personnel and the protection of the environment will take precedence over cost and schedule considerations for all project work. The IBM Site Manager, and SCA/SCC Project Manager will be responsible for decisions regarding when work will be stopped or started for Health or Safety reasons.

B. SAFETY OFFICER

SCA/SCC will provide a Safety Officer who will:

a) Be responsible for the implementation, enforcement and monitoring of the safety and health plan;

b) Ensure that all on-site personnel have obtained the required medical examinations prior to and at the termination of work. (Medical files will be retained by SCC).

c) Be responsible for the pre-construction indoctrination of all on-site personnel with regard to this safety plan and other safety requirements to be observed during construction, including: (i) potential hazards, (ii) personal hygiene principles, (iii) personnel protective equipment, (iv) respiratory protection equipment usage and fit testing, and (v) emergency procedures dealing with fire and medical situations.

d) Be responsible for the maintenance of separation of "Contaminated" (Dirty) and "Uncontaminated" (Clean) zones as described hereafter.

SCA/SCC will retain the services of an occupational physician to provide the medical examinations and surveillance specified herein. The name of the physician and evidence of examination of all on-site personnel will be provided to IBM prior to assigning personnel on-site.

C. TRAINING

SCA/SCC will provide and require that personnel assigned to or entering the site, complete training sessions which will ensure that all personnel are capable of and familiar with the use of safety, health, respiratory and protective equipment and with the safety and security procedures required for this site.

All on-site personnel will receive extensive training in the usage of, and be fit tested for, both half and full face respirators. The respirator program will be administered by the Safety Officer.

The Safety Officer will also be responsible for ensuring that personnel, not successfully completing the required training, are not permitted to enter the site to perform work.

Exceptions to the above will be made only by the IBM Site Manager for authorized visitors.

D. WORK AREAS

SCA/SCC will clearly layout and identify work areas in the field and will limit equipment, operations and personnel in the areas as defined below:

i) "Dirty" Zone (Hazardous Work or Contaminated Zone) - This will include all areas where contaminated soils are located, and contaminated surface areas adjacent to these areas. The level of personnel protective equipment required in this area will be determined by the Safety Officer and the IBM Manager after monitoring and on-site inspection.

ii) Decontamination Zone (Buffer Zone) - This zone will occur at the interface of "Dirty" and "Clean" Zones and will provide for the transfer of construction materials from clean to site dedicated equipment, the decontamination of waste transport vehicles prior to entering the "Clean" Zone, the decontamination of personnel and clothing prior to entering the "Clean" Zone, and for the physical segregation of the "Clean" and "Dirty" Zones.

iii) "Clean" Zone - This area is the remainder of site and is defined as being an area outside the zone of significant air, soil or surface water contamination. The "Clean" Zone will be clearly delineated and procedures implemented to prevent active or passive contamination from the work site. The function of the "Clean" Zone includes:

1) An entry area for personnel, material and equipment to the "Dirty" Zone of site operations;

2) An exit area for decontaminated personnel, materials and equipment from the "Dirty" Zone of site operations;

3) The housing of site special services; and

4) A storage area for clean safety and work equipment.

E. SECURITY

IBM will be responsible for site security.

F. COMMUNICATIONS

SCA/SCC will provide telephone communication within a command post at the site of work. Emergency numbers will be prominently posted including those for the ambulance, hospital, and IBM.

G. EMERGENCY AND FIRST AID EQUIPMENT AND SUPPLY

SCA/SCC will provide an emergency medical facility at the site of work. This facility will include the following:

i) Stretcher;

ii) Self contained air respiratory devices;

iii) One counter and sink with running potable water;

iv) One cot;

v) Blankets and towels as required.

SCA/SCC will maintain the equipment and supplies at the site.

The safety equipment listed below will be located and maintained within the "Dirty" zone in appropriate locations as directed by the Safety Officer.

i) portable emergency eye wash and shower

ii) twenty pound ABC type dry chemical fire extinquishers

iii) self contained air full face respirators

H. PERSONAL SAFETY AND RELATED EQUIPMENT

SCA/SCC will provide all on-site personnel with appropriate personal safety equipment and protective clothing. SCA/SCC will ensure that all safety equipment and protective clothing is kept clean and well-maintained.

SCA/SCC will furnish for on-site personnel:

a) Disposable outerwear such as disposable coveralls, gloves, hardhat liners, and foot coverings

b) Hardhats

c) Rubber overshoes or overboots

d) Full or half face respirator with dual high efficiency organic vapor, acid gas and particulate filters; self-contained breathing apparatus or other supplied air system as necessary to conduct the remedial action in a safe manner.

Safety rules that will be enforced at this site include:

1) All prescription eyeglasses in use on the site will be safety glasses.

2) All disposable or reusable gloves worn on the site will be approved by the Safety Officer. Inner gloves will be disposable latex.

3) Footwear used on-site will be covered by rubber overshoes when entering or working in the "Dirty" Zone or Decontamination Zone.

4) On-site personnel unable to pass a respiratory fit test will not enter or work in the "Dirty" zone or Decontamination Zone.

5) All on-site personnel will wear an approved hardhat when present in the "Dirty" zone.

6) All personal protective equipment worn on-site will be decontaminated at the end of the work day. The Safety Officer will be responsible for ensuring all personal protective equipment is properly decontaminated before being reused.

7) Tuck tape will be used to insure that disposable coveralls and gloves are tightly secured.

I. PERSONAL HYGIENE

SCA/SCC will be responsible for, and ensure that all personnel performing or supervising remedial work within the work area, or exposed or subject to exposure to hazardous chemical vapors, liquids, or contaminated solids, observe and adhere to the personal hygiene-related provisions of this section.

On-site personnel found to be disregarding the personal hygiene-related provisions of this plan will, at the request of the IBM Site Manager or the Site Safety Officer, be barred from the site.

SCA/SCC will provide the following for the personal hygiene of all on-site personnel:

a) Suitable disposable outerwear, gloves hardhat liners, and footwear on a daily basis for the use of on-site personnel and visitors.

b) Contained storage and disposal for used disposable outerwear.

c) Clean up and washing facilities.

d) A smoking area.

e) Sanitary facilities.

On-site personnel will wear disposable outerwear, gloves, and outer footwear at all times whenever entering or working in the Dirty zone.

Used disposable outerwear will not be reused, and when removed, will be placed inside disposal containers provided for that purpose. Smoking will be prohibited except in a designated smoking area located outside of the "Dirty" zone.

Eating and drinking will be prohibited except in a designated lunch area located outside of the "Dirty" zone.

Soiled disposable outerwear will be removed prior to entering the lunch area, and prior to cleansing hands.

On-site personnel will thoroughly cleanse their hands and other exposed skin areas before entering the smoking or lunch area.

All personnel working in the "Dirty" zone or Decontamination Zone will thoroughly wash all exposed skin areas after each working period or shift, prior to leaving the site.

SCA/SCC will provide the equipment and facilities listed below in order to provide for the proper hygiene of all on-site personnel.

i) Wash and clean up area;

ii) A room where on-site personnel can eat;

iii) A room where all personnel safety equipment and protective clothing can be stored;

iv) Boot rack for washed boots to drain;

v) Toilet facilities.

J. AIR MONITORING

During the progress of active remedial work, SCA/SCC will monitor the quality of the air in and around each active work location. Sampling will be conducted on a regular periodic basis, and additionally as required by special or work-related conditions. SCA/SCC, by downwind air sampling will monitor air leaving the active work locations. Air sampling will be conducted for gases, and vapors. Any significant departures from general background will be reported to the IBM Site Manager who will in conjunction with the Safety Officer determine when and if operations should be shut down and restarted.

Instruments required, and provided by SCA/SCC, for air monitoring will include, an explosimeter and an organic vapor photoionizer.

K. CONTAMINANT MIGRATION CONTROL

All vehicles and equipment used in the "Dirty" zone will be decontaminated prior to leaving the site. SCA/SCC will certify that each piece of equipment has been decontaminated prior to removal from site.

The wash water will be collected and stored at site until the completion of the project. At that time it will be mixed with the job site soils and be disposed.

L. SAFETY MEETINGS

The Safety Officer will conduct weekly safety meetings which will be mandatory for all site personnel. The meetings will provide refresher courses for existing equipment and protocols, and will examine new site conditions as they are encountered.

Additional safety meetings will be held on an as required basis.

M. PARKING

SCA/SCC will provide parking areas with adjacent parking spaces for on-site personnel and visitors at a location approved by IBM.

SCA/SCC will maintain these areas in an appropriate condition at all times.

N. PARTICULATE EMISSION CONTROL

During remedial action, SCA/SCC will implement and enforce a dust control program to minimize the generation and off-site migration of fugitive particulate emissions.

All roadways, designated work areas and other possible sources of dust generation will be controlled by application of water on an as required basis.

APPENDIX G

HEALTH AND SAFETY PLAN

AS IMPLEMENTED

CRA/WKE
September 21, 1983

Ref. No. 1201

HEALTH AND SAFETY PLAN

Abbreviations; IBM Corporation (IBM)
SCA Chemical Services, Inc. (SCA)
Sevenson Construction Corporation (SCC)
Conestoga-Rovers & Associates Limited (CRA)

GENERAL:

IBM/SCA/SCC/CRA has developed a health and safety plan which will provide for the protection of on site personnel and the general public. It is recognized that Mr. Wolfe Engler, CRA, will be the acting safety officer for the duration of the excavation of soils with chemical presence.

BASIS:

The Occupational Safety and Health Administration (OSHA) Standards and Regulations contained in Title 29, Code of Federal Regulations, Parts 1910 and 1926 (29 C.F.R. 1910 and 1926) provide the basis for the Safety and Health Program. Additional Specifications within this Section are in addition to OSHA regulations and reflect the positions of both the EPA and the National Institute for Occupational Safety and Health (NIOSH) regarding procedures required to insure safe operations at a hazardous waste disposal site.

The Safety and Health of the public and on-site personnel and the protection of the environment will take precedence over cost and schedule considerations for all project work. The IBM Site Manager and the SCA/SCC Project Managers will be responsible for decisions regarding when work will be stopped or started for Health and Safety reasons.

SAFETY OFFICER RESPOSIBILITIES:

The Safety Officer will:

1) Be resposible for the implementation, enforcement and monitoring of the Safety and Health Plan;

2) Be resposible for the pre-construction indoctrination of all on-site personnel with regard to this safety plan and other safety requirements to be observed during construction, including:

a) potential hazards

b) personal hygiene principals

c) personnel protective equipment

d) respiratory protection equipment usage and fit testing

and e) emergency procedures dealing with fire and medical situations;

3) Be responsible for the maintenance of separation of "Contaminated" (Dirty) and "Uncontaminated" (Clean) areas as shown on the attached figure;

4) Be resposible for the preparation of an emergency contingency plan, if directed by IBM in writing.

TRAINING:

All full time on-site personnel were indoctrinated to the Health and Safety Program on Wednesday, September 21, 1983 at 8:00 am. Those in attendance were;

J. Williams - IBM
C. Borcharding - SCA
D. Leone - SCC
J. Brueckl - SCC
E. Ventry - SCC
B. Kodeski - SCC
W. Engler - CRA

Additional Health and Safety meetings will be held at the discretion of the Safety Officer as required.

WORK AREAS:

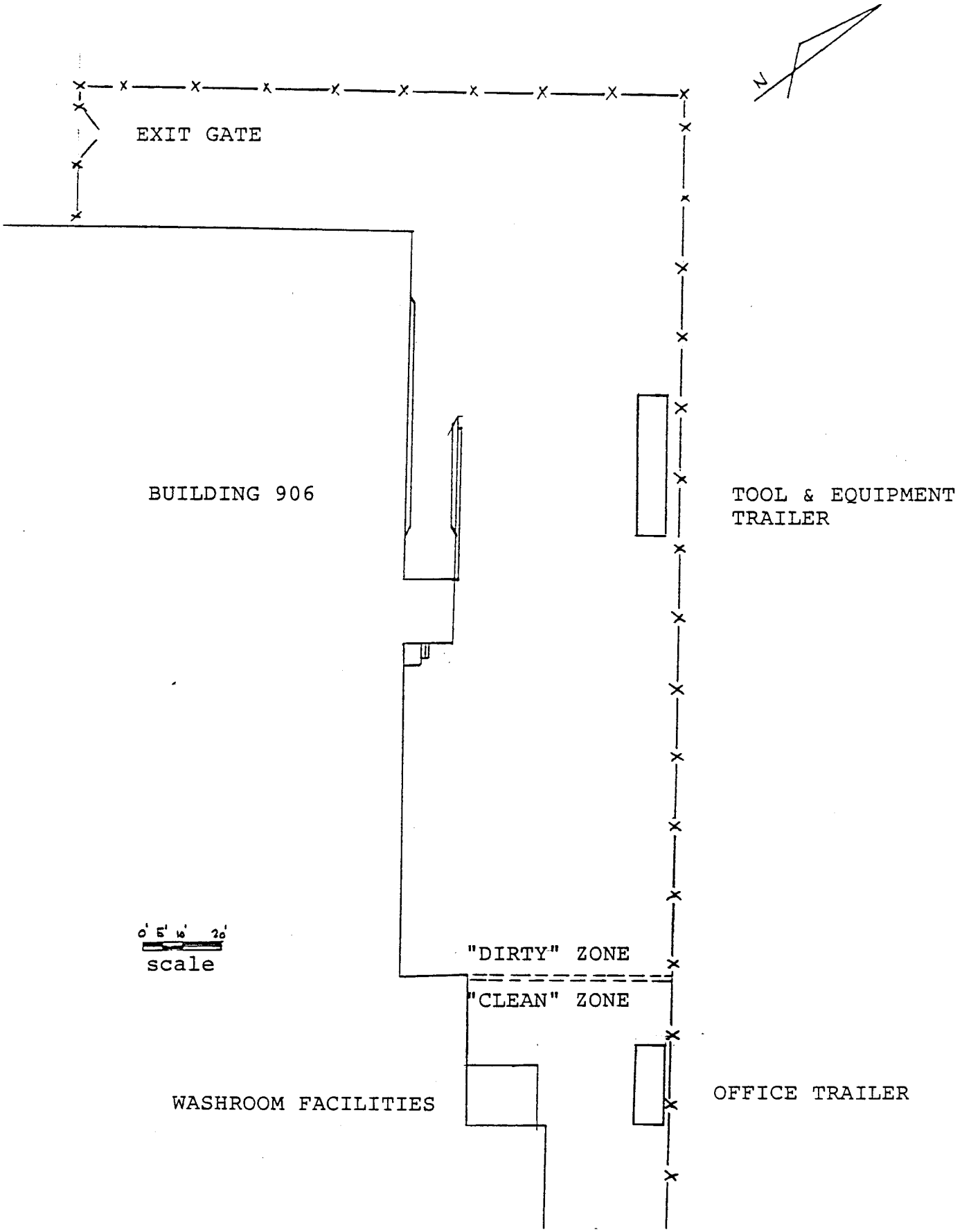
The "CLEAN" and "DIRTY" areas are shown on the attached figure.

a) The "CLEAN" area is defined as being " An area outside of the zone of significant air, soil or surface water contamination".

At a minimum, the following safety apparel will be worn by all full time personnel;

i) Hard hat
ii) Steel toe safety boots
iii) Long pants

"CLEAN/DIRTY" ZONE FIGURE



b) The "DIRTY" area is defined as being " All areas where contaminated soils are located, and contaminated surface areas adjacent to these areas".

At a minimum, the following safety apparel will be worn by all full time personnel.

i) Hard hat
ii) Steel toed safety shoes
iii) Long pants
iv) tyvecks
v) Safety glasses
vi) One of the following at the direction of the Safety Officer

--- ½ face respirator
--- full face respirator
--- air full face respirator

Note; Rubber overboots will be worn at all times personnel are in contact with contaminated soils.

Respirators will be carried by all personnel (½ face) or be within the immediate vicinity of the operators.

VISITORS ON SITE:

All visitors associated with IBM related deliveries and maintenance will be told the following;

1) No smoking while in the fenced area
2) Go directly to their destination and not wander around on site
3) Leave as soon as their business is completed

All visitors associated with SCA/SCC/CRA related items will follow the following

1) No smoking while in the fenced area
2) Wear hardhats
3) Wear tyvecks
4) Wear air respirators as reqired under the direction of the Safety Officer after being fit tested
5) Wear any other personnel protective equipment as may be deemed nescessary by the Safety Officer for individual circumstances

SECURITY:

During active working hours, the Safety Officer will be responsible for access to the site. After active working hours, IBM security will be responsible for site security.

EMERGENCY AND FIRST AID EQUIPMENT AND SUPPLY:

Emergency medical facilities are available off site as required. The emergency numbers are posted near the telephone in the site office trailer.

An emergency first aid kit for minor incidents is available in the site office trailer.

PERSONAL HYGIENE:

The Safety Officer will be resposible, and ensure that all personnel performing or supervising remedial work within the work area, or exposed or subject to exposure to hazardous chemical vapors, liquids, or contaminated solids, observe and adhere to the personal hygiene related provisions of this section.

On-site personnel found to be disregarding the personnel hygiene-related provisions of this plan will, at the request of the IBM Site Manager or the Safety Officer, be barred from the site.

1) Disposable work wear

All disposable work wear will be placed in the drum located beside the on site tool and equipment trailer, without exception.

2) Smoking area

Smoking will be permitted only in the on site office trailer and the tool and equipment trailer, without exception.

3) Food

Eating and drinking will only be allowed in the same areas as smoking, without exception.

4) Wash facilities

Hand washing facilities are provided in the on site tool and equipment trailer and must be used prior to smoking, eating, drinking and entering building 906.

5) Sanitary facilities

Sanitary facilities are availble for use in building 906 opposite the "CLEAN" area in the loading dock area.

EYEWASH FACILITY

An eyewash facility is available beside the tool and equipment trailer.

AIR MONITORING

During the progress of active remedial work, the Safety Officer will monitor the quality of the air in and around the active work area. Sampling will be conducted on a regular periodic basis, and additionally as required by special or work-related conditions.

A log ot the location, time, type and value of each reading will be maintained. Copies of the daily log sheet will be included with the daily report to the IBM Site Manager.

An explosimeter and an organic vapor photoionizer will be used.

CONTAMINANT MIGRATION CONTROL

All vechicles and equipment will have minimal contact with contaminated materials wherever possible. Any vehicles and equipment in contact with contaminated soils will be decontaminated under the instruction and supervision of the Safety Officer as required for special or work-related conditions.

All washwater will be deemed contaminated and will be disposed of at an approved secure permitted facility.

Personnel engaged in vechicle and equipment contamination will wear protective equipment including disposable clothing and respiratory protection.

PARTICULATE EMISSION CONTROL

During remedial action, the Safety Officer will implement and enforce a dust control program to minimize the generation and off-site migration of fugitive particulate emissions.

All roadways, designated work areas and other possible sources of dust generation will be controlled by application of water and/or calcium on an as required basis.

SAFETY MEETINGS

The Safety Officer will conduct weekly safety meeting which will be mandatory for all on-site personnel. The meetings will provide refresher courses for existing equipment and protocols, and will examine new site conditions as they are encountered.

Additional safety meetings may be held on as required basis.

CONESTOGA-ROVERS & ASSOCIATES LIMITED

W. (Wolfe) K. Engler
Safety Officer

cc. J. Williams, IBM
C. Borcharding, SCA
D. Leone, SCC
R. Shepherd, CRA
M. Elia, SCC
K. Kulinowski, SCA

APPENDIX H

DAILY AIR MONITORING LOG

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

September 21, 1983 Reference Number 1201

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
F6	8:40am	2	--
F6	8:45am	--	--
E6	9:15am	7	--
E6	9:18am	7	--
F6	9:30am	1	--
F6	9:32am	3	--
E6	10:40am	6	--
E6	10:44am	4	--
K9	11:30am	1	--
K9	11:37am	1	--
K9	12:02pm	3	--

CRA

W. (Wolfe) K. Engler
AIR MONITOR

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

September 22, 1983 Reference Number 1201

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
M6	11:30am	7	--
M6	11:33am	6	--
M7	11:47am	6	--
M7	11:49am	11	--
M6	11:59am	1	--
M6	12:03pm	1	--
M7	12:20pm	1	--
M7	12:22pm	2	--
L6	1:10pm	3	--
L6	1:12pm	3	--
L7	1:30pm	7	--
L7	1:32pm	7	--
L6	1:47pm	5	--
L6	1:53pm	15	--
L7	2:10pm	11	--
L7	2:13pm	2	--

CRA

W. (Wolfe) K. Engler
AIR MONITOR

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

September 23, 1983 Reference Number 1201

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
J8	8:20am	--	--
J8	8:31am	2	--
J8	8:33am	2	--
J8	8:35am	--	--
J8	8:50am	3	--
J8	8:52am	3	--
K7	8:54am	1	--
K7	9:20am	--	--
K7	9:22am	2	--
K7	9:25am	2	--
I7	9:30am	3	--
I7	10:00am	3	--
I7	10:03am	7	--
I7	10:05am	1	--
I7	10:10am	1	--

CRA

W. (Wolfe) K. Engler
AIR MONITOR

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

September 24, 1983 Reference Number 1201

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
H7	7:31am	2	--
H7	7:40am	--	--
H7	8:10am	7	--
H7	8:19am	8	--
H7	8:29am	3	--
H7	9:30am	2	--
G7	9:40am	1	--
G7	9:44am	1	--
G7	9:59am	1	--
G7	10:00am	17	--
G7	11:10am	14	--
G7	11:21am	9	--

CRA

W. (Wolfe) K. Engler
AIR MONITOR

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

September 26, 1983 Reference Number 1201

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
I7	7:30am	6	--
I7	7:33am	4	--
I6	7:50am	4	--
I6	7:53am	2	--
I7	8:06am	3	--
F6	9:57am	4	--
F7	9:59am	4	--
F6	10:20am	1	--
F7	10:22am	--	--
F7	10:24am	--	--
F6	11:30am	--	--
F7	11:33am	1	--

CRA

W. (Wolfe) K. Engler
AIR MONITOR

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

September 27, 1983 Reference Number 1201

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
F7	7:55am	3	--
F7	7:57am	2	--
F7	8:05am	--	--
F7	8:07am	--	--
E7	8:20am	--	--
E7	8:22am	1	--
E7	8:50am	--	--
E7	8:53am	--	--
E7	9:20am	--	--
E7	9:22am	--	--
K7	10:45am	1	--
K7	10:47am	--	--
K8	12:20pm	--	--
K8	12:22pm	--	--
K9	1:00pm	--	--
K9	1:03pm	--	--

CRA

W. (Wolfe) E. Engler
AIR MONITOR

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

Seoptember 28, 1983 Reference Number 1201

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
D6	8:15am	1	--
D6	8:17am	--	--
C7	8:20am	--	--
D7	8:22am	1	--
D6	9:45am	--	--
D6	9:48am	--	--
C7	9:50am	--	--
D7	9:52am	1	--
A7	11:05am	--	--
A7	11:08am	1	--
A6	1:20pm	--	--
A7	1:22pm	--	--

CRA

W. (Wolfe) K. Engler
AIR MONITOR

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

September 29, 1983 Reference Number 1201

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
C6	8:15am	--	--
C7	8:17am	--	--
C6	8:25am	--	--
C7	8:30am	1	--
C6	9:00am	--	--
C7	9:02am	--	--
B6	9:27am	--	--
B6	9:29am	1	--
B6	10:00am	--	--
B6	10:03am	--	--
B6	10:41am	--	--
B6	10:42am	--	--
B6	11:17am	--	--
B6	12:20pm	--	--
D8	2:30pm	--	--
D9	2:33pm	--	--

CRA

W. (Wolfe) K. Engler
AIR MONITOR

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

September 30, 1983 Reference Number 1201

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING	
A3	7:45am	--	--	
A3	7:47am	--	--	
A4	7:49am	--	--	
A4	7:51am	1	--	
A3	9:00am	--	--	
A3	9:01am	--	--	
A4	9:03am	--	--	
A4	9:04am	--	--	
E7	9:09am	1	--	
E8	9:10am	2	--	
E7	9:12am	1	--	
E8	9:14am	1	--	
F7	9:51am	7	--	Near septic tank
F8	9:53am	1	--	
F7	9:55am	1	--	
F8	9:57am	--	--	
F7	11:35am	--	--	
F8	11:38am	--	--	

CRA

W. (Wolfe) K. Engler
AIR MONITOR

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 3, 1983 Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
B1	7:37am	--	--
B1	7:39am	--	--
B1	7:42am	--	--
B1	8:01am	1	--
B1	8:03am	--	--
B1	8:04am	--	--
B2	8:41am	--	--
B2	8:44am	1	--
B2	9:07am	--	--
B2	9:09am	2	--
B2	9:33am	--	--
B2	9:36am	--	--
B3	10:10am	1	--
B3	10:12am	1	--
B3	10:49am	--	--
B3	10:51am	--	--

CRA

W. (Wolfe) K. Engler
AIR MONITOR

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 4, 1983 Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
B4	7:26am	1	--
B4	7:27am	1	--
B4	7:29am	--	--
B4	8:11am	2	--
B4	8:14am	--	--
B5	9:01am	--	--
B5	9:03am	--	--
B5	9:06am	--	--
B5	9:30am	2	--
B5	9:31am	--	--
B5	9:33am	--	--
A6	9:52am	--	--
A6	9:53am	3	--
A6	10:01am	1	--
A6	10.03am	1	--
A6	10:34am	--	--
A6	10:35am	--	--
A6	11:45am	--	--
A6	11:48am	--	--

CRA

W.(Wolfe) K. Engler
AIR MONITOR

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 5, 1983 Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
F8	7:35am	1	--
F8	7:37am	--	--
F8	8:10am	--	--
F8	8:11am	--	--
F8	8:39am	--	--
F8	8:42am	--	--
C8	9:21am	1	--
C9	9:23am	1	--
D8	9:24am	--	--
D9	9:26am	2	--
C8	10:12am	--	--
C9	10:13am	--	--
D8	10:15am	--	--
D9	10:20am	--	--
A6	11:46am	1	--
A6	11:48am	--	--
A6	12:11pm	--	--
A6	12:13pm	--	--

CRA

W. (Wolfe) K. Engler
AIR MONITOR

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 6, 1983 Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
B7	7:47am	--	--
B7	7:49am	2	--
B7	8:03am	--	--
B7	8:05am	--	--
B7	8:30am	--	--
B7	8:34am	--	--
L7	9:41am	1	--
L8	9:42am	--	--
M7	9:47am	--	--
M8	9:51am	--	--
L7	10:14am	1	--
L8	10:16am	--	--
M7	10:17am	--	--
M8	10:19am	--	--
L7	11:43am	2	--
L8	11:45am	--	--
M7	11:47am	--	--
M8	11:48am	--	--
L7	12:20pm	--	--
L8	12:22pm	--	--
M7	12:23pm	--	--
M8	12:25pm	--	--

CRA

W. (Wolfe) K. Engler
AIR MONITOR

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 7, 1983 Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
L8	7:39am	--	--
L9	7:41am	--	--
M8	7:43am	--	--
M9	7:45am	2	--
L8	8:20am	--	--
L9	8:23am	4	--
M8	8:25am	--	--
M9	8:27am	--	--
L8	9:18am	--	--
L9	9:19am	--	--
M8	9:21am	--	--
M9	9:23am	--	--
L8	10:00am	--	--
L9	10:02am	1	--
M8	10:04am	--	--
M9	10:05am	2	--
L8	10:42am	--	--
L9	10:43am	--	--
M8	10:45am	--	--
M9	10:47am	--	--

CRA

W. (Wolfe) K. Engler
AIR MONITOR

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

October 11, 1983 Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
M6	7:54am	--	--
M6	7:56am	1	--
L6	7:57am	--	--
L6	7:59am	1	--
M6	8:19am	--	--
M6	8:21am	2	--
L6	8:22am	--	--
L6	8:24am	--	--
B6	8:57am	--	--
B6	8:59am	--	--
C6	9:00am	3	--
C6	9:02am	--	--
B6	9:51am	--	--
B6	9:53am	--	--
C6	9:54am	--	--
C6	9:55am	--	--
M6	10:20am	--	--
L6	10:22am	1	--
M6	11:00am	--	--
L6	11.02am	--	--
B6	11:08am	--	--
C6	11:09am	--	--
M6	11:47am	--	--
L6	11:49am	--	--
B6	11:56am	--	--
C6	11:57am	4	--
M6	12:19pm	--	--
L6	12:20pm	--	--
B6	12:26pm	--	--
C6	12:28pm	1	--
M6	1:15pm	--	--
L6	1:17pm	--	--
B6	1:21pm	--	--
C6	1:23pm	1	--
M6	2:02pm	--	--
L6	2:03pm	--	--
B6	2:08pm	--	--
C6	2:10pm	1	--
M6	3:06pm	--	--
L6	3:08pm	--	--
B6	3:12pm	--	--
C6	3:15pm	3	--

CRA - W.(Wolfe) K. Engler: 
AIR MONITOR

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

October 12, 1983 Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
M6	7:20am	--	--
L6	7:22am	--	--
B6	7:25am	--	--
C6	7:27am	1	--
M6	8:03am	--	--
L6	8:05am	--	--
B6	8:09am	--	--
C6	8:11am	--	--
M6	8:42am	--	--
L6	8:44am	--	--
B6	8:50am	--	--
C6	8:51am	--	--
B1	8:55am	4	--
M6	9:36am	--	--
L6	9:38am	--	--
B6	9:44am	--	--
C6	9:46am	--	--
B1	9:51am	--	--
M6	10:15am	--	--
L6	10:17am	--	--
B6	10:21am	--	--
C6	10:22am	1	--
B1	10:26am	--	--
M6	11:07am	2*	--
L6	11:09am	--	--
B6	11:13am	--	--
C6	11:15am	--	--
B2	11:17am	--	--
M6	12:30pm	--	--
L6	12:32pm	--	--
B6	12:37pm	--	--
C6	12:39pm	--	--
B3	12:42pm	--	--
M6	1:30pm	--	--
L6	1:32pm	--	--
B6	1:37pm	--	--
C6	1:39pm	--	--
B4	1:42pm	--	--
B5	1:49pm	--	--

* Exhaust fumes from gas engine forced air fan. Shut down

CRA

W. (Wolfe) K. Engler
Air Monitor

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 13, 1983

Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING	STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
M6	7:25am	--	--	M6	11:15am	--	--
L6	7:27am	--	--	L6	11:17am	--	--
B6	7:28am	--	--	B6	11:18am	--	--
C6	7:30am	--	--	C6	11:20am	--	--
N7	8:02am	1	--	N7	11:27am	--	--
N8	8:04am	1	--	N8	11:29am	--	--
O7	8:06am	3	--	O7	11:31am	--	--
O8	8:07am	1	--	O8	11:33am	--	--
M6	8:56am	--	--	M6	12:15pm	--	--
L6	8:58am	--	--	L6	12:17pm	--	--
B6	8:59am	--	--	B6	12:19pm	--	--
C6	9:03am	--	--	C6	12:20pm	--	--
N7	9:10am	1	--	M6	1:30pm	--	--
N8	9:11am	1	--	L6	1:32pm	--	--
O7	9:13am	3	--	B6	1:34pm	--	--
O8	9:15am	2	--	C6	1:36pm	--	--
M6	9:48am	--	--	M6	2:00pm	--	--
L6	9:50am	--	--	L6	2:01pm	--	--
B6	9:53am	--	--	B6	2:02pm	--	--
C6	9:54am	--	--	C6	2:04pm	--	--
M6	10:29am	--	--	M6	2:40pm	--	--
L6	10:31am	--	--	L6	2:42pm	--	--
B6	10:33am	--	--	B6	2:43pm	--	--
C6	10:34am	--	--	C6	2:45pm	--	--
N7	10:41am	--	--	M6	3:20pm	--	--
N8	10:42am	1	--	L6	3:22pm	--	--
O7	10:43am	1	--	B6	3:23pm	--	--
O8	10:45am	--	--	C6	3:25pm	--	--

CRA

W. (Wolfe) K. Engler
Air Monitor

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 14, 1983 Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING	STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
M6	7:41am	--	--	M6	11:42am	--	--
L6	7:43am	--	--	L6	11:43am	--	--
B6	7:45am	--	--	B6	11:45am	--	--
C6	7:47am	--	--	C6	11:47am	--	--
M8	7:51am	--	--	M8	11:50am	--	--
N8	7:51am	--	--	N8	11:52am	--	--
M6	8:27am	--	--	M6	12:36pm	--	--
L6	8:29am	--	--	L6	12:38pm	--	--
B6	8:31am	--	--	B6	12:40pm	--	--
C6	8:33am	--	--	C6	12:42pm	--	--
M8	8:39am	2	--	M8	12:43pm	--	--
N8	8:42am	--	--	N8	12:46pm	--	--
M6	9:21am	--	--	M6	1:17pm	--	--
L6	9:22am	--	--	L6	1:19pm	--	--
B6	9:24am	--	--	B6	1:22pm	--	--
C6	9:26am	--	--	C6	1:24pm	--	--
M8	9:29am	1	--	M8	1:25pm	--	--
N8	9:33am	--	--	N8	1:27pm	--	--
M6	10:02am	--	--	M6	2:03pm	--	--
L6	10:04am	--	--	L6	2:05pm	--	--
B6	10:06am	--	--	B6	2:07pm	--	--
C6	10:07am	--	--	C6	2:08pm	--	--
M8	10:09am	--	--	M8	2:11pm	--	--
N8	10:11am	--	--	N8	2:13pm	--	--
M6	10:39am	--	--	M6	2:57pm	--	--
L6	10:41am	--	--	L6	2:59pm	--	--
B6	10:43am	--	--	B6	3:01pm	--	--
C6	10:45am	--	--	C6	3:03pm	--	--
M8	10:49am	--	--	M8	3:05pm	--	--
N8	10:53am	--	--	N8	3:10pm	--	--

CRA

W. (Wolfe) K. Engler
Air Monitor

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 15, 1983 Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
M6	7:22am	--	--
L6	7:24am	--	--
C6	7:27am	--	--
M6	8:13am	--	--
L6	8:16am	--	--
C6	8:18am	--	--
M6	8:43am	--	--
L6	8:45am	--	--
C6	8:49am	--	--
M6	9:19am	--	--
L6	9:21am	--	--
C6	9:25am	--	--

CRA

W.(Wolfe) E. Engler
Air Monitor

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 17, 1983 Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING	STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
BC	7:45am	--	--	C6	12:15pm	--	--
AC	7:47am	--	--	C6	12:17pm	--	--
AD	7:52am	--	--	C6	12:19pm	--	--
BC	8:14am	--	--	C6	12:30pm	--	--
AC	8:17am	--	--	C6	12:32pm	--	--
AD	8:18am	--	--	C6	12:34pm	--	--
BC	9:01am	--	--	M6	1:03pm	--	--
AC	9:03am	--	--	M6	1:05pm	--	--
AD	9:05am	--	--	M6	1:07pm	--	--
BC	9:43am	3	--	M6	1:31pm	--	--
AC	9:44am	--	--	M6	1:33pm	--	--
AD	9:46am	--	--	L6	1:35pm	--	--
BC	10:17am	--	--	L6	2:04pm	--	--
AC	10:19am	1	--	L6	2:06pm	--	--
AD	10:21am	--	--	L6	2:15pm	--	--
BC	11:02am	--	--	L6	2:17pm	--	--
AC	11:04am	--	--	M6	2:34pm	--	--
AD	11:06am	--	--	L6	2:36pm	--	--

CRA

W. (Wolfe) K. Engler
Air Monitor

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 18, 1983 Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING	STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
P8	7:31am	--	--	P8	10:02am	--	--
P9	7:33am	--	--	P9	10:04am	--	--
O8	7:35am	--	--	O8	10:06am	--	--
O9	7:37am	--	--	O9	10:08am	--	--
P8	8:08am	--	--	P8	10:29am	--	--
P9	8:09am	--	--	P9	10:31am	--	--
O8	8:11am	--	--	O8	10:33am	--	--
O9	8:14am	--	--	O9	10:35am	--	--
P8	8:39am	--	--	P8	10:58am	--	--
P9	8:41am	--	--	P9	11:00am	--	--
O8	8:43am	--	--	O8	11:02am	--	--
O9	8:45am	--	--	O9	11:04am	--	--
P8	9:03am	--	--	P8	11:27am	--	--
P9	9:05am	--	--	P9	11:29am	--	--
O8	9:07am	--	--	O8	11:31am	--	--
O9	9:09am	--	--	O9	11:33am	--	--
P8	9:33am	--	--	P8	11:56am	--	--
P9	9:35am	--	--	P9	11:58am	--	--
O8	9:36am	--	--	O8	12:00pm	--	--
O9	9:38am	--	--	O9	12:03pm	--	--

CRA

W. (Wolfe) E. Engler
Air Monitor

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

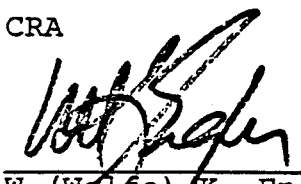
October 19, 1983 Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
AG	12:05pm	--	--
AH	12:07pm	--	--
BG	12:09pm	--	--
BH	12:11pm	--	--
AG	12:36pm	--	--
AH	12:38pm	--	--
BG	12:39pm	--	--
BH	12:41pm	--	--
AG	1:20pm	--	--
AH	1:22pm	--	--
BG	1:24pm	--	--
BH	1:25pm	1	--
AG	1:57pm	--	--
AH	1:59pm	--	--
BG	2:00pm	--	--
BH	2:02pm	--	--
AG	2:17pm	--	--
AH	2:19pm	--	--
BG	2:22pm	--	--
BH	2:25pm	--	--

NOTE: Engler went to La Guardia Airport to have the samples of yesterdays boreholes shipped for labratory analysis and was not on site until 11:30am. Therefore no air monitoring log was kept in the morning. It should be noted however that the only material loaded in the morning was from the stockpile of yesterdays material which was checked and no readings of significance noted. The air monitoring equipment was also on standby if required for use by Young.

CRA



W. (Wolfe) K. Engler
Air Monitor

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 20, 1983 Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
AH	7:43am	--	--
BH	7:45am	--	--
AH	8:02am	--	--
BH	8:03am	--	--
AH	8:17am	--	--
BH	8:19am	--	--
AH	8:33am	--	--
BH	8:35am	--	--
AH	8:56am	--	--
BH	8:58am	--	--
AH	9:16am	--	--
BH	9:18am	--	--
AH	9:36am	1	--
BH	9:38am	--	--
AH	9:50am	--	--
BH	9:52am	--	--
AH	12:20pm	--	--
BH	12:22pm	--	--
AH	12:49pm	--	--
BH	12:51pm	--	--
AH	1:10pm	--	--
BH	1:12pm	--	--

CRA

W. (Wolfe) K. Engler
Air Monitor

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 21, 1983 Reference Number 1289

DAILY AIR MONITORING LOG

STATION	TIME	ORGANIC READING	EXPLOSIMETER READING
BH	8:10am	--	--
BH	8:20am	--	--
BH	8:33am	--	--
BH	8:47am	--	--
BH	9:02am	--	--
BH	9:18am	--	--

CRA

W. (Wolfe) R. Engler
Air/Monitor

NOTE: Due to the completion of all soil excavation, this will be the last Daily Air Monitoring Log.

APPENDIX I

DAILY HEALTH AND SAFETY LOG

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

September 21, 1983 Reference Number 1201

DAILY HEALTH AND SAFETY REPORT

Weather: Overcast and warm, Temperature range ±70 to 90°F
Heavy rains beginning at ±3:00pm

EQUIPMENT ON SITE:
-Tool trailer with a variety of equipment
-Case Drott 35D Backhoe
Case 580E rubber tire combination loader and bachoe equipped with vibratory compactor
-International D7E tilt blade dozer
-two additional buckets for backhoes
-Diamond Reo tandem

PERSONNEL ON SITE:
J. Williams, IBM
C. Borcharding, SCA
D. Leone, SCC
B. Kodeski, SCC
J. Brueckl, SCC
E. Ventry, SCC
W. Engler, CRA
R. Shepherd, CRA
J. Blythtrey, IBM
T. Sossei, Hauser
M. Hauser, Hauser
R. Proper, Redimix

PROGRESS: Held safety meeting at 8:00 am discussing the contents of the "Health and Safety Plan", with the following persons in attendance; J. Williams, IBM, C. Borcharding, SCA, D. Leone, SCC, J. Brueckl, SCC, E. Ventry, SCC, B. Kodeski, SCC, W. Engler, CRA.

No major incidents recorded with exception of minor infractions becoming accustomed to the "Health and Safety Plan".

Other sub-contractors to Ibm on site and their names not recorded at IBM's direction.

W. (Wolfe) K. Engler
Safety Officer

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

September 22, 1983 Reference Number 1201

DAILY HEALTH AND SAFETY REPORT

WEATHER: Overcast in the morning, Sunny in the afternoon
Temperature range ±58 to 75°F

EQUIPMENT ON SITE:
-tool trailer with a variety of equipmen-
-Case Drott 35D backhoe
-Case 580E rubber tire combination loader and backhoe equipped with vibratory compactor
-International D7E tilt blade dozer
-two additional buckets for backhoes
-Diamond Reo tandem

PERSONNEL ON SITE:
C. Borcharding, SCA
D. Leone, SCC
J. Williams, IBM
W. Engler, CRA
J. Brueckl, SCC
E. Ventry, SCC
B. Kodeski, SCC
Ken Merwin
Rick Coolidge
Bob Jobin

PROGRESS: No major incidents recorded with exception of minor infractions becoming accustomed to the "Health and Safety Plan".

Other sub-contractors to IBM on site and thier names not recorded at IBM's direction.

W. (Wolfe) K. Engler
Safety Officer

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

September 23, 1983 Reference Number 1201

DAILY HEALTH AND SAFETY PLAN

WEATHER: Sunny and warm, temperature range ±47 to 70°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 580E rubber tire combination loader and backhoe eqipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
C. Borcharding, SCA
J. Williams, IBM
D. Leone, SCC
W. Engler, CRA
J. Brueckl, SCC
E. Ventry, SCC
B. Kodeski, SCC
D. Webster, SCA
D. Dixon, SCA
T. Sossie, Hauser
R. Proper, Hauser

PROGRESS: One trucker (Webster) was notified that the truck trailer had to be lined with a liner and this was corrected.

W. (Wolfe) E. Engler
Safety Officer

P.S. Two additional people on site; J. Delelio, SCA
C. Eastman, SCA

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

September 24, 1983 Reference Number 1201

DAILY HEALTH AND SAFETY REPORT

WEATHER: Cool in morning, Sunny and warm in afternoon temperature range ±42 to 65°F

EQUIOMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 580E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
C. Borcharding, SCA
J. Williams, IBM
W. Engler, CRA
J. Brueckl, SCC
D. Leone, SCC
E. Ventry, SCC
B. Kodeski, SCC
L. Vanbuskirk, Buffalo Fuel
D. Heffner, Buffalo Fuel
H. Kirch, Buffalo Fuel
J. Delelio, SCA
C. Eastman, SCA
D. Webster, SCA
D. Dixon, SCA

PROGRESS: One trucker (Webster) came on site with no tailgate and was rejected for loadind and was sent back empty. He was given the potion of leaving the trailer for loading if he wished and have brought the tailgate on another load.

W. (Wolfe) K. Engler
Safety Officer

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

September 26, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Cool in morning, sunny and warm in afternoon
Temperature range ±45 to 70°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 580E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
D. Young, SCA
J. Williams, IBM
W. Engler, CRA
J. Brueckl, SCC
D. Leone, SCC
E. Ventry, SCC
B. Kodeski, SCC
C. Borcharding, SCA
B. Vansteenvurg, Hauser
K. Merwin, Hauser
T. Sossei, Hauser
T. Quarantill, SCA
W. Scarey, Hauser

PROGRESS: No incidents to report. Good response by all to health and safety rules.

CRA

W. (Wolfe) H. Engler
Safety Officer

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

September 27, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Cool in morning, sunny and warm in afternoon
Temperature Range ±43 to 68°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 580E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
D. Young, SCA
J. Williams, IBM
W. Engler, CRA
J. Brueckl, SCC
D. Leone, SCC
E. Ventry, SCC
B. Kodeski, SCC
M. Webster, SCA
D. Gero, SCA
R. Proper, Hauser
T. Patskin, Tonawanda Tank
C. Eastman, SCA
J. Kovac, Logan/Hauser
F. Copeland, Tonawanda Tank
B. Hayes, Tonawanda Tank
J. Delileo, SCA

PROGRESS: No incidents to report. Good response by all to health and safety rules.

CRA

W. (Wolfe) K. Engler
Safety Officer

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

September 28, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Cool in morning, sunny and warm in the afternoon with some overcast periods, temperature range ±45 to 70°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 580E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
D. Young, SCA
J. Williams, IBM
W. Engler, CRA
J. Brueckl, SCC
D. Leone, SCC
E. Ventry, SCC
B. Kodeski, SCC
C. Slazck, SCA
T. Sossei, Hauser
A. Kovac, Logan/Hauser
S. Truax, Hauser
B. Scarey, Hauser
K. Merwin, Hauser
K. Dillon, Hauser
B. Graff, Buffalo Fuel
G. Little, Buffalo Fuel
Coolidge, Hauser

PROGRESS: The nurse who works in building 906 was on site to report of people complaining of smells and headaches inside of the building at ±10:30am. Engler went through the building with Tom Puls, IBM, and got no readings on the organic vapor photo-ionizer or the explosimeter. Glen Morrison, an Industrial Hygienist with IBM was on site at ±11:30am and took additional readings with his OVA and found no readings. Engler and Williams explained the site progress with him and he seemed satisfied that the work progress was not

contributing to the smells in the building. It was however agreed that equipment and trucks when not active would have the engines shut down.

It was later discovered that the State Department of Highways was spraying weed killer beside the road on Route 55 beside building 906 and that this was probably the cause of the smells inside of the building.

No other health and safety incidents occurred.

CRA

W. (Wolfe) K. Engler
Safety Officer

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

September 29, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Sunny and cool in morning, ±55°f
Sunny and warm in afternoon, ±75°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 580E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
D. Young, SCA
J. Williams, IBM
W. Engler, CRA
J. Brueckl, SCC
D. Leone, SCC
E. Ventry, SCC
B. Kodeski, SCC
C. Slazck, SCA
R. Proper, Hauser
B. Scarey, "
T. Quarantillo, SCA
B. Minet, SCA
D. Hoover, "
B. Vansteenvurg, Hauser
J. Kovac, Logan/Hauser
P. Hauser, Hauser
B. Jobin, "

PROGRESS: No incidents to report. Good response by all to health and safety rules.

CRA

W. (Wolfe) K. Engler
Safety Officer

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

September 30, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Overcast and cool in morning, some sunny periods light rain started at ±8:30am but stopped, steady rain started at ±11:00am and lasted the rest of the day, temperature range ±58°F to 70°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 580E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
D. Young, SCA
J. Williams, IBM
W. Engler, CRA
J. Brueckl, SCC
D. Leone, SCC
E. Ventry, SCC
B. Kodeski, SCC
K. Dillon, Hauser
S. Truax, "
A. Kovac, Logan/Hauser
Coolidge, Hauser
P. Hauser, Hauser
D. Dixon, SCA

PROGRESS: No incidents to report. Good response by all to health and safety rules.

CRA

W. (Wolfe) K. Engler
Safety Officer

NOTE: Norman Pendleton of the Duchess County Board Of Health Health met on site with Engler, Williams and Everhart at ±1:00pm. Reviewed site methods of construction, Health and Safety Plan and air monitoring log. Seemed satisfied with the progress. Will be back on Monday at ±10:30am to view an excavation with IBM's approval.

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 3, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY LOG

WEATHER: Overcast and humid in the morning, ±55°F
Sun broke through at ±7:50am
Hot and sunny in the afternoon, ±82°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 580E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
J. Williams, IBM
D. Young, SCA
B. Kodeski, SCC
W. Engler, CRA
D. Leone, SCC
E. Ventry, SCC
J. Brueckl, SCC
B. Scarey, Hauser
R. Sawyer, SCA-standby
R. Proper, Hauser
K. Dillon, "
B. Minet, SCA
J. Kovac, Logan/Hauser
K. Merwin, Hauser
R. Spaan, IBM
J. Everhart, IBM
N. Pendleton, Duchess County Board of Health

PROGRESS: No incidents to report. Norman Pendleton, from the Duchess County Board of Health was on site again today at ±10:30am to view an excavation. He appeared to be happy with the methods of construction and the Health and Safety Plan employed on the site. He further met with Williams, Spaan and Everhart.

CRA

W. (Wolfe) K. Engler
Safety Officer

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 4, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Overcast and humid in the morning, ±58°F
Sunny and hot in the afternoon, ±78°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 580E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
J. Williams, IBM
R. Young, SCA
B. Kodeski, SCC
W. Engler, CRA
R. Sawyer, SCA
D. Leone, SCC
E. Ventry, SCC
J. Brueckl, SCC
N. Kovac, Logan/Hauser
B. Vansteenvurg, Hauser
S. Truax, Hauser
R. Rickert, "
B. Jobin, "

PROGRESS: Held Safety Meeting at ±7:15am
Discussed;
1) respirator fit tests
2) smoking areas
3) safety clothing
4) decontamination of backhoe bucket
5) Sawyer when on site will man the gates
6) no high readings on HNu or explosimeter

Attendance;
-J. Williams
D. Leone
W. Engler
J. Brueckl
J. Weaver, IBM
D. Young
B. Kodeski
B. Scarey

-----2

The following were fitted for respirators using "SCOTT FIT-CHECK AMPOULES: isoamyl acetate".

E. Ventry
B. Kodeski
D. Leone
J. Williams
J. Brueckl
R. Young
R. Sawyer
W. Engler

No incidents to report other than a breakdown on 580E.

CRA

W. (Wolfe) K. Engler
Safety Officer

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 5, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Overcast and humid in morning, ±57°F
Sunny and warm in late morning
Sunny and warm in the afternoon with some cloudy periods, ±75°F
Rain forecast for late afternoon and overnight

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 580E rubber tire combination loader and backhoe with vibratory compactor
- two additional buckets for backhoes
- International D7E tilt blade dozer
- Diamond Reo tandem

PERSONNEL ON SITE:
J. Weaver, IBM
J. Everhart, IBM
J. Williams, IBM
J. Brueckl, SCC
D. Leone, SCC
E. Ventry, SCC
B. Kodeski, SCC
R. Sawyer, SCA
R. Young, SCA
B. Scarey, Hauser
W. Engler
Man from H. O. Penn
K. Dillon, Hauser
B. Minet, SCA
F. Page. SCA
J. Kovac, Logan/Hauser

PROGRESS: No incidents to report other than J. Kovac had to be told continually to keep his hardhat on. No issue was made since this driver is not coming back on site.

CRA

W. (Wolfe) K. Engler
Safety Officer

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 6, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Sunny and warm in the morning and afternoon
Temperature range ±50°F to ±65°F
Rained overnight

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 680E rubber tire combination loader and backhoe equipped with vibratory compactor (revised from 580E)
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
Harold Anderson - Schnabel
Robert Sawyer - SCA
Richard Young - SCA
Wolfe Engler - CRA
Dan Leone - SCC
Jack Brueckl - SCC
Jim Williams - IBM
Ernie Ventry - SCC
Bill Kodeski - SCC
Bob Haughton - Schnabel
Skip Skoglund - Schnabel
Peter Vadney - C. D. Perry (sub to Schnabel)
Paul Sabourine - C. D. Perry
Russ Proper - Hauser
Nick Kovac - Hauser
Don Dixon - SCA
B. Vansteenvurg - Hauser
Ken Merwin - Hauser

PROGRESS: No incidents to report.

CRA

W. (Wolfe) K. Engler
Safety Offider

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 17, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Overcast and cold in the morning; ±45°F
Sunny and cool in the morning; ±55°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 680E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
B. Kodeski, SCC
W. Engler, CRA
R. Young, SCC
B. Sawyer, SCA
D. Leone, SCC
E. Ventry, SCC
J. Brueckl, SCC
J. Williams, IBM
H. Anderson, Schnabel
P. Utsey, "
G. Hribljan, "
R. Carpenter, "
Gerald Weaver, IBM
B. Scarey, Hauser
B. Vansteenvurg, "
G. Coolidge, "
B. Jobin, "

PROGRESS: No health incidents.
Schnabel submitted exit physicals for M. Anderson and R. Dailey which were taken on Saturday.
One truck was overloaded and came back on site to have 3 buckets of excavated material removed.

CRA

W. (Wolfe) K. Engler
Safety Officer

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 18, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT
~~DAILY AIR MONITORING LOG~~

WEATHER: Overcast, foggy and cool in morning, ±34°F
Overcast with some sunny periods and warmer in the afternoon, ±60°F
Started to rain at ±5:45pm

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 680E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
B. Kodeski, SCC
R. Young, SCA
B. Sawyer, SCA
W. Engler, CRA
J. Williams, IBM
D. Leone, SCC
J. Brueckl, SCC
E. Ventry, SCC
G. Weaver, IBM
Dan Richards, Empire Soils
Bill Bosworth, Empire Soils
Ross Proper, Hauser
Dennis Hoover, SCA
Frank Page, SCA
S. Truax, Hauser
John Plicon, Hauser
J. Micheal Morgante, SCA
Ralph Pickert, Hauser

PROGRESS: Two men from Empire Soils on site to do two additional boreholes with Engler and Sawyer. They were briefed on the Health and Safety Plan even though the work was done outside of the fenced area.

CRA

W. (Wolfe) K. Engler
Safety Officer

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 19, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Heavy rains overnight
Raining and cool in the morning, ±44°F
Sunny and warm in the afternoon, ±60°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 680E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
J. Williams, IBM
R. Young, SCA
D. Leone, SCC
E. Ventry, SCC
J. Brueckl, SCC
B. Kodeski, SCC
W. Engler, CRA
G. Weaver, IBM
E. Martelli, SCA
W. Woodcock, Buffalo Fuel
K. Shultz, Buffalo Fuel
B. Sawyer, SCA
R. M. Graf, Buffalo Fuel
E. P. Miller, Buffalo Fuel
Bruce Towner, Buffalo Fuel
H. King, Buffalo Fuel

PROGRESS: Engler at airport to ship off analytical samples to the labratory in Memphis in the morning. Williams acting Safety Officer in Engler's absence.

No health and safety incidents.

CRA

W. (Wolfe) K. Engler
Safety Officer

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 20, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Overcast and cool in the morning, ±40°F
Sunny and warmer in the afternoon, ±60°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 680E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
B. Kodeski, SCC
R. Young, SCA
J. Williams, IBM
D. Leone, SCC
J. Brueckl, SCC
E. Ventry, SCC
W. Engler, CRA
G. Weaver, IBM
C. Slazck, SCC
Doug Jero, SCA
Dennis Hoover, SCA
Bob Sawyer, SCA
Dan Mrozek, Tonawanda Tanker
Junior Strassburg, "
Frank Hausen, Buffalo Fuel

PROGRESS: One tractor-trailer unit from Tonawanda Tanker driven by J. Strassburg came on site with what appeared to be an asphaltic material or a coal tar. The HNu meter and the explosimeter showed no readings. Young and Williams approved for off-site movement with excavated soil. Trailer #601, License #K60789, Tractor #17, License #8679TV.

CRA

W. (Wolfe) K. Engler
Safety Officer

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 21, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Sunny and cold in the morning, ±30°F
Sunny and warmer in the afternoon, ±55°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 680E rubber tire combination loader and backhoe equipped with vibratory compactor.
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
W. Engler, CRA
R. Young, SCA
J. Williams, IBM
D. Leone, SCC
J. Brueckl, SCC
E. Ventry, SCC
B. Kodeski, SCC
G. Weaver, IBM
Dan Burlett, IBM
Guy Miller, IBM
Mike Mezzio, IBM
Rick Spann, IBM
Joe (IBM Photographer)
Bob Sawyer, SCA

PROGRESS: No health and safety incidents to report. Last truck left site today with the last of the excavated material and subsequently there will be no more Health and Safety Reports. IBM officials visited the site today.

CRA

W. (Wolfe) H. Engler
Safety Officer

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Consulting Engineers

October 7, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Sunny and cool in the morning, ±49°F
Sunny and cool in the afternoon, ±64°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 680E rubber tire combination loader and backhoe equipped with vibratory compactor.
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
J. Williams, IBM
W. Engler, CRA
R. Young, SCA
D. Leone, SCC
J. Brueckl, SCC
B. Kodeski, SCC
E. Ventry, SCC
Paul Hauser, Hauser
K. Dillon, Hauser
Chuck Eastman, SCA
Dick Webster, SCA

PROGRESS: Electricians on site at ±10:00am to disconnect office trailer power in preparation of Mondays movement or relocation of same. No incidents to report.

CRA

W.(Wolfe) K. Engler
Safety Officer

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October 11, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Overcast and cool in the morning, ±48°F
Overcast and warmer in the afternoon with some sunny periods, ±62°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 680E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
R. Young, SCA
W. Engler, CRA
R. Sawyer, SCA
B. Kodeski, SCC
E. Ventry, SCC
D. Leone, SCC
J. Brueckl, SCC
J. Valentino, IBM
M. Elia, SCC
Art Deangelo, IBM
R. Shepherd, CRA
R. Spann, IBM
K. Kulinowski, SCA
H. Anderson, Schnabel
M. Anderson, "
R. Dailey, "
P. Utsey, "
G. Hribjan, "

PROGRESS: Held Health and Safety meeting with all Schnabel personnel and did respirator fit tests. One person did not pass due to his mustache. He was informed to trim his mustache so that it would fit inside of the half face respirator and be refitted tomorrow morning. The workers were directed to wear half face respirators when they are in the trench. It was noted that it was extremely difficult to breath with the respirators on when shovelling in the trench. Dizziness and shortness of breath were experieced along with hyperventillation. It was decided that for tomorrow large fans would

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be placed in the trench where each worker was located. The half face respirators would be worn around the neck in readiness and the air would be monitored on a regular basis to ensure air quality in and around the open excavations.

SCC was directed to build some proper steps into the tool trailer to reduce the risk of someone tripping as had ocurred this morning. There were no injuries.

CRA

W. (Wolfe) E. Engler
Safety Officer

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October 12, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Cool and steady rain in the morning, ±58°F
Rained overnight
Overcast and some drizzle all afternoon, ±65°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 680E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
B. Kodeski, SCC
R. Young, SCC
B. Sawyer, SCC
W. Engler, CRA
H. Anderson, Schnabel
M. Anderson, "
R. Dailey, "
P. Utsey, "
G. Hribljan, "
D. Leone, SCC
E. Ventry, SCC
J. Brueckl, SCC
J. Williams, IBM
Bill Vansteenvurg, Hauser
Sherwin Truax, Hauser
Doug Jero, SCA
Chuck Eastman, SCA
Bob Jobin, Hauser
R. Webster, SCA

PROGRESS: P. Utsey was told three times to wear his respirator while in the trench. His foremen H. Anderson was informed that if he was caught again, he would be removed permanantly from site.

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To alleviate the discomforts of wearing respirators while shovelling in the trench, a gas engine forced air unit was tried in the trench. Because exhaust fumes were detected in the trench, this method was discarded and all workers will wear respirators while in the trench.

CRA

W. (Wolfe) K. Engler
Safety Officer

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 13, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Heavy rain overnight
Overcast, cool and humid in morning, ±50°F
Overcast, warm and very humid in afternoon, ±70°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott backhoe 35D
- Case 680E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoe
- Diamond Reo backhoe

PERSONNEL ON SITE:
R. Young, SCA
B. Kodeski, SCC
W. Engler, CRA
J. Williams, IBM
B. Sawyer, SCA
H. Anderson, Schnabel
M. Anderson, "
R. Dailey, "
P. Utsey, "
G. Hribljan, "
R. Carpenter, "
D. Leone, SCC
E. Ventry, SCC
J. Brueckl, SCC
B. Scarey, Hauser
K. Dillon, "
J. Delilio, SCA
Greg Coolidge, Hauser
Ed Martelli, SCA
John Terry, Hauser

PROGRESS: Correction to the report of October 11, 1983. These names were not recorded for being on site;

K. Dillon, Hauser
K. Merwin, Hauser

An extra man from Schnabel on site. (Robert E. Carpenter Jr.) Went for medical at 2:00pm, was respirator fit test and Safety briefed.

-----2

The people from Scnabel had to be continuously reminded of the following;

--- wearing of respirators
--- not to wear tyveks outside of the fenced area
--- eating and drinking in non-designated areas
--- getting out of the pits when truck traffic naer pits

CRA

W. Wolfe K. Engler
Safety Officer

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Consulting Engineers

October 14, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Overcast and humid in the morning, ±55°F
Sunny and warmer in the afternoon, ±65°F
Cool wind and temperature drop at ±3:00pm

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 680E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
D. Gero, SCA
B. Scarey, Hauser
W. Engler, CRA
D. Leone, SCC
J. Brueckl, SCC
B. Kodeski, SCC
E. Ventry, SCC
J. Williams, IBM
J. Defazio, IBM
J. Hish, IBM
H. Anderson, Schnabel
M. Anderson, "
P. Utsey, "
R. Dailey, "
G. Hribljan, "
R. Carpenter, "
D. Webster, SCA
B. Vansteenvurg, Hauser
B. Jobin, Hauser
Dennis Hoover, SCA
Ralph Rickert, Hauser

PROGRESS: Schnabel personnel warned again to wear respirators and not to drink in the "Dirty Zone".

CRA

W. (Wolfe) K. Engler
Safety Officer

CONESTOGA-ROVERS & ASSOCIATES LIMITED
Consulting Engineers

October 15, 1983 Reference Number 1289

DAILY HEALTH AND SAFETY REPORT

WEATHER: Overcast and cool with some sunny periods in the morning, ±48°F
Sunny and warmer in the afternoon, ±65°F

EQUIPMENT ON SITE:
- tool trailer with a variety of equipment
- Case Drott 35D backhoe
- Case 680E rubber tire combination loader and backhoe equipped with vibratory compactor
- International D7E tilt blade dozer
- two additional buckets for backhoes
- Diamond Reo tandem

PERSONNEL ON SITE:
J. Williams, IBM
W. Engler, CRA
J. Brueckl, SCC
B. Kodeski, SCC
E. Ventry, SCC
J. Defazio, IBM
H. Anderson, Schnabel
M. Anderson, "
P. Utsey, "
R. Dailey, "
G. Hribljan, "
R. Carpenter, "

PROGRESS: No incidents to report.

CRA

W. (Wolfe) K. Engler
Safety Officer

APPENDIX J

CHAIN OF CUSTODY

SOIL RECORD SAMPLES

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Consulting Engineers

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Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

CHAIN OF CUSTODY

IBM Corporation
P.O. Box 950
Poughkeepsie, New York
12602, (914) 432-3541

Sheet 1 of 11

Sampler No: W. Engler

Reference Number: 1289

Sample No.	Date	Time	Sample Location	Description	Number
BH18-2'	08/08/83	10:40am	Building 906	1 qt. gl. jar	1
BH19-2'	08/16/83	7:25am	"	"	1
BH18-14'	08/08/83	12:45pm	"	"	1
BH22-4'	"	2:00pm	"	"	1
BH10-10'	08/05/83	3:40pm	"	"	1
BH18-6'	08/08/83	11:00am	"	"	1
BH18-12'	"	11:45am	"	"	1
BH22-2'	"	1:45pm	"	"	1
BH10-8'	08/05/83	3:35pm	"	"	1
BH18-4'	08/08/83	11:50am	"	"	1
BH18-10'	"	11:35am	"	"	1
BH18-15'	"	1:15pm	"	"	1
BH53-4'	08/17/83	10:45am	"	"	1
BH51-6'	"	11:05am	"	"	1
BH54-4'	"	1:25pm	"	"	1
BH52-4'	"	2:00pm	"	"	1
BH53-2'	"	10:35am	"	"	1
BH51-4'	"	11:00am	"	"	1
BH54-2'	"	1:15pm	"	"	1
BH52-2'	"	1:50pm	"	"	1
BH20-6'	"	10:25am	"	"	1
BH51-2'	"	10:55am	"	"	1
BH51-8'	"	11:15am	"	"	1
BH52-5'	"	1:35pm	"	"	1
				Total	24

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
W. Engler	10/22/83	2.3[illegible] pm	SCA [illegible]	10/23/83	3½ pm

CRA
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CHAIN OF CUSTODY

IBM Corporation
P.O. Box 950
Poughkeepsie, New York
12602, (914) 432-3541

Sheet 2 of 11

Sampler No: W. Engler

Reference Number: 1289

Sample No.	Date	Time	Sample Location	Description	Number
BH55-2'	08/17/83	1:40pm	Building 906	1 qt. gl. jar	1
BH55-8'	"	2:05pm	"	"	1
BH43-6'	"	2:55pm	"	"	1
BH19-8'	08/16/83	7:50am	"	"	1
BH52-8'	08/17/83	1:15pm	"	"	1
BH55-6'	"	1:55pm	"	"	1
BH43-2'	"	2:40pm	"	"	1
BH19-6'	08/16/83	7:40am	"	"	1
BH52-6'	08/17/83	1:10pm	"	"	1
BH55-4'	"	1:50pm	"	"	1
BH55-9.9'	"	2:10pm	"	"	1
BH19-4'	08/16/83	7:35am	"	"	1
BH28-2'	08/17/83	8:45am	"	"	1
BH28-7'	"	9:15am	"	"	1
BH24-6'	"	9:45am	"	"	1
BH20-4'	"	10:15am	"	"	1
BH32-8'	"	8:15am	"	"	1
BH28-6'	"	9:05am	"	"	1
BH24-4'	"	9:35am	"	"	1
BH20-2'	"	10:05am	"	"	1
BH32-6'	"	8:10am	"	"	1
BH28-4'	"	8:55am	"	"	1
BH24-2'	"	9:25am	"	"	1
BH24-8'	"	9:55am	"	"	1
				Total	24

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
W. Engler	10/22/83	2:34pm	SCA	10/22/83	2:34pm

CRA
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CHAIN OF CUSTODY

IBM Corporation
P.O. Box 950
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12602, (914) 432-3541

Sheet 3 of 11

Sampler No: W. Engler

Reference Number: 1289

Sample No.	Date	Time	Sample Location	Description	Number
BH33-2'	08/09/83	8:20am	Building 906	1 qt. gl. jar	1
BH33-4'	"	8:35am	"	"	1
BH33-6'	"	8:50am	"	"	1
BH10-6'	08/05/83	3:15pm	"	"	1
BH10-2'	"	2:45pm	"	"	1
BH10-4'	"	3:00pm	"	"	1
BH30-8'	08/09/83	7:40am	"	"	1
BH30-10'	"	7:50am	"	"	1
BH5-4'	08/05/83	10:15am	"	"	1
BH5-6'	"	10:20am	"	"	1
BH40-2'	08/09/83	10:50am	"	"	1
BH40-4'	"	11:00am	"	"	1
BH42-8'	08/16/83	5:00pm	"	"	1
BH42-6'	"	5:00pm	"	"	1
BH42-4'	"	4:50pm	"	"	1
BH42-10'	"	5:05pm	"	"	1
BH42-12'	"	5:15pm	"	"	1
BH35-2'	08/17/83	7:20am	"	"	1
BH35-4'	"	7:25am	"	"	1
BH35-6'	"	7:30am	"	"	1
BH35-8'	"	7:40am	"	"	1
BH35-10'	"	7:50am	"	"	1
BH32-2'	"	8:00am	"	"	1
BH32-4'	"	8:05am	"	"	1
				Total	24

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
W. Engler	10/27/83	2:34pm	SCP Robert Sawyer	10/28/83	7:34 Pm

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
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CHAIN OF CUSTODY

IBM Corporation
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Sheet 4 of 11

Sampler No: W. Engler

Reference Number: 1289

Sample No.	Date	Time	Sample Location	Description	Number
BH21-4'	8/09/83	6:20pm	Building 906	1 qt. gl. jar	1
BH21-2'	"	6:10pm	"	"	1
BH17-9'	"	4:05pm	"	"	1
BH17-8'	"	3:55pm	"	"	1
BH17-6'	"	3:45pm	"	"	1
BH17-4'	"	3:40pm	"	"	1
BH17-2'	"	3:30pm	"	"	1
BH13-10'	"	3:10pm	"	"	1
BH13-6'	"	3:00pm	"	"	1
BH13-4'	"	2:50pm	"	"	1
BH13-2'	"	2:45pm	"	"	1
BH41-9.3'	"	2:15pm	"	"	1
BH23-12'	8/16/83	9:00am	"	"	1
BH23-10'	"	8:50am	"	"	1
BH23-8'	"	8:45am	"	"	1
BH27-2'	"	9:30am	"	"	1
BH27-4'	"	9:40am	"	"	1
BH27-6'	"	9:50am	"	"	1
BH27-8'	"	9:55am	"	"	1
BH27-10'	"	10:00am	"	"	1
BH27-10.9'	"	10:10am	"	"	1
BH31-2'	"	10:30am	"	"	1
BH31-4'	"	10:40am	"	"	1
BH31-6'	"	10:50am	"	"	1
				Total	24

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
W K Leigh	10/21/83	2:34 pm	SCA Robert Young	10/21/83	2:34 pm

CRA
Consulting Engineers

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CHAIN OF CUSTODY

IBM Corporation
P.O. Box 950
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Sheet 5 of 11

Sampler No: W. Engler

Reference Number: 1289

Sample No.	Date	Time	Sample Location	Description	Number
BH39-2'	8/09/83	12:25pm	Building 906	1 qt. gl. jar	1
BH39-9.3'	"	1:10pm	"	"	1
BH50-14'	8/15/83	3:45pm	"	"	1
BH15-9.5'	"	2:00pm	"	"	1
BH15-4'	"	1:10pm	"	"	1
BH15-8'	"	1:50pm	"	"	1
BH56-12'	8/17/83	5:25pm	"	"	1
BH41-4'	8/09/83	1:45pm	"	"	1
BH41-6'	"	1:55pm	"	"	1
BH50-10'	8/15/83	3:30pm	"	"	1
BH15-2'	"	1:10pm	"	"	1
BH15-6'	"	1:40pm	"	"	1
BH38-10'	8/16/83	4:00pm	"	"	1
BH38-4'	"	3:45pm	"	"	1
BH38-11.9'	"	4:10pm	"	"	1
BH38-6'	"	3:50pm	"	"	1
BH38-8'	"	3:55pm	"	"	1
BH34-2'	"	2:20pm	"	"	1
BH34-9.8'	"	3:15pm	"	"	1
BH34-4'	"	2:25pm	"	"	1
BH34-8'	"	3:05pm	"	"	1
BH34-6'	"	2:50pm	"	"	1
BH38-2'	"	3:40pm	"	"	1
BH42-2'	"	4:40pm	"	"	1
				Total	24

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
W. Engler	10/22/83	2:34pm	SCA	10/22/83	2:34 pm

CRA
Consulting Engineers

CONESTOGA-ROVERS & ASSOCIATES LIMITED
651 Colby Drive,
Waterloo, Ontario, Canada N2V 1C2
(519) 884-0510

CHAIN OF CUSTODY

IBM Corporation
P.O. Box 950
Poughkeepsie, New York
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Sheet 6 of 11

Sampler No: W. Engler

Reference Number: 1289

Sample No.	Date	Time	Sample Location	Description	Number
BH1-6'	8/04/83	1:25pm	Building 906	1 qt. gl. jar	1
BH1-12'	"	2:35pm	"	"	1
BH1-2'	"	1:00pm	"	"	1
BH1-14'	"	2:45pm	"	"	1
BH1-4'	"	1:12pm	"	"	1
BH1-8'	"	1:45pm	"	"	1
BH2-10'	8/05/83	8:40am	"	"	1
BH2-4'	"	8:03am	"	"	1
BH2-6'	"	8:10am	"	"	1
BH2-8'	"	8:25am	"	"	1
BH2-2'	"	7:55am	"	"	1
BH5-2'	"	10:05am	"	"	1
BH37-6'	8/10/83	2:40pm	"	"	1
BH37-8'	"	2:45pm	"	"	1
BH37-2'	"	2:15pm	"	"	1
BH8-2'	"	1:15pm	"	"	1
BH8-4'	"	1:25pm	"	"	1
BH8-6'	"	1:35pm	"	"	1
BH12-5.5'	"	1:05pm	"	"	1
BH9-12'	"	1:50pm	"	"	1
BH37-4'	"	2:30pm	"	"	1
BH37-9'	"	2:55pm	"	"	1
BH9-12.8'	8/05/83	2:15pm	"	"	1
BH16-5.5'	8/10/83	4:00pm	"	"	1
				Total	24

SGA

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	10/22/83	2.34pm	[signature]	10/22/83	2.34pm

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CHAIN OF CUSTODY

IBM Corporation
P.O. Box 950
Poughkeepsie, New York
12602, (914) 432-3541

Sheet 7 of 11

Sampler No: W. Engler

Reference Number: 1289

Sample No.	Date	Time	Sample Location	Description	Number
BH14-6'	8/10/83	8:35am	Building 906	1 qt. gl. jar	1
BH14-2'	"	8:20am	"	"	1
BH14-11.8'	"	9:10am	"	"	1
BH14-9'	"	9:00am	"	"	1
BH6-6'	"	9:55am	"	"	1
BH6-2'	"	9:40am	"	"	1
BH6-8'	"	10:10am	"	"	1
BH6-4'	"	9:50am	"	"	1
BH6-9.7'	"	10:20am	"	"	1
BH4-4'	"	11:00am	"	"	1
BH4-2'	"	10:50am	"	"	1
BH12-5'	"	12:55pm	"	"	1
BH29-2'	"	7:15am	"	"	1
BH29-4'	"	7:30am	"	"	1
BH25-7.5'	8/09/83	7:30pm	"	"	1
BH25-4'	"	7:10pm	"	"	1
BH25-6'	"	7:20pm	"	"	1
BH25-2'	"	7:00pm	"	"	1
BH14-8'	8/10/83	8:50am	"	"	1
BH16-2'	"	3:35pm	"	"	1
BH16-4'	"	3:55pm	"	"	1
BH21-6'	8/09/83	6:30pm	"	"	1
BH21-8'	"	6:40pm	"	"	1
BH21-8.6'	"	6:50pm	"	"	1
				Total	24

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
W. Engler	10/22/83	2:34pm	SCA	10/22/83	2:34pm

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Sheet 8 of 11

Sampler No: W. Engler

Reference Number: 1289

Sample No.	Date	Time	Sample Location	Description	Number
BH47-6'	8/17/83	3:50pm	Building 906	1 qt. gl. jar	1
BH23-2'	8/16/83	8:20am	"	"	1
BH40-8'	"	11:20am	"	"	1
BH44-2'	8/18/83	10:10am	"	"	1
BH40-9.6'	8/09/83	11:30am	"	"	1
BH40-6'	"	11:10am	"	"	1
BH23-4'	8/16/83	8:30am	"	"	1
BH23-6'	"	8:35am	"	"	1
BH57-4'	8/18/83	8:10am	"	"	1
BH57-2'	"	8:00am	"	"	1
BH44-6'	"	10:30am	"	"	1
BH44-9.4'	"	10:50am	"	"	1
BH11-5.5'	8/15/83	12:50pm	"	"	1
BH11-4'	"	11:40am	"	"	1
BH26-6'	8/08/83	3:40pm	"	"	1
BH7-10'	8/15/83	11:35am	"	"	1
BH3-2'	8/11/83	7:05am	"	"	1
BH7-2'	8/15/83	10:50am	"	"	1
BH7-11.6'	"	11:45am	"	"	1
BH11-2'	"	12:30pm	"	"	1
BH7-6'	"	11:15am	"	"	1
BH7-8'	"	11:25am	"	"	1
BH7-4'	"	11:05am	"	"	1
BH3-4'	8/09/83	7:15am	"	"	1
				Total	24

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	10/22/83	2:34pm	SCA [signature]	10/22/83	2:34pm

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Sheet 9 of 11

Sampler No: W. Engler

Reference Number: 1289

Sample No.	Date	Time	Sample Location	Description	Number
BH9-2'	8/05/83	1:05pm	Building 906	1 qt. gl. jar	1
BH9-6'	"	1:20pm	"	"	1
BH9-4'	"	1:15pm	"	"	1
BH9-8'	"	1:35pm	"	"	1
BH9-10'	"	1:45pm	"	"	1
BH26-4'	8/08/83	3:25pm	"	"	1
BH26-9.5'	"	3:55pm	"	"	1
BH26-8'	"	3:50pm	"	"	1
BH26-2'	"	3:10pm	"	"	1
BH22-10'	"	2:30pm	"	"	1
BH22-8'	"	2:25pm	"	"	1
BH22-6'	"	2:15pm	"	"	1
BH22-11.5'	"	2:40pm	"	"	1
BH30-2'	8/09/83	7:10am	"	"	1
BH30-4'	"	7:20am	"	"	1
BH4-5.5'	8/10/83	11:20am	"	"	1
BH12-2'	"	12:40pm	"	"	1
				Total	17

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
W. Engler	10/20/83	2.34pm	SCA Robin Stevens	10/20/83	2.34pm
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

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Sheet 10 of 11

Sampler No: W. Engler

Reference Number: 1289

Sample No.	Date	Time	Sample Location	Description	Number
BH63-6'	9/09/83	1:45pm	Building 906	1 pt. gl. jar	1
BH64-2'	"	10:40am	"	"	1
BH65-8'	"	10:10am	"	"	1
BH65-2'	"	9:40am	"	"	1
BH57-8'	"	9:20am	"	"	1
BH68-6'	"	8:15am	"	"	1
BH65-10'	"	10:20am	"	"	1
BH65-4'	"	9:50am	"	"	1
BH61-3.8'	9/08/83	4:55pm	"	"	1
BH64-8'	9/09/83	11:10am	"	"	1
BH68-4'	"	8:05am	"	"	1
BH65-6'	"	10:00am	"	"	1
BH57-11.6'	"	9:35am	"	"	1
BH62-4'	"	11:40am	"	"	1
BH66-2'	"	12:35pm	"	"	1
BH68-10'	"	8:35am	"	"	1
BH63-4'	"	1:35pm	"	"	1
BH62-2'	"	11:30am	"	"	1
BH62-8'	"	12:00pm	"	"	1
BH66-4'	"	12:45pm	"	"	1
BH63-2'	"	1:30pm	"	"	1
BH68-8'	"	8:25am	"	"	1
BH62-6'	"	11:50am	"	"	1
BH57-2'	"	8:50am	"	"	1
				Total	24

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	10/22/83	2:34pm	SCA [signature]	10/22/83	3:40pm

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Sheet 11 of 11

Sampler No: W. Engler

Reference Number: 1289

Sample No.	Date	Time	Sample Location	Description	Number
BH66-10'	9/09/83	1:10pm	Building 906	1 pt. gl. jar	1
BH67-6'	"	9:10am	"	"	1
BH59-4'	9/08/83	2:30pm	"	"	1
BH58-2'	"	12:20pm	"	"	1
BH63-10'	9/09/83	2:05pm	"	"	1
BH60-2'	9/08/83	4:00pm	"	"	1
BH60-6'	"	4:20pm	"	"	1
BH58-9.1'	"	1:20pm	"	"	1
BH58-4'	"	12:25pm	"	"	1
BH63-10.8'	9/09/83	2:15pm	"	"	1
BH59-8'	9/08/83	2:55pm	"	"	1
BH59-2'	"	2:15pm	"	"	1
BH58-6'	"	12:45pm	"	"	1
				Total	13

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
[signature]	10/22/83	2.34 pm	[signature] SCA	10/22/83	2.34 pm.

APPENDIX K

MASS OF TVO IN SOILS SPECIFIED FOR EXCAVATION AND OFF-SITE DISPOSAL BY SECURE LANDFILLING

TABLE 6

TVO SOIL MASS CALCULATION
SOILS PROPOSED FOR EXCAVATION

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
1	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	257.3	514.6	47267.	1000	0.0473
2	0.0 - 2.0	195.3	390.6	35877.	740	0.0265
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	195.3	390.6	35877.	1400	0.0502
	6.0 - 8.0	195.3	390.6	35877.	4100	0.1471
	8.0 - 10.0	195.3	390.6	35877.	1200	0.0431
3	0.0 - 2.0	258.9	517.8	47561.	850	0.0404
	2.0 - 4.0	258.9	517.8	47561.	600	0.0285
	4.0 - 6.0	---	---	---	---	---
4	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 5.5	---	---	---	---	---
5	0.0 - 2.0	231.0	462.0	42436.	750	0.0318
	2.0 - 4.0	231.0	462.0	42436.	7300	0.3098
	4.0 - 6.0	231.0	462.0	42436.	3600	0.1528
6	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	196.9	393.8	36171.	760	0.0275
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.7	---	---	---	---	---
7	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	223.2	446.4	41003.	1100	0.0451
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	223.2	446.4	41003.	2460	0.1009
	8.0 - 10.0	223.2	446.4	41003.	1600	0.0656
	10.0 - 11.6	223.2	357.1	32802.	2300	0.0754
8	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
9	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	162.8	325.6	29907.	5600	0.1675
	4.0 - 6.0	162.8	325.6	29907.	5200	0.1555
	6.0 - 8.0	162.8	325.6	29907.	3600	0.1077
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	162.8	325.6	29907.	1000	0.0299
	12.0 - 12.8	162.8	130.2	11963.	770	0.0092

TABLE 6 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS PROPOSED FOR EXCAVATION

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
10	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	156.6	313.2	28768.	840	0.0242
	8.0 - 10.0	---	---	---	---	---
11	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 5.5	---	---	---	---	---
12	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 5.5	---	---	---	---	---
13	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	175.2	350.4	32185.	580	0.0187
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
14	0.0 - 2.0	184.5	369.0	33893.	500	0.0169
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	184.5	369.0	33893.	440	0.0149
	8.0 - 10.0	184.5	369.0	33893.	520	0.0176
	10.0 - 11.8	184.5	332.1	30504.	1930	0.0589
15	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	223.2	446.4	41003.	460	0.0189
	4.0 - 6.0	223.2	446.4	41003.	470	0.0193
	6.0 - 8.0	223.2	446.4	41003.	550	0.0226
	8.0 - 9.5	223.2	334.8	30752.	560	0.0172
16	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	226.3	452.6	41572.	520	0.0216
	4.0 - 5.5	226.3	339.5	31179.	830	0.0259
17	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.0	---	---	---	---	---

TABLE 6 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS PROPOSED FOR EXCAVATION

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
18	0.0 - 2.0	220.1	440.2	40433.	530	0.0214
	2.0 - 4.0	220.1	440.2	40433.	770	0.0311
	4.0 - 6.0	220.1	440.2	40433.	1200	0.0485
	6.0 - 8.0	220.1	440.2	40433.	1100	0.0445
	8.0 - 10.0	220.1	440.2	40433.	520	0.0210
	10.0 - 12.0	220.1	440.2	40433.	1500	0.0606
	12.0 - 14.0	220.1	440.2	40433.	2400	0.0970
	14.0 - 15.0	220.1	220.1	20217.	5500	0.1112
19	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	198.4	396.8	36447.	1000	0.0364
	4.0 - 6.0	198.4	396.8	36447.	3000	0.1093
	6.0 - 8.0	198.4	396.8	36447.	1500	0.0547
20	0.0 - 2.0	223.2	446.4	41003.	600	0.0246
	2.0 - 4.0	223.2	446.4	41003.	470	0.0193
	4.0 - 6.0	---	---	---	---	---
21	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	186.0	372.0	34169.	630	0.0215
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 8.6	---	---	---	---	---
22	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
23	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	220.1	440.2	40433.	7700	0.3113
	6.0 - 8.0	220.1	440.2	40433.	17000	0.6874
	8.0 - 10.0	220.1	440.2	40433.	2900	0.1173
	10.0 - 12.0	---	---	---	---	---
24	0.0 - 2.0	265.1	530.2	48700.	740	0.0360
	2.0 - 4.0	265.1	530.2	48700.	850	0.0414
	4.0 - 6.0	265.1	530.2	48700.	2920	0.1422
	6.0 - 8.0	265.1	530.2	48700.	5150	0.2508

TABLE 6 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS PROPOSED FOR EXCAVATION

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
25	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 7.5	---	---	---	---	---
26	0.0 - 2.0	182.9	365.8	33599.	500	0.0168
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.5	---	---	---	---	---
27	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	206.2	412.4	37880.	2300	0.0871
	6.0 - 8.0	206.2	412.4	37880.	630	0.0239
	8.0 - 10.0	---	---	---	---	---
	10.0 - 10.9	206.2	185.6	17046.	500	0.0085
28	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 7.2	---	---	---	---	---
29	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
30	0.0 - 2.0	235.6	471.2	43281.	920	0.0398
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	235.6	471.2	43281.	530	0.0229
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
31	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
32	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---

TABLE 6 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS PROPOSED FOR EXCAVATION

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
33	0.0 - 2.0	198.4	396.8	36447.	680	0.0248
	2.0 - 4.0	198.4	396.8	36447.	2920	0.1064
	4.0 - 6.0	198.4	396.8	36447.	1230	0.0448
34	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.8	---	---	---	---	---
35	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
36	0.0 - 2.0	209.3	418.6	38449.	3200	0.1230
	2.0 - 4.0	209.3	418.6	38449.	1400	0.0538
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.0	209.3	209.3	19225.	230	0.0044
37	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.0	---	---	---	---	---
38	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 11.9	---	---	---	---	---
39	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.3	---	---	---	---	---

TABLE 6 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS PROPOSED FOR EXCAVATION

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
40	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.6	---	---	---	---	---
41	0.0 - 2.0	204.6	409.2	37586.	490	0.0184
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.6	---	---	---	---	---
42	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---
43	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.3	---	---	---	---	---
44	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	207.7	415.4	38155.	140	0.0053
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.4	207.7	290.8	26709.	180	0.0048
45	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	252.7	505.4	46422.	520	0.0241
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	252.7	505.4	46422.	160	0.0074
46	0.0 - 2.0	314.7	629.4	57812.	1500	0.0867
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---

TABLE 6 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS PROPOSED FOR EXCAVATION

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
47	0.0 - 2.0	189.1	378.2	34738.	130	0.0045
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	189.1	378.2	34738.	1800	0.0625
	6.0 - 8.0	189.1	378.2	34738.	550	0.0191
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---
48	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	182.9	365.8	33599.	920	0.0309
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
49	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	251.1	502.2	46128.	850	0.0392
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
50	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---
	12.0 - 14.0	---	---	---	---	---
	14.0 - 15.5	441.8	662.7	60870.	150	0.0091
51	0.0 - 2.0	333.3	666.6	61228.	850	0.0520
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	333.3	666.6	61228.	710	0.0435
52	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	458.8	917.6	84283.	3100	0.2613
	4.0 - 6.0	458.8	917.6	84283.	1800	0.1517
	6.0 - 8.0	---	---	---	---	---
53	0.0 - 2.0	262.0	524.0	48130.	510	0.0245
	2.0 - 4.0	---	---	---	---	---

TABLE 6 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS PROPOSED FOR EXCAVATION

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
54	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
55	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.9	---	---	---	---	---
56	0.0 - 2.0	224.8	449.6	41297.	230	0.0095
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	224.8	449.6	41297.	680	0.0281
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	224.8	449.6	41297.	530	0.0219
57	0.0 - 2.0	333.3	666.6	61228.	8400	0.5143
	2.0 - 4.0	333.3	666.6	61228.	7600	0.4653
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	333.3	666.6	61228.	450	0.0276
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---
	12.0 - 14.0	---	---	---	---	---
58	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	443.3	886.6	81436.	690	0.0562
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
59	0.0 - 2.0	471.2	942.4	86561.	2600	0.2251
	2.0 - 4.0	471.2	942.4	86561.	6300	0.5453
	4.0 - 6.0	471.2	942.4	86561.	2500	0.2164
	6.0 - 8.0	471.2	942.4	86561.	1300	0.1125
	8.0 - 10.0	---	---	---	---	---
60	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---

TABLE 6 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS PROPOSED FOR EXCAVATION

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
61	0.0 - 2.0	200.0	400.0	36741.	1000	0.0367
	2.0 - 4.0	---	---	---	---	---
62	0.0 - 2.0	448.0	896.0	82299.	1700	0.1399
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	448.0	896.0	82299.	560	0.0461
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.1	---	---	---	---	---
63	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	390.6	781.2	71755.	2000	0.1435
	4.0 - 6.0	390.6	781.2	71755.	750	0.0538
	6.0 - 8.0	390.6	781.2	71755.	500	0.0359
	8.0 - 10.0	---	---	---	---	---
	10.0 - 10.8	---	---	---	---	---
64	0.0 - 2.0	914.5	1829.0	167997.	1200	0.2016
	2.0 - 4.0	914.5	1829.0	167997.	1400	0.2352
	4.0 - 6.0	914.5	1829.0	167997.	2100	0.3528
	6.0 - 8.0	914.5	1829.0	167997.	1800	0.3024
	8.0 - 9.4	914.5	1280.3	117598.	580	0.0682
65	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---
66	0.0 - 2.0	509.9	1019.8	93671.	1600	0.1499
	2.0 - 4.0	509.9	1019.8	93671.	1200	0.1124
	4.0 - 6.0	509.9	1019.8	93671.	1000	0.0937
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	509.9	1019.8	93671.	1500	0.1405
67	0.0 - 2.0	516.2	1032.4	94828.	5300	0.5026
	2.0 - 4.0	516.2	1032.4	94828.	5200	0.4931
	4.0 - 6.0	516.2	1032.4	94828.	1500	0.1422
	6.0 - 8.0	516.2	1032.4	94828.	600	0.0569
	8.0 - 10.0	---	---	---	---	---
	10.0 - 11.6	516.2	825.9	75862.	1800	0.1366

TABLE 6 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS PROPOSED FOR EXCAVATION

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
68	0.0 - 2.0	333.3	666.6	61228.	1500	0.0918
	2.0 - 4.0	333.3	666.6	61228.	3900	0.2388
	4.0 - 6.0	333.3	666.6	61228.	1200	0.0735
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---
69	0.0 - 2.0	601.4	1202.8	110479.	1400	0.1547
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---
70	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---
	12.0 - 14.0	---	---	---	---	---
71	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---
72	0.0 - 2.0	832.4	1664.8	152915.	14000	2.1408
	2.0 - 4.0	832.4	1664.8	152915.	13000	1.9879
	4.0 - 6.0	832.4	1664.8	152915.	15000	2.2937
73	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	1283.4	2566.8	235765.	3800	0.8959
	6.0 - 8.0	1283.4	2566.8	235765.	1300	0.3065
	8.0 - 10.0	---	---	---	---	---
74	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---

TABLE 6 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS PROPOSED FOR EXCAVATION

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
75	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 5.2	---	---	---	---	---
					TOTAL	19.4776

(C) = (A) X (B)
(D) = (C) / 27 X 2000 X 1.24
* (F) = (D) X (E) / 1,000,000,000

APPENDIX L

MASS OF TVO IN SOILS
ACTUALLY EXCAVATED AND DISPOSED OFF-SITE
BY SECURE LANDFILLING

TABLE 7

TVO SOIL MASS CALCULATION
SOILS EXCAVATED AND DISPOSED BY SECURE LANDFILL

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
1	0.0 - 6.3	---	---	---	---	---
	6.3 - 8.0	181.5	308.5	28341.	1000	0.0283
2	0.0 - 2.0	198.0	396.0	36373.	740	0.0269
	2.0 - 4.3	---	---	---	---	---
	4.3 - 6.0	226.6	385.2	35383.	1400	0.0495
	6.0 - 8.0	199.8	399.6	36704.	4100	0.1505
	8.0 - 10.0	199.8	399.6	36704.	1200	0.0440
3	0.0 - 2.0	270.0	540.0	49600.	850	0.0422
	2.0 - 4.0	226.3	452.6	41572.	600	0.0249
	4.0 - 4.4	322.8	129.1	11858.	150	0.0018
	4.4 - 6.0	---	---	---	---	---
4	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	7.3	14.6	1341.	170	0.0002
	4.0 - 5.5	---	---	---	---	---
5	0.0 - 2.0	209.3	418.5	38440.	750	0.0288
	2.0 - 4.0	209.3	418.5	38440.	7300	0.2806
	4.0 - 6.0	189.0	379.9	34895.	3600	0.1256
6	0.0 - 2.0	8.1	16.2	1488.	270	0.0004
	2.0 - 4.0	188.3	376.6	34591.	760	0.0263
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.7	---	---	---	---	---
7	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	144.7	289.4	26582.	1100	0.0292
	4.0 - 6.0	120.1	240.2	22063.	320	0.0071
	6.0 - 8.0	101.3	202.6	18609.	2460	0.0458
	8.0 - 10.0	92.5	185.0	16993.	1600	0.0272
	10.0 - 11.4	21.7	30.4	2790.	2300	0.0064
	11.4 - 11.6	---	---	---	---	---
8	0.0 - 6.0	---	---	---	---	---
9	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	177.8	355.6	32663.	5600	0.1829
	4.0 - 6.0	170.4	340.8	31303.	5200	0.1628
	6.0 - 8.0	168.2	336.4	30899.	3600	0.1112
	8.0 - 10.0	168.2	336.4	30899.	230	0.0071
	10.0 - 12.0	166.2	332.4	30532.	1000	0.0305
	12.0 - 12.8	70.0	56.0	5144.	770	0.0040

TABLE 7 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS EXCAVATED AND DISPOSED BY SECURE LANDFILL

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
10	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	3.2	6.4	588.	250	0.0001
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	168.0	336.0	30862.	840	0.0259
	8.0 - 10.0	73.4	146.8	13484.	380	0.0051
11	0.0 - 4.0	---	---	---	---	---
	4.0 - 5.5	---	---	---	---	---
12	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 5.5	---	---	---	---	---
13	0.0 - 2.0	9.7	19.4	1782.	120	0.0002
	2.0 - 4.0	13.4	26.8	2462.	210	0.0005
	4.0 - 6.0	177.0	354.0	32516.	580	0.0189
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	4.4	8.8	808.	380	0.0003
14	0.0 - 2.0	209.6	419.2	38504.	500	0.0193
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	18.4	36.8	3380.	350	0.0012
	6.0 - 8.0	209.6	419.2	38504.	440	0.0169
	8.0 - 10.0	209.6	419.2	38504.	520	0.0200
	10.0 - 11.8	164.9	296.8	27263.	1930	0.0526
15	0.0 - 2.0	4.6	9.2	845.	250	0.0002
	2.0 - 4.0	135.2	270.4	24837.	460	0.0114
	4.0 - 6.0	177.8	355.6	32663.	470	0.0154
	6.0 - 8.0	112.2	224.3	20602.	550	0.0113
	8.0 - 9.5	50.2	75.3	6916.	560	0.0039
16	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	188.6	377.2	34647.	520	0.0180
	4.0 - 5.5	211.7	317.5	29163.	830	0.0242
17	0.0 - 2.0	28.5	57.0	5236.	210	0.0011
	2.0 - 4.0	18.2	36.4	3343.	250	0.0008
	4.0 - 6.0	15.5	31.0	2847.	260	0.0007
	6.0 - 8.0	5.8	11.6	1065.	100	0.0001
	8.0 - 9.0	---	---	---	---	---

TABLE 7 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS EXCAVATED AND DISPOSED BY SECURE LANDFILL

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
18	0.0 - 2.0	206.8	413.6	37990.	530	0.0201
	2.0 - 4.0	206.8	413.6	37990.	770	0.0293
	4.0 - 6.0	206.8	413.6	37990.	1200	0.0456
	6.0 - 8.0	206.8	413.6	37990.	1100	0.0418
	8.0 - 10.0	202.8	405.6	37255.	520	0.0194
	10.0 - 12.0	200.0	400.0	36741.	1500	0.0551
	12.0 - 14.0	140.0	280.0	25719.	2400	0.0617
	14.0 - 15.0	71.0	71.0	6521.	5500	0.0359
19	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	150.5	301.0	27647.	1000	0.0276
	4.0 - 6.0	168.0	336.0	30862.	3000	0.0926
	6.0 - 8.0	93.8	187.6	17231.	1500	0.0258
20	0.0 - 2.0	225.0	450.0	41333.	600	0.0248
	2.0 - 4.0	222.5	445.0	40874.	470	0.0192
	4.0 - 6.0	50.4	100.7	9249.	380	0.0035
21	0.0 - 2.0	4.7	9.4	863.	160	0.0001
	2.0 - 4.0	100.0	200.0	18370.	630	0.0116
	4.0 - 8.0	---	---	---	---	---
	8.0 - 8.6	---	---	---	---	---
22	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	24.4	48.8	4482.	240	0.0011
	6.0 - 8.0	16.7	33.4	3068.	320	0.0010
	8.0 - 10.0	---	---	---	---	---
23	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	38.2	76.4	7017.	240	0.0017
	4.0 - 6.0	114.5	229.0	21034.	7700	0.1620
	6.0 - 8.0	93.7	187.3	17204.	17000	0.2925
	8.0 - 10.0	66.4	132.8	12198.	2900	0.0354
	10.0 - 12.0	1.5	3.0	276.	350	0.0001
24	0.0 - 2.0	245.4	490.8	45081.	740	0.0334
	2.0 - 4.0	217.6	435.2	39974.	850	0.0340
	4.0 - 6.0	188.7	377.3	34656.	2920	0.1012
	6.0 - 8.0	157.2	314.4	28878.	5150	0.1487

TABLE 7 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS EXCAVATED AND DISPOSED BY SECURE LANDFILL

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
25	0.0 - 7.5	---	---	---	---	---
26	0.0 - 2.0	173.6	347.2	31891.	500	0.0159
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	12.6	25.2	2315.	150	0.0003
	6.0 - 8.0	11.2	22.4	2057.	210	0.0004
	8.0 - 9.5	7.0	10.5	964.	280	0.0003
27	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	122.5	245.0	22504.	2300	0.0518
	6.0 - 8.0	108.1	216.2	19858.	630	0.0125
	8.0 - 10.0	---	---	---	---	---
	10.0 - 10.9	66.6	59.9	5506.	500	0.0028
28	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 7.2	---	---	---	---	---
29	0.0 - 4.0	---	---	---	---	---
30	0.0 - 2.0	210.3	420.6	38633.	920	0.0355
	2.0 - 4.0	207.1	414.2	38045.	250	0.0095
	4.0 - 6.0	202.2	404.4	37145.	530	0.0197
	6.0 - 8.0	13.1	26.2	2407.	200	0.0005
	8.0 - 10.0	---	---	---	---	---
31	0.0 - 6.0	---	---	---	---	---
32	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
33	0.0 - 2.0	222.8	445.6	40929.	680	0.0278
	2.0 - 4.0	218.1	436.2	40066.	2920	0.1170
	4.0 - 6.0	213.5	427.0	39221.	1230	0.0482
34	0.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	2.5	5.0	459.	340	0.0002
	6.0 - 9.8	---	---	---	---	---

TABLE 7 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS EXCAVATED AND DISPOSED BY SECURE LANDFILL

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
35	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
36	0.0 - 2.0	203.0	406.0	37292.	3200	0.1193
	2.0 - 4.0	203.0	406.0	37292.	1400	0.0522
	4.0 - 6.0	39.2	78.4	7201.	100	0.0007
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.0	246.9	246.9	22678.	230	0.0052
37	0.0 - 2.0	31.1	62.2	5713.	200	0.0011
	2.0 - 4.0	25.0	50.0	4593.	380	0.0017
	4.0 - 8.0	---	---	---	---	---
	8.0 - 9.0	---	---	---	---	---
38	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 11.9	---	---	---	---	---
39	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.3	---	---	---	---	---
40	0.0 - 2.0	14.4	28.8	2645.	300	0.0008
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 9.6	---	---	---	---	---
41	0.0 - 2.0	206.9	413.8	38008.	490	0.0186
	2.0 - 2.7	88.5	62.0	5690.	250	0.0014
	2.7 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 9.6	---	---	---	---	---

TABLE 7 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS EXCAVATED AND DISPOSED BY SECURE LANDFILL

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
42	0.0 - 2.0	136.4	272.8	25057.	110	0.0028
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---
43	0.0 - 2.0	25.5	51.0	4684.	180	0.0008
	2.0 - 4.0	19.4	38.8	3564.	230	0.0008
	4.0 - 6.0	9.7	19.4	1782.	180	0.0003
	6.0 - 8.0	---	---	---	---	---
	8.0 - 9.3	---	---	---	---	---
44	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	210.3	420.6	38633.	140	0.0054
	4.0 - 8.0	---	---	---	---	---
	8.0 - 8.5	210.3	105.2	9658.	180	0.0017
	8.5 - 9.4	---	---	---	---	---
45	0.0 - 2.0	15.8	31.6	2903.	390	0.0011
	2.0 - 4.0	241.5	483.0	44364.	520	0.0231
	4.0 - 8.5	---	---	---	---	---
	8.5 - 10.0	5.5	8.3	758.	160	0.0001
46	0.0 - 2.0	322.8	645.5	59290.	1500	0.0889
	2.0 - 10.0	---	---	---	---	---
47	0.0 - 2.0	201.5	403.0	37016.	130	0.0048
	2.0 - 4.0	35.3	70.6	6485.	230	0.0015
	4.0 - 6.0	176.3	352.6	32387.	1800	0.0583
	6.0 - 8.0	190.8	381.6	35047.	550	0.0193
	8.0 - 10.0	70.6	141.2	12969.	130	0.0017
	10.0 - 12.0	---	---	---	---	---
48	0.0 - 2.0	95.2	190.4	17489.	260	0.0045
	2.0 - 4.0	172.2	344.4	31634.	920	0.0291
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	39.8	79.6	7311.	160	0.0012
	8.0 - 10.0	---	---	---	---	---
49	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	256.0	512.0	47028.	850	0.0400
	4.0 - 10.0	---	---	---	---	---

TABLE 7 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS EXCAVATED AND DISPOSED BY SECURE LANDFILL

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
50	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	68.1	136.2	12510.	150	0.0019
	6.0 - 14.0	---	---	---	---	---
	14.0 - 15.5	4.3	6.5	592.	150	0.0001
51	0.0 - 2.0	402.5	805.0	73941.	850	0.0628
	2.0 - 4.0	40.1	80.2	7367.	270	0.0020
	4.0 - 6.0	36.1	72.2	6632.	120	0.0008
	6.0 - 8.0	258.9	517.8	47561.	710	0.0338
52	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	354.9	709.7	65187.	3100	0.2021
	4.0 - 6.0	390.8	781.6	71791.	1800	0.1292
	6.0 - 8.0	---	---	---	---	---
53	0.0 - 2.0	165.5	331.0	30403.	510	0.0155
	2.0 - 4.0	7.3	14.6	1341.	410	0.0005
54	0.0 - 2.0	16.1	32.2	2958.	310	0.0009
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	7.0	14.0	1286.	190	0.0002
55	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	18.6	37.2	3417.	120	0.0004
	4.0 - 8.0	---	---	---	---	---
	8.0 - 9.9	---	---	---	---	---
56	0.0 - 2.0	218.8	437.6	40194.	230	0.0092
	2.0 - 4.0	31.9	63.8	5860.	150	0.0009
	4.0 - 6.0	193.9	387.7	35611.	680	0.0242
	6.0 - 8.0	7.0	14.0	1286.	130	0.0002
	8.0 - 10.0	5.9	11.8	1084.	110	0.0001
	10.0 - 12.0	191.5	383.0	35179.	530	0.0186
57	0.0 - 2.0	321.0	642.0	58969.	8400	0.4953
	2.0 - 4.0	321.0	642.0	58969.	7600	0.4482
	4.0 - 6.0	57.5	115.0	10563.	330	0.0035
	6.0 - 8.0	294.3	588.6	54064.	450	0.0243
	8.0 - 10.0	66.5	133.0	12216.	350	0.0043
	10.0 - 12.0	---	---	---	---	---
	12.0 - 14.0	---	---	---	---	---

TABLE 7 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS EXCAVATED AND DISPOSED BY SECURE LANDFILL

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
58	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	408.9	817.8	75116.	690	0.0518
	6.0 - 8.0	10.3	20.6	1892.	350	0.0007
	8.0 - 10.0	---	---	---	---	---
59	0.0 - 2.0	470.7	941.4	86469.	2600	0.2248
	2.0 - 4.0	470.7	941.4	86469.	6300	0.5448
	4.0 - 6.0	453.9	907.8	83383.	2500	0.2085
	6.0 - 8.0	341.9	683.8	62808.	1300	0.0817
	8.0 - 8.3	3.0	0.9	83.	140	0.0000
	8.3 - 10.0	---	---	---	---	---
60	0.0 - 2.0	71.3	142.6	13098.	370	0.0048
	2.0 - 4.0	45.6	91.2	8377.	230	0.0019
	4.0 - 6.0	14.3	28.6	2627.	360	0.0009
61	0.0 - 2.0	225.0	450.0	41333.	1000	0.0413
	2.0 - 4.0	22.3	44.6	4097.	440	0.0018
62	0.0 - 2.0	472.5	945.0	86800.	1700	0.1476
	2.0 - 4.0	11.2	22.4	2057.	120	0.0002
	4.0 - 6.0	375.8	751.6	69036.	560	0.0387
	6.0 - 8.0	93.2	186.4	17121.	180	0.0031
	8.0 - 9.1	---	---	---	---	---
63	0.0 - 2.0	12.0	24.0	2204.	140	0.0003
	2.0 - 4.0	421.9	843.8	77505.	2000	0.1550
	4.0 - 6.0	430.0	860.0	78993.	750	0.0592
	6.0 - 8.0	430.0	860.0	78993.	500	0.0395
	8.0 - 10.0	56.8	113.6	10434.	360	0.0038
	10.0 - 10.8	---	---	---	---	---
64	0.0 - 2.0	736.0	1472.0	135206.	1200	0.1622
	2.0 - 4.0	694.4	1388.8	127564.	1400	0.1786
	4.0 - 6.0	640.0	1280.0	117570.	2100	0.2469
	6.0 - 8.0	576.0	1152.0	105813.	1800	0.1905
	8.0 - 9.4	459.2	642.9	59050.	580	0.0342
65	0.0 - 2.0	---	---	---	---	---
	2.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---

TABLE 7 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS EXCAVATED AND DISPOSED BY SECURE LANDFILL

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
66	0.0 - 2.0	447.9	895.8	82281.	1600	0.1316
	2.0 - 4.0	399.9	799.8	73463.	1200	0.0882
	4.0 - 6.0	310.8	621.6	57095.	1000	0.0571
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
67	0.0 - 2.0	317.6	635.2	58344.	5300	0.3092
	2.0 - 4.0	311.1	622.2	57150.	5200	0.2972
	4.0 - 6.0	265.1	530.2	48700.	1500	0.0730
	6.0 - 8.0	255.2	510.4	46881.	600	0.0281
	8.0 - 8.4	32.8	13.1	1203.	350	0.0004
	8.4 - 10.0	---	---	---	---	---
	10.0 - 11.6	---	---	---	---	---
68	0.0 - 2.0	225.0	450.0	41333.	1500	0.0620
	2.0 - 4.0	205.0	410.0	37659.	3900	0.1469
	4.0 - 6.0	183.8	367.6	33765.	1200	0.0405
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---
69	0.0 - 2.0	254.5	509.0	46753.	1400	0.0655
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	18.1	36.2	3325.	170	0.0006
	6.0 - 12.0	---	---	---	---	---
70	0.0 - 2.0	---	---	---	---	---
	2.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	---	---	---	---	---
	6.0 - 8.0	---	---	---	---	---
	8.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---
	12.0 - 14.0	---	---	---	---	---
71	0.0 - 10.0	---	---	---	---	---
	10.0 - 12.0	---	---	---	---	---
72	0.0 - 2.0	867.7	1735.4	159400.	14000	2.2316
	2.0 - 4.0	867.7	1735.4	159400.	13000	2.0722
	4.0 - 6.0	821.1	1642.2	150839.	15000	2.2626

TABLE 7 (CONTINUED)

TVO SOIL MASS CALCULATION
SOILS EXCAVATED AND DISPOSED BY SECURE LANDFILL

BOREHOLE	(A) DEPTH INTERVAL (FEET)	(B) SOIL AREA (SQ.FT.)	(C) SOIL VOLUME (CU.FT.)	(D) SOIL MASS (LB)	(E) TVO CONCENTRATION (PPB)	(F) TVO * MASS (LB)
73	0.0 - 4.0	---	---	---	---	---
	4.0 - 6.0	1187.0	2374.0	218056.	3800	0.8286
	6.0 - 8.0	1019.4	2038.8	187268.	1300	0.2434
	8.0 - 10.0	---	---	---	---	---
74	0.0 - 6.0	---	---	---	---	---
75	0.0 - 5.2	---	---	---	---	---
					TOTAL	16.6877

(C) = (A) X (B)
(D) = (C) / 27 X 2000 X 1.24
* (F) = (D) X (E) / 1,000,000,000