

115842

0-11-1
(RED)

APPENDIX I
SESOIL - EXAMPLE OUTPUT REPORT

Run NO. 39

MILLCREEK(altce5co.wk1) SESOIL SIMULATION: RUN 5c - AREA 1; TCE (vol.index=0)

INPUT: AREA 1 - TRICHLOROETHYLENE (TCE) RUN NO. 5c - ALTCE5CO.PRN
 area = 111483650 cm2 density = 1.66 gm/cm3
 120000 sq.ft. 103.58 lb/cu.ft.
 2.755 acres

TCE	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED
LYR 1	61.0	440	4.9722E+09	10.9636	44.6	44.600
LYR 2	61.0	19000	2.1427E+11	472.4688	1923.9	1922.000
LYR 3	61.0	3100	3.4560E+10	76.2046	313.9	310.000
TOTAL	183.0		2.5380E+11	559.6371	2282.4	2276.6

MASS BALANCE

TOTAL MASS = 2.5108E+11 ug; from release to GW at YR 35
 553.6205 lb

MASS @ YR 35	(ug)	(lb)	(%)
TO GW	2.4517E+11	540.5904	97.646400
TO VOL.	0.0000E+00	0.0000	0.000000
ON SOIL	3.1696E+09	6.9889	1.262392
IN MOIS.	5.9336E+07	0.1308	0.023633
IN AIR	4.8470E+07	0.1069	0.019305
PURE PHASE	0.0000E+00	0.0000	0.000000
TOTAL	2.4844E+11	547.8170	98.951730

AR002011

YEAR	INRGW	MASWYR1	MASWYR2	MASWYR3	MASWYR4	MASWYR5	MASWYR6	MASWYR7	MASWYR8	MASWYR9	MASWYR10	MASWYR11	MASWYR12	MASGRW	MASVOLA
	1 (ug)	2 (ug)	3 (ug)	4 (ug)	5 (ug)	6 (ug)	7 (ug)	8 (ug)	9 (ug)	10 (ug)	11 (ug)	12 (ug)	13 (ug)	14 (ug)	15 (ug)
1	0.0000E+00	8.6861E+07	3.7972E+09	6.5843E+08	4.6399E+09	2.0284E+11	3.5172E+10	7.0954E+07	3.1019E+09	5.3785E+08	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0000E+00	7.8402E+07	3.6161E+09	8.4561E+08	4.1880E+09	1.9316E+11	4.5170E+10	6.4044E+07	2.9539E+09	6.9076E+08	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0000E+00	6.5408E+07	3.2825E+09	1.1897E+09	3.4939E+09	1.7534E+11	6.3550E+10	5.3429E+07	2.6814E+09	9.7182E+08	0.0000	0.0000	0.0000	0.0000	0.0000
4	0.0000E+00	5.1250E+07	2.8558E+09	1.6276E+09	2.7376E+09	1.5255E+11	8.6941E+10	4.1864E+07	2.3329E+09	1.3295E+09	0.0000	0.0000	0.0000	0.0000	0.0000
5	0.0000E+00	3.8265E+07	2.3992E+09	2.0945E+09	2.0440E+09	1.2816E+11	1.1188E+11	3.1257E+07	1.9598E+09	1.7109E+09	0.0000	0.0000	0.0000	0.0000	0.0000
6	0.0000E+00	2.7524E+07	1.9591E+09	2.5426E+09	1.4703E+09	1.0465E+11	1.3582E+11	2.2484E+07	1.6003E+09	2.0770E+09	0.0000	0.0000	0.0000	0.0000	0.0000
7	0.0000E+00	1.9222E+07	1.5629E+09	2.9442E+09	1.0268E+09	8.3487E+10	1.5727E+11	1.5702E+07	1.2767E+09	2.4050E+09	0.0000	0.0000	0.0000	0.0000	0.0000
8	0.0000E+00	1.3107E+07	1.2231E+09	3.2873E+09	7.0014E+08	6.5336E+10	1.7560E+11	1.0707E+07	9.9913E+08	2.6853E+09	0.0000	0.0000	0.0000	0.0000	0.0000
9	1.5407E+10	8.7677E+06	9.4218E+08	3.2911E+09	4.6834E+08	5.0328E+10	1.7580E+11	7.1620E+06	7.6963E+08	2.6884E+09	6.1363	12.9762	20.0342	27.1764	34.2652
10	1.7173E+10	5.7704E+06	7.1601E+08	3.2068E+09	3.0824E+08	3.8247E+10	1.7130E+11	4.7136E+06	5.8488E+08	2.6195E+09	0.0000	0.0000	0.0000	0.0000	0.0000
11	1.7721E+10	3.7461E+06	5.3795E+08	3.0637E+09	2.0011E+08	2.8736E+10	1.6366E+11	3.0601E+06	4.3944E+08	2.5027E+09	0.0000	0.0000	0.0000	0.0000	0.0000
12	1.7932E+10	2.4060E+06	4.0025E+08	2.8759E+09	1.2852E+08	2.1380E+10	1.5362E+11	1.9653E+06	3.2695E+08	2.3492E+09	0.0000	0.0000	0.0000	0.0000	0.0000
13	1.7798E+10	1.5298E+06	2.9541E+08	2.6576E+09	8.1718E+07	1.5780E+10	1.4196E+11	1.2494E+06	2.4131E+08	2.1709E+09	0.0000	0.0000	0.0000	0.0000	0.0000
14	1.7341E+10	9.6436E+05	2.1636E+08	2.4215E+09	5.1513E+07	1.1557E+10	1.2935E+11	7.8775E+05	1.7673E+08	1.9781E+09	0.0000	0.0000	0.0000	0.0000	0.0000
15	1.6601E+10	6.0317E+05	1.5738E+08	2.1784E+09	3.2220E+07	8.4067E+09	1.1636E+11	4.9271E+05	1.2856E+08	1.7795E+09	0.0000	0.0000	0.0000	0.0000	0.0000
16	1.5635E+10	3.7458E+05	1.1380E+08	1.9378E+09	2.0009E+07	6.0787E+09	1.0351E+11	3.0598E+05	9.2957E+07	1.5829E+09	0.0000	0.0000	0.0000	0.0000	0.0000
17	1.4508E+10	2.3148E+05	8.1831E+07	1.7061E+09	1.2365E+07	4.3712E+09	9.1134E+10	1.8909E+05	6.6845E+07	1.3936E+09	0.0000	0.0000	0.0000	0.0000	0.0000
18	1.3279E+10	1.4230E+05	5.8541E+07	1.4877E+09	7.6014E+06	3.1271E+09	7.9471E+10	1.1624E+05	4.7820E+07	1.2153E+09	0.0000	0.0000	0.0000	0.0000	0.0000
19	1.1999E+10	8.7056E+04	4.1681E+07	1.2863E+09	4.6503E+06	2.2265E+09	6.8708E+10	7.1113E+04	3.4048E+07	1.0507E+09	0.0000	0.0000	0.0000	0.0000	0.0000
20	1.0718E+10	5.3016E+04	2.9578E+07	1.1032E+09	2.8320E+06	1.5800E+09	5.8931E+10	4.3307E+04	2.4161E+07	9.0119E+08	0.0000	0.0000	0.0000	0.0000	0.0000
21	9.4730E+09	3.2155E+04	2.0914E+07	9.3964E+08	1.7176E+06	1.1171E+09	5.0193E+10	2.6266E+04	1.7084E+07	7.6756E+08	0.0000	0.0000	0.0000	0.0000	0.0000
22	8.2915E+09	1.9451E+04	1.4736E+07	7.9510E+08	1.0390E+06	7.8716E+08	4.2472E+10	1.5889E+04	1.2038E+07	6.4950E+08	0.0000	0.0000	0.0000	0.0000	0.0000
23	7.1949E+09	1.1727E+04	1.0349E+07	6.6852E+08	6.2641E+05	5.5280E+08	3.5710E+10	9.5792E+03	8.4535E+06	5.4609E+08	0.0000	0.0000	0.0000	0.0000	0.0000
24	6.1909E+09	7.0481E+03	7.2443E+06	5.5883E+08	3.7649E+05	3.8697E+08	2.9851E+10	5.7574E+03	5.9176E+06	4.5649E+08	0.0000	0.0000	0.0000	0.0000	0.0000
25	5.2869E+09	4.2249E+03	5.0554E+06	4.6475E+08	2.2568E+05	2.7005E+08	2.4825E+10	3.4512E+03	4.1296E+06	3.7964E+08	0.0000	0.0000	0.0000	0.0000	0.0000
26	4.4856E+09	2.5292E+03	3.5173E+06	3.8489E+08	1.3510E+05	1.8788E+08	2.0559E+10	2.0660E+03	2.8732E+06	3.1440E+08	0.0000	0.0000	0.0000	0.0000	0.0000
27	3.7648E+09	1.5130E+03	2.4442E+06	3.1731E+08	8.0817E+04	1.3056E+08	1.6950E+10	1.2359E+03	1.9966E+06	2.5920E+08	0.0000	0.0000	0.0000	0.0000	0.0000
28	3.1743E+09	9.0532E+02	1.6946E+06	2.6048E+08	4.8360E+04	9.0518E+07	1.3914E+10	7.3953E+02	1.3842E+06	2.1278E+08	0.0000	0.0000	0.0000	0.0000	0.0000
29	2.6475E+09	5.4292E+02	1.1722E+06	2.1295E+08	2.9002E+04	6.2614E+07	1.1375E+10	4.4350E+02	9.5750E+05	1.7395E+08	0.0000	0.0000	0.0000	0.0000	0.0000
30	2.1965E+09	3.2614E+02	8.0896E+05	1.7342E+08	1.7421E+04	4.3212E+07	9.2636E+09	2.6641E+02	6.6081E+05	1.4166E+08	0.0000	0.0000	0.0000	0.0000	0.0000
31	1.8136E+09	2.0298E+02	5.5708E+05	1.4076E+08	1.0843E+04	2.9758E+07	7.5191E+09	1.6581E+02	4.5506E+05	1.1498E+08	0.0000	0.0000	0.0000	0.0000	0.0000
32	1.4907E+09	1.3053E+02	3.8277E+05	1.1389E+08	6.9723E+03	2.0447E+07	6.0834E+09	1.0662E+02	3.1267E+05	9.3030E+07	0.0000	0.0000	0.0000	0.0000	0.0000
33	1.2203E+09	8.8016E+01	2.6282E+05	9.1847E+07	4.7016E+03	1.4039E+07	4.9062E+09	7.1897E+01	2.1469E+05	7.5027E+07	0.0000	0.0000	0.0000	0.0000	0.0000
34	9.9489E+08	6.1611E+01	1.8021E+05	7.3858E+07	3.2911E+03	9.6262E+06	3.9453E+09	5.0328E+01	1.4721E+05	6.0332E+07	0.0000	0.0000	0.0000	0.0000	0.0000
35	8.0814E+08	4.7548E+01	1.2336E+05	5.9212E+07	2.5399E+03	6.5896E+06	3.1630E+09	3.8840E+01	1.0077E+05	4.8369E+07	0.0000	0.0000	0.0000	0.0000	0.0000
TOTAL	2.4517E+11	4.7548E+01	1.2336E+05	5.9212E+07	2.5399E+03	6.5896E+06	3.1630E+09	3.8840E+01	1.0077E+05	4.8369E+07	0.0000	0.0000	0.0000	0.0000	0.0000

AR002012

ORIGINAL
(RED)

YEAR	13 (ug/ml)	14 (ug/ml)	MASHOI 15 (%)	MASOIL 16 (%)	MASAIR 17 (%)	18 (%)	19 (ug/ml)
1			1.809230	96.644100	1.477910		
2			1.808290	96.593500	1.477130		
3			1.807260	96.538700	1.476290		
4			1.806110	96.477100	1.475350		
5			1.805000	96.417900	1.474450		
6			1.803950	96.361800	1.473590		
7			1.802790	96.300000	1.472640		
8			1.801650	96.239000	1.471710		
9			1.689540	90.250500	1.380130		
10			1.564700	83.581600	1.278150		
11			1.435990	76.706500	1.173010		
12			1.305810	69.752500	1.066670		
13			1.176770	62.859800	0.961267		
14			1.051010	56.142000	0.858537		
15			0.930552	49.707400	0.760138		
16			0.817269	43.656200	0.667601		
17			0.712192	38.043300	0.581767		
18			0.615921	32.900800	0.503126		
19			0.528933	28.254100	0.432068		
20			0.451203	24.102000	0.368574		
21			0.382589	20.436800	0.312525		
22			0.322557	17.230100	0.263486		
23			0.270389	14.443400	0.220872		
24			0.225462	12.043500	0.184173		
25			0.187117	9.995280	0.152850		
26			0.154697	8.263450	0.126367		
27			0.127356	6.803000	0.104033		
28			0.104420	5.577810	0.085297		
29			0.085281	4.555480	0.069664		
30			0.069393	3.706780	0.056685		
31			0.056286	3.006630	0.045978		
32			0.045512	2.431100	0.037177		
33			0.036686	1.959680	0.029968		
34			0.029488	1.575190	0.024088		
35			0.023633	1.262390	0.019305		
TOT	0.0000	0.0000	0.023633	1.262390	0.019305	0.000000	0.000000

AR002013

YEAR	YRLY MASS TO GW VOLATILIZED (ug)	YRLY MASS TO GW VOLATILIZED (ug)	CUM. MASS TO GW VOLATILIZED (ug)	CUM. MASS TO GW VOLATILIZED (ug)	MASS ON SOIL (ug)	MASS IN MOISTURE (ug)	MASS IN AIR (ug)	MASS IN PURE PHASE (ug)	TOTAL (ug)
1	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.4265E+11	4.5425E+09	3.7107E+09	0.0000E+00	2.5090E+11
2	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.4252E+11	4.5402E+09	3.7087E+09	0.0000E+00	2.5077E+11
3	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.4238E+11	4.5376E+09	3.7066E+09	0.0000E+00	2.5063E+11
4	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.4223E+11	4.5347E+09	3.7042E+09	0.0000E+00	2.5047E+11
5	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.4208E+11	4.5319E+09	3.7020E+09	0.0000E+00	2.5032E+11
6	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.4194E+11	4.5293E+09	3.6998E+09	0.0000E+00	2.5017E+11
7	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.4179E+11	4.5264E+09	3.6974E+09	0.0000E+00	2.5001E+11
8	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	2.4163E+11	4.5235E+09	3.6951E+09	0.0000E+00	2.4985E+11
9	1.5407E+10	0.0000E+00	1.5407E+10	0.0000E+00	2.2640E+11	4.2420E+09	3.4652E+09	0.0000E+00	2.4971E+11
10	1.7173E+10	0.0000E+00	3.2580E+10	0.0000E+00	2.0985E+11	3.9286E+09	3.2091E+09	0.0000E+00	2.4957E+11
11	1.7721E+10	0.0000E+00	5.0301E+10	0.0000E+00	1.9259E+11	3.6054E+09	2.9451E+09	0.0000E+00	2.4944E+11
12	1.7932E+10	0.0000E+00	6.8233E+10	0.0000E+00	1.7513E+11	3.2786E+09	2.6781E+09	0.0000E+00	2.4932E+11
13	1.7798E+10	0.0000E+00	8.6031E+10	0.0000E+00	1.5783E+11	2.9546E+09	2.4135E+09	0.0000E+00	2.4922E+11
14	1.7341E+10	0.0000E+00	1.0337E+11	0.0000E+00	1.4096E+11	2.6388E+09	2.1556E+09	0.0000E+00	2.4913E+11
15	1.6601E+10	0.0000E+00	1.1997E+11	0.0000E+00	1.2480E+11	2.3364E+09	1.9085E+09	0.0000E+00	2.4902E+11
16	1.5635E+10	0.0000E+00	1.3561E+11	0.0000E+00	1.0961E+11	2.0520E+09	1.6762E+09	0.0000E+00	2.4895E+11
17	1.4508E+10	0.0000E+00	1.5012E+11	0.0000E+00	9.5517E+10	1.7881E+09	1.4607E+09	0.0000E+00	2.4888E+11
18	1.3279E+10	0.0000E+00	1.6340E+11	0.0000E+00	8.2606E+10	1.5464E+09	1.2632E+09	0.0000E+00	2.4881E+11
19	1.1999E+10	0.0000E+00	1.7539E+11	0.0000E+00	7.0939E+10	1.3280E+09	1.0848E+09	0.0000E+00	2.4875E+11
20	1.0718E+10	0.0000E+00	1.8611E+11	0.0000E+00	6.0514E+10	1.1329E+09	9.2540E+08	0.0000E+00	2.4868E+11
21	9.4731E+09	0.0000E+00	1.9559E+11	0.0000E+00	5.1312E+10	9.6059E+08	7.8467E+08	0.0000E+00	2.4864E+11
22	8.2915E+09	0.0000E+00	2.0380E+11	0.0000E+00	4.3260E+10	8.0986E+08	6.6155E+08	0.0000E+00	2.4861E+11
23	7.1948E+09	0.0000E+00	2.1107E+11	0.0000E+00	3.6264E+10	6.7888E+08	5.5455E+08	0.0000E+00	2.4857E+11
24	6.1908E+09	0.0000E+00	2.1726E+11	0.0000E+00	3.0238E+10	5.6608E+08	4.6241E+08	0.0000E+00	2.4853E+11
25	5.2869E+09	0.0000E+00	2.2255E+11	0.0000E+00	2.5096E+10	4.6980E+08	3.8377E+08	0.0000E+00	2.4850E+11
26	4.4857E+09	0.0000E+00	2.2704E+11	0.0000E+00	2.0747E+10	3.8841E+08	3.1728E+08	0.0000E+00	2.4849E+11
27	3.7847E+09	0.0000E+00	2.3082E+11	0.0000E+00	1.7081E+10	3.1976E+08	2.6120E+08	0.0000E+00	2.4848E+11
28	3.1743E+09	0.0000E+00	2.3399E+11	0.0000E+00	1.4004E+10	2.6217E+08	2.1416E+08	0.0000E+00	2.4847E+11
29	2.6473E+09	0.0000E+00	2.3664E+11	0.0000E+00	1.1438E+10	2.1412E+08	1.7491E+08	0.0000E+00	2.4847E+11
30	2.1967E+09	0.0000E+00	2.3884E+11	0.0000E+00	9.3068E+09	1.7423E+08	1.4232E+08	0.0000E+00	2.4846E+11
31	1.8135E+09	0.0000E+00	2.4065E+11	0.0000E+00	7.5489E+09	1.4132E+08	1.1544E+08	0.0000E+00	2.4846E+11
32	1.4909E+09	0.0000E+00	2.4214E+11	0.0000E+00	6.1039E+09	1.1427E+08	9.3342E+07	0.0000E+00	2.4845E+11
33	1.2202E+09	0.0000E+00	2.4336E+11	0.0000E+00	4.9203E+09	9.2110E+07	7.5242E+07	0.0000E+00	2.4845E+11
34	9.9476E+08	0.0000E+00	2.4436E+11	0.0000E+00	3.9549E+09	7.4038E+07	6.0479E+07	0.0000E+00	2.4845E+11
35	8.0821E+08	0.0000E+00	2.4517E+11	0.0000E+00	3.1695E+09	5.9336E+07	4.8470E+07	0.0000E+00	2.4844E+11
TOTAL	2.4517E+11	0.0000E+00	2.4517E+11	0.0000E+00	3.1695E+09	5.9336E+07	4.8470E+07	0.0000E+00	2.4844E+11

AR002014

COPY
(RED)

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	YRLY MASS (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	MASS IN PURE PHASE (lb)	TOTAL (lb)
1	0.000	0.000	0.000	0.000	535.042	10.016	8.182	0.000	553.240
2	0.000	0.000	0.000	0.000	534.761	10.011	8.178	0.000	552.950
3	0.000	0.000	0.000	0.000	534.458	10.005	8.173	0.000	552.636
4	0.000	0.000	0.000	0.000	534.117	9.999	8.168	0.000	552.284
5	0.000	0.000	0.000	0.000	533.789	9.993	8.163	0.000	551.945
6	0.000	0.000	0.000	0.000	533.479	9.987	8.158	0.000	551.624
7	0.000	0.000	0.000	0.000	533.136	9.981	8.153	0.000	551.270
8	0.000	0.000	0.000	0.000	532.799	9.974	8.148	0.000	550.921
9	33.972	0.000	33.972	0.000	499.645	9.354	7.641	0.000	550.611
10	37.867	0.000	71.839	0.000	462.725	8.662	7.076	0.000	550.302
11	39.075	0.000	110.913	0.000	424.663	7.950	6.494	0.000	550.020
12	39.541	0.000	150.454	0.000	386.164	7.229	5.905	0.000	549.753
13	39.245	0.000	189.699	0.000	348.005	6.515	5.322	0.000	549.540
14	38.236	0.000	227.936	0.000	310.814	5.819	4.753	0.000	549.321
15	36.605	0.000	264.540	0.000	275.190	5.152	4.208	0.000	549.091
16	34.475	0.000	299.015	0.000	241.690	4.525	3.696	0.000	548.926
17	31.991	0.000	331.006	0.000	210.615	3.943	3.221	0.000	548.785
18	29.280	0.000	360.286	0.000	182.146	3.410	2.785	0.000	548.627
19	26.458	0.000	386.744	0.000	156.620	2.928	2.392	0.000	548.485
20	23.634	0.000	410.378	0.000	133.434	2.498	2.041	0.000	548.350
21	20.888	0.000	431.266	0.000	113.142	2.118	1.730	0.000	548.257
22	18.283	0.000	449.549	0.000	95.389	1.786	1.459	0.000	548.182
23	15.865	0.000	465.413	0.000	79.962	1.497	1.223	0.000	548.095
24	13.651	0.000	479.064	0.000	66.675	1.248	1.020	0.000	548.007
25	11.658	0.000	490.721	0.000	55.336	1.036	0.846	0.000	547.939
26	9.891	0.000	500.612	0.000	45.748	0.856	0.700	0.000	547.917
27	8.345	0.000	508.958	0.000	37.663	0.705	0.576	0.000	547.901
28	6.999	0.000	515.957	0.000	30.880	0.578	0.472	0.000	547.887
29	5.837	0.000	521.794	0.000	25.220	0.472	0.386	0.000	547.872
30	4.844	0.000	526.638	0.000	20.521	0.384	0.314	0.000	547.858
31	3.999	0.000	530.637	0.000	16.645	0.312	0.255	0.000	547.848
32	3.287	0.000	533.924	0.000	13.459	0.252	0.206	0.000	547.841
33	2.691	0.000	536.615	0.000	10.849	0.203	0.166	0.000	547.833
34	2.193	0.000	538.808	0.000	8.721	0.163	0.133	0.000	547.826
35	1.782	0.000	540.590	0.000	6.989	0.131	0.107	0.000	547.817
TOTAL	540.590	0.000	540.590	0.000	6.989	0.131	0.107	0.000	547.817

AR002015

ORIGINAL
(RED)

YEAR	YRLY MASS TO GW VOLATILIZED (%)	CUM. MASS TO GW VOLATILIZED (%)	YRLY MASS (%)	CUM. MASS VOLATILIZED (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	MASS IN PURE PHASE (%)	TOTAL (%)
1	0.000000	0.000000	0.000000	0.000000	96.644100	1.809230	1.477910	0.000000	99.931240
2	0.000000	0.000000	0.000000	0.000000	96.593500	1.808290	1.477130	0.000000	99.878920
3	0.000000	0.000000	0.000000	0.000000	96.538700	1.807260	1.476290	0.000000	99.822250
4	0.000000	0.000000	0.000000	0.000000	96.477100	1.806110	1.475350	0.000000	99.758560
5	0.000000	0.000000	0.000000	0.000000	96.417900	1.805000	1.474450	0.000000	99.697350
6	0.000000	0.000000	0.000000	0.000000	96.361800	1.803950	1.473590	0.000000	99.639340
7	0.000000	0.000000	0.000000	0.000000	96.300000	1.802790	1.472640	0.000000	99.575430
8	0.000000	0.000000	0.000000	0.000000	96.239000	1.801650	1.471710	0.000000	99.512360
9	6.136310	6.136310	0.000000	0.000000	90.250500	1.689540	1.380130	0.000000	99.456480
10	6.839890	12.976200	0.000000	0.000000	83.581600	1.564700	1.278150	0.000000	99.400650
11	7.058000	20.034200	0.000000	0.000000	76.706500	1.435990	1.173010	0.000000	99.349700
12	7.142200	27.176400	0.000000	0.000000	69.752500	1.305810	1.066670	0.000000	99.301380
13	7.088800	34.265200	0.000000	0.000000	62.859800	1.176770	0.961267	0.000000	99.263037
14	6.906600	41.171800	0.000000	0.000000	56.142000	1.051010	0.858537	0.000000	99.223347
15	6.611900	47.783700	0.000000	0.000000	49.707400	0.930552	0.760138	0.000000	99.181790
16	6.227200	54.010900	0.000000	0.000000	43.656200	0.817269	0.667601	0.000000	99.151970
17	5.778500	59.789400	0.000000	0.000000	38.043300	0.712192	0.581767	0.000000	99.126659
18	5.288800	65.078200	0.000000	0.000000	32.900800	0.615921	0.503126	0.000000	99.098047
19	4.779000	69.857200	0.000000	0.000000	28.254100	0.528933	0.432068	0.000000	99.072301
20	4.269000	74.126200	0.000000	0.000000	24.102000	0.451203	0.368574	0.000000	99.047977
21	3.773000	77.899200	0.000000	0.000000	20.436800	0.382589	0.312525	0.000000	99.031114
22	3.302400	81.201600	0.000000	0.000000	17.230100	0.322557	0.263486	0.000000	99.017743
23	2.865600	84.067200	0.000000	0.000000	14.443400	0.270389	0.220872	0.000000	99.001861
24	2.465700	86.532900	0.000000	0.000000	12.043500	0.225462	0.184173	0.000000	98.986035
25	2.105700	88.638600	0.000000	0.000000	9.995280	0.187117	0.152850	0.000000	98.973847
26	1.786600	90.425200	0.000000	0.000000	8.263450	0.154697	0.126367	0.000000	98.969714
27	1.507400	91.932600	0.000000	0.000000	6.803000	0.127356	0.104033	0.000000	98.966989
28	1.264300	93.196900	0.000000	0.000000	5.577810	0.104420	0.085297	0.000000	98.964427
29	1.054400	94.251300	0.000000	0.000000	4.555480	0.085281	0.069664	0.000000	98.961725
30	0.874900	95.126200	0.000000	0.000000	3.706780	0.069393	0.056685	0.000000	98.959058
31	0.722300	95.848500	0.000000	0.000000	3.006630	0.056286	0.045978	0.000000	98.957394
32	0.593800	96.442300	0.000000	0.000000	2.431100	0.045512	0.037177	0.000000	98.956089
33	0.486000	96.928300	0.000000	0.000000	1.959680	0.036686	0.029968	0.000000	98.954634
34	0.396200	97.324500	0.000000	0.000000	1.575190	0.029488	0.024088	0.000000	98.953267
35	0.321900	97.646400	0.000000	0.000000	1.262390	0.023633	0.019305	0.000000	98.951728
TOTAL	97.646400	97.646400	0.000000	0.000000	1.262390	0.023633	0.019305	0.000000	98.951728

AR002016

(REV)
7/11/2010

ORC
(RED)

APPENDIX J
SESOIL SCREENING RUNS - MODEL OUTPUT

SESOIL MODELING RUNS

CUMULATIVE RUN NUMBER	COMPOUND	AREA	SIMULATION PERIOD (YRS.)	COMMENTS	LOAD (ug/cm ²)			MASS IN SYSTEM (lbs)	MASS TO GW (lbs)
					LYR 1	LYR 2	LYR 3		
1	TCE	1	30	V=1 n=0.45	44.6	1923	314		
2	TCE	1	30	V=0 for 4 yrs, V=1 for 5-30	44.6	1923	314		
3	TCE	1	30	V=0	44.6	1923	314		
4	TCE	1	30	V=1 n=0.35	44.6	1923	314		
5	Benzidene	1	25		0	182,268	0		
6	Lead	2	25						
7	DCE	1	25	V=1	6.9	687.6	21.2		
8	PCB	2	25						
9	Benzene	1	30	V=0					
10	Xylene 1	3a	35	V=0					
11	Toluene 1	3a	35	V=0					
12	TCE 1	1	30	V=1, Porosity = 0.45	44.6	1922	310		
13**	TCE 2	1	30	V=0 for 4 yrs, V=1, 5-30yrs, Porosity = 0.45	44.6	1922	310		
14	TCE 3	1	30	V=0	44.6	1922	310		
15	TCE 4	1	30	V=1, Porosity = 0.35	44.6	1922	310		
16*	TCE 5	1	35	V=0 n = 0.45	44.6	1922	310		
17	TCE 6	1	35	V=0 for 8 yrs, V=1, 9-35 yrs.	44.6	1922	310	559	540
18	TCE 7	1	35	V=0, 10 Sublayers	44.6	1922	310		
19	TCE 1	Column	35	V=0, 2 Layers	1.3	1.3	-	2.3 E-7	2.3 E-7
20	Benzidene 1	1	30	V=0	0	182,268	0	44805	28377
21*	Benzidene 2	1	35	V=0					
22*	DCE 1	1	35	V=0	6.9	687.6	21.2	176	172
23**	DCE 2	1	35	V=0 for 4 years, V=1 for 5-35 yrs. max.	6.9	687.6	21.2	176	
24*	Benzo(a)anthracene 1	1	35	V=0	20.2	22250	303	5549	0
25*	Benzo(a)pyrene 1	1	35	V=1	32.4	19240	263		
26*	PCB 1	2	35	V=0, 2 Layers	2031	1354	-	747	0
27*	Lead 1	2	35		220	182	0	88	0
28*	Arsenic 1	3	35	V=0, 4 Layers	0.5	2.5	1.38/1.26	4.6	0
29*	Xylene 2	3a	35	V=0	0	0	277184	10446	2049

AR002018

ORIGINAL
(RED)

SESOIL MODELING RUNS (cont.)

CUMULATIVE RUN NUMBER	COMPOUND	AREA	SIMULATION PERIOD (YRS.)	COMMENTS	LOAD (ug/cm ²)			MASS IN SYSTEM (lbs)	MASS TO GW (lbs)
					LYR 1	LYR 2	LYR 3		
30**	Xylene 3	3a	35	V=1	0	0	277184	10646	32
31*	Toluene 2	3a	35	V=0, 2 Layers	0	0.1	6583	252	0
32	TCE	2	35	V=0 Existing Conditions Max. Load	0	0	1.9	0.42	0.4
33	TCE	3	35	V=0 Existing Conditions Max. Load	0	4.2	207.9	192	158
34	TCE	4	35	V=0 Existing Conditions Max. Load	0	1.0	0.17	6.9	6.8
35	Benzidine 1	3	35	V=0 Maximum Concentrations	173.1	363.5	5712	5649	5641
36**	TCE 5b	1	35	V=0 K Increased-Sensitivity	44.6	1922	310	559	541
37	TCE 8	1	35	V=0 Average Concentrations	22.3	962	157	280	269
38	TCE 5	1	35	V=0 ROD Cap in place	44.6	1922	310	559	0
39**	TCE 5c	1	35	V=0 n Decreased to 0.35	44.6	1922	310	559	540
40	TCE	3	35	V=0 Topsoil ⁻⁶ Mean Loads	0	0	1.03/51.9	47.7	Void
41	TCE	3	35	V=0 Clay Cap 5x10 ⁻⁶	0	0	1.03/51.9	47.7	Void
42*	Arsenic	3	35	100% Immobilized 4 Layers	.5	2.5	1.4/1.3	5.1	0
43*	Lead	3	35	100% Immobilized 2 Layers	220	182	-	362	0
44	TCE	3	55	V=0 Topsoil Mean Load (25 yr)	0	0	1.03/51.9	47.7	41.8**
45	TCE	3	55	V=0 Clay 5x10 ⁻⁶	0	0	1.03/51.9	47.7	38.2**
46	TCE	3	55	V=0 Clay 1x10 ⁻⁷ (25 yr)	0	0	1.03/51.9	47.7	0
47	TCE	3	55	V=0 Existing (25 yr)	0	1.03	51.9	47.7	43.1

AR002019

#16

MILLCREEK(sltce5o.wk1) SESOIL SIMULATION: RUN 5 - AREA 1 ; TCE (vol.index=0)

INPUT: AREA 1 - TRICHLOROETHYLENE (TCE) RUN NO. 1
area = 111483650 cm2 density = 1.66 gm/cm3
120000 sq.ft. 103.58 lb/cu.ft.
2.755 acres

TCE	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED
LAYER	61.0	440	4.9722E+09	10.9636	44.6	44.600
LAYER	61.0	19000	2.1427E+11	472.4688	1923.9	1922.000
LAYER	61.0	3100	3.4560E+10	76.2046	313.9	310.000
TOTAL	183.0		2.5380E+11	559.6371	2282.4	2276.6

MASS BALANCE
TOTAL MASS = 2.5087E+11 ug; from release to GW at YR 30
553.1590 lb

MASS @ YR 35	(ug)	(lb)	(%)
TO GW	2.4496E+11	540.1293	97.644500
TO VOL.	0	0.0000	0.000000
ON SOIL	3.1100E+09	6.8576	1.239724
IN MOIS.	5.8406E+07	0.1288	0.023282
IN AIR	4.7490E+07	0.1047	0.018930
PURE PHASE	0.0000E+00	0.0000	0.000000
TOTAL	2.4817E+11	547.2205	98.926436

AR002020

SESOIL SIMULATION: RUN 5 - AREA 1 ; TCE (vol.index=0)

MILLCREEK(sitce5a.wk1)

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	YRLY MASS (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	MASS IN PURE PHASE (lb)	MASS IMMOBILIZED (lb)	TOTAL (lb)
1	0.000	0.000	0.000	0.000	534.588	10.008	8.175	0.000	0.000	552.771
2	0.000	0.000	0.000	0.000	534.290	10.034	8.159	0.000	0.000	552.483
3	0.000	0.000	0.000	0.000	533.984	10.028	8.154	0.000	0.000	552.166
4	0.000	0.000	0.000	0.000	533.637	10.022	8.149	0.000	0.000	551.808
5	0.000	0.000	0.000	0.000	533.292	10.015	8.143	0.000	0.000	551.450
6	0.000	0.000	0.000	0.000	532.974	10.009	8.138	0.000	0.000	551.121
7	0.000	0.000	0.000	0.000	532.623	10.002	8.133	0.000	0.000	550.759
8	0.000	0.000	0.000	0.000	532.285	9.996	8.128	0.000	0.000	550.409
9	35.813	0.000	35.813	0.000	497.340	9.340	7.594	0.000	0.000	550.088
10	37.707	0.000	73.520	0.000	460.586	8.650	7.033	0.000	0.000	549.789
11	38.944	0.000	112.464	0.000	422.646	7.937	6.454	0.000	0.000	549.501
12	39.429	0.000	151.894	0.000	384.244	7.216	5.867	0.000	0.000	549.221
13	39.142	0.000	191.036	0.000	346.171	6.501	5.286	0.000	0.000	548.994
14	38.136	0.000	229.172	0.000	309.067	5.804	4.719	0.000	0.000	548.762
15	36.503	0.000	265.675	0.000	273.548	5.137	4.177	0.000	0.000	548.536
16	34.372	0.000	300.046	0.000	240.142	4.510	3.667	0.000	0.000	548.365
17	31.881	0.000	331.927	0.000	209.157	3.928	3.194	0.000	0.000	548.206
18	29.165	0.000	361.092	0.000	180.783	3.395	2.761	0.000	0.000	548.031
19	26.340	0.000	387.433	0.000	155.166	2.914	2.369	0.000	0.000	547.882
20	23.518	0.000	410.951	0.000	132.306	2.485	2.020	0.000	0.000	547.761
21	20.776	0.000	431.727	0.000	112.141	2.106	1.712	0.000	0.000	547.686
22	18.178	0.000	449.905	0.000	94.467	1.774	1.443	0.000	0.000	547.589
23	15.760	0.000	465.665	0.000	79.143	1.486	1.209	0.000	0.000	547.503
24	13.554	0.000	479.218	0.000	65.953	1.239	1.007	0.000	0.000	547.416
25	11.568	0.000	490.786	0.000	54.695	1.027	0.835	0.000	0.000	547.343
26	9.807	0.000	500.593	0.000	45.190	0.849	0.690	0.000	0.000	547.322
27	8.270	0.000	508.863	0.000	37.179	0.698	0.568	0.000	0.000	547.307
28	6.931	0.000	515.794	0.000	30.461	0.572	0.465	0.000	0.000	547.291
29	5.777	0.000	521.570	0.000	24.859	0.467	0.380	0.000	0.000	547.276
30	4.789	0.000	526.360	0.000	20.214	0.380	0.309	0.000	0.000	547.262
31	3.951	0.000	530.311	0.000	16.385	0.308	0.250	0.000	0.000	547.254
32	3.246	0.000	533.557	0.000	13.237	0.249	0.202	0.000	0.000	547.244
33	2.655	0.000	536.211	0.000	10.662	0.200	0.163	0.000	0.000	547.237
34	2.163	0.000	538.374	0.000	8.562	0.161	0.131	0.000	0.000	547.228
35	1.755	0.000	540.129	0.000	6.858	0.129	0.105	0.000	0.000	547.220
TOTAL	540.129	0.000	540.129	0.000	6.858	0.129	0.105	0.000	0.000	547.220

AR002021

YEAR	YRLY MASS TO GW VOLATILIZED (%)	YRLY MASS VOLATILIZED (%)	CUM. MASS TO GW VOLATILIZED (%)	CUM. MASS VOLATILIZED (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	MASS IN PURE PHASE IMMOBILIZED (%)	MASS IMMOBILIZED (%)	TOTAL (%)
1	0.000000	0.000000	0.000000	0.000000	96.642800	1.809210	1.477890	0.000000	0.000000	99.929900
2	0.000000	0.000000	0.000000	0.000000	96.588900	1.813910	1.474900	0.000000	0.000000	99.877710
3	0.000000	0.000000	0.000000	0.000000	96.533600	1.812870	1.474050	0.000000	0.000000	99.820520
4	0.000000	0.000000	0.000000	0.000000	96.470900	1.811690	1.473100	0.000000	0.000000	99.755690
5	0.000000	0.000000	0.000000	0.000000	96.408400	1.810520	1.472140	0.000000	0.000000	99.691060
6	0.000000	0.000000	0.000000	0.000000	96.350900	1.809440	1.471260	0.000000	0.000000	99.631600
7	0.000000	0.000000	0.000000	0.000000	96.287500	1.808250	1.470300	0.000000	0.000000	99.566050
8	0.000000	0.000000	0.000000	0.000000	96.226400	1.807100	1.469360	0.000000	0.000000	99.502860
9	6.474350	0.000000	6.474350	0.000000	89.309100	1.688460	1.372900	0.000000	0.000000	99.444810
10	6.816650	0.000000	13.291000	0.000000	83.264700	1.563680	1.271440	0.000000	0.000000	99.390820
11	7.040300	0.000000	20.331300	0.000000	76.405800	1.434880	1.165710	0.000000	0.000000	99.338690
12	7.128000	0.000000	27.459300	0.000000	69.463600	1.304500	1.060700	0.000000	0.000000	99.288100
13	7.076100	0.000000	34.535400	0.000000	62.580800	1.175250	0.955600	0.000000	0.000000	99.247050
14	6.894200	0.000000	41.429600	0.000000	55.873100	1.049280	0.853175	0.000000	0.000000	99.205155
15	6.599000	0.000000	48.028600	0.000000	49.451900	0.928691	0.755124	0.000000	0.000000	99.164315
16	6.213700	0.000000	54.242300	0.000000	43.412900	0.815280	0.629090	0.000000	0.000000	99.133389
17	5.763400	0.000000	60.005700	0.000000	37.811400	0.710085	0.577374	0.000000	0.000000	99.104559
18	5.272500	0.000000	65.278200	0.000000	32.681900	0.613755	0.499048	0.000000	0.000000	99.072903
19	4.761800	0.000000	70.040000	0.000000	28.050900	0.526786	0.428333	0.000000	0.000000	99.046019
20	4.251600	0.000000	74.291600	0.000000	23.918200	0.449176	0.365227	0.000000	0.000000	99.024203
21	3.755900	0.000000	78.047500	0.000000	20.272800	0.380716	0.309563	0.000000	0.000000	99.010579
22	3.286200	0.000000	81.333700	0.000000	17.077800	0.320714	0.260775	0.000000	0.000000	98.992989
23	2.849100	0.000000	84.182800	0.000000	14.307500	0.268689	0.218473	0.000000	0.000000	98.977462
24	2.450200	0.000000	86.633000	0.000000	11.922900	0.223908	0.182061	0.000000	0.000000	98.961869
25	2.091200	0.000000	88.724200	0.000000	9.887680	0.185687	0.150983	0.000000	0.000000	98.948550
26	1.772900	0.000000	90.497100	0.000000	8.169480	0.153420	0.124747	0.000000	0.000000	98.944747
27	1.495000	0.000000	91.992100	0.000000	6.721140	0.126221	0.102631	0.000000	0.000000	98.942092
28	1.253000	0.000000	93.245100	0.000000	5.506660	0.103413	0.084086	0.000000	0.000000	98.939259
29	1.044300	0.000000	94.289400	0.000000	4.494090	0.084398	0.068624	0.000000	0.000000	98.936512
30	0.865800	0.000000	95.155200	0.000000	3.654230	0.068625	0.055800	0.000000	0.000000	98.933855
31	0.714300	0.000000	95.869500	0.000000	2.962060	0.055627	0.045230	0.000000	0.000000	98.932417
32	0.586800	0.000000	96.456300	0.000000	2.392990	0.044940	0.036541	0.000000	0.000000	98.930770
33	0.479900	0.000000	96.936200	0.000000	1.927530	0.036198	0.029433	0.000000	0.000000	98.929362
34	0.391000	0.000000	97.327200	0.000000	1.547920	0.029070	0.023637	0.000000	0.000000	98.927826
35	0.317300	0.000000	97.644500	0.000000	1.239720	0.023282	0.018930	0.000000	0.000000	98.926432
TOTAL	97.644500	0.000000	97.644500	0.000000	1.239720	0.023282	0.018930	0.000000	0.000000	98.926432

AR0002022

(REV)
7/10/85

MILLCREEK(colrun1o.wk1)

SESOIL SIMULATION: RUN 1 - COLUMN 2; TCE (Vol.I.=0)

Page 1 (25-Jan-89)

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INPUT: AREA 3 - TCE -COL. 2 RUN NO. 1
 area = 39.7 cm2 density = 1.42 gm/cm3
 0 sq.ft. 88.61 lb/cu.ft.
 0.000 acres

TCE	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED (ug/cm2)
LVR 1	38.1	24	5.1610E+01	1.138E-07	1.3	1.300
LVR 2	38.1	24	5.1610E+01	1.138E-07	1.3	1.300
LVR 3	0.0	0	0.0000E+00	0.000E+00	0.0	0.000
TOTAL	76.2		1.0322E+02	2.276E-07	2.6	2.6

MASS BALANCE

TOTAL MASS = 1.0322E+02 ug; from release to GW at YR 35
 2.2760E-07 lb

MASS @ YR 35 (ug)

TO GW	1.0254E+02	0.0000	99.345000
TO VOL.	0	0.0000	0.000000
ON SOIL	1.0672E-01	0.0000	0.103395
IN MOIS.	1.0257E-03	0.0000	0.000994
IN AIR	1.3840E-03	0.0000	0.001341
PURE PHASE	0.0000E+00	0.0000	0.000000
TOTAL	102.6530252	0.0000	99.450730

AR002023

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	YRLY MASS (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	MASS IN PURE PHASE (lb)	MASS IMMOBILIZED (lb)	TOTAL (lb)
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

AR002024

(REV)
JUNE 80

YEAR	YRLY MASS TO GW (%)	YRLY MASS VOLATILIZED (%)	CUM. MASS TO GW (%)	CUM. MASS VOLATILIZED (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	MASS IN PURE PHASE (%)	MASS IMMOBILIZED (%)	TOTAL (%)
1	0.000000	0.000000	0.000000	0.000000	97.725600	0.939205	1.267270	0.000000	0.000000	99.932075
2	0.000000	0.000000	0.000000	0.000000	97.670700	0.938678	1.266560	0.000000	0.000000	99.875938
3	0.000000	0.000000	0.000000	0.000000	97.628000	0.938268	1.266010	0.000000	0.000000	99.832278
4	0.000000	0.000000	0.000000	0.000000	97.593000	0.937931	1.265560	0.000000	0.000000	99.796491
5	0.000000	0.000000	0.000000	0.000000	97.550600	0.937523	1.265000	0.000000	0.000000	99.753123
6	0.000000	0.000000	0.000000	0.000000	97.515800	0.937189	1.264550	0.000000	0.000000	99.717539
7	8.794380	0.000000	8.794380	0.000000	88.880800	0.854202	1.152580	0.000000	0.000000	99.681962
8	11.455620	0.000000	20.250000	0.000000	77.648800	0.746255	1.006920	0.000000	0.000000	99.651975
9	11.049400	0.000000	31.299400	0.000000	66.817200	0.642156	0.866464	0.000000	0.000000	99.625220
10	10.311400	0.000000	41.610800	0.000000	56.707300	0.544993	0.735362	0.000000	0.000000	99.598455
11	9.366100	0.000000	50.976900	0.000000	47.526600	0.456761	0.616309	0.000000	0.000000	99.576570
12	8.315000	0.000000	59.291900	0.000000	39.376700	0.378435	0.510624	0.000000	0.000000	99.557659
13	7.237000	0.000000	66.528900	0.000000	32.280300	0.310234	0.418600	0.000000	0.000000	99.538034
14	6.190700	0.000000	72.719600	0.000000	26.209200	0.251887	0.339872	0.000000	0.000000	99.520559
15	5.215500	0.000000	77.935100	0.000000	21.095800	0.202744	0.273563	0.000000	0.000000	99.507207
16	4.334900	0.000000	82.270000	0.000000	16.845800	0.161899	0.218451	0.000000	0.000000	99.496150
17	3.559900	0.000000	85.829900	0.000000	13.354700	0.128347	0.173179	0.000000	0.000000	99.486126
18	2.892400	0.000000	88.722300	0.000000	10.517100	0.101076	0.136382	0.000000	0.000000	99.476858
19	2.327700	0.000000	91.050000	0.000000	8.230650	0.079102	0.106732	0.000000	0.000000	99.466484
20	1.856900	0.000000	92.906900	0.000000	6.407410	0.061579	0.083089	0.000000	0.000000	99.458978
21	1.470500	0.000000	94.377400	0.000000	4.966470	0.047731	0.064404	0.000000	0.000000	99.456004
22	1.157700	0.000000	95.535100	0.000000	3.833140	0.036839	0.049707	0.000000	0.000000	99.454786
23	0.905700	0.000000	96.440800	0.000000	2.946730	0.028320	0.038212	0.000000	0.000000	99.454062
24	0.704700	0.000000	97.145500	0.000000	2.256810	0.021689	0.029266	0.000000	0.000000	99.453265
25	0.545500	0.000000	97.691000	0.000000	1.722690	0.016556	0.022339	0.000000	0.000000	99.452585
26	0.420400	0.000000	98.111400	0.000000	1.310990	0.012599	0.017000	0.000000	0.000000	99.451990
27	0.322700	0.000000	98.434100	0.000000	0.994822	0.009561	0.012901	0.000000	0.000000	99.451383
28	0.246600	0.000000	98.680700	0.000000	0.753000	0.007237	0.009765	0.000000	0.000000	99.450701
29	0.187900	0.000000	98.868600	0.000000	0.568544	0.005464	0.007373	0.000000	0.000000	99.449981
30	0.142800	0.000000	99.011400	0.000000	0.428972	0.004123	0.005563	0.000000	0.000000	99.450057
31	0.108200	0.000000	99.119600	0.000000	0.323229	0.003106	0.004192	0.000000	0.000000	99.450127
32	0.081900	0.000000	99.201500	0.000000	0.243278	0.002338	0.003155	0.000000	0.000000	99.450271
33	0.061800	0.000000	99.263300	0.000000	0.182939	0.001758	0.002372	0.000000	0.000000	99.450369
34	0.046600	0.000000	99.309900	0.000000	0.137524	0.001322	0.001783	0.000000	0.000000	99.450529
35	0.035100	0.000000	99.345000	0.000000	0.103396	0.000994	0.001341	0.000000	0.000000	99.450730
TOTAL	99.345000	0.000000	99.345000	0.000000	0.103396	0.000994	0.001341	0.000000	0.000000	99.450730

AR002025

#22

#22

MILLCREEK(sidceio.wk1) SESOIL SIMULATION: RUN 1 - AREA 1 ; 1,2 DCE (Vol.I.=0)

INPUT: AREA 1 - 1,2 DICHLOROETHENE RUN NO. 1
area = 111483650 cm2 density = 1.66 gm/cm3
120000 sq. ft. 103.58 lb/cu. ft.
2.755 acres

DCE	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED (ug/cm2)
LAYER	61.0	68	7.6924E+08	1.6962	6.9	6.900
LAYER	61.0	6800	7.6656E+10	169.0268	688.6	687.600
LAYER	61.0	210	2.3635E+09	5.2114	21.3	21.200
TOTAL	183.0		7.9789E+10	175.9344	716.8	715.7

MASS BALANCE
TOTAL MASS = 7.9789E+10 ug; from release to GW at YR 35
175.9344 lb

MASS @ YR 35	(ug)	(lb)	(%)
TO GW	7.7995E+10	171.9797	97.752195
TO VOL.	0	0.0000	0.000000
ON SOIL	6.1609E+06	0.0136	0.007722
IN MOIS.	1.8902E+05	0.0004	0.000237
IN AIR	1.1055E+05	0.0002	0.000139
PURE PHASE	0.0000E+00	0.0000	0.000000
TOTAL	78001811444	171.9940	97.760292

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	YRLY MASS (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	MASS IN PURE PHASE (lb)	MASS IMMOBILIZED (lb)	TOTAL (lb)
1	0.000	0.000	0.000	0.000	165.494	5.129	3.014	0.000	0.000	173.637
2	0.000	0.000	0.000	0.000	165.353	5.141	3.007	0.000	0.000	173.500
3	0.000	0.000	0.000	0.000	165.195	5.136	3.004	0.000	0.000	173.335
4	0.000	0.000	0.000	0.000	165.019	5.130	3.001	0.000	0.000	173.150
5	0.393	0.000	0.393	0.000	164.476	5.114	2.991	0.000	0.000	172.973
6	15.741	0.000	16.134	0.000	149.290	4.641	2.715	0.000	0.000	172.780
7	17.885	0.000	34.018	0.000	132.100	4.107	2.402	0.000	0.000	172.627
8	19.020	0.000	53.038	0.000	113.837	3.539	2.070	0.000	0.000	172.485
9	18.995	0.000	72.033	0.000	95.631	2.973	1.739	0.000	0.000	172.376
10	17.954	0.000	89.987	0.000	78.428	2.438	1.426	0.000	0.000	172.280
11	16.196	0.000	106.183	0.000	62.928	1.956	1.144	0.000	0.000	172.211
12	14.039	0.000	120.222	0.000	49.486	1.539	0.900	0.000	0.000	172.146
13	11.766	0.000	131.988	0.000	38.216	1.188	0.695	0.000	0.000	172.087
14	9.585	0.000	141.574	0.000	29.060	0.903	0.528	0.000	0.000	172.065
15	7.626	0.000	149.200	0.000	21.778	0.677	0.396	0.000	0.000	172.051
16	5.938	0.000	155.138	0.000	16.106	0.501	0.293	0.000	0.000	172.037
17	4.538	0.000	159.676	0.000	11.770	0.366	0.214	0.000	0.000	172.026
18	3.411	0.000	163.087	0.000	8.512	0.265	0.155	0.000	0.000	172.019
19	2.528	0.000	165.615	0.000	6.097	0.190	0.111	0.000	0.000	172.012
20	1.849	0.000	167.464	0.000	4.328	0.135	0.079	0.000	0.000	172.006
21	1.338	0.000	168.802	0.000	3.048	0.095	0.055	0.000	0.000	172.000
22	0.958	0.000	169.760	0.000	2.133	0.066	0.039	0.000	0.000	171.998
23	0.681	0.000	170.440	0.000	1.484	0.046	0.027	0.000	0.000	171.997
24	0.480	0.000	170.920	0.000	1.026	0.032	0.019	0.000	0.000	171.996
25	0.335	0.000	171.255	0.000	0.706	0.022	0.013	0.000	0.000	171.996
26	0.233	0.000	171.489	0.000	0.483	0.015	0.009	0.000	0.000	171.995
27	0.161	0.000	171.650	0.000	0.329	0.010	0.006	0.000	0.000	171.995
28	0.111	0.000	171.760	0.000	0.223	0.007	0.004	0.000	0.000	171.994
29	0.076	0.000	171.836	0.000	0.151	0.005	0.003	0.000	0.000	171.994
30	0.052	0.000	171.887	0.000	0.102	0.003	0.002	0.000	0.000	171.994
31	0.035	0.000	171.922	0.000	0.068	0.002	0.001	0.000	0.000	171.994
32	0.024	0.000	171.946	0.000	0.046	0.001	0.001	0.000	0.000	171.994
33	0.016	0.000	171.962	0.000	0.031	0.001	0.001	0.000	0.000	171.994
34	0.011	0.000	171.973	0.000	0.020	0.001	0.000	0.000	0.000	171.994
35	0.007	0.000	171.980	0.000	0.014	0.000	0.000	0.000	0.000	171.994
TOTAL	171.980	0.000	171.980	0.000	0.014	0.000	0.000	0.000	0.000	171.994

AR002027

YEAR	YRLY MASS TO GW (%)	YRLY MASS VOLATILIZED (%)	CUM. MASS TO GW (%)	CUM. MASS VOLATILIZED (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	MASS IN PURE PHASE (%)	MASS IMMOBILIZED (%)	TOTAL (%)
1	0.00000	0.00000	0.00000	0.00000	94.065715	2.915340	1.712970	0.000000	0.000000	98.694025
2	0.00000	0.00000	0.00000	0.00000	93.985380	2.922040	1.709000	0.000000	0.000000	98.616420
3	0.00000	0.00000	0.00000	0.00000	93.895815	2.919260	1.707370	0.000000	0.000000	98.522445
4	0.00000	0.00000	0.00000	0.00000	93.795768	2.916140	1.705550	0.000000	0.000000	98.417458
5	0.223564	0.00000	0.223564	0.00000	93.486879	2.905540	1.699940	0.000000	0.000000	98.316923
6	8.946839	0.00000	9.170403	0.00000	84.855346	2.638180	1.542980	0.000000	0.000000	98.206909
7	10.165443	0.00000	19.335846	0.00000	75.084780	2.334410	1.365320	0.000000	0.000000	98.120357
8	10.810847	0.00000	30.146693	0.00000	64.704220	2.011680	1.176560	0.000000	0.000000	98.039153
9	10.796434	0.00000	40.943126	0.00000	54.356069	1.689950	0.988392	0.000000	0.000000	97.977537
10	10.204947	0.00000	51.148074	0.00000	44.578206	1.355950	0.810595	0.000000	0.000000	97.922825
11	9.205459	0.00000	60.353533	0.00000	35.767758	1.112030	0.650390	0.000000	0.000000	97.883711
12	7.979837	0.00000	68.333370	0.00000	28.127545	0.874493	0.511461	0.000000	0.000000	97.846869
13	6.687940	0.00000	75.021310	0.00000	21.721773	0.675337	0.394981	0.000000	0.000000	97.813401
14	5.448255	0.00000	80.469565	0.00000	16.517378	0.513532	0.300347	0.000000	0.000000	97.800822
15	4.334641	0.00000	84.804206	0.00000	12.378345	0.384847	0.225084	0.000000	0.000000	97.792481
16	3.375146	0.00000	88.179351	0.00000	9.154555	0.284618	0.166464	0.000000	0.000000	97.784988
17	2.579258	0.00000	90.758609	0.00000	6.590162	0.207999	0.121652	0.000000	0.000000	97.778422
18	1.939005	0.00000	92.697614	0.00000	4.838225	0.150422	0.087977	0.000000	0.000000	97.774238
19	1.436880	0.00000	94.134494	0.00000	3.465297	0.107737	0.063012	0.000000	0.000000	97.770540
20	1.051196	0.00000	95.185690	0.00000	2.460078	0.076485	0.044733	0.000000	0.000000	97.766986
21	0.760270	0.00000	95.945961	0.00000	1.732577	0.053866	0.031505	0.000000	0.000000	97.763909
22	0.544433	0.00000	96.490394	0.00000	1.212640	0.037701	0.022050	0.000000	0.000000	97.762785
23	0.386803	0.00000	96.877197	0.00000	0.843398	0.026222	0.015336	0.000000	0.000000	97.762153
24	0.272588	0.00000	97.149786	0.00000	0.583182	0.018131	0.010604	0.000000	0.000000	97.761703
25	0.190696	0.00000	97.340481	0.00000	0.401065	0.012469	0.007293	0.000000	0.000000	97.761309
26	0.132521	0.00000	97.473002	0.00000	0.274460	0.008533	0.004991	0.000000	0.000000	97.760986
27	0.091540	0.00000	97.564542	0.00000	0.186910	0.005811	0.003399	0.000000	0.000000	97.760652
28	0.062869	0.00000	97.627411	0.00000	0.126850	0.003944	0.002307	0.000000	0.000000	97.760511
29	0.043010	0.00000	97.670421	0.00000	0.085810	0.002668	0.001560	0.000000	0.000000	97.760459
30	0.029297	0.00000	97.699718	0.00000	0.057849	0.001799	0.001052	0.000000	0.000000	97.760417
31	0.019874	0.00000	97.719592	0.00000	0.038871	0.001209	0.000707	0.000000	0.000000	97.760379
32	0.013430	0.00000	97.733022	0.00000	0.026036	0.000809	0.000473	0.000000	0.000000	97.760341
33	0.009041	0.00000	97.742063	0.00000	0.017392	0.000541	0.000316	0.000000	0.000000	97.760313
34	0.006068	0.00000	97.748131	0.00000	0.011599	0.000361	0.000211	0.000000	0.000000	97.760301
35	0.004065	0.00000	97.752195	0.00000	0.007722	0.000240	0.000140	0.000000	0.000000	97.760297
TOTAL	97.752195	0.000000	97.752195	0.000000	0.007722	0.000240	0.000140	0.000000	0.000000	97.760297

AR002028

ORIGINAL
(RUB)

MILLCREEK(a3ars1.wk1)SESOIL SIMULATION: RUN 1 - AREA 3, SCREENING; ARSENIC (vol.index=0) Page 1 (31-Mar-89)

18

INPUT: AREA 3 - ARSENIC
area = 408760000 cm2
439986 sq.ft.
10.101 acres

RUN NO. 1 - SCREENING
density = 1.42 gm/cm3
88.61 lb/cu.ft.

ARSENI	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED
LVR 1	61.0	6.2	2.2073E+08	0.4867	0.5	0.54
LVR 2	46.0	38	1.0219E+09	2.2533	2.5	2.500
LVR 3	61.0	16	5.6409E+08	1.2438	1.4	1.380
LVR 4	30.5	29	5.1504E+08	1.1357	1.3	1.260
TOTAL	198.5		2.1010E+09	4.6328	5.2	5.1

MASS BALANCE
TOTAL MASS = 0.0000E+00 ug; from release to GW at YR 35
0.0000 lb

MASS @ YR 35
TO GW 0.0000E+00
TO VOL. 0
ON SOIL 0.0000E+00
IN MOIS. 0.0000E+00
IN AIR 0.0000E+00
PURE PHASE 0.0000E+00
TOTAL 0

(ug)
(lb)
(%)

#32

MILLCREEK(a2tcelo.wk1) SESOIL SIMULATION: RUN 1 (MAX. CONC.) - AREA 2 ; TCE (Vol.I.=0) Page 1 (12-Jan-89)

#32

INPUT: AREA 2 - TCE
 area = 100157812 cm2
 107809 sq.ft.
 2.475 acres

RUN NO. 1 - MAX. CONC.
 density = 1.85 gm/cm3
 115.44 lb/cu.ft.

XYLENE	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING LOADING USED (ug/cm2) (ug/cm2)
Lyr 1	61.0	0	0.0000E+00	0.0000	0.0 0.000
Lyr 2	61.0	0	0.0000E+00	0.0000	0.0 0.000
Lyr 3	61.0	17	1.9030E+08	0.4196	1.9 1.900
TOTAL	183.0		1.9030E+08	0.4196	1.9 1.9

MASS BALANCE

TOTAL MASS = 1.9000E+08 ug; from release to GW at YR 35
 0.4189 lb

MASS @ YR 35	(ug)	(lb)	(%)
TO GW	1.8577E+08	0.4096	97.775800
TO VOL.	0	0.0000	0.000000
ON SOIL	2.7707E+06	0.0061	1.458237
IN MOIS.	2.4038E+04	0.0001	0.012651
IN AIR	2.6091E+04	0.0001	0.013732
PURE PHASE	0.0000E+00	0.0000	0.000000
TOTAL	188594759.5	0.4159	99.260421

AR002030

RUN NO. 32

(RED)

ORIGINAL
(RED)

MILLCREEK(alitce5co.wk1) SESOIL SIMULATION: RUN 5c - AREA 1; TCE (vol.index=0)

Page 1 (03-Apr-89)

INPUT: AREA 1 - TRICHLOROETHYLENE (TCE) RUN NO. 5c - AITCE5CO.PRN
 area = 111483650 cm² density = 1.66 gm/cm³
 120000 sq.ft. 103.58 lb/cu.ft.
 2.755 acres

TCE	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm ²)	LOADING USED
LYR 1	61.0	440	4.9722E+09	10.9636	44.6	44.600
LYR 2	61.0	19000	2.1427E+11	472.4688	1923.9	1922.000
LYR 3	61.0	3100	3.4560E+10	76.2046	313.9	310.000
TOTAL	183.0		2.5380E+11	559.6371	2282.4	2276.6

MASS BALANCE

TOTAL MASS = 2.5108E+11 ug; from release to GW at YR 35
 553.6205 lb

MASS @ YR 35	(ug)	(lb)	(%)
TO GW	2.4517E+11	540.5904	97.646400
TO VOL.	0.0000E+00	0.0000	0.000000
ON SOIL	3.1696E+09	6.9889	1.262392
IN MOIS.	5.9336E+07	0.1308	0.023633
IN AIR	4.8470E+07	0.1069	0.019305
PURE PHASE	0.0000E+00	0.0000	0.000000
TOTAL	2.4844E+11	547.8170	98.951730

AR002031

RUN NO. 39

YEAR	YRLY MASS TO GW (lb)	YRLY MASS VOLATILIZED (lb)	CUM. MASS TO GW (lb)	CUM. MASS VOLATILIZED (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	MASS IN PURE PHASE (lb)	MASS IMMOBILIZED (lb)	TOTAL (lb)
1	0.000	0.000	0.000	0.000	0.411	0.004	0.004	0.000	0.000	0.419
2	0.000	0.000	0.000	0.000	0.411	0.004	0.004	0.000	0.000	0.419
3	0.000	0.000	0.000	0.000	0.411	0.004	0.004	0.000	0.000	0.419
4	0.000	0.000	0.000	0.000	0.411	0.004	0.004	0.000	0.000	0.419
5	0.000	0.000	0.000	0.000	0.411	0.004	0.004	0.000	0.000	0.418
6	0.000	0.000	0.000	0.000	0.411	0.004	0.004	0.000	0.000	0.418
7	0.000	0.000	0.000	0.000	0.411	0.004	0.004	0.000	0.000	0.418
8	0.000	0.000	0.000	0.000	0.410	0.004	0.004	0.000	0.000	0.418
9	0.000	0.000	0.000	0.000	0.410	0.004	0.004	0.000	0.000	0.418
10	0.002	0.000	0.002	0.000	0.408	0.004	0.004	0.000	0.000	0.417
11	0.046	0.000	0.049	0.000	0.362	0.003	0.003	0.000	0.000	0.417
12	0.044	0.000	0.092	0.000	0.319	0.003	0.003	0.000	0.000	0.417
13	0.040	0.000	0.132	0.000	0.279	0.002	0.002	0.000	0.000	0.417
14	0.037	0.000	0.169	0.000	0.243	0.002	0.002	0.000	0.000	0.417
15	0.033	0.000	0.203	0.000	0.210	0.002	0.002	0.000	0.000	0.417
16	0.030	0.000	0.232	0.000	0.181	0.002	0.002	0.000	0.000	0.417
17	0.026	0.000	0.259	0.000	0.155	0.001	0.001	0.000	0.000	0.416
18	0.023	0.000	0.282	0.000	0.132	0.001	0.001	0.000	0.000	0.416
19	0.020	0.000	0.302	0.000	0.112	0.001	0.001	0.000	0.000	0.416
20	0.017	0.000	0.319	0.000	0.095	0.001	0.001	0.000	0.000	0.416
21	0.015	0.000	0.334	0.000	0.080	0.001	0.001	0.000	0.000	0.416
22	0.013	0.000	0.347	0.000	0.068	0.001	0.001	0.000	0.000	0.416
23	0.011	0.000	0.358	0.000	0.057	0.000	0.001	0.000	0.000	0.416
24	0.009	0.000	0.367	0.000	0.048	0.000	0.000	0.000	0.000	0.416
25	0.008	0.000	0.375	0.000	0.040	0.000	0.000	0.000	0.000	0.416
26	0.007	0.000	0.382	0.000	0.033	0.000	0.000	0.000	0.000	0.416
27	0.006	0.000	0.388	0.000	0.028	0.000	0.000	0.000	0.000	0.416
28	0.005	0.000	0.392	0.000	0.023	0.000	0.000	0.000	0.000	0.416
29	0.004	0.000	0.396	0.000	0.019	0.000	0.000	0.000	0.000	0.416
30	0.003	0.000	0.400	0.000	0.016	0.000	0.000	0.000	0.000	0.416
31	0.003	0.000	0.402	0.000	0.013	0.000	0.000	0.000	0.000	0.416
32	0.002	0.000	0.405	0.000	0.011	0.000	0.000	0.000	0.000	0.416
33	0.002	0.000	0.407	0.000	0.009	0.000	0.000	0.000	0.000	0.416
34	0.002	0.000	0.408	0.000	0.007	0.000	0.000	0.000	0.000	0.416
35	0.001	0.000	0.410	0.000	0.006	0.000	0.000	0.000	0.000	0.416
TOTAL	0.410	0.000	0.410	0.000	0.006	0.000	0.000	0.000	0.000	0.416

ORIGINAL
(RED)

YEAR	YRLY MASS TO GW VOLATILIZED (%)	YRLY MASS TO GW VOLATILIZED (%)	CUM. MASS TO GW VOLATILIZED (%)	CUM. MASS (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	MASS IN PURE PHASE (%)	MASS FERTILIZED (%)	TOTAL (%)
1	0.00000	0.00000	0.00000	0.00000	98.215500	0.852102	0.924881	0.000000	0.000000	99.992483
2	0.00000	0.00000	0.00000	0.00000	98.201700	0.851982	0.924752	0.000000	0.000000	99.978434
3	0.00000	0.00000	0.00000	0.00000	98.161300	0.851631	0.924371	0.000000	0.000000	99.937302
4	0.00000	0.00000	0.00000	0.00000	98.128600	0.851348	0.924063	0.000000	0.000000	99.904011
5	0.00000	0.00000	0.00000	0.00000	98.095500	0.851061	0.923752	0.000000	0.000000	99.870313
6	0.00000	0.00000	0.00000	0.00000	98.062300	0.850773	0.923439	0.000000	0.000000	99.836512
7	0.00000	0.00000	0.00000	0.00000	98.016800	0.850378	0.923010	0.000000	0.000000	99.790188
8	0.00000	0.00000	0.00000	0.00000	97.965200	0.849930	0.922524	0.000000	0.000000	99.737634
9	0.00000	0.00000	0.00000	0.00000	97.914200	0.849488	0.922045	0.000000	0.000000	99.685733
10	0.593223	0.00000	0.593223	0.00000	97.284400	0.844024	0.916114	0.000000	0.000000	99.637761
11	10.995377	0.00000	11.588600	0.00000	86.448900	0.750016	0.814077	0.000000	0.000000	99.601593
12	10.393200	0.00000	21.981800	0.00000	76.207000	0.661159	0.717630	0.000000	0.000000	99.567589
13	9.641400	0.00000	31.623200	0.00000	66.700500	0.578682	0.628109	0.000000	0.000000	99.530491
14	8.808600	0.00000	40.431800	0.00000	58.015400	0.503332	0.546323	0.000000	0.000000	99.496855
15	7.946900	0.00000	48.378700	0.00000	50.176200	0.435321	0.472502	0.000000	0.000000	99.462723
16	7.093300	0.00000	55.472000	0.00000	43.174400	0.374574	0.406567	0.000000	0.000000	99.427541
17	6.273400	0.00000	61.745400	0.00000	36.990300	0.320921	0.348332	0.000000	0.000000	99.404953
18	5.505100	0.00000	67.250500	0.00000	31.565300	0.273856	0.297246	0.000000	0.000000	99.386902
19	4.797500	0.00000	72.048000	0.00000	26.831800	0.232789	0.252672	0.000000	0.000000	99.365261
20	4.154900	0.00000	76.202900	0.00000	22.733100	0.197229	0.214075	0.000000	0.000000	99.347304
21	3.579600	0.00000	79.782500	0.00000	19.200600	0.166581	0.180809	0.000000	0.000000	99.330490
22	3.069100	0.00000	82.851600	0.00000	16.167000	0.140262	0.152243	0.000000	0.000000	99.311105
23	2.619400	0.00000	85.471000	0.00000	13.578500	0.117805	0.127867	0.000000	0.000000	99.295172
24	2.227300	0.00000	87.698300	0.00000	11.377500	0.098709	0.107140	0.000000	0.000000	99.281649
25	1.888000	0.00000	89.586300	0.00000	9.520050	0.082594	0.089649	0.000000	0.000000	99.278593
26	1.596500	0.00000	91.182800	0.00000	7.948800	0.068963	0.074853	0.000000	0.000000	99.275415
27	1.345800	0.00000	92.528600	0.00000	6.624920	0.057477	0.062386	0.000000	0.000000	99.273383
28	1.131500	0.00000	93.660100	0.00000	5.512020	0.047821	0.051906	0.000000	0.000000	99.271847
29	0.949000	0.00000	94.609100	0.00000	4.578490	0.039722	0.043115	0.000000	0.000000	99.270427
30	0.794100	0.00000	95.403200	0.00000	3.796880	0.032941	0.035755	0.000000	0.000000	99.268776
31	0.662900	0.00000	96.066100	0.00000	3.144010	0.027277	0.029607	0.000000	0.000000	99.266994
32	0.552500	0.00000	96.618600	0.00000	2.600040	0.022558	0.024484	0.000000	0.000000	99.265582
33	0.459500	0.00000	97.078100	0.00000	2.146870	0.018626	0.020217	0.000000	0.000000	99.263813
34	0.315000	0.00000	97.493600	0.00000	1.770530	0.009600	0.016673	0.000000	0.000000	99.262164
35	0.162000	0.00000	97.775800	0.00000	1.458240	0.004000	0.013732	0.000000	0.000000	99.260423

AR002033

#

INPUT:	AREA 3 - TCE	area =	408760000 cm2	439986 sq. ft.	10.101 acres	density =	1.42 gm/cm3	88.61 lb/cu. ft.	RUN NO. 1 - MAX. CONC.
XYLYLE	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED (ug/cm2)			
LYR 1	122.0	0	0.0000E+00	0.0000	0.0	0.000			
LYR 2	122.0	24	1.7168E+09	3.7855	4.2	4.200			
LYR 3	122.0	1200	8.4981E+10	187.3836	207.9	207.900			
TOTAL	366.0		8.6698E+10	191.1691	212.1	212.1			

TOTAL MASS = 8.7002E+10 ug; from release to GW at YR 35
191.8393 lb

MASS @ YR 35	(ug)	(lb)	(%)
TO GW	7.2022E+10	158.8080	82.781800
TO VOL.	0	0.0000	0.000000
ON SOIL	1.3193E+10	29.0902	15.163819
IN MDIS.	1.0713E+08	0.2362	0.123131
IN AIR	1.7853E+08	0.3937	0.205203
PURE PHASE	0.0000E+00	0.0000	0.000000
TOTAL	85500243647	188.5280	98.273953

AR002034

3

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	MASS IN PURE PHASE (lb)	MASS IMMOBILIZED (lb)	TOTAL (lb)
1	0.000	0.000	187.766	1.525	2.541	0.000	0.000	191.831
2	0.000	0.000	187.742	1.524	2.541	0.000	0.000	191.807
3	0.000	0.000	187.692	1.524	2.540	0.000	0.000	191.756
4	0.000	0.000	187.617	1.523	2.539	0.000	0.000	191.680
5	0.000	0.000	187.505	1.523	2.537	0.000	0.000	191.565
6	0.000	0.000	187.368	1.521	2.536	0.000	0.000	191.425
7	0.000	0.000	187.233	1.520	2.534	0.000	0.000	191.287
8	0.000	0.000	187.096	1.519	2.532	0.000	0.000	191.147
9	0.000	0.000	186.964	1.518	2.530	0.000	0.000	191.012
10	0.000	0.000	186.822	1.517	2.528	0.000	0.000	190.867
11	0.000	0.000	186.691	1.516	2.526	0.000	0.000	190.734
12	0.000	0.000	186.501	1.514	2.524	0.000	0.000	190.540
13	0.000	0.000	186.330	1.513	2.521	0.000	0.000	190.364
14	0.000	0.000	186.206	1.512	2.520	0.000	0.000	190.238
15	0.000	0.000	186.072	1.511	2.518	0.000	0.000	190.101
16	9.590	9.590	176.538	1.434	2.389	0.000	0.000	189.950
17	13.109	22.698	163.583	1.328	2.214	0.000	0.000	189.824
18	12.599	35.297	151.101	1.227	2.045	0.000	0.000	189.669
19	12.024	47.321	139.179	1.130	1.883	0.000	0.000	189.514
20	11.410	58.731	127.892	1.038	1.731	0.000	0.000	189.393
21	10.767	69.498	117.224	0.952	1.586	0.000	0.000	189.260
22	10.112	79.610	107.235	0.871	1.451	0.000	0.000	189.167
23	9.452	89.063	97.901	0.795	1.325	0.000	0.000	189.083
24	8.804	97.866	89.194	0.724	1.207	0.000	0.000	188.991
25	8.170	106.036	81.132	0.659	1.098	0.000	0.000	188.924
26	7.558	113.593	73.659	0.598	0.997	0.000	0.000	188.847
27	6.970	120.564	66.764	0.542	0.903	0.000	0.000	188.773
28	6.410	126.974	60.425	0.491	0.818	0.000	0.000	188.708
29	5.879	132.853	54.587	0.443	0.739	0.000	0.000	188.622
30	5.380	138.233	49.297	0.400	0.667	0.000	0.000	188.597
31	4.919	143.152	44.469	0.361	0.602	0.000	0.000	188.583
32	4.487	147.639	40.063	0.325	0.542	0.000	0.000	188.570
33	4.086	151.725	36.050	0.293	0.488	0.000	0.000	188.556
34	3.714	155.439	32.401	0.263	0.438	0.000	0.000	188.542
35	3.369	158.808	29.090	0.236	0.394	0.000	0.000	188.528

AR002035

YEAR	YRLY MASS TO GW VOLATILIZED (%)	CUM. MASS TO GW VOLATILIZED (%)	CUM. MASS (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	MASS IN PURE PHASE (%)	MASS IMMOBILIZED (%)	TOTAL (%)
1	0.000000	0.000000	0.000000	97.876500	0.794766	1.324500	0.000000	0.000000	99.995766
2	0.000000	0.000000	0.000000	97.864400	0.794667	1.324340	0.000000	0.000000	99.983407
3	0.000000	0.000000	0.000000	97.838100	0.794453	1.323980	0.000000	0.000000	99.956533
4	0.000000	0.000000	0.000000	97.799300	0.794138	1.323460	0.000000	0.000000	99.916898
5	0.000000	0.000000	0.000000	97.740900	0.793664	1.322670	0.000000	0.000000	99.857234
6	0.000000	0.000000	0.000000	97.669300	0.793083	1.321700	0.000000	0.000000	99.784083
7	0.000000	0.000000	0.000000	97.598800	0.792511	1.320740	0.000000	0.000000	99.712051
8	0.000000	0.000000	0.000000	97.527500	0.791931	1.319780	0.000000	0.000000	99.639211
9	0.000000	0.000000	0.000000	97.458800	0.791373	1.318850	0.000000	0.000000	99.569023
10	0.000000	0.000000	0.000000	97.384800	0.790772	1.317850	0.000000	0.000000	99.493422
11	0.000000	0.000000	0.000000	97.316500	0.790218	1.316920	0.000000	0.000000	99.423638
12	0.000000	0.000000	0.000000	97.217500	0.789414	1.315580	0.000000	0.000000	99.322494
13	0.000000	0.000000	0.000000	97.128100	0.788688	1.314370	0.000000	0.000000	99.231158
14	0.000000	0.000000	0.000000	97.063800	0.788166	1.313500	0.000000	0.000000	99.165466
15	0.000000	0.000000	0.000000	96.993900	0.787598	1.312560	0.000000	0.000000	99.094058
16	4.998920	4.998920	0.000000	92.023900	0.747242	1.245300	0.000000	0.000000	99.015362
17	6.833080	11.832000	0.000000	85.271000	0.692407	1.153920	0.000000	0.000000	98.949327
18	6.567300	18.399300	0.000000	78.764200	0.639572	1.065870	0.000000	0.000000	98.868942
19	6.267900	24.667200	0.000000	72.549800	0.589111	0.981771	0.000000	0.000000	98.787882
20	5.947700	30.614900	0.000000	66.666200	0.541335	0.902153	0.000000	0.000000	98.724588
21	5.612500	36.227400	0.000000	61.105200	0.496180	0.826899	0.000000	0.000000	98.655679
22	5.270900	41.498300	0.000000	55.898600	0.453901	0.756441	0.000000	0.000000	98.607242
23	4.927300	46.425600	0.000000	51.032600	0.414389	0.690593	0.000000	0.000000	98.563182
24	4.589000	51.014600	0.000000	46.494200	0.377537	0.629177	0.000000	0.000000	98.515514
25	4.258600	55.273200	0.000000	42.291600	0.343411	0.572306	0.000000	0.000000	98.480517
26	3.939600	59.212800	0.000000	38.396200	0.311780	0.519592	0.000000	0.000000	98.440372
27	3.633300	62.846100	0.000000	34.802200	0.282597	0.470956	0.000000	0.000000	98.401853
28	3.341500	66.187600	0.000000	31.497900	0.255765	0.426241	0.000000	0.000000	98.367506
29	3.064700	69.252300	0.000000	28.454300	0.231051	0.385054	0.000000	0.000000	98.322705
30	2.804400	72.056700	0.000000	25.697000	0.208661	0.347741	0.000000	0.000000	98.310102
31	2.563900	74.620600	0.000000	23.180100	0.188224	0.313682	0.000000	0.000000	98.302606
32	2.339100	76.959700	0.000000	20.883700	0.169578	0.282607	0.000000	0.000000	98.295585
33	2.129900	79.089600	0.000000	18.791900	0.152592	0.254299	0.000000	0.000000	98.288391
34	1.935800	81.025400	0.000000	16.889900	0.137147	0.228560	0.000000	0.000000	98.281007
35	1.756400	82.781800	0.000000	15.163800	0.123132	0.205203	0.000000	0.000000	98.273935
TOTAL	82.781800	82.781800	0.000000	15.163800	0.123132	0.205203	0.000000	0.000000	98.273935

AR002036

(RED)

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	YRLY MASS (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	MASS IN PURE PHASE (lb)	MASS IMMOBILIZED (lb)	TOTAL (lb)
1	0.000	0.000	0.000	0.000	6.659	0.108	0.109	0.000	0.000	6.872
2	0.000	0.000	0.000	0.000	6.655	0.108	0.109	0.000	0.000	6.866
3	0.000	0.000	0.000	0.000	6.651	0.108	0.107	0.000	0.000	6.864
4	0.022	0.000	0.022	0.000	6.626	0.107	0.105	0.000	0.000	6.850
5	0.915	0.000	0.937	0.000	5.736	0.093	0.094	0.000	0.000	5.857
6	0.984	0.000	1.921	0.000	4.780	0.077	0.078	0.000	0.000	6.855
7	0.974	0.000	2.895	0.000	3.834	0.062	0.062	0.000	0.000	6.852
8	0.893	0.000	3.789	0.000	2.967	0.048	0.049	0.000	0.000	6.851
9	0.767	0.000	4.556	0.000	2.222	0.036	0.036	0.000	0.000	6.846
10	0.624	0.000	5.180	0.000	1.516	0.026	0.026	0.000	0.000	6.846
11	0.485	0.000	5.665	0.000	1.146	0.019	0.019	0.000	0.000	6.846
12	0.362	0.000	6.027	0.000	0.794	0.013	0.013	0.000	0.000	6.847
13	0.262	0.000	6.289	0.000	0.540	0.009	0.009	0.000	0.000	6.847
14	0.185	0.000	6.474	0.000	0.361	0.006	0.006	0.000	0.000	6.846
15	0.127	0.000	6.601	0.000	0.237	0.004	0.004	0.000	0.000	6.846
16	0.086	0.000	6.687	0.000	0.154	0.002	0.002	0.000	0.000	6.846
17	0.057	0.000	6.744	0.000	0.099	0.002	0.002	0.000	0.000	6.846
18	0.037	0.000	6.781	0.000	0.063	0.001	0.001	0.000	0.000	6.846
19	0.024	0.000	6.805	0.000	0.040	0.001	0.001	0.000	0.000	6.846
20	0.015	0.000	6.821	0.000	0.025	0.000	0.000	0.000	0.000	6.846
21	0.010	0.000	6.830	0.000	0.015	0.000	0.000	0.000	0.000	6.846
22	0.006	0.000	6.836	0.000	0.010	0.000	0.000	0.000	0.000	6.846
23	0.004	0.000	6.840	0.000	0.006	0.000	0.000	0.000	0.000	6.846
24	0.002	0.000	6.842	0.000	0.004	0.000	0.000	0.000	0.000	6.846
25	0.001	0.000	6.844	0.000	0.002	0.000	0.000	0.000	0.000	6.846
26	0.001	0.000	6.845	0.000	0.001	0.000	0.000	0.000	0.000	6.846
27	0.001	0.000	6.845	0.000	0.001	0.000	0.000	0.000	0.000	6.846
28	0.000	0.000	6.846	0.000	0.001	0.000	0.000	0.000	0.000	6.846
29	0.000	0.000	6.846	0.000	0.000	0.000	0.000	0.000	0.000	6.846
30	0.000	0.000	6.846	0.000	0.000	0.000	0.000	0.000	0.000	6.846
31	0.000	0.000	6.846	0.000	0.000	0.000	0.000	0.000	0.000	6.846
32	0.000	0.000	6.846	0.000	0.000	0.000	0.000	0.000	0.000	6.846
33	0.000	0.000	6.846	0.000	0.000	0.000	0.000	0.000	0.000	6.846
34	0.000	0.000	6.845	0.000	0.000	0.000	0.000	0.000	0.000	6.846
35	0.000	0.000	6.846	0.000	0.000	0.000	0.000	0.000	0.000	6.846
TOTAL	6.846	0.000	6.846	0.000	0.000	0.000	0.000	0.000	0.000	6.846

AR002038

OK
(Rev)

MILLCREE (a4tcelo.wpl)

SEEGIL SIMPLIFICATION: ROW 1 (MAX. COLS) = AREA 4 ; (C (1:1), 1:1) :

DATE : 11-06-07

YEAR	YRLY MASS TO GW VOLATILIZED (%)	YRLY MASS (%)	CUM. MASS TO GW VOLATILIZED (%)	CUM. MASS (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	MASS IN FLUE PHASE (%)	MASS (%)	10 (mi (%)
1	0.000000	0.000000	0.000000	0.000000	96.789200	1.568290	1.585030	0.000000	0.000000	55.542520
2	0.000000	0.000000	0.000000	0.000000	96.735100	1.567410	1.594140	0.000000	0.000000	57.686550
3	0.000000	0.000000	0.000000	0.000000	96.679100	1.566500	1.582230	0.000000	0.000000	59.878830
4	0.319674	0.000000	0.319674	0.000000	96.311200	1.560540	1.577200	0.000000	0.000000	62.768614
5	13.304826	0.000000	13.624500	0.000000	83.379200	1.351000	1.365430	0.000000	0.000000	57.750130
6	14.303700	0.000000	27.928200	0.000000	67.482100	1.125830	1.137850	0.000000	0.000000	47.537950
7	14.157400	0.000000	42.085600	0.000000	55.734900	0.903079	0.915720	0.000000	0.000000	55.535275
8	12.985800	0.000000	55.071400	0.000000	43.129400	0.698814	0.706275	0.000000	0.000000	93.504860
9	11.156000	0.000000	66.227400	0.000000	32.298900	0.523344	0.509921	0.000000	0.000000	96.573575
10	9.070500	0.000000	75.297900	0.000000	23.490200	0.380616	0.44679	0.000000	0.000000	96.553795
11	7.043500	0.000000	82.341400	0.000000	16.654500	0.269858	0.272737	0.000000	0.000000	94.578410
12	5.264100	0.000000	87.605500	0.000000	11.542300	0.187031	0.189028	0.000000	0.000000	97.521451
13	3.809600	0.000000	91.415100	0.000000	7.648360	0.127168	0.129325	0.000000	0.000000	96.517154
14	2.685700	0.000000	94.100800	0.000000	5.245410	0.084992	0.085899	0.000000	0.000000	99.517110
15	1.849800	0.000000	95.950600	0.000000	3.452040	0.055934	0.056531	0.000000	0.000000	97.515125
16	1.248600	0.000000	97.199200	0.000000	2.241690	0.036326	0.036717	0.000000	0.000000	95.514139
17	0.828500	0.000000	98.027700	0.000000	1.438630	0.023310	0.023557	0.000000	0.000000	97.513197
18	0.541300	0.000000	98.569000	0.000000	0.913603	0.014803	0.014961	0.000000	0.000000	99.512355
19	0.349200	0.000000	98.918200	0.000000	0.575287	0.009321	0.009421	0.000000	0.000000	97.512225
20	0.222800	0.000000	99.141000	0.000000	0.355610	0.005327	0.005389	0.000000	0.000000	97.512326
21	0.140700	0.000000	99.281700	0.000000	0.223398	0.003620	0.003658	0.000000	0.000000	97.512372
22	0.088100	0.000000	99.369800	0.000000	0.132332	0.002240	0.002264	0.000000	0.000000	95.512535
23	0.054700	0.000000	99.424500	0.000000	0.085383	0.001383	0.001378	0.000000	0.000000	97.512664
24	0.033900	0.000000	99.458400	0.000000	0.052873	0.000857	0.000866	0.000000	0.000000	97.512995
25	0.020700	0.000000	99.479100	0.000000	0.033064	0.000536	0.000541	0.000000	0.000000	97.513241
26	0.012800	0.000000	99.491900	0.000000	0.020999	0.000340	0.000344	0.000000	0.000000	97.513573
27	0.007800	0.000000	99.499700	0.000000	0.013640	0.000221	0.000223	0.000000	0.000000	95.513784
28	0.004900	0.000000	99.504600	0.000000	0.007306	0.000151	0.000152	0.000000	0.000000	99.514209
29	0.003000	0.000000	99.507600	0.000000	0.004722	0.000109	0.000110	0.000000	0.000000	97.514541
30	0.002000	0.000000	99.509600	0.000000	0.003139	0.000083	0.000084	0.000000	0.000000	97.514701
31	0.001300	0.000000	99.510900	0.000000	0.002005	0.000058	0.000059	0.000000	0.000000	97.515241
32	0.000900	0.000000	99.511800	0.000000	0.001302	0.000040	0.000041	0.000000	0.000000	97.515522
33	0.000800	0.000000	99.512600	0.000000	0.000887	0.000035	0.000035	0.000000	0.000000	97.515778
34	0.000600	0.000000	99.513200	0.000000	0.000340	0.000022	0.000023	0.000000	0.000000	97.515945
35	0.000600	0.000000	99.513800	0.000000	0.000318	0.000021	0.000021	0.000000	0.000000	97.517117
TOTAL	99.513200	0.000000	99.513800	0.000000	0.003118	0.000051	0.000051	0.000000	0.000000	97.517117

AR002039

INPUT: AREA 3 - BENZIDINE (MAXIMUM CONCENTRATIONS) RUN NO. 1
 area = 408,760,000 cm2
 439,986 sq. ft.
 10.101 acres
 density = 1.42 gm/cm3
 88.61 lb/cu.ft.

	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING (ug/cm2)	LOADING USED (ug/cm2)
LYR 1	121.9	1000	7.0752E+10	156.0088	173.1	173.1	173.09
LYR 2	121.9	2100	1.4858E+11	327.6283	363.5	363.5	363.50
LYR 3	121.9	33000	2.3348E+12	5148.3158	5712.2	5712.2	5712
TOTAL	365.7		2.5542E+12	5631.9529	6248.8	6248.8	6248.6

MASS BALANCE
 TOTAL MASS = 2.5619E+12 ug; from release to GW at YR 35
 5649.0478 lb

MASS @ YR 35	(ug)	(lb)	(%)
TO GW	2.5585E+12	5641.4216	99.865000
TO VOL.	0	0.0000	0.000000
ON SOIL	6.6970E+03	0.0000	0.000000
IN MOIS.	6.4567E+02	0.0000	0.000000
IN AIR	3.5162E-02	0.0000	0.000000
PURE PHASE	0.0000E+00	0.0000	0.000000
TOTAL	2.5585E+12	5641.4216	99.865000

ORIGINAL
(RED)

SESOIL SIMULATION: RUN 1 - AREA 3; BENZIDINE (vol.index=0)

MILLCREEK(a3benz10.wk1)

YEAR	YRLY MASS TO GW VOLATILIZED (%)	YRLY MASS (%)	CUM. MASS TO GW VOLATILIZED (%)	CUM. MASS (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	MASS IN PURE PHASE (%)	TOTAL (%)
1	0.000000	0.000000	0.000000	0.000000	91.150500	8.788010	0.000479	0.000000	99.938989
2	41.435500	0.000000	41.435500	0.000000	53.326300	5.141300	0.000280	0.000000	99.903380
3	37.018300	0.000000	78.453800	0.000000	19.542400	1.884120	0.000103	0.000000	99.880423
4	14.055900	0.000000	92.509700	0.000000	6.712040	0.647122	0.000035	0.000000	99.868897
5	4.888800	0.000000	97.398500	0.000000	2.251120	0.217035	0.000012	0.000000	99.866667
6	1.661500	0.000000	99.060000	0.000000	0.734599	0.070824	0.000004	0.000000	99.865427
7	0.552600	0.000000	99.612600	0.000000	0.230323	0.022206	0.000001	0.000000	99.865130
8	0.177000	0.000000	99.789600	0.000000	0.068758	0.006629	0.000000	0.000000	99.864988
9	0.054000	0.000000	99.843600	0.000000	0.019526	0.001883	0.000000	0.000000	99.865009
10	0.015600	0.000000	99.859200	0.000000	0.005285	0.000510	0.000000	0.000000	99.864994
11	0.004300	0.000000	99.863500	0.000000	0.001370	0.000132	0.000000	0.000000	99.865002
12	0.001100	0.000000	99.864600	0.000000	0.000342	0.000033	0.000000	0.000000	99.864975
13	0.000300	0.000000	99.864900	0.000000	0.000083	0.000008	0.000000	0.000000	99.864991
14	0.000100	0.000000	99.865000	0.000000	0.000020	0.000002	0.000000	0.000000	99.865022
15	0.000000	0.000000	99.865000	0.000000	0.000005	0.000000	0.000000	0.000000	99.865005
16	0.000000	0.000000	99.865000	0.000000	0.000001	0.000000	0.000000	0.000000	99.865002
17	0.000000	0.000000	99.865000	0.000000	0.000001	0.000000	0.000000	0.000000	99.865001
18	0.000000	0.000000	99.865000	0.000000	0.000001	0.000000	0.000000	0.000000	99.865001
19	0.000000	0.000000	99.865000	0.000000	0.000001	0.000000	0.000000	0.000000	99.865001
20	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865001
21	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865001
22	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000
23	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000
24	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000
25	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000
26	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000
27	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000
28	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000
29	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000
30	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000
31	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000
32	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000
33	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000
34	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000
35	0.000000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000
TOTAL	99.865000	0.000000	99.865000	0.000000	0.000000	0.000000	0.000000	0.000000	99.865000

AR002041

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	YRLY MASS (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	MASS IN PURE PHASE (lb)	TOTAL (lb)
1	0.000	0.000	0.000	0.000	5149.135	496.439	0.027	0.000	5645.601
2	2340.711	0.000	2340.711	0.000	3012.428	290.434	0.016	0.000	5643.590
3	2091.181	0.000	4431.893	0.000	1103.960	106.435	0.006	0.000	5642.293
4	794.025	0.000	5225.917	0.000	379.166	36.556	0.002	0.000	5641.642
5	276.171	0.000	5502.088	0.000	127.167	12.260	0.001	0.000	5641.516
6	93.859	0.000	5595.947	0.000	41.498	4.001	0.000	0.000	5641.446
7	31.217	0.000	5627.163	0.000	13.011	1.254	0.000	0.000	5641.429
8	9.999	0.000	5637.162	0.000	3.884	0.374	0.000	0.000	5641.421
9	3.050	0.000	5640.213	0.000	1.103	0.106	0.000	0.000	5641.422
10	0.881	0.000	5641.094	0.000	0.299	0.029	0.000	0.000	5641.421
11	0.243	0.000	5641.337	0.000	0.077	0.007	0.000	0.000	5641.422
12	0.062	0.000	5641.399	0.000	0.019	0.002	0.000	0.000	5641.420
13	0.017	0.000	5641.416	0.000	0.005	0.000	0.000	0.000	5641.421
14	0.006	0.000	5641.422	0.000	0.001	0.000	0.000	0.000	5641.423
15	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
16	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
17	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
18	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
19	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
20	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
21	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
22	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
23	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
24	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
25	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
26	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
27	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
28	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
29	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
30	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
31	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
32	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
33	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
34	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
35	0.000	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422
TOTAL	5641.422	0.000	5641.422	0.000	0.000	0.000	0.000	0.000	5641.422

AR002042

ORIGINAL
(RED)

MILLCREEK(altcepo.wk1)SES0IL SIMULATION: RUN 5b - AREA 1, K ^{increased} ~~100000~~; TCE (vol.index=0) Page 1 (17-Mar-89)
 #156

INPUT: AREA 1 - TRICHLOROETHYLENE (TCE) RUN NO. 5 - K REDUCED
 area = 111483650 cm2 density = 1.66 gm/cm3
 120000 sq.ft. 103.58 lb/cu.ft.
 2.755 acres

TCE	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED
LYR 1	61.0	440	4.9722E+09	10.9636	44.6	44.600
LYR 2	61.0	19000	2.1427E+11	472.4688	1923.9	1922.000
LYR 3	61.0	3100	3.4560E+10	76.2046	313.9	310.000
TOTAL	183.0		2.5380E+11	559.6371	2282.4	2276.6

MASS BALANCE
 TOTAL MASS = 2.5107E+11 ug; from release to GW at YR 35
 553.6202 lb

MASS @ YR 35	(ug)	(lb)	(%)
TO GW	2.4549E+11	541.3021	97.775000
TO VOL.	0	0.0000	0.000000
ON SOIL	2.8907E+09	6.3741	1.151349
IN MOIS.	3.4371E+07	0.0758	0.013690
IN AIR	3.7307E+07	0.0823	0.014859
PURE PHASE	0.0000E+00	0.0000	0.000000
TOTAL	2.4845E+11	547.8343	98.954897

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	YRLY MASS (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	MASS IN PURE PHASE (lb)	TOTAL (lb)
1	0.000	0.000	0.000	0.000	539.835	6.419	6.967	0.000	553.221
2	0.000	0.000	0.000	0.000	539.555	6.415	6.963	0.000	552.934
3	0.000	0.000	0.000	0.000	539.248	6.412	6.959	0.000	552.619
4	0.000	0.000	0.000	0.000	538.912	6.408	6.955	0.000	552.275
5	0.000	0.000	0.000	0.000	538.572	6.404	6.951	0.000	551.926
6	0.000	0.000	0.000	0.000	538.234	6.400	6.946	0.000	551.580
7	0.000	0.000	0.000	0.000	537.892	6.396	6.942	0.000	551.230
8	2.196	0.000	2.196	0.000	535.393	6.366	6.910	0.000	550.865
9	36.574	0.000	38.771	0.000	499.411	5.938	6.445	0.000	550.565
10	38.429	0.000	77.200	0.000	461.616	5.489	5.957	0.000	550.261
11	39.595	0.000	116.794	0.000	422.708	5.026	5.455	0.000	549.984
12	39.982	0.000	156.777	0.000	383.450	4.559	4.949	0.000	549.734
13	39.577	0.000	196.354	0.000	344.622	4.098	4.448	0.000	549.522
14	38.441	0.000	234.795	0.000	306.881	3.649	3.960	0.000	549.286
15	36.676	0.000	271.471	0.000	270.890	3.221	3.496	0.000	549.078
16	34.421	0.000	305.892	0.000	237.133	2.820	3.060	0.000	548.904
17	31.818	0.000	337.709	0.000	205.949	2.449	2.658	0.000	548.765
18	29.006	0.000	366.716	0.000	177.494	2.110	2.291	0.000	548.611
19	26.106	0.000	392.822	0.000	151.869	1.806	1.960	0.000	548.456
20	23.224	0.000	416.046	0.000	129.103	1.535	1.666	0.000	548.350
21	20.442	0.000	436.489	0.000	109.073	1.297	1.408	0.000	548.266
22	17.821	0.000	454.310	0.000	91.606	1.089	1.182	0.000	548.187
23	15.398	0.000	469.708	0.000	76.494	0.910	0.987	0.000	548.098
24	13.193	0.000	482.901	0.000	63.533	0.755	0.820	0.000	548.010
25	11.218	0.000	494.119	0.000	52.522	0.624	0.678	0.000	547.943
26	9.479	0.000	503.598	0.000	43.257	0.514	0.558	0.000	547.927
27	7.964	0.000	511.563	0.000	35.470	0.422	0.458	0.000	547.913
28	6.651	0.000	518.214	0.000	28.965	0.344	0.374	0.000	547.897
29	5.523	0.000	523.737	0.000	23.563	0.280	0.304	0.000	547.884
30	4.563	0.000	528.301	0.000	19.099	0.227	0.246	0.000	547.874
31	3.752	0.000	532.053	0.000	15.431	0.183	0.199	0.000	547.866
32	3.071	0.000	535.124	0.000	12.425	0.148	0.160	0.000	547.857
33	2.503	0.000	537.627	0.000	9.975	0.119	0.129	0.000	547.848
34	2.032	0.000	539.658	0.000	7.985	0.095	0.103	0.000	547.841
35	1.644	0.000	541.302	0.000	6.374	0.076	0.082	0.000	547.834
TOTAL	541.302	0.000	541.302	0.000	6.374	0.076	0.082	0.000	547.834

AR002044

ORIGINAL
(RED)

YEAR	YRLY MASS TO GW VOLATILIZED (%)	YRLY MASS TO GW VOLATILIZED (%)	CUM. MASS TO GW VOLATILIZED (%)	CUM. MASS (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	MASS IN PURE PHASE (%)	TOTAL (%)
1	0.000000	0.000000	0.000000	0.000000	97.510000	1.159400	1.258430	0.000000	99.927830
2	0.000000	0.000000	0.000000	0.000000	97.459500	1.158800	1.257780	0.000000	99.876080
3	0.000000	0.000000	0.000000	0.000000	97.403900	1.158140	1.257060	0.000000	99.819100
4	0.000000	0.000000	0.000000	0.000000	97.343300	1.157420	1.256280	0.000000	99.757000
5	0.000000	0.000000	0.000000	0.000000	97.281800	1.156690	1.255480	0.000000	99.693970
6	0.000000	0.000000	0.000000	0.000000	97.220800	1.155960	1.254700	0.000000	99.631460
7	0.000000	0.000000	0.000000	0.000000	97.159100	1.155230	1.253900	0.000000	99.568230
8	0.396726	0.000000	0.396726	0.000000	96.707700	1.149860	1.248070	0.000000	99.502356
9	6.606384	0.000000	7.003110	0.000000	90.208200	1.072580	1.164190	0.000000	99.448080
10	6.941390	0.000000	13.944500	0.000000	83.381300	0.991411	1.076090	0.000000	99.393301
11	7.152000	0.000000	21.096500	0.000000	76.353400	0.907848	0.985389	0.000000	99.343137
12	7.222000	0.000000	28.318500	0.000000	69.262200	0.823534	0.893873	0.000000	99.298107
13	7.148800	0.000000	35.467300	0.000000	62.248900	0.740144	0.803361	0.000000	99.259705
14	6.943600	0.000000	42.410900	0.000000	55.431700	0.659088	0.715382	0.000000	99.217070
15	6.624700	0.000000	49.035600	0.000000	48.930600	0.581789	0.631481	0.000000	99.179470
16	6.217400	0.000000	55.253000	0.000000	42.833100	0.509289	0.552788	0.000000	99.148177
17	5.747200	0.000000	61.000200	0.000000	37.200400	0.442316	0.480095	0.000000	99.123011
18	5.239400	0.000000	66.239600	0.000000	32.060600	0.381203	0.413762	0.000000	99.095165
19	4.715500	0.000000	70.955100	0.000000	27.431900	0.326167	0.354026	0.000000	99.067193
20	4.195000	0.000000	75.150100	0.000000	23.319800	0.277275	0.300957	0.000000	99.048132
21	3.692500	0.000000	78.842600	0.000000	19.701700	0.234255	0.254263	0.000000	99.032818
22	3.219000	0.000000	82.061600	0.000000	16.546800	0.196742	0.213546	0.000000	99.018688
23	2.781400	0.000000	84.843000	0.000000	13.817000	0.164285	0.178317	0.000000	99.002602
24	2.383100	0.000000	87.226100	0.000000	11.475900	0.136450	0.148104	0.000000	98.986554
25	2.026300	0.000000	89.252400	0.000000	9.486990	0.112801	0.122436	0.000000	98.974627
26	1.712200	0.000000	90.964600	0.000000	7.813390	0.092902	0.100837	0.000000	98.971729
27	1.438600	0.000000	92.403200	0.000000	6.406980	0.076180	0.082686	0.000000	98.969046
28	1.201400	0.000000	93.604600	0.000000	5.231900	0.062208	0.067521	0.000000	98.966229
29	0.997700	0.000000	94.602300	0.000000	4.256090	0.050605	0.054928	0.000000	98.963923
30	0.824300	0.000000	95.426600	0.000000	3.449910	0.041020	0.044523	0.000000	98.962053
31	0.677700	0.000000	96.104300	0.000000	2.787200	0.033140	0.035971	0.000000	98.960611
32	0.554700	0.000000	96.659000	0.000000	2.244390	0.026686	0.028965	0.000000	98.959041
33	0.452100	0.000000	97.111100	0.000000	1.801690	0.021422	0.023252	0.000000	98.957464
34	0.367000	0.000000	97.478100	0.000000	1.442340	0.017150	0.018614	0.000000	98.956204
35	0.296900	0.000000	97.775000	0.000000	1.151350	0.013690	0.014859	0.000000	98.954899
TOTAL	97.775000	0.000000	97.775000	0.000000	1.151350	0.013690	0.014859	0.000000	98.954899

AR002045

#37

INPUT: AREA 1 - TRICHLOROETHYLENE (TCE) RUN NO. 8 - AVERAGE CONCENTRATIONS
 area = 111483650 cm2 density = 1.66 gm/cm3
 120000 sq.ft. 103.58 lb/cu.ft.
 2.755 acres

TCE	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED
LYR 1	61.0	220	2.4861E+09	5.4818	22.3	22.300
LYR 2	61.0	9500	1.0725E+11	236.4802	962.0	962.000
LYR 3	61.0	1550	1.7503E+10	38.5940	157.0	157.000
TOTAL	183.0		1.2724E+11	280.5560	1141.3	1141.3

MASS BALANCE

TOTAL MASS = 1.2554E+11 ug; from release to GW at YR 35
 276.8225 lb

MASS @ YR 35	(ug)	(lb)	(%)
TO GW	1.2209E+11	269.2143	97.251600
TO VOL.	0	0.0000	0.000000
ON SOIL	1.5026E+09	3.3133	1.196917
IN MOIS.	2.1879E+07	0.0482	0.017428
IN AIR	7.1500E+04	0.0002	0.000057
PURE PHASE	0.0000E+00	0.0000	0.000000
TOTAL	1.2362E+11	272.5760	98.466002

AR002046

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	YRLY MASS TO GW VOLATILIZED (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	MASS IN PURE PHASE (lb)	TOTAL (lb)
1	0.000	0.000	0.000	0.000	269.534	3.925	0.000	0.000	273.459
2	0.000	0.000	0.000	0.000	269.310	3.921	0.000	0.000	273.231
3	0.000	0.000	0.000	0.000	269.033	3.917	0.000	0.000	272.950
4	0.000	0.000	0.000	0.000	268.746	3.913	0.000	0.000	272.660
5	0.000	0.000	0.000	0.000	268.466	3.909	0.000	0.000	272.375
6	0.000	0.000	0.000	0.000	268.178	3.905	0.000	0.000	272.083
7	0.000	0.000	0.000	0.000	267.903	3.901	0.000	0.000	271.803
8	0.094	0.000	0.094	0.000	267.507	3.895	0.000	0.000	271.496
9	18.127	0.000	18.222	0.000	249.571	3.634	0.000	0.000	271.426
10	19.041	0.000	37.262	0.000	230.799	3.361	0.000	0.000	271.422
11	19.620	0.000	56.883	0.000	211.464	3.079	0.000	0.000	271.425
12	19.817	0.000	76.700	0.000	191.917	2.794	0.000	0.000	271.411
13	19.625	0.000	96.325	0.000	172.654	2.514	0.000	0.000	271.493
14	19.078	0.000	115.403	0.000	153.933	2.241	0.000	0.000	271.577
15	18.221	0.000	133.624	0.000	136.038	1.981	0.000	0.000	271.643
16	17.121	0.000	150.746	0.000	119.243	1.736	0.000	0.000	271.725
17	15.848	0.000	166.594	0.000	103.722	1.510	0.000	0.000	271.826
18	14.471	0.000	181.064	0.000	89.544	1.304	0.000	0.000	271.912
19	13.048	0.000	194.112	0.000	76.751	1.118	0.000	0.000	271.981
20	11.628	0.000	205.740	0.000	65.330	0.951	0.000	0.000	272.021
21	10.253	0.000	215.993	0.000	55.309	0.805	0.000	0.000	272.107
22	8.966	0.000	224.959	0.000	46.556	0.678	0.000	0.000	272.193
23	7.770	0.000	232.729	0.000	38.969	0.567	0.000	0.000	272.266
24	6.678	0.000	239.408	0.000	32.448	0.472	0.000	0.000	272.328
25	5.696	0.000	245.103	0.000	26.883	0.391	0.000	0.000	272.378
26	4.824	0.000	249.927	0.000	22.169	0.323	0.000	0.000	272.419
27	4.058	0.000	253.985	0.000	18.201	0.265	0.000	0.000	272.452
28	3.394	0.000	257.379	0.000	14.885	0.217	0.000	0.000	272.481
29	2.822	0.000	260.201	0.000	12.127	0.177	0.000	0.000	272.505
30	2.335	0.000	262.536	0.000	9.846	0.143	0.000	0.000	272.526
31	1.923	0.000	264.459	0.000	7.966	0.116	0.000	0.000	272.541
32	1.576	0.000	266.035	0.000	6.424	0.094	0.000	0.000	272.552
33	1.286	0.000	267.321	0.000	5.162	0.075	0.000	0.000	272.558
34	1.045	0.000	268.367	0.000	4.141	0.060	0.000	0.000	272.567
35	0.848	0.000	269.214	0.000	3.313	0.048	0.000	0.000	272.576
TOTAL	269.214	0.000	269.214	0.000	3.313	0.000	0.000	0.000	272.576

AR002047

YEAR	YRLY MASS TO GW VOLATILIZED (%)	YRLY MASS VOLATILIZED (%)	CUM. MASS TO GW VOLATILIZED (%)	CUM. MASS (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	MASS IN PURE PHASE (%)	TOTAL (%)
1	0.000000	0.000000	0.000000	0.000000	97.367100	1.417710	0.000000	0.000000	98.784810
2	0.000000	0.000000	0.000000	0.000000	97.286200	1.416530	0.000000	0.000000	98.702730
3	0.000000	0.000000	0.000000	0.000000	97.186200	1.415070	0.000000	0.000000	98.601270
4	0.000000	0.000000	0.000000	0.000000	97.082600	1.413570	0.000000	0.000000	98.496170
5	0.000000	0.000000	0.000000	0.000000	96.981400	1.412090	0.000000	0.000000	98.393490
6	0.000000	0.000000	0.000000	0.000000	96.877400	1.410580	0.000000	0.000000	98.287980
7	0.000000	0.000000	0.000000	0.000000	96.777800	1.409130	0.000000	0.000000	98.186930
8	0.034044	0.000000	0.034044	0.000000	96.634800	1.407050	0.000000	0.000000	98.075894
9	6.548386	0.000000	6.582430	0.000000	90.155500	1.312710	0.000000	0.000000	98.050640
10	6.878270	0.000000	13.460700	0.000000	83.374500	1.213970	0.000000	0.000000	98.049170
11	7.087700	0.000000	20.548400	0.000000	76.389700	1.112270	0.000000	0.000000	98.050370
12	7.158900	0.000000	27.707300	0.000000	69.328500	1.009450	0.000000	0.000000	98.045250
13	7.089500	0.000000	34.796800	0.000000	62.370000	0.908135	0.000000	0.000000	98.074935
14	6.891700	0.000000	41.688500	0.000000	55.607000	0.809663	0.000000	0.000000	98.105163
15	6.582200	0.000000	48.270700	0.000000	49.142700	0.715539	0.000000	0.000000	98.128939
16	6.185000	0.000000	54.455700	0.000000	43.075800	0.627204	0.000000	0.000000	98.158704
17	5.725000	0.000000	60.180700	0.000000	37.468800	0.545563	0.000000	0.000000	98.195063
18	5.227400	0.000000	65.408100	0.000000	32.347000	0.470987	0.000000	0.000000	98.226087
19	4.713400	0.000000	70.121500	0.000000	27.725800	0.403701	0.000000	0.000000	98.251001
20	4.200600	0.000000	74.322100	0.000000	23.599900	0.343625	0.000000	0.000000	98.265625
21	3.703800	0.000000	78.025900	0.000000	19.979900	0.290916	0.000000	0.000000	98.296716
22	3.238900	0.000000	81.264800	0.000000	16.818000	0.244877	0.000000	0.000000	98.327677
23	2.806900	0.000000	84.071700	0.000000	14.077400	0.204973	0.000000	0.000000	98.354073
24	2.412500	0.000000	86.484200	0.000000	11.721500	0.170671	0.000000	0.000000	98.376371
25	2.057500	0.000000	88.541700	0.000000	9.711250	0.141400	0.000000	0.000000	98.394350
26	1.742500	0.000000	90.284200	0.000000	8.008500	0.116607	0.000000	0.000000	98.409307
27	1.466100	0.000000	91.750300	0.000000	6.575050	0.095736	0.000000	0.000000	98.421086
28	1.226000	0.000000	92.976300	0.000000	5.377160	0.078294	0.000000	0.000000	98.431754
29	1.019500	0.000000	93.995800	0.000000	4.380910	0.063788	0.000000	0.000000	98.444098
30	0.843500	0.000000	94.839300	0.000000	3.556810	0.051789	0.000000	0.000000	98.447899
31	0.694500	0.000000	95.533800	0.000000	2.877490	0.041898	0.000000	0.000000	98.453188
32	0.569300	0.000000	96.103100	0.000000	2.320500	0.033788	0.000000	0.000000	98.457388
33	0.464700	0.000000	96.567800	0.000000	1.864720	0.027151	0.000000	0.000000	98.459671
34	0.377600	0.000000	96.945400	0.000000	1.495750	0.021779	0.000000	0.000000	98.462929
35	0.306200	0.000000	97.251600	0.000000	1.196920	0.017428	0.000000	0.000000	98.465948
TOTAL	97.251600	0.000000	97.251600	0.000000	1.196920	0.017428	0.000000	0.000000	98.465948

AR002048

ORIGINAL
(RED)

ORIGINAL
(RED)

Page 1 (24-Mar-89)

MILLCREEK(altcer1.wk1) SESOIL SIMULATION: RUN 1 - AREA 1, ROD cap; TCE (vol.index=0)

29

INPUT: AREA 1 - TRICHLOROETHYLENE (TCE) RUN NO. 1 - ROD CAP INPLACE
area = 111483650 cm2 density = 1.66 gm/cm3
120000 sq.ft. 103.58 lb/cu.ft.
2.755 acres

TCE	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED
LYR 1	45.7	0	0	0	0	0
LYR 2	61.0	440	4.9722E+09	10.9636	44.6	44.600
LYR 3	61.0	19000	2.1427E+11	472.4688	1923.9	1922.000
LYR 4	61.0	3100	3.4560E+10	76.2046	313.9	310.000
TOTAL	228.7		2.5380E+11	559.6371	2282.4	2276.6

MASS BALANCE

TOTAL MASS = 2.5107E+11 ug; from release to GW at YR 35
553.6198 lb

MASS @ YR 35	(ug)	(lb)	(%)
TO GW	0.0000E+00	0.0000	0.000000
TO VOL.	0	0.0000	0.000000
ON SOIL	2.3663E+11	521.7722	94.247400
IN MOIS.	9.6588E+09	21.2977	3.846995
IN AIR	4.6055E+08	1.0155	0.183433
PURE PHASE	0.0000E+00	0.0000	0.000000
TOTAL	2.4675E+11	544.0855	98.277828

AR002049

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	YRLY MASS (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	MASS IN PURE PHASE (lb)	TOTAL (lb)
1	0.000	0.000	0.000	0.000	530.336	21.647	1.032	0.000	553.016
2	0.000	0.000	0.000	0.000	529.706	21.622	1.031	0.000	552.359
3	0.000	0.000	0.000	0.000	529.493	21.613	1.031	0.000	552.136
4	0.000	0.000	0.000	0.000	529.264	21.604	1.030	0.000	551.897
5	0.000	0.000	0.000	0.000	529.025	21.594	1.030	0.000	551.648
6	0.000	0.000	0.000	0.000	528.763	21.583	1.029	0.000	551.375
7	0.000	0.000	0.000	0.000	528.451	21.570	1.029	0.000	551.049
8	0.000	0.000	0.000	0.000	528.157	21.558	1.028	0.000	550.743
9	0.000	0.000	0.000	0.000	527.890	21.547	1.027	0.000	550.465
10	0.000	0.000	0.000	0.000	527.611	21.536	1.027	0.000	550.174
11	0.000	0.000	0.000	0.000	527.357	21.526	1.026	0.000	549.909
12	0.000	0.000	0.000	0.000	527.057	21.513	1.026	0.000	549.596
13	0.000	0.000	0.000	0.000	526.786	21.502	1.025	0.000	549.314
14	0.000	0.000	0.000	0.000	526.511	21.491	1.025	0.000	549.027
15	0.000	0.000	0.000	0.000	526.234	21.480	1.024	0.000	548.738
16	0.000	0.000	0.000	0.000	525.933	21.468	1.024	0.000	548.424
17	0.000	0.000	0.000	0.000	525.657	21.456	1.023	0.000	548.136
18	0.000	0.000	0.000	0.000	525.375	21.445	1.023	0.000	547.842
19	0.000	0.000	0.000	0.000	525.088	21.433	1.022	0.000	547.543
20	0.000	0.000	0.000	0.000	524.873	21.424	1.022	0.000	547.319
21	0.000	0.000	0.000	0.000	524.669	21.416	1.021	0.000	547.106
22	0.000	0.000	0.000	0.000	524.464	21.408	1.021	0.000	546.893
23	0.000	0.000	0.000	0.000	524.259	21.399	1.020	0.000	546.678
24	0.000	0.000	0.000	0.000	524.040	21.390	1.020	0.000	546.451
25	0.000	0.000	0.000	0.000	523.820	21.381	1.020	0.000	546.221
26	0.000	0.000	0.000	0.000	523.594	21.372	1.019	0.000	545.985
27	0.000	0.000	0.000	0.000	523.393	21.364	1.019	0.000	545.776
28	0.000	0.000	0.000	0.000	523.174	21.355	1.018	0.000	545.547
29	0.000	0.000	0.000	0.000	522.956	21.346	1.018	0.000	545.320
30	0.000	0.000	0.000	0.000	522.746	21.337	1.017	0.000	545.100
31	0.000	0.000	0.000	0.000	522.540	21.329	1.017	0.000	544.886
32	0.000	0.000	0.000	0.000	522.349	21.321	1.017	0.000	544.687
33	0.000	0.000	0.000	0.000	522.138	21.313	1.016	0.000	544.467
34	0.000	0.000	0.000	0.000	521.949	21.305	1.016	0.000	544.270
35	0.000	0.000	0.000	0.000	521.772	21.298	1.016	0.000	544.085
TOTAL	0.000	0.000	0.000	0.000	521.772	21.298	1.016	0.000	544.085

AR002050

COPY
1
(RED)

YEAR	YRLY MASS TO GW VOLATILIZED (%)	YRLY MASS (%)	CUM. MASS TO GW VOLATILIZED (%)	CUM. MASS (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	MASS IN PURE PHASE (%)	TOTAL (%)
1	0.000000	0.000000	0.000000	0.000000	95.794300	3.910130	0.186444	0.000000	99.890874
2	0.000000	0.000000	0.000000	0.000000	95.680500	3.905490	0.186223	0.000000	99.772213
3	0.000000	0.000000	0.000000	0.000000	95.642000	3.903920	0.186148	0.000000	99.732068
4	0.000000	0.000000	0.000000	0.000000	95.600600	3.902230	0.186067	0.000000	99.688897
5	0.000000	0.000000	0.000000	0.000000	95.557400	3.900460	0.185983	0.000000	99.643843
6	0.000000	0.000000	0.000000	0.000000	95.510100	3.898530	0.185891	0.000000	99.594521
7	0.000000	0.000000	0.000000	0.000000	95.453700	3.896230	0.185781	0.000000	99.535711
8	0.000000	0.000000	0.000000	0.000000	95.400600	3.894060	0.185678	0.000000	99.480338
9	0.000000	0.000000	0.000000	0.000000	95.352400	3.892100	0.185584	0.000000	99.430084
10	0.000000	0.000000	0.000000	0.000000	95.302000	3.890040	0.185486	0.000000	99.377526
11	0.000000	0.000000	0.000000	0.000000	95.256100	3.888170	0.185396	0.000000	99.329666
12	0.000000	0.000000	0.000000	0.000000	95.202000	3.885960	0.185291	0.000000	99.273251
13	0.000000	0.000000	0.000000	0.000000	95.153100	3.883960	0.185196	0.000000	99.222256
14	0.000000	0.000000	0.000000	0.000000	95.103300	3.881930	0.185099	0.000000	99.170329
15	0.000000	0.000000	0.000000	0.000000	95.053400	3.879890	0.185002	0.000000	99.118292
16	0.000000	0.000000	0.000000	0.000000	94.999000	3.877670	0.184896	0.000000	99.061566
17	0.000000	0.000000	0.000000	0.000000	94.949100	3.875630	0.184799	0.000000	99.009529
18	0.000000	0.000000	0.000000	0.000000	94.898100	3.873550	0.184700	0.000000	98.956350
19	0.000000	0.000000	0.000000	0.000000	94.846400	3.871440	0.184599	0.000000	98.902439
20	0.000000	0.000000	0.000000	0.000000	94.807500	3.869850	0.184523	0.000000	98.861873
21	0.000000	0.000000	0.000000	0.000000	94.770600	3.868350	0.184452	0.000000	98.823402
22	0.000000	0.000000	0.000000	0.000000	94.733700	3.866840	0.184380	0.000000	98.784920
23	0.000000	0.000000	0.000000	0.000000	94.696500	3.865320	0.184307	0.000000	98.746127
24	0.000000	0.000000	0.000000	0.000000	94.657100	3.863710	0.184231	0.000000	98.705041
25	0.000000	0.000000	0.000000	0.000000	94.617300	3.862090	0.184153	0.000000	98.663543
26	0.000000	0.000000	0.000000	0.000000	94.576500	3.860430	0.184074	0.000000	98.621004
27	0.000000	0.000000	0.000000	0.000000	94.540200	3.858940	0.184003	0.000000	98.583143
28	0.000000	0.000000	0.000000	0.000000	94.500600	3.857330	0.183926	0.000000	98.541856
29	0.000000	0.000000	0.000000	0.000000	94.461300	3.855720	0.183850	0.000000	98.500870
30	0.000000	0.000000	0.000000	0.000000	94.423200	3.854170	0.183775	0.000000	98.461145
31	0.000000	0.000000	0.000000	0.000000	94.386000	3.852650	0.183703	0.000000	98.422353
32	0.000000	0.000000	0.000000	0.000000	94.351600	3.851240	0.183636	0.000000	98.386476
33	0.000000	0.000000	0.000000	0.000000	94.313400	3.849690	0.183562	0.000000	98.346652
34	0.000000	0.000000	0.000000	0.000000	94.279300	3.848290	0.183495	0.000000	98.311085
35	0.000000	0.000000	0.000000	0.000000	94.247400	3.846990	0.183433	0.000000	98.277823
TOTAL	0.000000	0.000000	0.000000	0.000000	94.247400	3.846990	0.183433	0.000000	98.277823

AR002051

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	YRLY MASS TO GW VOLATILIZED (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	MASS IN PURE PHASE (lb)	TOTAL (lb)
1	0.000	0.000	0.000	0.000	535.042	10.016	8.182	0.000	553.240
2	0.000	0.000	0.000	0.000	534.761	10.011	8.178	0.000	552.950
3	0.000	0.000	0.000	0.000	534.458	10.005	8.173	0.000	552.636
4	0.000	0.000	0.000	0.000	534.117	9.999	8.168	0.000	552.284
5	0.000	0.000	0.000	0.000	533.789	9.993	8.163	0.000	551.945
6	0.000	0.000	0.000	0.000	533.479	9.987	8.158	0.000	551.624
7	0.000	0.000	0.000	0.000	533.136	9.981	8.153	0.000	551.270
8	0.000	0.000	0.000	0.000	532.799	9.974	8.148	0.000	550.921
9	33.972	0.000	33.972	0.000	499.645	9.354	7.641	0.000	550.611
10	37.867	0.000	71.839	0.000	462.725	8.662	7.076	0.000	550.302
11	39.075	0.000	110.913	0.000	424.663	7.950	6.494	0.000	550.020
12	39.541	0.000	150.454	0.000	386.164	7.229	5.905	0.000	549.753
13	39.245	0.000	189.699	0.000	348.005	6.515	5.322	0.000	549.540
14	38.236	0.000	227.936	0.000	310.814	5.819	4.753	0.000	549.321
15	36.605	0.000	264.540	0.000	275.190	5.152	4.208	0.000	549.091
16	34.475	0.000	299.015	0.000	241.690	4.525	3.696	0.000	548.926
17	31.991	0.000	331.006	0.000	210.615	3.943	3.221	0.000	548.785
18	29.280	0.000	360.286	0.000	182.146	3.410	2.785	0.000	548.627
19	26.458	0.000	386.744	0.000	156.420	2.928	2.392	0.000	548.485
20	23.634	0.000	410.378	0.000	133.434	2.498	2.041	0.000	548.350
21	20.888	0.000	431.266	0.000	113.142	2.118	1.730	0.000	548.257
22	18.283	0.000	449.549	0.000	95.389	1.786	1.459	0.000	548.182
23	15.865	0.000	465.413	0.000	79.962	1.497	1.223	0.000	548.095
24	13.651	0.000	479.064	0.000	66.675	1.248	1.020	0.000	548.007
25	11.658	0.000	490.721	0.000	55.336	1.036	0.846	0.000	547.939
26	9.891	0.000	500.612	0.000	45.748	0.856	0.700	0.000	547.917
27	8.345	0.000	508.958	0.000	37.663	0.705	0.576	0.000	547.901
28	6.999	0.000	515.957	0.000	30.880	0.578	0.472	0.000	547.887
29	5.837	0.000	521.794	0.000	25.220	0.472	0.386	0.000	547.872
30	4.844	0.000	526.638	0.000	20.521	0.384	0.314	0.000	547.858
31	3.999	0.000	530.637	0.000	16.645	0.312	0.255	0.000	547.848
32	3.287	0.000	533.924	0.000	13.459	0.252	0.206	0.000	547.841
33	2.691	0.000	536.615	0.000	10.849	0.203	0.166	0.000	547.833
34	2.193	0.000	538.808	0.000	8.721	0.163	0.133	0.000	547.826
35	1.782	0.000	540.590	0.000	6.989	0.131	0.107	0.000	547.817
TOTAL	540.590	0.000	540.590	0.000	6.989	0.131	0.107	0.000	547.817

AR002052

ORIGINAL
(RED)

YEAR	YRLY MASS TO GW VOLATILIZED (%)	YRLY MASS (%)	CUM. MASS TO GW VOLATILIZED (%)	CUM. MASS (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	MASS IN PURE PHASE (%)	TOTAL (%)
1	0.000000	0.000000	0.000000	0.000000	96.644100	1.809230	1.477910	0.000000	99.931240
2	0.000000	0.000000	0.000000	0.000000	96.593500	1.808290	1.477130	0.000000	99.878920
3	0.000000	0.000000	0.000000	0.000000	96.538700	1.807260	1.476290	0.000000	99.822250
4	0.000000	0.000000	0.000000	0.000000	96.477100	1.806110	1.475350	0.000000	99.758560
5	0.000000	0.000000	0.000000	0.000000	96.417900	1.805000	1.474450	0.000000	99.697350
6	0.000000	0.000000	0.000000	0.000000	96.361800	1.803950	1.473590	0.000000	99.639340
7	0.000000	0.000000	0.000000	0.000000	96.300000	1.802790	1.472640	0.000000	99.575430
8	0.000000	0.000000	0.000000	0.000000	96.239000	1.801650	1.471710	0.000000	99.512360
9	6.136310	0.000000	6.136310	0.000000	90.250500	1.689540	1.380130	0.000000	99.456480
10	6.839890	0.000000	12.976200	0.000000	83.581600	1.564700	1.278150	0.000000	99.400650
11	7.058000	0.000000	20.034200	0.000000	76.706500	1.435990	1.173010	0.000000	99.349700
12	7.142200	0.000000	27.176400	0.000000	69.752500	1.305810	1.066670	0.000000	99.301380
13	7.088800	0.000000	34.265200	0.000000	62.859800	1.176770	0.961267	0.000000	99.263037
14	6.906600	0.000000	41.171800	0.000000	56.142000	1.051010	0.858537	0.000000	99.223347
15	6.611900	0.000000	47.783700	0.000000	49.707400	0.930552	0.760138	0.000000	99.181790
16	6.227200	0.000000	54.010900	0.000000	43.656200	0.817269	0.667601	0.000000	99.151970
17	5.778500	0.000000	59.789400	0.000000	38.043300	0.712192	0.581767	0.000000	99.126659
18	5.288800	0.000000	65.078200	0.000000	32.900800	0.615921	0.503126	0.000000	99.098047
19	4.779000	0.000000	69.857200	0.000000	28.254100	0.528933	0.432068	0.000000	99.072301
20	4.269000	0.000000	74.126200	0.000000	24.102000	0.451203	0.368574	0.000000	99.047977
21	3.773000	0.000000	77.899200	0.000000	20.436800	0.382589	0.312525	0.000000	99.031114
22	3.302400	0.000000	81.201600	0.000000	17.230100	0.322557	0.263486	0.000000	99.017743
23	2.865600	0.000000	84.067200	0.000000	14.443400	0.270389	0.220872	0.000000	99.001861
24	2.465700	0.000000	86.532900	0.000000	12.043500	0.225462	0.184173	0.000000	98.986035
25	2.105700	0.000000	88.638600	0.000000	9.995280	0.187117	0.152850	0.000000	98.973847
26	1.786600	0.000000	90.425200	0.000000	8.263450	0.154697	0.126367	0.000000	98.969714
27	1.507400	0.000000	91.932600	0.000000	6.803000	0.127356	0.104033	0.000000	98.966989
28	1.264300	0.000000	93.196900	0.000000	5.577810	0.104420	0.085297	0.000000	98.964427
29	1.054400	0.000000	94.251300	0.000000	4.555480	0.085281	0.069664	0.000000	98.961725
30	0.874900	0.000000	95.126200	0.000000	3.706780	0.069393	0.056685	0.000000	98.959058
31	0.722300	0.000000	95.848500	0.000000	3.006630	0.056286	0.045978	0.000000	98.957394
32	0.593800	0.000000	96.442300	0.000000	2.431100	0.045512	0.037177	0.000000	98.956089
33	0.486000	0.000000	96.928300	0.000000	1.959680	0.036686	0.029968	0.000000	98.954634
34	0.396200	0.000000	97.324500	0.000000	1.575190	0.029488	0.024088	0.000000	98.953267
35	0.321900	0.000000	97.646400	0.000000	1.262390	0.023633	0.019305	0.000000	98.951728
TO	97.646400	0.000000	97.646400	0.000000	1.262390	0.023633	0.019305	0.000000	98.951728

AR002053

MILLCREEK(a3tctop.wSESOIL SIMULATION: RUN 2 - AREA 3, TOPSOIL COVER; MEAN CONC.;(v.i.=0)Page 1 (24-Apr-89)
 #40

INPUT: AREA 3 - TRICHLOROETHYLENE (TCE) RUN NO 2 - TOPSOIL COVER ONLY
 area = 408760000 cm2 density = 1.42 gm/cm3
 439986 sq.ft. 88.61 lb/cu.ft.
 10.101 acres

TCE	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED (ug/cm2)
LYR 1	46	0	0	0	0	0
LYR 2	122.0	0	0.0000E+00	0.0000	0.0	0.000
LYR 3	122.0	6	4.2102E+08	0.9284	1.0	1.030
LYR 4	122.0	300	2.1215E+10	46.7783	52.0	51.900
TOTAL	412.0		2.1636E+10	47.7066	53.0	52.9

MASS BALANCE
 TOTAL MASS = 2.1701E+10 ug; from mass in soil at YR 35
 47.8512 lb

MASS @ YR 35	(ug)	(lb)	(%)
TO GW	1.6532E+10	36.4540	76.181934
TO VOL.	0	0.0000	0.000000
ON SOIL	4.7888E+09	10.5594	22.067100
IN MOIS.	4.4760E+07	0.0987	0.206257
IN AIR	6.2579E+07	0.1380	0.288365
PURE PHASE	1.0045E+01	0.0000	0.000000
TOTAL	21428598658	47.2501	98.743657

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	YRLY MASS (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	TOTAL (lb)
1	0.000	0.000	0.000	0.000	46.797	0.437	0.612	47.846
2	0.000	0.000	0.000	0.000	46.791	0.437	0.611	47.840
3	0.000	0.000	0.000	0.000	46.781	0.437	0.611	47.830
4	0.000	0.000	0.000	0.000	46.733	0.437	0.611	47.781
5	0.000	0.000	0.000	0.000	46.658	0.436	0.610	47.704
6	0.000	0.000	0.000	0.000	46.645	0.436	0.610	47.690
7	0.000	0.000	0.000	0.000	46.632	0.436	0.609	47.677
8	0.000	0.000	0.000	0.000	46.619	0.436	0.609	47.664
9	0.000	0.000	0.000	0.000	46.606	0.436	0.609	47.651
10	0.000	0.000	0.000	0.000	46.593	0.435	0.609	47.638
11	0.000	0.000	0.000	0.000	46.580	0.435	0.609	47.624
12	0.000	0.000	0.000	0.000	46.563	0.435	0.608	47.607
13	0.000	0.000	0.000	0.000	46.543	0.435	0.608	47.586
14	0.000	0.000	0.000	0.000	46.523	0.435	0.608	47.566
15	0.000	0.000	0.000	0.000	46.503	0.435	0.608	47.546
16	0.000	0.000	0.000	0.000	46.483	0.434	0.607	47.525
17	0.000	0.000	0.000	0.000	46.463	0.434	0.607	47.505
18	0.423	0.000	0.423	0.000	46.032	0.430	0.602	47.486
19	3.273	0.000	3.696	0.000	42.809	0.400	0.559	47.464
20	3.139	0.000	6.835	0.000	39.719	0.371	0.519	47.444
21	2.995	0.000	9.830	0.000	36.776	0.344	0.481	47.430
22	2.843	0.000	12.673	0.000	33.981	0.318	0.444	47.415
23	2.688	0.000	15.361	0.000	31.337	0.293	0.410	47.401
24	2.532	0.000	17.892	0.000	28.848	0.270	0.377	47.386
25	2.376	0.000	20.268	0.000	26.510	0.248	0.346	47.373
26	2.222	0.000	22.490	0.000	24.322	0.227	0.318	47.358
27	2.073	0.000	24.563	0.000	22.280	0.208	0.291	47.342
28	1.928	0.000	26.491	0.000	20.381	0.191	0.266	47.329
29	1.789	0.000	28.280	0.000	18.618	0.174	0.243	47.315
30	1.656	0.000	29.935	0.000	16.985	0.159	0.222	47.301
31	1.529	0.000	31.465	0.000	15.474	0.145	0.202	47.286
32	1.410	0.000	32.874	0.000	14.085	0.132	0.184	47.275
33	1.297	0.000	34.171	0.000	12.809	0.120	0.167	47.267
34	1.191	0.000	35.362	0.000	11.637	0.109	0.152	47.259
35	1.092	0.000	36.454	0.000	10.559	0.099	0.138	47.250
TOTAL	36.454	0.000	36.454	0.000	10.559	0.099	0.138	47.250

AR002055

YEAR	YRLY MASS TO GW VOLATILIZED (%)	YRLY MASS TO GW VOLATILIZED (%)	CUM. MASS TO GW VOLATILIZED (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	TOTAL (%)
1	0.000000	0.000000	0.000000	97.796600	0.914089	1.277970	99.988659
2	0.000000	0.000000	0.000000	97.784500	0.913976	1.277810	99.976286
3	0.000000	0.000000	0.000000	97.763900	0.913783	1.277540	99.955223
4	0.000000	0.000000	0.000000	97.663800	0.912847	1.276230	99.852877
5	0.000000	0.000000	0.000000	97.507000	0.911382	1.274180	99.692562
6	0.000000	0.000000	0.000000	97.479100	0.911121	1.273820	99.664041
7	0.000000	0.000000	0.000000	97.451000	0.910858	1.273450	99.635308
8	0.000000	0.000000	0.000000	97.424600	0.910611	1.273110	99.608321
9	0.000000	0.000000	0.000000	97.397400	0.910357	1.272750	99.580507
10	0.000000	0.000000	0.000000	97.371000	0.910110	1.272410	99.553520
11	0.000000	0.000000	0.000000	97.343300	0.909852	1.272050	99.525202
12	0.000000	0.000000	0.000000	97.307500	0.909517	1.271580	99.488597
13	0.000000	0.000000	0.000000	97.265200	0.909122	1.271030	99.445352
14	0.000000	0.000000	0.000000	97.224900	0.908745	1.270500	99.404145
15	0.000000	0.000000	0.000000	97.182800	0.908351	1.269950	99.361101
16	0.000000	0.000000	0.000000	97.140900	0.907959	1.269400	99.318259
17	0.000000	0.000000	0.000000	97.099800	0.907576	1.268860	99.276236
18	0.882951	0.000000	0.882951	96.197900	0.899145	1.257080	99.237076
19	6.840969	0.000000	7.723920	89.462000	0.836186	1.169060	99.191166
20	6.560180	0.000000	14.284100	83.005200	0.775836	1.084680	99.149816
21	6.258000	0.000000	20.542100	76.855800	0.718358	1.004320	99.120578
22	5.941700	0.000000	26.483800	71.013500	0.663751	0.927977	99.089028
23	5.617300	0.000000	32.101100	65.489400	0.612119	0.855791	99.058410
24	5.290400	0.000000	37.391500	60.285800	0.563481	0.787792	99.028573
25	4.964700	0.000000	42.356200	55.401700	0.517831	0.723969	98.999700
26	4.644300	0.000000	47.000500	50.828600	0.475087	0.664209	98.968396
27	4.331500	0.000000	51.332000	46.560900	0.435197	0.608440	98.936537
28	4.028800	0.000000	55.360800	42.592900	0.398109	0.556588	98.908397
29	3.738200	0.000000	59.099000	38.908400	0.363670	0.508440	98.879510
30	3.460300	0.000000	62.559300	35.495300	0.331768	0.463839	98.850207
31	3.196000	0.000000	65.755300	32.338100	0.302259	0.422582	98.818241
32	2.945700	0.000000	68.701000	29.435300	0.275127	0.384650	98.796077
33	2.710000	0.000000	71.411000	26.768200	0.250198	0.349797	98.779195
34	2.488900	0.000000	73.899900	24.318100	0.227297	0.317779	98.763076
35	2.281800	0.000000	76.181700	22.067100	0.206257	0.288364	98.743421
TOTAL	76.181700	0.000000	76.181700	22.067100	0.206257	0.288364	98.743421

AR002056

ORIGINAL
(RED)

MILLCREEK(a3tcer2.wk1)SESOL SIMULATION: RUN 2 - AREA 3, ROD cap K=5E-6cm/sec;(v.i.=0) Page 1 (24-Apr-89)
 #/,||

INPUT: AREA 3 - TRICHLOROETHYLENE (TCE) RUN NO 2 - ROD CAP 5x10-6 CM/SEC
 area = 408760000 cm2 density = 1.42 gm/cm3
 439986 sq.ft. 88.61 lb/cu.ft.
 10.101 acres

TCE	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED
LYR 1	46	0	0	0	0	0
LYR 2	122.0	0	0.0000E+00	0.0000	0.0	0.000
LYR 3	122.0	6	4.2102E+08	0.9284	1.0	1.030
LYR 4	122.0	300	2.1215E+10	46.7783	52.0	51.900
TOTAL	412.0		2.1636E+10	47.7066	53.0	52.9

MASS LEAKAGE
 TOTAL MASS = 2.1701E+10 ug; from mass in soil at YR 35
 47.8512 lb

MASS @ YR 35	(ug)	(lb)	(%)
TO GW	7.7133E+09	17.0079	35.543312
TO VOL.	0	0.0000	0.000000
ON SOIL	1.3309E+10	29.3465	61.328800
IN MOIS.	2.9514E+08	0.6508	1.360010
IN AIR	1.0923E+08	0.2409	0.503354
PURE PHASE	2.2711E+01	0.0000	0.000000
TOTAL	21426793483	47.2461	98.735476

YEAR	YRLY MASS TO GW (lb)	YRLY MASS VOLATILIZED (lb)	CUM. MASS TO GW (lb)	CUM. MASS VOLATILIZED (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	TOTAL (lb)
1	0.000	0.000	0.000	0.000	46.435	1.030	0.381	47.846
2	0.000	0.000	0.000	0.000	46.431	1.030	0.381	47.842
3	0.000	0.000	0.000	0.000	46.425	1.030	0.381	47.836
4	0.000	0.000	0.000	0.000	46.417	1.029	0.381	47.828
5	0.000	0.000	0.000	0.000	46.407	1.029	0.381	47.817
6	0.000	0.000	0.000	0.000	46.348	1.028	0.380	47.756
7	0.000	0.000	0.000	0.000	46.271	1.026	0.380	47.677
8	0.000	0.000	0.000	0.000	46.253	1.026	0.380	47.659
9	0.000	0.000	0.000	0.000	46.240	1.025	0.380	47.645
10	0.000	0.000	0.000	0.000	46.227	1.025	0.379	47.632
11	0.000	0.000	0.000	0.000	46.215	1.025	0.379	47.619
12	0.000	0.000	0.000	0.000	46.202	1.025	0.379	47.606
13	0.000	0.000	0.000	0.000	46.190	1.024	0.379	47.594
14	0.000	0.000	0.000	0.000	46.178	1.024	0.379	47.581
15	0.000	0.000	0.000	0.000	46.165	1.024	0.379	47.567
16	0.000	0.000	0.000	0.000	46.152	1.023	0.379	47.555
17	0.000	0.000	0.000	0.000	46.139	1.023	0.379	47.541
18	0.000	0.000	0.000	0.000	46.124	1.023	0.379	47.525
19	0.000	0.000	0.000	0.000	46.106	1.022	0.378	47.507
20	0.000	0.000	0.000	0.000	46.086	1.022	0.378	47.486
21	0.000	0.000	0.000	0.000	46.067	1.022	0.378	47.466
22	0.000	0.000	0.000	0.000	46.047	1.021	0.378	47.446
23	0.000	0.000	0.000	0.000	46.027	1.021	0.378	47.426
24	0.000	0.000	0.000	0.000	46.008	1.020	0.378	47.406
25	0.000	0.000	0.000	0.000	45.989	1.020	0.377	47.386
26	0.000	0.000	0.000	0.000	45.974	1.020	0.377	47.371
27	0.000	0.000	0.000	0.000	45.960	1.019	0.377	47.357
28	0.262	0.000	0.262	0.000	45.692	1.013	0.375	47.342
29	2.738	0.000	3.000	0.000	43.022	0.954	0.353	47.329
30	2.623	0.000	5.623	0.000	40.464	0.897	0.332	47.316
31	2.506	0.000	8.129	0.000	38.018	0.843	0.312	47.303
32	2.391	0.000	10.520	0.000	35.685	0.791	0.293	47.289
33	2.275	0.000	12.795	0.000	33.461	0.742	0.275	47.273
34	2.162	0.000	14.957	0.000	31.350	0.695	0.257	47.260
35	2.051	0.000	17.008	0.000	29.347	0.651	0.241	47.246
TOTAL	17.008	0.000	17.008	0.000	29.347	0.651	0.241	47.246

AR002058

(REV) 0.000

ORIGINAL
(RED)

MILLCREEK(a3tcer2.wk1)

SESOIL SIMULATION: RUN 2 - AREA 3, ROD cap K=5E-6cm/sec;(v.i.=0)

Page 1 (24-Apr-89)

YEAR	YRLY MASS TO GW VOLATILIZED (%)	YRLY MASS (%)	CUM. MASS TO GW VOLATILIZED (%)	CUM. MASS (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	TOTAL (%)
1	0.00000	0.00000	0.00000	0.00000	97.041400	2.151950	0.796461	99.989811
2	0.00000	0.00000	0.00000	0.00000	97.032900	2.151760	0.796391	99.981051
3	0.00000	0.00000	0.00000	0.00000	97.020600	2.151490	0.796291	99.968381
4	0.00000	0.00000	0.00000	0.00000	97.003600	2.151120	0.796151	99.950871
5	0.00000	0.00000	0.00000	0.00000	96.982100	2.150640	0.795974	99.928714
6	0.00000	0.00000	0.00000	0.00000	96.858300	2.147890	0.794958	99.801148
7	0.00000	0.00000	0.00000	0.00000	96.698200	2.144340	0.793645	99.636185
8	0.00000	0.00000	0.00000	0.00000	96.661100	2.143520	0.793340	99.597960
9	0.00000	0.00000	0.00000	0.00000	96.633800	2.142920	0.793116	99.569836
10	0.00000	0.00000	0.00000	0.00000	96.606600	2.142310	0.792892	99.541802
11	0.00000	0.00000	0.00000	0.00000	96.580700	2.141740	0.792680	99.515120
12	0.00000	0.00000	0.00000	0.00000	96.554300	2.141150	0.792463	99.487913
13	0.00000	0.00000	0.00000	0.00000	96.528800	2.140590	0.792254	99.461644
14	0.00000	0.00000	0.00000	0.00000	96.502600	2.140010	0.792039	99.434649
15	0.00000	0.00000	0.00000	0.00000	96.475800	2.139410	0.791819	99.407029
16	0.00000	0.00000	0.00000	0.00000	96.449700	2.138830	0.791605	99.380135
17	0.00000	0.00000	0.00000	0.00000	96.422800	2.138240	0.791384	99.352424
18	0.00000	0.00000	0.00000	0.00000	96.390200	2.137510	0.791116	99.318826
19	0.00000	0.00000	0.00000	0.00000	96.352500	2.136680	0.790807	99.279987
20	0.00000	0.00000	0.00000	0.00000	96.311000	2.135760	0.790466	99.237226
21	0.00000	0.00000	0.00000	0.00000	96.271000	2.134870	0.790138	99.196008
22	0.00000	0.00000	0.00000	0.00000	96.229700	2.133950	0.789799	99.153449
23	0.00000	0.00000	0.00000	0.00000	96.188300	2.133040	0.789459	99.110799
24	0.00000	0.00000	0.00000	0.00000	96.148400	2.132150	0.789132	99.069682
25	0.00000	0.00000	0.00000	0.00000	96.108300	2.131260	0.788803	99.028363
26	0.00000	0.00000	0.00000	0.00000	96.077000	2.130370	0.788546	98.996116
27	0.00000	0.00000	0.00000	0.00000	96.048700	2.129940	0.788314	98.966954
28	0.547463	0.00000	0.547463	0.00000	95.487600	2.117500	0.783709	98.936272
29	5.722107	0.00000	6.269570	0.00000	89.907800	1.993760	0.737913	98.909043
30	5.480730	0.00000	11.750300	0.00000	84.562800	1.875230	0.694044	98.882374
31	5.238000	0.00000	16.988300	0.00000	79.451200	1.761880	0.652091	98.853471
32	4.995700	0.00000	21.984000	0.00000	74.575000	1.653750	0.612069	98.824819
33	4.755200	0.00000	26.739200	0.00000	69.927900	1.550700	0.573929	98.791729
34	4.518200	0.00000	31.257400	0.00000	65.516100	1.452860	0.537719	98.764079
35	4.285800	0.00000	35.543200	0.00000	61.328800	1.360000	0.503352	98.735352
TOTAL	35.543200	0.00000	35.543200	0.00000	61.328800	1.360000	0.503352	98.735352

AR002059

(RED)

4/2

MILLCREEK(a3ars2.wk1) SESOIL SIMULATION: RUN 2 - AREA 3; ARSENIC (vol.index=0)

INPUT: AREA 3 -ARSENIC SCREENING (MAX CONCS) RUN NO. 2
 area = 408,760,000 cm2 density = 1.42 gm/cm3
 439,986 sq.ft. 88.61 lb/cu.ft.
 10.101 acres

	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED (ug/cm2)
LYR 1	61.0	6.2	2.2073E+08	0.4867	0.5	0.54
LYR 2	46.0	38.0	1.0219E+09	2.2533	2.5	2.50
LYR 3	61.0	16.0	5.6409E+08	1.2438	1.4	1.38
LYR 4	30.5	29.0	5.1504E+08	1.1357	1.3	1.26
TOTAL	198.5		2.3218E+09	5.1195	5.7	5.7

MASS @ YR 35
 TO GW 0.0000E+00 (%)
 IMMOBILIZED 2.3218E+09 100.00
 ON SOIL 0.0000E+00 0.00
 IN MOIS. 0.0000E+00 0.00
 IN AIR 0.0000E+00 0.00
 PURE PHASE 0.0000E+00 0.00
 TOTAL 2.3218E+09 100.00

AR002060

TOTAL	100.0000	0.0000	0.000000	0.000000	0.000000	0.000000
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AR002061

[illegible]

07-01-1964
(RED)

INPUT: AREA 3 -LEAD SCREENING (MAX CONCS) RUN NO. 2

area = 408,760,000 cm2 density = 1.42 gm/cm3

439,986 sq.ft. 88.61 lb/cu.ft.

10.101 acres

	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED (ug/cm2)
LYR 1	61.0	1950	8.9927E+10	198.2895	168.9	220.00
LYR 2	61.0	1610	7.4394E+10	164.0395	139.5	182.00
TOTAL	122.0		1.6432E+11	362.3290	308.4	402.0

MASS @ YR 35 TO GW	(ug)	(lb)	(%)
IMMOBILIZED	0.0000E+00	0.0000	0.00
ON SOIL	1.6432E+11	362.3290	100.00
IN MOIS.	0.0000E+00	0.0000	0.00
IN AIR	0.0000E+00	0.0000	0.00
PURE PHASE	0.0000E+00	0.0000	0.00
TOTAL	1.6432E+11	362.3290	100.00

[illegible]

AR002064

6-11-21

ORIGINAL
(RED)
-0) Page 1 (26-Apr-89)

MILLCREEK(a3top55.wk)SESOIL SIMULATION: RUN 3 - AREA 3, TOPSOIL COVER; MEAN CON

41/4

INPUT: AREA 3 - TRICHLOROETHYLENE (TCE) RUN NO 3 - TOPSOIL COVER
area = 408760000 cm2 density = 1.42 gm/cm3
439986 sq.ft. 88.61 lb/cu.ft.
10.101 acres

TCE	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED (ug/cm2)
LYR 1	46.0	0	0	0.000	0.00	0.00
LYR 2	122.0	0	0.0000E+00	0.000	0.00	0.00
LYR 3	122.0	6	4.2102E+08	0.928	1.00	1.03
LYR 4	122.0	300	2.1215E+10	46.778	52.00	51.90
TOTAL	412.0		2.1636E+10	47.707	53.00	52.93

MASS BALANCE CHECK:

TOTAL MASS = 2.1701E+10 ug; from total mass to ground water
= 47.851 lb

MASS @ YR 25
TO GW 1.8983E+10 41.857 (lb) 87.472 (%)
TO VOL. 0 0.000 0.000
ON SOIL 2.3696E+09 5.225 10.919
IN MOIS. 2.2148E+07 0.049 0.102
IN AIR 3.0965E+07 0.068 0.143
TOTAL 2.1405E+10 47.199 98.636

AR002065

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	YRLY MASS TO GW VOLATILIZED (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	TOTAL (lb)	RUN YEAR
1	0.423	0.000	0.423	0.000	46.032	0.430	0.602	47.486	18
2	3.273	0.000	3.696	0.000	42.809	0.400	0.559	47.464	19
3	3.139	0.000	6.835	0.000	39.719	0.371	0.519	47.445	20
4	2.995	0.000	9.830	0.000	36.776	0.344	0.481	47.431	21
5	2.843	0.000	12.673	0.000	33.981	0.318	0.444	47.416	22
6	2.688	0.000	15.361	0.000	31.338	0.293	0.410	47.401	23
7	2.531	0.000	17.892	0.000	28.848	0.270	0.377	47.387	24
8	2.376	0.000	20.268	0.000	26.510	0.248	0.346	47.373	25
9	2.222	0.000	22.490	0.000	24.322	0.227	0.318	47.358	26
10	2.073	0.000	24.563	0.000	22.280	0.208	0.291	47.342	27
11	1.928	0.000	26.491	0.000	20.381	0.191	0.266	47.329	28
12	1.789	0.000	28.280	0.000	18.618	0.174	0.243	47.315	29
13	1.656	0.000	29.935	0.000	16.985	0.159	0.222	47.301	30
14	1.529	0.000	31.465	0.000	15.474	0.145	0.202	47.286	31
15	1.410	0.000	32.874	0.000	14.085	0.132	0.184	47.275	32
16	1.297	0.000	34.171	0.000	12.809	0.120	0.167	47.267	33
17	1.191	0.000	35.362	0.000	11.637	0.109	0.152	47.259	34
18	1.092	0.000	36.454	0.000	10.559	0.099	0.138	47.250	35
19	1.000	0.000	37.454	0.000	9.575	0.089	0.125	47.243	36
20	0.914	0.000	38.367	0.000	8.674	0.081	0.113	47.236	37
21	0.834	0.000	39.202	0.000	7.851	0.073	0.103	47.229	38
22	0.761	0.000	39.962	0.000	7.100	0.066	0.093	47.221	39
23	0.693	0.000	40.655	0.000	6.416	0.060	0.084	47.215	40
24	0.630	0.000	41.285	0.000	5.792	0.054	0.076	47.207	41
25	0.572	0.000	41.857	0.000	5.225	0.049	0.068	47.199	42
TOTAL	41.857	0.000	41.857	0.000	5.225	0.049	0.068	47.199	

AR002066

ORIG
(R/L)

YEAR	YRLY MASS TO GW VOLATILIZED (%)	YRLY MASS (%)	CUM. MASS TO GW VOLATILIZED (%)	CUM. MASS (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	TOTAL (%)	RUN YEAR
1	0.883	0.000	0.883	0.000	96.198	0.899	1.257	99.237	18
2	6.841	0.000	7.724	0.000	89.462	0.836	1.169	99.191	19
3	6.560	0.000	14.284	0.000	83.005	0.776	1.085	99.150	20
4	6.258	0.000	20.542	0.000	76.856	0.718	1.004	99.120	21
5	5.942	0.000	26.484	0.000	71.014	0.664	0.928	99.089	22
6	5.617	0.000	32.101	0.000	65.490	0.612	0.856	99.059	23
7	5.290	0.000	37.391	0.000	60.286	0.563	0.788	99.029	24
8	4.965	0.000	42.356	0.000	55.402	0.518	0.724	99.000	25
9	4.644	0.000	47.000	0.000	50.828	0.475	0.664	98.968	26
10	4.331	0.000	51.332	0.000	46.561	0.435	0.608	98.936	27
11	4.029	0.000	55.361	0.000	42.593	0.398	0.557	98.908	28
12	3.738	0.000	59.099	0.000	38.908	0.364	0.508	98.879	29
13	3.460	0.000	62.559	0.000	35.495	0.332	0.464	98.850	30
14	3.196	0.000	65.755	0.000	32.338	0.302	0.423	98.818	31
15	2.946	0.000	68.701	0.000	29.435	0.275	0.385	98.796	32
16	2.710	0.000	71.411	0.000	26.768	0.250	0.350	98.779	33
17	2.489	0.000	73.900	0.000	24.318	0.227	0.318	98.763	34
18	2.282	0.000	76.182	0.000	22.067	0.206	0.288	98.743	35
19	2.089	0.000	78.271	0.000	20.010	0.187	0.261	98.729	36
20	1.910	0.000	80.180	0.000	18.126	0.169	0.237	98.713	37
21	1.743	0.000	81.924	0.000	16.407	0.153	0.214	98.699	38
22	1.589	0.000	83.513	0.000	14.837	0.139	0.194	98.683	39
23	1.447	0.000	84.961	0.000	13.409	0.125	0.175	98.670	40
24	1.316	0.000	86.277	0.000	12.105	0.113	0.158	98.653	41
25	1.195	0.000	87.472	0.000	10.919	0.102	0.143	98.636	42
TOTAL	87.472	0.000	87.472	0.000	10.919	0.102	0.143	98.636	

AR002067

#45

INPUT: AREA 3 - TRICHLOROETHYLENE (TCE) RUN NO 2 - ROD CAP 5E-6 CM/S
area = 408760000 cm2 density = 1.42 gm/cm3
439986 sq.ft. 88.61 lb/cu.ft.
10.101 acres

TCE	DEPTH (cm)	CONC. (ug/kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED (ug/cm2)
LVR 1	46.0	0	0	0.000	0.00	0.00
LVR 2	122.0	0	0.0000E+00	0.000	0.00	0.00
LVR 3	122.0	6	4.2102E+08	0.928	1.00	1.03
LVR 4	122.0	300	2.1215E+10	46.778	52.00	51.90
TOTAL	412.0		2.1636E+10	47.707	53.00	52.93

MASS BALANCE CHECK:

TOTAL MASS = 2.1701E+10 ug; from total mass to ground water
= 47.851 lb

MASS @ YR 25	(ug)	(lb)	(%) of total
TO GW	1.7309E+10	38.167	79.762
TO VOL.	0	0.000	0.000
ON SOIL	3.9168E+09	8.637	18.049
IN MOIS.	8.6858E+07	0.192	0.400
IN AIR	3.2147E+07	0.071	0.148
TOTAL	2.1345E+10	47.066	98.359

AR002068

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	YRLY MASS (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	TOTAL (lb)	RUN YEAR
1	0.262	0.000	0.262	0.000	45.692	1.013	0.375	47.342	28
2	2.738	0.000	3.000	0.000	43.022	0.954	0.353	47.329	29
3	2.623	0.000	5.623	0.000	40.465	0.897	0.332	47.317	30
4	2.506	0.000	8.129	0.000	38.018	0.843	0.312	47.303	31
5	2.390	0.000	10.520	0.000	35.685	0.791	0.293	47.289	32
6	2.275	0.000	12.795	0.000	33.461	0.742	0.275	47.273	33
7	2.162	0.000	14.957	0.000	31.350	0.695	0.257	47.260	34
8	2.051	0.000	17.008	0.000	29.347	0.651	0.241	47.246	35
9	1.942	0.000	18.950	0.000	27.447	0.609	0.225	47.232	36
10	1.837	0.000	20.787	0.000	25.650	0.569	0.211	47.217	37
11	1.734	0.000	22.521	0.000	23.954	0.531	0.197	47.203	38
12	1.636	0.000	24.157	0.000	22.354	0.496	0.183	47.190	39
13	1.541	0.000	25.698	0.000	20.844	0.462	0.171	47.175	40
14	1.450	0.000	27.147	0.000	19.423	0.431	0.159	47.160	41
15	1.362	0.000	28.509	0.000	18.086	0.401	0.148	47.145	42
16	1.279	0.000	29.788	0.000	16.835	0.373	0.138	47.134	43
17	1.199	0.000	30.987	0.000	15.663	0.347	0.129	47.126	44
18	1.123	0.000	32.111	0.000	14.564	0.323	0.120	47.117	45
19	1.052	0.000	33.162	0.000	13.536	0.300	0.111	47.110	46
20	0.984	0.000	34.146	0.000	12.574	0.279	0.103	47.102	47
21	0.919	0.000	35.065	0.000	11.674	0.259	0.096	47.094	48
22	0.858	0.000	35.923	0.000	10.834	0.240	0.089	47.087	49
23	0.801	0.000	36.724	0.000	10.050	0.223	0.082	47.079	50
24	0.747	0.000	37.471	0.000	9.318	0.207	0.076	47.072	51
25	0.696	0.000	38.167	0.000	8.637	0.192	0.071	47.066	52
TOTAL	38.167	0.000	38.167	0.000	8.637	0.192	0.071	47.066	

AR002069

YEAR	YRLY MASS TO GW VOLATILIZED (%)	YRLY MASS TO GW VOLATILIZED (%)	CUM. MASS TO GW VOLATILIZED (%)	CUM. MASS (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	TOTAL (%)	RUN YEAR
1	0.547	0.000	0.547	0.000	95.488	2.117	0.784	98.936	28
2	5.722	0.000	6.270	0.000	89.908	1.994	0.738	98.909	29
3	5.481	0.000	11.750	0.000	84.563	1.875	0.694	98.883	30
4	5.238	0.000	16.988	0.000	79.451	1.762	0.652	98.853	31
5	4.996	0.000	21.984	0.000	74.575	1.654	0.612	98.825	32
6	4.755	0.000	26.739	0.000	69.928	1.551	0.574	98.792	33
7	4.518	0.000	31.257	0.000	65.516	1.453	0.538	98.764	34
8	4.286	0.000	35.543	0.000	61.329	1.360	0.503	98.735	35
9	4.059	0.000	39.602	0.000	57.360	1.272	0.471	98.705	36
10	3.838	0.000	43.440	0.000	53.604	1.189	0.440	98.674	37
11	3.625	0.000	47.065	0.000	50.058	1.110	0.411	98.644	38
12	3.418	0.000	50.483	0.000	46.715	1.036	0.383	98.618	39
13	3.220	0.000	53.703	0.000	43.559	0.966	0.358	98.586	40
14	3.029	0.000	56.733	0.000	40.590	0.900	0.333	98.556	41
15	2.847	0.000	59.579	0.000	37.797	0.838	0.310	98.524	42
16	2.672	0.000	62.251	0.000	35.181	0.780	0.289	98.501	43
17	2.506	0.000	64.757	0.000	32.732	0.726	0.269	98.483	44
18	2.348	0.000	67.105	0.000	30.436	0.675	0.250	98.466	45
19	2.198	0.000	69.302	0.000	28.288	0.627	0.232	98.450	46
20	2.055	0.000	71.358	0.000	26.278	0.583	0.216	98.434	47
21	1.921	0.000	73.279	0.000	24.397	0.541	0.200	98.417	48
22	1.794	0.000	75.073	0.000	22.641	0.502	0.186	98.402	49
23	1.674	0.000	76.746	0.000	21.002	0.466	0.172	98.387	50
24	1.561	0.000	78.307	0.000	19.473	0.432	0.160	98.372	51
25	1.454	0.000	79.762	0.000	18.049	0.400	0.148	98.359	52
TOTAL	79.762	0.000	79.762	0.000	18.049	0.400	0.148	98.359	

AR002070

(10/11)

MILLCREEK(a3rod75SESOIL SIMULATION: RUN 3 - AREA 3, ROD CAP 1E-7 cm/sec; MEAN CONC.;(v.i.Page 1 (02-May-89)

46

INPUT: AREA 3 - TRICHLOROETHYLENE (TCE) RUN NO 3 - RCRA/ROD CAP 1E-7 CM/S
 area = 408760000 cm2 density = 1.42 gm/cm3
 439986 sq.ft. 88.61 lb/cu.ft.
 10.101 acres

TCE	DEPTH (cm)	CONC. (ug/Kg)	MASS (ug)	MASS (lb)	LOADING (ug/cm2)	LOADING USED (ug/cm2)
LYR 1	46.0	0	0	0.000	0.00	0.00
LYR 2	122.0	0	0.0000E+00	0.000	0.00	0.00
LYR 3	122.0	6	4.2102E+08	0.928	1.00	1.03
LYR 4	122.0	300	2.1215E+10	46.778	52.00	51.90
TOTAL	412.0		2.1636E+10	47.707	53.00	52.93

MASS BALANCE CHECK:

TOTAL MASS = 2.1701E+10 ug; from total mass in soil at year 55
 = 47.851 lb

MASS @ YR 25	(ug)	(lb)	of total (%)
TO GW	0.0000E+00	0.000	0.000
TO VOL.	0	0.000	0.000
ON SOIL	2.0778E+10	45.816	95.746
IN MOIS.	8.1009E+08	1.786	3.733
IN AIR	3.8194E+07	0.084	0.176
TOTAL	2.1626E+10	47.686	99.655

AR002071

YEAR	YRLY MASS TO GW VOLATILIZED (lb)	YRLY MASS (lb)	CUM. MASS TO GW VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	TOTAL (lb)	RUN YEAR
1	0.000	0.000	0.000	0.000	45.969	1.792	0.085	47.846	1
2	0.000	0.000	0.000	0.000	45.967	1.792	0.084	47.843	2
3	0.000	0.000	0.000	0.000	45.964	1.792	0.084	47.840	3
4	0.000	0.000	0.000	0.000	45.960	1.792	0.084	47.837	4
5	0.000	0.000	0.000	0.000	45.956	1.792	0.084	47.832	5
6	0.000	0.000	0.000	0.000	45.952	1.792	0.084	47.828	6
7	0.000	0.000	0.000	0.000	45.948	1.791	0.084	47.824	7
8	0.000	0.000	0.000	0.000	45.944	1.791	0.084	47.819	8
9	0.000	0.000	0.000	0.000	45.939	1.791	0.084	47.814	9
10	0.000	0.000	0.000	0.000	45.934	1.791	0.084	47.809	10
11	0.000	0.000	0.000	0.000	45.928	1.791	0.084	47.803	11
12	0.000	0.000	0.000	0.000	45.922	1.790	0.084	47.797	12
13	0.000	0.000	0.000	0.000	45.916	1.790	0.084	47.790	13
14	0.000	0.000	0.000	0.000	45.909	1.790	0.084	47.783	14
15	0.000	0.000	0.000	0.000	45.902	1.790	0.084	47.776	15
16	0.000	0.000	0.000	0.000	45.894	1.789	0.084	47.768	16
17	0.000	0.000	0.000	0.000	45.887	1.789	0.084	47.760	17
18	0.000	0.000	0.000	0.000	45.879	1.789	0.084	47.752	18
19	0.000	0.000	0.000	0.000	45.871	1.788	0.084	47.744	19
20	0.000	0.000	0.000	0.000	45.863	1.788	0.084	47.735	20
21	0.000	0.000	0.000	0.000	45.854	1.788	0.084	47.726	21
22	0.000	0.000	0.000	0.000	45.845	1.787	0.084	47.717	22
23	0.000	0.000	0.000	0.000	45.835	1.787	0.084	47.707	23
24	0.000	0.000	0.000	0.000	45.826	1.787	0.084	47.697	24
25	0.000	0.000	0.000	0.000	45.816	1.786	0.084	47.686	25
TOTAL	0.000	0.000	0.000	0.000	45.816	1.786	0.084	47.686	

AR002072

(15-1)

YEAR	YRLY MASS TO GW VOLATILIZED (%)	YRLY MASS TO GW VOLATILIZED (%)	CUM. MASS TO GW VOLATILIZED (%)	CUM. MASS TO GW VOLATILIZED (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	TOTAL (%)	RUN YEAR
1	0.000	0.000	0.000	0.000	96.067	3.745	0.177	99.989	1
2	0.000	0.000	0.000	0.000	96.062	3.745	0.177	99.984	2
3	0.000	0.000	0.000	0.000	96.055	3.745	0.177	99.977	3
4	0.000	0.000	0.000	0.000	96.048	3.745	0.177	99.969	4
5	0.000	0.000	0.000	0.000	96.040	3.744	0.177	99.961	5
6	0.000	0.000	0.000	0.000	96.031	3.744	0.177	99.952	6
7	0.000	0.000	0.000	0.000	96.023	3.744	0.177	99.943	7
8	0.000	0.000	0.000	0.000	96.013	3.743	0.176	99.933	8
9	0.000	0.000	0.000	0.000	96.003	3.743	0.176	99.923	9
10	0.000	0.000	0.000	0.000	95.992	3.743	0.176	99.911	10
11	0.000	0.000	0.000	0.000	95.981	3.742	0.176	99.899	11
12	0.000	0.000	0.000	0.000	95.968	3.742	0.176	99.886	12
13	0.000	0.000	0.000	0.000	95.955	3.741	0.176	99.872	13
14	0.000	0.000	0.000	0.000	95.941	3.741	0.176	99.858	14
15	0.000	0.000	0.000	0.000	95.926	3.740	0.176	99.842	15
16	0.000	0.000	0.000	0.000	95.910	3.739	0.176	99.826	16
17	0.000	0.000	0.000	0.000	95.895	3.739	0.176	99.810	17
18	0.000	0.000	0.000	0.000	95.879	3.738	0.176	99.793	18
19	0.000	0.000	0.000	0.000	95.862	3.737	0.176	99.776	19
20	0.000	0.000	0.000	0.000	95.844	3.737	0.176	99.757	20
21	0.000	0.000	0.000	0.000	95.826	3.736	0.176	99.738	21
22	0.000	0.000	0.000	0.000	95.807	3.735	0.176	99.718	22
23	0.000	0.000	0.000	0.000	95.787	3.735	0.176	99.698	23
24	0.000	0.000	0.000	0.000	95.767	3.734	0.176	99.677	24
25	0.000	0.000	0.000	0.000	95.746	3.733	0.176	99.655	25
TOTAL	0.000	0.000	0.000	0.000	95.746	3.733	0.176	99.655	

AR002073

Lycopodium obscurum

AR002074

MASS BALANCE CHECK:
TOTAL MASS = 2.1701E+10 ug; from total mass in soil at year 55
= 47.851 lb

MASS @ YR 25	(ug)	(lb)	(%) of total
TO GW	1.9571E+10	43.154	90.183
TO VOL.	0	0.000	0.000
ON SOIL	1.8335E+09	4.043	8.449
IN MOIS.	1.4968E+07	0.033	0.069
IN AIR	2.4781E+07	0.055	0.114
TOTAL	2.1444E+10	47.284	98.815

YEAR	YRLY MASS TO GH VOLATILIZED (lb)	YRLY MASS (lb)	CUM. MASS TO GH VOLATILIZED (lb)	CUM. MASS (lb)	MASS ON SOIL (lb)	MASS IN MOISTURE (lb)	MASS IN AIR (lb)	TOTAL (lb)	RUN YEAR
1	0.552	0.000	0.552	0.000	46.011	0.376	0.622	47.560	15
2	3.470	0.000	4.022	0.000	42.594	0.348	0.576	47.539	16
3	3.343	0.000	7.365	0.000	39.302	0.321	0.531	47.519	17
4	3.195	0.000	10.561	0.000	36.156	0.295	0.489	47.500	18
5	3.034	0.000	13.595	0.000	33.173	0.271	0.448	47.486	19
6	2.864	0.000	16.458	0.000	30.355	0.248	0.410	47.472	20
7	2.688	0.000	19.147	0.000	27.712	0.226	0.375	47.459	21
8	2.512	0.000	21.659	0.000	25.239	0.206	0.341	47.445	22
9	2.337	0.000	23.996	0.000	22.937	0.187	0.310	47.430	23
10	2.166	0.000	26.161	0.000	20.804	0.170	0.281	47.417	24
11	2.000	0.000	28.161	0.000	18.834	0.154	0.255	47.403	25
12	1.840	0.000	30.001	0.000	17.018	0.139	0.230	47.388	26
13	1.689	0.000	31.690	0.000	15.351	0.125	0.207	47.373	27
14	1.545	0.000	33.235	0.000	13.827	0.113	0.187	47.362	28
15	1.410	0.000	34.645	0.000	12.438	0.102	0.168	47.353	29
16	1.284	0.000	35.928	0.000	11.174	0.091	0.151	47.344	30
17	1.166	0.000	37.094	0.000	10.024	0.082	0.135	47.335	31
18	1.057	0.000	38.151	0.000	8.980	0.073	0.121	47.326	32
19	0.956	0.000	39.108	0.000	8.036	0.066	0.109	47.318	33
20	0.864	0.000	39.971	0.000	7.184	0.059	0.097	47.311	34
21	0.779	0.000	40.750	0.000	6.413	0.052	0.087	47.302	35
22	0.701	0.000	41.451	0.000	5.720	0.047	0.077	47.295	36
23	0.630	0.000	42.081	0.000	5.098	0.042	0.069	47.289	37
24	0.566	0.000	42.646	0.000	4.541	0.037	0.061	47.286	38
25	0.508	0.000	43.154	0.000	4.043	0.033	0.055	47.284	39
TOTAL	43.154	0.000	43.154	0.000	4.043	0.033	0.055	47.284	

4705000A

AR002075

YEAR	YRLY MASS TO GW VOLATILIZED (%)	YRLY MASS (%)	CUM. MASS TO GW VOLATILIZED (%)	CUM. MASS (%)	MASS ON SOIL (%)	MASS IN MOISTURE (%)	MASS IN AIR (%)	TOTAL (%)	RUN YEAR
1	1.153	0.000	1.153	0.000	96.153	0.785	1.300	99.391	15
2	7.252	0.000	8.406	0.000	89.012	0.727	1.203	99.348	16
3	6.986	0.000	15.392	0.000	82.133	0.671	1.110	99.305	17
4	6.678	0.000	22.070	0.000	75.558	0.617	1.021	99.266	18
5	6.340	0.000	28.410	0.000	69.325	0.566	0.937	99.238	19
6	5.984	0.000	34.394	0.000	63.437	0.518	0.857	99.206	20
7	5.618	0.000	40.013	0.000	57.912	0.473	0.783	99.180	21
8	5.250	0.000	45.262	0.000	52.744	0.431	0.713	99.150	22
9	4.884	0.000	50.146	0.000	47.934	0.391	0.648	99.120	23
10	4.526	0.000	54.672	0.000	43.477	0.355	0.588	99.091	24
11	4.179	0.000	58.851	0.000	39.359	0.321	0.532	99.063	25
12	3.846	0.000	62.697	0.000	35.564	0.290	0.481	99.032	26
13	3.529	0.000	66.226	0.000	32.080	0.262	0.434	99.001	27
14	3.229	0.000	69.454	0.000	28.896	0.236	0.391	98.976	28
15	2.947	0.000	72.401	0.000	25.993	0.212	0.351	98.958	29
16	2.682	0.000	75.083	0.000	23.350	0.191	0.316	98.940	30
17	2.437	0.000	77.520	0.000	20.947	0.171	0.283	98.921	31
18	2.209	0.000	79.729	0.000	18.767	0.153	0.254	98.903	32
19	1.998	0.000	81.727	0.000	16.794	0.137	0.227	98.885	33
20	1.805	0.000	83.532	0.000	15.013	0.123	0.203	98.870	34
21	1.627	0.000	85.159	0.000	13.402	0.109	0.181	98.852	35
22	1.465	0.000	86.624	0.000	11.954	0.098	0.162	98.837	36
23	1.316	0.000	87.940	0.000	10.653	0.087	0.144	98.824	37
24	1.182	0.000	89.122	0.000	9.490	0.077	0.128	98.818	38
25	1.061	0.000	90.183	0.000	8.449	0.069	0.114	98.815	39
TOTAL	90.183	0.000	90.183	0.000	8.449	0.069	0.114	98.815	

AR002076

ORIGINAL
(RED)

4
ORCA
(RED)

APPENDIX K
COMPARISON OF FIELD AND MODEL
HYDROLOGIC AND CLIMATOLOGIC DATA

AR002077

PRECIPITATION (cm)

	Water Balance	SESOIL Database	Difference
January	6.81	6.17	-0.6
February	6.12	5.43	-0.7
March	7.06	7.03	-0.0
April	7.95	8.88	0.9
May	8.48	8.42	-0.1
June	8.74	10.2	1.5
July	8.31	8.93	0.6
August	8.38	9.49	1.1
September	9.19	10.66	1.5
October	8.97	8.49	-0.5
November	8.76	10.07	1.3
December	7.26	8.46	1.2
Total	96.03	102.23	6.2

INFILTRATION (cm)

	Water Balance	SESOIL Database	Difference
January	3.40	6.192	2.8
February	0.00	5.435	5.4
March	3.53	6.973	3.4
April	8.79	8.855	0.1
May	13.64	8.448	-5.2
June	11.10	10.111	-1.0
July	9.30	8.925	-0.4
August	8.66	9.376	0.7
September	9.42	10.578	1.2
October	8.97	8.574	-0.4
November	8.76	10.045	1.3
December	7.26	8.425	1.2
Total	92.84	101.94	9.1

ACTUAL EVAPOTRANSPIRATION (cm)

	Water Balance	SESOIL Database	Difference
January	0	0.3	0.3
February	0	0.66	0.7
March	0.79	2.81	2.0
April	3.4	6.21	2.8
May	7.67	10.4	2.7
June	11.61	12.43	0.8
July	9.47	13.07	3.6
August	8.51	10.45	1.9
September	8.71	7.06	-1.7
October	5.08	3.89	-1.2
November	1.88	0.6	-1.3
December	0	0.3	0.3
Total	57.12	68.18	11.1

NET RECHARGE (cm)

	Water Balance	SESOIL Database	Difference
January	3.40	6.032	2.6
February	0.00	4.876	4.9
March	2.74	4.129	1.4
April	5.38	2.629	-2.8
May	5.97	-1.831	-7.8
June	-4.62	-2.336	2.3
July	-0.18	-4.05	-3.9
August	0.15	-1.104	-1.3
September	0.36	3.394	3.0
October	0.97	4.72	3.8
November	6.88	9.233	2.3
December	7.26	8.08	0.8
Total	28.32	33.77	5.45

MEAN AIR TEMPERATURE (c)

	RI Report	SESOIL Database	Difference
January	-2.78	-3.89	-1.1
February	-3.11	-3.44	-0.3
March	1.33	1.28	-0.1
April	7.38	8.17	0.8
May	13.61	13.67	0.1
June	19.11	18.72	-0.4
July	21.78	20.67	-1.1
August	21	19.78	-1.2
September	17.72	16.33	-1.4
October	11.78	10.72	-1.1
November	5.4	4.22	-1.2
December	-0.2	-2.11	-1.9

AR002078

0285-23-1
(RED)

APPENDIX L
SOIL MOISTURE DATA

SOIL MOISTURE CONDITIONS

FIELD SAMPLES (4/88 TO 5/88)	
SAMPLE LOCATION	MOISTURE CONTENT (%)
1	6
3	5.5
4	12.1
6	8.9
7	16.9
8	10.6
9	5.2
10	9.2
12	17.6
13	7.2
14	13.9
16	13.4
17	9.9
18	15.8
19	13.9
21	12.4
22	17.1
23	16.2
24	10.4
25	18.7
27	17.9
28	15.1
29	17.1
31	6.8
32	22.1
34	21.0
35	16.1
36	14.8
37	19.3
40	18.7
41	25.8
48	9.8
49	9.0
50	11.6
AVERAGE:	13.8

SESOIL PREDICTED - AREA 1	
Month	(%)
January	14.8
February	14.2
March	14.4
April	14.5
May	13.7
June	13.8
July	13.2
August	13.4
September	14.3
October	14.1
November	15.5
December	15.7
Average Annual:	14.3

Monthly Comparison - May	
Site Average 1988	13.8
SESOIL Predicted	13.7
Difference	0.1
Variability	1%

AR002080

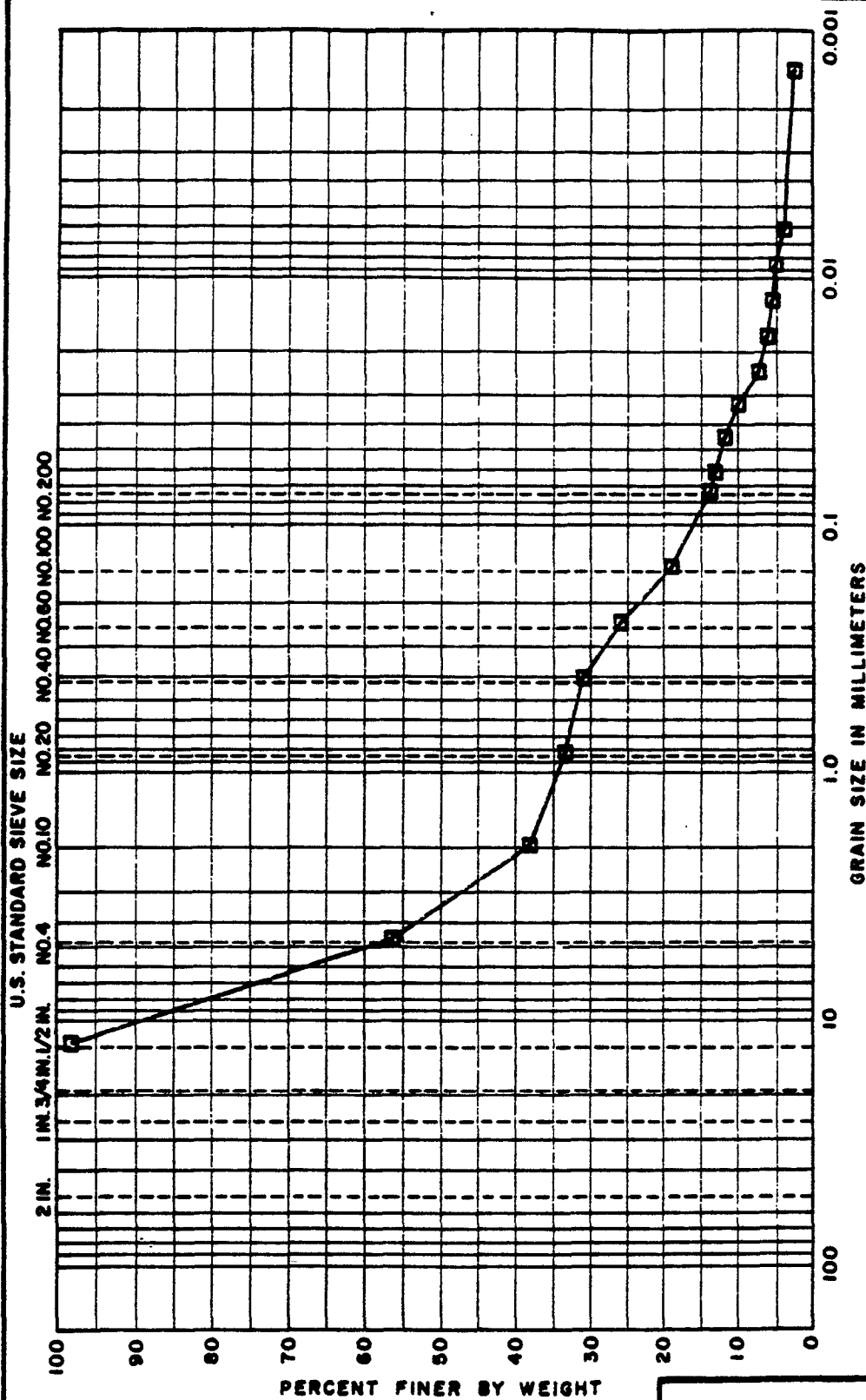
6-11-73
(111)

APPENDIX M
SOILS PHYSICAL CHARACTERIZATION DATA

ORIGINAL
(RED)

PUMPING WELL GRAIN SIZE DISTRIBUTION

AR002082



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S33.1	□	Composite of Samples S3A and 6	Gray fine GRAVEL and f-a SAND, little Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

BORING NO. S3A-8
SAMPLE
DEPTH
TECH. MST/PFC

TEST SERIES NO. 23
DATE May 88
LJ0851

AR002084

MI [REDACTED] K, PA

LABORATORY TESTING: DATA SUMMARY

Reviewed by:

Date: _____

L-10851

Project Engr.
J.Kerwin/deb

Assigned By D. Daley

Date Assigned	June, 1988
---------------	------------

Required:

[illegible]

AR 002086
TABLE NUMBER

ESTS

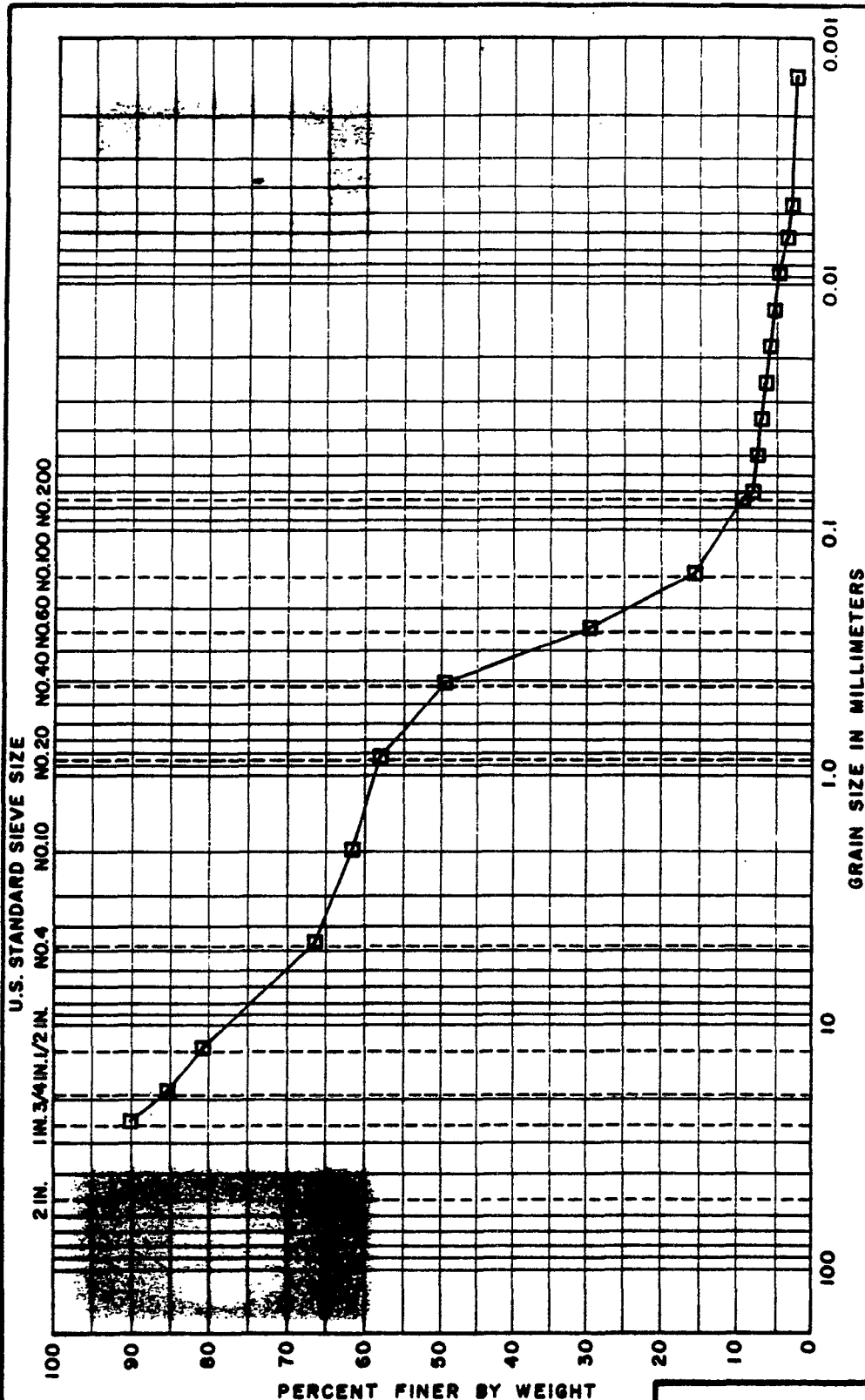
GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

APPENDIX E-2

25

Millcreek Superfund Site
 Millcreek, Pennsylvania
 Project No. L-10851 Project Engr. J.K. Assigned By D.D. Date Assigned June 88
 Reviewed by _____
 Date _____
 Required _____

[illegible]



COBBLES	GRAVEL		SAND		SILT OR CLAY
	COARSE	FINE	COARSE	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S37.1	□	Sample No. 584 Bag Sample	From f-m SAND, some (+) Gravel, trace (-) Silt

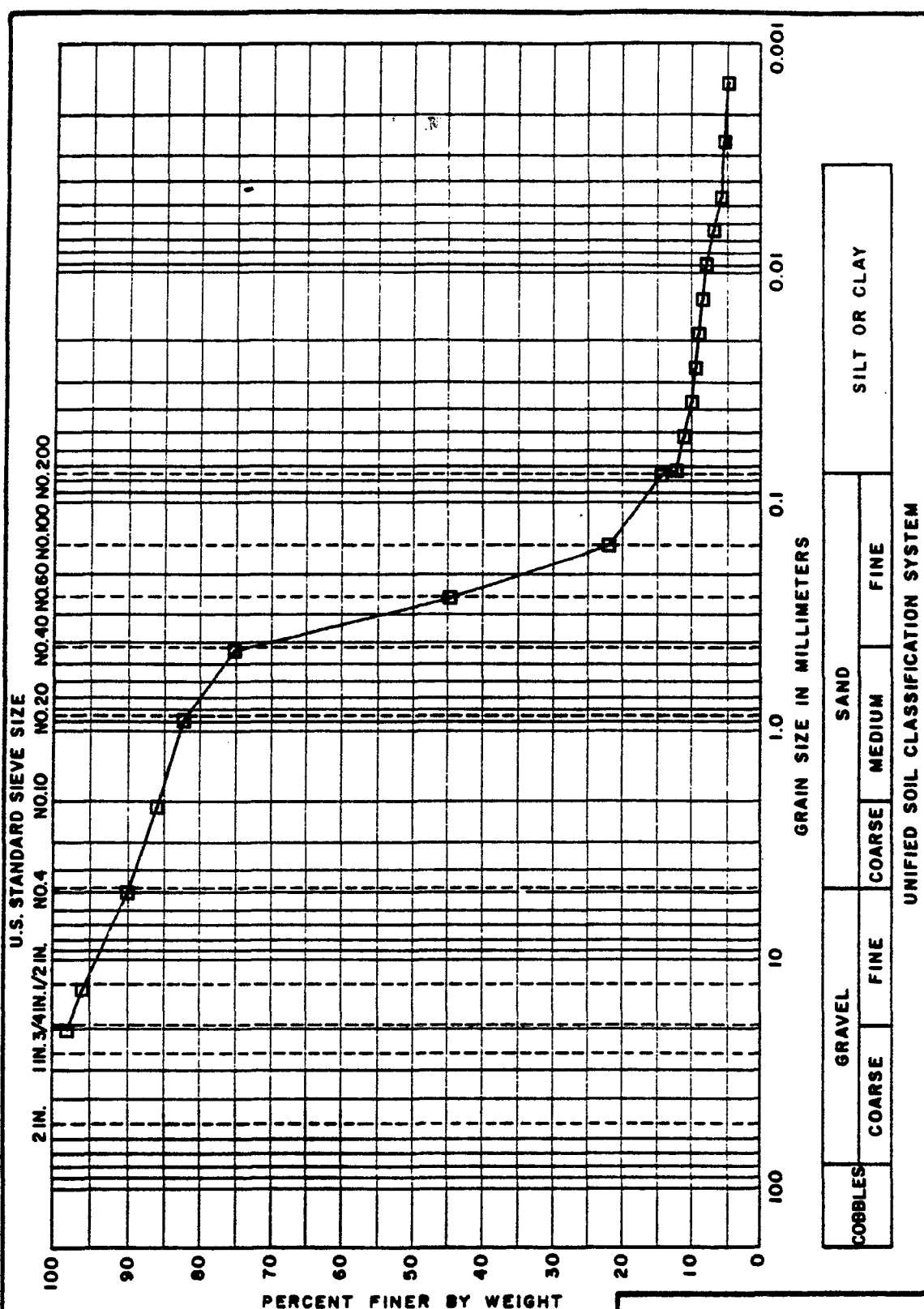
MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

BORING NO. 584
SAMPLE BAG
DEPTH
TECH. R002088
REVIEWER

TEST SERIES
NO. 37
DATE June 88
11/05/88

FILE



TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S39.1	☐	Sample No. SB8 Bag Sample	Dark Brown f-m SAND, trace (+) Gravel, little Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

BORING NO.
SAMPLE
DEPTH
TECH.
REVIEWER

SB8
BAG

TEST SERIES
NO. 39
DATE June 88
L10851

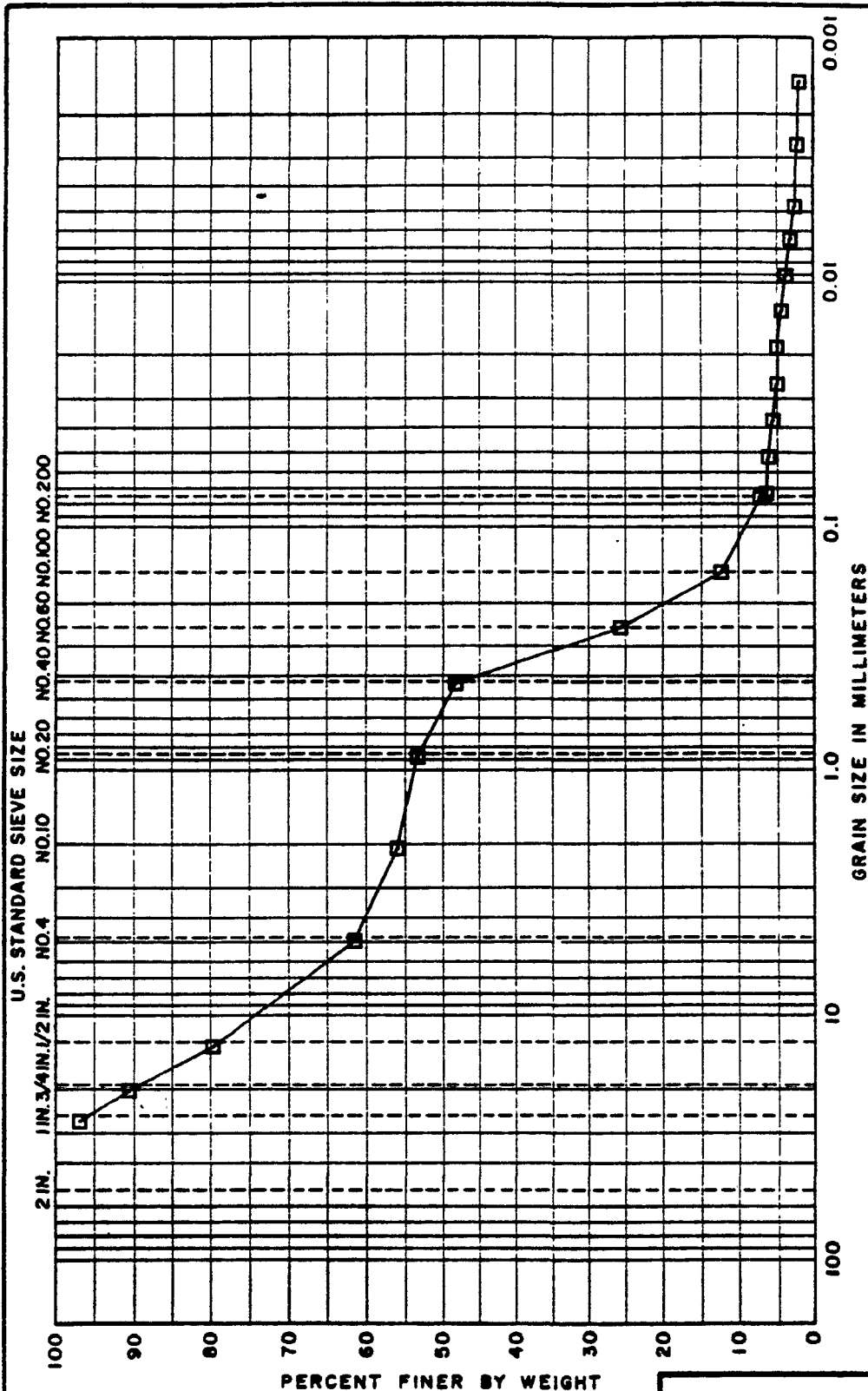
AR002090

FILE

GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

ADDENDUM F-6

23



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
540.1	☐	Sample No. SB16 Bag Sample	Dark Brown f-m SAND and f-c GRAVEL, trace Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TEST

BORING NO. SB16
SAMPLE BAG
DEPTH
TECH. WST/HCH
REVIEWER

TEST SERIES NO. 40
DATE June 88
L10851

FILE

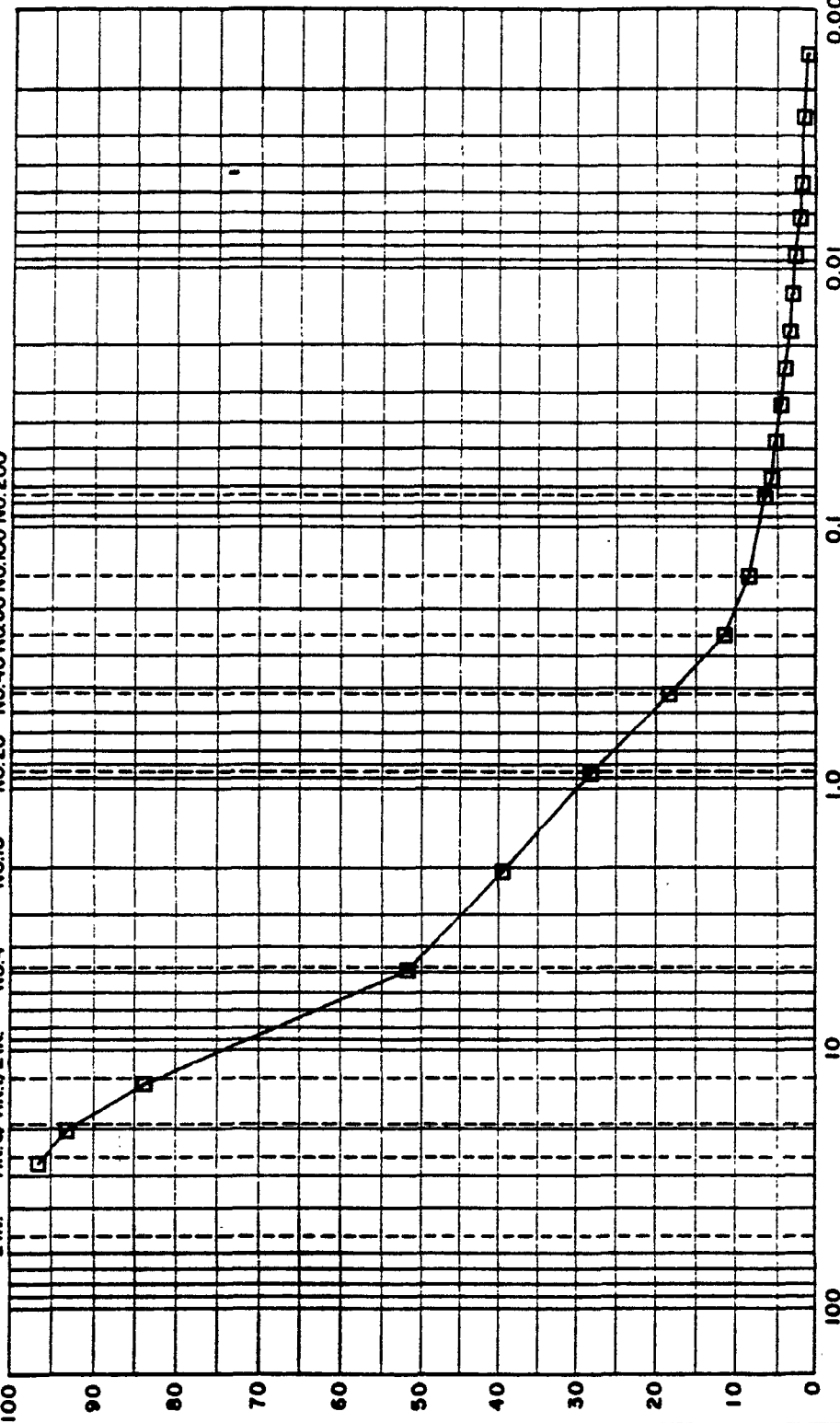
GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

APPENDIX E-9

S

U.S. STANDARD SIEVE SIZE

2 IN. 1 IN. 3/4 IN. 1/2 IN. NO. 4 NO. 10 NO. 20 NO. 40 NO. 60 NO. 100 NO. 200



PERCENT FINER BY WEIGHT

GRAIN SIZE IN MILLIMETERS

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S41.1	☐	Sample No. SB28 Bag Sample	Dark Brown f-c GRAVEL and f-c SAND, trace Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

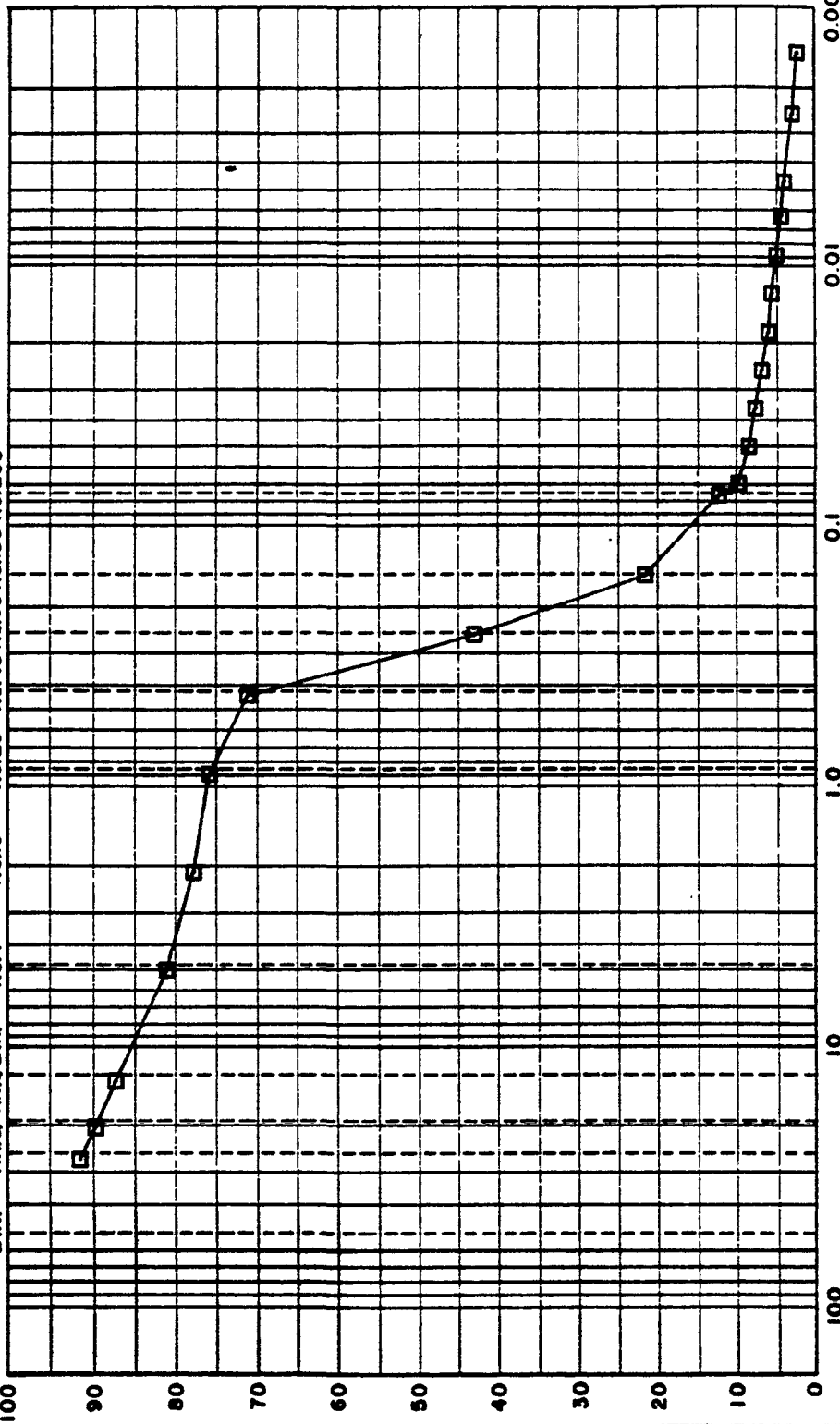
GRADATION TESTS

BORING NO. SB28
SAMPLE BAG
DEPTH
TECH. AR002092
REVIEWER

TEST SERIES NO. 41
DATE June 88
L10851
FILE

U.S. STANDARD SIEVE SIZE

2 IN. 1 IN. 3/4 IN. 1/2 IN. NO. 4 NO. 10 NO. 20 NO. 40 NO. 60 NO. 100 NO. 200



PERCENT FINER BY WEIGHT

GRAIN SIZE IN MILLIMETERS

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S42.1	☐	Sample No. SB29 Bag Sample	Black f-m SAND, little (+) Gravel, little (-) Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TEST

BORING NO. SB29
SAMPLE BAG
DEPTH

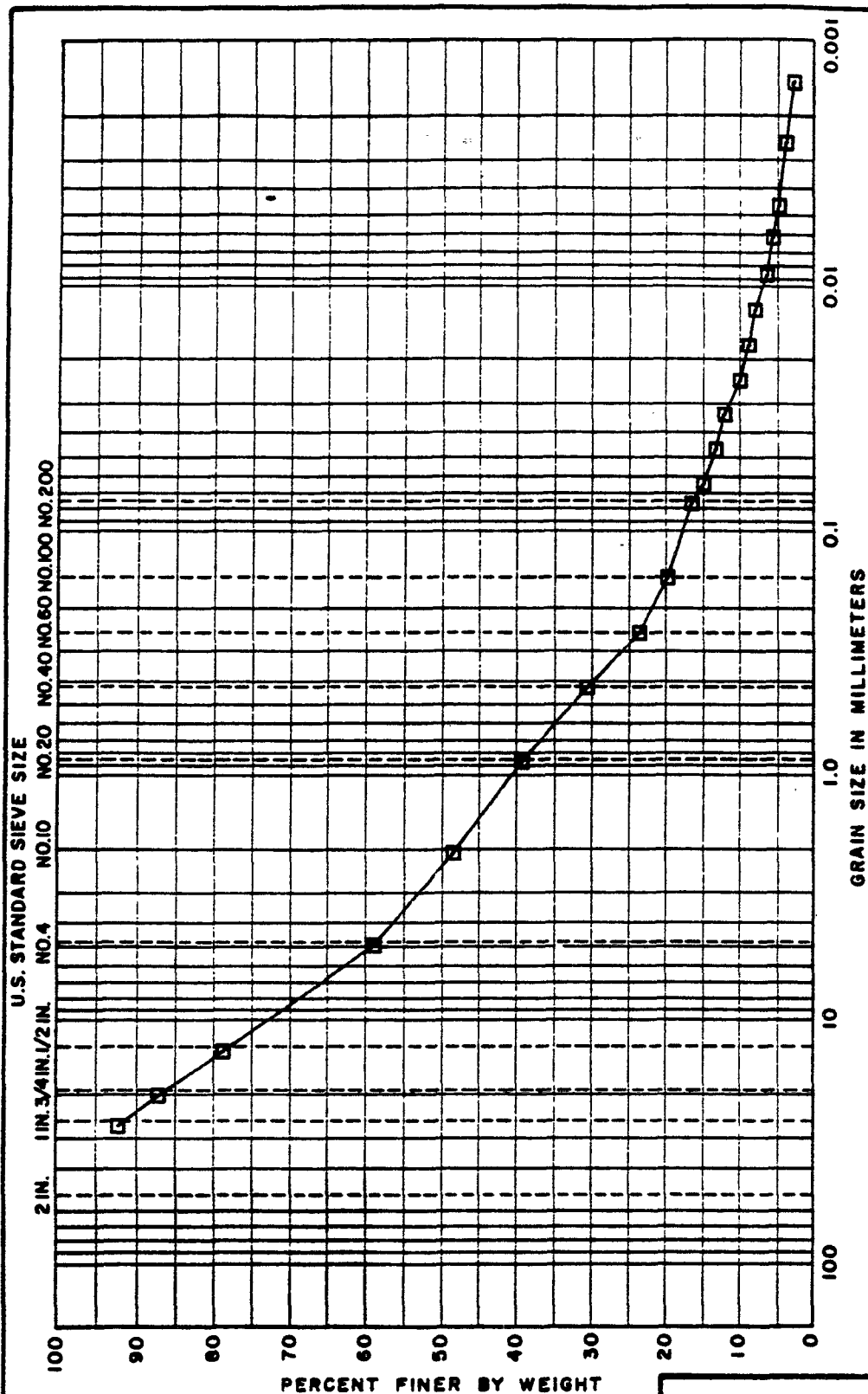
TEST SERIES NO. 42
DATE June 88
L10851

AR 002093

APPENDX E-9

FILE

S



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S43.1	☐	Sample No. S836 Bag Sample	Dark Brown f-m SAND and f-c GRAVEL, little Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

BORING NO. S836
SAMPLE BAG
DEPTH
TECH. JST/WCH
REVIEWER

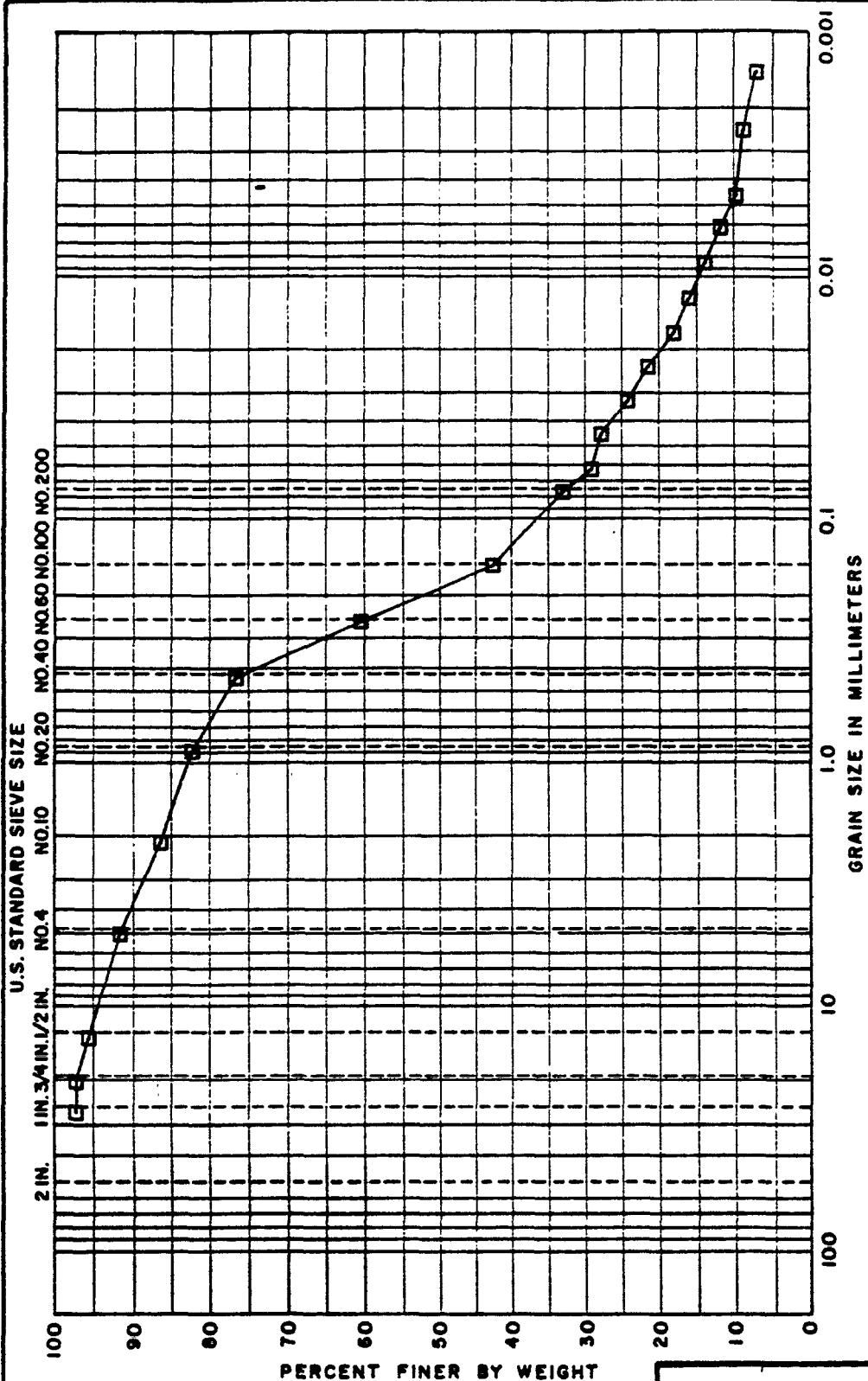
TEST SERIES
NO. 43
DATE June 88
L10851

APPENDIX E-9

FILE

GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

ORIGINAL
(RED)



GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL GEOLYDROLOGICAL CONSULTANTS

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

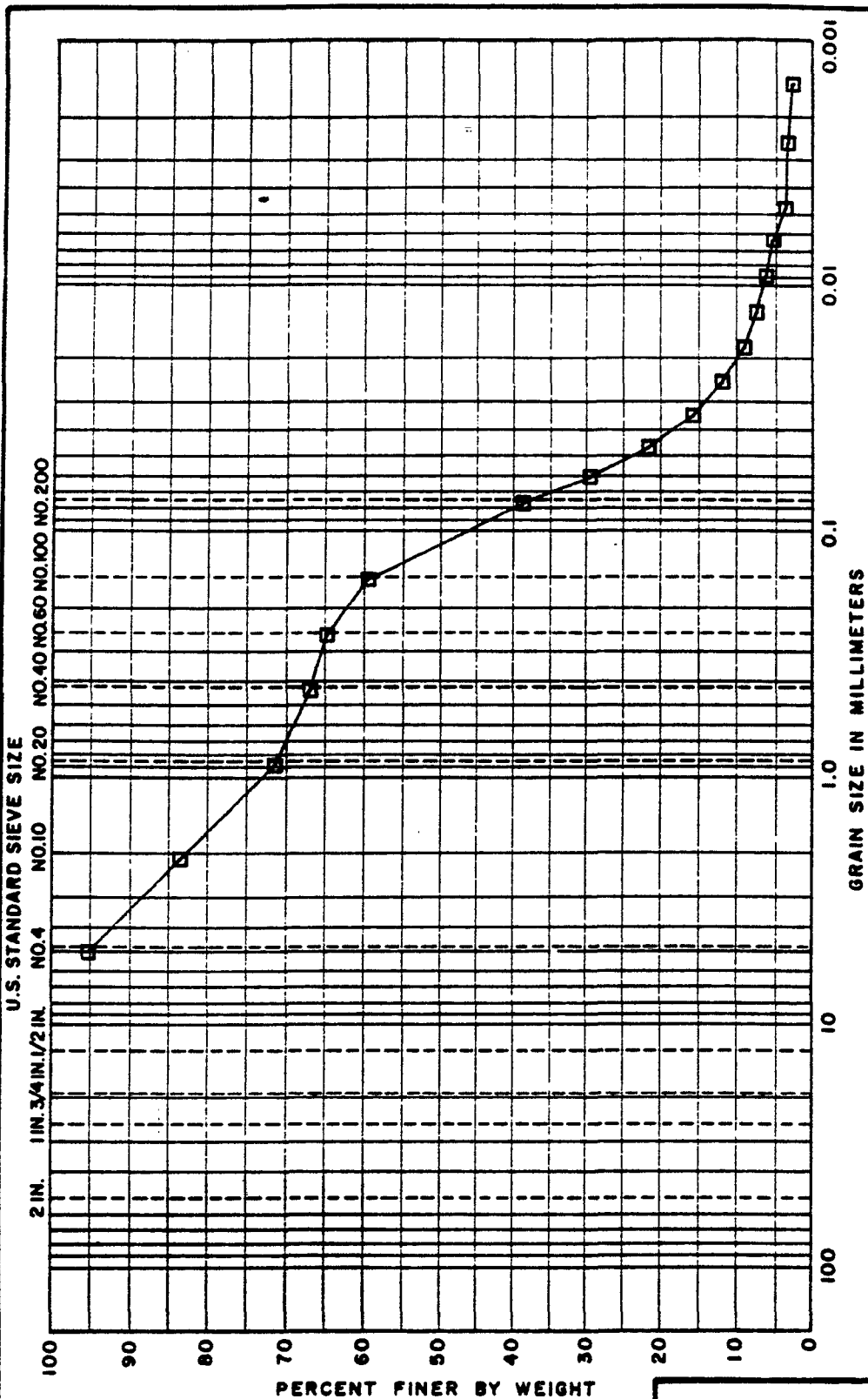
GRADATION TEST

BORING NO. SB37
SAMPLE BAG
DEPTH
TEST NO. 19002095
REVIEWER

TEST SERIES NO. 44
DATE June 88
L10851

FILE

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S44.1	☐	Sample No. SB37 Bag Sample	Dark Gray f-m SAND, some (+) Clayey Silt, trace Gravel



GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S45.1	□	Sample No. MW26A Bag Sample	Dark Brown f-c SAND and SILT, trace Gravel

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

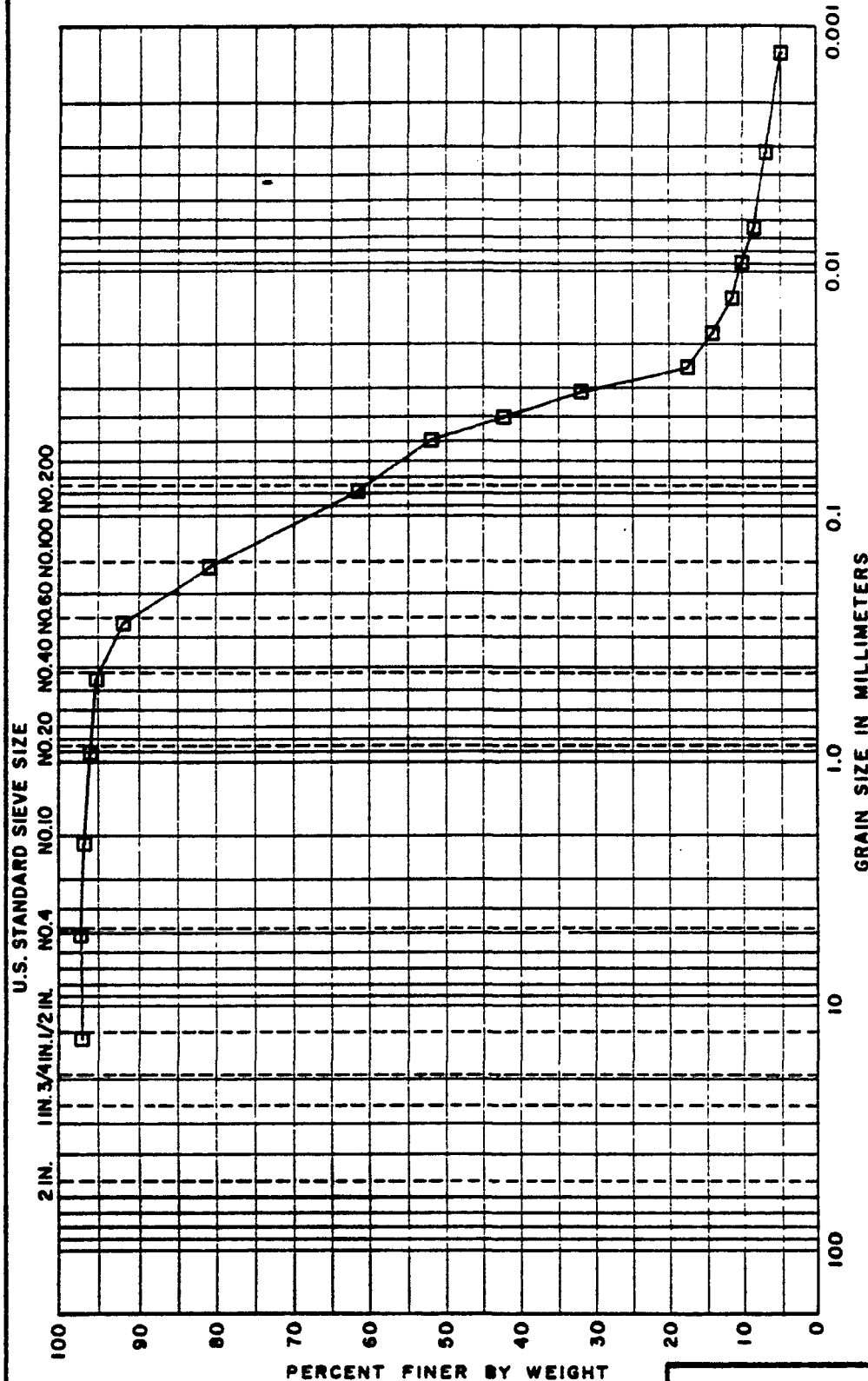
BORING NO. MW26A
SAMPLE BAG
DEPTH
TECH.
REVIEWER

TEST SERIES NO. 45
DATE June 88
L10851

0002096

FILE

ORIGINAL
(RED)



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S46.1	□	Sample No. MW27A Bag Sample	Dark Gray SILT and fine SAND

GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

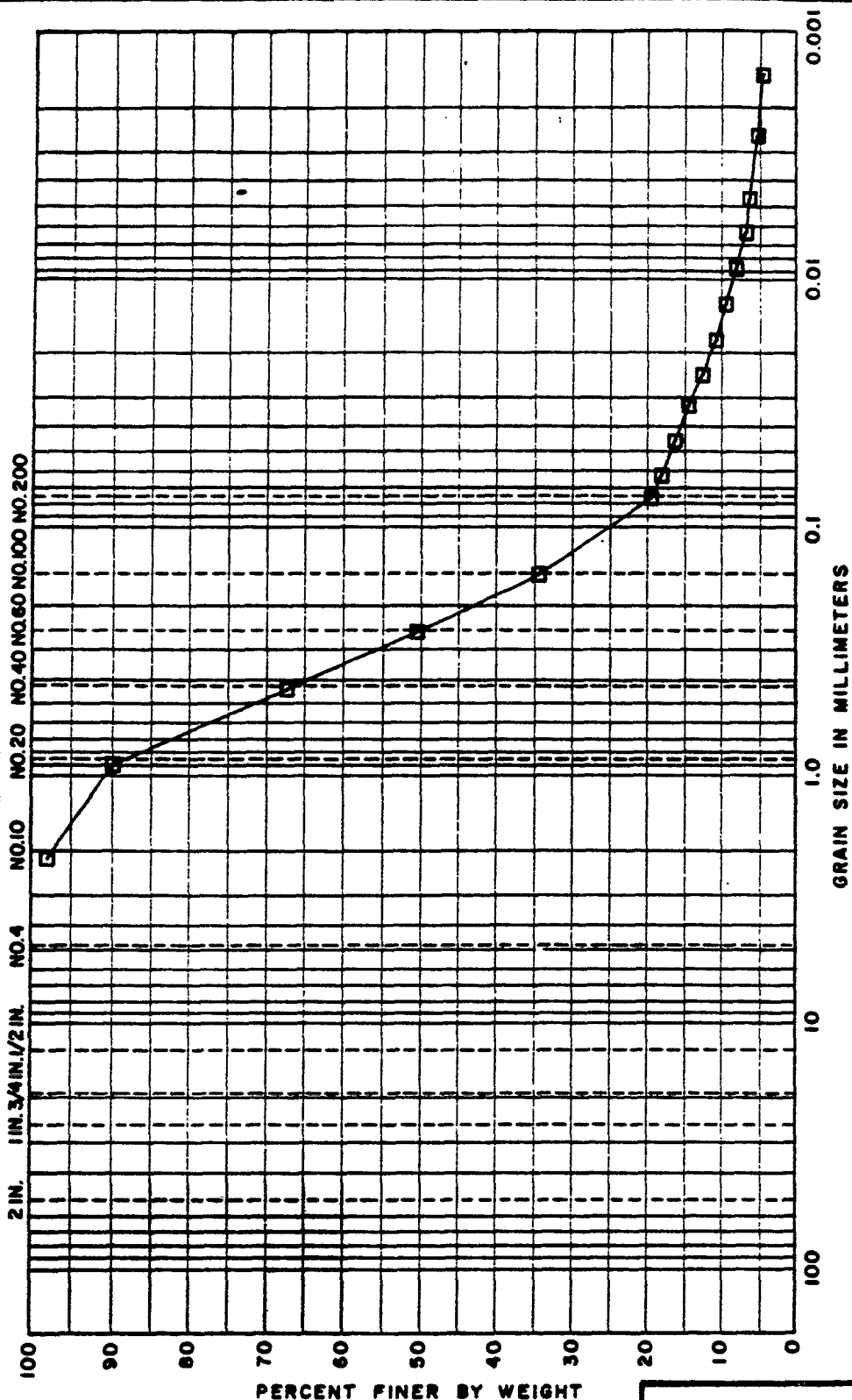
GRADATION TEST

BORING NO. MW27A
SAMPLE BAG
DEPTH
TECH. MST/MCM

TEST SERIES NO. 48
DATE June 88
L10851

REVIEWER 002097 FILE
APPENDIX E-9

U.S. STANDARD SIEVE SIZE



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S47.1	☐	Sample No. MW268 Bag Sample	Gray f-m SAND, little (+) Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

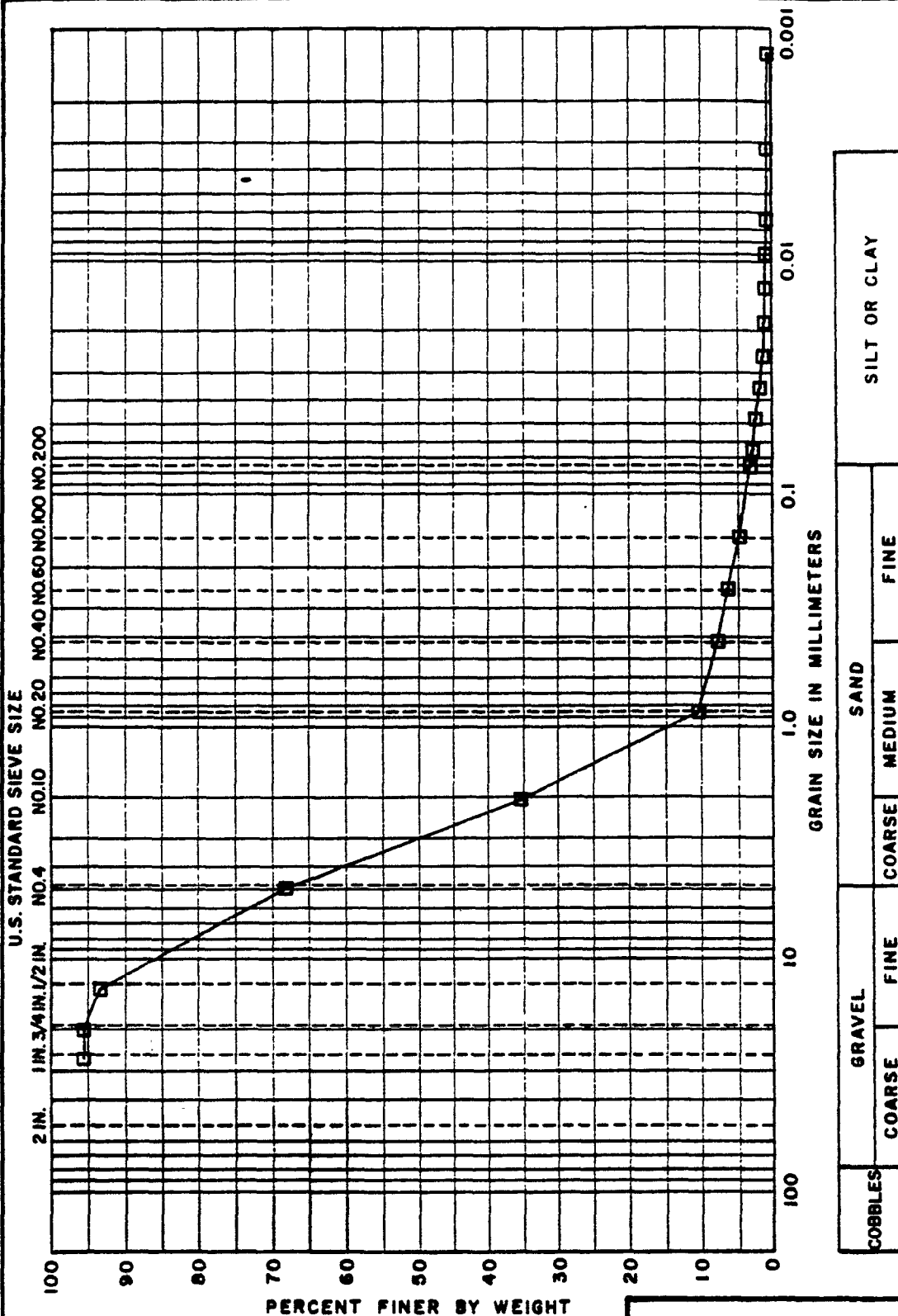
GRADATION TESTS

BORING NO. MW268
SAMPLE BAG
DEPTH
TECH. MST/MCM
REVIEWER

TEST SERIES NO. 47
DATE June 88
L10851

10002098
APPENDX E-9

FILE



UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S48.1	☐	Sample No. MW27B Bag Sample	Dark Gray m-c SAND, some Gravel, trace (-) Silt

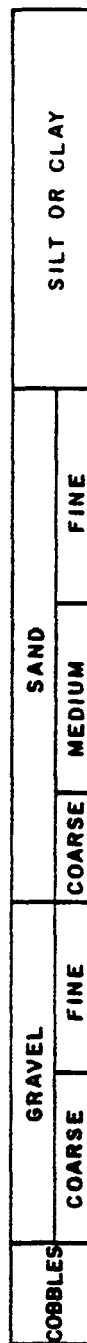
MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TEST

BORING NO. MW27B
SAMPLE BAG
DEPTH
TECH. MST/MCM
REVIEWER
APPENDIX F-6

TEST SERIES
NO. 48
DATE June 88
L10851
FILE

GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS



TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S49.1	☐	Sample No. MW28B Bag Sample 1	Gray f-m SAND and (-) Silt

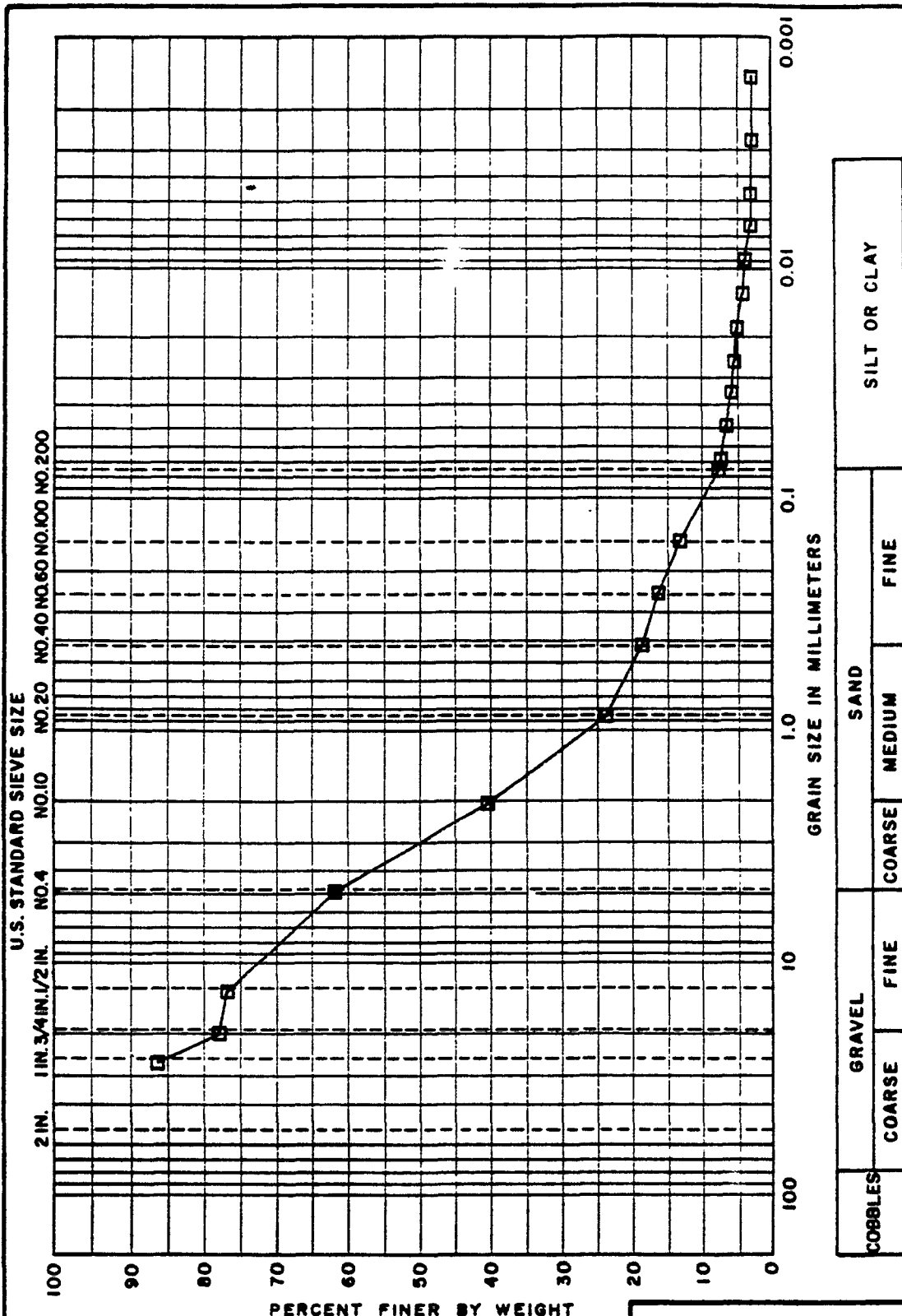
MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

BORING NO. MW288
SAMPLE BAG 1
DEPTH
TECH. ARD
REVIEWER

TEST SERIES
NO. 49
DATE June 88
L10851

FILE



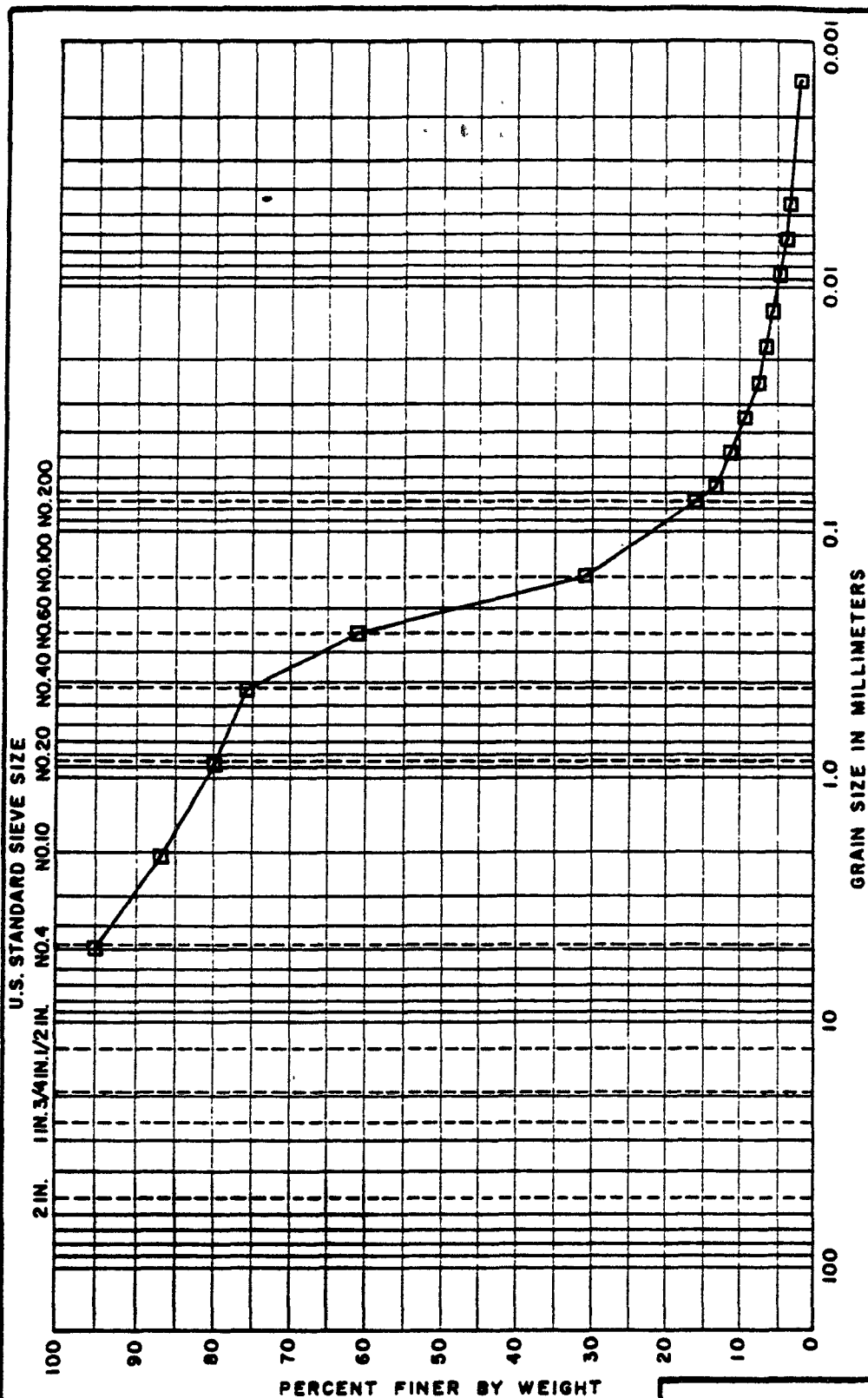
GOLDBERG-ZOINO & ASSOCIATES, INC.
 GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

MILLCREEK SUPERFUND SITE
 MILLCREEK, PA.

GRADATION TEST

BORING NO.	MW28B	TEST SERIES	49
SAMPLE	BAG 2	NO.	
DEPTH		DATE	June 88
TECH.	MST/MCM		L10851
REVIEWED	02101	FILE	
APPENDIX E-9			

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S49.2	☐	Sample No. MW28B Bag Sample	Gray f-c SAND and f-c GRAVEL, trace (+) Silt



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S77.1	☐	Sample No. MW-29 Bag Sample	Brown f-m SAND, trace Gravel, little Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

BORING NO. MW-29
SAMPLE BAG
DEPTH
TECH. HST/MCH
REVIEWER

TEST SERIES NO. 77
DATE June 88
L10851

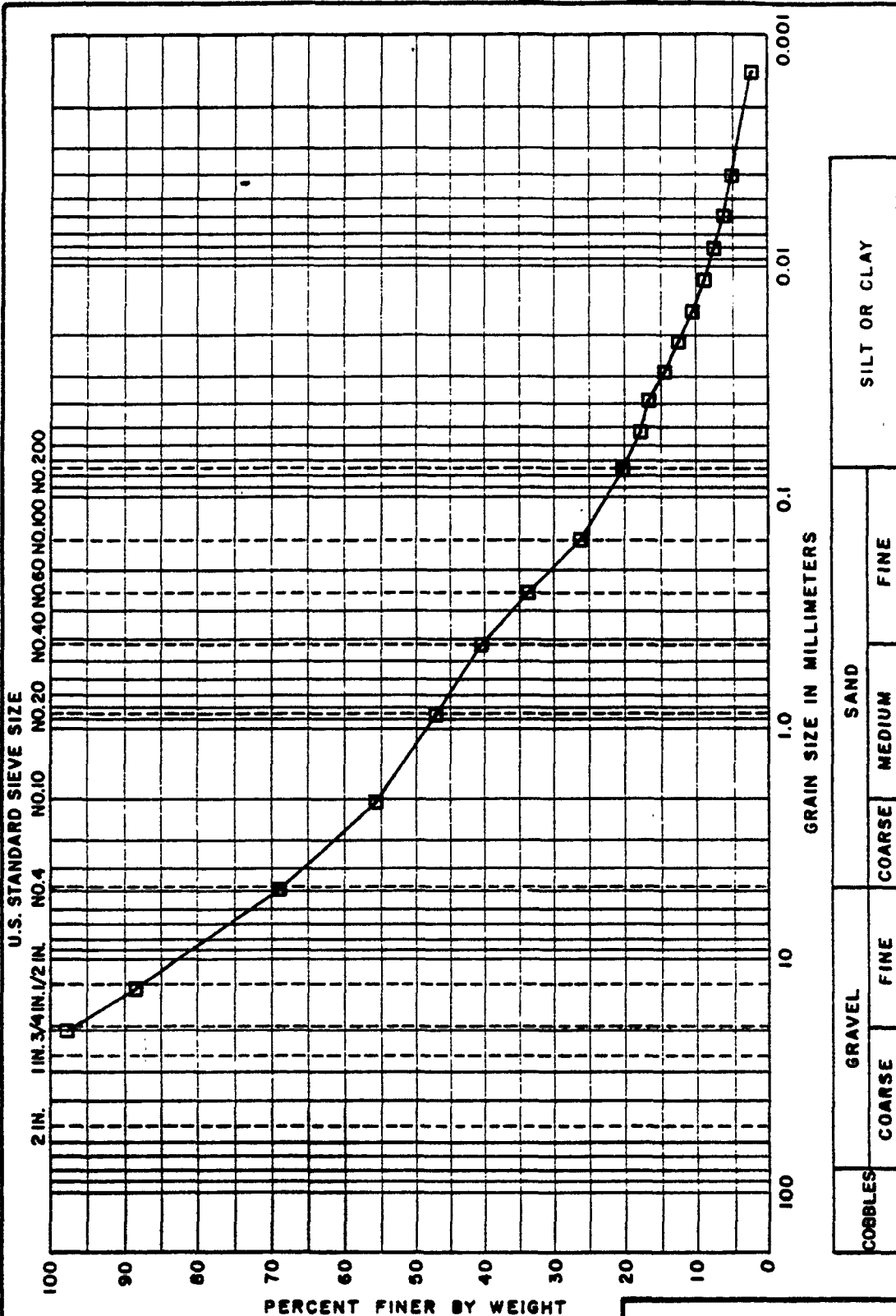
FILE

GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

APPENDX E-9

S 3

ORIGINAL
(RED)



UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
578.1	☐	Sample No. MW-30 Bag Sample	Brown f-c SAND, some Gravel, some (-) Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TEST

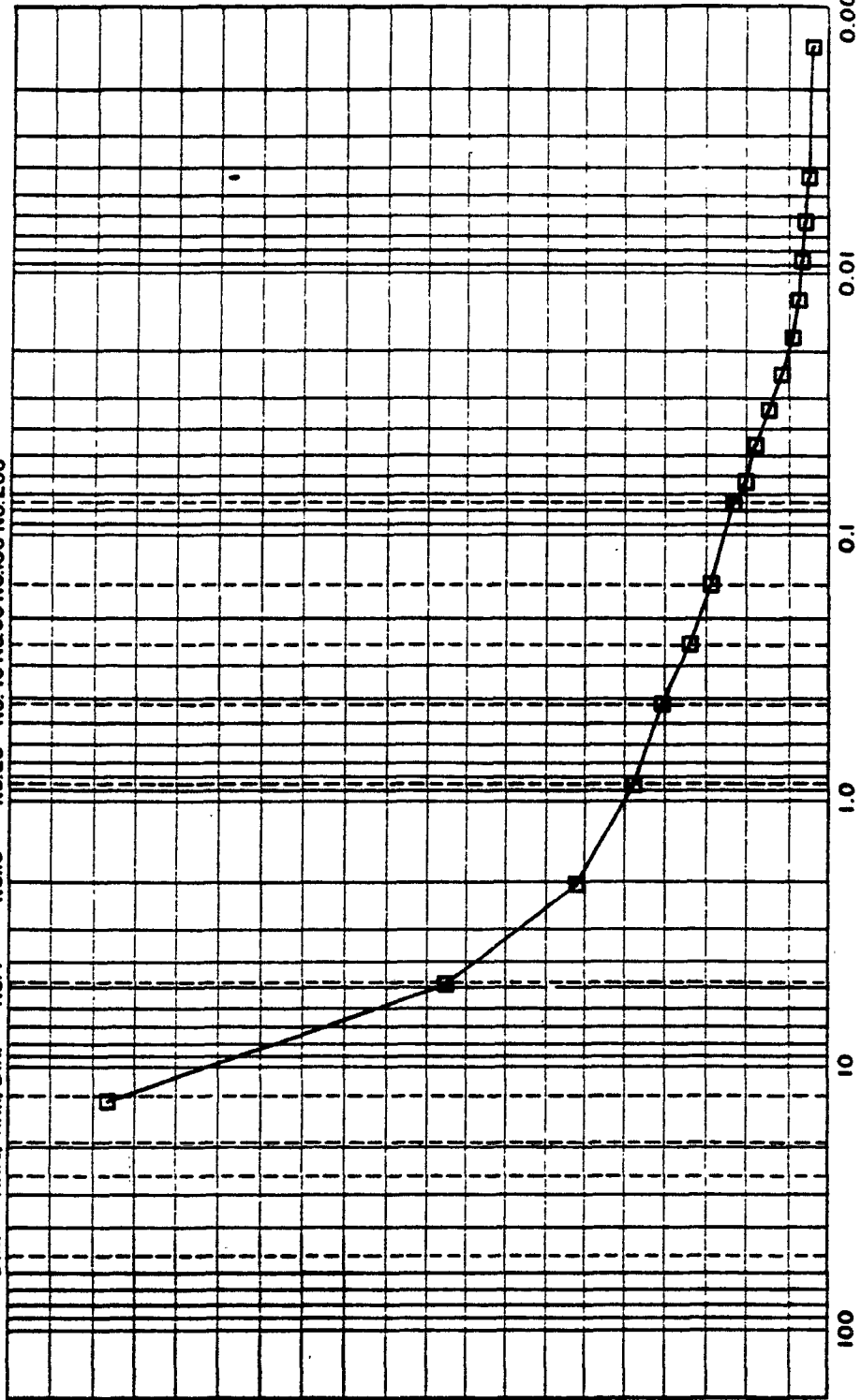
BORING NO. MW-30
SAMPLE BAG
DEPTH 10-23'
TEST / MCM

TEST SERIES 78
NO. 78
DATE June 88
L10851

AR002103

U.S. STANDARD SIEVE SIZE

2 IN. 1 IN. 3/4 IN. 1/2 IN. NO. 4 NO. 10 NO. 20 NO. 40 NO. 60 NO. 100 NO. 200



PERCENT FINER BY WEIGHT

GRAIN SIZE IN MILLIMETERS

COBBLES	GRAVEL		SAND		SILT OR CLAY
	COARSE	FINE	COARSE	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S79.1	☐	Sample No. MW-31 Bag Sample	Brown fine GRAVEL and f-m SAND, little (-) Silt

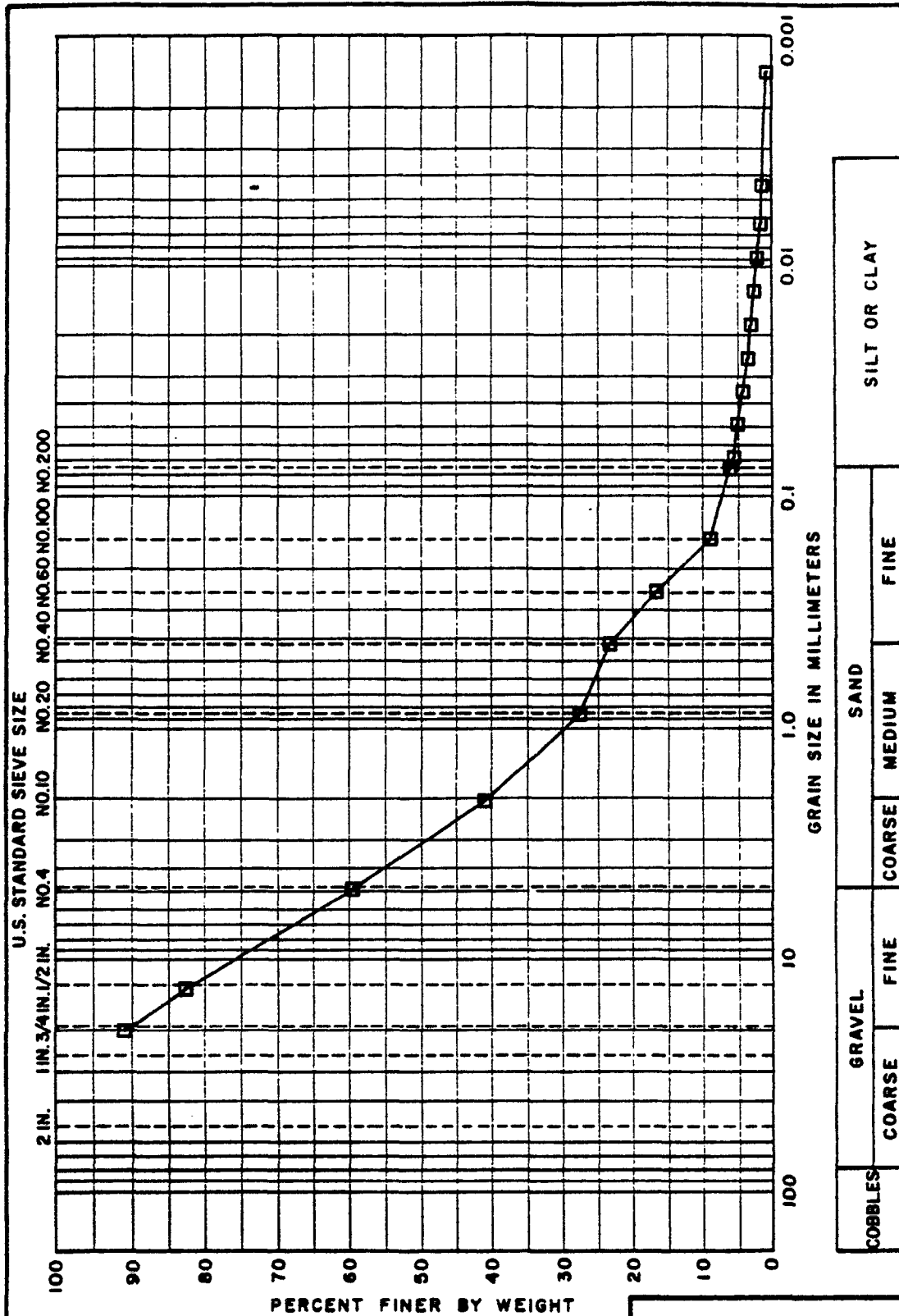
MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

BORING NO. MW-31
SAMPLE BAG
DEPTH 5-17'
TECH. REVIEWER
002104

TEST SERIES
NO. 79
DATE June 88
L10851

FILE



UNIFIED SOIL CLASSIFICATION SYSTEM

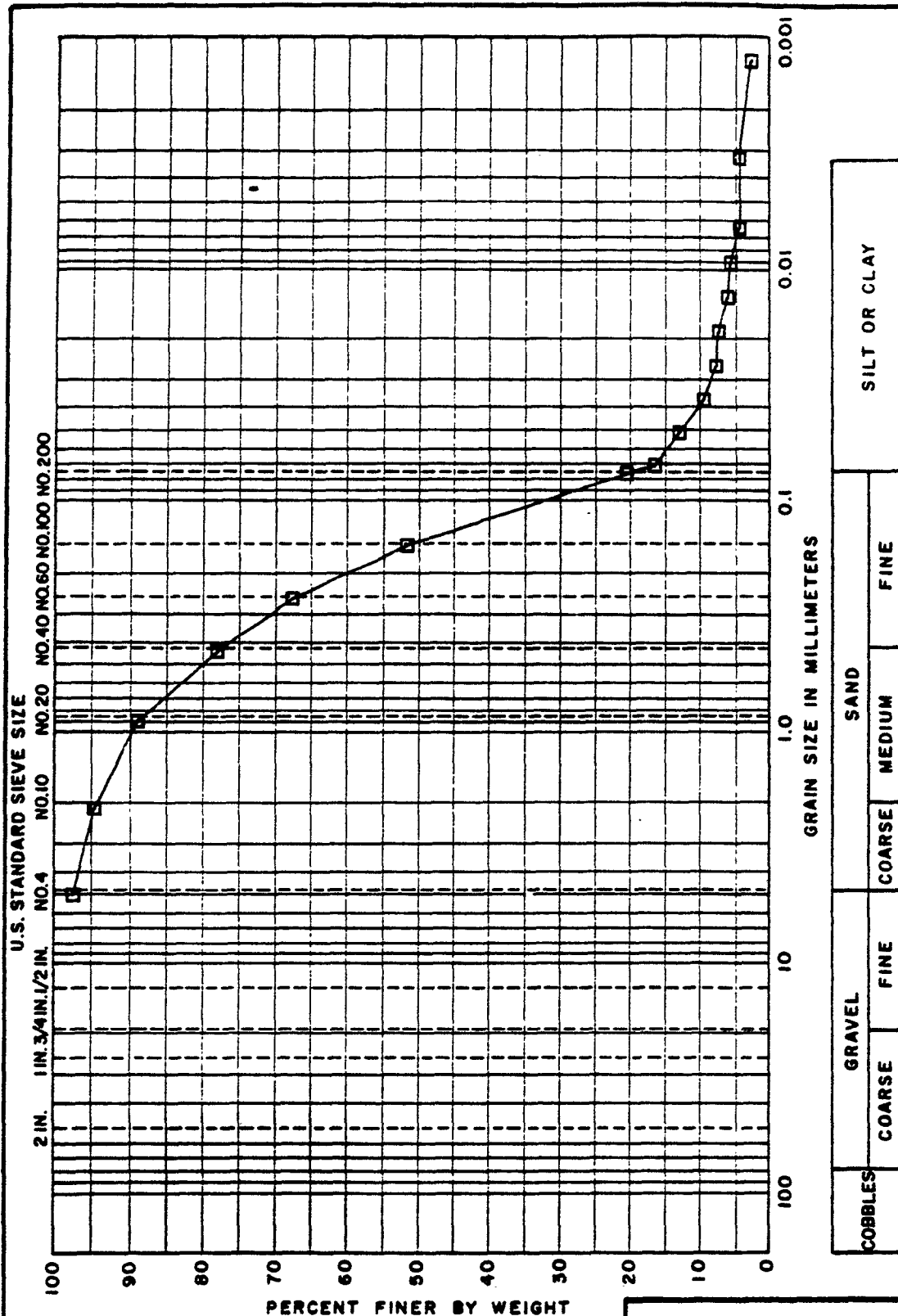
TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S80.1	☐	Sample No. MW-32 Bag Sample	Brown f-c SAND and f-c GRAVEL, trace Silt

GOLDBERG-ZOINO & ASSOCIATES, INC.
 GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

MILLCREEK SUPERFUND SITE
 MILLCREEK, PA.
GRADATION TEST

BORING NO.	MW-32	TEST SERIES	80
SAMPLE	BAG	NO.	80
DEPTH	10-20'	DATE	June 88
TECH.	ART/ACH		L10851
REVIEWER	ART002105	FILE	

APPENDX E-9



GRAVEL		SAND		SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
SS0.1	☐	Sample No. MW33A Bag Sample	Dark Gray f-m SAND. little (+) Silt

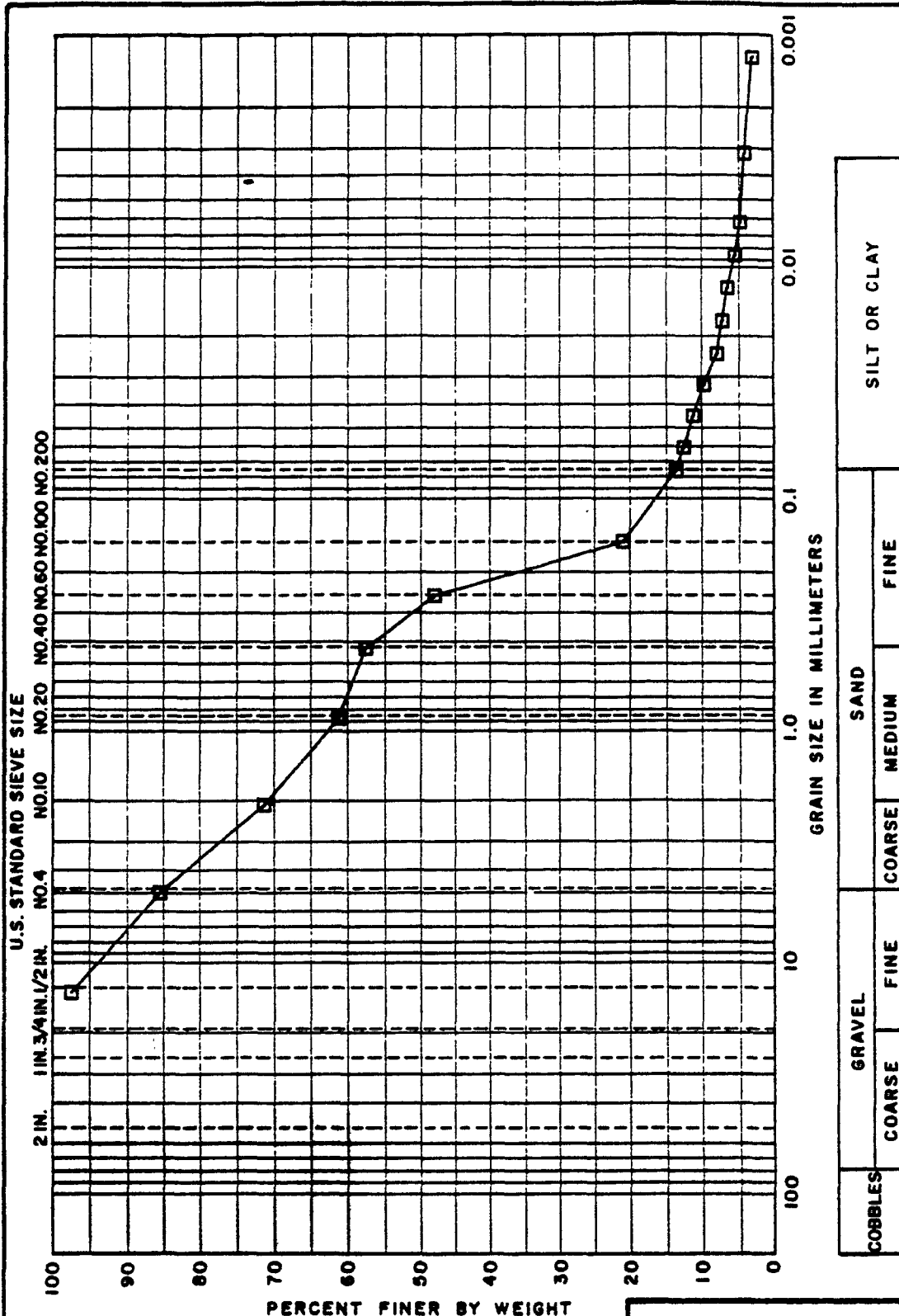
MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

BORING NO. MW33A
SAMPLE BAG
DEPTH
TECH. MST/MCM
REVIEW
002106
ADDITIONAL F.D.

TEST SERIES NO. 50
DATE June 88
L10851

FILE



UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S51.1	☐	Sample No. MW338 Bag Sample	Dark Gray f-c SAND, little Gravel, little Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TEST

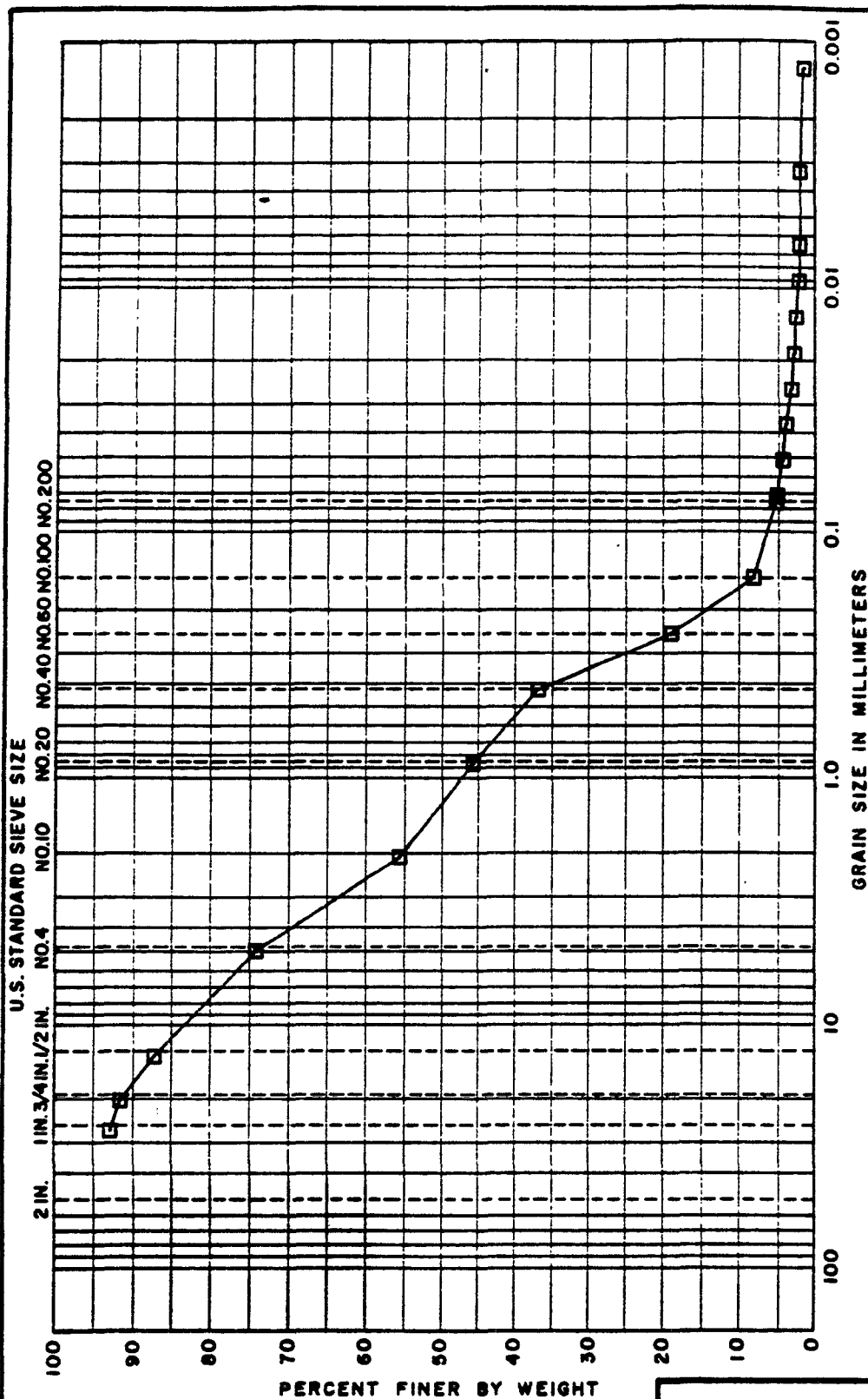
BORING NO. MW338
SAMPLE BAG
DEPTH
TECH. HST/MCH
REVIEWER
APPENDIX E-9

TEST SERIES
NO. 51
DATE June 88
L10851

FILE

GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

88002107



GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S52.1	□	Sample No. HW34 Bag Sample	Dark Grey f-c SAND. some Gravel, trace Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.
GRADATION TESTS

BORING NO. HW34
SAMPLE BAG
DEPTH
TECH. HST/MCM
REVIEWER
TEST SERIES NO. 52
DATE June 88
L10851
FILE

CLIENT: Goldberg-Zoino & Associates, Inc.

INORGANIC ANALYSIS

SAMPLE RECEIVED: 05/16/88

ANALYSIS COMPLETED: 06/03/88

RESULTS IN: meq Na/100g

REPORTED BY: WAC

CHECKED BY: CAK

- Data Report -

Erco ID	Client ID	Cation Exchange Capacity	
7857-01	CEC 3.1	12	SAMPLE ST-4 BAG
7857-02	CEC 4.1	10	SAMPLE ST-5 BAG
7857-03	CEC 1.1	7.4	SAMPLE ST-1 BAG
7857-04	CEC 2.1	7.5	SAMPLE ST-3 BAG
Prep Blank		<0.05	
Erco Blank		0.07	

Method Used: 57-3**

If customer has any questions regarding analysis, refer to sample in question by its Erco ID#.

**Methods of Soil Analysis. Part 2 - Chemical and Microbiological Properties (2nd Edition)

AR002109

LABORATORY TESTING DATA SUMMARY

Reviewed by _____

Date _____

Project No. L-10851 Project Engr. J. Kerwin/Ir Assigned By D. Daily Date Assigned May 1988 Required _____

Boring No.	Sample No.	Depth ft.	Laboratory No.	IDENTIFICATION TESTS							STRENGTH TESTS					CONSOL. C_c / ϵ_0	Laboratory Log and Soil Description
				Water Content %	LL %	PL %	Sieve -200 %	Hyd -2 μ %	G _s	Org. (%)	pH	Torvane or Type Test	σ_c or $\bar{\sigma}_c$ or σ psf	Failure Criteria	$\sigma_1 - \sigma_3$ or τ psf		
ST1	BAG		1	9.3	17	17	11	4	2.94	1.6	10.4						Dark grey to black fine to medium SAND, little Gravel, little(-) Silt.
ST3	BAG		2	8.5	18	18	8	2	3.25	2.3	8.1						Black fine to medium SAND, some Gravel, trace(+) Silt, trace Metal, Glass, Bricks
ST4	BAG		3	18.2	21	18	35	10	2.61	3.7	7.4						Black fine to medium SAND, trace Gravel, some(+) Organic Silt
ST5	BAG		4	20.6	22	22	14	2	2.65	3.9	7.5						Dark grey fine SAND, little Organic Silt
1832	BAG		5	22.1	23	23	22										Black fine to medium SAND, trace Gravel, some(-) Silt, trace Brick cinders

GOLDBERG-ZONNO & ASSOCIATES, INC.

TABLE NUMBER AR002110

LABORATORY TESTING DATA SUMMARY

Reviewed by

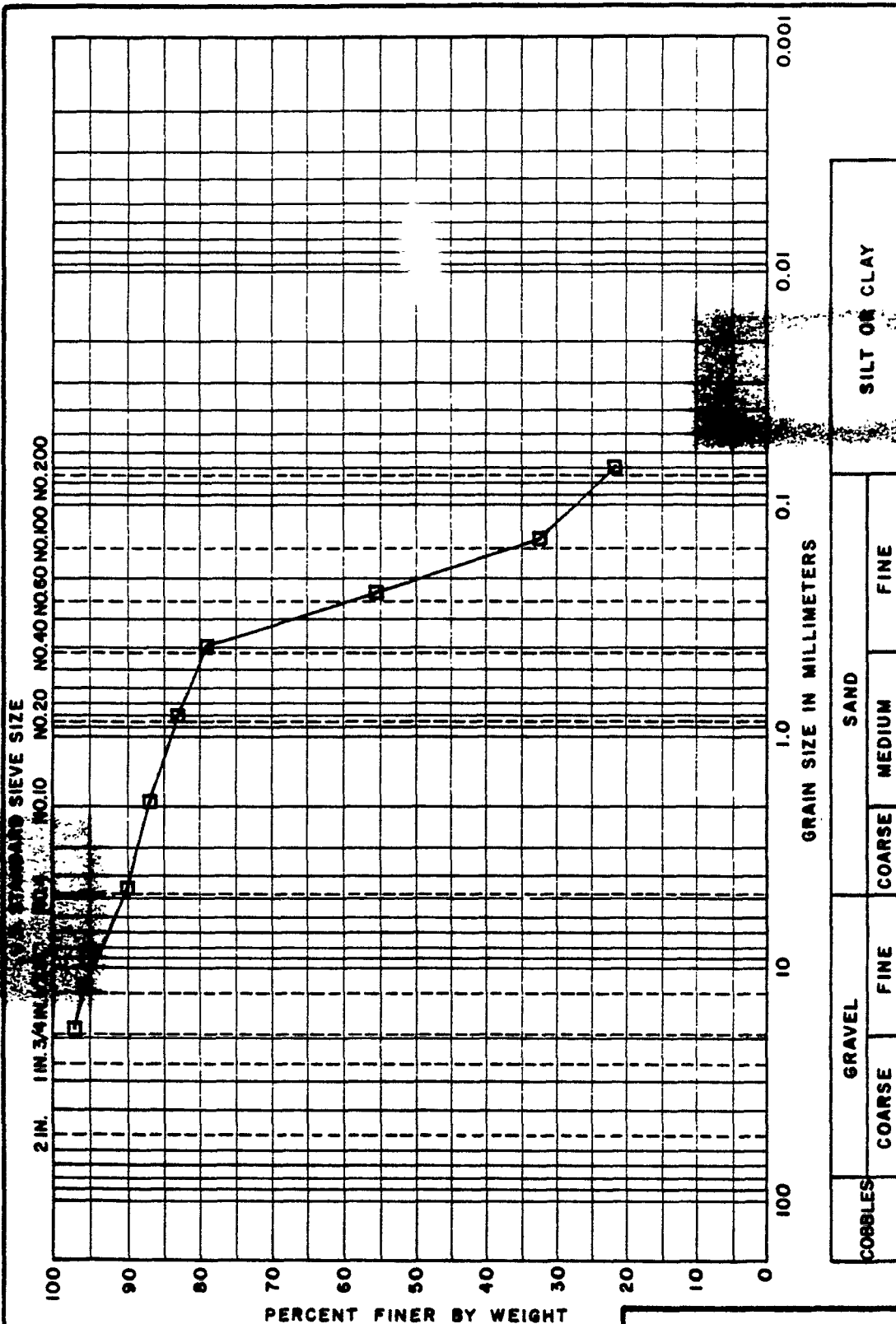
Date _____

Project No. L-10851 Project Engr. J. Kerwin/r Assigned By D. Daily Date Assigned May 1988 Required

[illegible]

AR 002112

TESTS



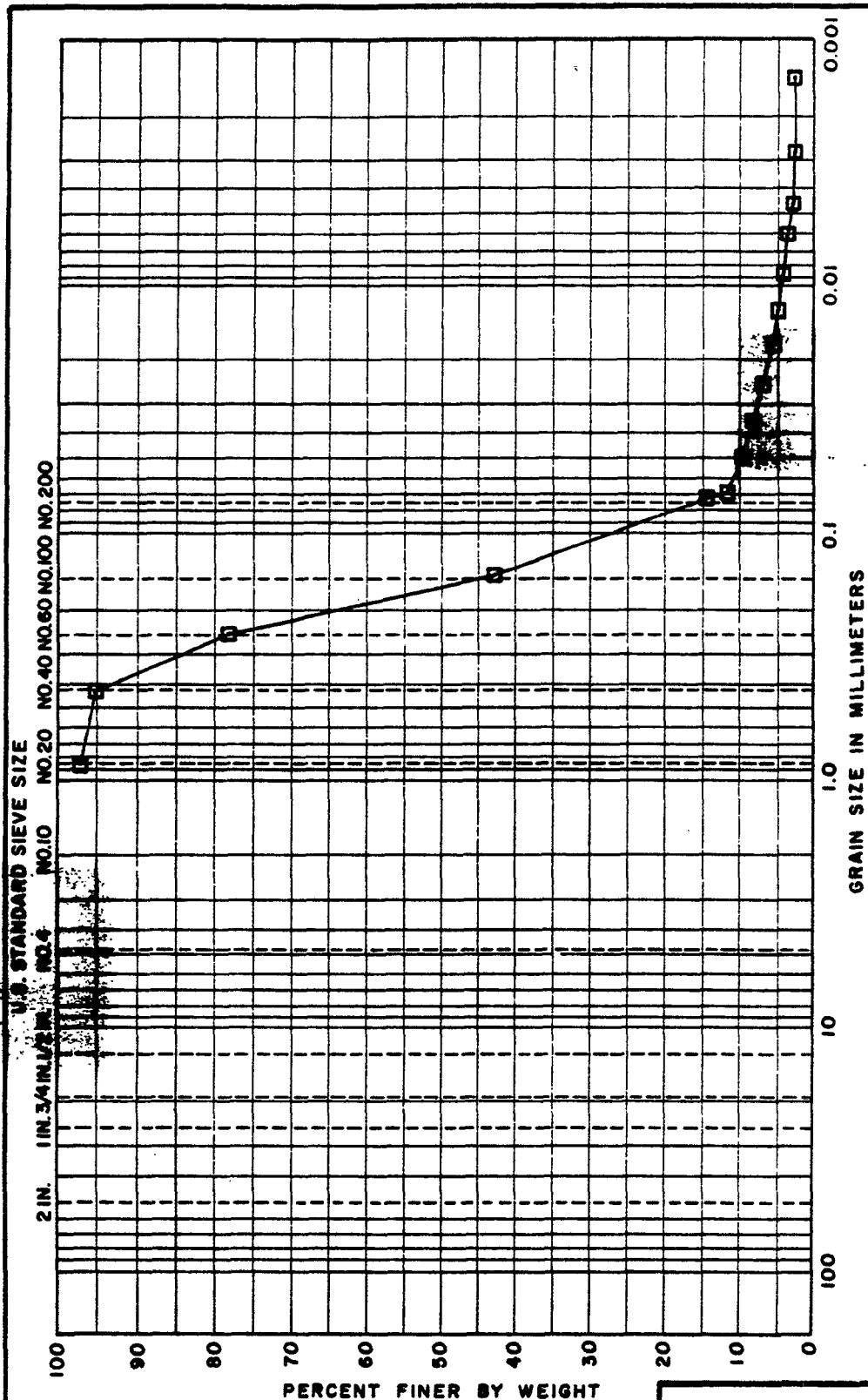
GRAVEL		SAND		SILT OR CLAY
COARSE	FINE	COARSE	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S5.1	☐	Sample No. SB32 Bag Sample	Black f-m SAND, trace Gravel, some (-) Silt, trace Brick, Cinders

GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.
GRADATION TEST
BORING NO. SB32
SAMPLE BAG
DEPTH 10.0 ft
TECH. AR002113
REVIEWER
TEST SERIES NO. DATE May 88 L10851
FILE



COBBLES	GRAVEL		SAND		SILT OR CLAY
	COARSE	FINE	COARSE	FINE	

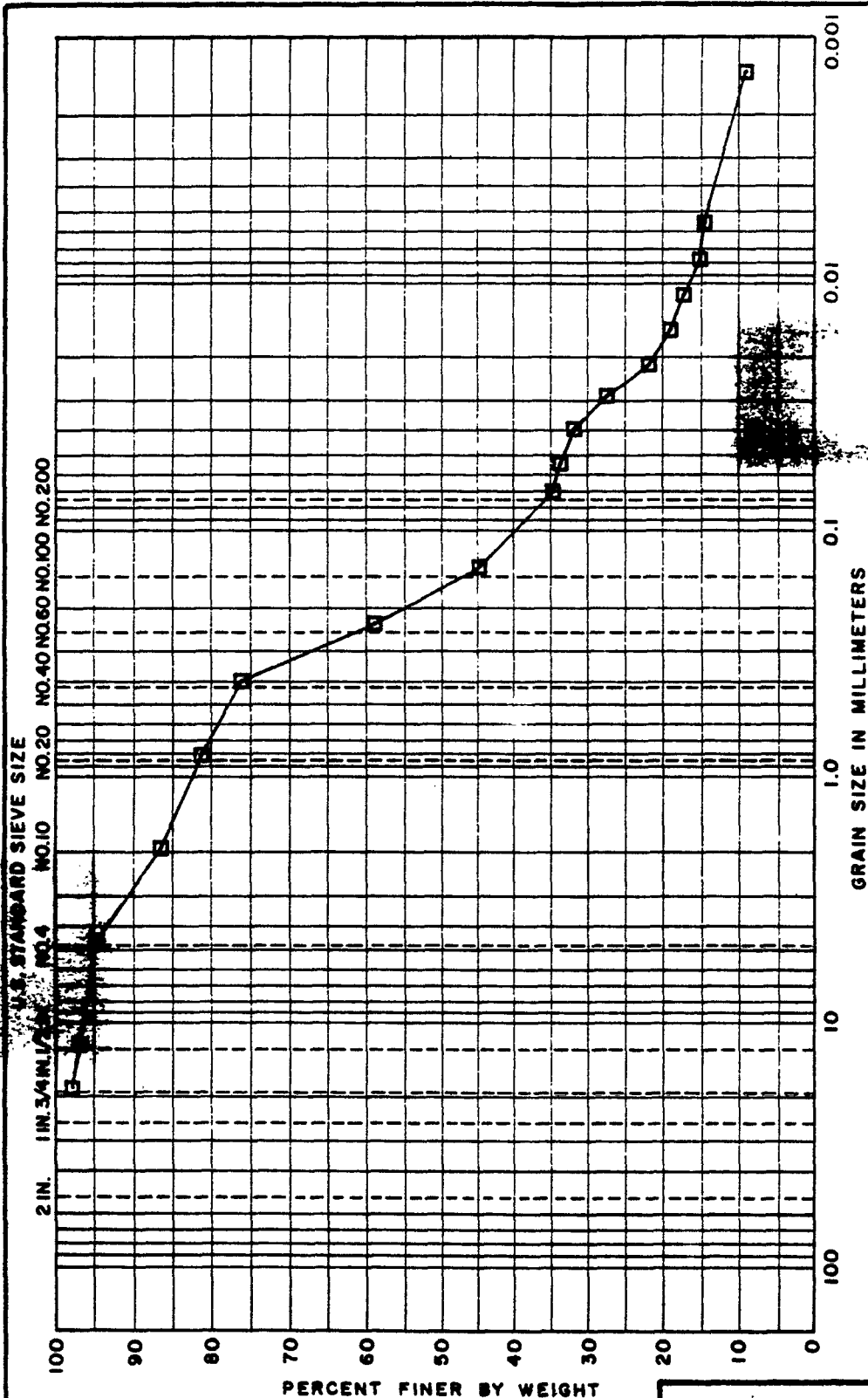
UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S4.1	□	Sample No. ST5 Bag Sample	Dark Gray fine SAND, little Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

BORING NO. ST5
SAMPLE BAG
DEPTH 14
TECH. 1002114
REVIEWER
TEST NO. 1002114
TEST SERIES NO.
DATE May 88
L10851
FILE



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S3.1	□	Sample No. STA Bog Sample	Black f- SAND, trace Gravel, some (+) Organic Silt

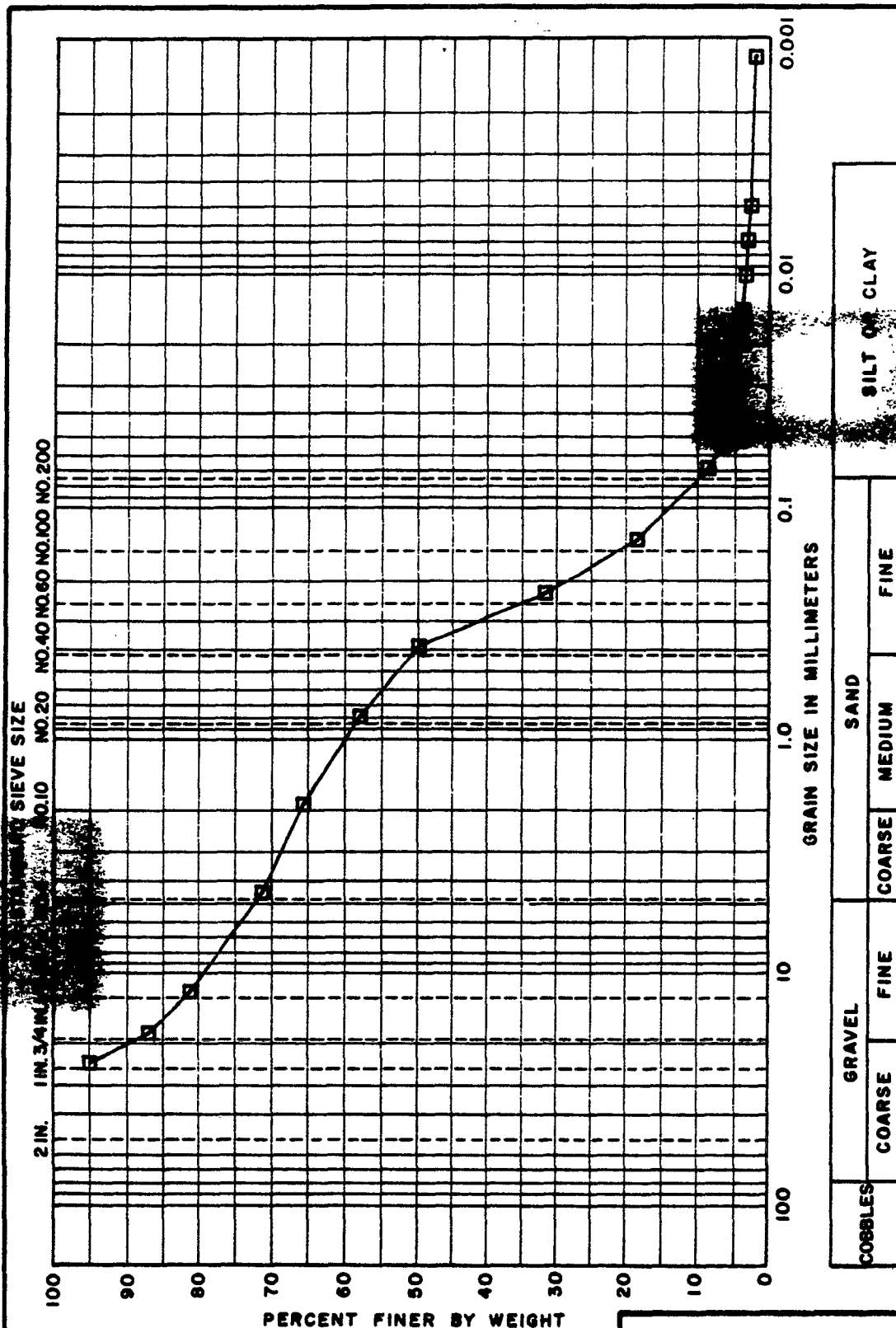
MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TEST

BORING NO. ST4
SAMPLE BAG
DEPTH 002115
TECH. RST/NDH
REVIEWER

TEST SERIES
NO.
DATE May 88
L10851

FILE



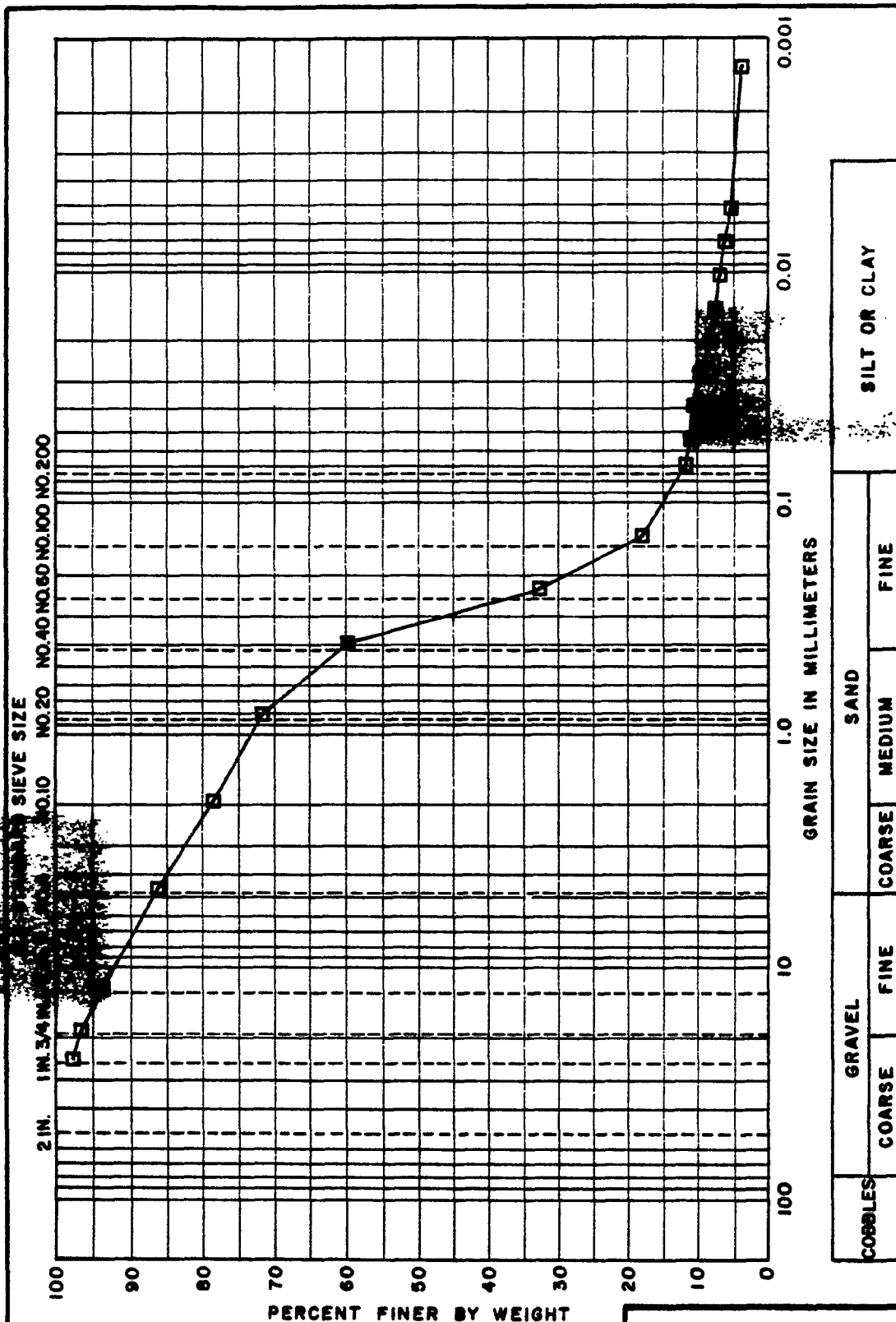
GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL, GEOMORPHOLOGICAL, CONSTRUCTION

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

BORING NO. ^{ST3} _{BAG} TEST SERIES
SAMPLE NO. _{NO.}
DEPTH _{TEST/NO.} AR002116
TECH. REVIEWER
FILE

ORIGINAL
(RED)



UNIFIED SOIL CLASSIFICATION SYSTEM

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S1.1	□	Sample No. ST1 Bag Sample	Dk Gray to Black f-m SAND, little Gravel, little (-) Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TEST

BORING NO. ST1
SAMPLE BAG
DEPTH 15.75 MCH
TECH. AB002117
REVIEWER

TEST SERIES
NO.
DATE May 88
L10851

FILE

Reviewed

Date _____

Project No. L-10851 Project Engr. _____

J. Kerwin Assigned By D. Daily

Date Assigned May 1988

Required.

[illegible]

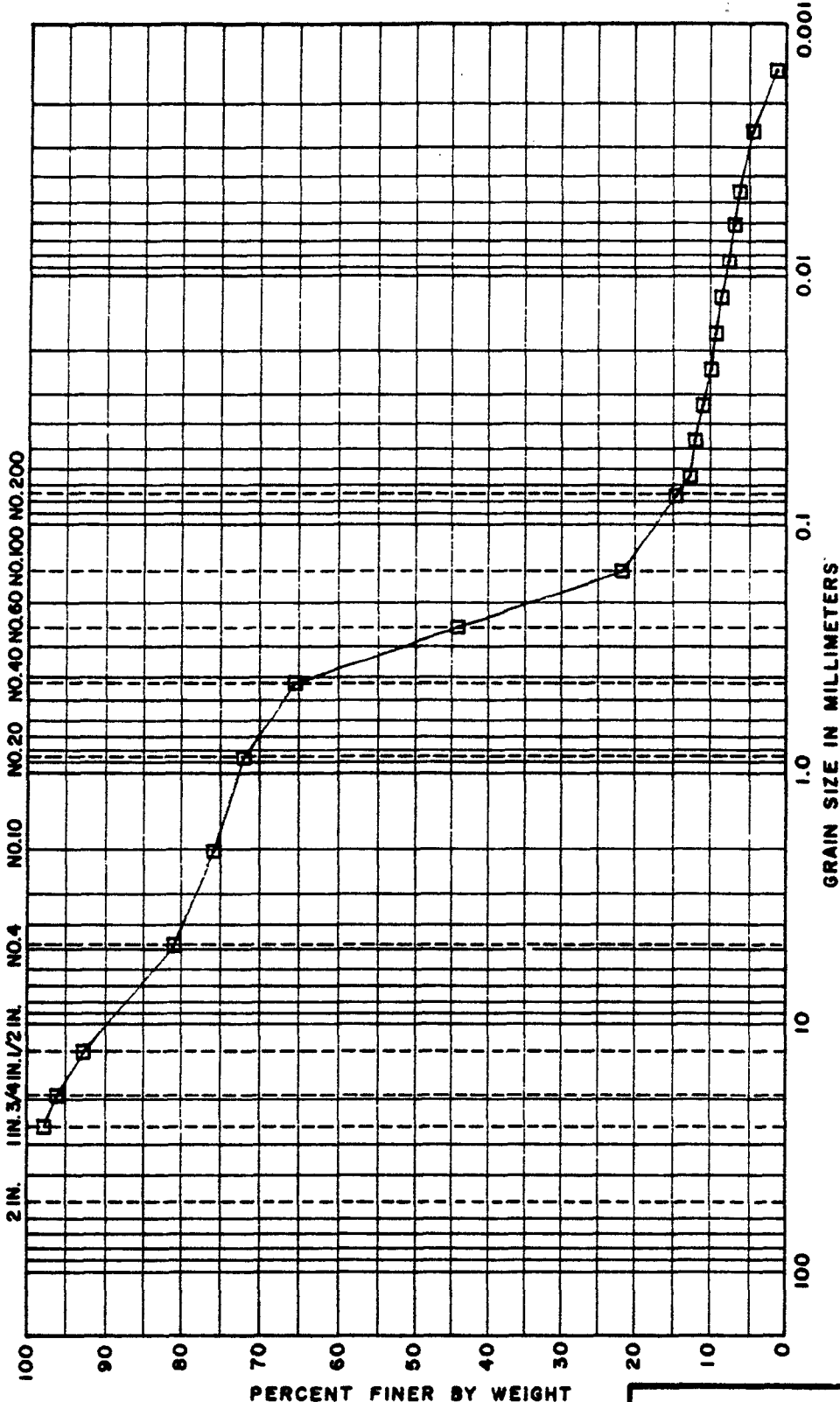
GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

APPENDIX E-2

2
M.
S.

SI AR002118
TABLE 1

U.S. STANDARD SIEVE SIZE



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S13.1	☐	Sample No. SB23 Bag Sample	Dark Gray f-m SAND, some Gravel, little Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

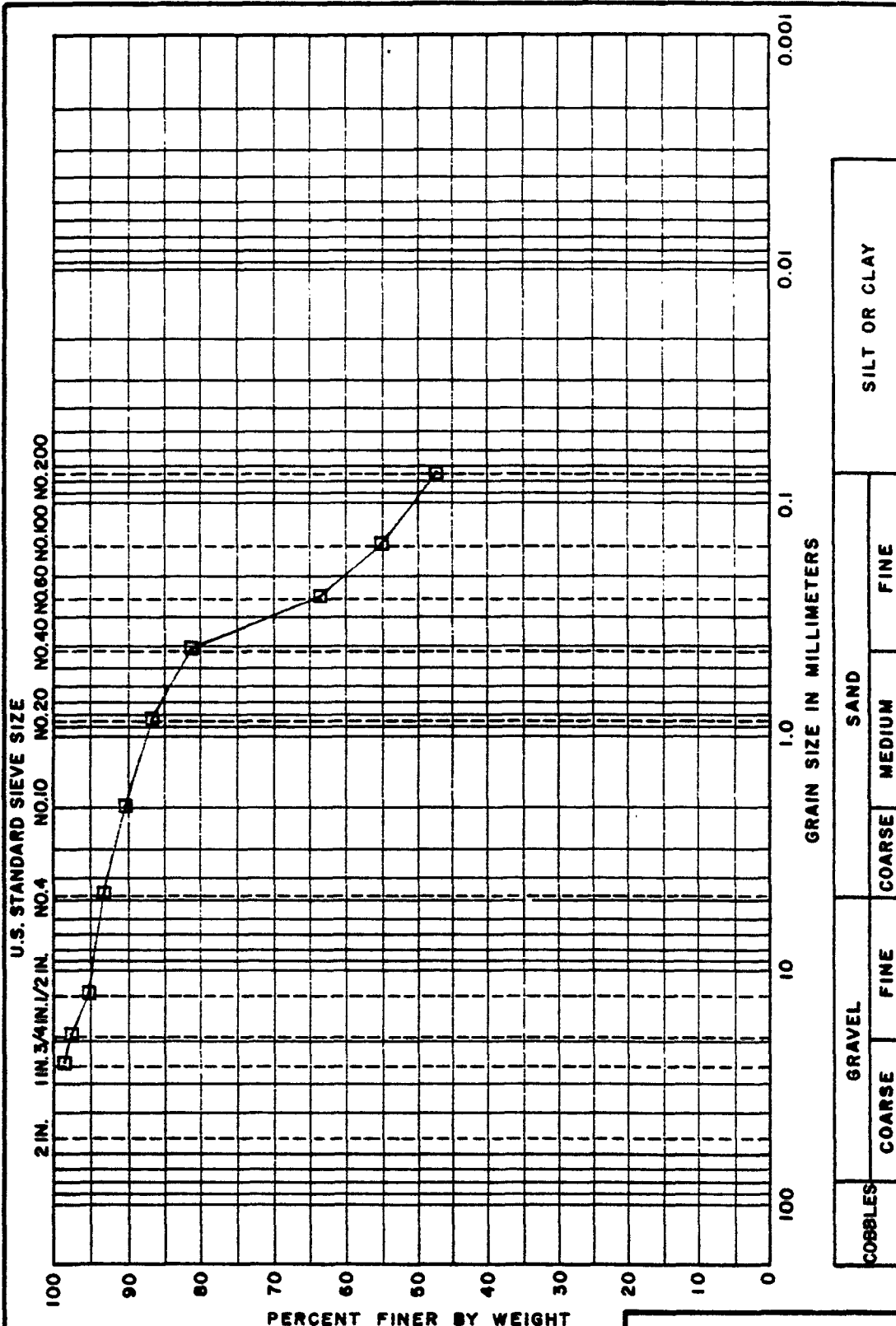
BORING NO. SB23
SAMPLE BAG

TEST SERIES NO. 13
DATE June 88
11/2/91

AR002120

REVIEWER

FILE



UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S301	□	Sample No. S831 Bag Sample	Dk Grey Clayey SILT. and f-m SAND, trace Gravel

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

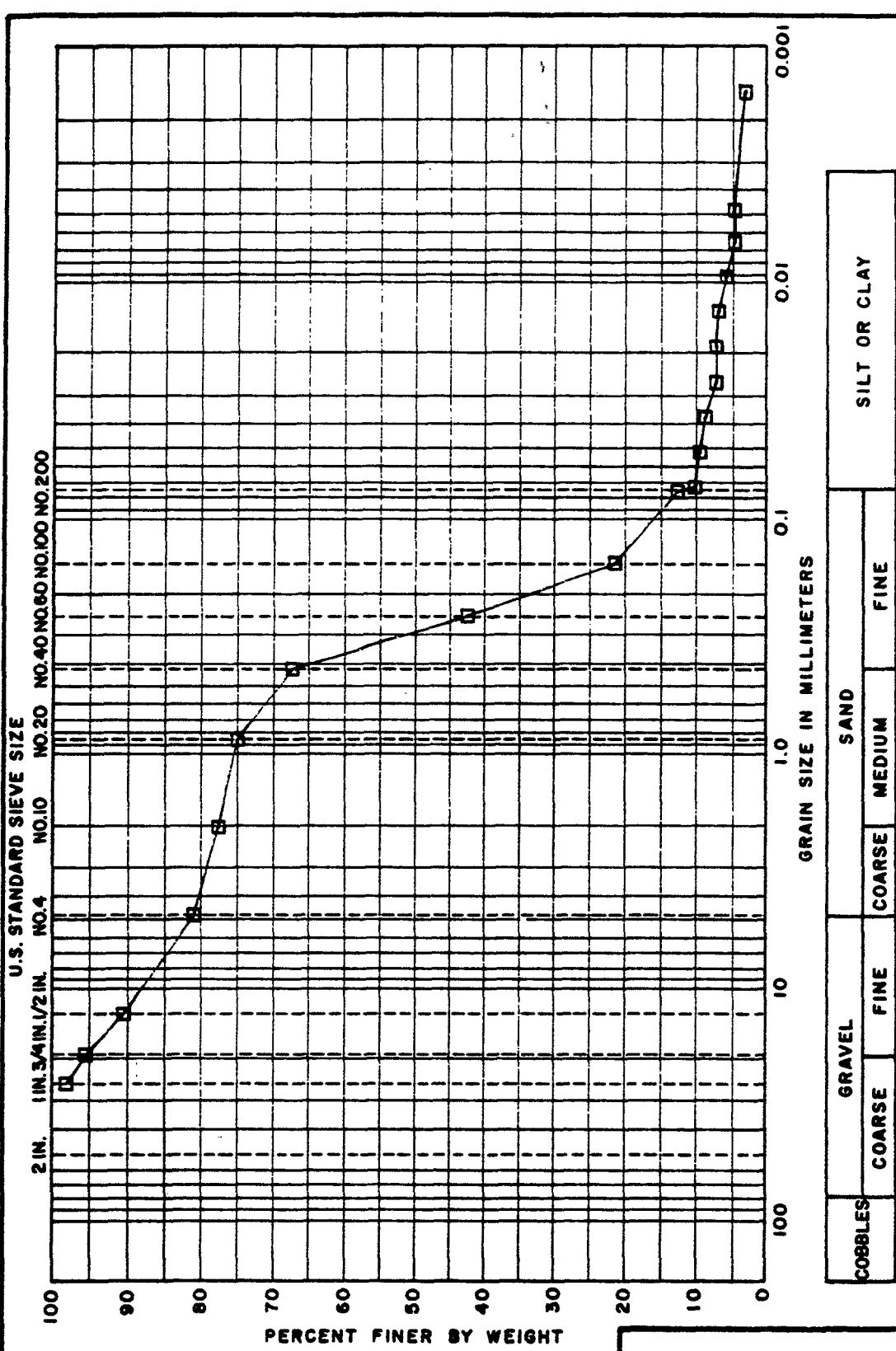
GRADATION TEST

BORING NO. S824
SAMPLE BAG
DEPTH
TECH. WET/WFM
REVIEWER

TEST SERIES:
NO. 38
DATE May 88
11/05/88

FILE

AR002121



TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S14.1	☐	Sample No. SB24 Bag Sample	Dk. Gray f-m SAND, little (+) Gravel, little Silt

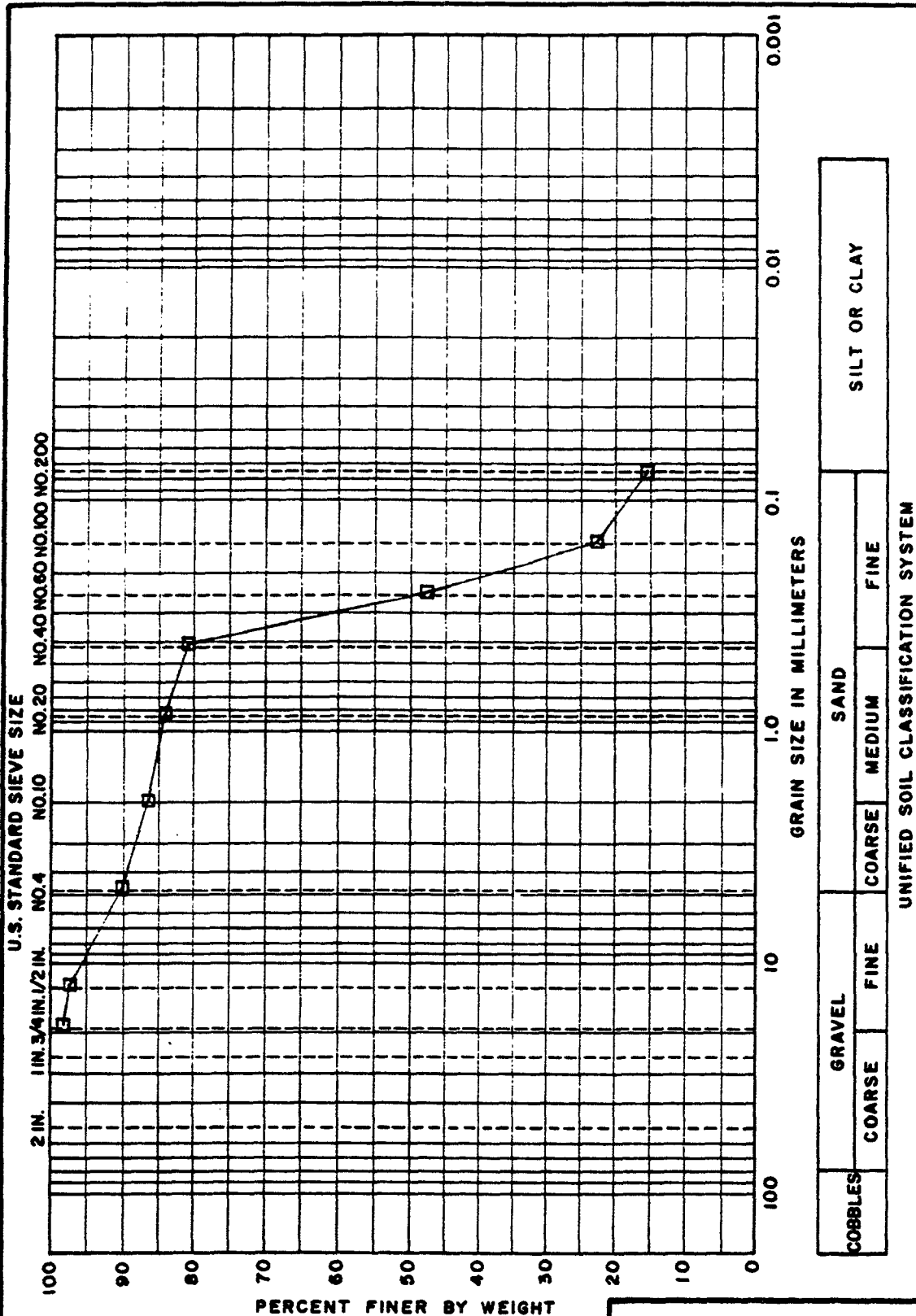
MILLCREEK SUPERFUND SITE
MILLCREEK, PA.
GRADATION TESTS

BORING NO. SB24
SAMPLE BAG
DEPTH
TECH. MGT/MFM
REVIEWER

TEST SERIES NO. S14.1
DATE May 88
11/05/88

FILE

AR002122



**MILLCREEK SUPERFUND SITE
MILLCREEK, PA.**

GRADATION TESTS

BORING NO. **SB12**
SAMPLE **BAG**
DEPTH
TECH. **WGT / WTM**
REVIEWER

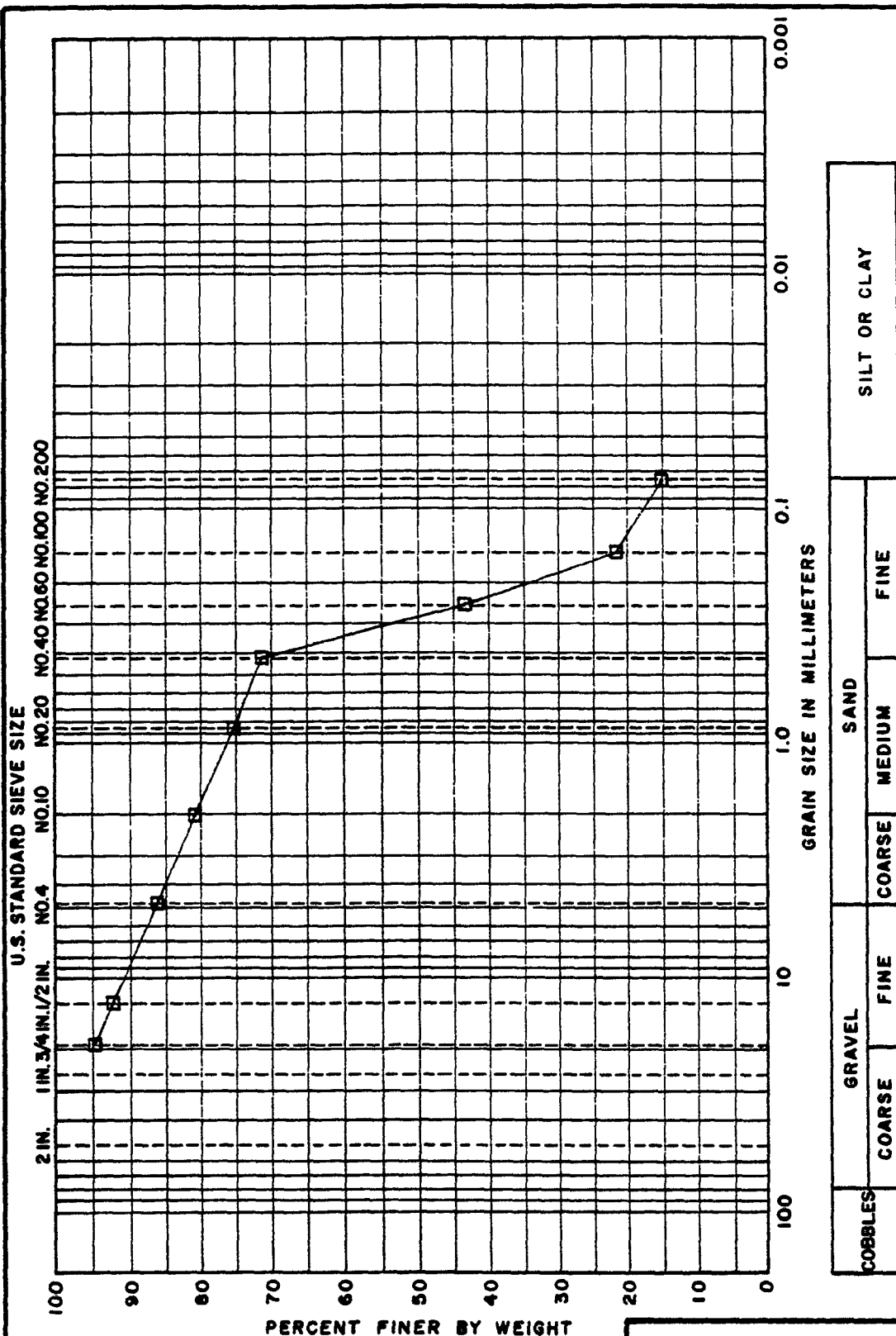
TEST SERIES
NO. 511.1
DATE May 88
110041

FILE

AR002124

GOLDBERG-ZOINO & ASSOCIATES, INC.

GEOTECHNICAL GEOHYDROLOGICAL ENGINEERING



UNIFIED SOIL CLASSIFICATION SYSTEM

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S10.1	□	Sample No. S818 Bag Sample	Blk. f-m SAND, little fine Gravel, little Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

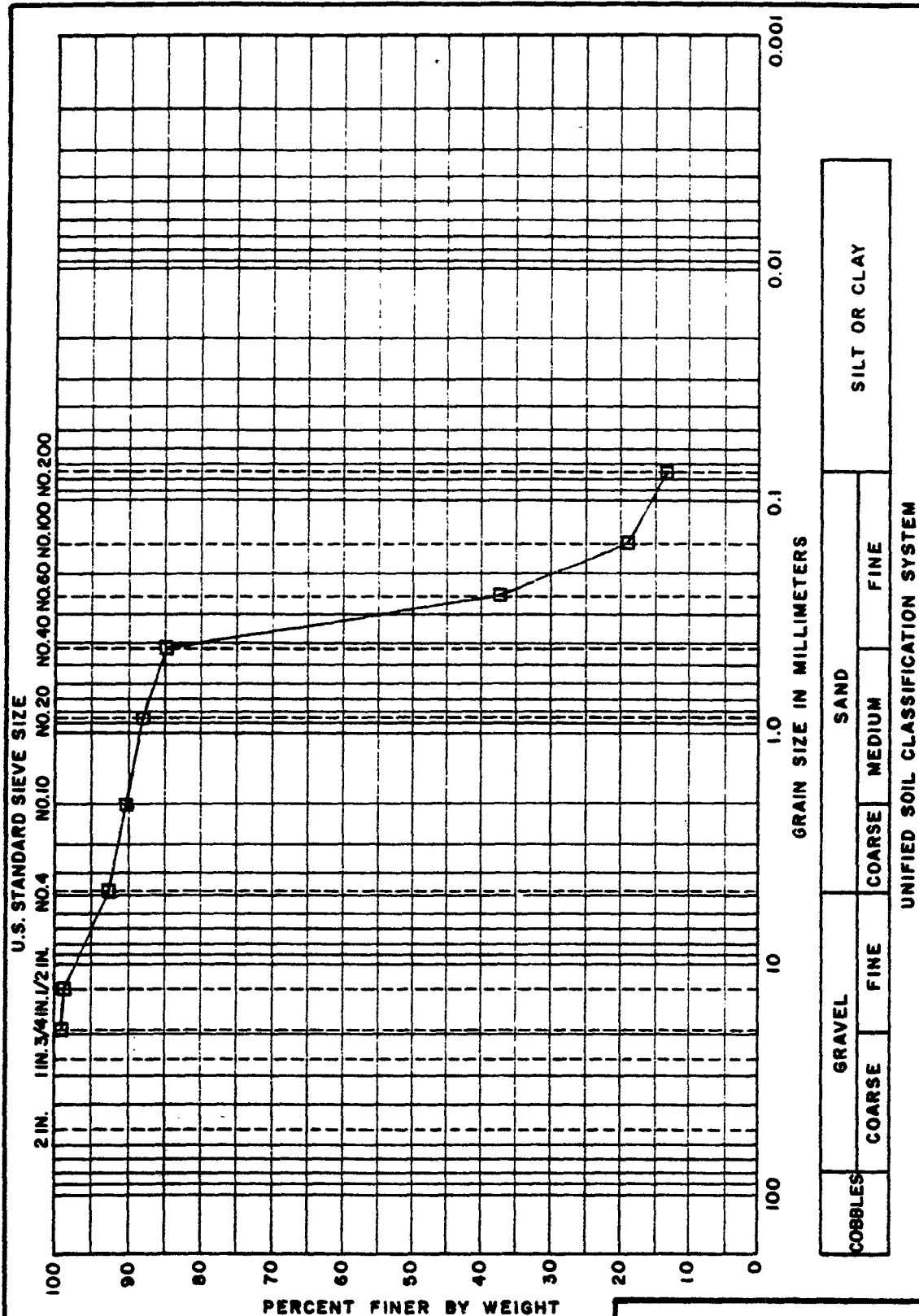
GRADATION TEST

BORING NO. S818
SAMPLE BAG
DEPTH
TECH. MCT/MCM
REVIEWER

TEST SERIES:
NO. S10.1
DATE May 98
11/2/98

FILE

AR002125



TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
SB. 1	□	Sample No. SB14 Bag Sample	Bk. f-m SAND, little Silt, trace fine Gravel

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

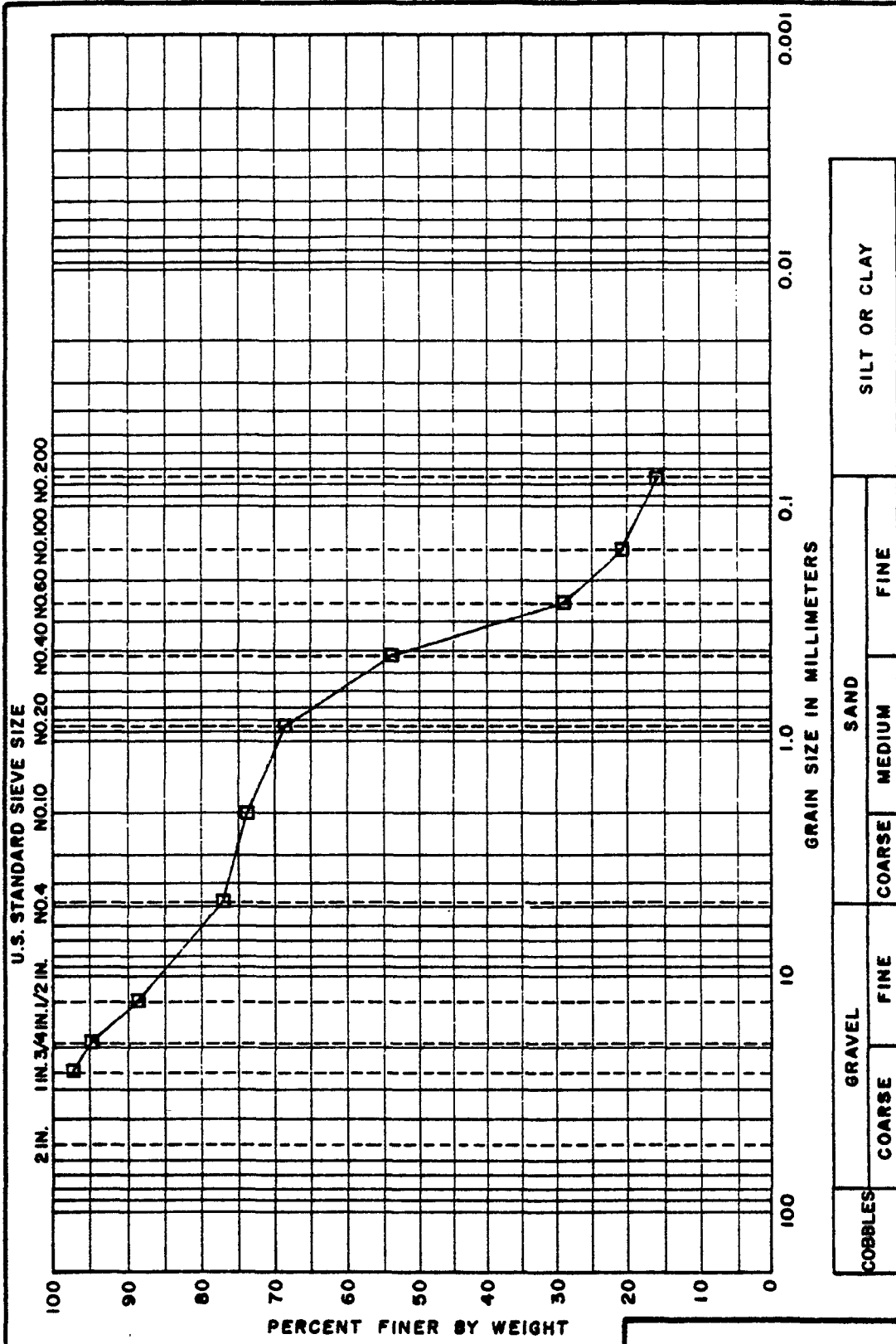
BORING NO. SB14
SAMPLE BAG
DEPTH
TECH. NCT/MCM
REVIEWER

TEST SERIES
NO. SB. 1
DATE May 88
110451

FILE

AR002126

(RED) 0.001



UNIFIED SOIL CLASSIFICATION SYSTEM

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S8.1	□	Sample No. S821 Bag Sample	Blk. f-m SAND, some Gravel, little Silt

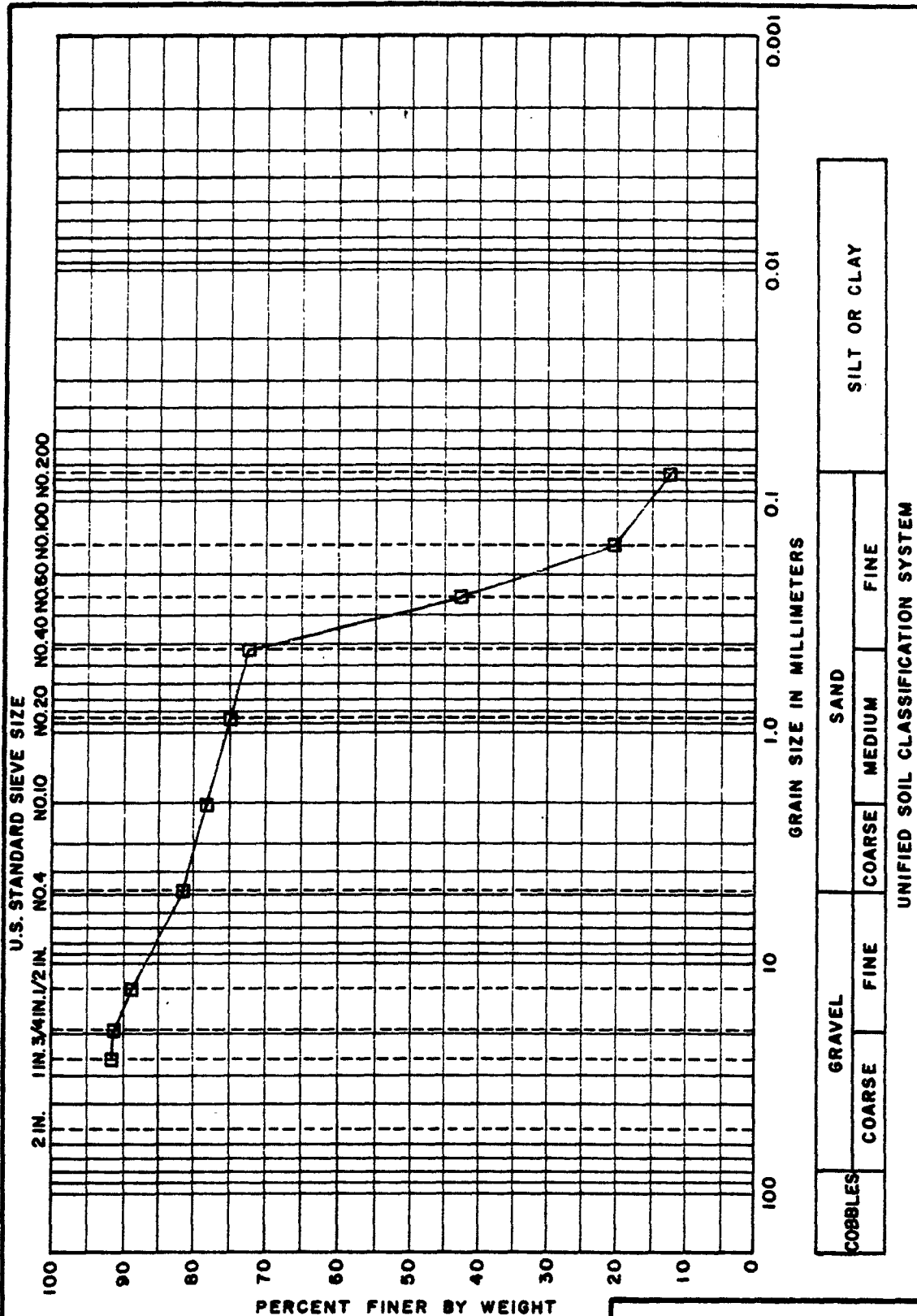
MILLCREEK SUPERFUND SITE
MILLCREEK, PA.
GRADATION TEST

BORING NO. S821
SAMPLE BAG
DEPTH
TECH. MCT/MPM
REVIEWER

TEST SERIES NO. S8.1
DATE May 88
11/1/91

FILE

AR002127



TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S7.1	□	Sample No. SB19 Bag Sample	Blk. fine SAND, little (+) Gravel, little Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

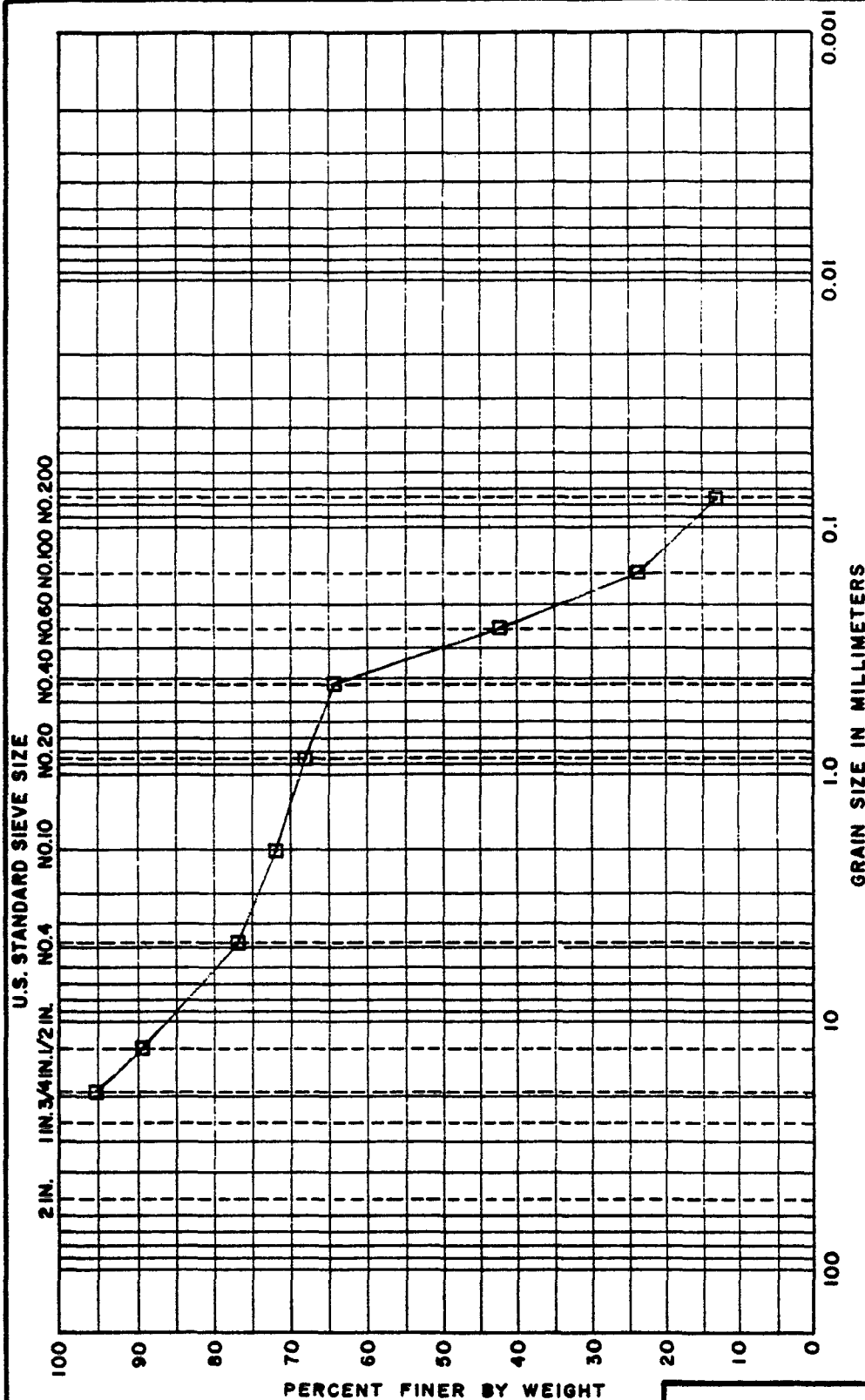
BORING NO. SB19
SAMPLE BAG
PTH
CH. MCT/MCM
REVIEWER

TEST SERIES
NO. 7
DATE May 88
110451

FILE

AR 002128

ORIGINAL
(RED)



COBBLES		GRAVEL			SAND			SILT OR CLAY	
COARSE	FINE	COARSE	MEDIUM	FINE	COARSE	MEDIUM	FINE		

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S35.1	□	Sample No. SB508 Bag Sample	Dark Gray fine SAND, some fine Gravel, little Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TEST

BORING NO. SB508
SAMPLE BAG
DEPTH
TECH. MCT/MPM
REVIEWER

TEST SERIES NO. 35
DATE May 88
11/09/91

FILE

AR002129

GOLDBERG-ZOINO & ASSOCIATES, INC.

Week Superfund Site
M11creek, PA

LABORATORY TEST DATA SUMMARY

Reviewed

Date

Project No. L10851 Project Engr. J. Kerwin Assigned By D. Daily Date Assigned May 88 Required

Boring No.	Sample No.	Depth ft.	Laboratory No.	IDENTIFICATION TESTS							STRENGTH TESTS					CONSOL. C_c / e_0	Laboratory Log and Soil Description
				Water Content %	LL %	PL %	Sieve -200 %	Hyd -2 μ %	G _s	γ_d pcf	Torvane or Type Test	σ_c or σ pcf	Failure Criteria	$\sigma_1 - \sigma_3$ or τ pcf	Strain %		
	SB22		19	17.1	21	21	22	4								Black f-m sand, little silt, trace gravel	
	SB27		20	17.9	32	32	6	1									
	SB30		21														
	SB41		22	25.8	38	23	79	27									
	SB42		23														
	SB45		24														
	SB50		25														
	SB48		26	9.8	18	18	18	5									
	SB33		27														
	SB49		28	9.0	15	15	8	2									
	SB25		29	18.7	20	20	18	7									
	SB20		30														
	SB17		31	9.9	15	15	14	5									
	ST2	0 - 2	76	Average total unit weight = 88.7 pcf													
		0.2		14.1													
		0.2 - 0.6		14.7	24	24	16	8	2.55	ORG = 5.7%, pH = 8.2							
		0.6		14.9													
		0.7 - 1.1		16.6					78.8 $\times 10^{-4}$	K $\sigma_c = 720$ (n = 50k)							
		1.1		19.5													
		1.1 - 1.5		same													
		1.5		13.4													

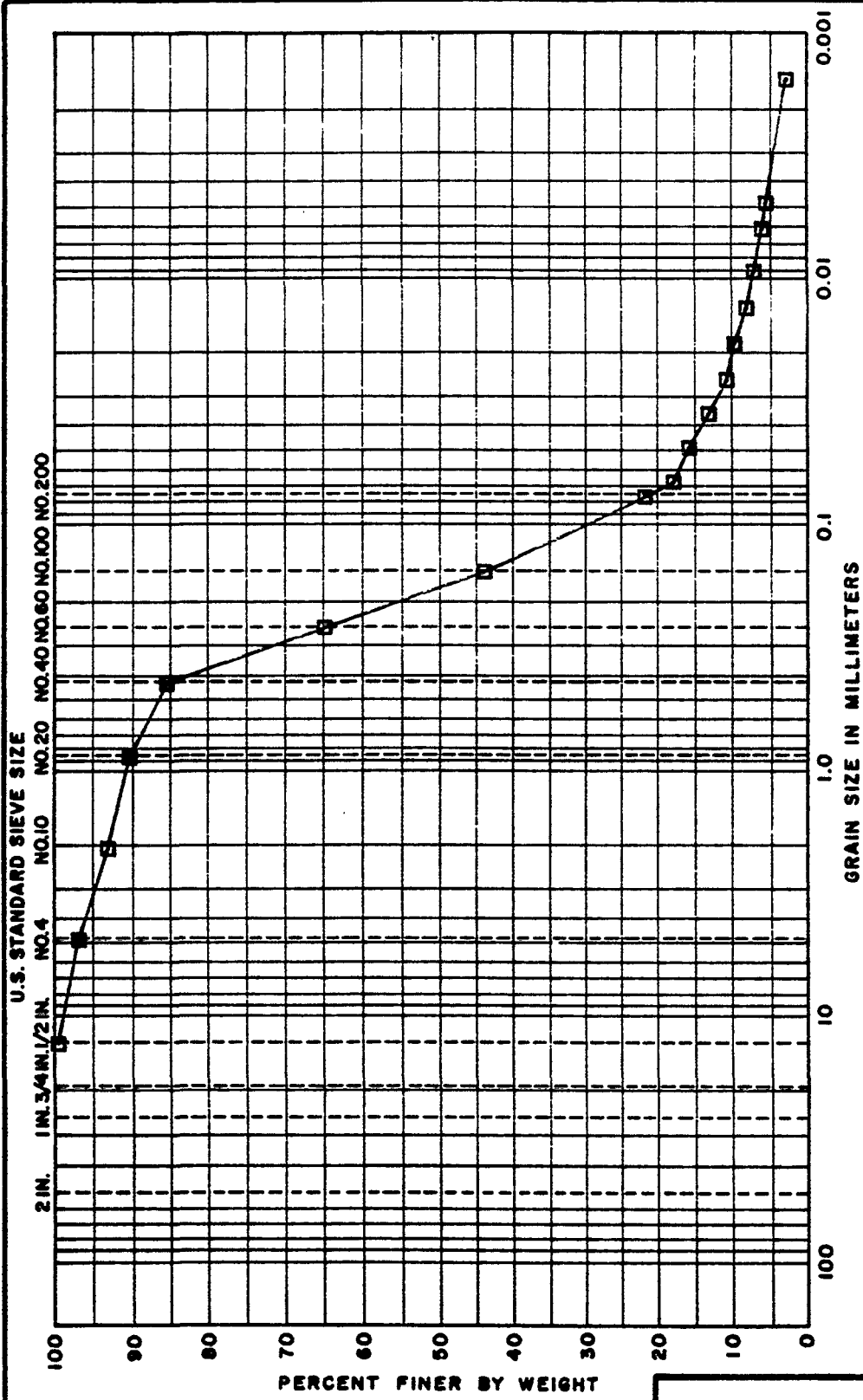
GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

APPENDIX E-2

SM. 2

AR002130

SUMMARY OF LAB TESTS
TABLE NUMBER



COBBLES		GRAVEL			SAND			SILT OR CLAY	
COARSE	FINE	COARSE	MEDIUM	FINE	COARSE	MEDIUM	FINE		

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S19.1	□	Sample No. SB22 Bag Sample	Dk. Gray f-m SAND, some (-)Silt, trace (-) fine Gravel

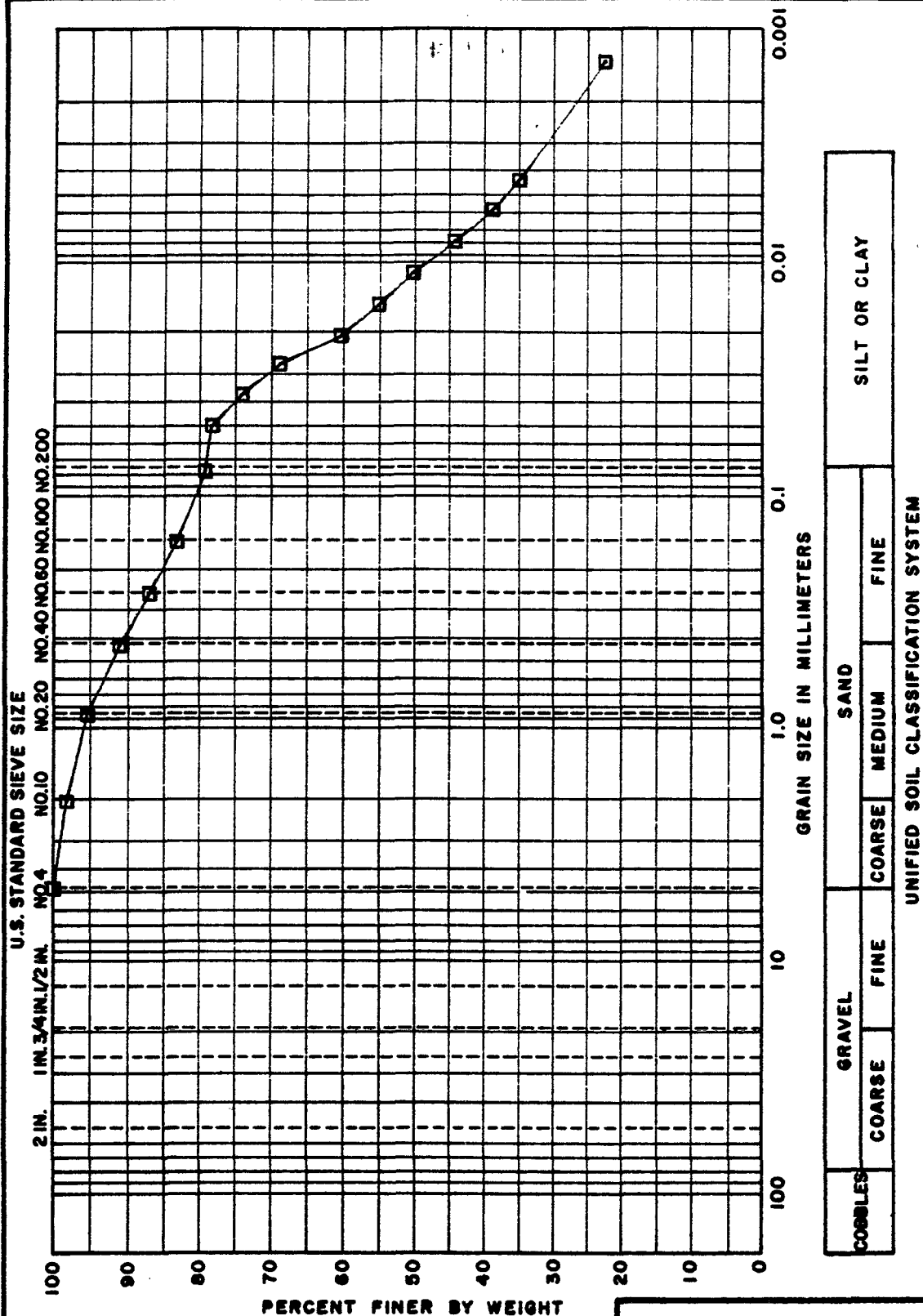
MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TEST

BORING NO. SB22
SAMPLE BAG
DEPTH
TECH. MET/MCM
REVIEWER

TEST SERIES NO. 18
DATE May 88
110851

AR002131



AR002132

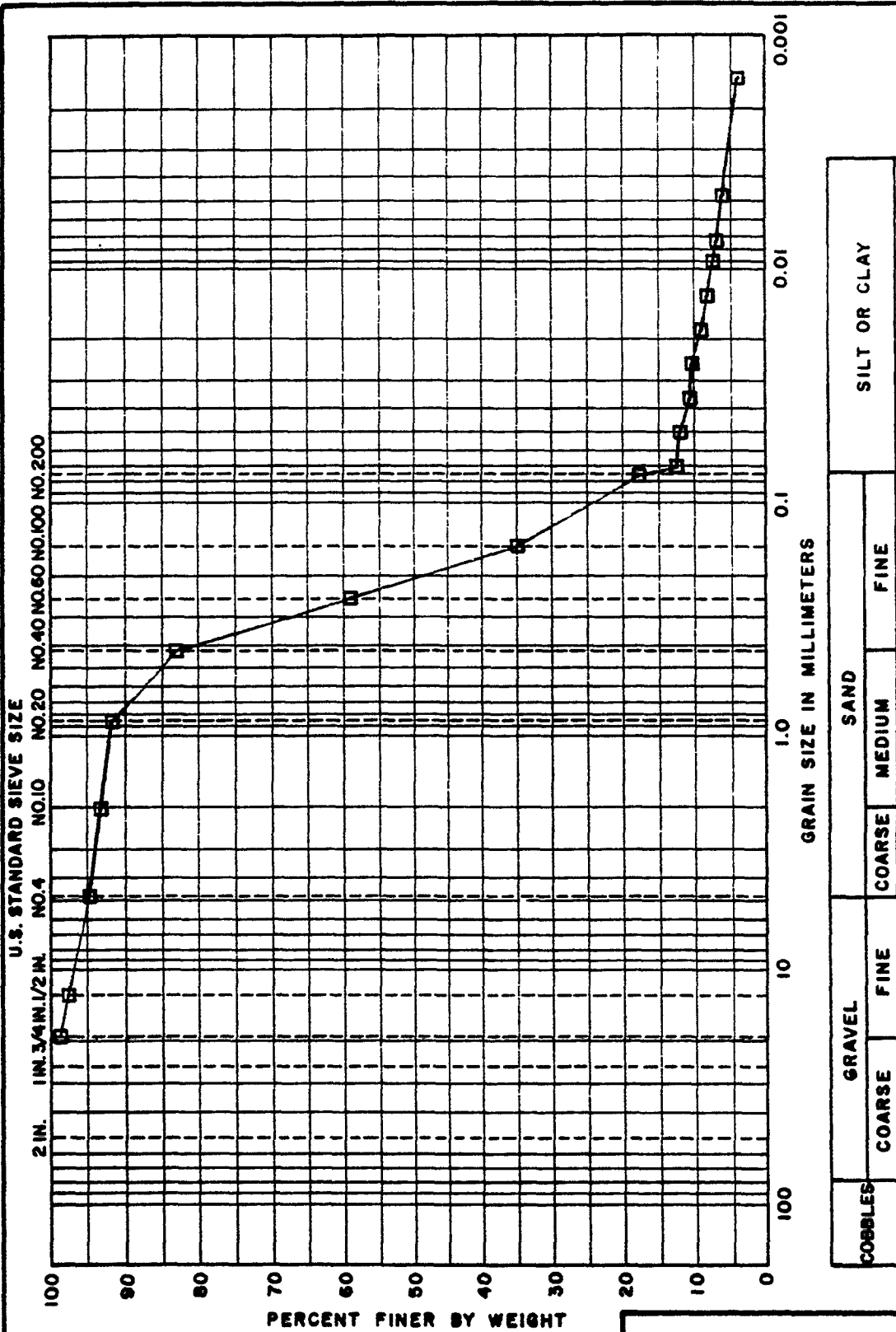
GOLDBERG-ZOINO & ASSOCIATES, INC.

**MILLCREEK SUPERFUND SITE
MILLCREEK, PA.**

GRADATION TESTS

BORING NO. SB41
SAMPLE BAG
DEPTH
TECH. MET / MFM
REVIEWER

TEST SERIES
NO. 22
DATE May 68
110451
FILE



PERCENT FINER BY WEIGHT

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TEST

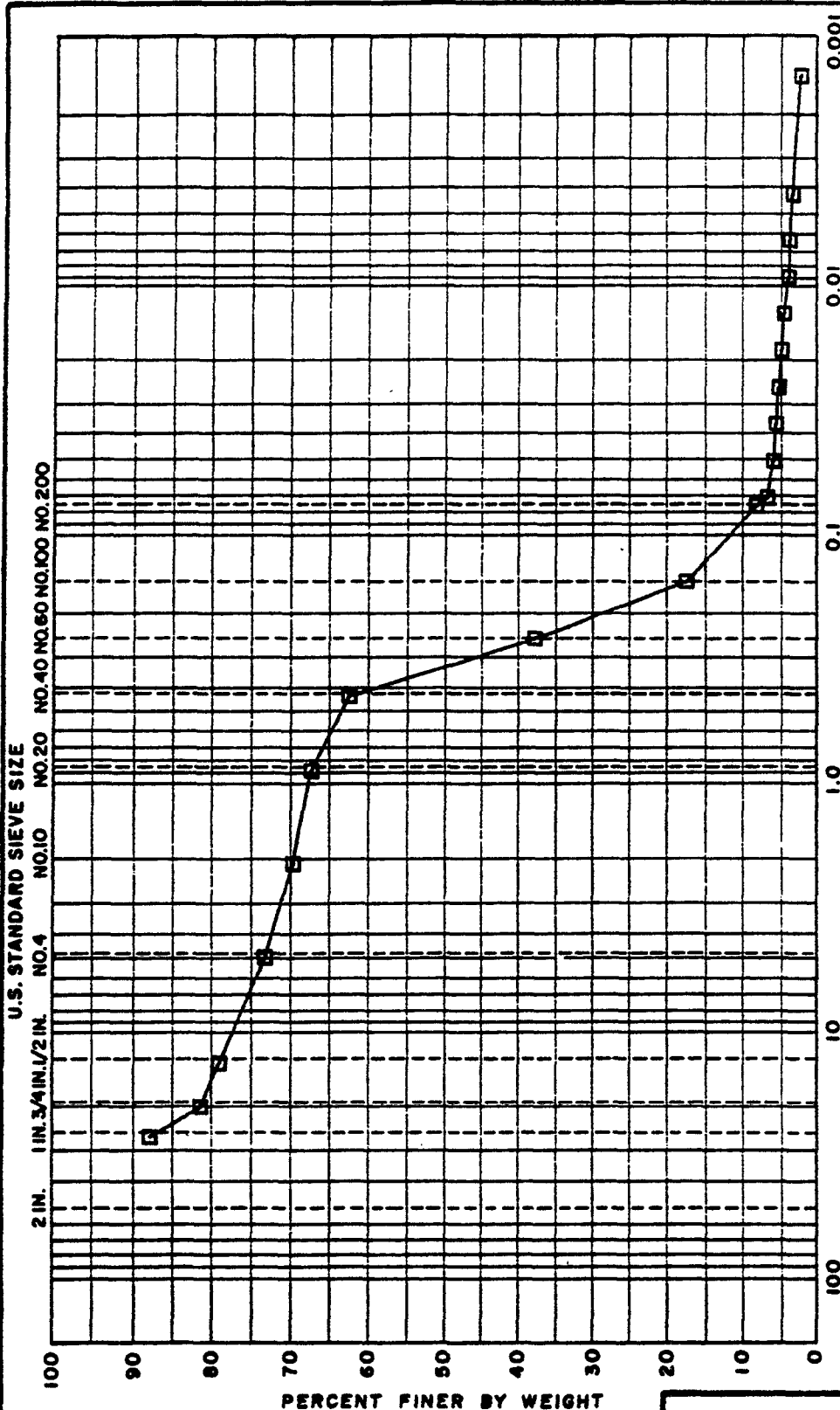
BORING NO. 5848
SAMPLE BAG
DEPTH
TECH. MET/MFW
REVIEWER

TEST SERIES NO. 28
DATE May 08 11/04/11

FILE

AR002133

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
526.1	□	Sample No. 5848 Bag Sample	Dark Gray f-m SAND, trace Gravel, little (+) Silt



COBBLES	GRAVEL		SAND		SILT OR CLAY
	COARSE	FINE	COARSE	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S28.1	☐	Sample No. SB49 Bag Sample	Black f-m SAND, some Gravel, trace Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TESTS

BORING NO. SB49
SAMPLE BAG
DEPTH
TECH. MSH/MCM
REVIEWER

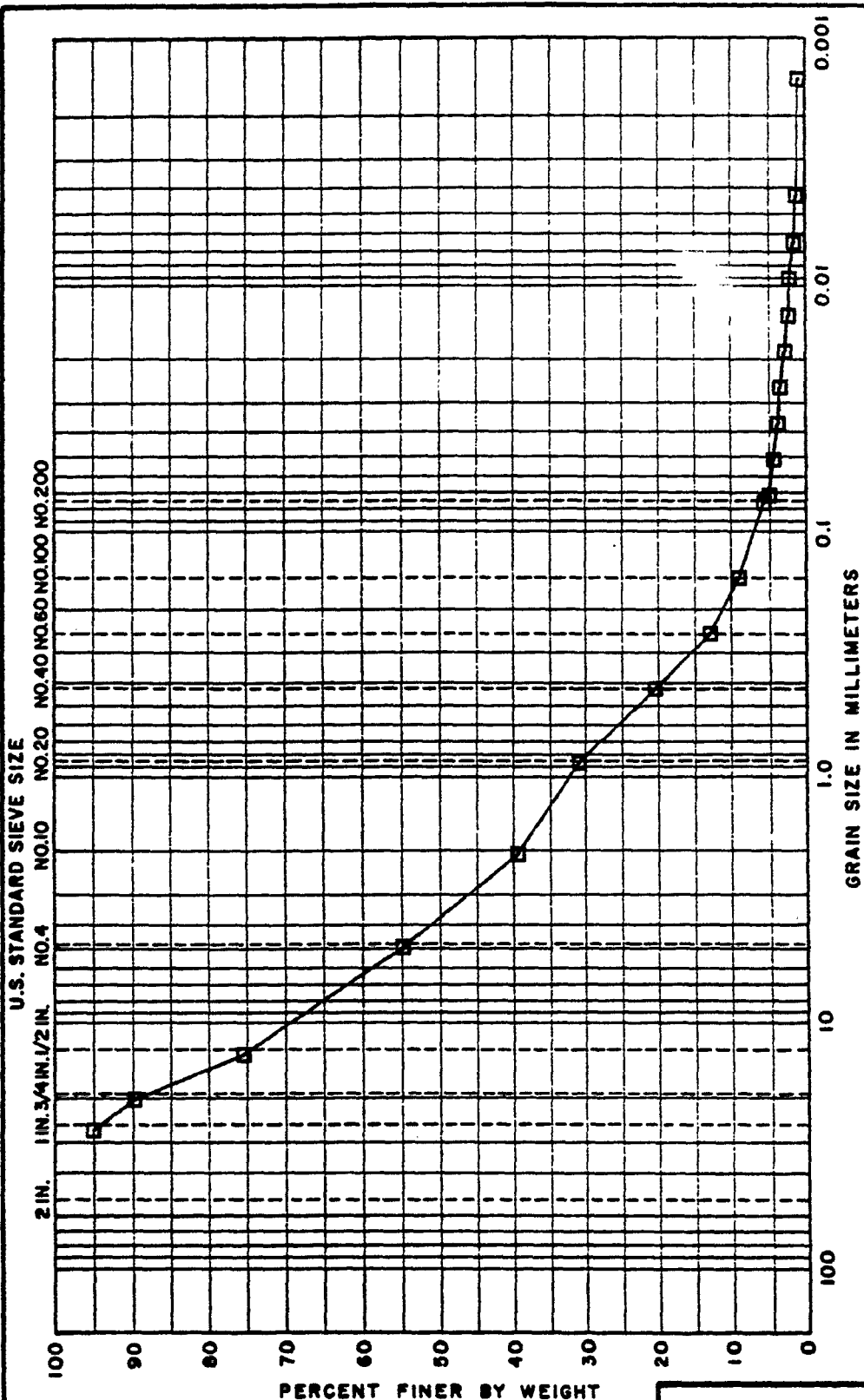
TEST SERIES
NO. 28
DATE June 88
L10851

FILE

APPENDIX E-9

S.3

AR002136



COBBLES		GRAVEL		SAND			SILT OR CLAY	
COARSE	FINE	COARSE	MEDIUM	FINE				

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S20.1	☐	Sample No. S827 Bag Sample	Black m-c SAND and f-c GRAVEL, trace Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TEST

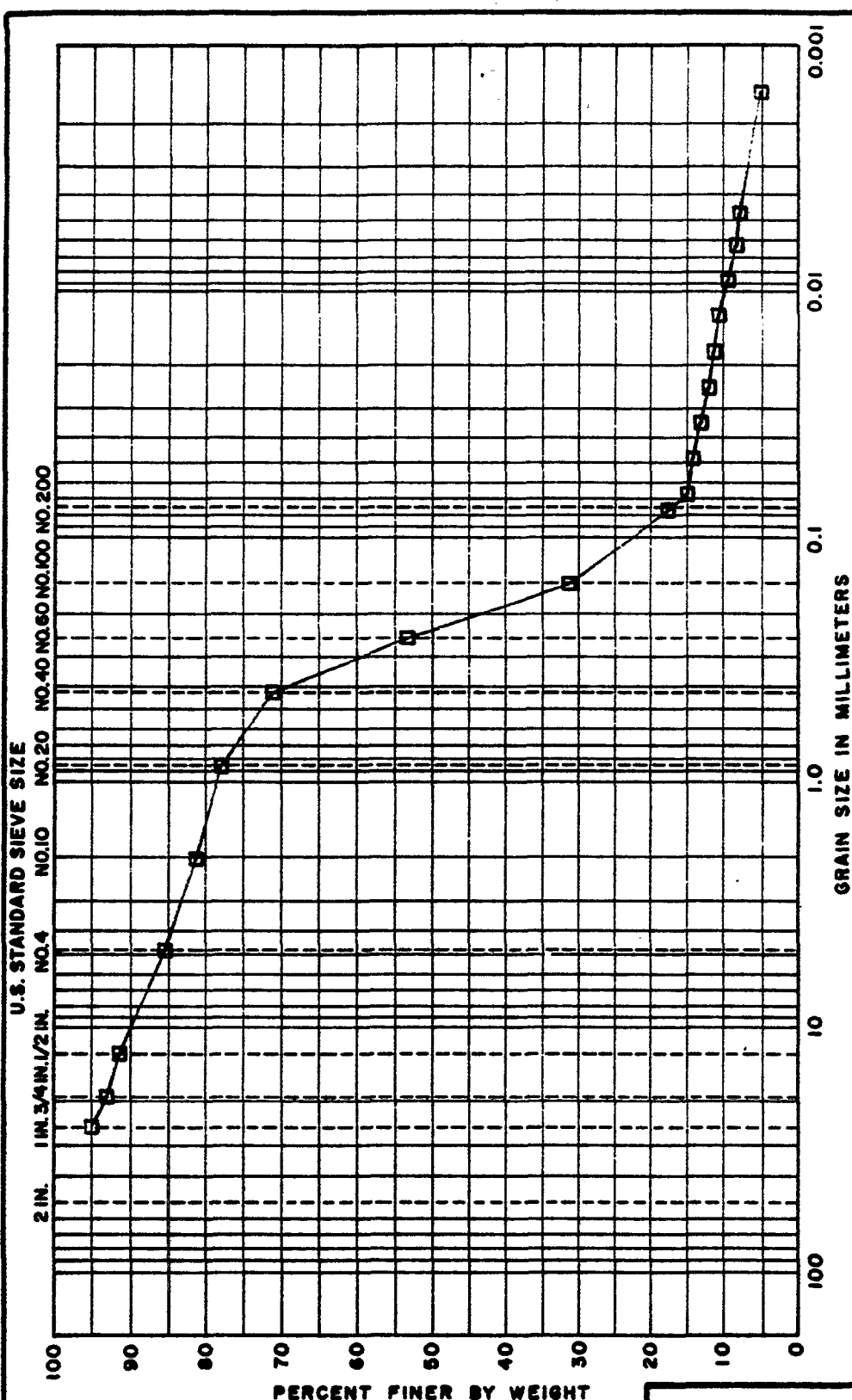
BORING NO. 9827
SAMPLE BAG
DEPTH
TECH. HST/MCM
REVIEWER

TEST SERI
NO. 28
DATE June
L1085

FILE

AR002135

ORIGINAL
(RED)



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S28.1	□	Sample No. SB25 Bag Sample	Dark Gray f-m SAND, little Gravel, little (-) Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

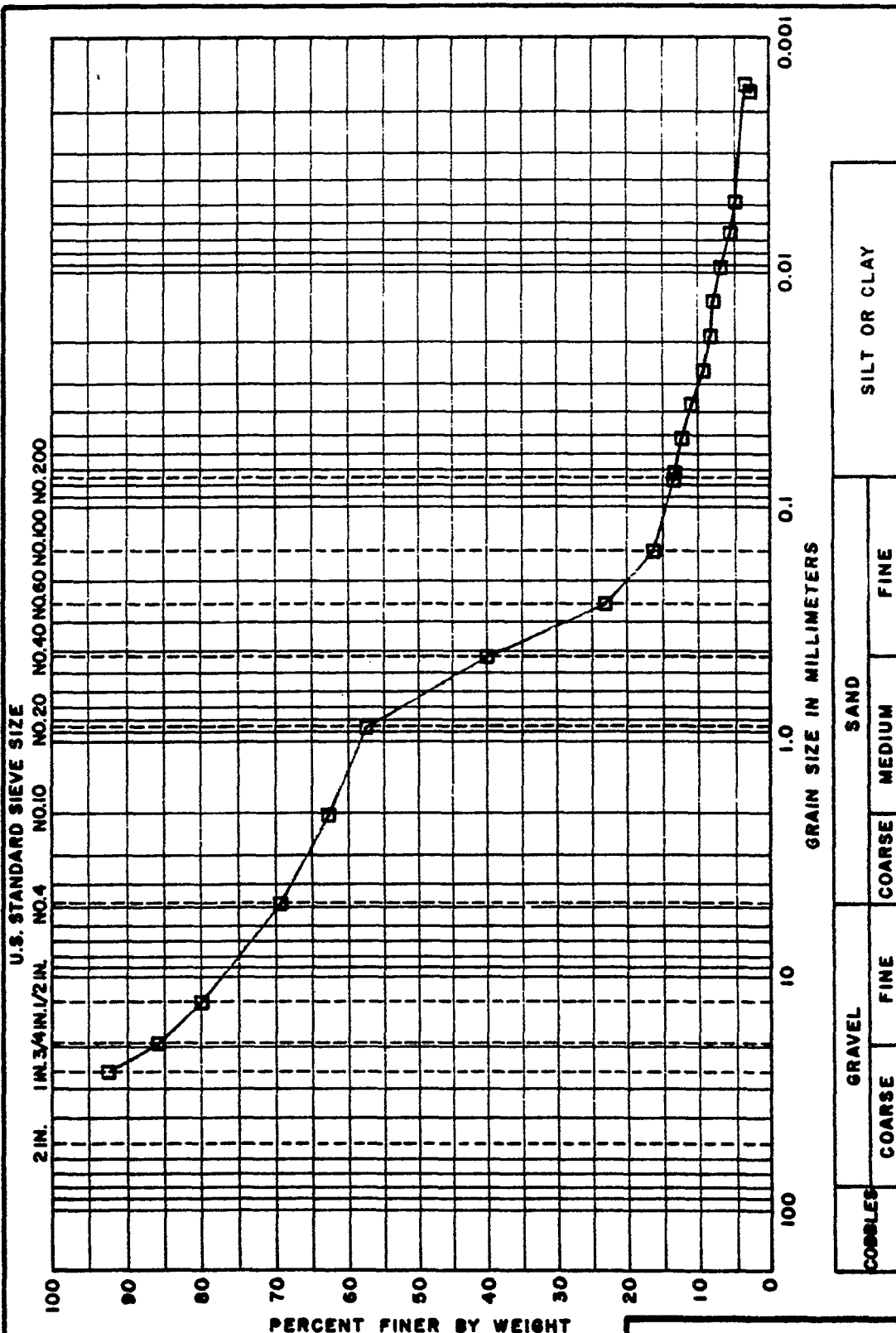
GRADATION TESTS

BORING NO. SB25
SAMPLE BAG
DEPTH
TECH. MGT/MFM
REVIEWER

TEST SERIES
NO. 28
DATE May 88
110931

FILE

AR002136



UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S31.1	□	Sample No. SB17 Bag Sample	Dark Gray f-m SAND, some f-c Gravel, little Silt

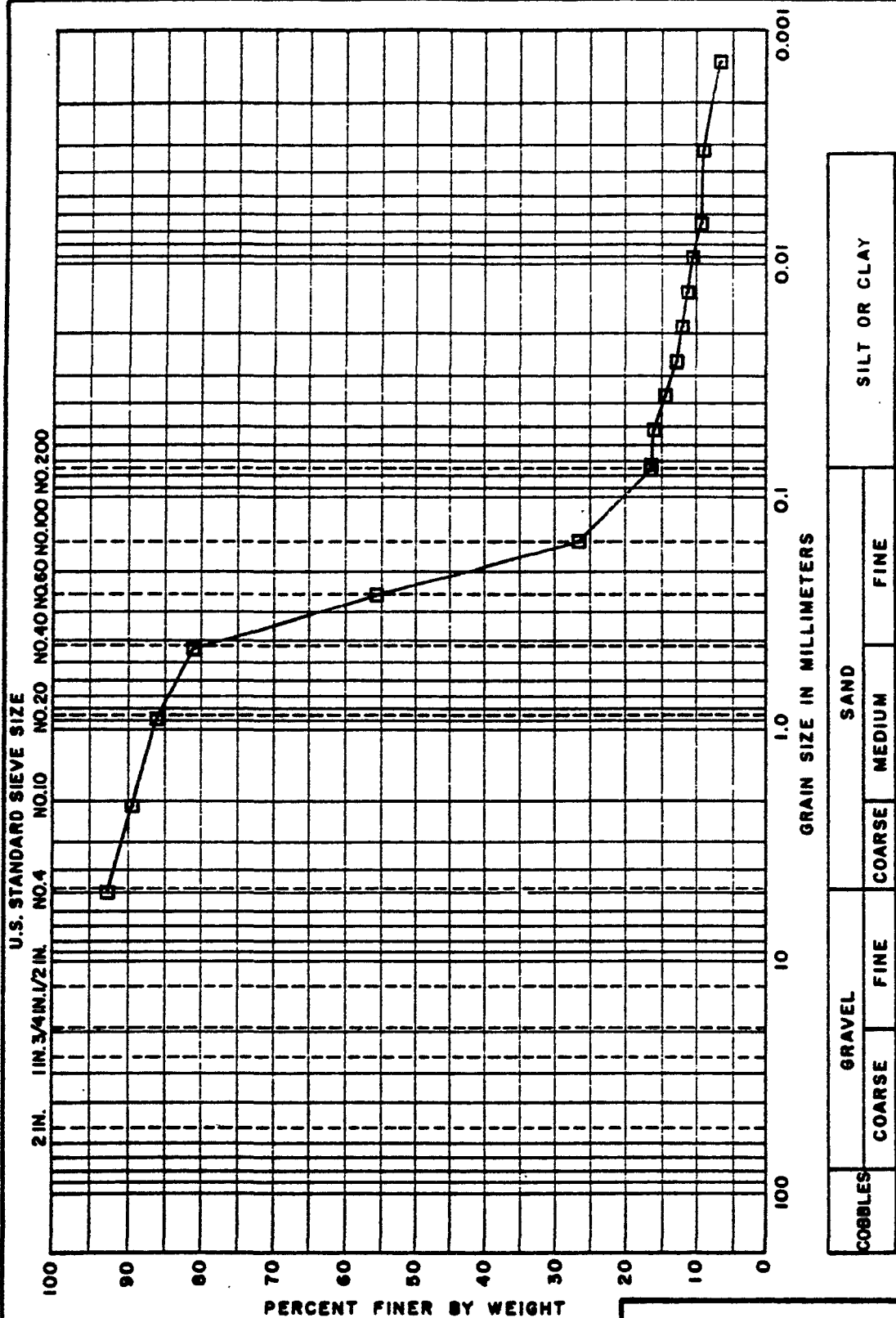
AR002137

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.
GRADATION TEST

BORING NO. SB17
SAMPLE BAG
DEPTH
TECH. MET/MFM
REVIEWER

TEST SERIES
NO. 31
DATE May 88
110041

FILE



TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
576.1	☐	Sample No. ST-2 Tube Sample	Black f-m SAND, little Silt, trace Gravel

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.
GRADATION TESTS

BORING NO. ST-2
SAMPLE TUBE
DEPTH
TECH. HST/MCH
REVIEWER
APPENDIX E-9

TEST SERIES NO. 78
DATE June 88
L10851

FILE

Received

JUL 00 1988

Enseco

June 28, 1988

Mr. John Kerwin
Goldberg-Zoino & Associates, Inc.
320 Needham Street
Newton, MA 02164

Dear John:

Enclosed are the results of the analyses performed on the one sample for Project No. L-10851. This project was received under chain of custody at Enseco - Erco Laboratory on June 8, 1988, and was processed for a three-week turnaround time. A brief description of the Quality Assurance/Quality Control and methods employed by Enseco are contained within the report. This letter authorizes the release of the analytical results and should be considered an integral part of this report.

Please refer to this project by the Erco Laboratory Identification No. 8098 to help expedite any future discussions. We will be happy to answer any questions or concerns that you may have.

Sincerely,



Clyde E. Tressler
Client Service Representative



Thomas R. Copeland, Ph.D.
Technical Director

Encl.

QUALITY ASSURANCE/QUALITY CONTROL

AR002140

QUALITY ASSURANCE/QUALITY CONTROL

As an indication of the overall quality of the data generated by Enseco - Erco Laboratory for this report, the following controls have been provided (when applicable).

Reagent or analytical blanks are analyzed to assess the level of contamination which exists in the analytical system. An analytical blank, analyzed with every batch of samples, consists of reagents specific to the method. This blank is carried through every aspect of the procedure, including preparation, cleanup, and analysis. Ideally, the concentration of an analyte in the blank is below the reporting limit for that analyte. However, some common laboratory solvents and metals are difficult to eliminate to the part-per-billion levels commonly reported in environmental analyses. Therefore, analytical data are corrected for blank contamination before they are reported to the client.

Laboratory control samples (LCS) are used to monitor the laboratory's day-to-day performance of routine analytical methods. An LCS consists of a standard, control matrix which is spiked with a group of target compounds representative of the method analytes. The LCS is analyzed with environmental samples to provide evidence that the laboratory is performing the method within accepted guidelines.

An LCS has been established for most routine analytical methods. Reagent water is used as the control matrix for the analysis of aqueous samples. The LCS compounds are spiked into reagent water and carried through the appropriate steps of the analysis. As stated in SW-846 (third edition), a universal blank matrix does not exist for solid samples and therefore no matrix is used. The LCS for solid samples consists of the LCS compounds spiked into a reagent blank and carried through the appropriate steps of the analysis. The data thus obtained are used to set the LCS control limits. As sufficient laboratory data become available, the control limits are redefined based upon the most recent six months of LCS data. Control limits for accuracy are based on the historical average recovery of the LCS plus or minus three standard deviation units.

Surrogates are organic compounds that are similar to the analytes of interest in chemical behavior but which are not normally found in environmental samples. Enseco routinely adds surrogates to samples requiring GS/MS analysis and reports these surrogate recoveries to the client. These surrogates are added to samples to monitor the effect of the matrix on the accuracy of the analysis. Results are reported in terms of percent recovery.

AR002141

ANALYTICAL RESULTS

AR002142

ANALYTICAL RESULTS

The method number provided on each data report sheet refers to a publication originating from a regulatory or standard-setting organization. In general, the methods employed are those specified by the U.S. Environmental Protection Agency and other state and federal agencies. In cases where an approved regulatory method does not exist, a method developed by Ensec will be employed to meet the specific needs of the client. The methods commonly employed by Ensec are based on methods from the following references.

U.S. Environmental Protection Agency. 1983. Methods for chemical analysis of water and wastes. EPA-600/4-79-020. Cincinnati, OH, March.

U.S. Environmental Protection Agency. 1984. Test methods for evaluating solid waste, physical/chemical methods. (SW-846); Washington, D.C. April.

U.S. Environmental Protection Agency. 1986. Methods for the determination of organic compounds in finished drinking water and raw source water. Cincinnati, OH, September.

"Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act," 40 CFR, Part 136; Federal Register, Vol. 49, No. 209 (1984).

American Public Health Association, American Water Works Association, Water Pollution Control Federation. 1985. Standard methods for the examination of water and wastewater, 16th Edition. Washington, D.C., April.

Current EPA Contract Laboratory Program (CLP) protocols for the analysis of organic and inorganic hazardous substances including chlorinated dioxins and furans.

AR002143

CLIENT: Goldberg-Zoino & Associates, Inc.INORGANIC ANALYSISSAMPLE RECEIVED: 06/08/88REPORT COMPLETED: 06/27/88RESULTS IN: meq/100 g

REPORTED BY: _____

CHECKED BY: _____

- Data Report -

Erco ID	Client ID	Cation Exchange Capacity
8098-01	L10851 CEC 76.1	9.1
Erco Blank		ND

Reporting
Limit

0.05

Method Used:

9081

If customer has any questions regarding analysis, refer to sample in question by its Erco ID#.

ND = Not detected.

AR002144

Willcreek
Willcreek

Willcreek
Willcreek

LABORATORY TESTING DATA SUMMARY

Reviewed by

Date:

Project No. L-10851

Project Engr. J. Kerwin

Assigned By Doug Daily

ate Assigned July, 1988

quired.

[illegible]

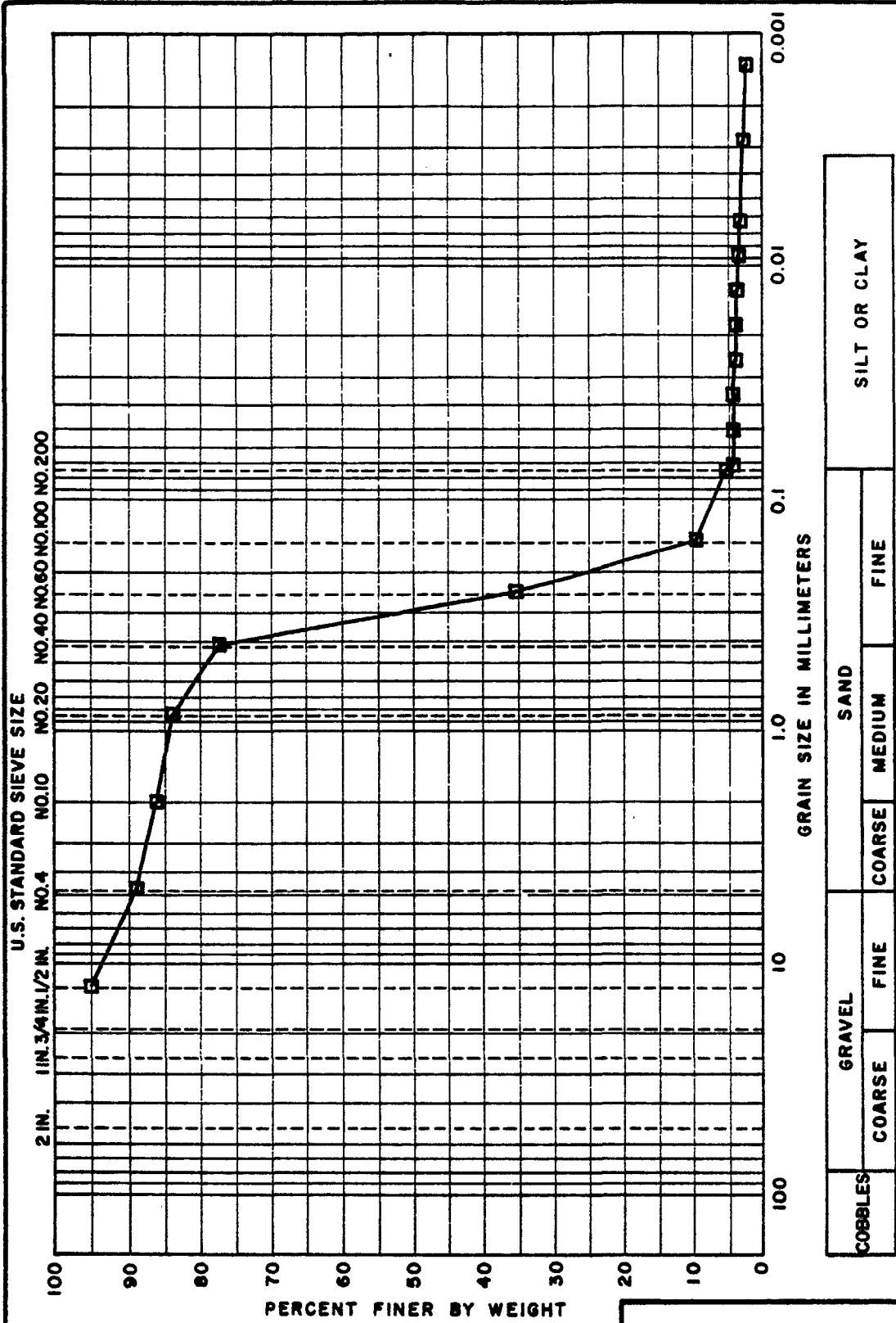
GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

APPENDIX F-2

215

AR002145

SUMMARY OF LAB TESTS
TABLE NUMBER _____



UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
559.1	□	Sample No. SB1 Bag Sample	Brown fine SAND, little (-) fine Gravel, trace Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

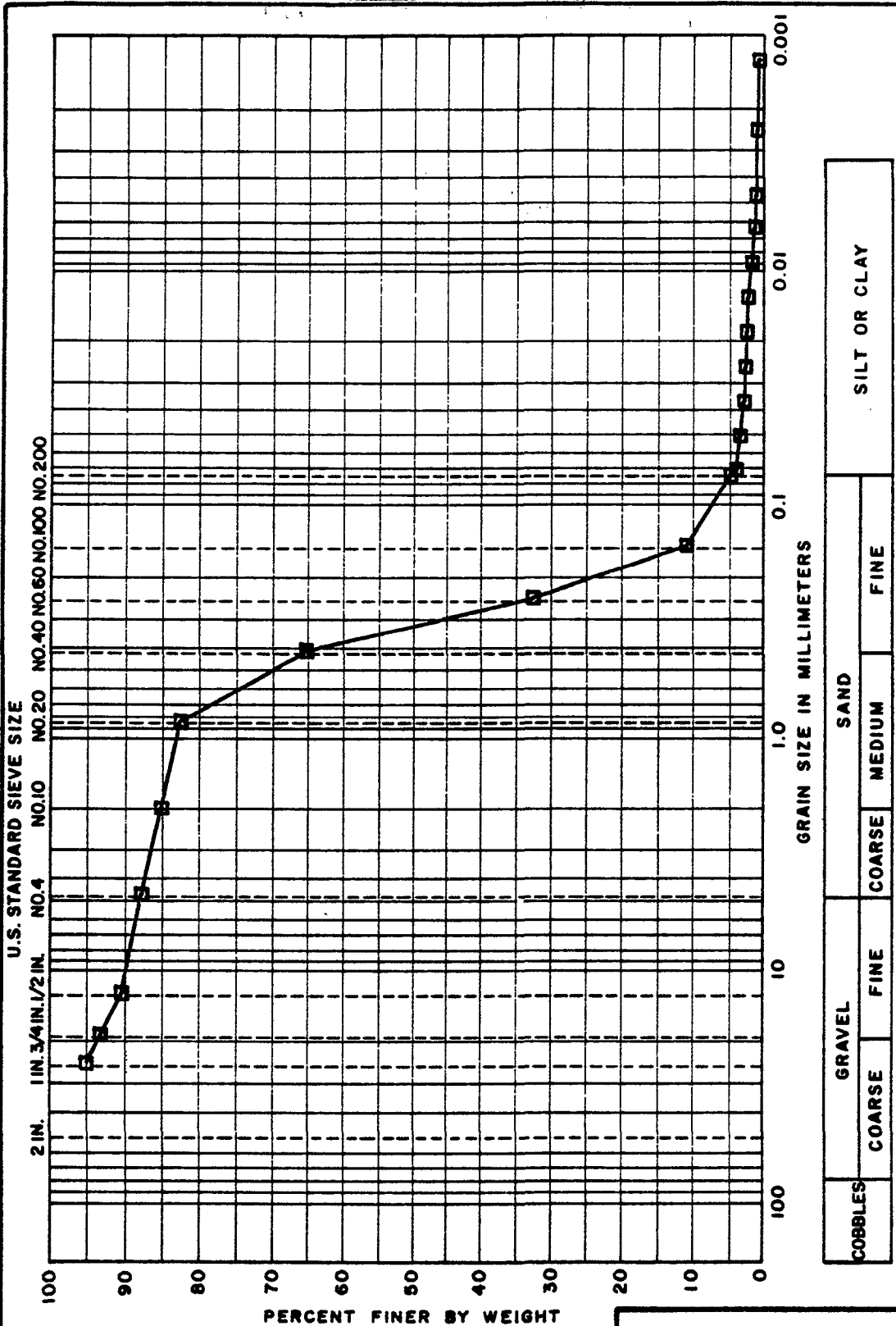
GRADATION TEST

BORING NO. SB1
SAMPLE BAG
DEPTH
TECH. HST/MCH
REVIEWER NAE

TEST SERIE NO.
DATE May 88
L10851

FILE

AR002146



UNIFIED SOIL CLASSIFICATION SYSTEM

COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
558.1	□	Sample No. 583 Bag Sample	Brown f-m SAND, little fine Gravel, trace Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

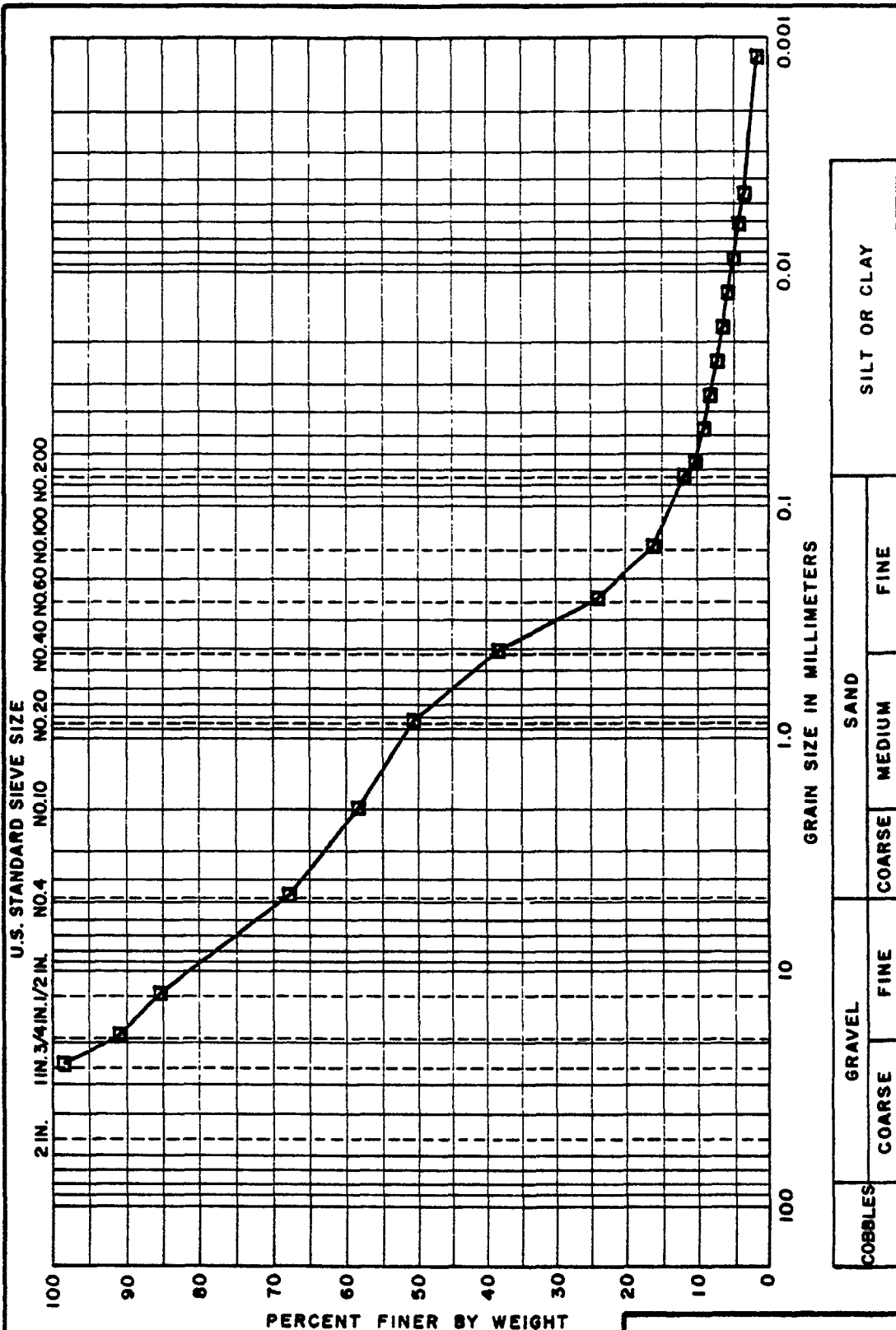
GRADATION TESTS

BORING NO. 583
SAMPLE BAG
DEPTH
TECH. NST/MCM
REVIEWER NAC
APPENDX E-9

TEST SERIES NO. 58
DATE May 88
L10851

FILE

AR002147



UNIFIED SOIL CLASSIFICATION SYSTEM

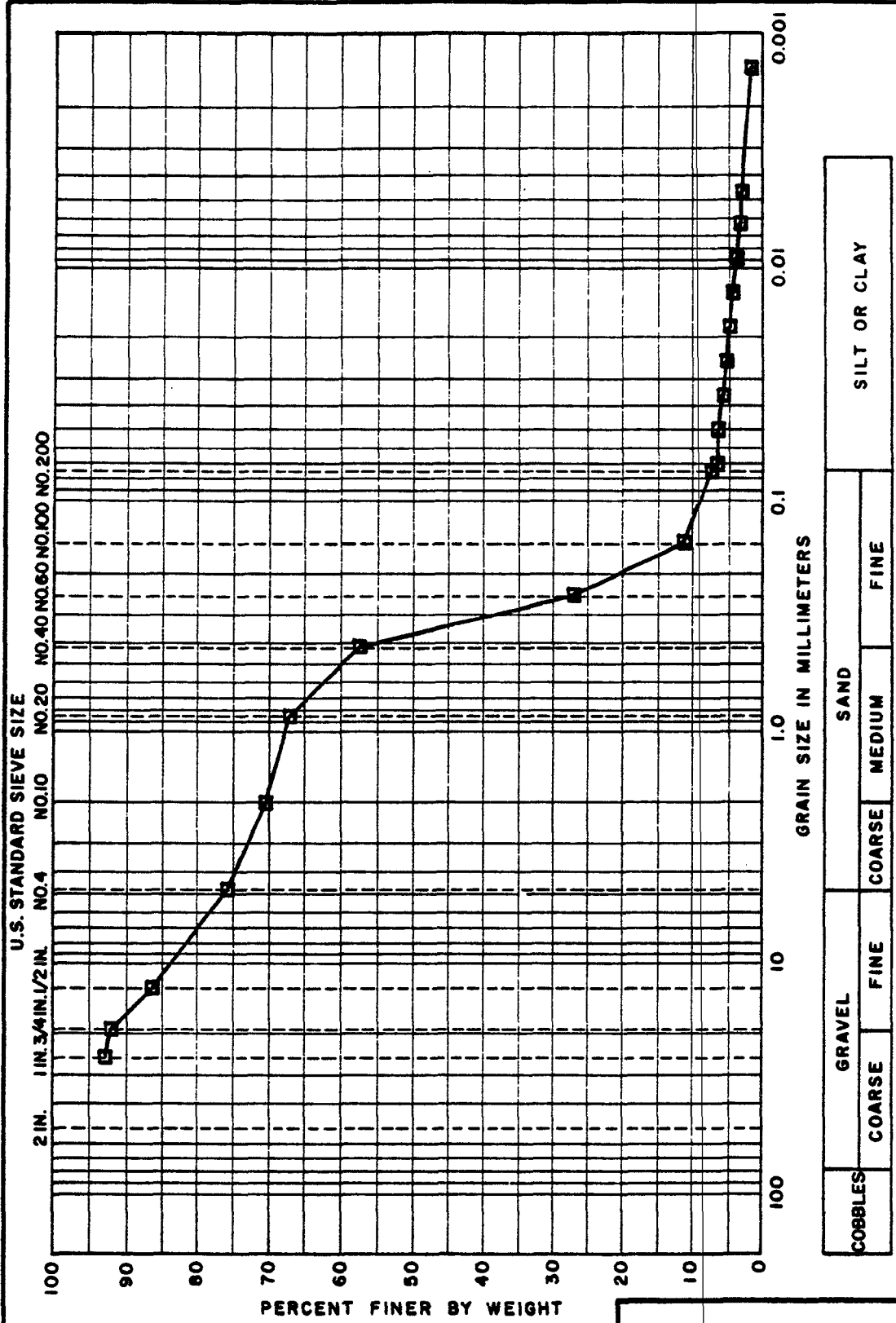
TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S57.1	☐	Sample No. S835 Bag Sample	Brown f-m SAND, some (+) f-c Gravel, little (-) Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.
GRADATION TEST

BORING NO. S835
SAMPLE BAG
DEPTH
TECH. NST/MCH
REVIEWER NAC
ADDDMMY F.0

TEST SERIES NO. 57
DATE May 88
L10851

FILE



UNIFIED SOIL CLASSIFICATION SYSTEM

GRAVEL		SAND			SILT OR CLAY
COARSE	FINE	COARSE	MEDIUM	FINE	

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
556.1	☐	Sample No. SB13 Bag Sample	Dark Brown f-m SAND, some fine Gravel, trace Silt

AR002149

GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

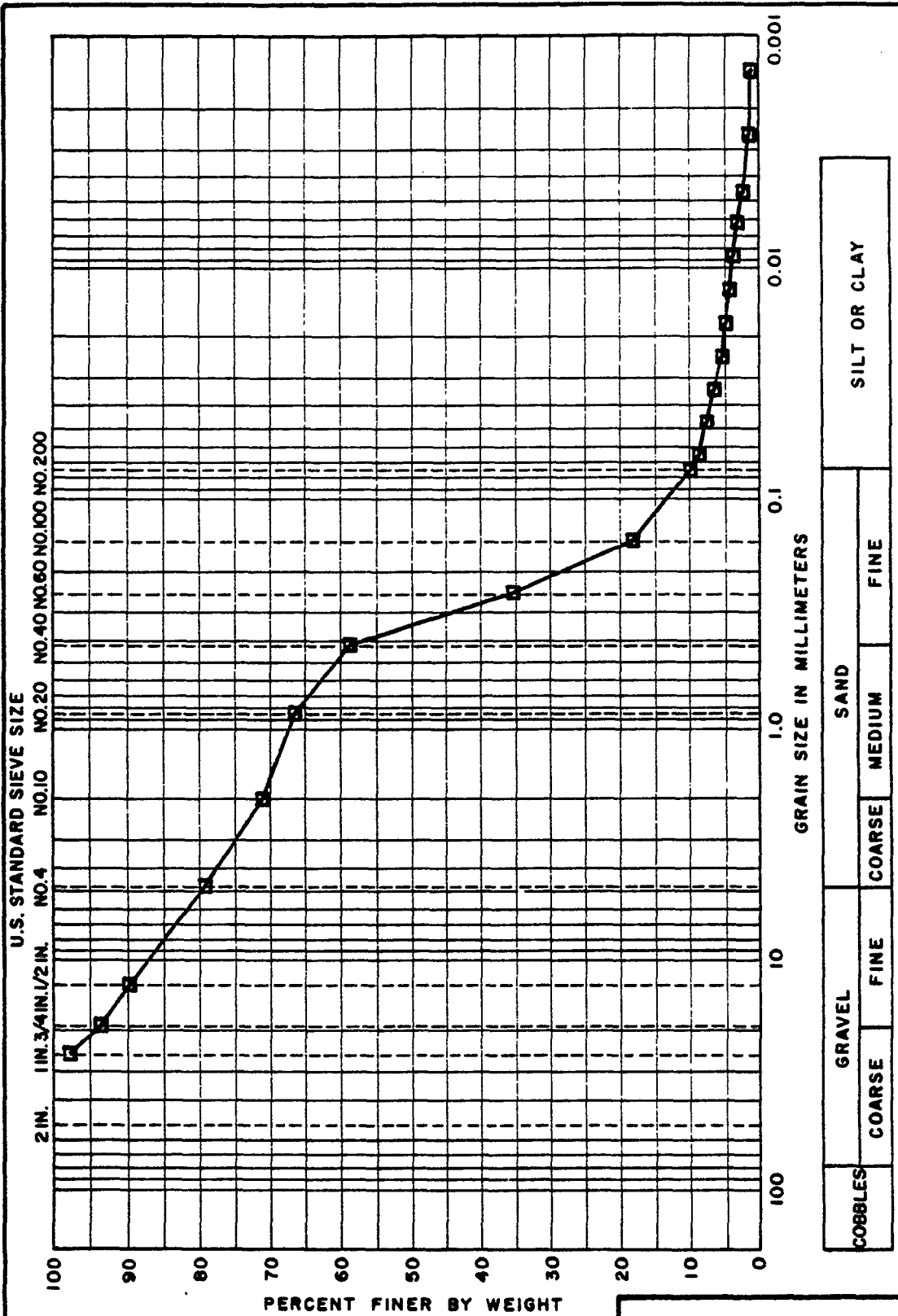
MILLCREEK SUPERFUND SITE
MILLCREEK, PA.
GRADATION TESTS

BORING NO. SB13
SAMPLE BAG
DEPTH
TECH. WST/MCM
REVIEWER NAC
APPENDX E-9

TEST SERIES NO. 56
DATE May 88
L10851

FILE

ORIGINAL
(RED)

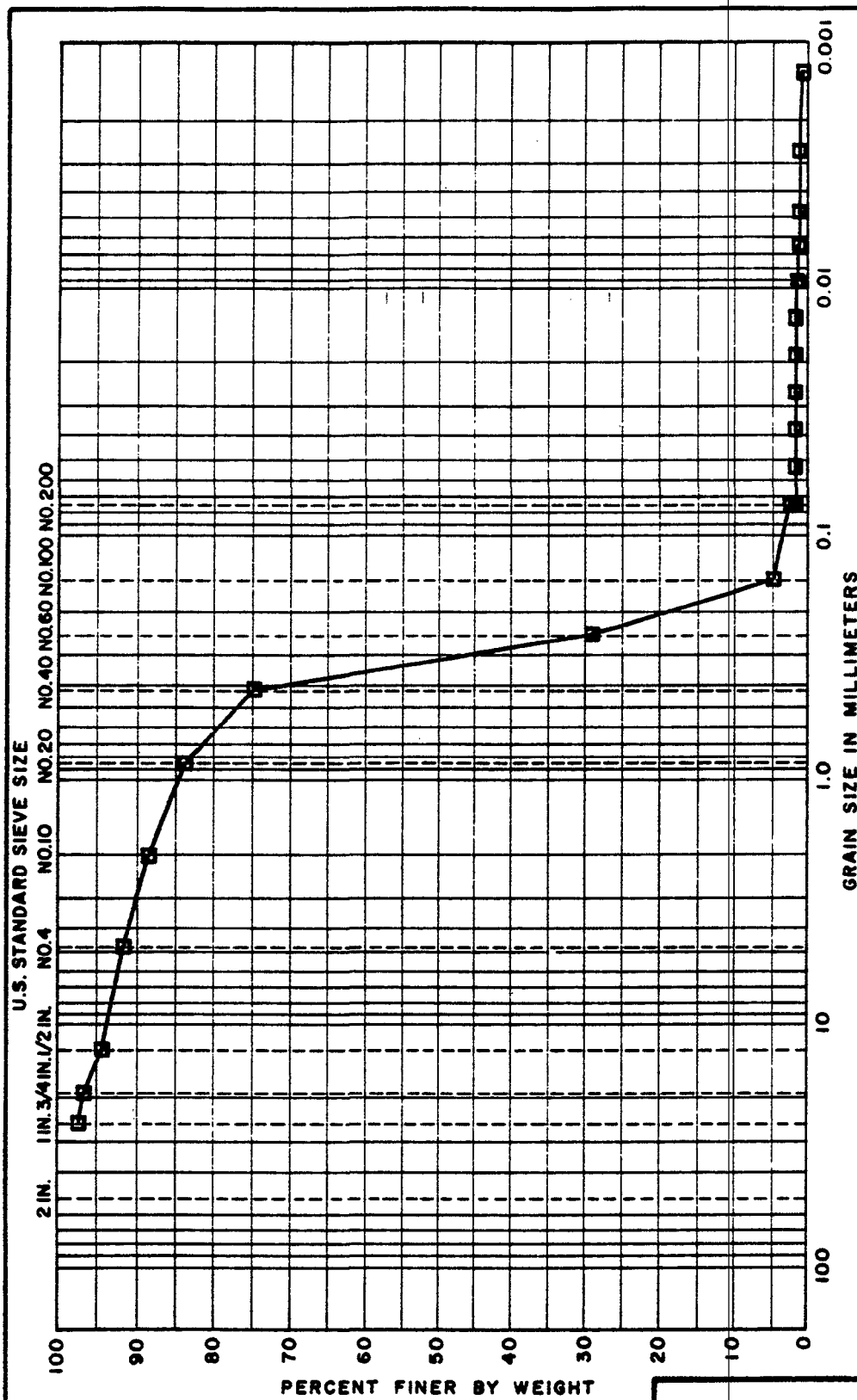


AR002150

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.
GRADATION TEST

BORING NO. SB10
SAMPLE BAG
DEPTH
TECH. MST/MCH
REVIEWER

TEST SERIE NO. 55
DATE May 98
L10851
FILE



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

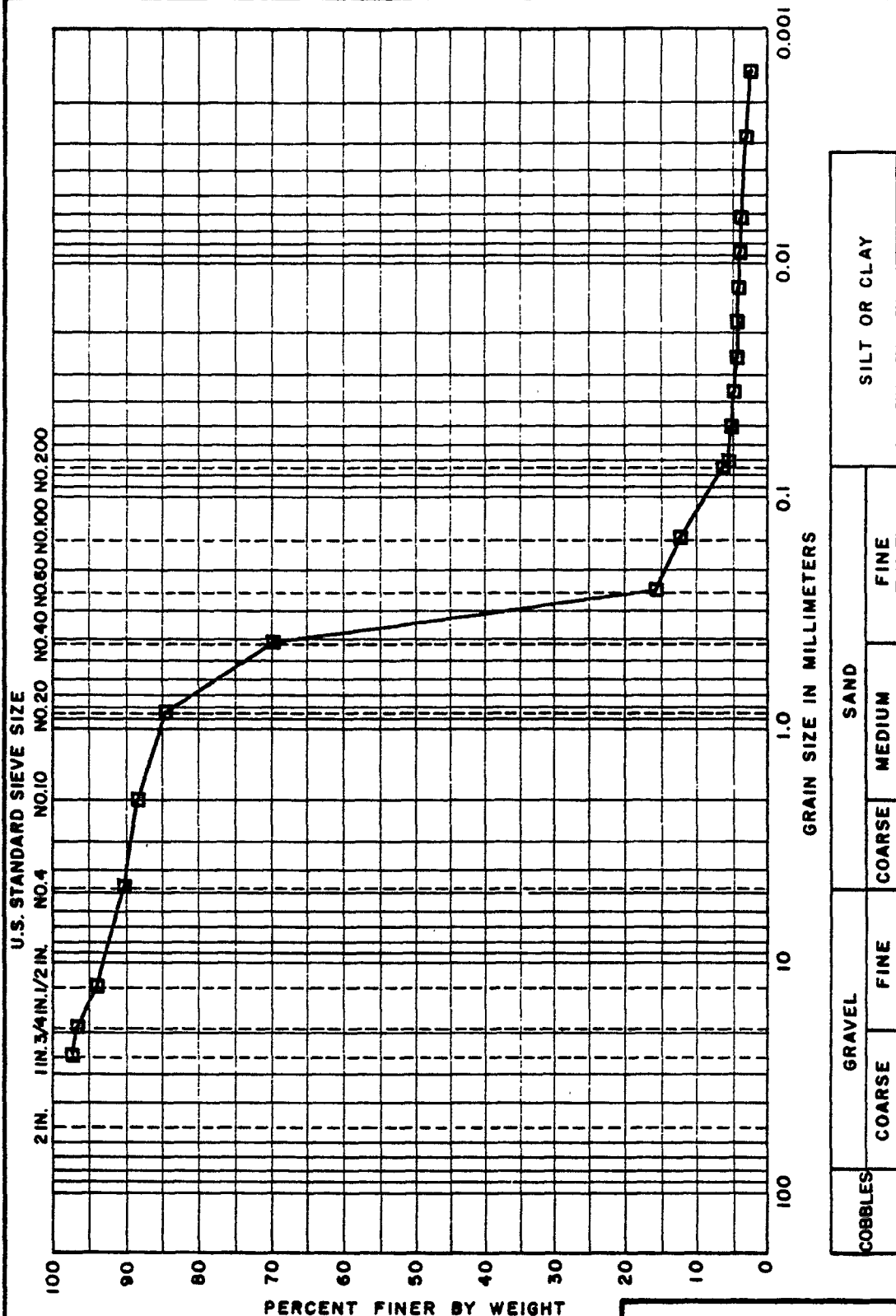
TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S54.1	□	Sample No. S89 Bag Sample	Dark Brown f-m SAND, trace fine Gravel, trace Silt

AR002151

GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.
GRADATION TESTS

BORING NO.	S89	TEST SERIES
SAMPLE	BAG	NO. 54
DEPTH		DATE May 88
TECH.	HST/MCH	L10851
REVIEWER	NAC	FILE
APPENDIX E-9		S.3



UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
S53.1	□	Sample No. 537 Bag Sample	Brown f-m SAND, trace fine Gravel, trace Silt

MILLCREEK SUPERFUND SITE
MILLCREEK, PA.

GRADATION TEST

BORING NO. S87
SAMPLE BAG
DEPTH
TECH. MST/MCH
REVIEWER RAE
APPENDX E-9

TEST SERIE
NO. 53
DATE May 88
L10851

FILE

AR002152

GOLDBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL-GEOHYDROLOGICAL CONSULTANTS

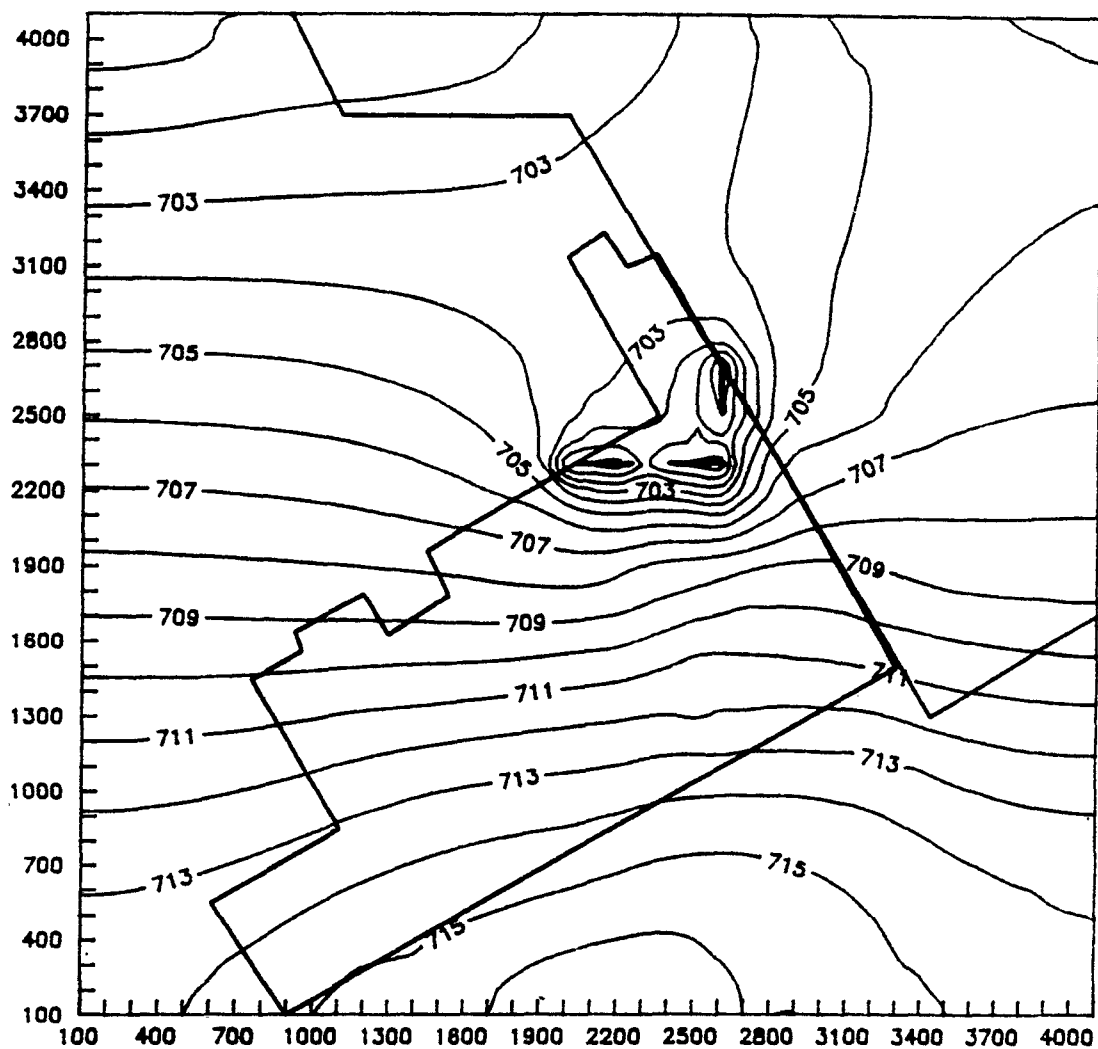
APPENDIX N
SHALLOW GROUND WATER FLOW SIMULATION

Appendix N
PLASM Flow Model Simulations

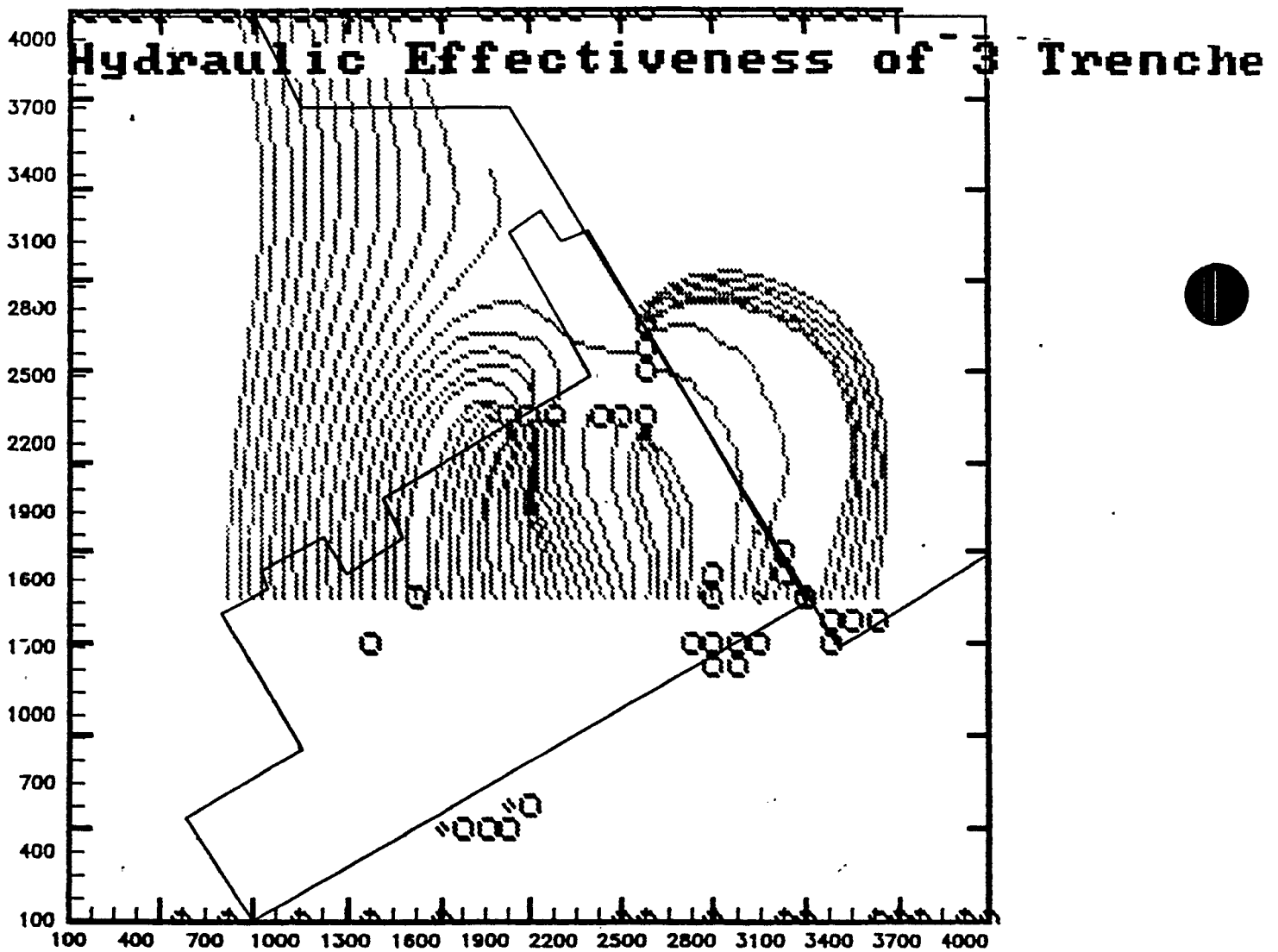
<u>Page</u>	<u>Trenches</u>	<u>Description</u>	<u>Cover Type</u>
1 - 2	3	Isopotential map and flow lines from 3 trenches.	None
3 - 4	3	Isopotential map and flow lines of 3 trenches perpendicular to direction of ground water flow.	None
5 - 6	2	Isopotential map and flow lines from inactive third trench.	None
7 - 8	4	Isopotential map and flow lines with the addition of a fourth trench.	None
9 - 10	5	Isopotential map and flow lines with the addition of a fifth trench.	None
11	0	Isopotential map with no trenches.	Topsoil/clay

AR002154

THREE TRENCHES

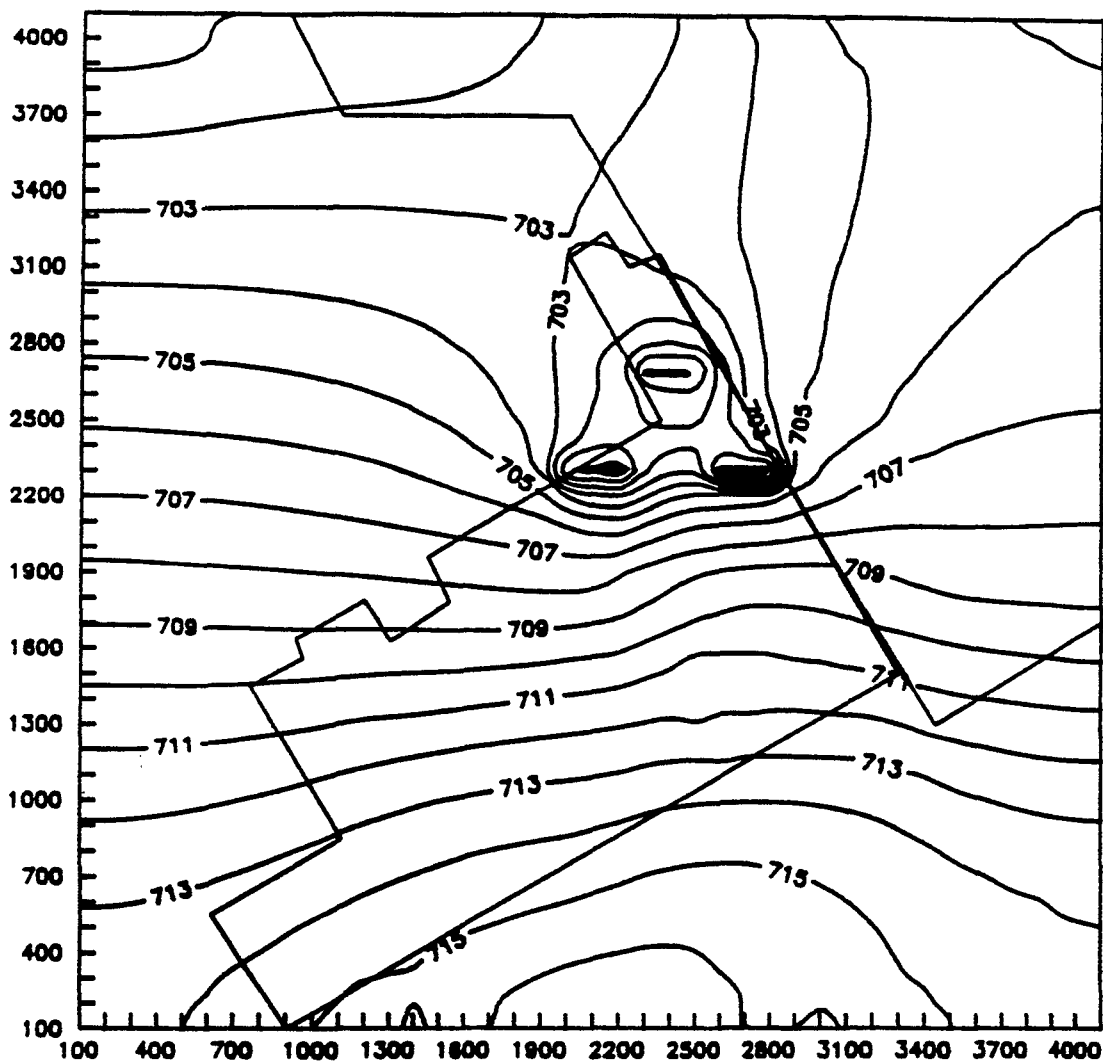


AR002155

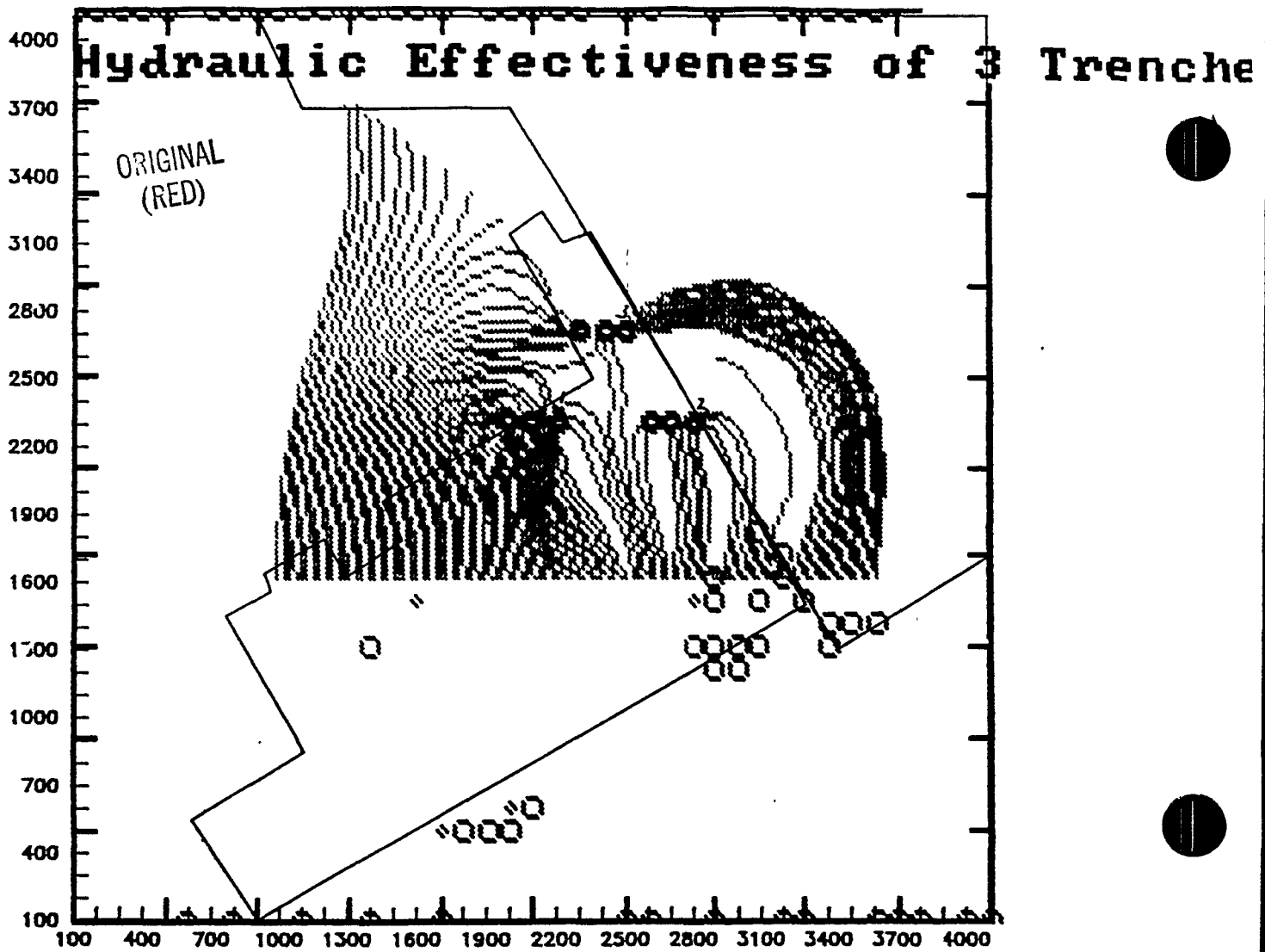


AR002156

THREE TRENCH COLLECTION SYSTEM

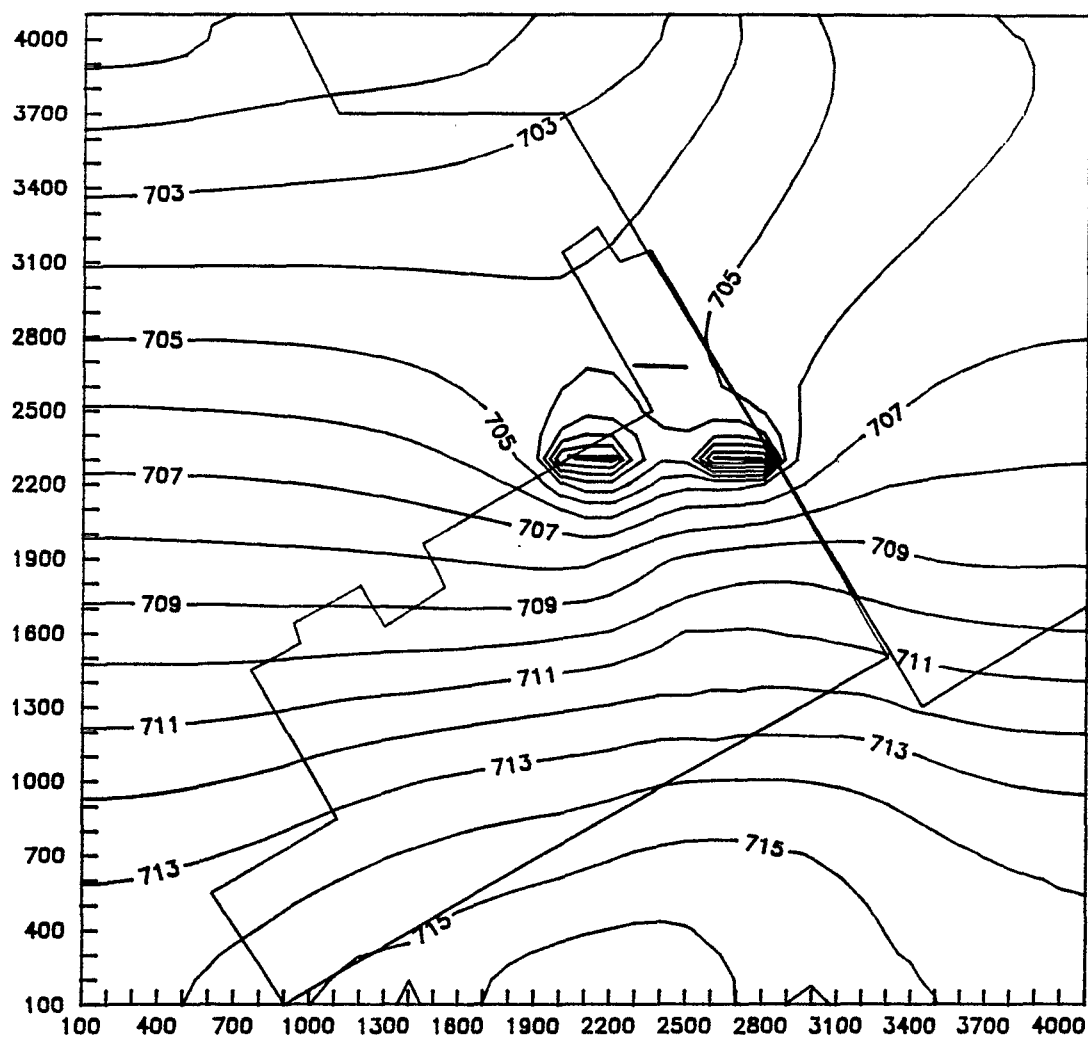


AR002157

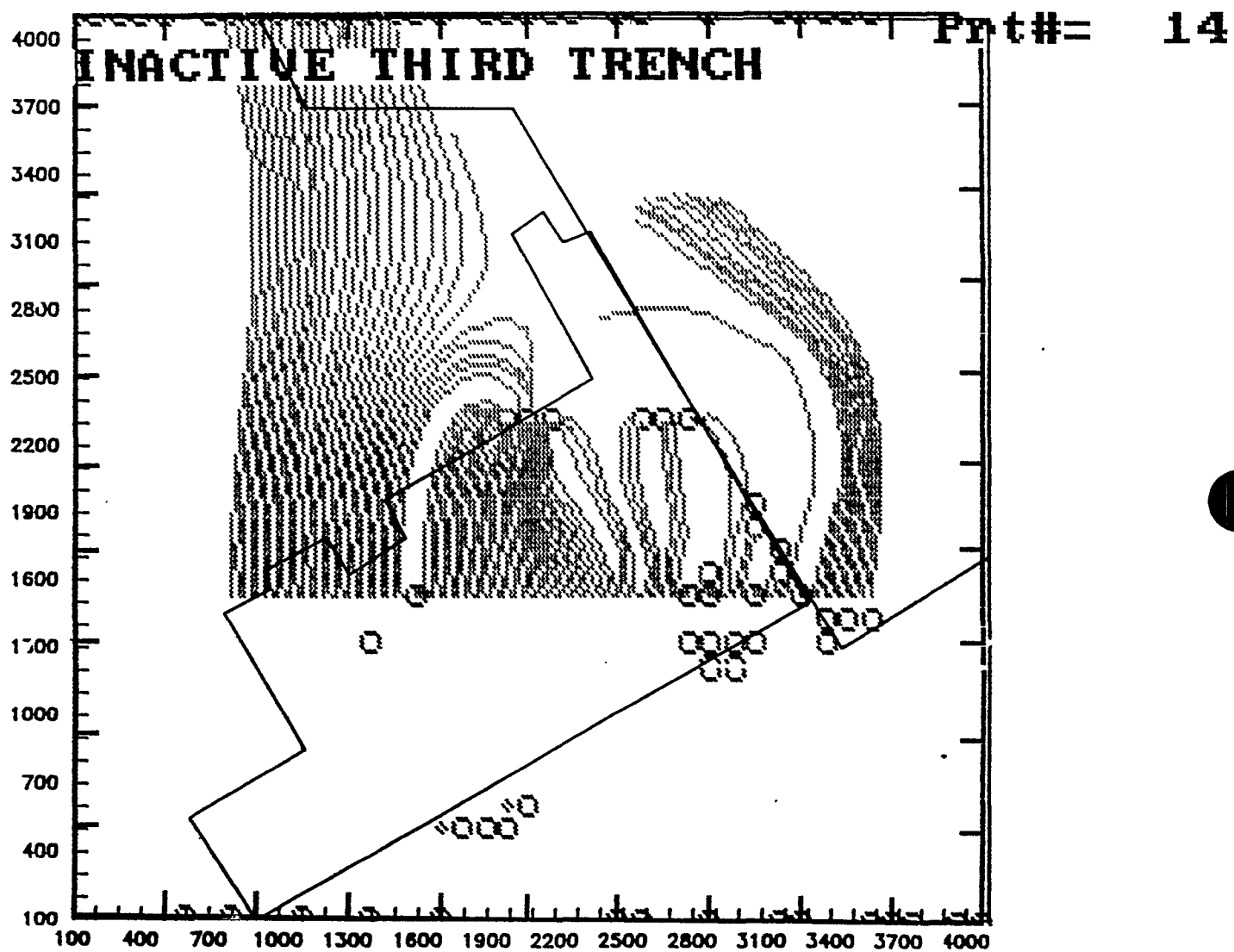


AR002158

INACTIVE THIRD TRENCH

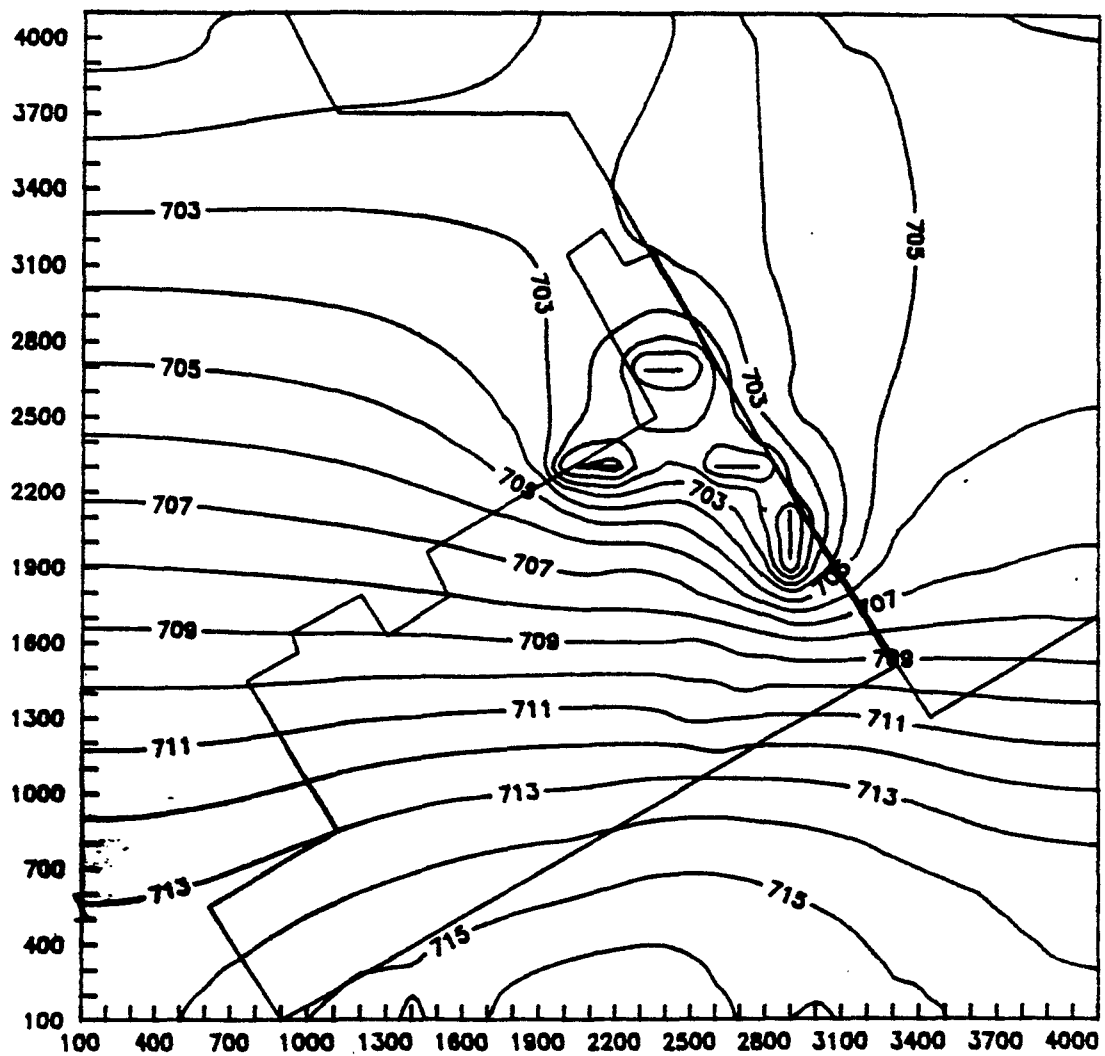


AR002159

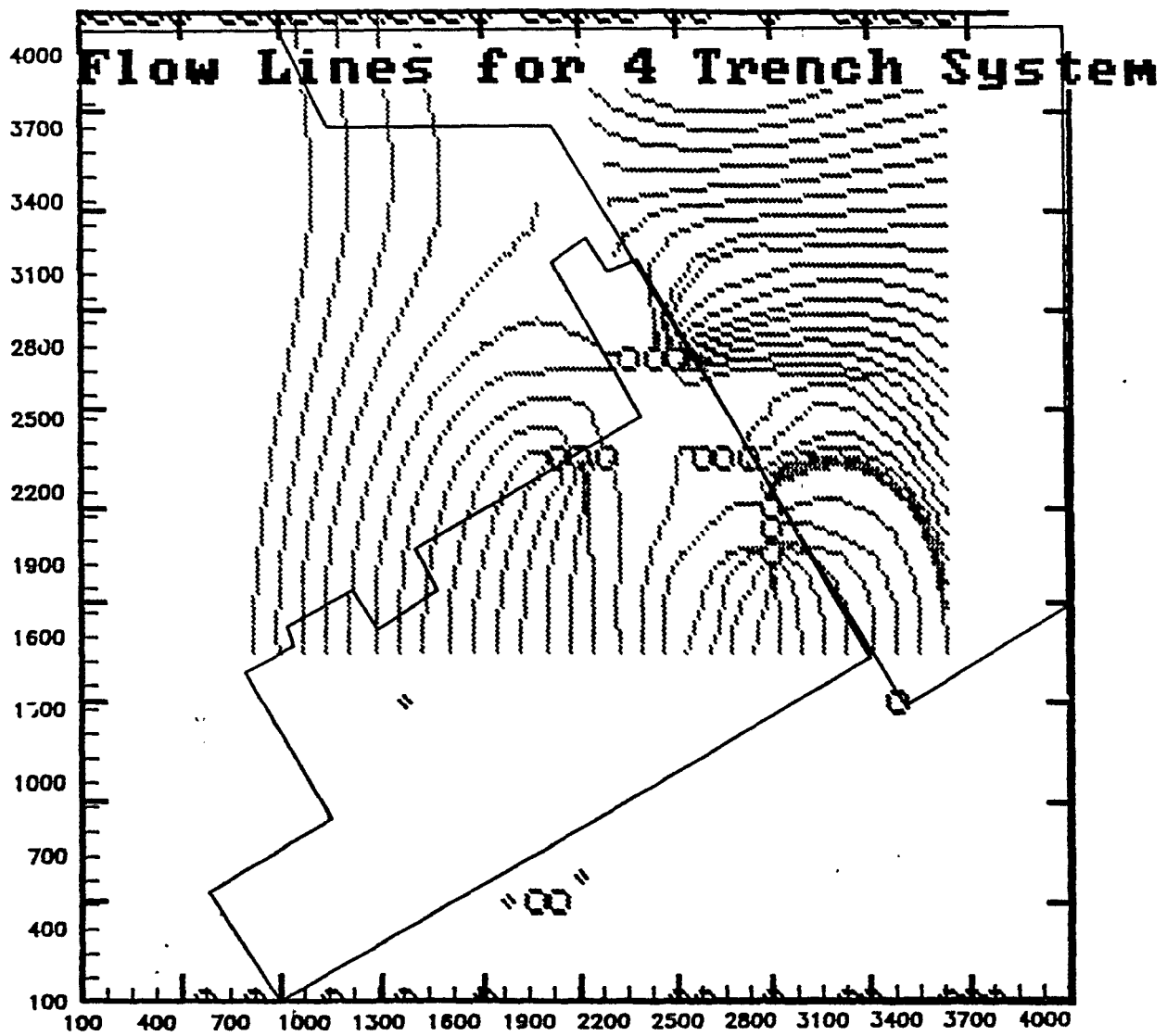


AR002160

FOUR TRENCH GROUND WATER COLLECTION SYSTEM

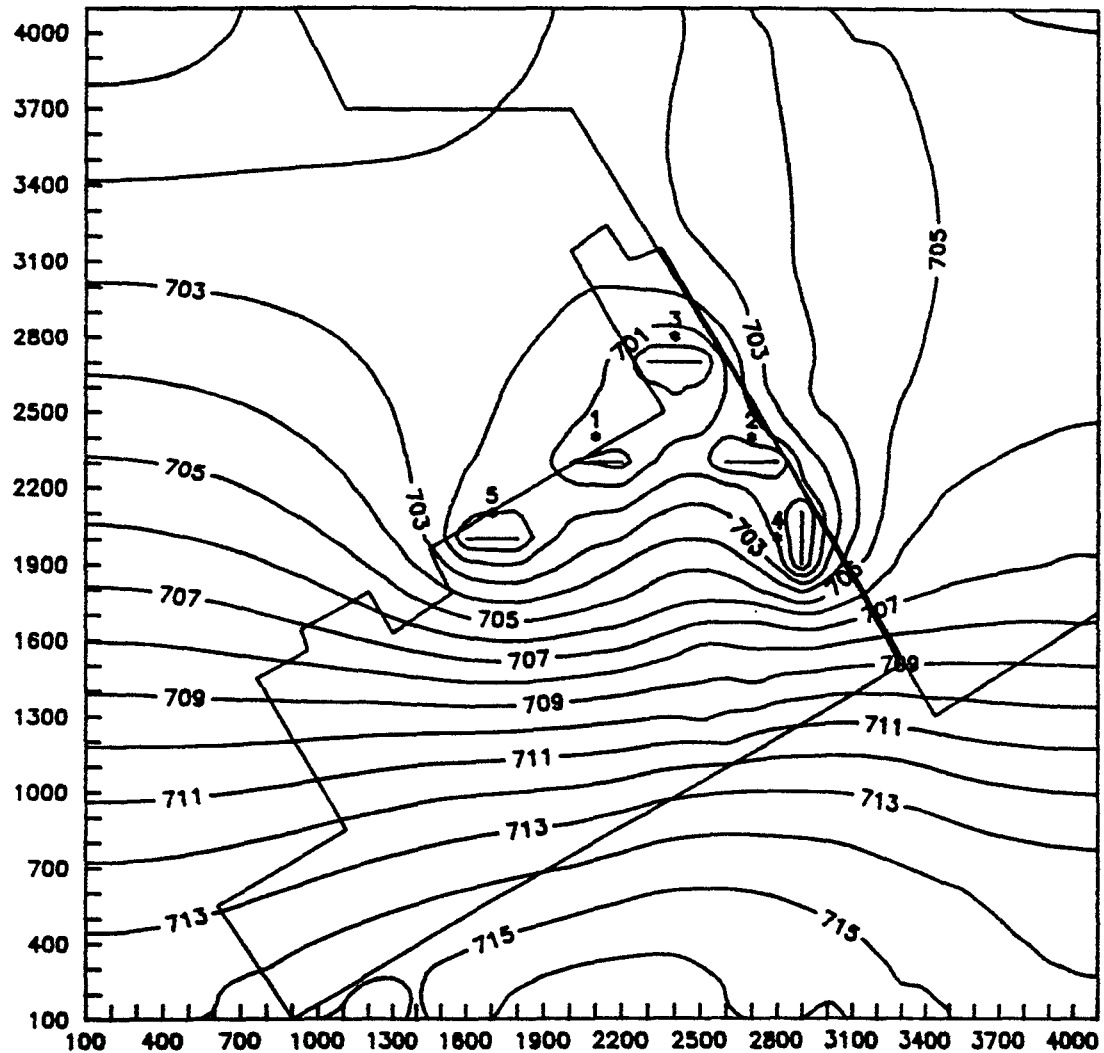


AR002161

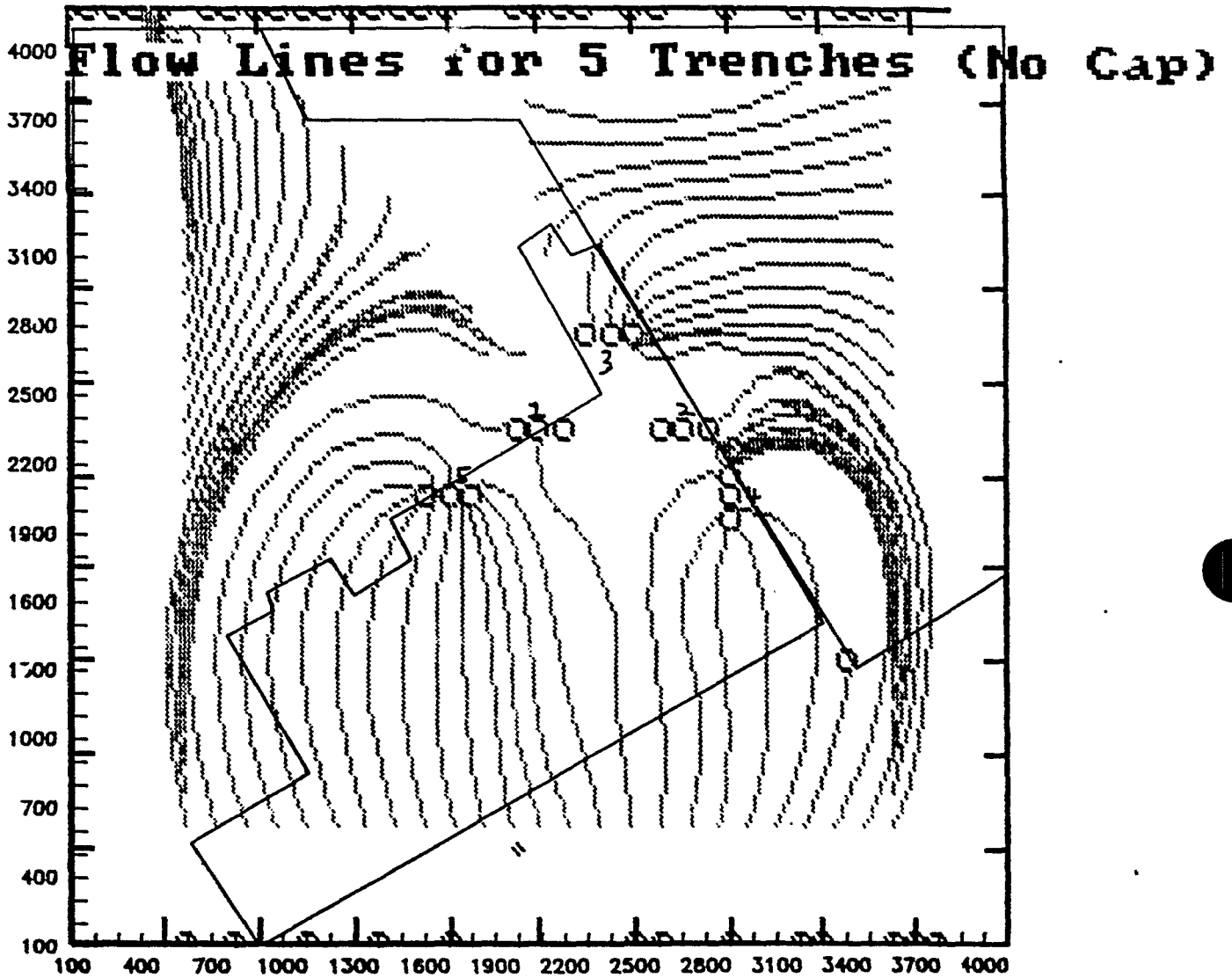


AR002162

5 GROUND WATER COLLECTION TRENCHES WITH NO CAP

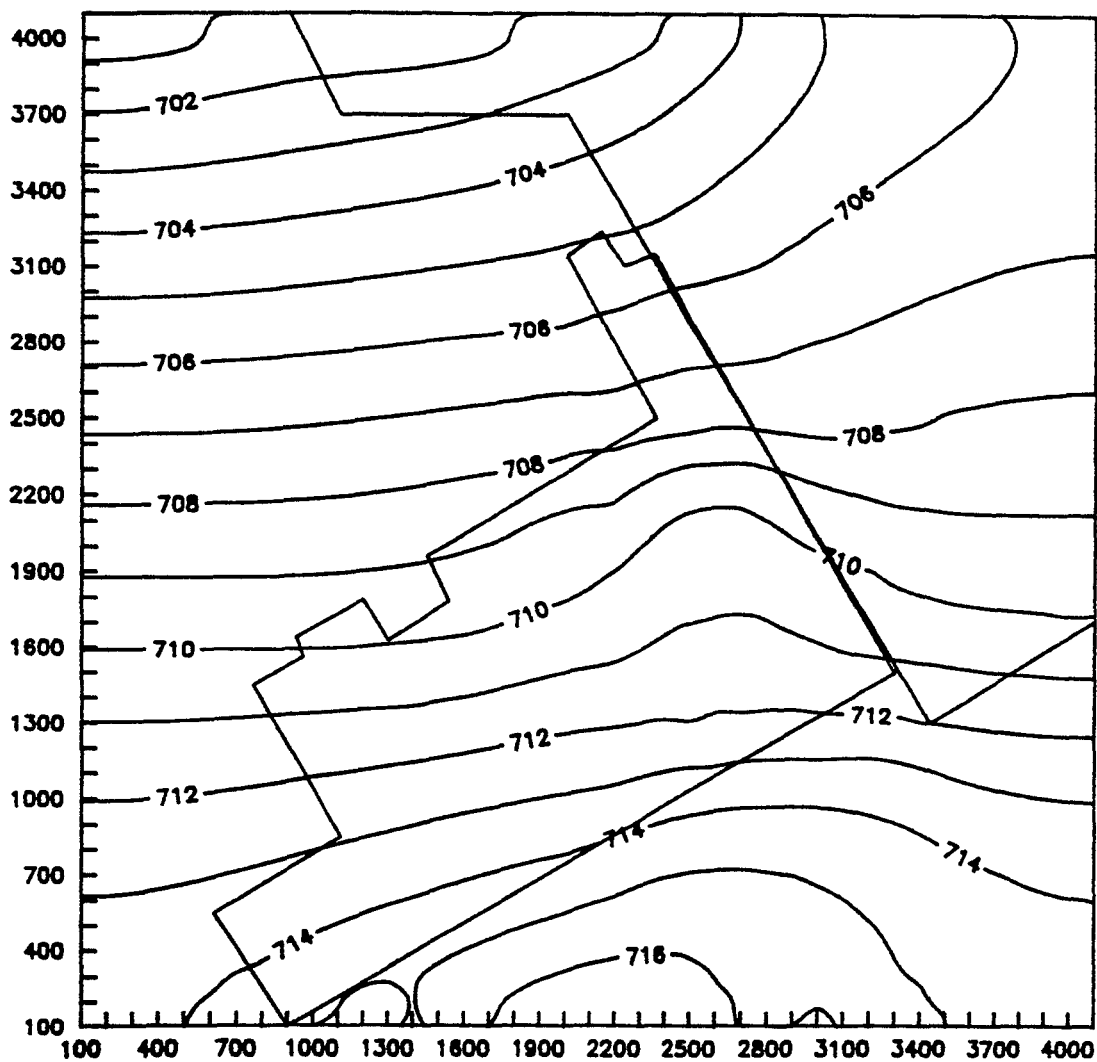


AR002163

ORIGINAL
(RED)

AR002164

ISOPOTENTIAL MAP WITH TOPSOIL/ CLAY COVER



AR002165

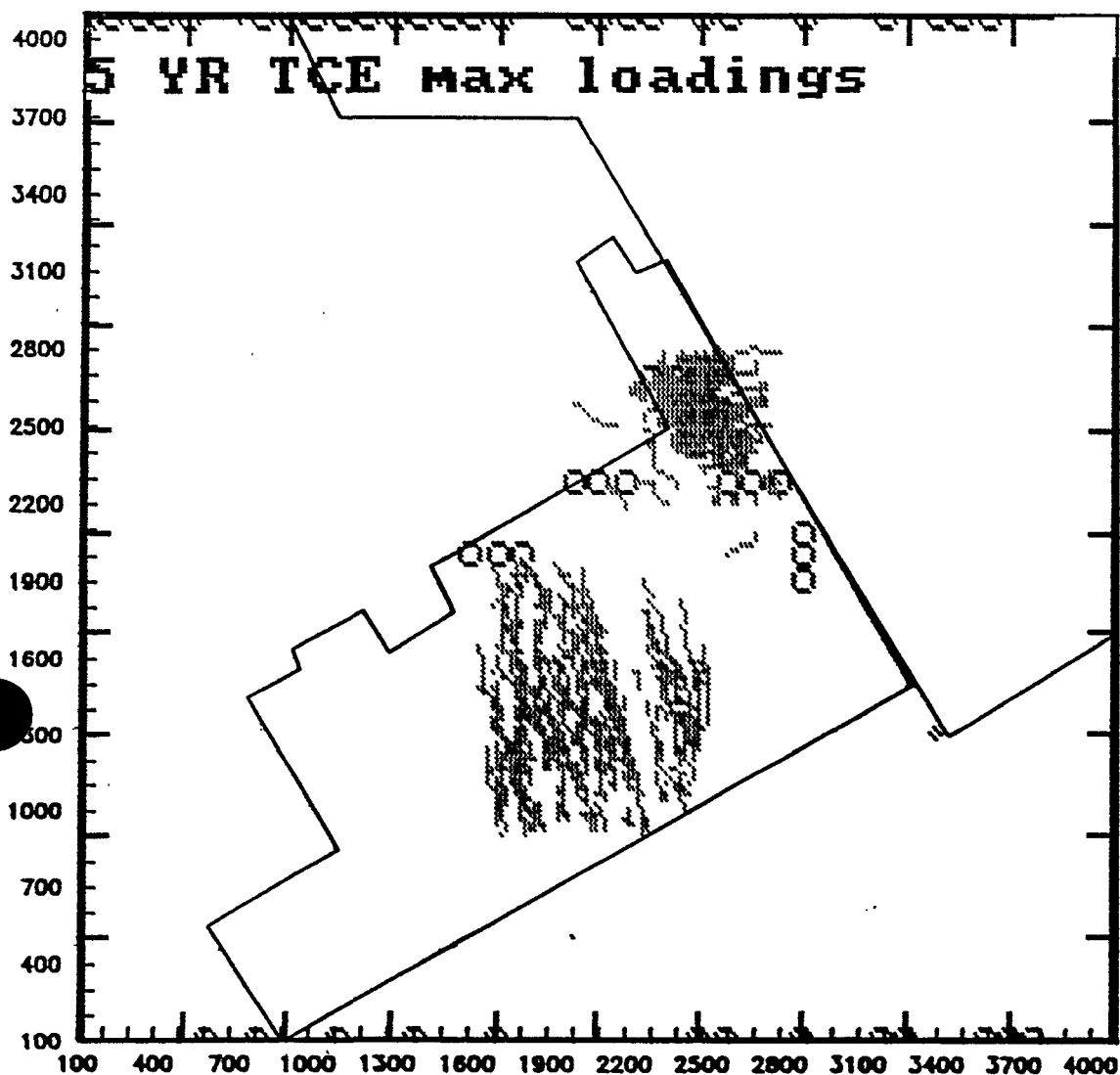
APPENDIX O
RANDOM WALK GENERATED CONTAMINANT PLUMES

Appendix 0

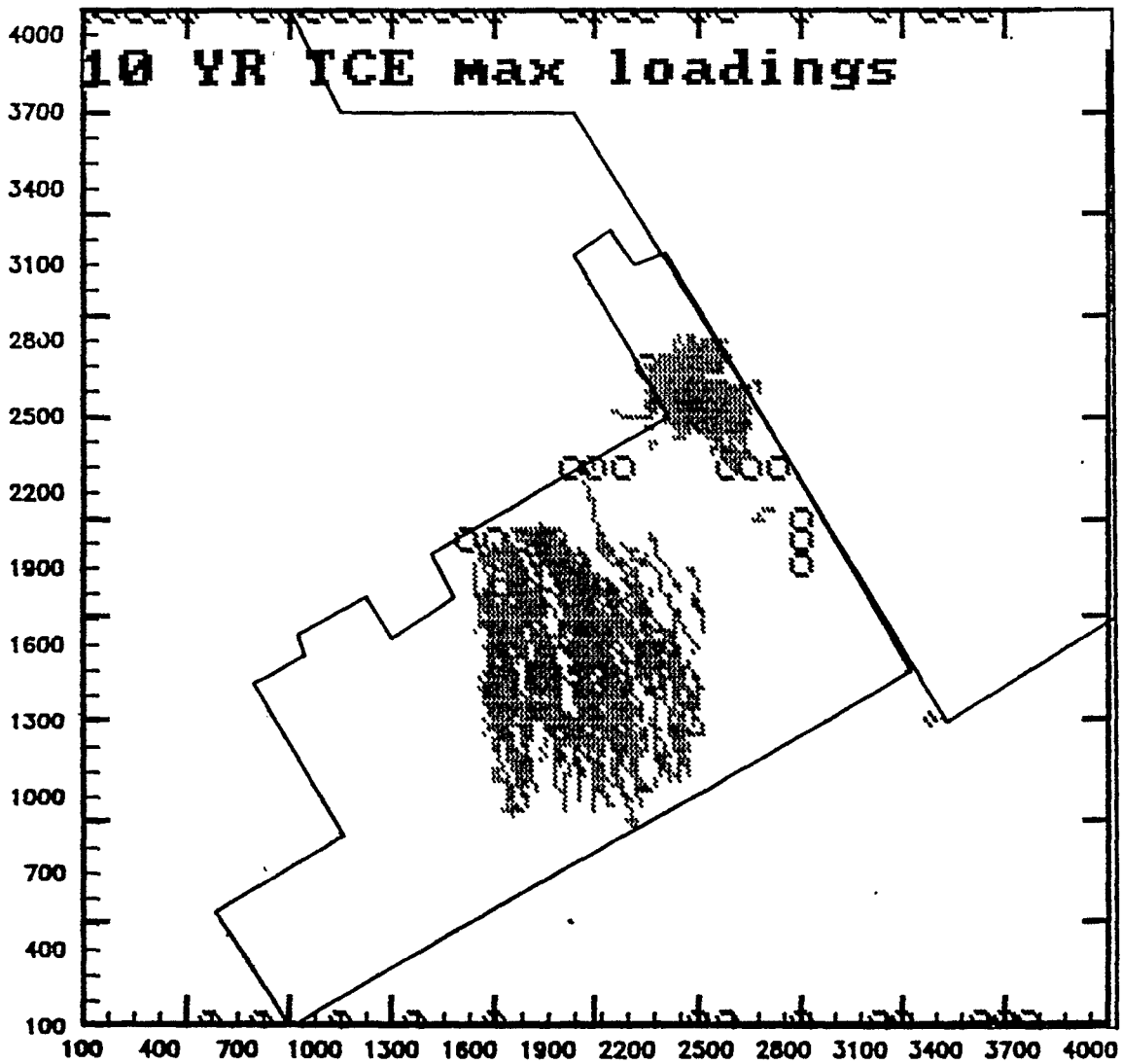
RANDOM WALK Simulations of Contaminant Plumes

<u>Page</u>	<u>Particle Traces</u>	<u>Description</u>	<u>Loadings</u>	<u>Cover Type</u>
<u>Remedial condition:</u>				
1 - 5	TCE	Particle traces for 25 year simulation. Loading from Areas 1, 3 and 4.	Max.	None
6 - 10	TCE	Particle traces for 25 year simulation. Loading from Areas 1, 3 and 4.	Avg.	None
11 - 15	TCE	Particle traces for 25 year simulation. Loading from Area 1 only.	Avg.	Topsoil/clay
16 - 21	1,2-DCE	Particle traces for 25 year simulation. Loading from Area 1.	Avg.	None
22 - 26	1,2-DCE	Particle traces for 25 year simulation. Loading from Area 1.	Max.	None
27 - 31	1,2-DCE	Particle traces for 25 year simulation. Loading from Area 1 only.	Avg.	Topsoil/clay
<u>Non-remedial condition:</u>				
32 - 36	TCE	Particle traces for 25 year simulation. Loading from Areas 1, 3 and 4.	Max.	None
37 - 41	1,2-DCE	Particle traces for 25 year simulation. Loading from Area 1.	Max.	None

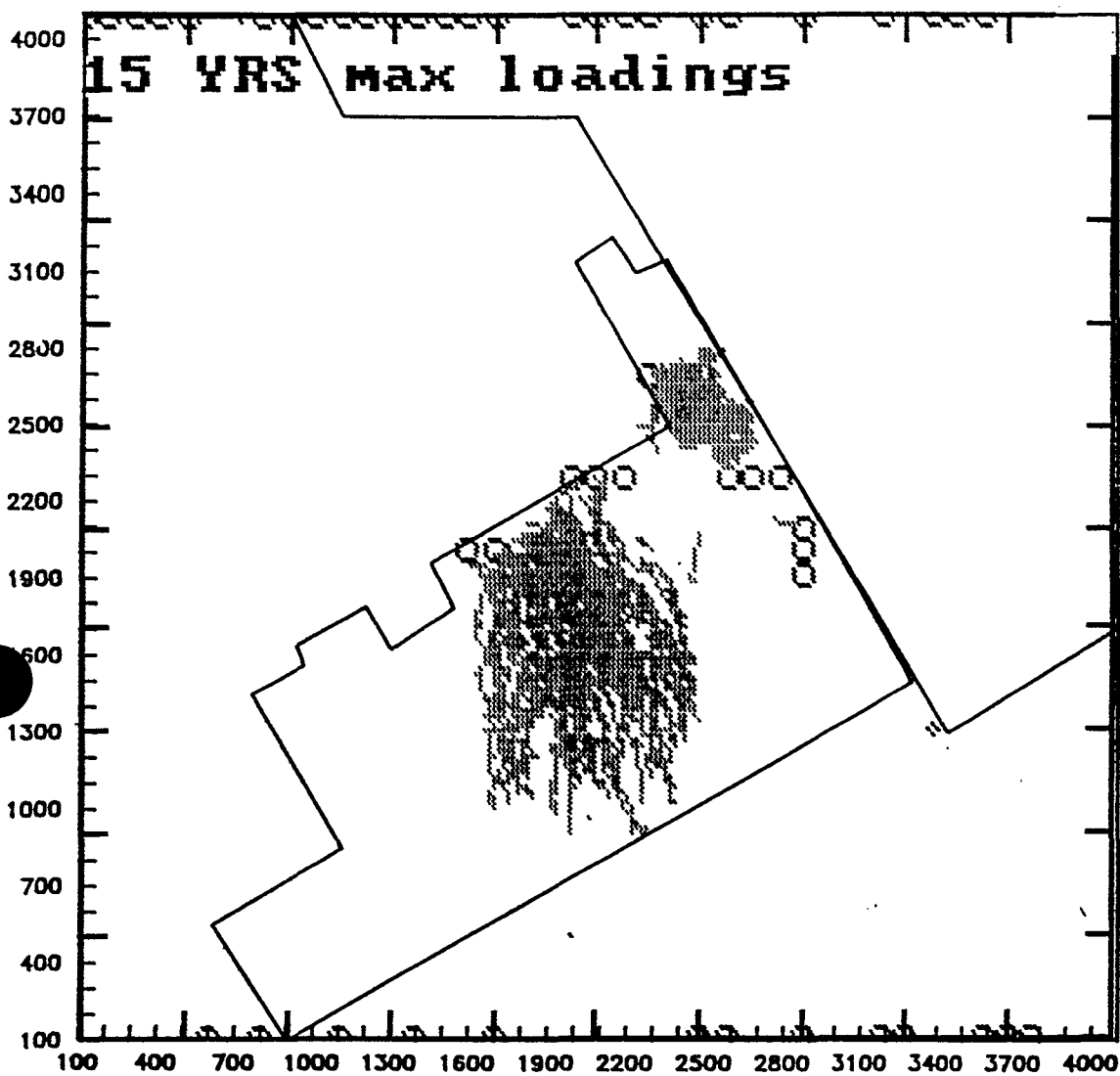
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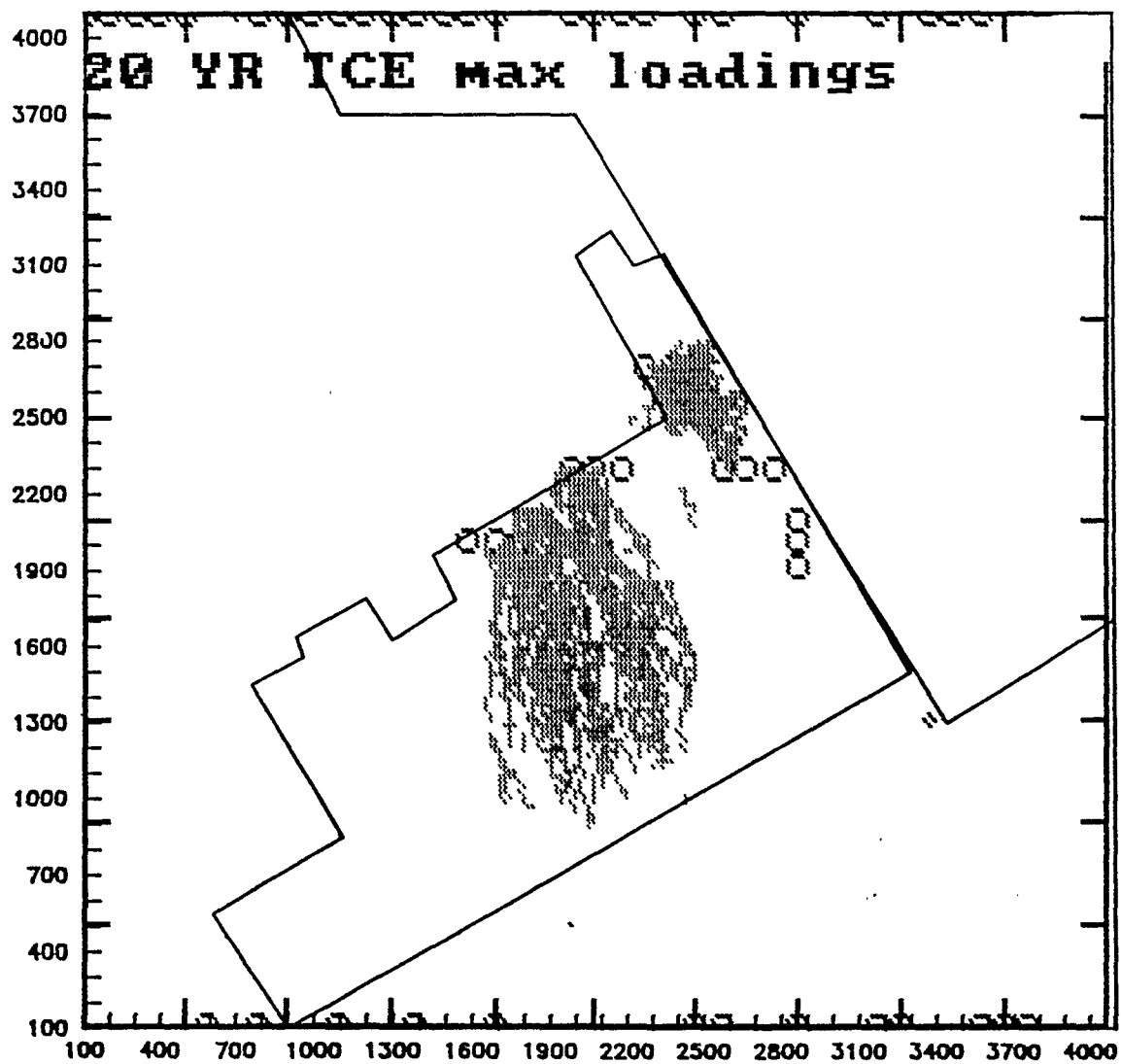
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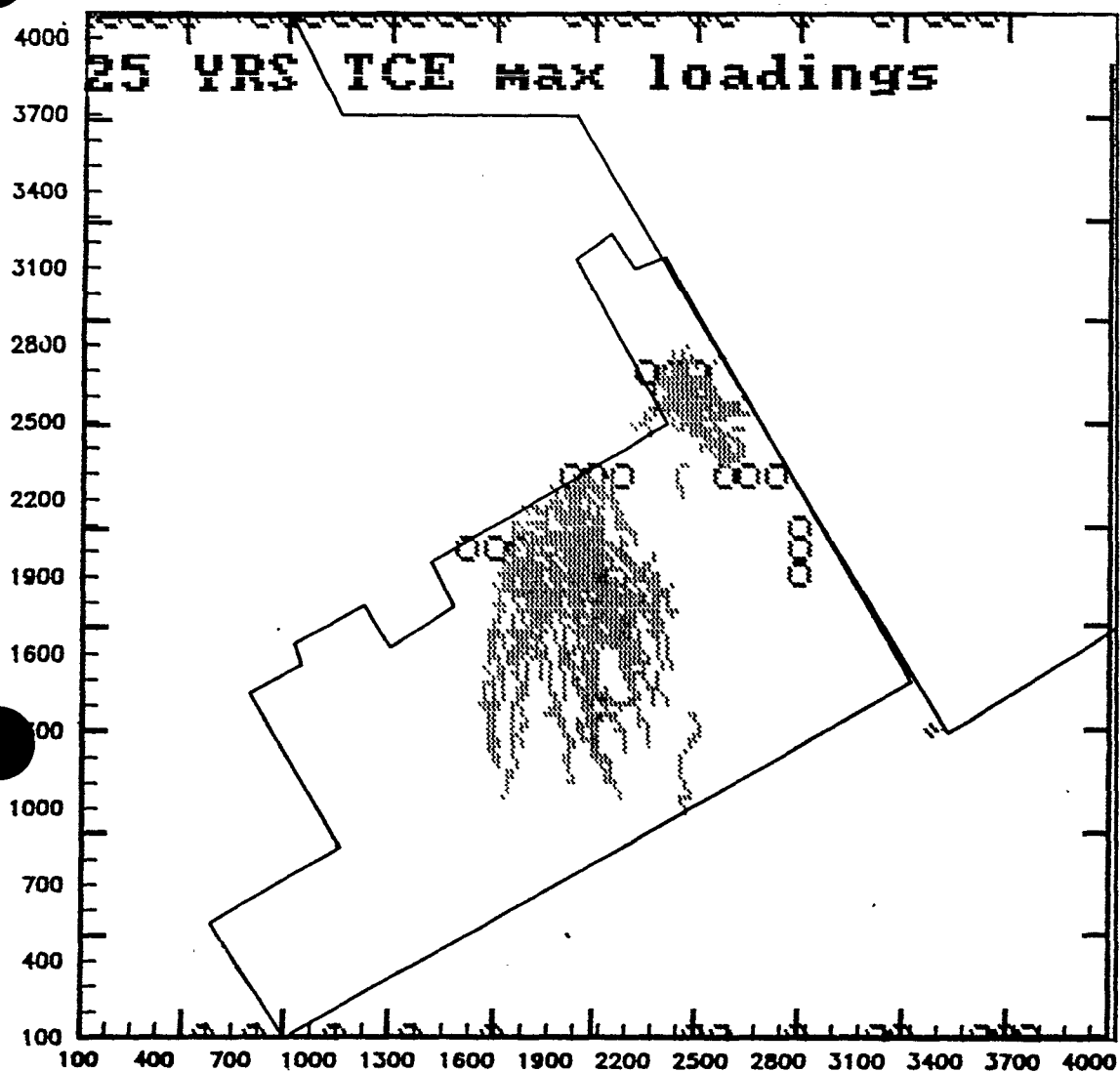
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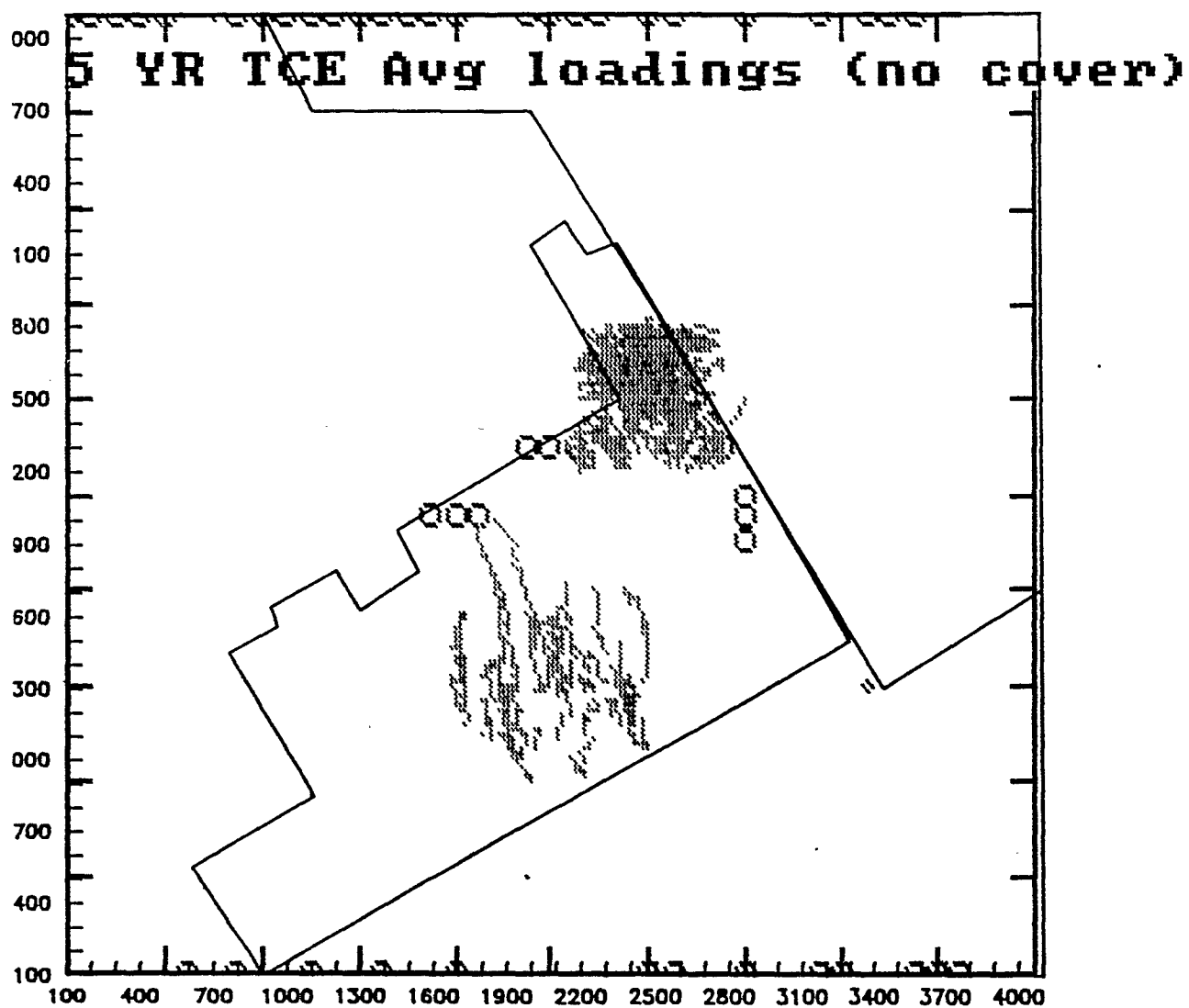
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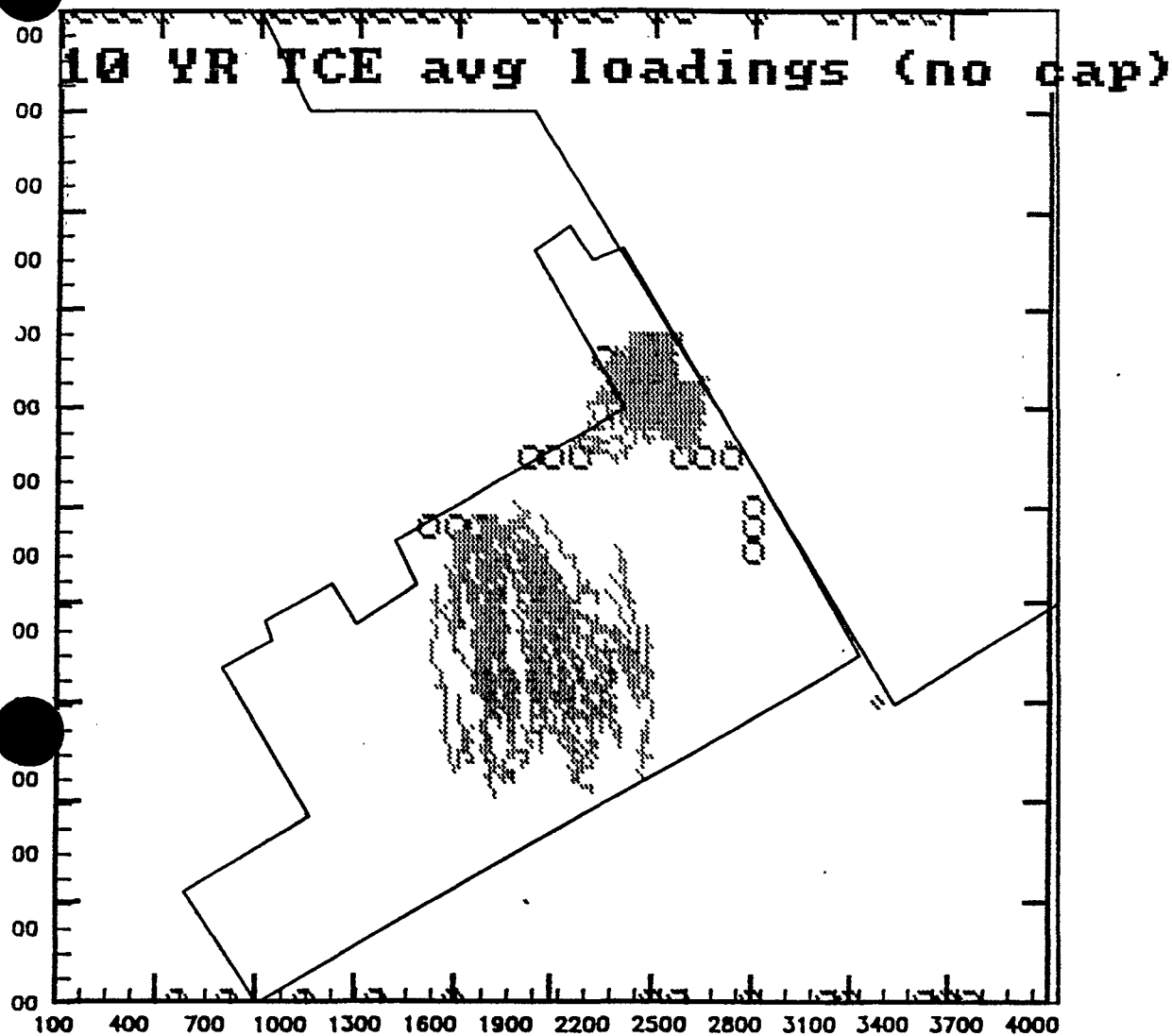
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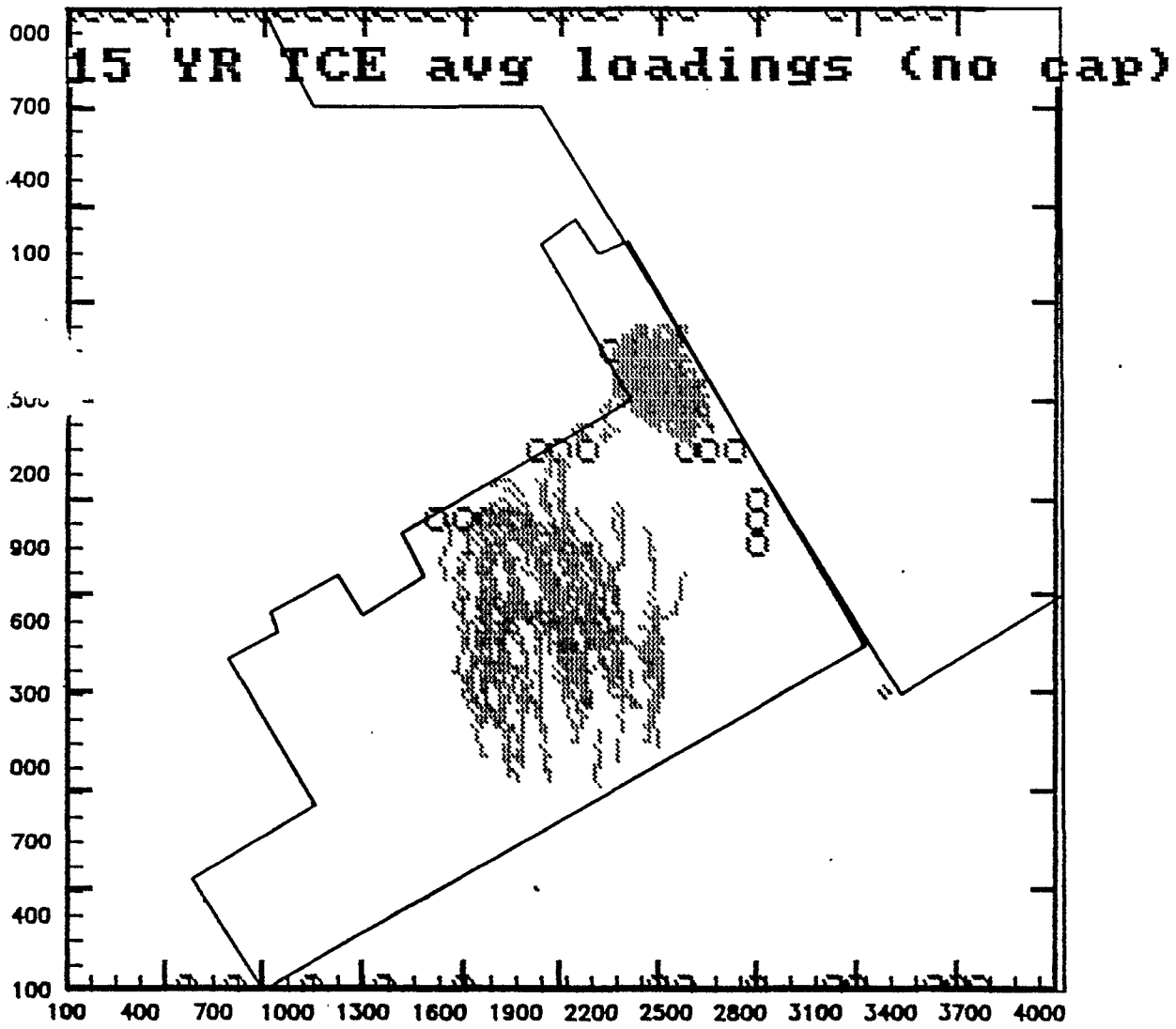
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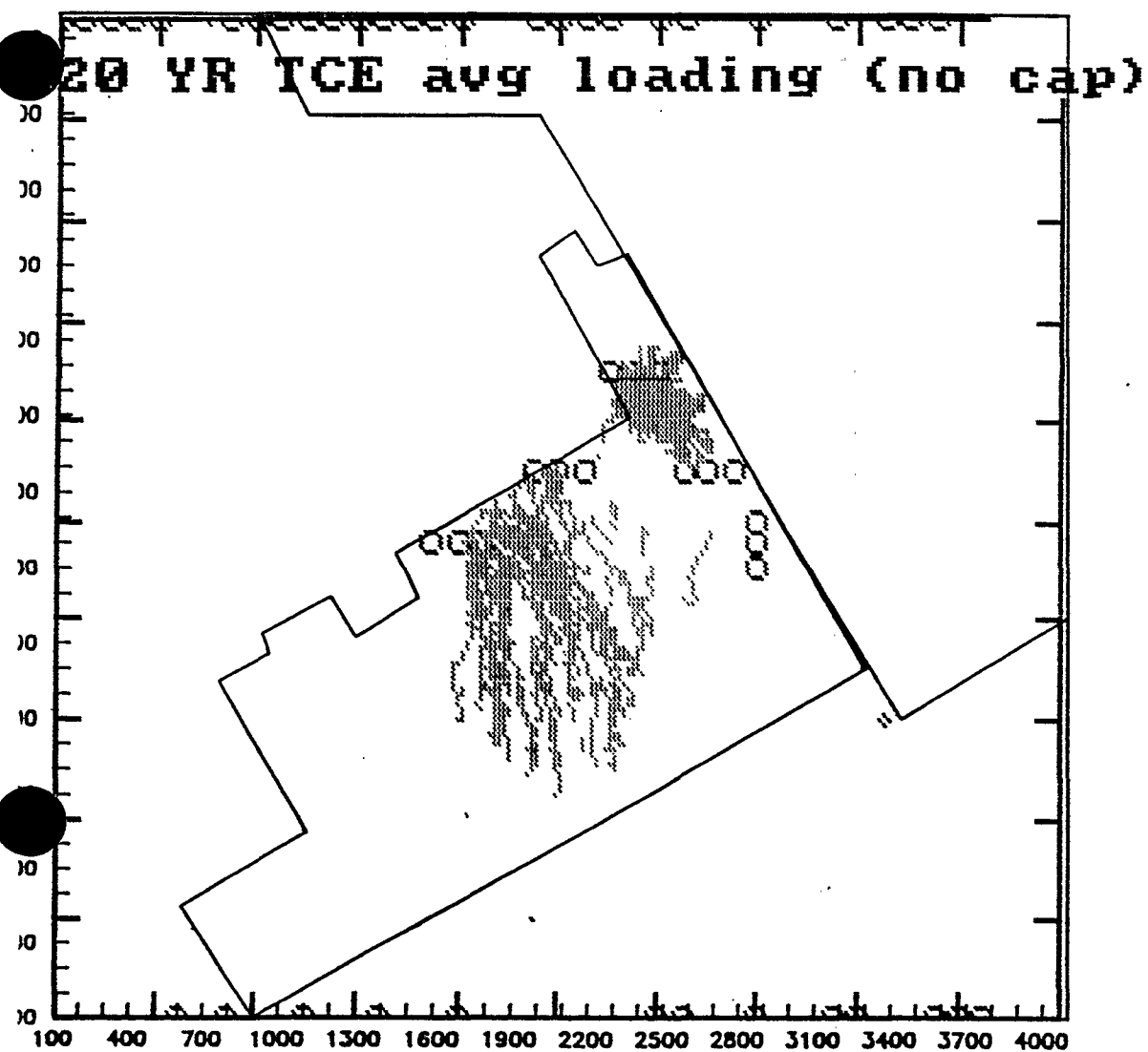
AR002173



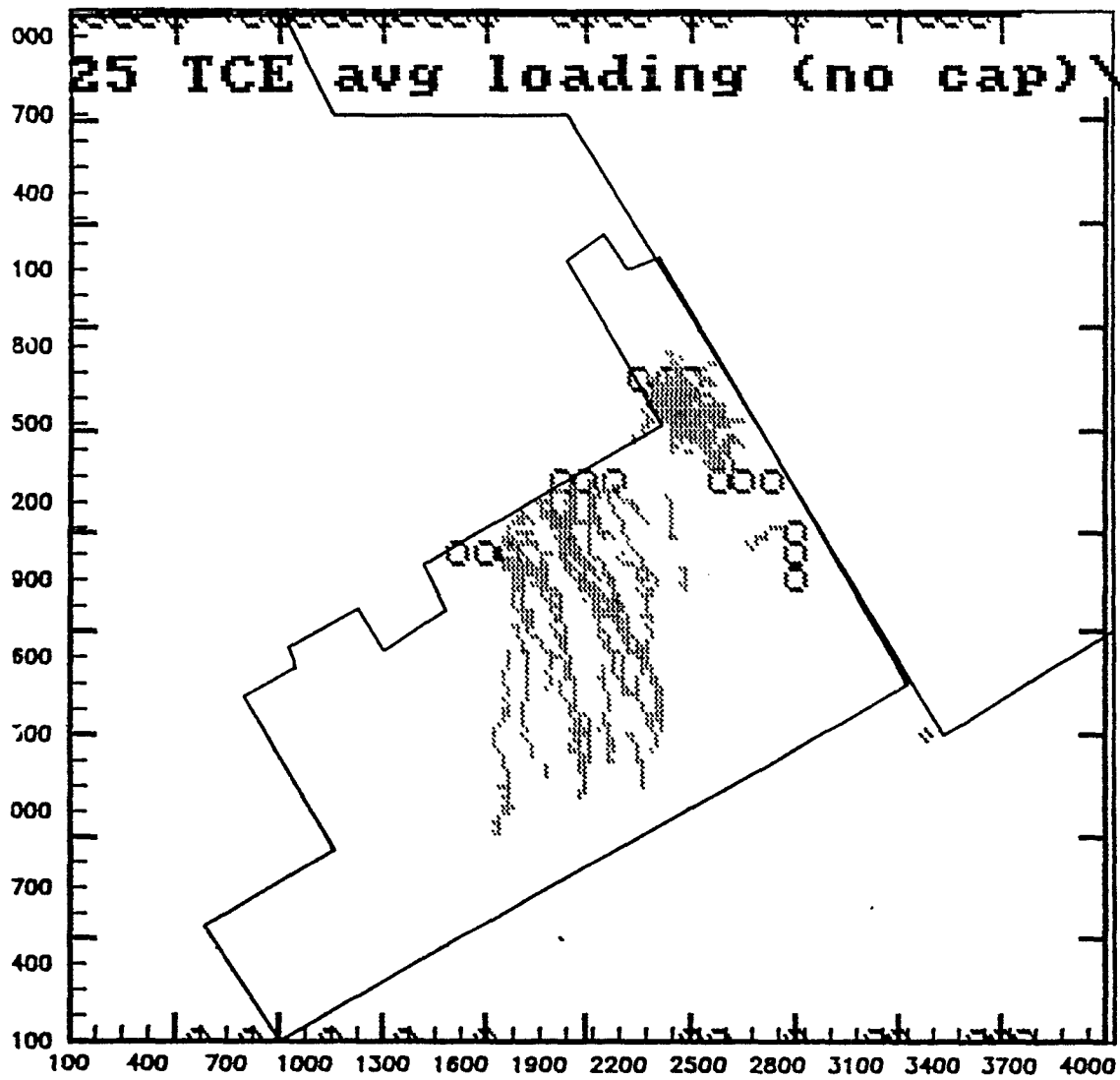
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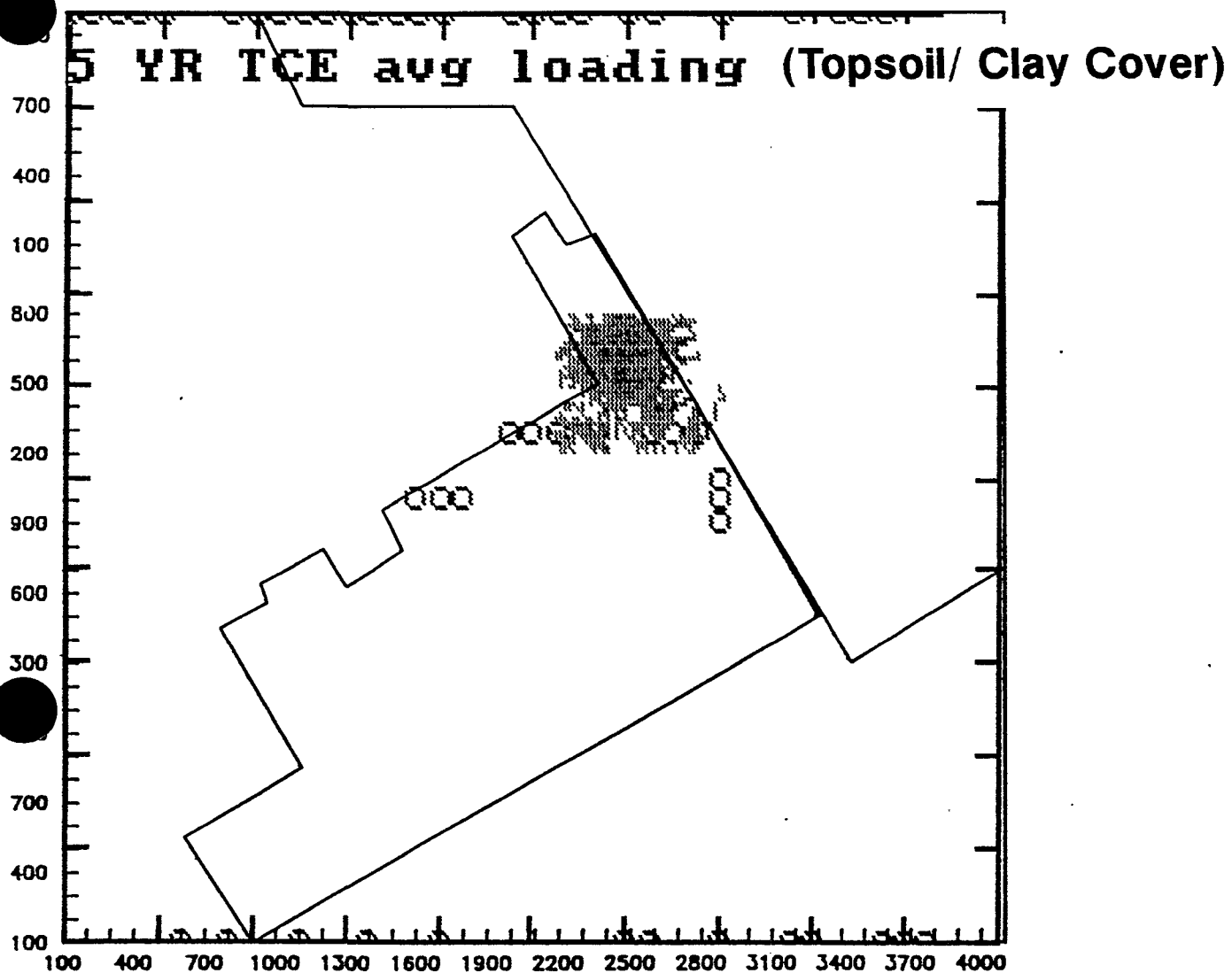
AR002175



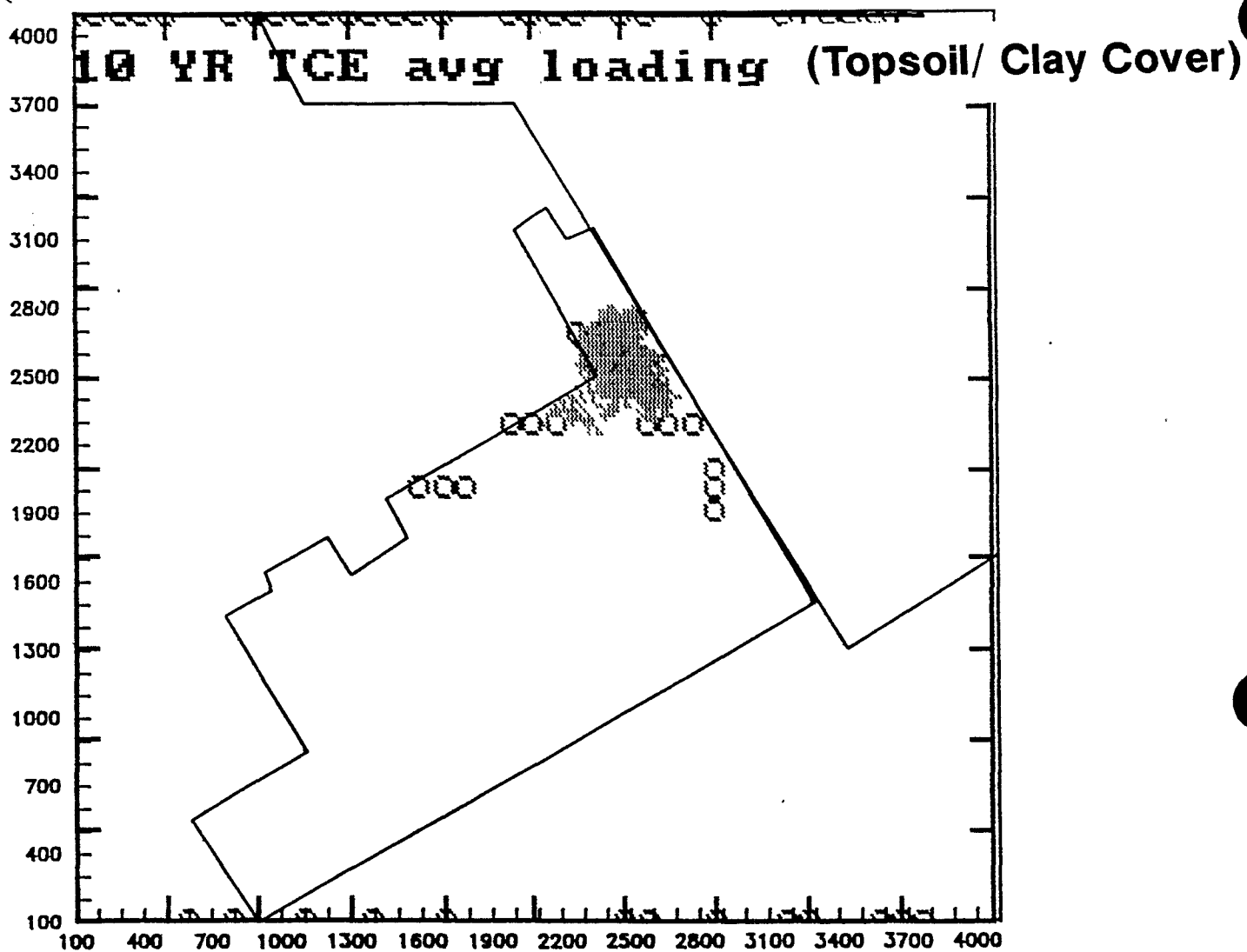
AR002176



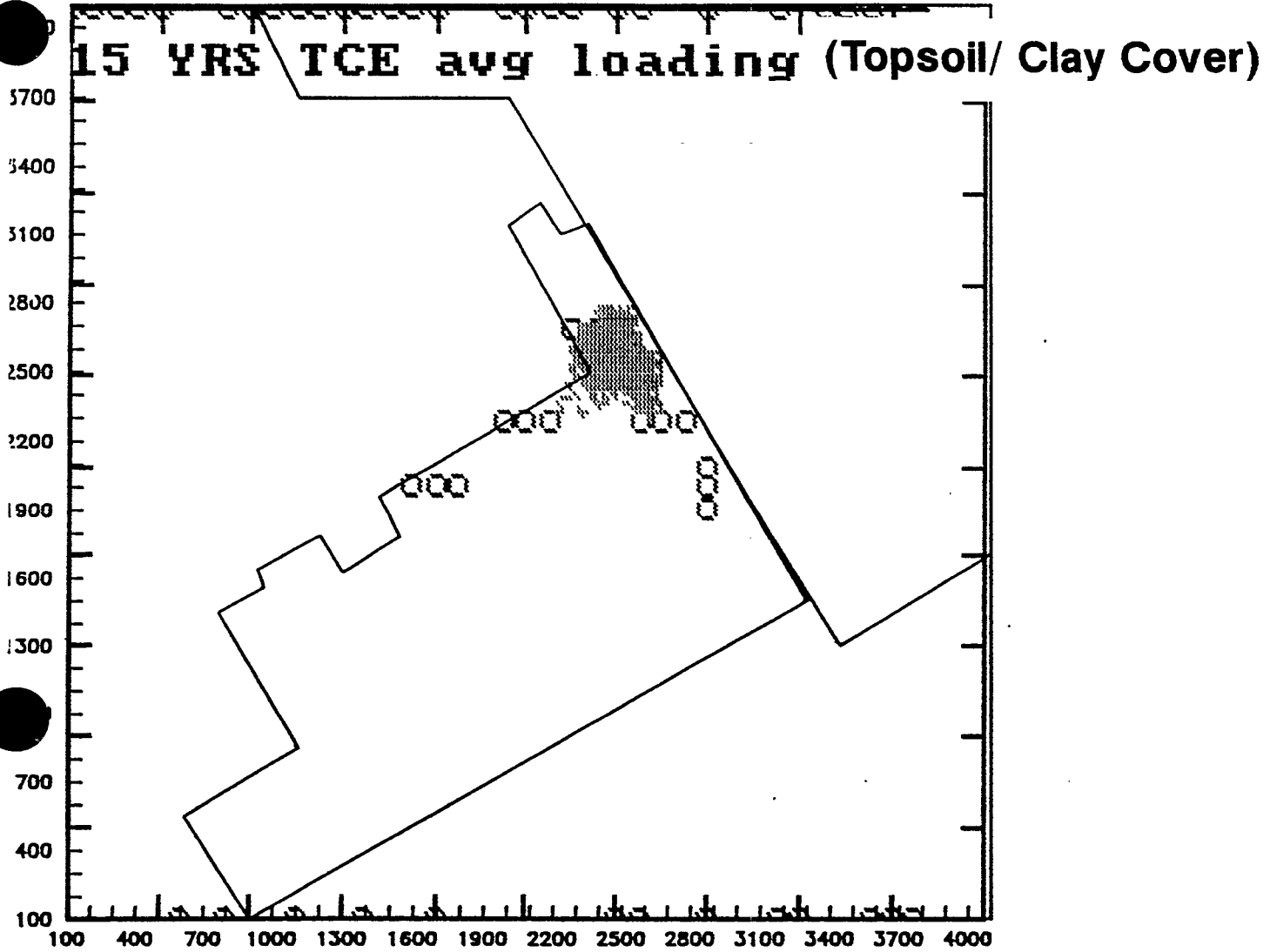
AR00 2177



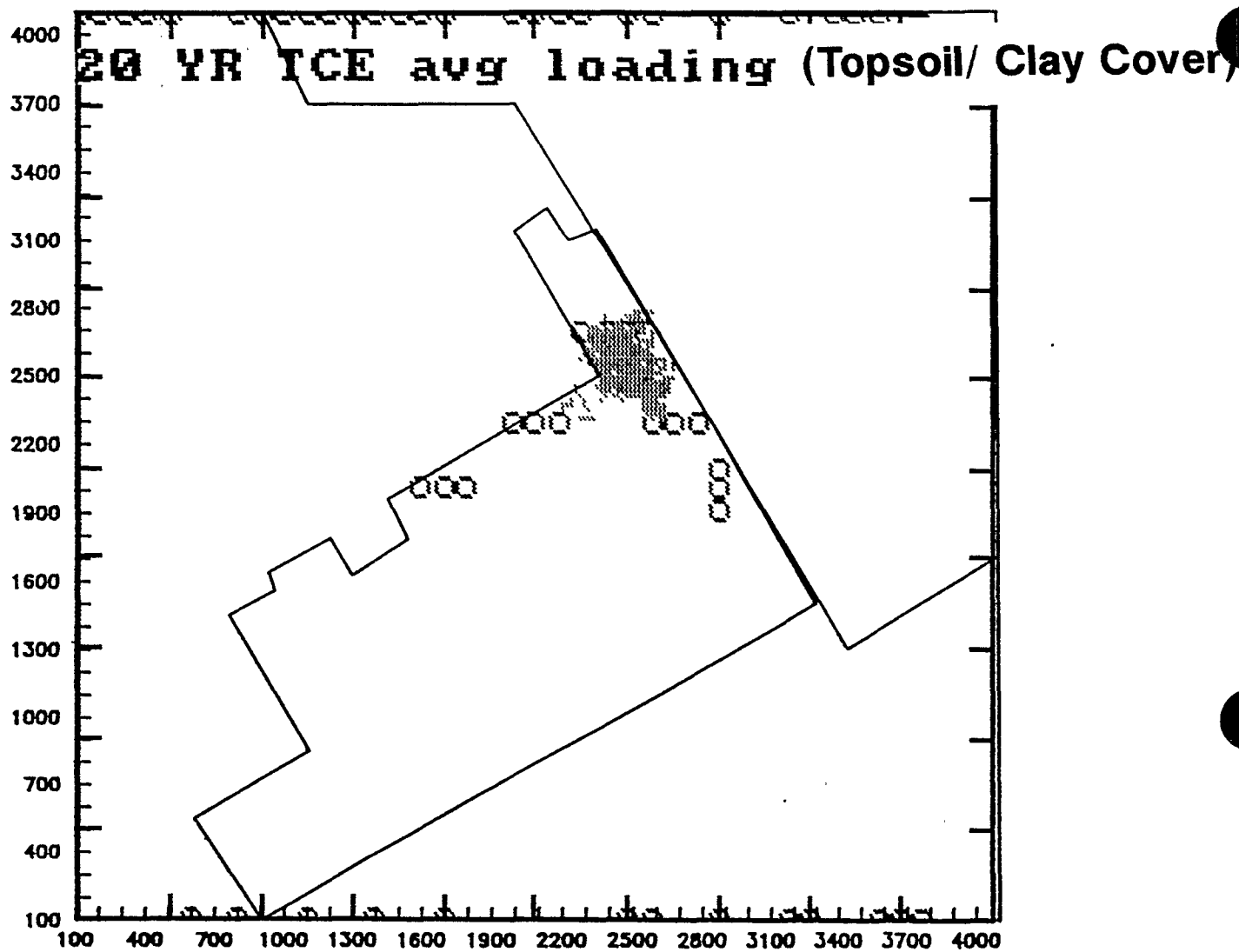
AR002178

ORIGINAL
(RED)

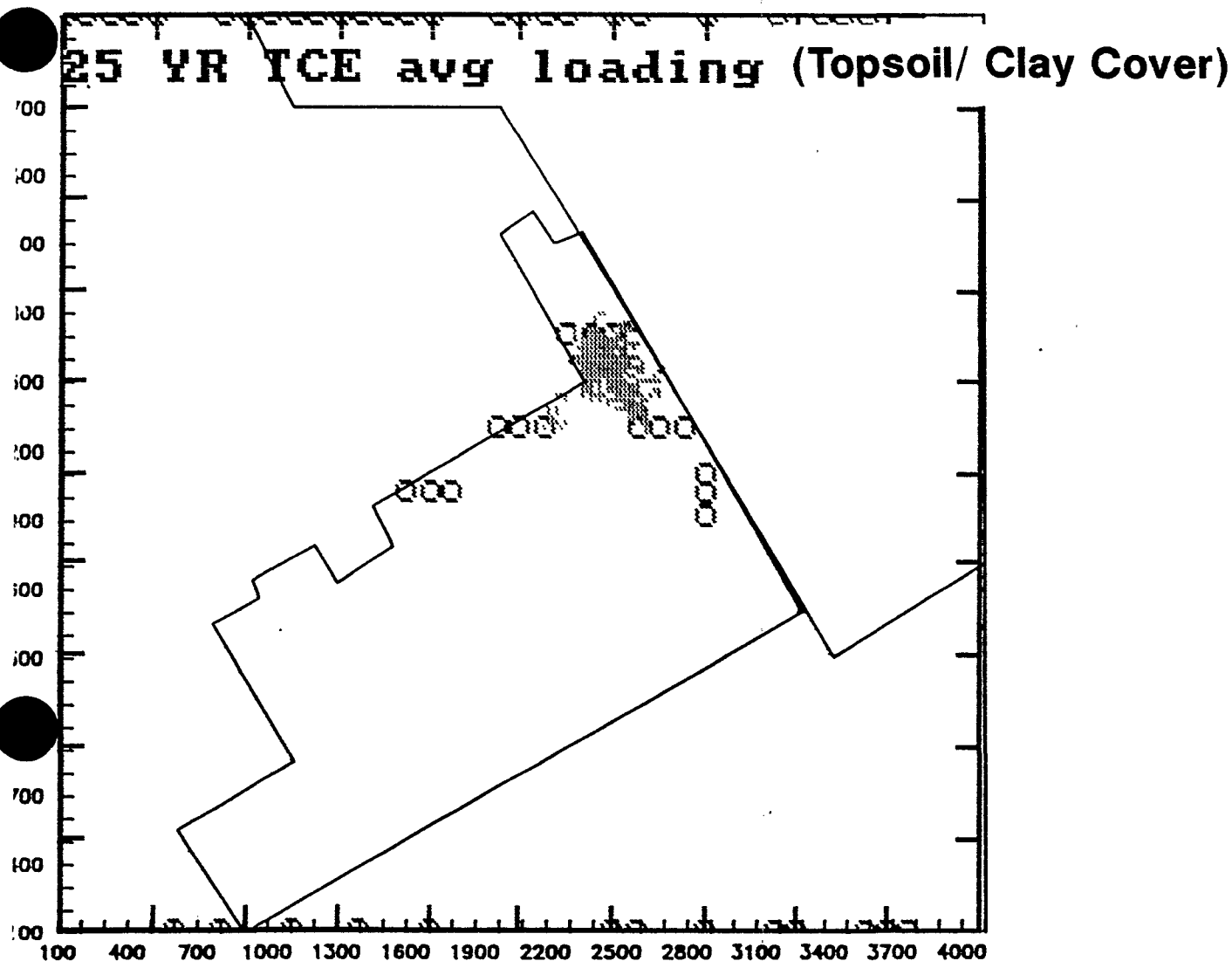
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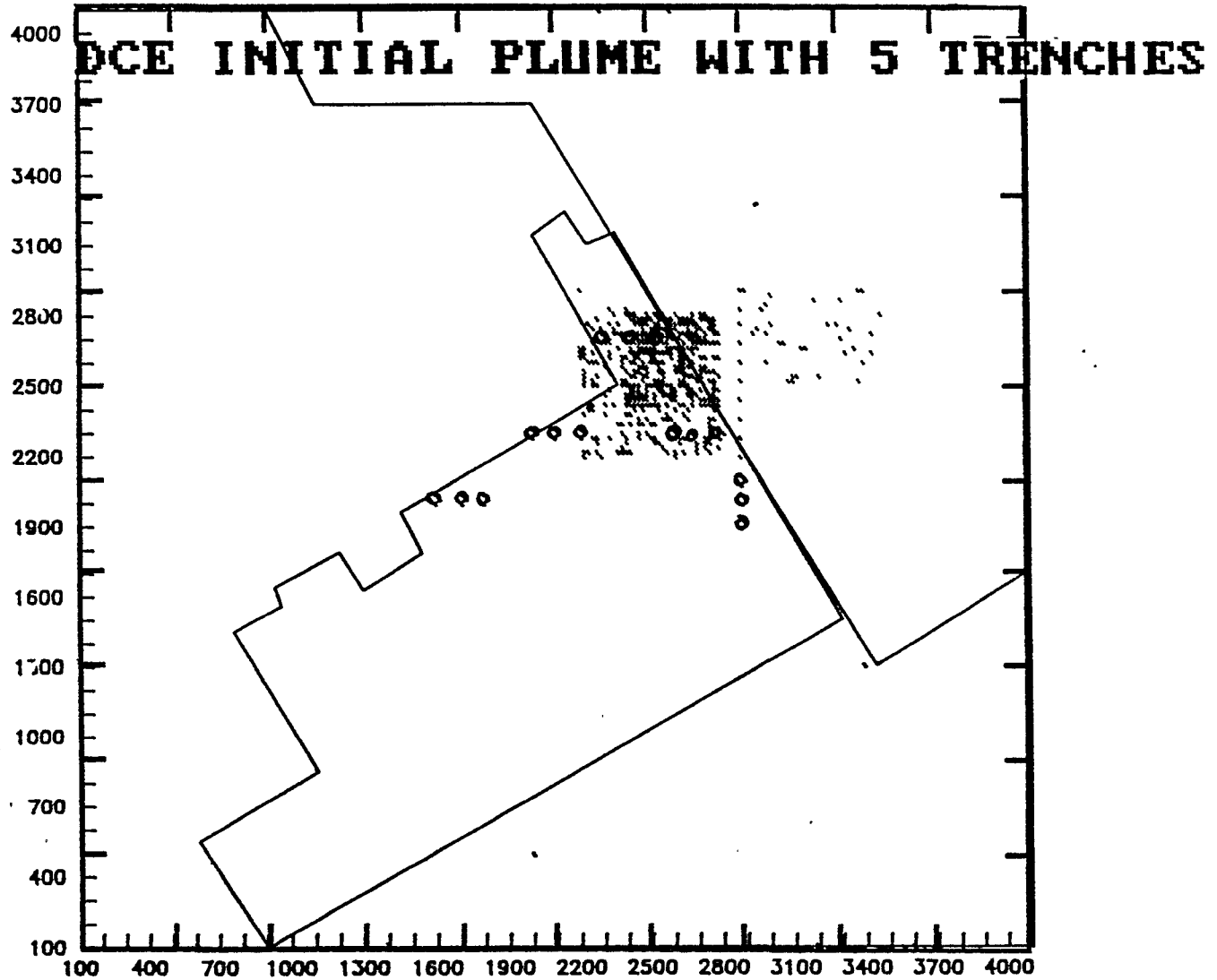
AR002180



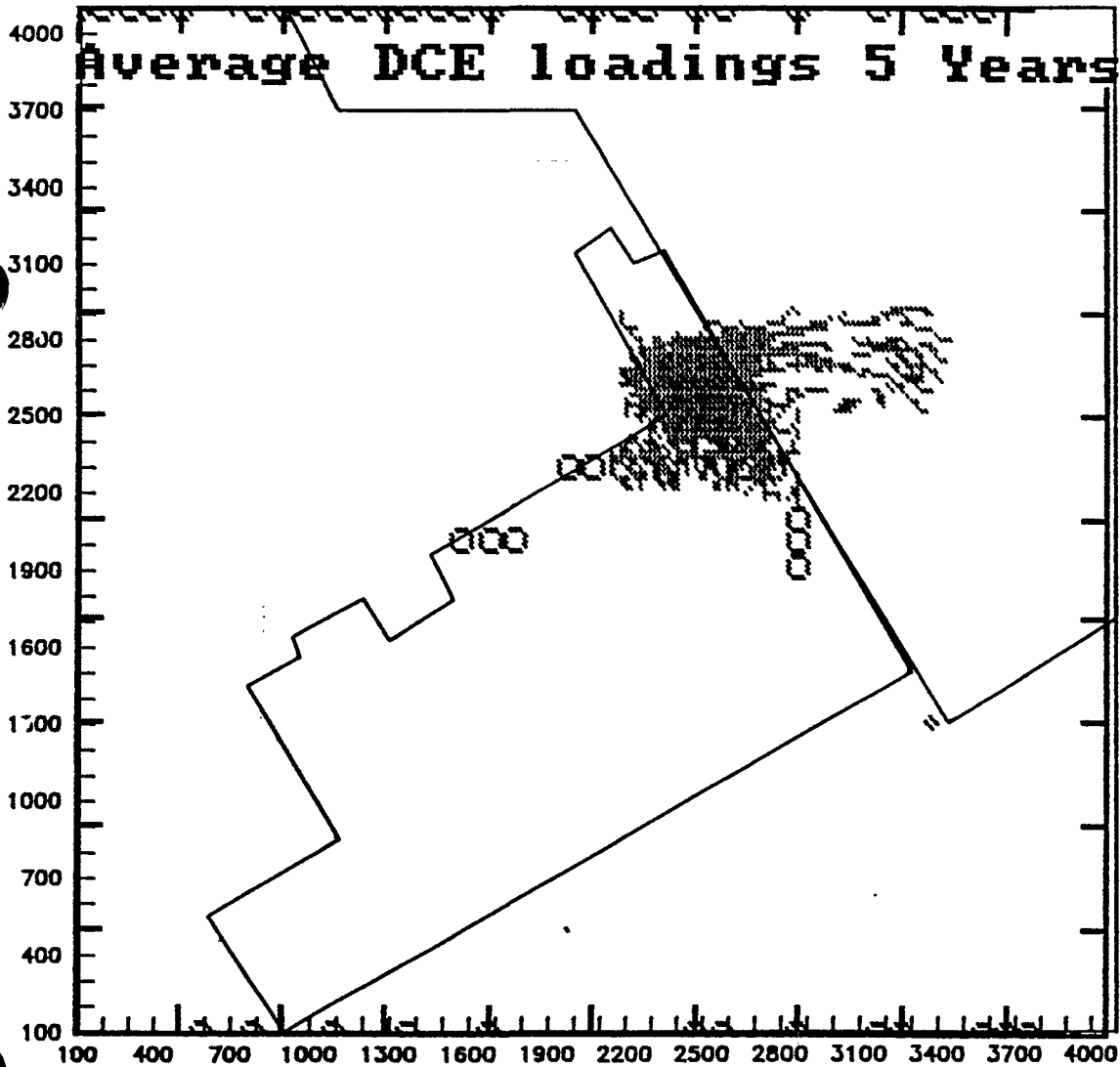
AR002181



AR002182

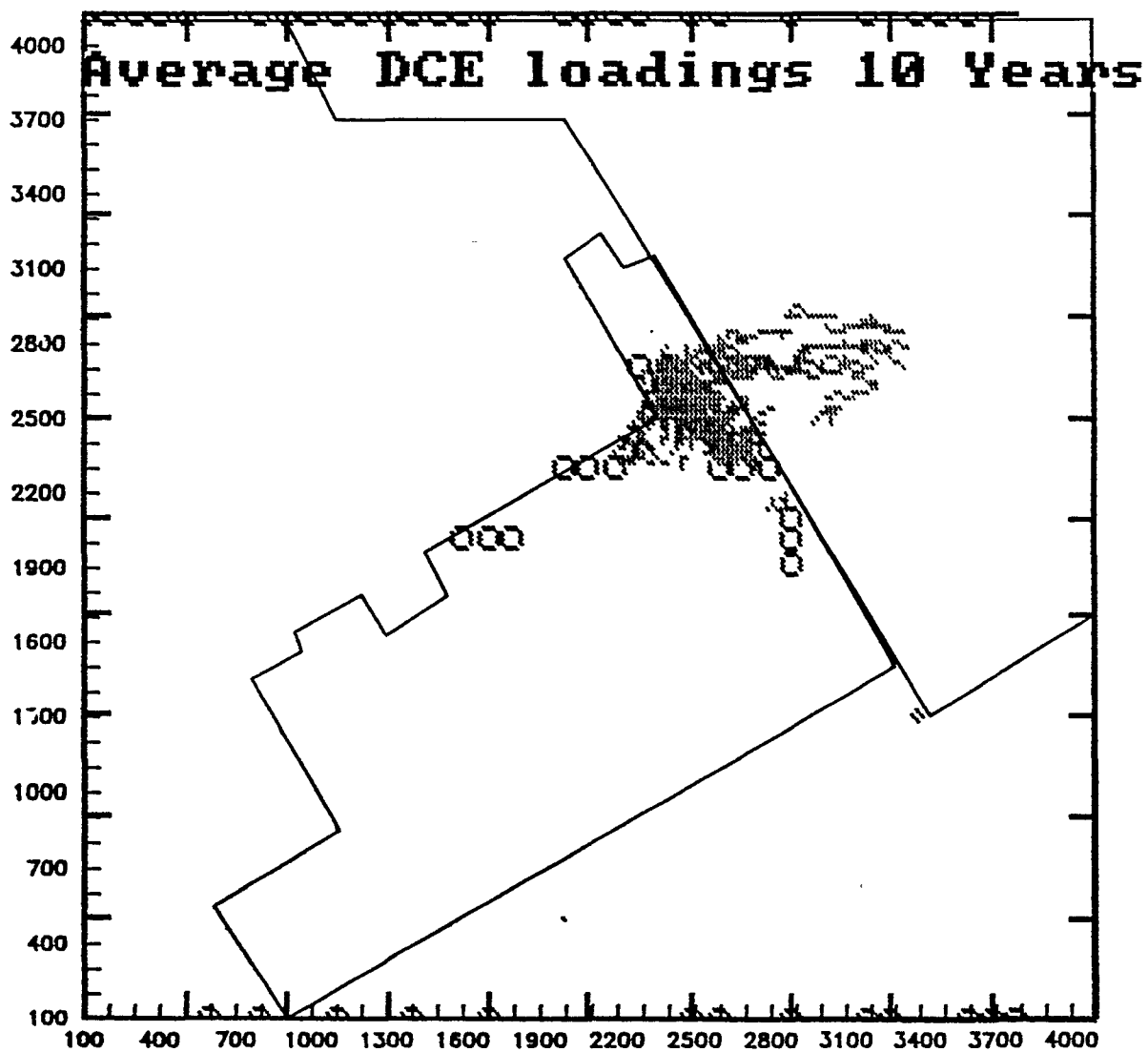


AR002183

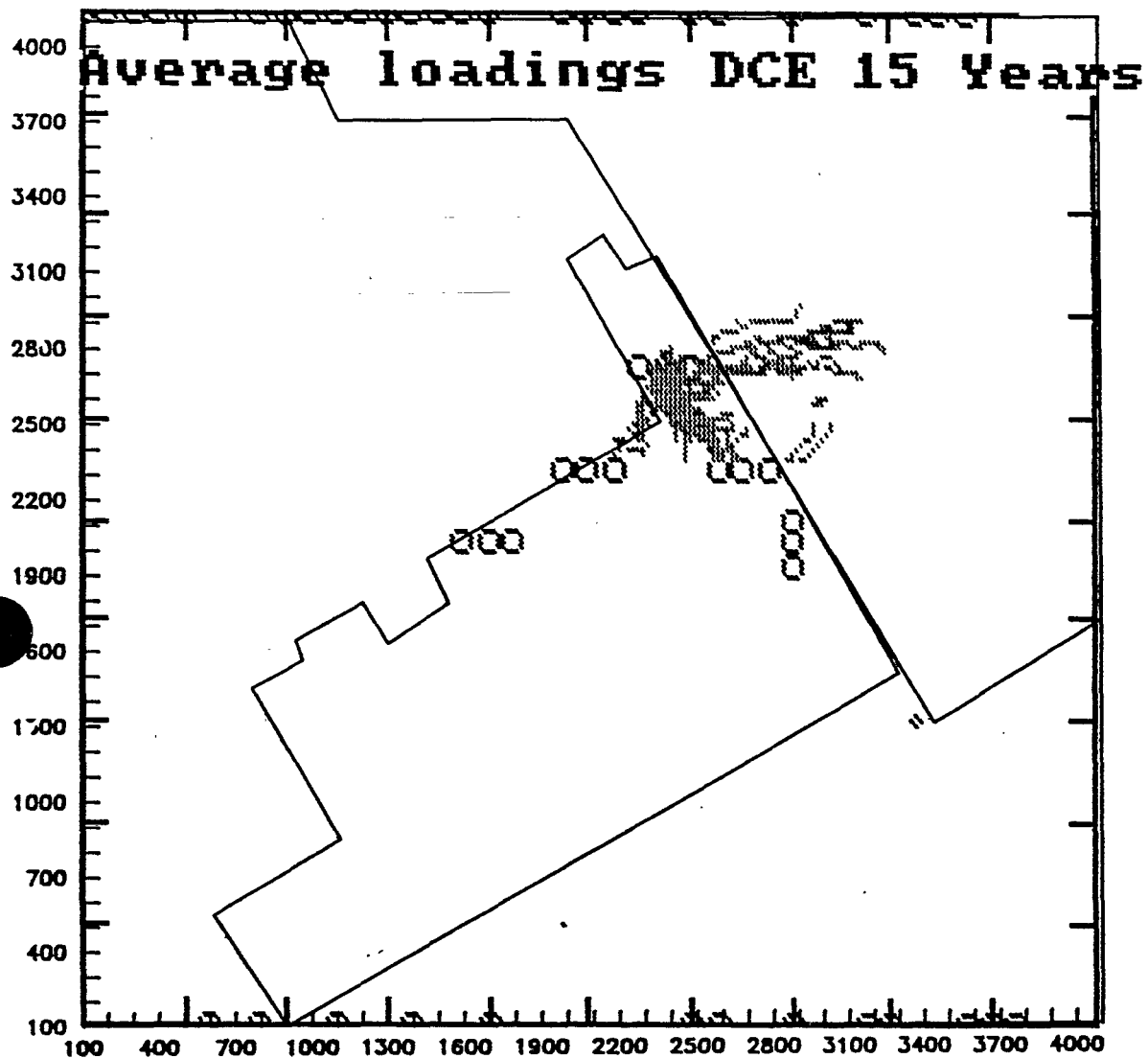


AR002184

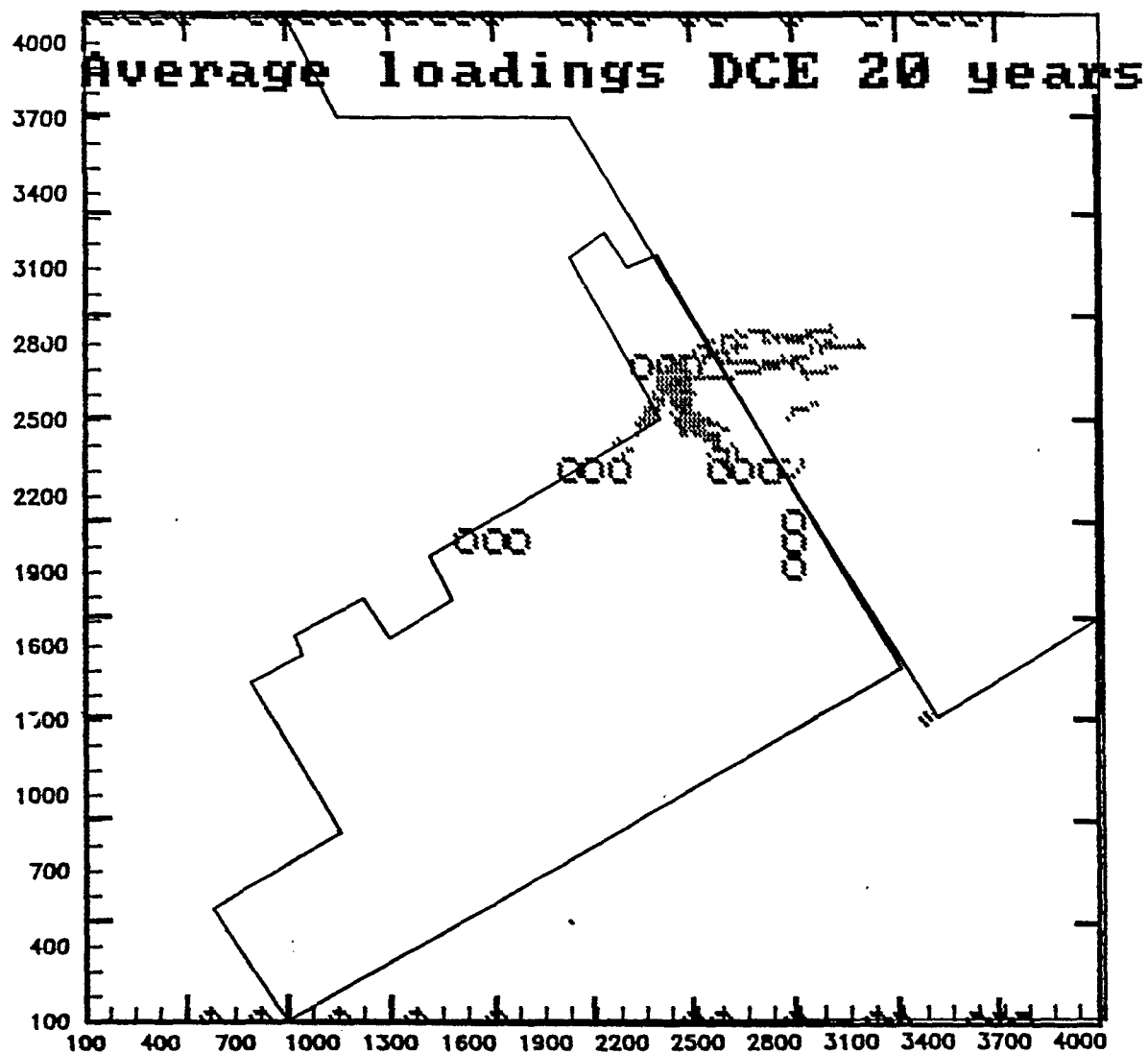
ORIGINAL
(RED)



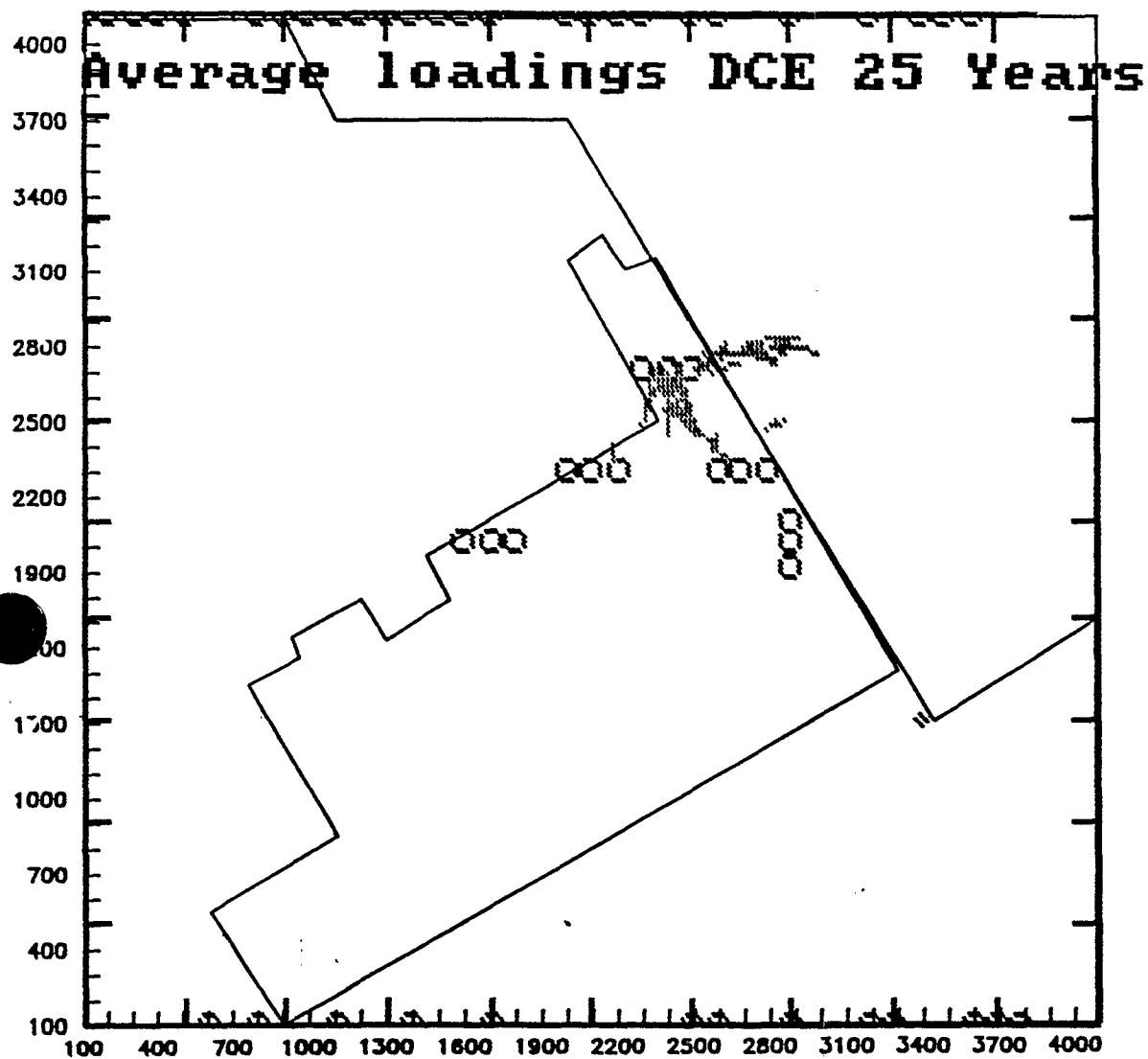
AR002185



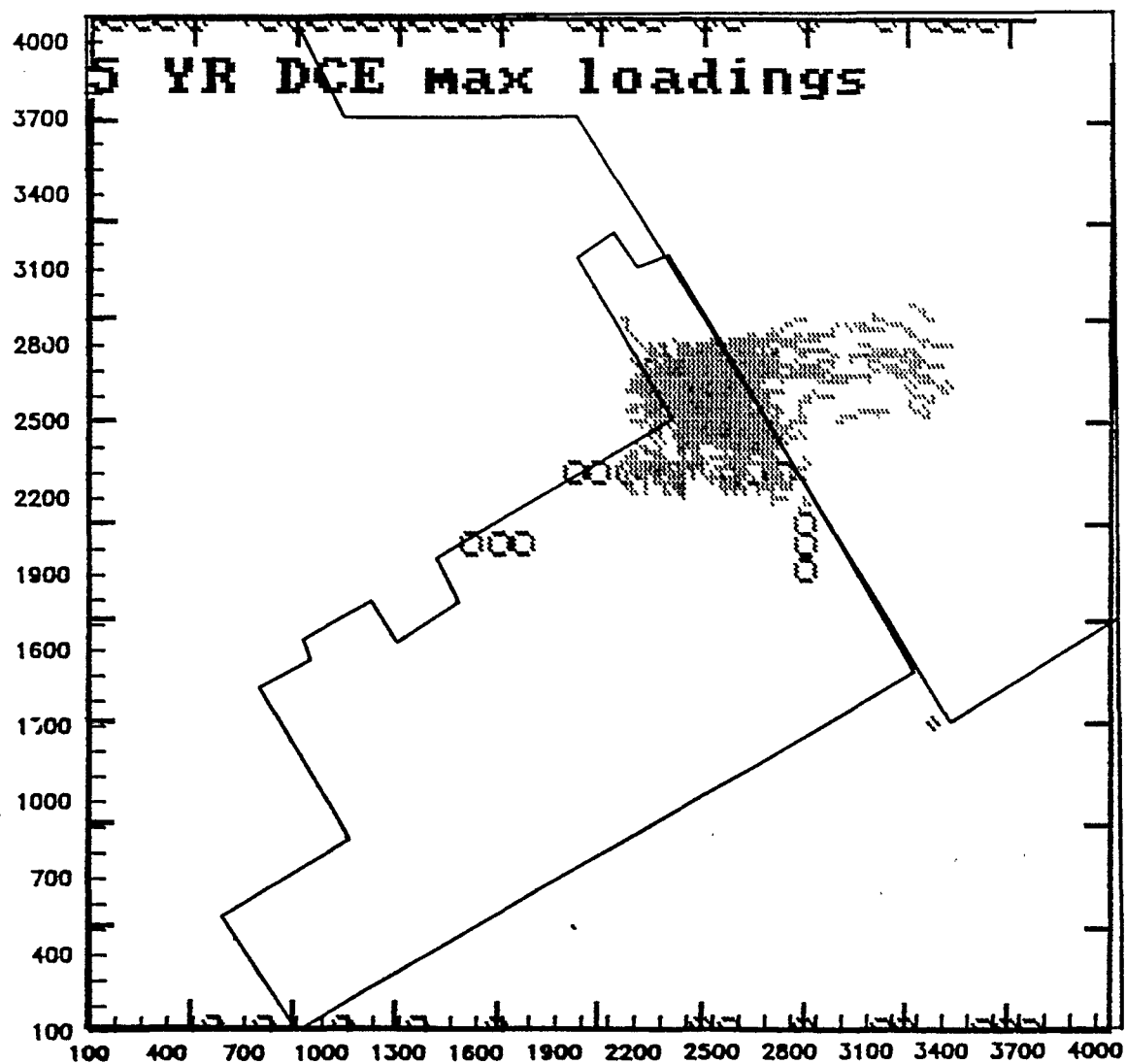
AR002186



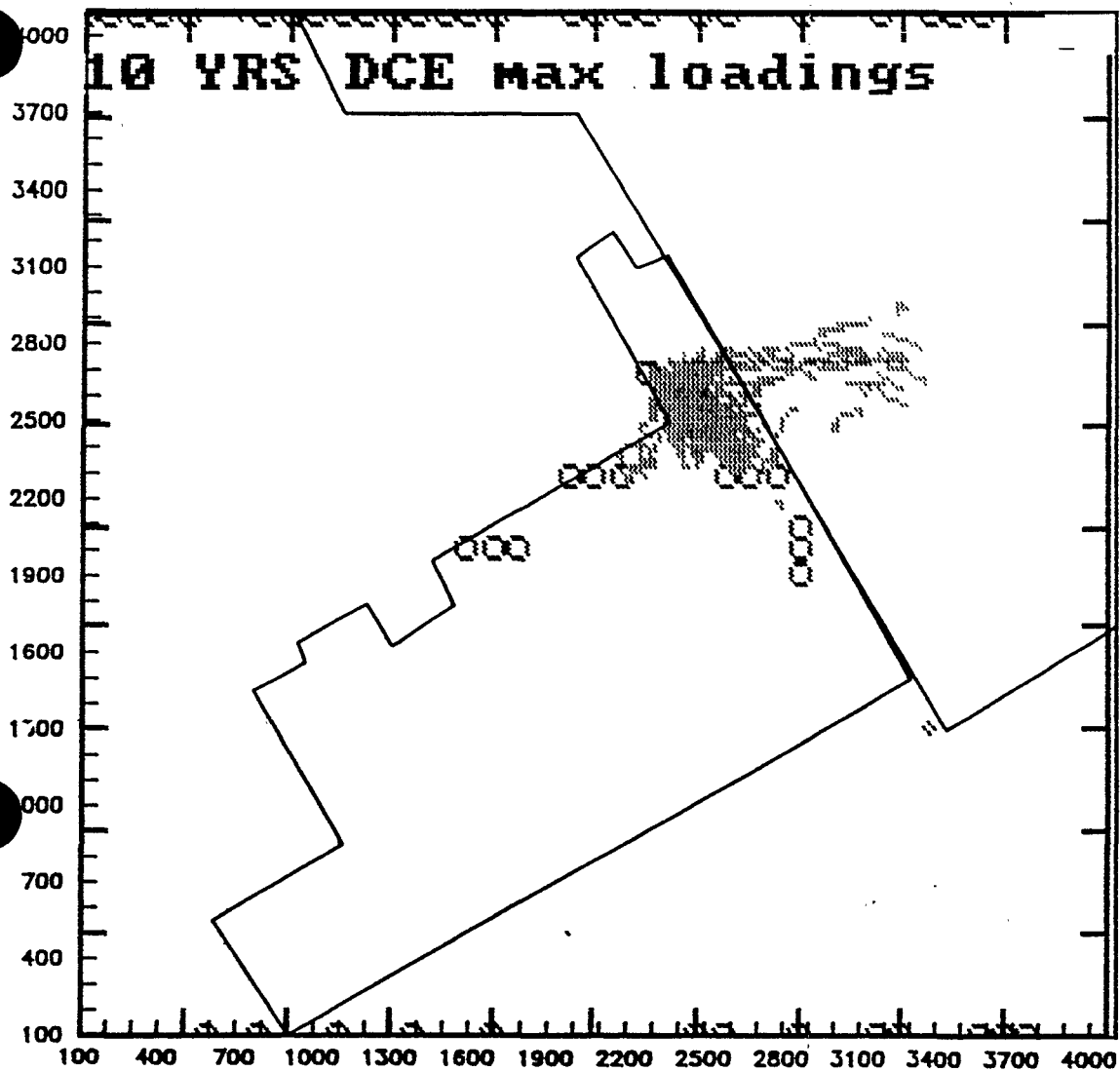
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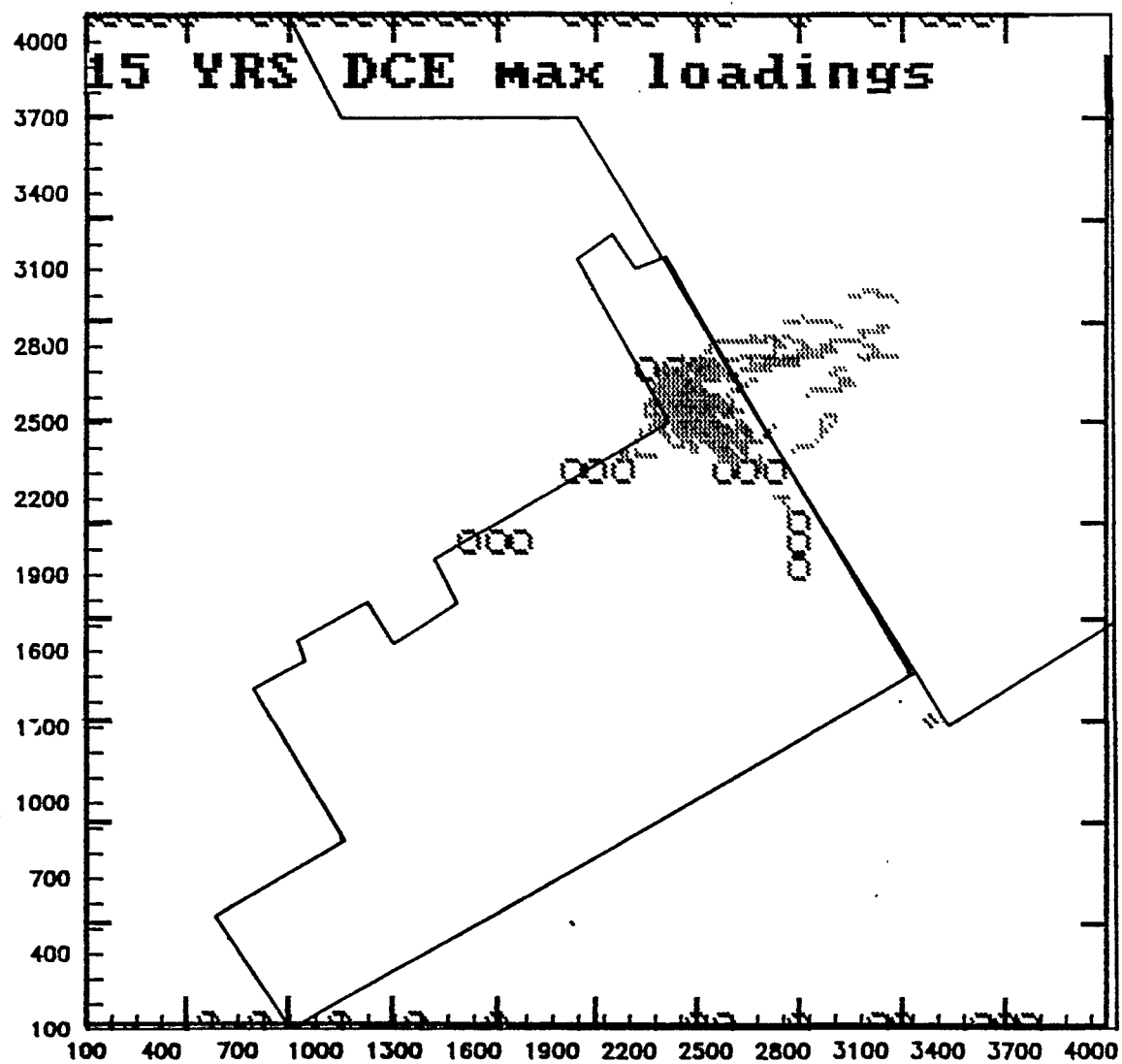
AR002188



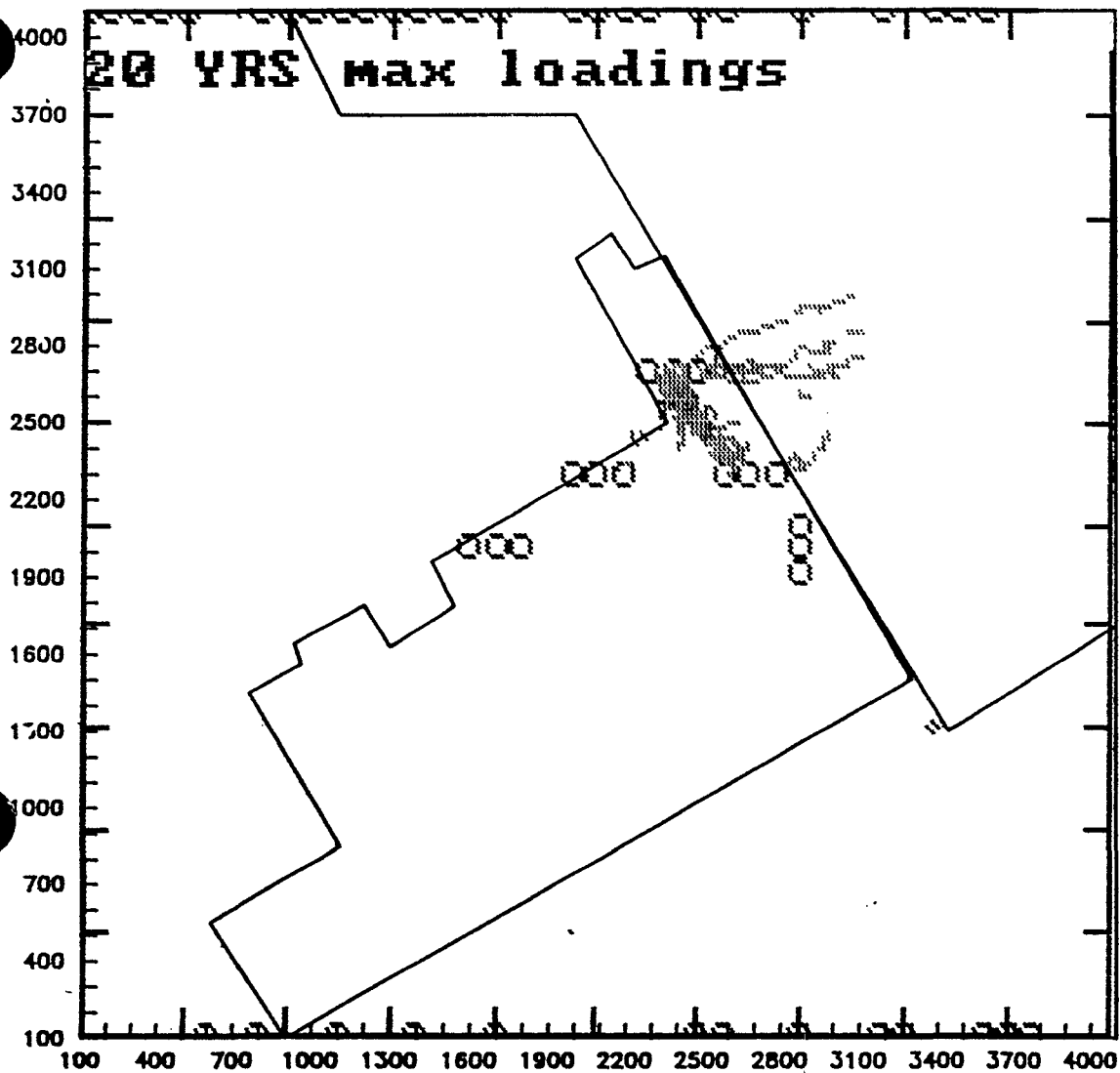
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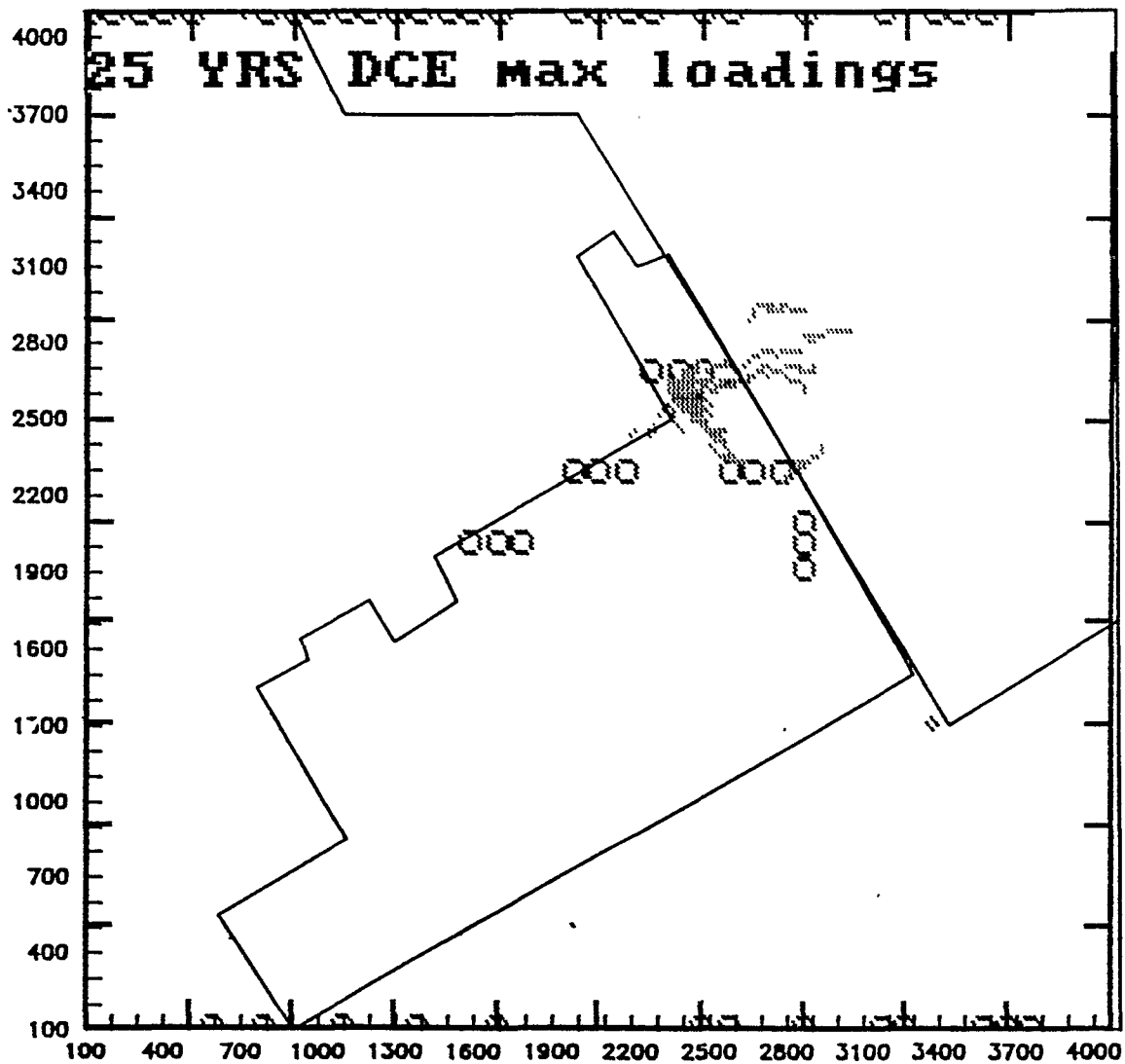
AR002190



AR002191



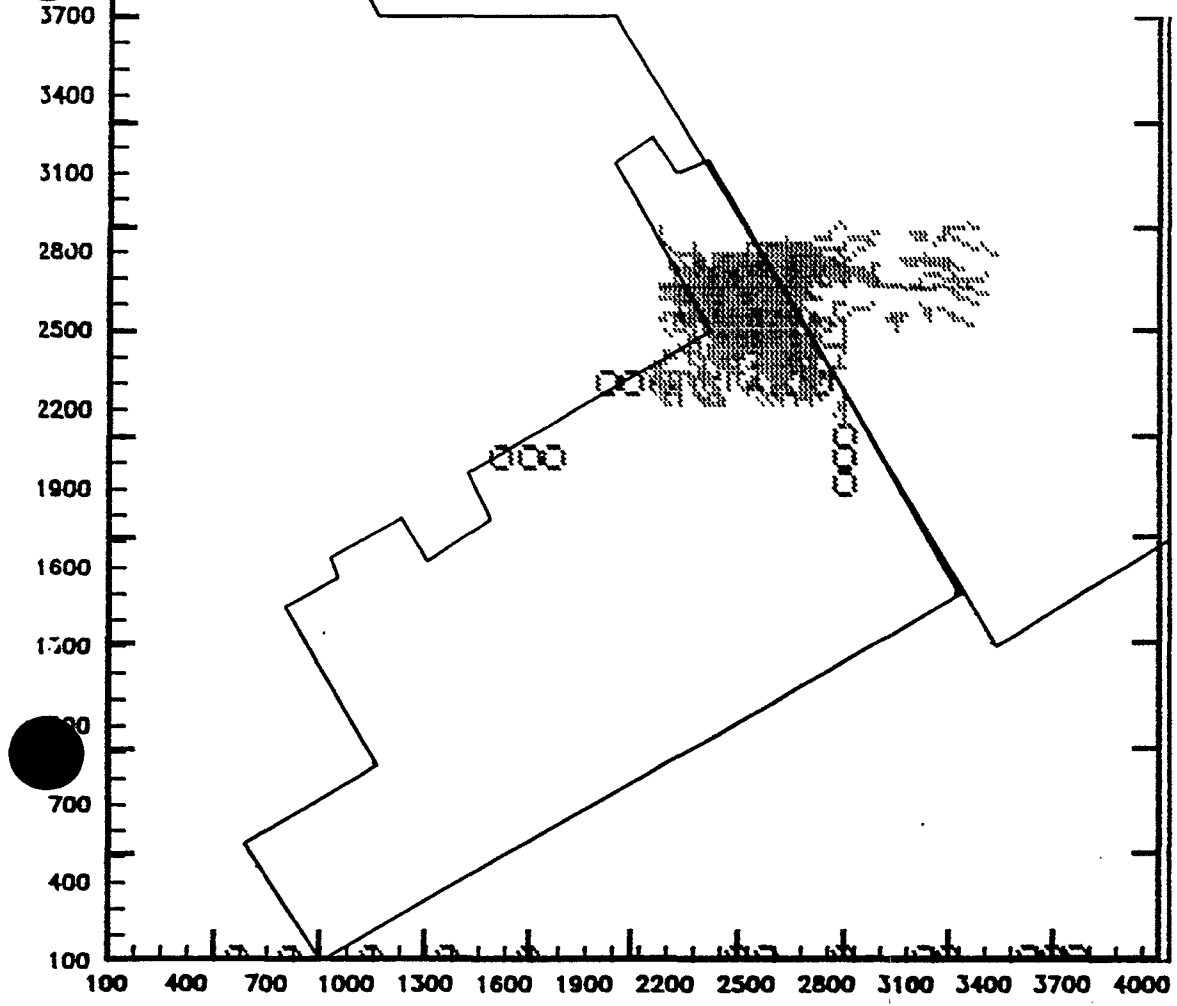
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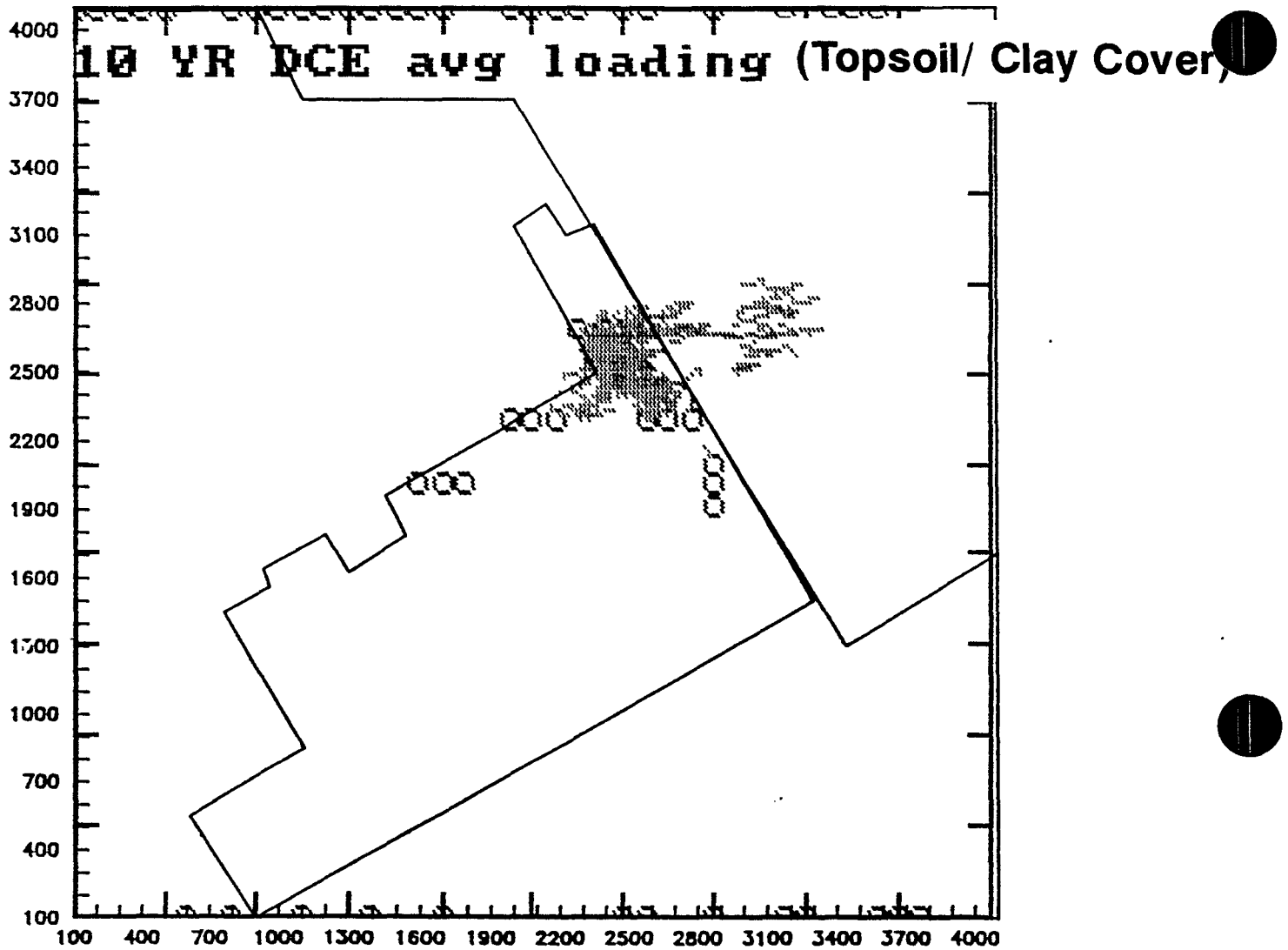
AR002193

ORIGINAL
(RED)

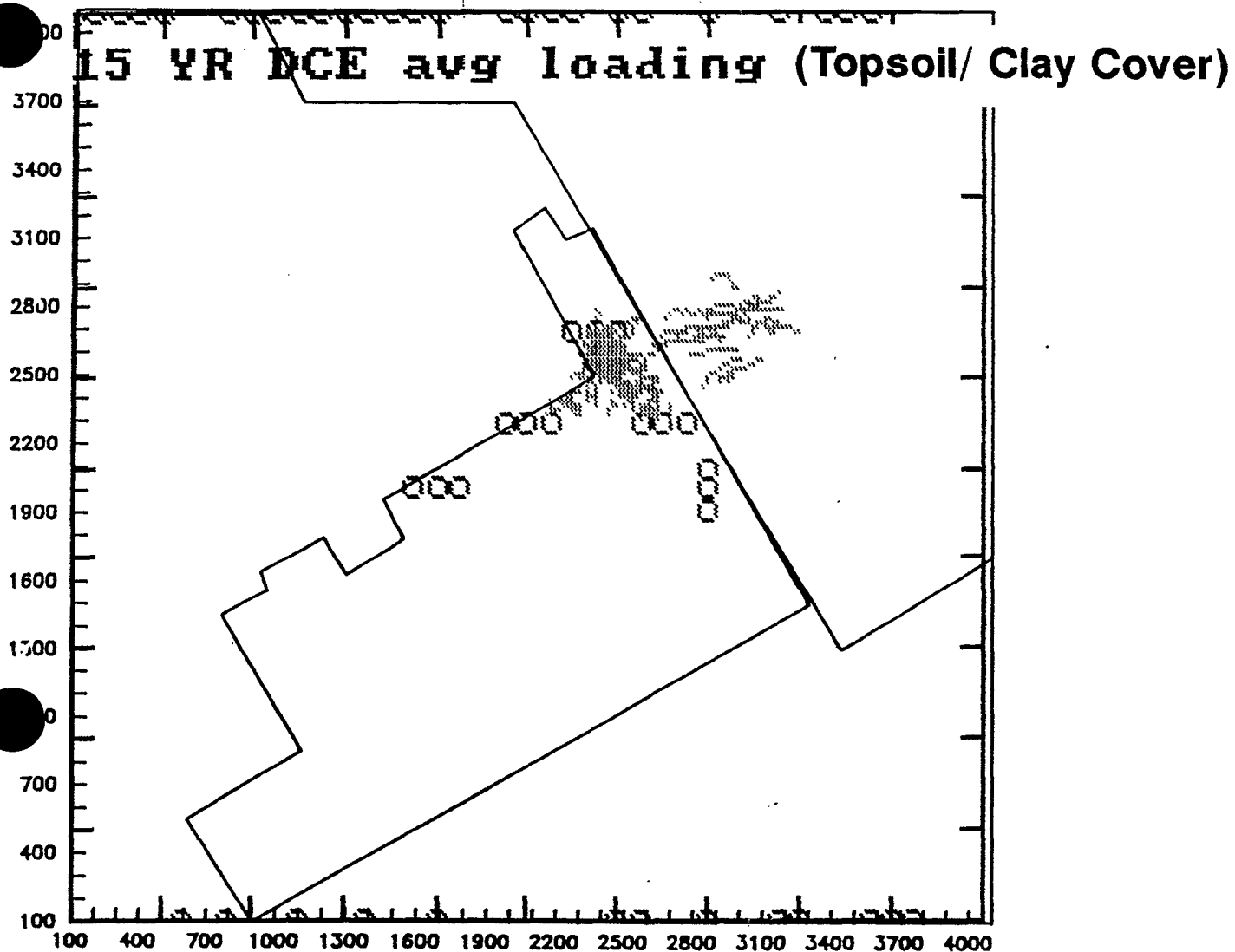
5 YR DCE avg loadings (Topsoil/ Clay Cover)



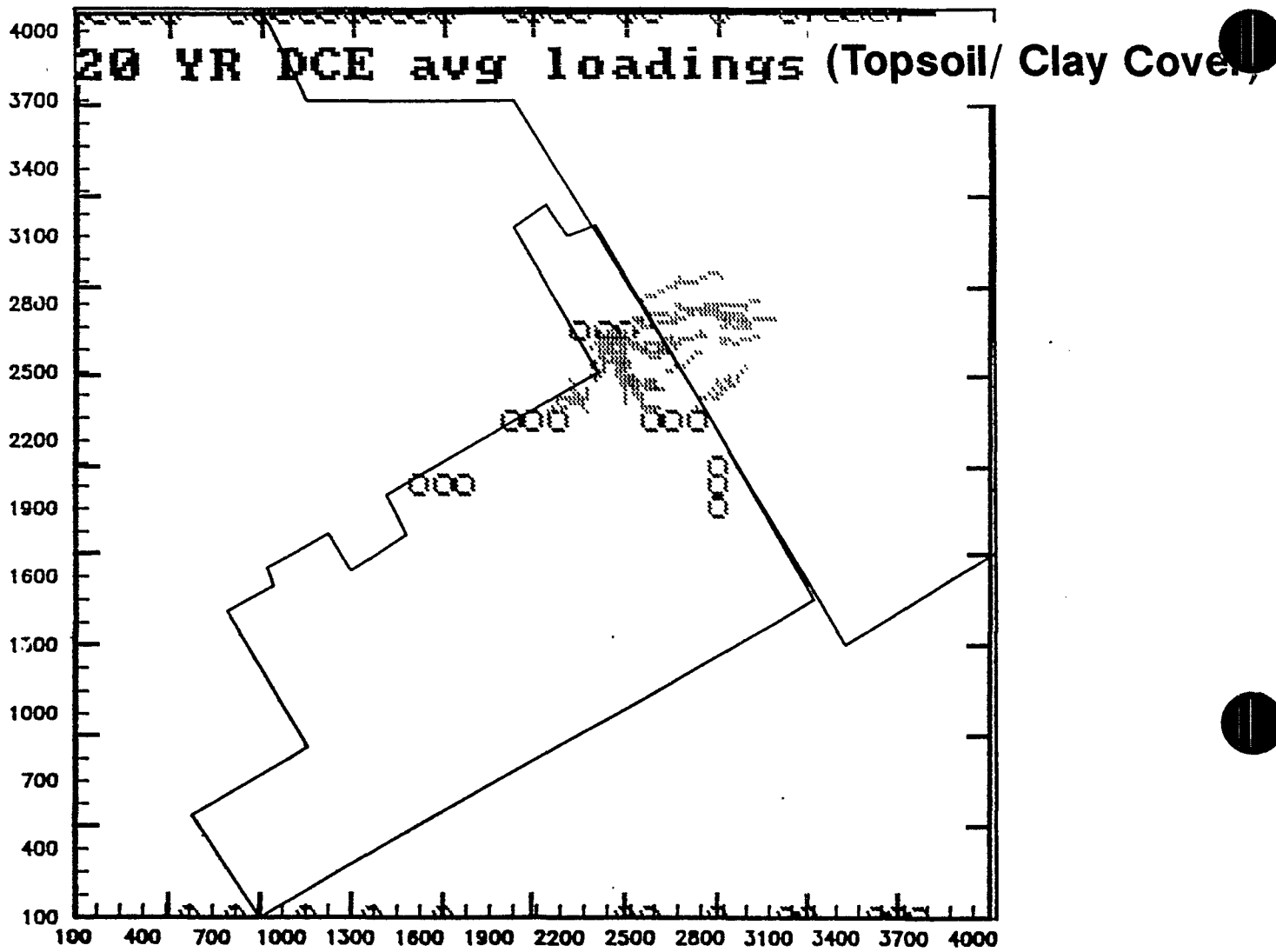
AR002194



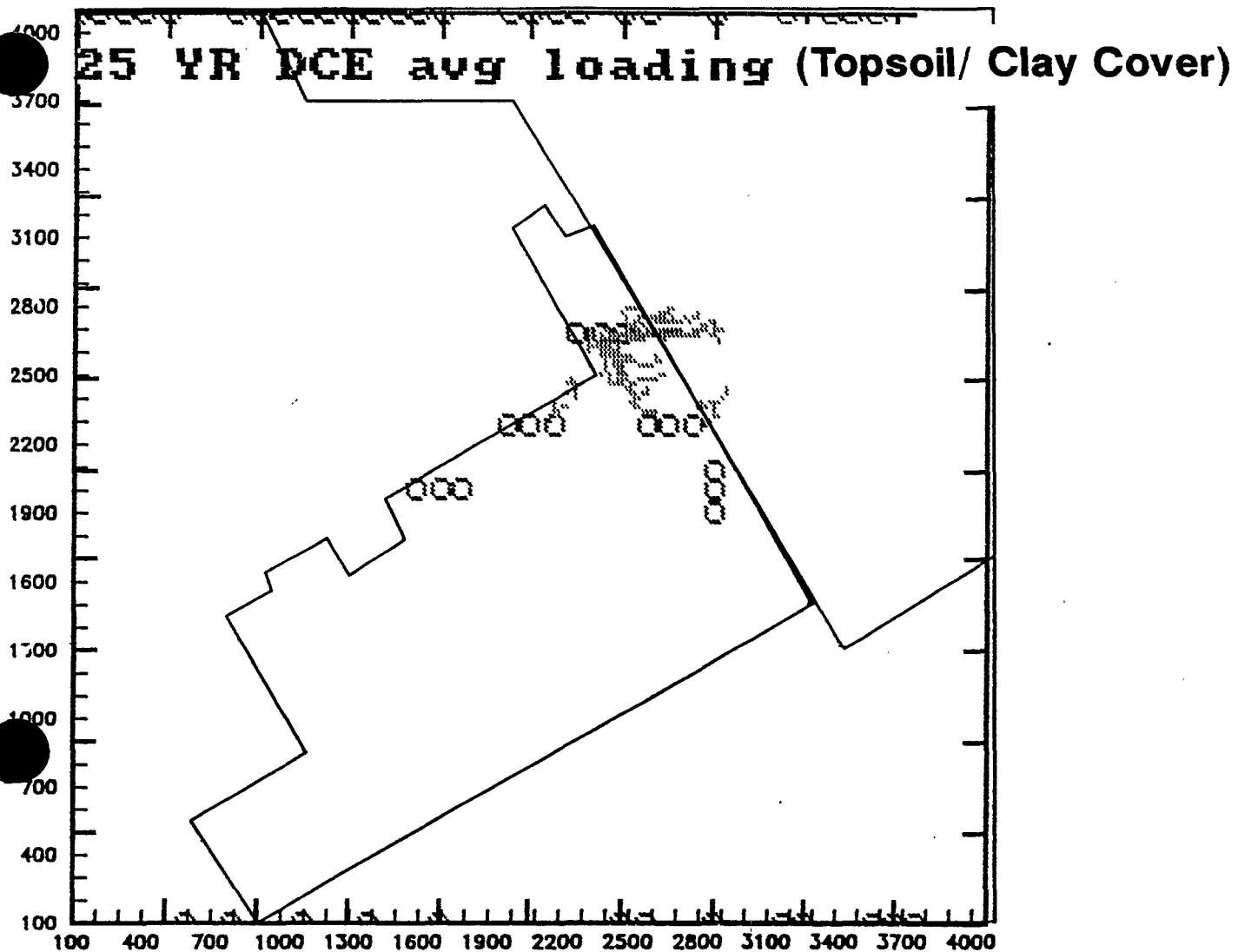
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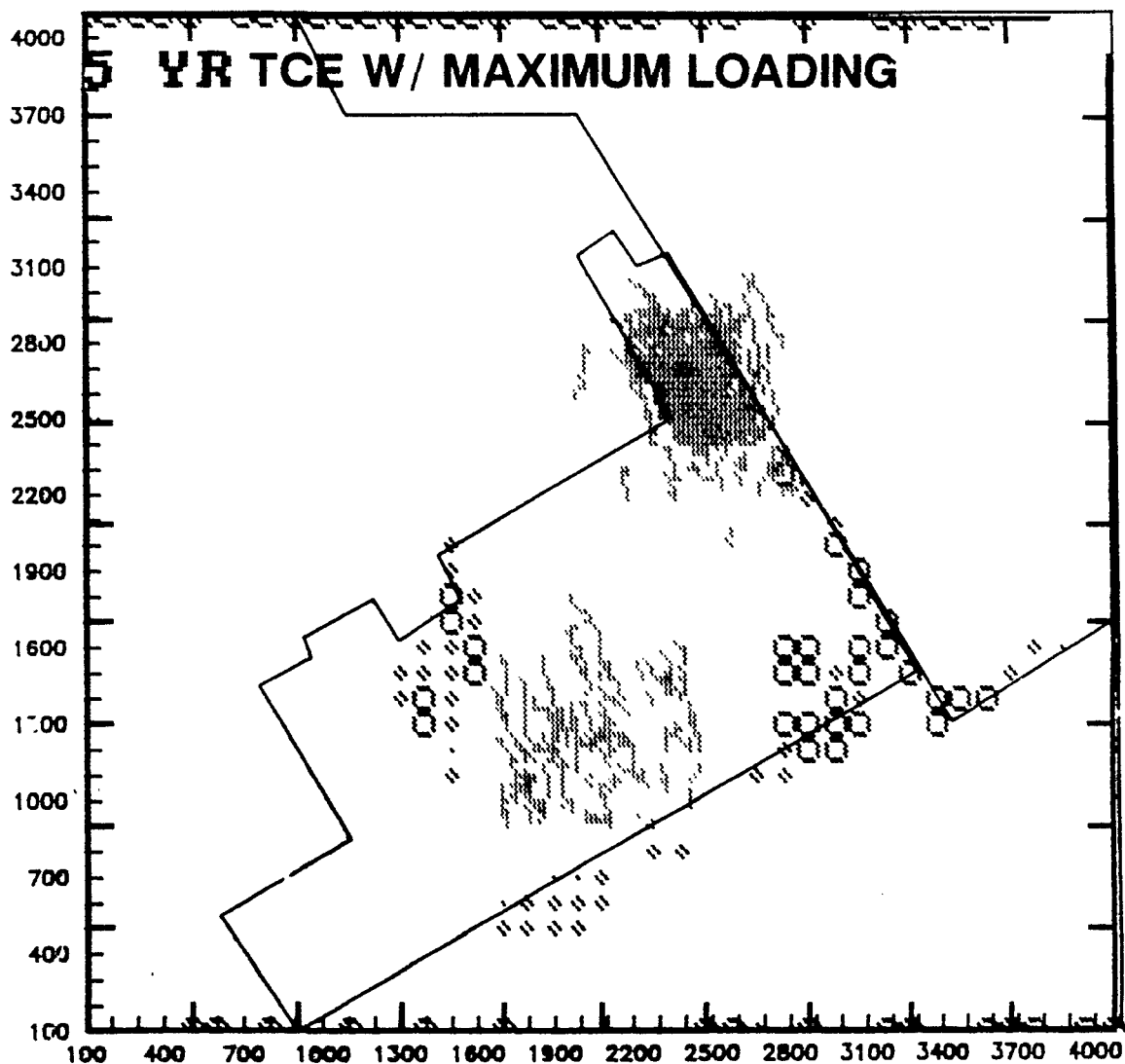
AR002196



AR002197

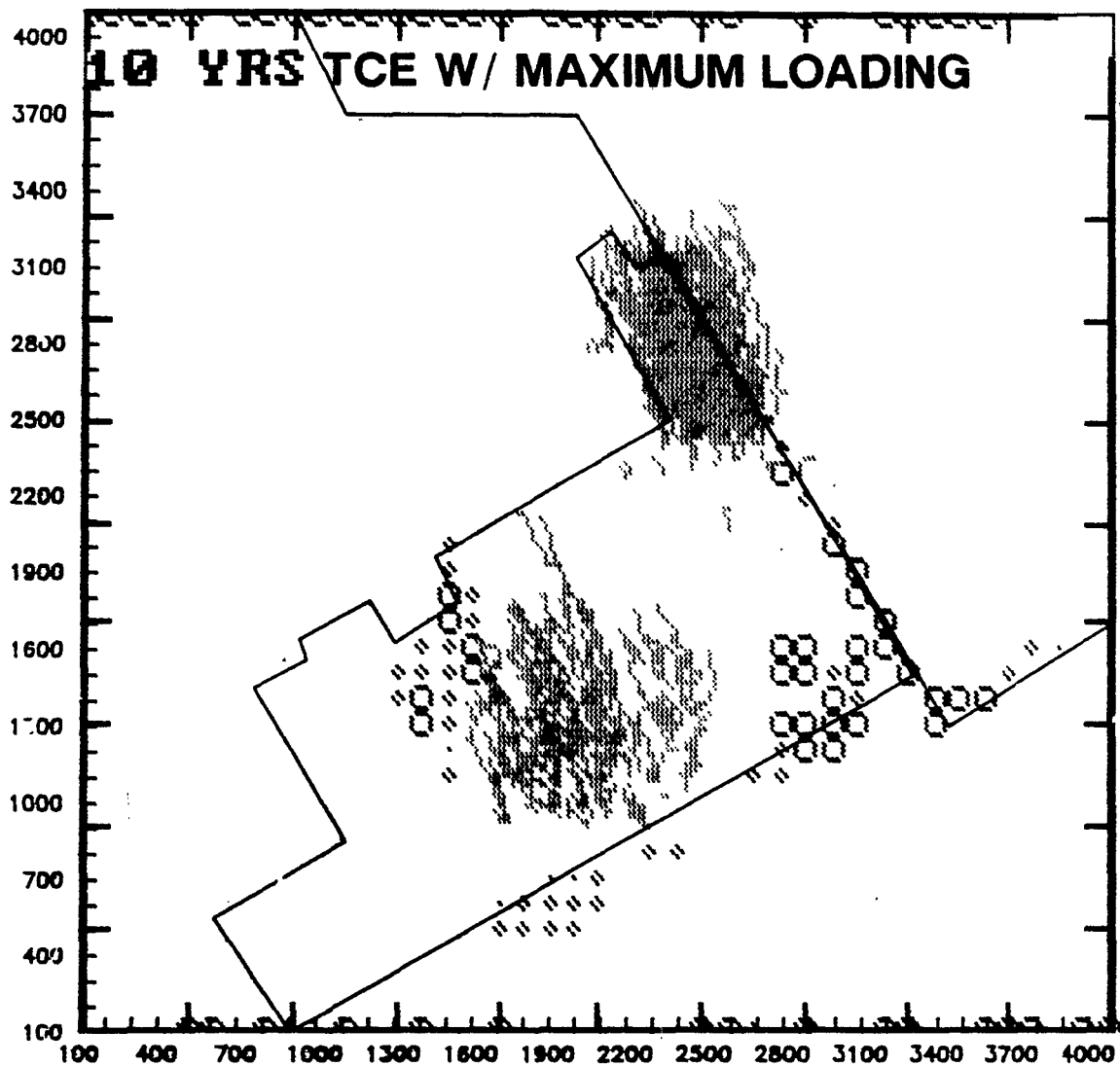


AR002198

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(RED)

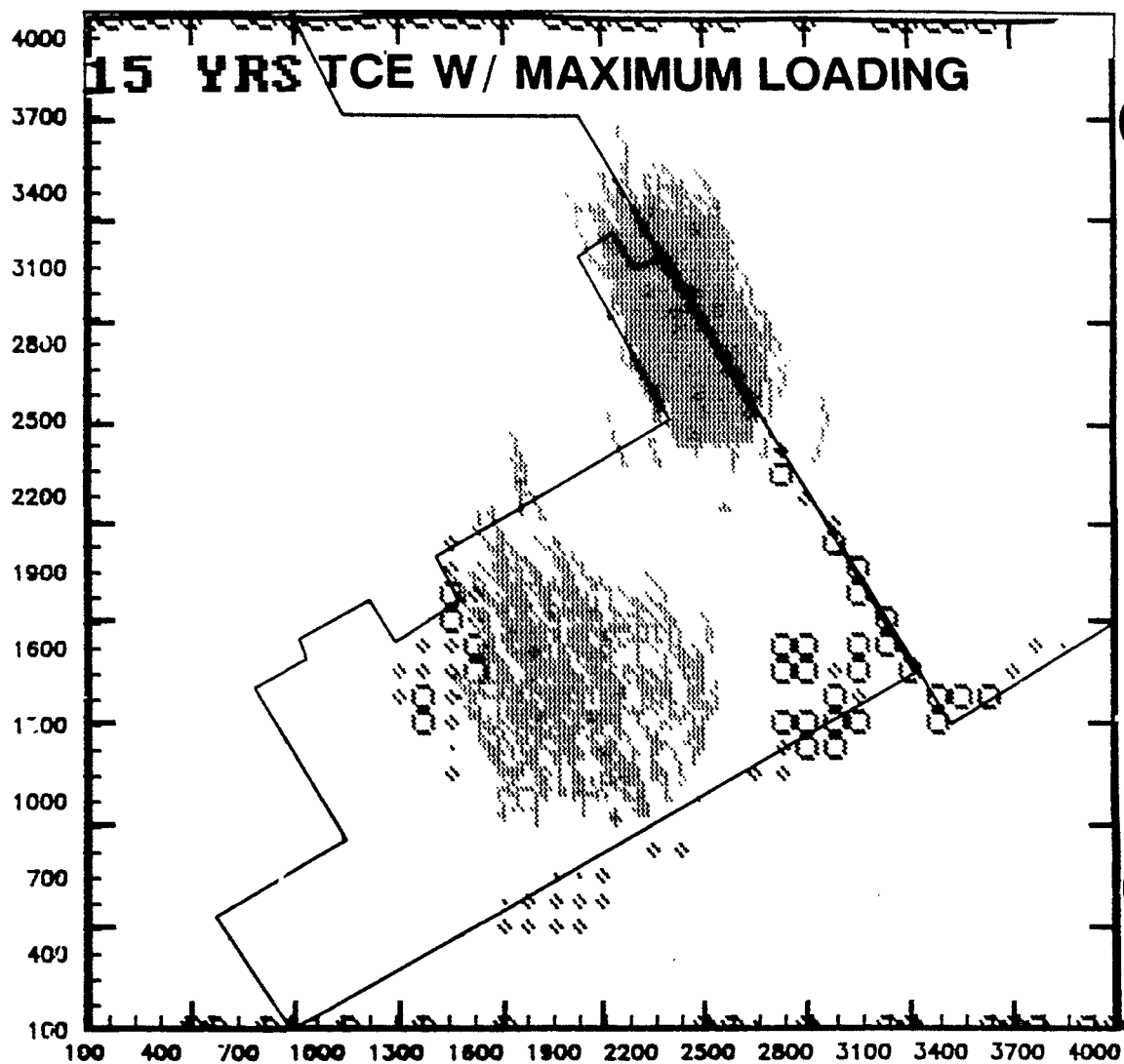
AR002199

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(RED)

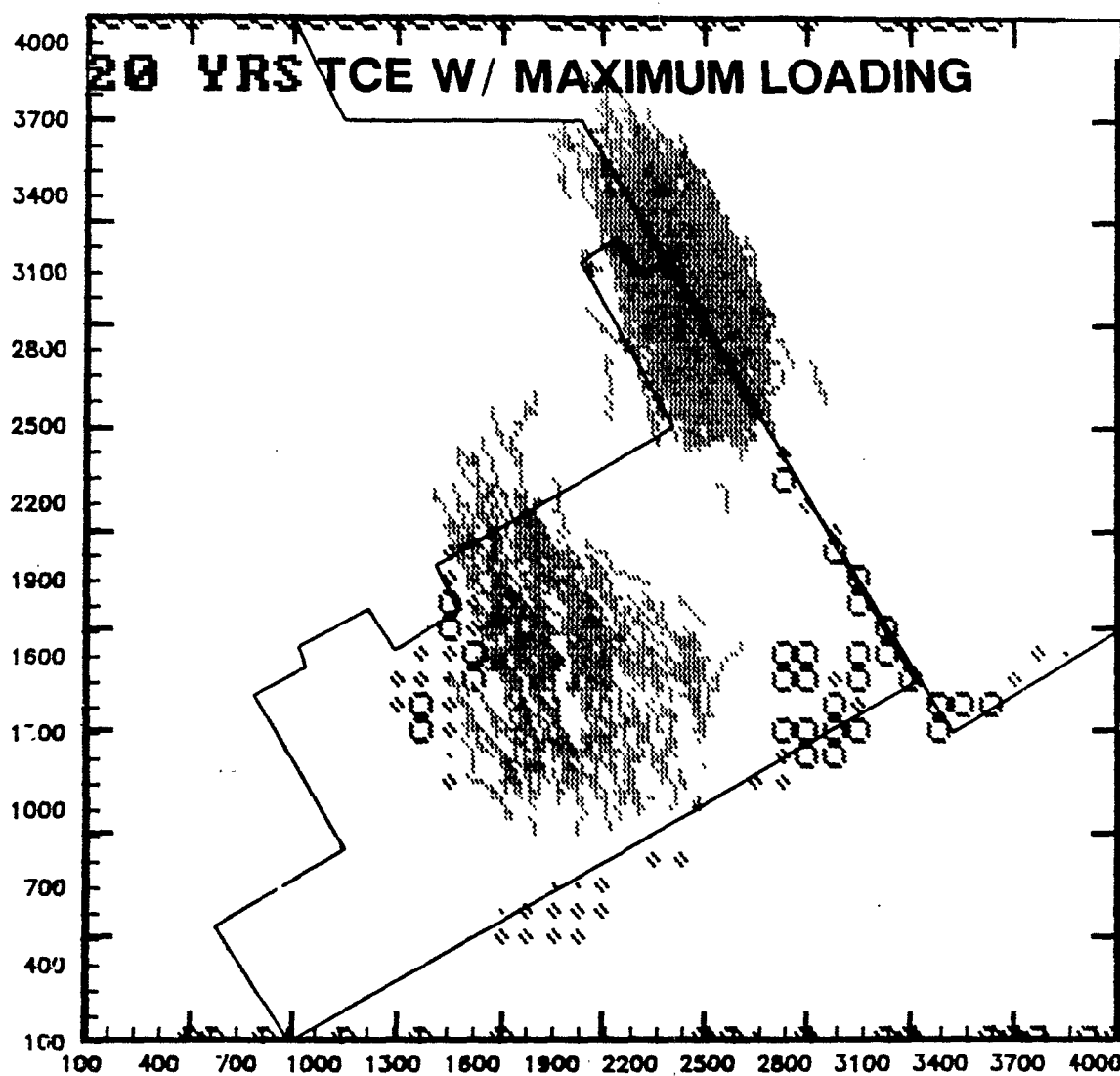


AR002200

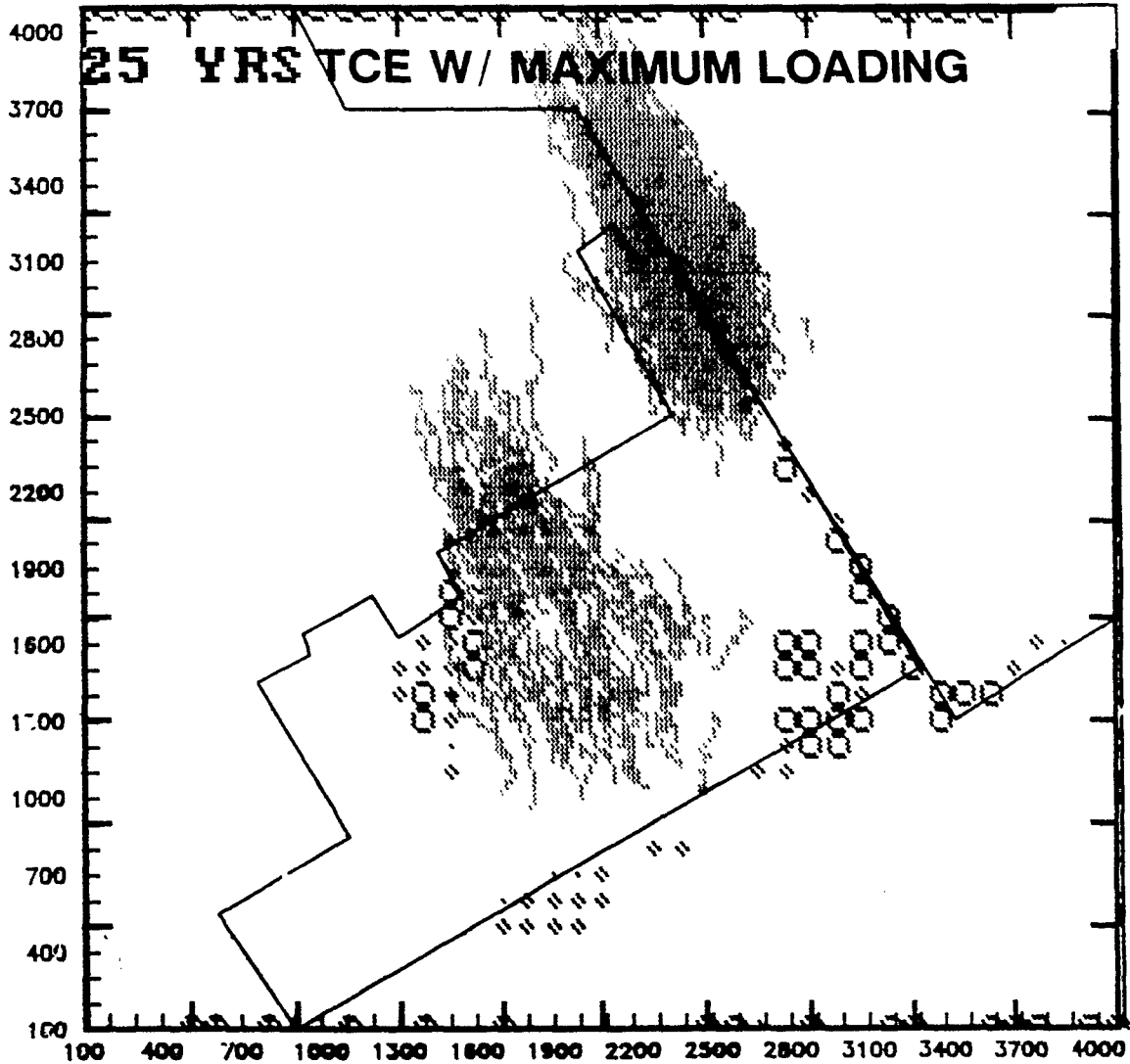
ORIGINAL
(RED)



AR002201

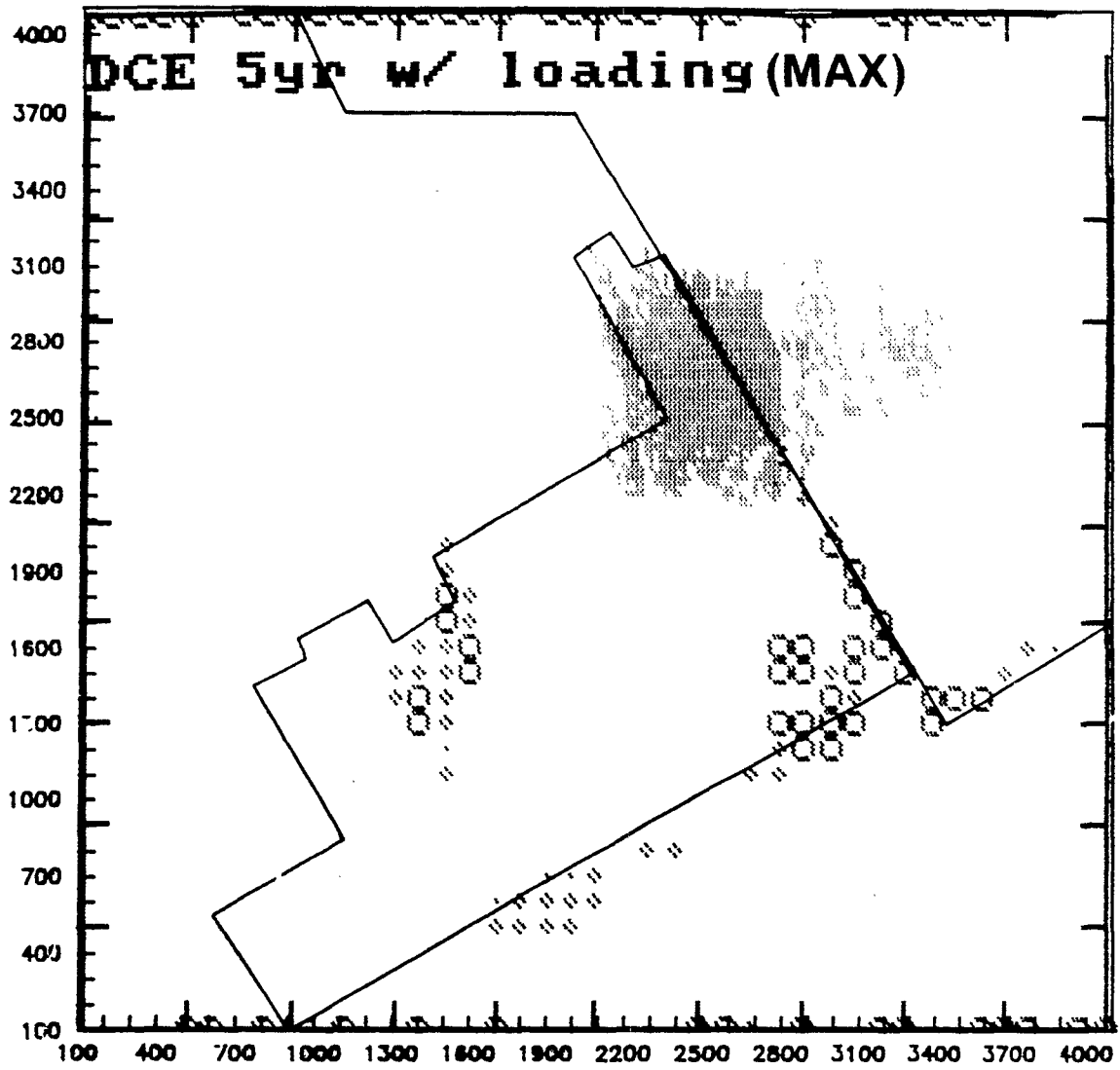


AR002202

ORIGINAL
(RE)

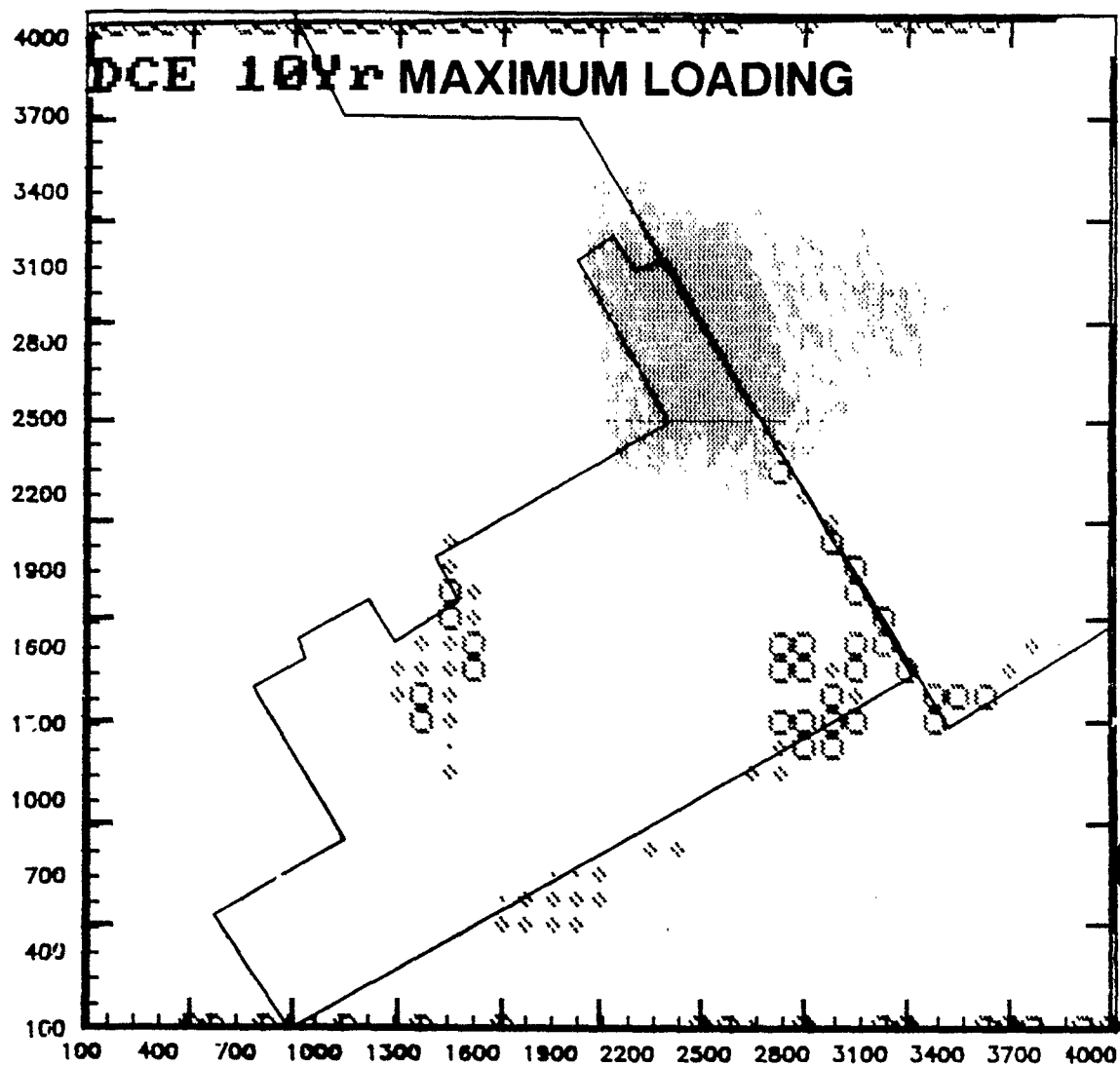
AR002203

ORIGINAL
(RED)

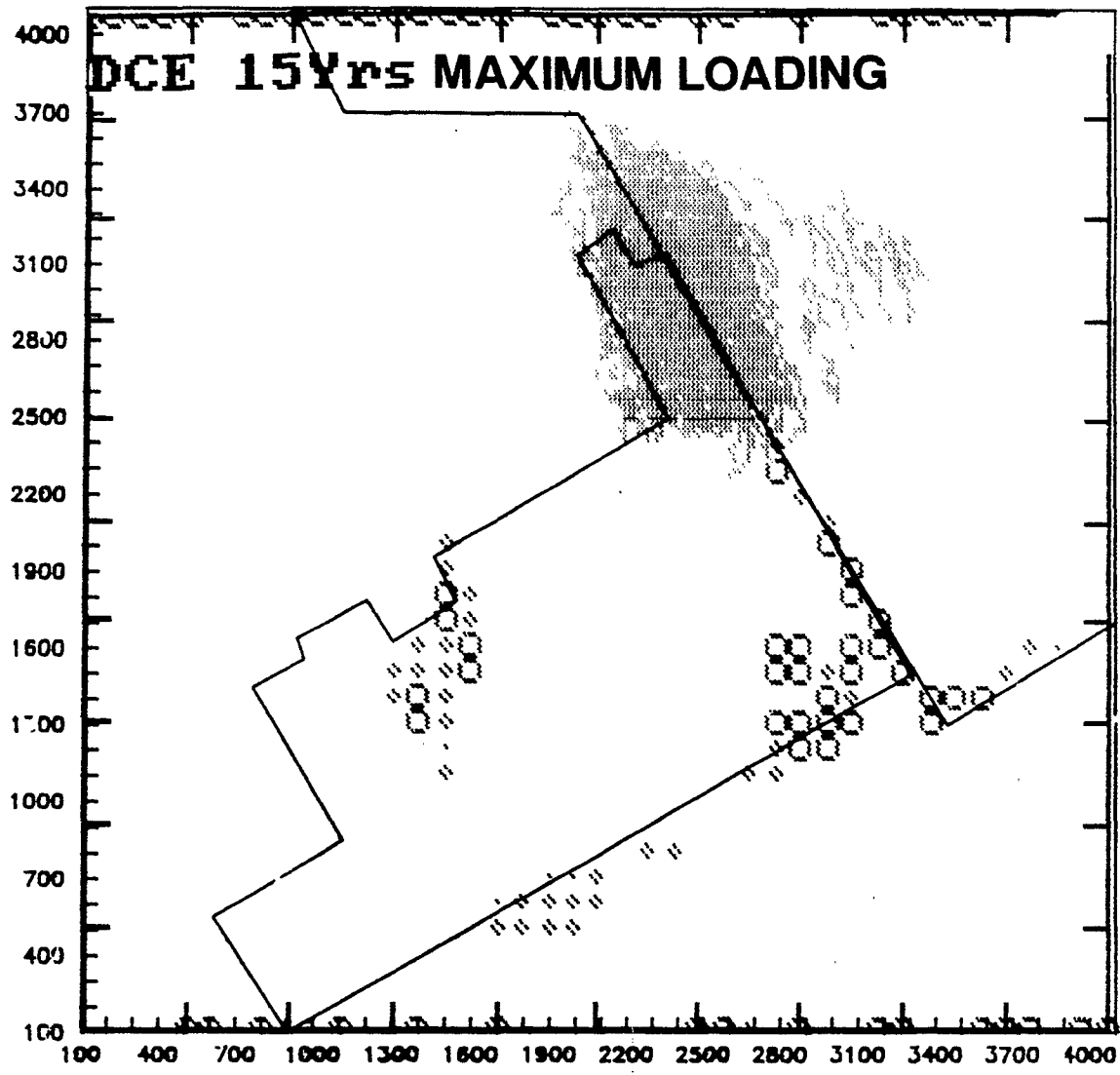


AR002204

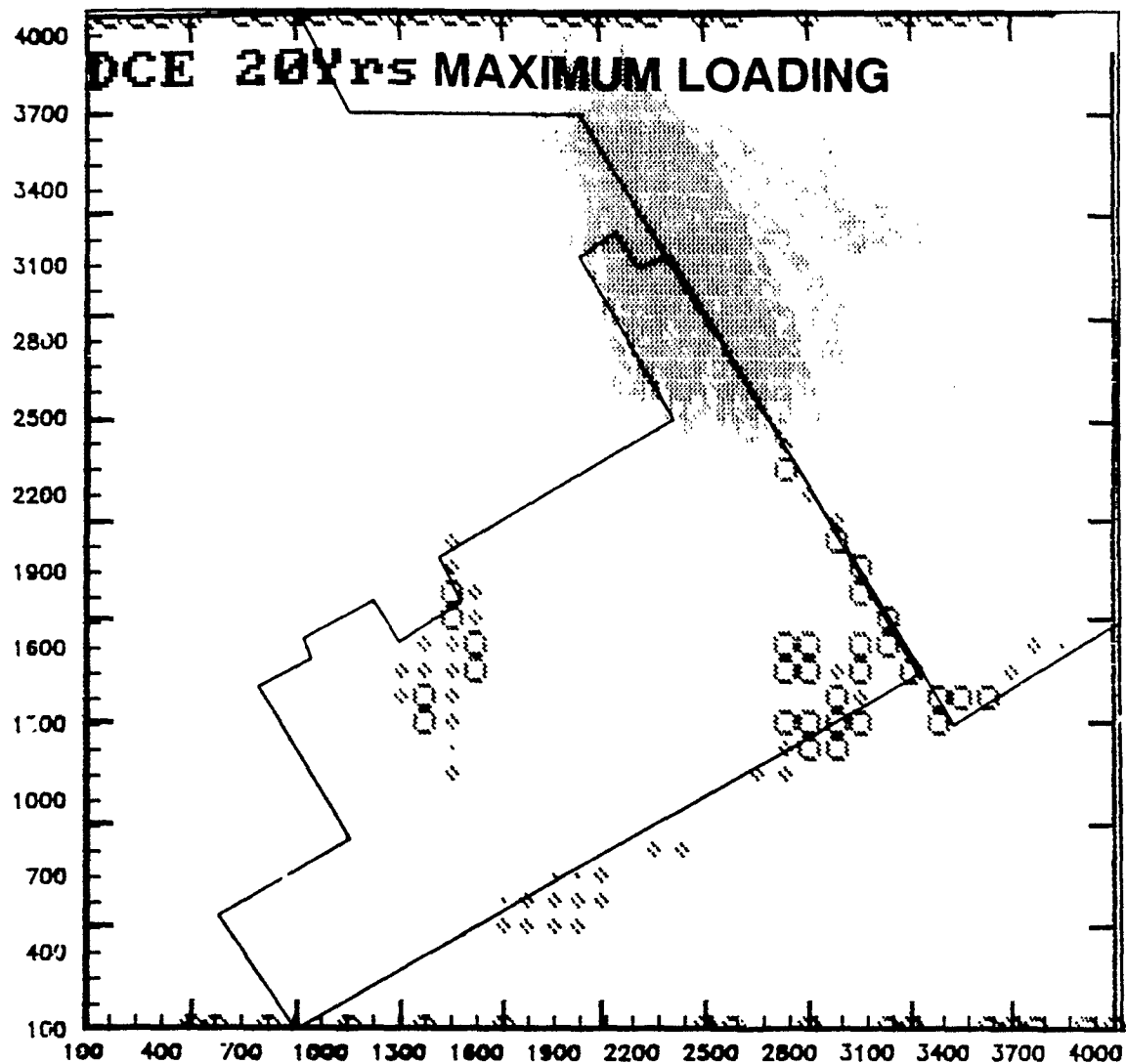
38
ORIGINAL
(RED)



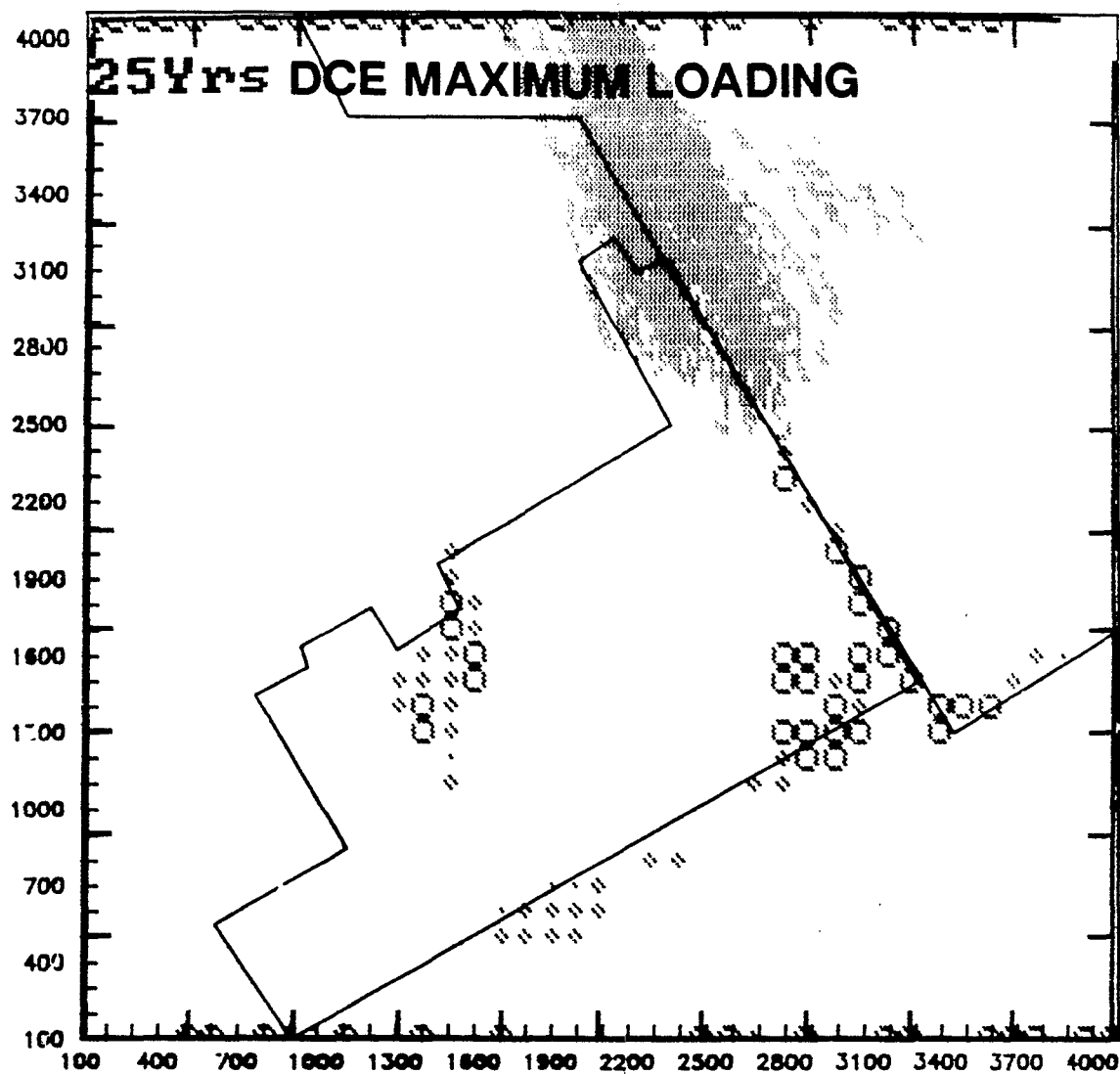
AR002205



AR002206



AR002207



AR002208

CLASSIFIED
(RED)

APPENDIX P
SLUDGE DEWATERING VENDOR TEST REPORTS

ORIGINAL
(RED)



669 West Second South
Post Office Box 300
Salt Lake City, Utah 84110-0300
Telephone 801/526-2000
Telex 38-8331

November 3, 1988

Mr. Douglas Daley
Malcolm Pirnie
3515 Abbott Road
P.O. Box 1938
Buffalo, NY 14219

Re: Iron Hydroxide Sample

Dear Mr. Daley,

A sample of iron hydroxide with lime from a ground water operation was received by EIMCO Technology & Development for EIMCO BDP Beltpress testing. In addition to the Beltpress testing, data was acquired to size a Shriver pressure filter. Testing was conducted October 31 - November 1, 1988.

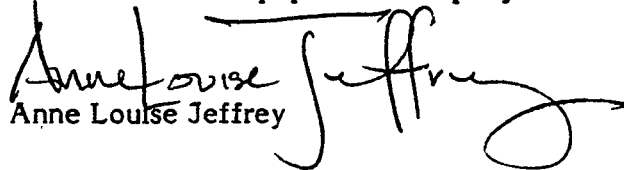
The Beltpress simulated was a gravity drain platform with a back-up compression belt. The iron hydroxide and lime sludge was readily flocculated with anionic polymer Percol 727, no other polymer types were investigated. Three media types were tested, DA 6927, DA 6093, and DA 6318. Best discharge performance was achieved with the DA 6093 media. The Beltpress test results are summarized in Table 1.

As mentioned, Shriver pressure filter testing was also conducted. No flocculation was necessary for filtering. The Shriver test results are found in Table 2.

The Shriver pressure filter produced a slightly drier cake at a solids content of 66.7 wt% where the Beltpress cake averaged 62 wt% solids. Samples of wet cake will be sent to you so that you can see the differences in the cakes produced by the Beltpress and Shriver press and perform required analyses on the samples.

If additional information is needed, please do not hesitate to contact me at (801) 526-2079.

Very truly yours,
EIMCO Process Equipment Company


Anne Louise Jeffrey

mm/l/20

cc: Ron Klepper
Steve Slottee
Neil Grohmann

Kurt Wilson
Kelly Brown



AR002210

ORIGINAL
(RED)

TABLE 1

BELTPRESS TEST SUMMARY

	<u>Test Results</u>	<u>Projected Full Scale</u>
Feed Solids, wt%	17.5	-
pH	8.5	-
Polymer	Percol 727	-
Dosage, lbs/ton D.S.	0.20-0.33	0.35
Hydraulic Capacity, gpm/m	56-116	120
Solids Capacity, ton/hr/m	2.8-5.8	6.0
Cake Thickness, inches	3/16-5/16	3/8
Cake Solids, wt%	61.2-62.6	62
Filtrate Solids, wt%	0.05-0.3	-

TABLE 2

SHRIVER TEST SUMMARY

Chamber Thickness, inches	1.25
Filtration Pressure, psig	80
Filtration Time, min	30
Pumping Rate, gpm/ft ²	0.11
Cake Solids, wt%	66.7
Dry Cake Density, lbs/ft ³	71.0

AR002211



THE DURIRON COMPANY, INC.
FILTRATION SYSTEMS DIVISION

ORIGINAL
(RED)

9542 HARDPAN ROAD
ANGOLA, NEW YORK 14006
PHONE: (716) 549-2500
TELEX: 200914
FAX: 17165493950

December 14, 1988

Malcolm-Pirnie
P.O. Box 1938
Buffalo, NY 14249

Attn: Mr. Doug Daley

Re: Technical Service Report No. 1114-Y

Dear Mr. Daley:

A sample of treated groundwater runoff was submitted to the Duriron Laboratory for filtration testing. A bench scale filter press was used to filter the material.

A total of 1 test was run on the sample. A chamber thickness of 1.25 inches, maximum feed pressure of 100 psi, and cycle time of 1.5 hours was used. No dryness test on the final cake was performed because the cake sample was needed for customer analysis.

A summary of the results from testing can be found on page 2 of this report. Should you have any questions regarding the testing performed or the results obtained please don't hesitate to contact me at (716) 549-2500.

Sincerely,

THE DURIRON COMPANY
FILTRATION SYSTEMS DIVISION

Melinda Jablonski
Melinda Jablonski
Chemist

MJ:ms

C.C. CPI Pump & Equipment
Dan Bull

AR002212

10/25/88
(G.E.D.)

DATE OCTOBER 25, 1988

LAB #

CLIENT MALCOLM PIRNIE

RUN BY MELINDA JABLONSKI

SAMPLE COMPOSITION

TREATED
GROUNDWATER
RUNOFF
(IRON HYDROXIDES)

A.O.E.

SUBJECT

LINE	RAW DATA	TEST 1	TEST 2	TEST 3	TEST 4
1	ON STREAM TIME (MIN)	90			
2	PRESSURE (PSI)	100			
3	CAKE (MM)	32			
4	INFLUENT TSS (%)	27			
5	PRE TREATMENT	NONE			
6	WET CAKE + DISH (GR.)	392.4			
7	DISH (GR.)	30			
8	WET CAKE (GR.) (6-7)	362.4			
9	WET CAKE (#) (B#.002205)	0.799			
10	WET CAKE VOLUME (CU. FT.)	0.0072			
11	CAKE DENSITY (#/CU FT) (9/10)	110.99			
12	DRY CAKE + DISH (GR.)				
13	DRY CAKE (GR.) (12-7)				
14	CAKE DRYNESS (%) (13/8)*100	*			
15	WGT.100ML + BKR (GR.)				
16	BEAKER (GR.)				
17	WGT 100ML SAMPLE (GR.) (15-16)				
18	SP.GR. (17/100)				
19	FILTRATE (L)	0.9			
20	FILTRATE (GAL) (19*0.2642)	0.2378			
21	CAKE VOL. (GAL) (10*7.48)	0.0539			
22	IN VOLUME (GAL) (20+21)	0.2916			
23	VOLUME REDOXN (%) 100-(21/22*100)	81.53%			
24	SIZING (CU FT/GAL) (10/22)	0.0247			

* NO DRYNESS TEST PERFORMED

AR002213