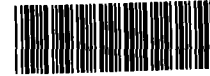


Site:	062
Break:	3.4.10
Other:	284098



SDMS DocID

284098

Draft Remedial Investigation
Site Characterization Analysis
Old Southington Landfill
Old Turnpike Road
Southington, Connecticut
Volume III

Prepared For:

The Respondants
For the Old Southington Landfill
Administrative Order on Consent
Dated September 27, 1987

Prepared By:

Goldberg-Zoino & Associates, Inc.
204 Spring Hill Road
Trumbull, Connecticut 06611

December, 1990
File No. 50124.13

TABLES

TABLE 1

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

PREVIOUS WATER QUALITY DATA, MUNICIPAL WELL NO. 5
1977 - 1980

PARAMETER (PPB)	DATE												
	12/6/77	12/6/77	1/4/79	* /17/79	* /26/79	* /26/79	* /24/79	* /26/79	* /27/79	6/8/79	6/22/79	* /26/79	8/21/80
1,1,1 Trichloroethane	13	7.3	160	160	120	300	190	140	50	43	73	24	0.3
Trichloroethylene	7	4.5	37	37	28	45	32	42	38	24	28	<1.0	0.3
1,1,2,2 Tetrachloroethane	--	--	<1.0	1.2	<1.0	5.5	--	<1.0	<1.0	9.7	--	<1.0	0.2
Dichlorobromomethane	--	--	<1.0	1.0	<1.0	1.4	--	<1.0	<1.0	1.9	<1.0	<1.0	--
Chlorodibromomethane	--	--	1.1	2.8	1.8	30	--	1.1	24	4.6	1.8	<1.0	--
Bromoform	--	--	<1.0	3.6	1.7	13	--	<1.0	6.4	14	20	<1.0	--
Carbon tetrachloride	--	--	--	--	<1.0	--	<1.0	<1.0	--	8.9	<1.0	--	--
Ethyl acetate AMN (sic)	--	--	--	5.2	--	--	--	--	--	--	--	--	--
Trans 1,2 dichloroethylene	--	--	--	--	--	6.0	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	0.5	--	--	--	4.9	--	--	0.7
Methane	480	380	--	--	--	--	--	--	--	14	44	--	--
Methylene chloride	--	--	--	--	--	--	--	--	--	--	0.1	--	--

NOTES:

1. Data taken from November 12, 1980 Warzyn Report; information regarding sampling and analytical techniques concerning this data was not available.

* Month not available.

TABLE 2
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

EXISTING POTENTIAL IMPACT SOURCES
(per April, 1989 information)
Page 1 of 2

Property	Materials Used	Storage Tanks	55 Gallon Drums	Septic System	Visible Contamination
Penn Equipment/ Precision Products	Oil, transmission fluid cutting oils, solvents, degreasers, metals	four 3000-gallon underground - lube oil two 275-gallon aboveground - waste oil	± 50-empty ± 200 drums of oil sold each year ± 2 drums waste cutting oil	No, but roof run off to 10x8x4 foot depression	No
Paramount Industrial Products	Waste oil, solvents	Unknown	One	Unknown	Unknown
Federal, Inc.	Enamel, solvents	Unknown	One	Unknown	Unknown
Solomon Casket	None	1500 gallon underground - fuel oil	None	Yes, prior to 10/88 roof runoff to 4 drywells	No
Southington Metal Fabricating	Metals	None	±15 used for scrap storage	None	No
Meriden Box Company	None	14000 gallon underground - gasoline 12000 gallon underground - diesel	None	Yes	No
Northeast Machine	Oils, solvents, degreasers, metals	2175 gallon above ground - waste oil	None	None	No
RV & Son Welding	Paint, paint thinners, metals	None	None	None	No
Chuck & Eddies Used Auto Parts	Gasoline, fuel oil, anti-freeze, None other various lubricants and solvents, metals, acids	None	Yes	Yes	Yes (current soils)

TABLE 2
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

EXISTING POTENTIAL IMPACT SOURCES
Page 2 of 2

Property	Materials Used	Storage Tanks	55 Gallon Drums	Septic System	Visible Contamination
Lori Corporation	Metals, oils, solvents, acids	None	±50 zinc and nickel powder	No	Yes (Former soil contamination prior to 1980)
Brophy Metal Company	Oils, solvents, metals	1 - 350 gallon above ground cutting oil tank 1, 200 gallon above ground solvent tank	No	No	Yes (Drums, stained soils)
Height	None	1, 1000 gallon above ground - fuel oil	No	No	No
Waterbury Centerless Grinding	Metals, solvents, oils	Unknown	At least 70	Unknown	Yes (Drums, stained soils)

TABLE 3

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

Chemical and Physical Properties of Groundwater
in the Quinnipiac River Basin⁽¹⁾

Abstracted from Water Resources Inventory of Connecticut,
Part 8, Quinnipiac River Basin
(USGS, 1979, Page 61)

(Concentrations of Chemical Constituents in Milligrams Per Liter)

Constituent or Property	Stratified Drift		Type of Aquifer Sedimentary Bedrock ⁽⁴⁾		Crystalline Bedrock ⁽⁵⁾	
	Median	Range	Median	Range	Median	Range
Iron (Fe)	0.06	0.01-9.10	0.80	0.02-4.30	0.11	0.04-2.80
Manganese (Mn)	.00	.00-5.90	.00	.00-.18	.00	.00-.43
Calcium (Ca)	46	6.0-180	33	1.0-1,080	26	7.5-92
Magnesium (Mg)	7.9	.9-44	4.4	.0-460	5.2	1.3-14
Sodium & Potassium (Na + K) ⁽²⁾	10	3.2-146	14	.9-3,800	12	3.5-47
Bicarbonate (HCO ₃)	108	20-525	118	16-318	70	25-201
Sulfate (SO ₄) ⁽²⁾	26	4.4-130	19	7.5-1,000	20	4.8-140
Chloride (Cl) ⁽²⁾	20	2.5-240	14	2.8-8,300	9.3	2.0-130
Nitrate (NO ₃) ⁽²⁾	12	.0-53	5.0	.0-66	2.4	.0-40
Dissolved Solids (residue on evaporation at 180°C)	218	50-965	207	64-16,800	141	84-501
Specific Conductance (micromhos at 25°C)	345	58-1,325	322	88-21,900	214	114-715
Hardness, as CaCO ₃ (Ca + Mg)	136	20-581	114	4-4,590	85	25-260
Hardness, as CaCO ₃ (noncarbonate)	44	0-244	24	0-4,480	20	0-154
pH	7.6	6.1-8.4	7.6	5.8-9.4	7.3	5.9-8.5
No. of wells sampled ⁽³⁾	36		64		32	

Notes:

- (1) Wells sampled 1970-71; complete analysis of each sample is in "Water Resources for Connecticut" U.S. Geol. Survey, 1971).
- (2) Upper limits recommended by the Connecticut Department of Health (Connecticut General Assembly, 1975) for drinking water: SO₄ (250 mg/l), Cl (250 mg/l), nitrate plus nitrite as N (10 mg/l), Na (20 mg/l).
- (3) Concentrations based on analyses of single samples from most wells, mean values of periodic samples from a few wells are included.
- (4) Some samples affected by salt water intrusion.
- (5) Includes igneous and metamorphic rocks.

TABLE 4
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT
TABULATION OF WELL DATA
Page 1 of 5

Well Designation	Installed By	Intended Use	Drilling Method	Date of Installation	Construction Materials	Screened Interval (ft)	Average Depth To Water (ft)	Screened Material	Approximate Depth To Bedrock (ft)	Study
Solomon Casket	-	Industrial	Cable Percussion	1967	6" Dia. steel Casing	Open End ±110 feet	±28	Stratified Drift	-	Solomon Casket
Municipal Well No. 5	Layne-New England	Public Water Supply	Cable Tool	7/15/65	8" Dia. steel Casing	±49' to ±58' 105 slot	±5	Red fine to Medium SAND and GRAVEL, some Silt	63	Geraghty & Miller
TB-7S	Walti	Monitor Well	Hollow Stem Auger	4/2/90	2" PVC	5.5' to 15.5' 10 slot	6.8'	SAND & REFUSE	-	RI/FS
TW-16	General Borings	Monitor Well	Hollow Stem Auger	3/6/80	2" PVC	-	±58.5	-	-	Warzyn
TW-17	General Borings	Monitor Well	Hollow Stem Auger	2/27/80	2" PVC	-	±14.5	-	-	Warzyn
TW-18	General Borings	Monitor Well	Hollow Stem Auger	3/7/80	2" PVC	-	±13.9	-	-	Warzyn
TW-19	General Borings	Monitor Well	Hollow Stem Auger/ Rock Core	2/19/80	2" PVC	-	±7.5	-	7.5	Warzyn
TW-20	General Borings	Monitor Well	Hollow Stem Auger	2/18/80	2" PVC	-	±8	-	-	Warzyn
CW-20	Layne, New York	Observation Well	-	1965	2½" Dia. steel	±48.5-50.5	±3.2	SAND & GRAVEL	50.5	Geraghty & Miller
CW-17	Layne, New York	Observation Well	-	1965	2½" Dia. steel	±47-49	±8.2	SAND & GRAVEL	49	Geraghty & Miller
CW-16	Layne, New York	Observation Well	-	1965	2½" Dia. steel	±57-59	-	Red, fine SAND and CLAY	59	Geraghty & Miller
CW-15	Layne, New York	Observation Well	-	1965	2½" Dia. steel	±57.3-59.3	±5.1	Fine SAND and GRAVEL, trace Clay	59	Geraghty & Miller
CW-14	Layne, New York	Observation Well	-	1965	2½" Dia. steel	±56.7-58.7	±10.3	Red SAND and GRAVEL, trace Clay	58.7	Geraghty & Miller
CW-13	Layne, New York	Observation Well	-	1965	2½" Dia. steel	±53-55	±6.5	Red SAND, GRAVEL and CLAY	55	Geraghty & Miller

TABLE 4
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT
TABULATION OF WELL DATA
Page 2 of 5

Well Designation	Installed By	Intended Use	Drilling Method	Date of Installation	Construction Materials	Screened Interval (ft)	Average Depth To Water (ft)	Screened Material	Approximate Depth To Bedrock (ft)	Study
B-1	East Coast Drilling, Inc.	Monitor Well (Methane)	Hollow Stem Auger	3/20/86	2" PVC	±3-8	±5	Refuse	-	GZA (Methane)
B-2	East Coast Drilling, Inc.	Monitor Well (Methane)	Hollow Stem Auger	3/20/86	2" PVC	±3-13	±9.5	Refuse	-	GZA (Methane)
B-3	East Coast Drilling, Inc.	Monitor Well (Methane)	Hollow Stem Auger	3/20/86	2" PVC	±3-23	±18	Refuse	-	GZA (Methane)
B-4	East Coast Drilling, Inc.	Monitor Well (Methane)	Hollow Stem Auger	3/20/86	2" PVC	±3-20	±20	Refuse	-	GZA (Methane)
GZ-1	General Borings	Monitor Well	Mud Rotary (Revert)	1/14/87	2" PVC	±66.5-86.5 20 slot	±58	Fine to coarse SAND	89	GZA
GZ-2	General Borings	Monitor Well	Mud Rotary (Revert)	1/16/87	2" PVC	±70-90 20 slot	±57	Fine SAND	-	GZA
GZ-3	General Borings	Monitor Well	Hollow Stem Auger	1/19/87	2" PVC	±10-25 20 slot	±6	Fine to coarse SAND	-	GZA
GZ-4S	General Borings	Monitor Well	Mud Rotary (Revert)	1/30/87	2" PVC	±23-43 20 slot	±17	Fine SAND and SILT	-	GZA
GZ-4M	General Borings	Monitor Well	Mud Rotary (Revert)	1/30/87	2" PVC	±65-85 20 slot	±18	Fine Sand/ fine to coarse SAND and GRAVEL	-	GZA
GZ-40	General Borings	Monitor Well	Mud Rotary (Revert)	1/30/87	2" PVC	±110-130 20 slot	±18	BOULDERS/fine to coarse Sand, Gravel and Silt	-	GZA
GZ-5S	Walti	Monitor Well	Hollow Stem Auger	5/17/90	2" PVC	±14-24 10 slot	±17	Fine SAND	-	RI/FS
GZ-5M	Walti	Monitor Well	Hollow Stem Auger	5/17/90	2" PVC	±52-62 10 slot	±17	Fine to coarse SAND and GRAVEL	-	RI/FS

TABLE 4
OLD SOUTHWINGTON LANDFILL
SOUTHWINGTON, CONNECTICUT
TABULATION OF WELL DATA
Page 3 of 5

Well Designation	Installed By	Intended Use	Drilling Method	Date of Installation	Construction Materials	Screened Interval (ft)	Average Depth To Water (ft)	Screened Material	Approximate Depth To Bedrock (ft)	Study
GZ-5D	Wolti	Monitor Well	Drive Casing	5/10/90	2" PVC	±117-127 10 slot	±17	Fine to medium SAND	135	R1/FS
GZ-7S	Wolti	Monitor Well	Hollow Stem Auger	5/10/90	2" PVC	±4.5-14.5 10 slot	±5	GRAVEL, SAND and REFUSE	-	R1/FS
GZ-7M	Wolti	Monitor Well	Hollow Stem Auger	4/27/90	2" PVC	±65.5-75.5 10 slot	±9	Fine to coarse SAND and GRAVEL	-	R1/FS
GZ-7D	Wolti	Monitor Well	Drive Casing	4/4/90	2" PVC	±135-145 10 slot	±8	GRAVEL	150	R1/FS
GZ-11S	Wolti	Monitor Well	Hollow Stem Auger	4/25/90	2" PVC	±13-23	±5.5	Fine to medium SAND	-	R1/FS
GZ-11D	Wolti	Monitor Well	Hollow Stem Auger	4/25/90	2" PVC	±50-60	±4	Fine to medium SAND	73	R1/FS
GZ-12M	Wolti	Monitor Well	Hollow Stem Auger	4/11/90	2" PVC	±52-62	±11	GRAVEL and fine to coarse SAND	-	R1/FS
GZ-12D	Wolti	Monitor Well	Hollow Stem Auger	4/10/90	2" PVC	±79-89	±11	Fine to coarse SAND	96	R1/FS
GZ-13S	Wolti	Monitor Well	Hollow Stem Auger	4/20/90	2" PVC	±28-38	±33	Fine to coarse SAND	-	R1/FS
GZ-13M	Wolti	Monitor Well	Hollow Stem Auger	4/19/90	2" PVC	±98-108	±33	Fine to medium SAND	-	R1/FS
GZ-13DA	Wolti	Monitor Well	Spin Casing	4/9/90	NO SCREEN SET	-	-	-	-	R1/FS
GZ-13D	Wolti	Monitor Well	Drive Casing	4/18/90	2" PVC	±162-172	±35	Fine to coarse SAND, COBBLES	176	R1/FS
GZ-14S	Wolti	Monitor Well	Hollow Stem Auger	5/4/90	2" PVC	±26-36	±33	Fine to coarse SAND	-	R1/FS

TABLE 4
 OLD SOUTHWINGTON LANDFILL
 SOUTHWINGTON, CONNECTICUT
 TABULATION OF WELL DATA
 Page 4 of 5

Well Designation	Installed By	Intended Use	Drilling Method	Date of Installation	Construction Materials	Screened Interval (ft)	Average Depth To Water (ft)	Screened Material	Approximate Depth To Bedrock (ft)	Study
GZ-14M	Wolti	Monitor Well	Spin, Drive Casing	5/4/90	2" PVC	±85-95	±30	Fine SAND and SILT	-	RI/FS
GZ-14D	Wolti	Monitor Well	Spin Casing	5/1/90	2" PVC	±135-145	±31	Fine SAND and SILT	148	RI/FS
GZ-17M	Wolti	Monitor Well	Hollow Stem Auger	4/5/90	2" PVC	±49-59	±10	Fine SAND	-	RI/FS
GZ-17D	Wolti	Monitor Well	Hollow Stem Auger	4/4/90	2" PVC	±89-99	±10	Fine SAND	-	RI/FS
LW-19	GZA Drilling	Monitor Well	Hollow Stem Auger	11/16/84	2" PVC	±6-16	±9	Fine SAND/ Cobbles and Silt	-	GZA
LW-102S	GZA Drilling	Monitor Well	Hollow Stem Auger	11/7/84	2" PVC	±30-50	±30	Fine SAND	-	GZA
LW-102S	GZA Drilling	Monitor Well	Mud Rotary (Revert)	11/7/84	2" PVC	±51-81	±32	Fine SAND, some Gravel layers	-	GZA
LW-17D	GZA Drilling	Monitor Well	Hollow Stem Augers/ Mud Rotary (Revert)	11/12/84	2" PVC	±40-100	±14	Fine SAND, some Gravel layers	-	GZA
LW-15D	GZA Drilling	Monitor Well	Hollow Stem Augers/ Mud Rotary (Revert)	11/21/84	2" PVC	±49-99	±6.4	Fine to coarse SAND	-	GZA
LW-15M	GZA Drilling	Monitor Well	Hollow Stem Augers	11/26/84	2" PVC	±29-59	±6.4	Fine to coarse SAND	-	GZA
LW-15S	GZA Drilling	Monitor Well	Hollow Stem Augers	11/27/84	2" PVC	±7.5-27.5	±6.6	SILT/fine to coarse SAND	-	GZA
LW-101D	GZA Drilling	Monitor Well	Hollow Stem Augers/ Mud Rotary (Revert)	11/15/84	2" PVC	±51-101	±18	Fine to coarse SAND, some Gravel layers	-	GZA
LW-101S	GZA Drilling	Monitor Well	Hollow Stem Auger	11/8/84	2" PVC	±18-48	±17.5	Fine to coarse SAND	-	GZA
LW-103D	East Coast Drilling, Inc.	Monitor Well	Hollow Stem Auger/ Drive Casing	1/17/85	2" PVC	±60-80	±10.5	Fine to coarse SAND	78	GZA

TABLE 4
 OLD SOUTHTON LANDFILL
 SOUTHTON, CONNECTICUT
 TABULATION OF WELL DATA
 Page 5 of 5

Well Designation	Installed By	Intended Use	Drilling Method	Date of Installation	Construction Materials	Screened Interval (ft)	Average Depth To Water (ft)	Screened Material	Approximate Depth To Bedrock (ft)	Study
LW-103M	East Coast Drilling, Inc.	Monitor Well	Hollow Stem Auger	1/17/85	1½" PVC Filter Fabric	±34.5-54.5	±10	Fine to coarse SAND	-	GZA
LW-103S	East Coast Drilling, Inc.	Monitor Well	Hollow Stem Auger	1/17/85	1½" PVC Filter Fabric	±6-31	±10	Fine to coarse SAND	-	GZA

TABLE 5

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

WATER QUALITY PARAMETERS
PREVIOUSLY REQUIRED BY DEP AND ANALYZED BY GZA

(2/17/87 - 5/4/87)

Page 1 of 3

LIST A

Iron	2-Chlorobutane
Manganese	1,1-Dichloroethylene
Nitrites	1,2-Dichloropropane
Nitrates	Ethanol
Ammonia	Ethyl Acetate
Chloride	Ethyl Benzene
Alkalinity	Formaldehyde
Conductivity - Field	Heptane
Total Dissolved Solids	Hexane
Hardness	Methane
pH - Field	Methanol
Sodium	Methyl Acetate
Calcium	Methyl iso-Butyl Ketone
Magnesium	Methyl Cellosolve
Copper	Methyl Cyclohexane
Lead	Methyl Cyclopentane
Mercury	Methylene Chloride
Arsenic	Methyl Ethyl Ketone
Cadmium	Nonane
Chromium	Trichlorotrifluoroethane
Selenium	Vinyl Acetate
Silver	Meta-Xylene
Barium	Ortho-Xylene
Acetone	Para-Xylene
Benzene	Octane
Bromochloromethane	iso-Octane
Bromoethane	Pentane
Bromodichloromethane	Propanol
Butane	iso-Propanol
Butanol	Propyl Acetate
Chloroform	iso-Propyl Acetate
Cyclohexane	Styrene
Dibromomethane	1,1,2,2-Tetrabromoethane
1,2-Dichloroethane	1,1,1,2-Tetrachloroethane
iso-Butanol	1,1,2,2-Tetrachloroethane
sec-Butanol	Tetrachloroethylene
Butyl Acetate	Toluene
iso-Butyl Acetate	1,1,1-Trichloroethane
Carbon Tetrachloride	Trichloroethylene
Chlorobenzene	1-Chlorobutane

TABLE 5

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

WATER QUALITY PARAMETERS
PREVIOUSLY REQUIRED BY DEP AND ANALYZED BY GZA
(2/17/87 - 5/4/87)
Page 2 of 3

LIST B

acenaphthene	chlorodibromomethane
acrolein	hexachlorobutadiene
acrylonitrile	hexachlorocyclopentadiene
benzidine	isophorone
1,2,4-trichlorobenzene	naphthalene
hexachlorobenzene	nitrobenzene
1,1-dichloroethane	4-nitrophenol
1,1,2-trichloroethane	2,4-dinitrophenol
chloroethane	4,6-dinitro-o-cresol
bis (chloromethyl) ether	N-nitrosodimethylamine
bis (2-chloroethyl) ether	N-nitrosodiphenylamine
2-chloroethyl vinyl ether	N-nitrosodi-n-propylamine
(mixed)	pentachlorophenol
2-chloronaphthalene	phenol
2,4,6-trichlorophenol	bis(2-ethylhexyl) phthalate
parachlorometa cresol	butyl benzyl phthalate
2-chlorophenol	di-n-butyl phthalate
1,2-dichlorobenzene	di-n-octyl phthalate
1,3-dichlorobenzene	diethyl phthalate
1,4-dichlorobenzene	dimethyl phthalate
3,3-dichlorobenzidine	1,2-benzanthracene
1,2-trans-dichloroethylene	(benzo(a) anthracene
2,4-dichlorophenol	benzo(a)pyrene
1,2-dichloropropylene	(3,4-benzopyrene)
(1,3-dichloropropene)	3,4-benzofluoranthene
2,4-dimethylphenol	(benzo(b) fluoranthene)
2,4-dinitrotoluene	11,12-benzofluoranthene
2,6-dinitrotoluene	(benzo(k) fluoranthene)
1,2-diphenylhydrazine	chrysene
fluoranthene	acenaphthylene
4-chlorophenyl phenyl ether	anthracene
4-bromophenyl phenyl ether	1,12-benzoperylene
bis-(2-chloroisopropyl) ether	(benzo(ghi) perylene)
bis (2-chloroethoxy) methane	fluorene
methyl chloride	phenanthrene
(chloromethane)	1,2,5,6-dibenzanthracene
bromoform (tribromomethane)	(dibenzo(a,h)anthracene)
dichlorobromomethane	indeno(1,2,3-cd) pyrene
trichlorofluoromethane	(1,2,3,4-benzopyrene)
dichlorodifluoromethane	pyrene
vinyl chloride (chloroethylene)	aldrin

TABLE 5

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

WATER QUALITY PARAMETERS
PREVIOUSLY REQUIRED BY DEP AND ANALYZED BY GZA
(2/17/87 - 5/4/87)
Page 3 of 3

LIST B (continued)

dieldrin
chlordane (technical mixture)
4,4'- DDT
4,4' - DDE (p,p'-DDX)
4,4" - DDD (p,p'-TDE)
alpha-endosulfan
beta-endosulfan
endosulfan sulfate
endrin
endrin aldehyde
heptachlor
heptachlor eposide (BHC = hexachlorocyclohexane)
alpha-BHC
beta-BHC
gamma-BHC (lindane)
delta-BHC
(PCB-polychlorinated biphenyls)
PCB-1242 (Arochlor 1242)
PCB-1254 (Arochlor 1254)
PCB-1221 (Arochlor 1221)
PCB-1232 (Arochlor 1232)
PCB-1248 (Arochlor 1248)
PCB-1260 (Arochlor 1260)
Toxaphene
Antimony
Asbestos
Beryllium
Cyanide
Nickel
Thallium
Zinc
2,3,7,8-tetrachloro-dibenzo-p-dioxin (TCDD)
phosphate
Cyanide
Fluoride
Sulfate
MBAS
Physical examination
(odor, color, turbidity)
MF total coliform
MF fecal coliform

TABLE 6

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT
HISTORICAL DATA SUMMARY
DATA EXCEEDING MCL'S¹

(1987 DATA)

Page 1 of 2

PARAMETER	LOCATION	CONCENTRATION	STANDARD (MCL)	UNITS	SAMPLING ² ROUND
Barium	B-3	1640	1000	ug/l	1
Barium	B-3	1950	1000	ug/l	2
Barium	B-3	1590	1000	ug/l	3
Benzene	B-3	26	5	ug/l	1
Benzene	B-3	20	5	ug/l	2
Benzene	B-3	27	5	ug/l	3
Lead	SW-3	670	50	ug/l	1
Lead	MW-5	115	50	ug/l	3
Lead	CW-20	113	50	ug/l	3
Trichloroethylene	LW-102S	6	5	ug/l	1
Trichloroethylene	LORI	14	5	ug/l	1
Trichloroethylene	LW-102S	9	5	ug/l	2
Trichloroethylene	LORI	18	5	ug/l	3
Trichloroethylene	LW-102S	14	5	ug/l	3
Vinyl Chloride	LORI	23	2	ug/l	1
Vinyl Chloride	GZ-4S	180	2	ug/l	1
Vinyl Chloride	B-3	7	2	ug/l	1
Vinyl Chloride	GZ-4S	130	2	ug/l	1
Vinyl Chloride	B-3	200	2	ug/l	2
Vinyl Chloride	GZ-4S	110	2	ug/l	2
Vinyl Chloride	B-3	540	2	ug/l	3
Vinyl Chloride	GZ-4S	150	2	ug/l	3

TABLE 6

OLD SOUTHLINGTON LANDFILL
SOUTHLINGTON, CONNECTICUT
HISTORICAL DATA SUMMARY
DATA EXCEEDING CONNECTICUT ACTION LEVELS
(1987 DATA)
Page 2 of 2

PARAMETER	LOCATION	CONCENTRATION	ACTION LEVEL	UNITS	SAMPLING ROUND
Barium	B-3	1640	1000	ug/l	1
Barium	B-3	1950	1000	ug/l	2
Barium	B-3	1590	1000	ug/l	3
Benzene	B-3	26	1	ug/l	3
Benzene	B-3	20	1	ug/l	1
Benzene	B-3	27	1	ug/l	2
Benzene	LW-17D	5	1	ug/l	3
Manganese	GZ-3	7370	5000	ug/l	3
Manganese	GZ-2	5730	5000	ug/l	1
PCB-1248	MW-5	1.1	1	ug/l	1
Trichloroethylene	LORI	18	5	ug/l	3
Trichloroethylene	LORI	14	5	ug/l	1
Trichloroethylene	LW-102S	14	5	ug/l	3
Trichloroethylene	LW-102S	9	5	ug/l	2
Trichloroethylene	LW-102S	6	5	ug/l	1
Vinyl Chloride	B-3	540	2	ug/l	3
Vinyl Chloride	B-3	200	2	ug/l	2
Vinyl Chloride	GZ-4S	180	2	ug/l	1
Vinyl Chloride	GZ-4S	150	2	ug/l	3
Vinyl Chloride	GZ-4S	130	2	ug/l	1
Vinyl Chloride	GZ-4S	110	2	ug/l	2
Vinyl Chloride	LORI	23	2	ug/l	1
Vinyl Chloride	B-3	7	2	ug/l	1
Xylenes, mixed	B-3	330	100	ug/l	1
Xylenes, mixed	B-3	240	100	ug/l	3
Xylenes, mixed	B-3	130	100	ug/l	2

NOTES:

- Analytical data located in Appendix F.
- Sample round dates:
 - Round 1: 2/17-24/87, List A; 4/6/87, List B
 - Round 2: 4/20-23/87
 - Round 3: 5/1-4/87

TABLE 7

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

DETECTED CONCENTRATION RANGE OF HSL METAL CONSTITUENTS (1987 DATA)
(UG/L UNLESS NOTED)
Page 1 of 2

PARAMETER	UPGRADIENT/ CROSS GRADIENT ⁽¹⁾	NORTHERN AREA ⁽²⁾	SOUTHERN AREA ⁽³⁾	CENTRAL LANDFILL AREA ⁽⁴⁾	DOWNGRADIENT ⁽⁵⁾
Arsenic	ND	ND	ND	ND	ND
Barium	<100	<100-275	<100	<100-1950	<100
Calcium	27200-70600	28200-58700	11600-37600	15600-77200	1350-8400
Chromium	ND	ND	ND-13 ⁽⁶⁾	ND	ND
Copper	ND-46 ⁽⁶⁾	ND-39 ⁽⁶⁾	ND	ND	ND
Cyanide (mg/l)	ND	ND	ND	ND-0.041	ND
Iron	ND-211	ND-21400	ND-9290	305-25400	145-2010
Lead	ND	ND-115 ⁽⁶⁾	ND	ND-5.9 ⁽⁶⁾	ND
Magnesium	5600-14600	5100-20000	3000-5500	4900-78000	ND-4700
Manganese	553-7370	ND-1490	200-3230	33-4040	399-1340
Mercury	ND	ND-0.3 ⁽⁶⁾	ND	ND	ND
Nickel	ND	ND	ND	ND-57 ⁽⁶⁾	ND
Sodium	5500-40300	6200-13900	33700-76000	8300-82100	6700-12000
Zinc	ND	ND-40 ⁽⁶⁾	ND	ND-58	ND

NOTES:

- (1) Monitor wells GZ-1, GZ-2 and GZ-3.
- (2) Monitor wells LW-15S, LW-15M, LW-15D, LW-103S, LW-103M, LW-103D, CW-20, Lori Production Well and Municipal Well 5.
- (3) Monitor wells LW-102S, LW-102D.
- (4) Monitor wells B-3, GZ-4S, GZ-4M, GZ-4D, TW-17 and LW-17D.
- (5) Monitor well TW-18.
- (6) Results above detection limits only found in one round of samples.

TABLE 7

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

DETECTED CONCENTRATION RANGE OF NON HSL METAL CONSTITUENTS (1987 DATA)
(MG/L UNLESS NOTED)
Page 2 of 2

PARAMETER	UPGRADIENT/ CROSS GRADIENT ⁽¹⁾	NORTHERN AREA ⁽²⁾	SOUTHERN AREA ⁽³⁾	CENTRAL LANDFILL AREA ⁽⁴⁾	DOWNGRADIENT ⁽⁵⁾
Alkalinity	70-280	77-170	40-806	79-660	≤31
Ammonia	≤0.25	≤2.27	≤0.93	≤101	≤0.05
Chloride	≤32.8	≤69.6	≤94.5	≤264	≤29.7
Coliform (total) (#/ml) ⁽⁷⁾	Not tested	≤1	Not tested	0-29000	Not tested
Color ⁽⁷⁾	Not tested	≤1	Not tested	10-350	Not tested
Fluoride ⁽⁷⁾	Not tested	≤0.64	Not tested	≤3.55 ⁽⁶⁾	Not tested
Hardness	6.3-1210	100-288	58.6-150	76-330	48-61
MBAs ⁽⁷⁾	Not tested	ND	Not tested	ND-0.30	Not tested
Nitrate	<0.05-4.46	<0.005-5.44	<0.005-5.29	<0.005-2.93	0.05
Nitrite	<0.005-0.037	<0.005-0.097	<0.005-0.039	<0.005-0.24	0.005
Odor ⁽⁷⁾	Not tested	<1-16	Not tested	<1-128	Not tested
pH	6.91-7.97	6.29-7.96	5.87-6.15	5.68-7.89	6.01-6.63
Specific Conductance	220-825	250-450	260-660	300-2010	115-130
Sulfate ⁽⁷⁾	Not tested	22.1-25.9	Not tested	24-63	Not tested
Total Dissolved Solids	133-439	116-283	159-347	166-727	61.4-93.2
Turbidity ⁽⁷⁾	Not tested	≤1.2	Not tested	4-1400	Not tested

NOTES:

- (1) Monitor wells GZ-1, GZ-2 and GZ-3.
- (2) Monitor wells LW-15S, LW-15M, LW-15D, LW-103S, LW-103M, LW-103D, CW-20, Lori Production Well and Municipal Well 5.
- (3) Monitor wells LW-102S, LW-102D.
- (4) Monitor wells B-3, GZ-4S, GZ-4M, GZ-4D, TW-17 and LW-17D.
- (5) Monitor well TW-18.
- (6) Results above detection limits only found in one round of samples.
- (7) Tested locations included MW-5, B-3, GZ-4S and GZ-4D only.

TABLE 8

Old Southington Landfill
Southington, Connecticut

ELEVATION DATA¹

Page 1 of 2

Water Level Measurement Location	Ground Elevation (ft)	Top of Casing Elevation (ft)	Top of PVC Elevation at Mark (ft)
B-1	151.0	153.28	153.22
B-2	156.4	158.52	158.46
B-3	157.9	160.00	160.01
B-4	166.1	167.99	167.92
CW-15	145.7	147/59	No PVC
CW-20	142.8	144.80	No PVC
GZ-1	208.9	209.02	208.58
GZ-2	204.2	204.20	204.08
GZ-3	155.2	155.21	154.91
GZ-4S	161.5	161.56	161.50
GZ-4M	161.9	161.99	161.26
GZ-4D	162.0	162.05	162.54
GZ-5S	162.9	165.20	165.01
GZ-5M	162.9	165.04	164.72
GZ-5D	162.6	164.61	164.50
GZ-7S	155.9	157.64	157.50
GZ-7M	155.9	157.66	157.57
GZ-7D	155.9	157.84	157.58
GZ-11S	148.6	150.90	150.69
GZ-11D	148.1	149.77	149.67
GZ-12M	156.3	158.10	157.79
GZ-12D	156.4	158.58	158.25
GZ-13S	179.4	181.62	181.35
GZ-13M	179.6	182.13	181.92

TABLE 8

Old Southington Landfill
Southington, Connecticut

ELEVATION DATA¹

Page 2 of 2

Water Level Measurement Location	Ground Elevation (ft)	Top of Casing Elevation (ft)	Top of PVC Elevation at Mark (ft)
GZ-13D	180.2	182.46	182.32
GZ-14S	176.6	178.42	178.92
GZ-14M	176.3	178.21	178.11
GZ-14D	176.3	177.99	177.90
GZ-17M	155.2	157.49	157.13
GZ-17D	155.3	158/75	158/25
LW-15S	149.7	149.62	149.59
LW-15M	149.6	149.52	549.45
L2-15D	149.7	146.60	149.48
L2-17D	155.5	157.82	158.04
LW-103S	150.7	152.70	153.42
LW-103M	150.7	152.70	152.80
LW-103D	150.9	153.31	153.24
TB-7S	159.6	161.65	161.56
TW-17	155.3	156.30	156.00
TW-18	156.3	158.70	158.53
WP-1	147.2	No Casing	151.59
WP-2	NM	No Casing	149.95
WP-3	146.7	No Casing	148.57
WP-4	148.6	No Casing	150.67
WP-5	NM	No Casing	147.50
SW-1	NA	144.75	NA
SW-2	NA	147.68	NA
SW-6	NA	147.21	NA

NOTES:

1. Elevation data recorded in feet above mean sea level.

NA Not Applicable

NM Not Measured

TABLE 9

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

AMBIENT AIR QUALITY MONITORING; PART 1

Page 1 of 7

Date	Station Number	PID (ppm)	Temperature (F)	Barometric Pressure (Inches of Hg)	Wind Direction	Maximum Wind Speed (mph)
11/16/88	1	0.3	53	30.18	None	0
	2	0.3	54	30.17	None	0
	3	0.3	54	30.18	None	0
	4	0.2	54	30.19	None	0
	5	0.2	55	30.18	None	0
11/30/88	1	0.4	52	29.81	W-SW	3
	2	0.3	50	29.68	S-SW	6
	3	0.2	49	29.68	S-SW	2
	4	0.3	47	29.67	S-SW	10
	5	0.2	48	29.67	SW	7
12/15/88	1	0.3	39	29.56	W-SW	4
	2	0.3	40	29.56	W	6
	3	0.2	39	29.58	W	3
	4	0.2	44	29.58	S-SW	4
	5	0.4	39	29.59	W-SW	8
1/4/89	1	ND	10	29.27	N-NW	3
	2	ND	5	29.25	None	0
	3	ND	3	29.24	None	0
	4	ND	8	29.33	N	7
	5	ND	3	29.26	None	0
1/16/89	1	0.2	36	29.76	NW	4
	2	0.2	35	29.80	W-NW	6
	3	0.3	37	29.80	None	0
	4	0.2	38	29.79	None	0
	5	0.2	36	29.78	NW	4
2/1/89	1	0.2	47	29.58		0
	2	0.2	57	29.57	S-SW	2
	3	0.2	52	29.58	None	0
	4	0.2	54	29.58	SW	3
	5	0.3	55	29.55	S-SE	1
2/15/89	1	1.0	36	30.03	None	0
	2	0.3	36	29.92	N-NW	2
	3	2.0	35	30.01	None	0
	4	1.0	36	30.01	N-NE	1
	5	0.5	36	29.97	N-NW	1

Note

Instruments used include:

- 1) 10.2 eV lamp portable HNU Model PI-101 or Photovac Tip II (10.6 eV lamp) photoionization detector to measure volatile organic compounds in the air,
- 2) Peet Brothers Ulitmeter to measure temperature, barometric pressure, wind direction, and wind speed. PID readings represent detected meter response. Listed data between ND and 1.0 ppm is considered to represent meter variability and reflects daily background data.

TABLE 9

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

AMBIENT AIR QUALITY MONITORING; PART 1

Page 2 of 7

Date	Station Number	PID (ppm)	Temperature (F)	Barometric Pressure (Inches of Hg)	Wind Direction	Maximum Wind Speed (mph)
2/28/89	1	0.6	38	29.90	None	0
	2	0.6	34	29.85	NW	2
	3	0.6	34	29.85	NW	2
	4	0.6	33	29.84	NE	3
	5	0.4	36	29.84	NW	1
3/15/89	1	0.8	45	29.58	E	2
	2	1.1	45	29.54	S-SE	5
	3	0.7	45	29.53	S-SE	4
	4	0.8	45	29.51	S	6
	5	0.6	46	29.50	SE	10
3/31/89	1	0.2	35	29.16	None	0
	2	0.2	33	29.16	NW-NE	5
	3	0.2	34	29.14	NE	5
	4	0.2	35	29.16	NE	1
	5	0.2	33	29.16	NE	8
4/14/89	1	0.2	48	30.07	None	0
	2	0.2	49	30.08	NW	10
	3	0.2	54	30.08	None	0
	4	0.2	52	30.09	SW	3
	5	0.2	51	30.02	W-NW	3
4/27/89	1	0.8	58	29.69	SW	3
	2	0.8	59	29.68	N-NW	3
	3	0.6	56	29.71	N	5
	4	0.6	59	29.69	N	3
	5	0.6	59	29.68	NW	4
5/17/89	1	0.2	70	29.84	N	10
	2	0.2	69	29.79	N	11
	3	0.2	70	29.84	NE	5
	4	0.2	71	29.84	N-NE	7
	5	0.2	78	29.84	NE	6
6/2/89	1	ND	86	29.75	SE	4
	2	ND	87	29.75	S	4
	3	ND	88	29.75	None	0
	4	ND	90	29.75	SW	6
	5	ND	86	29.74	S	7

Note

Instruments used include:

- 1) 10.2 eV lamp portable HNu Model PI-101 or Photovac Tip II (10.6 eV lamp) photoionization detector to measure volatile organic compounds in the air,
- 2) Peet Brothers Ulitmeter to measure temperature, barometric pressure, wind direction, and wind speed. PID readings represent detected meter response. Listed data between ND and 1.0 ppm is considered to represent meter variability and reflects daily background data.

TABLE 9

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

AMBIENT AIR QUALITY MONITORING; PART 1
Page 3 of 7

Date	Station Number	PID (ppm)	Temperature (F)	Barometric Pressure (Inches of Hg)	Wind Direction	Maximum Wind Speed (mph)
6/15/89	1	ND	55	29.84	NONE	0
	2	ND	54	29.84	NONE	0
	3	ND	55	29.86	N	3
	4	ND	54	29.84	N	6
	5	ND	56	29.85	NE	1
7/6/89	1	ND	77	29.94	NONE	0
	2	ND	75	29.92	N-NE	4
	3	ND	77	29.96	N	2
	4	ND	78	29.92	N	2
	5	ND	78	29.93	N	1
7/14/89	1	NT	79	29.58	NE	2
	2	NT	87	29.58	NONE	0
	3	NT	88	29.62	N-NE	3
	4	NT	89	29.64	NONE	0
	5	NT	96	29.63	NE	5
8/18/89	1	ND	70	29.42	N-NE	2
	2	ND	72	29.41	N	1
	3	ND	66	29.43	NE	2
	4	ND	68	29.41	N	7
	5	ND	75	29.38	E	6
8/31/89	1	NT	78	29.88	NW	4
	2	NT	78	29.84	NW	11
	3	NT	80	29.85	W-NW	7
	4	NT	80	29.84	N-NW	5
	5	NT	78	29.88	N-NE	4
9/15/89	1	ND	67	29.93	N-NW	1
	2	ND	66	29.93	N-NW	2
	3	ND	66	29.93	N	4
	4	ND	67	29.94	N-NE	2
	5	ND	66	29.92	N-NE	5
9/29/89	1	NA	67	30.01	W-SW	5
	2	NA	70	29.95	SW	3
	3	NA	70	29.99	W-SW	4
	4	NA	68	29.99	W-SW	5
	5	NA	75	30.00	SW	7

Note

Instruments used include:

- 1) 10.2 eV lamp portable HNu Model PI-101 or Photovac Tip II (10.6 eV lamp) photoionization detector to measure volatile organic compounds in the air,
- 2) Peet Brothers Ulitmeter to measure temperature, barometric pressure, wind direction, and wind speed. PID readings represent detected meter response. Listed data between ND and 1.0 ppm is considered to represent meter variability and reflects daily background data.

TABLE 9

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

AMBIENT AIR QUALITY MONITORING; PART 1

Page 4 of 7

Date	Station Number	PID (ppm)	Temperature (F)	Barometric Pressure (Inches of Hg)	Wind Direction	Maximum Wind Speed (mph)
10/16/89	1	NA	56	29.41	E-NE	2
	2	NA	54	29.36	N-NE	2
	3	NA	56	29.42	E-NE	1
	4	NA	55	29.43	N-NE	4
	5	NA	59	29.39	E-NE	2
10/31/89	1	ND	64	30.01	None	0
	2	ND	66	29.96	None	0
	3	ND	65	30.00	None	0
	4	ND	64	29.99	None	0
	5	ND	64	29.98	None	0
11/17/89	1	ND	48	29.27	--	0
	2	ND	47	29.25	--	0
	3	0.4	51	29.31	--	0
	4	0.2	49	29.29	N-NE	1
	5	0.3	53	29.33	--	0
11/30/89	1	0.6	37	29.67	E-NE	5
	2	0.5	38	29.62	N-NE	3
	3	0.8	38	29.65	E-NE	2
	4	0.8	38	29.64	E-NE	2
	5	0.3	39	29.60	E-NE	5
12/15/89	1	0.3	26	29.93	--	0
	2	0.4	28	29.91	--	0
	3	0.5	29	29.92	--	0
	4	0.3	30	29.93	--	0
	5	0.4	27	29.93	--	0
12/29/89	1	ND	24	30.27	--	0
	2	ND	22	30.24	S-SE	1
	3	ND	21	30.26	S-SE	1
	4	ND	22	30.24	S-SE	1
	5	ND	22	30.26	S-SE	1
1/15/90	1	0.4	37	30.10	--	0
	2	0.4	36	30.09	--	0
	3	0.3	36	30.10	--	0
	4	0.3	36	30.12	--	0
	5	0.4	36	30.10	--	0

Note

Instruments used include:

- 1) 10.2 eV lamp portable HNu Model PI-101 or Photovac Tip II (10.6 eV lamp) photoionization detector to measure volatile organic compounds in the air,
- 2) Peet Brothers Ulitmeter to measure temperature, barometric pressure, wind direction, and wind speed. PID readings represent detected meter response. Listed data between ND and 1.0 ppm is considered to represent meter variability and reflects daily background data.

TABLE 9

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

AMBIENT AIR QUALITY MONITORING; PART 1

Page 5 of 7

Date	Station Number	PID (ppm)	Temperature (F)	Barometric Pressure (Inches of Hg)	Wind Direction	Maximum Wind Speed (mph)
2/2/90	1	0.4	47	29.72	--	0
	2	0.3	46	29.68	--	0
	3	0.4	48	29.71	--	0
	4	0.4	46	29.70	--	0
	5	0.2	45	29.70	--	0
2/15/90	1	ND	30	30.27	--	0
	2	ND	30	30.20	N-NE	1
	3	ND	30	30.16	E-NE	1
	4	ND	30	30.17	N-NE	2
	5	ND	32	30.18	N-NW	2
3/1/90	1	ND	40	30.27	E-NE	6
	2	0.6	38	30.19	E-NE	5
	3	ND	39	30.19	E-NE	5
	4	0.4	38	30.18	E	3
	5	0.3	42	30.20	E-NE	3
3/15/90	1	ND	70	29.92	N-NW	3
	2	ND	73	29.93	N-NW	5
	3	ND	72	29.93	N-NW	2
	4	ND	70	29.94	N-NW	5
	5	ND	74	29.93	N-NW	6
4/2/90	1	1.2	46	29.89	--	0
	2	0.3	45	29.84	N-NE	1
	3	0.4	46	29.85	--	0
	4	0.3	45	29.87	N-NE	3
	5	0.3	49	29.84	N	4
4/17/90	1	0.6	56	29.57	N-NE	3
	2	0.4	59	29.51	N-NE	1
	3	0.4	61	29.52	--	0
	4	0.3	60	29.52	N-NE	4
	5	0.3	61	29.51	N-NE	3
5/1/90	1	ND	75	29.67	S-SW	2
	2	ND	77	29.67	W-SW	4
	3	ND	79	29.67	S-SE	3
	4	ND	81	29.67	W-SW	2
	5	ND	81	29.67	W-SW	3

Note

Instruments used include:

- 1) 10.2 eV lamp portable HNU Model PI-101 or Photovac Tip II (10.6 eV lamp) photoionization detector to measure volatile organic compounds in the air,
- 2) Peet Brothers Ulitmeter to measure temperature, barometric pressure, wind direction, and wind speed. PID readings represent detected meter response. Listed data between ND and 1.0 ppm is considered to represent meter variability and reflects daily background data.

TABLE 9

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

AMBIENT AIR QUALITY MONITORING; PART 1

Page 6 of 7

Date	Station Number	PID (ppm)	Temperature (F)	Barometric Pressure (Inches of Hg)	Wind Direction	Maximum Wind Speed (mph)
5/15/90	1	0.8	74	30.21	N-NE	4
	2	0.6	75	30.18	N-NE	3
	3	0.5	77	30.23	N-NE	4
	4	0.6	78	30.23	N-NE	5
	5	0.5	77	30.19	N-NE	8
6/1/90	1	0.3	81	30.08	SW	3
	2	0.2	90	30.09	NW	4
	3	0.2	89	30.10	W-NW	4
	4	0.3	80	30.10	W-SW	7
	5	0.3	91	30.10	S-SW	6
6/15/90	1	1.3	86	29.86	S-SW	1
	2	1.6	79	29.89	S-NE	4
	3	1.4	84	29.90	--	0
	4	1.2	84	29.86	N-NE	3
	5	1.3	86	29.84	SE	3
7/2/90	1	1.0	80	29.75	--	--
	2	0.9	76	29.74	N	2
	3	0.8	75	29.76	NE	0-2
	4	0.8	75	29.76	NE	0-3
	5	0.7	73	29.44	NE	0-2
7/16/90	1	0.8	99	30.01	W	2-6
	2	0.7	96	30.01	W-NW	4-8
	3	0.6	100	30.01	NW-SW	2-6
	4	0.6	102	29.95	SW	2-3
	5	0.6	100	29.97	WSW-NW	2-4
8/1/90	1	0.5	84	29.84	NE	0-1
	2	0.6	84	29.78	N-NW	4-8
	3	0.6	82	29.82	W-NW	3-8
	4	0.6	84	29.84	N-NW	3-5
	5	0.6	87	29.84	NW	2-3
8/15/90	1	1.3	77	29.92	SW	2-3
	2	1.2	84	29.91	W	2-3
	3	1.2	84	29.94	W	4-5
	4	1.2	82	29.95	--	0
	5	1.2	86	29.93	W	2-4

Note

Instruments used include:

- 1) 10.2 eV lamp portable HNu Model PI-101 or Photovac Tip II (10.6 eV lamp) photoionization detector to measure volatile organic compounds in the air,
- 2) Peet Brothers Ulitmeter to measure temperature, barometric pressure, wind direction, and wind speed. PID readings represent detected meter response. Listed data between ND and 1.0 ppm is considered to represent meter variability and reflects daily background data.

TABLE 9

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

AMBIENT AIR QUALITY MONITORING; PART 1

Page 7 of 7

Date	Station Number	PID (ppm)	Temperature (F)	Barometric Pressure (Inches of Hg)	Wind Direction	Maximum Wind Speed (mph)
8/31/90	1	0.4	93	30.09	N-NE	0
	2	0.2	88	30.09	E-SE	3
	3	0.2	87	30.09	E-NE	3
	4	0.3	88	30.09	E-NE	3
	5	0.2	87	30.09	E-NE	4
9/17/90	1	0.5	64	29.92	S-SE	5
	2	0.6	51	29.88	S-SE	11
	3	0.4	53	29.89	S-SE	3
	4	0.5	54	29.89	S-SE	4
	5	0.3	53	29.87	S-SE	6

Note

Instruments used include:

- 1) 10.2 eV lamp portable HNu Model PI-101 or Photovac Tip II (10.6 eV lamp) photoionization detector to measure volatile organic compounds in the air,
- 2) Peet Brothers Ulitmeter to measure temperature, barometric pressure, wind direction, and wind speed. PID readings represent detected meter response. Listed data between ND and 1.0 ppm is considered to represent meter variability and reflects daily background data.

Table 10
Old Southington Landfill
Southington, Ct

MONTHLY PRECIPITATION DATA

SHUTTLE MEADOW RESERVOIR, CT

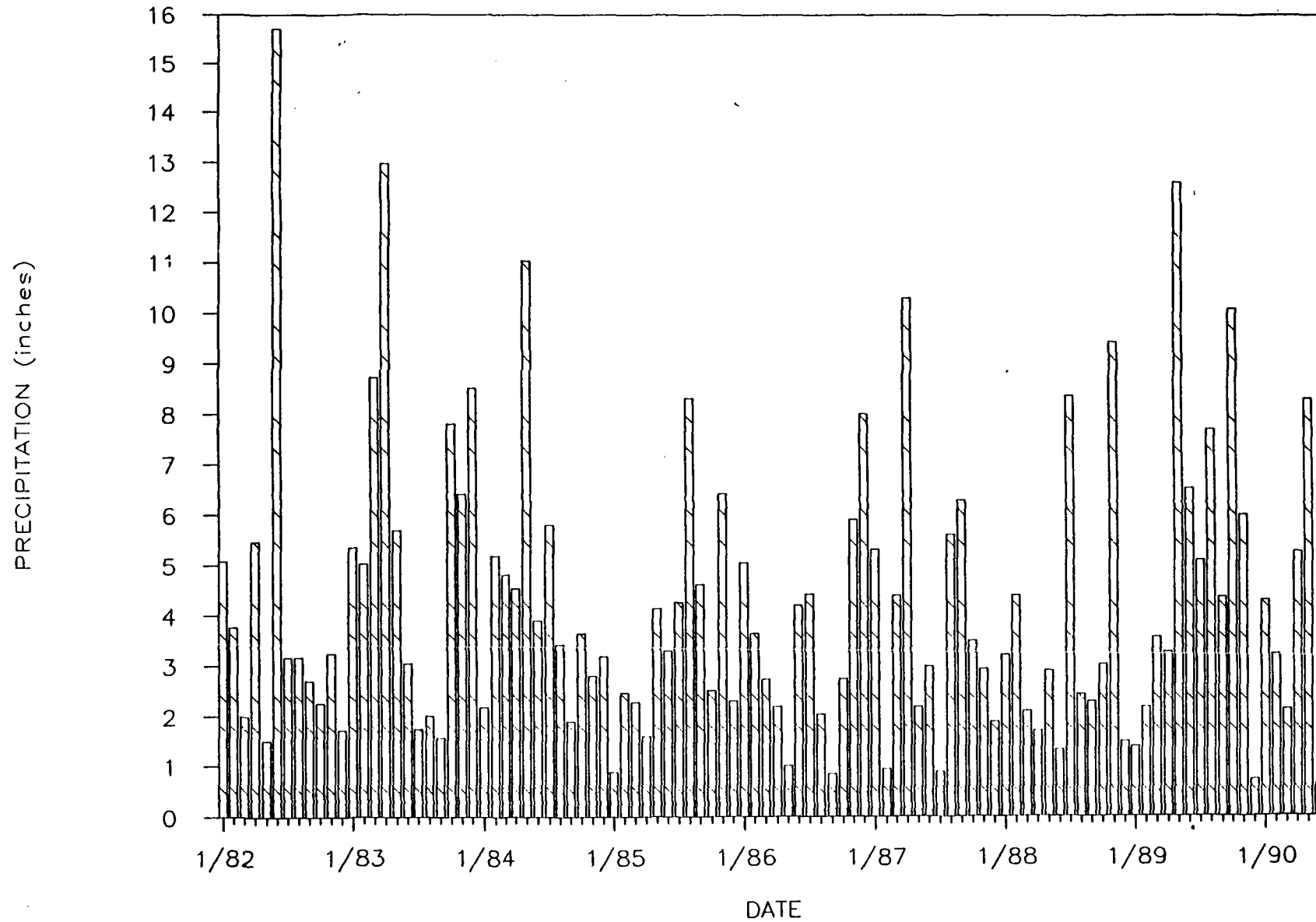


TABLE 11
OLD SOUTHLINGTON LANDFILL
SOUTHLINGTON, CONNECTICUT

SITE WALKTHROUGH
SUMMARY OF RESULTS
Page 1 of 5

<u>LOCATION</u>	<u>PID⁽¹⁾</u>	<u>%LEL</u>	CGI ⁽²⁾	<u>%OXYGEN</u>
AM-1	1.0	0		21
AM-2	0.8	0		21
AM-3	2.8	0		21
AM-4	2.2	0		21
AM-5	2.4	0		21
AM-6	1.2	0		21
AM-7	2.2	0		21
AM-8	1.6	0		21
AM-9	1.4	0		21
AM-10	0.4	0		21
AM-11	2.4	0		21
AM-12	ND	0		21
AM-13	ND	0		21
AM-14	2.4	0		21
AM-15	1.8	0		21
AM-16	1.0	0		21
AM-17	1.0	0		21
AM-18	0.2	0		21
AM-19	1.0	0		21
AM-20	0.6	0		21
AM-21	0.8	0		21
AM-22	0.2	0		21
AM-23	0.4	0		21
AM-24	0.4	0		21
AM-25	NE	0		21
AM-26	0.6	0		21
AM-27	0.6	0		21
AM-28	1.2	0		21
AM-29	ND	0		21
AM-30	0.2	0		21
AM-31	0.1	0		21
AM-32	0.6	0		21
AM-33	0.4	0		21
AM-34	0.6	0		21
AM-35	1.4	0		21
AM-36	0.4	0		21
AM-37	ND	0		21
AM-38	ND	0		21
AM-39	0.4	0		21
AM-40	0.2	0		21
AM-41	0.2	0		21
AM-42	ND	0		21
AM-43	ND	0		21
AM-44	1.4	0		21

TABLE 11
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

SITE WALKTHROUGH
SUMMARY OF RESULTS
Page 2 of 5

<u>LOCATION</u>	<u>PID⁽¹⁾</u>	<u>CGI⁽²⁾</u>	
		<u>%LEL</u>	<u>%OXYGEN</u>
AM-45	1.2	0	21
AM-46	0.4	0	21
AM-47	0.4	0	21
AM-48	1.2	0	21
AM-49	1.4	0	21
AM-50	1.0	0	21
AM-51	1.0	0	21
AM-52	0.2	0	21
AM-53	1.0	0	21
AM-54	ND	0	21
AM-55	0.4	0	21
AM-56	0.6	0	21
AM-57	0.8	0	21
AM-59	1.2	0	21
AM-60	1.0	0	21
AM-61	ND	0	21
AM-62	ND	0	21
AM-63	ND	0	21
AM-64	ND	0	21
AM-65	0.2	0	21
AM-66	1.0	0	21
AM-67	0.8	0	21
AM-68	1.0	0	21
AM-69	0.4	0	21
AM-70	0.6	0	21
AM-71	0.4	0	21
AM-72	0.8	0	21
AM-73	1.0	0	21
AM-74	1.0	0	21
AM-75	1.4	0	21
AM-76	0.7	0	21
AM-77	1.6	0	21
AM-78	1.3	0	21
AM-79	1.6	0	21
AM-80	0.9	0	21
AM-81	0.7	0	21
AM-82	2.2	0	21
AM-83	0.9	0	21
AM-84	1.0	0	21
AM-85	0.4	0	21
AM-86	0.4	0	21
AM-87	ND	0	21
AM-88	0.2	0	21
AM-89	1.0	0	21
AM-090	ND	0	21

TABLE 11

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

SITE WALKTHROUGH
SUMMARY OF RESULTS

Page 3 of 5

<u>LOCATION</u>	<u>PID⁽¹⁾</u>	<u>CGI⁽²⁾</u>	
		<u>%LEL</u>	<u>%OXYGEN</u>
AM-91	2.6	0	21
AM-92	2.8	0	21
AM-93	0.8	0	21
AM-94	3.4	0	21
AM-95	ND	0	21
AM-96	ND	0	21
AM-97	ND	0	21
AM-98	0.4	0	21
AM-99	ND	0	21
AM-100	ND	0	21
AM-101	0.8	0	21
AM-102	3.2	0	21
AM-103	1.0	0	21
AM-104	0.2	0	21
AM-105	0.6	0	21
AM-106	2.6	0	21
AM-107	1.0	0	21
AM-108	ND	0	21
AM-109	1.6	0	21
AM-110	1.0	0	21
AM-111	1.4	0	21
AM-112	0.6	0	21
AM-113	ND	0	21
AM-114	ND	10	21
AM-115	2.6	0	21
AM-116	3.0	0	21
AM-118	0.6	0	21
AM-119	0.2	0	21
AM-120	3.5	0	21
AM-121	ND	0	21
AM-122	1.4	0	21
AM-123	0.4	0	21
AM-124	0.2	0	21
AM-125	0.2	0	21
AM-126	ND	0	21
AM-127	ND	0	21
AM-128	ND	0	21
AM-129	ND	0	21
AM-130	ND	0	21
AM-131	0.5	0	21
AM-132	2.2	0	21
AM-133	3.2	0	21
AM-134	ND	0	21
AM-135	ND	0	21

TABLE 11

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUTSITE WALKTHROUGH
SUMMARY OF RESULTS

Page 4 of 5

<u>LOCATION</u>	<u>PID⁽¹⁾</u>	<u>CGI⁽²⁾</u>	
		<u>%LEL</u>	<u>%OXYGEN</u>
AM-136	ND	0	21
AM-137	1.2	0	21
AM-138	3.0	0	21
AM-139	ND	0	21
AM-140	0.6	0	21
AM-141	ND	0	21
AM-142	0.6	0	21
AM-143	0.8	0	21
AM-144	ND	0	21
AM-145	1.4	0	21
AM-146	ND	0	21
AM-147	0.4	0	21
AM-148	0.4	0	21
AM-149	0.8	0	21
AM-150	ND	0	21
AM-151	ND	0	21
AM-152	3.6	0	21
AM-153	1.8	0	21
AM-154	ND	0	21
AM-155	ND	0	12
AM-156	0.4	0	21
AM-157	ND	0	21
AM-158	0.2	0	21
AM-159	ND	0	21
AM-160	2.2	0	21
AM-163	1.8	0	21
AM-164	0.6	0	21
AM-165	2.2	0	21
AM-166	ND	0	21
AM-167	ND	0	21
AM-168	2.8	0	21
AM-169	2.4	0	21
AM-170	2.0	0	21
AM-171	1.8	0	21
AM-172	1.0	0	21
AM-173	0.4	0	21
AM-174	0.4	0	21
AM-175	1.4	0	21
AM-176	2.4	0	21
AM-177	1.2	0	21
AM-178	ND	0	21
AM-179	ND	0	21
AM-180	0.4	0	21
AM-181	ND	0	21

TABLE 11
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

SITE WALKTHROUGH
SUMMARY OF RESULTS

Page 5 of 5

<u>LOCATION</u>	<u>PID⁽¹⁾</u>	<u>CGI⁽²⁾</u>	
		<u>%LEL</u>	<u>%OXYGEN</u>
AM-182	3.1	0	21
AM-183	1.2	0	21
AM-184	ND	0	21
AM-185	ND	0	21
AM-186	ND	0	21
AM-187	0.6	0	21
AM-188	2.2	0	21
AM-189	0.3	0	21
AM-190	ND	0	21
AM-191	0.2	0	21
AM-192	1.4	0	21
AM-193	ND	0	21
AM-194	1.8	0	21
AM-195	ND	0	21
AM-196	2.6	0	21
AM-197	1.2	0	21
AM-198	0.2	0	21
AM-199	0.2	0	21
AM-200	0.4	0	21
AM-201	0.4	0	21
AM-202	0.2	0	21
AM-203	2.0	0	21
AM-204	2.4	0	21
AM-205	2.4	0	21
AM-206	3.2	0	21
AM-207	1.2	0	21
AM-208	2.4	0	21
AM-209	1.2	0	21
AM-210	2.6	0	21
AM-212	ND	0	21
AM-213	ND	0	21
AM-214	2.0	0	21
AM-215	ND	0	21
AM-216	1.6	0	21
AM-217	0.4	0	21
AM-218	0.4	0	21
AM-219	0.4	0	21
AM-220	0.8	0	21
AM-221	3.6	0	21

NOTES:

- 1) PID readings obtained with HNu Model PI 101 Photoionization Detector equipped with 11.7 eV light source.
 - 2) CGI readings obtained with MSA Model 260 combustible gas indicator.
- ND = None Detected.

TABLE 12

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

SOIL GAS SURVEY
FIELD SCREENING RESULTS ABOVE NONE DETECTED
PID RESULTS

<u>PROBE LOCATION</u>	<u>PID READING</u> ⁽¹⁾
SG-1	4.8
SG-1A (Duplicate)	1.2
SG-2	1.2
SG-14	1.6
SG-23	0.6
SG-31	5.2
SG-35	5.0
SG-36	5.6
SG-38	3.6
SG-39	2.0
SG-43	0.2
SG-45	0.6
SG-57	5.0
SG-62	2.0
SG-63	3.0
SG-64	4.5
SG-65	2.0
SG-66	4.0
SG-67	1.5
SG-68	1.2
SG-69	15.0
SG-69A (Replicate)	50.0
SG-69C (Replicate)	25.0
SG-69.25	5.0
SG-69.50	20.0
SG-70	50.0
SG-71	5.0
SG-72	1.0
SG-74	10.0
SG-75	2.0
SG-76	2.0
SG-78	8.0

- (1) Readings obtained with a 11.7 ev lamp HNu model PI 101 Photoionization Detector and are reported in parts per million referenced to a benzene standard. Remaining points recorded none detected readings.

TABLE 13

OLD SOUTHTON LANDFILL

 SOIL GAS SURVEY
 SUMMARY OF DETECTED COMPOUNDS
 RESULTS REPORTED IN UG/L OF SOIL GAS IN AIR
COMPOUNDLOCATION

	SG-1	SG-1A Duplicate	SG-1B Replicate	SG-1C Replicate	SG-3	SG-3B Duplicate	SG-4	SG-5	SG-6	SG-9	SG-11	Minimum Detection Limits Ug/Liter
BENZENE	1.3	1.1	0.09 ⁽¹⁾	0.47	0.81	0.22 ⁽¹⁾	5.6	0.3 ⁽¹⁾	0.72	0.50	ND	0.5
TOLUENE	2.0	3.3	0.36 ⁽¹⁾	0.50	1.7	0.59	0.52	ND	0.96	1.8	ND	0.5
ETHYL BENZENE	5.1	2.0	0.13 ⁽¹⁾	1.2 ⁽¹⁾	0.44 ⁽¹⁾	0.68	4.0	0.19 ⁽¹⁾	ND	ND	ND	2
M,P XYLENE	23	6.8	ND	2.3	0.22 ⁽¹⁾	0.14 ⁽¹⁾	11	1.9 ⁽¹⁾	ND	ND	ND	2
O-XYLENE	7.9	2.3	0.54 ⁽¹⁾	3.5	0.45 ⁽¹⁾	1.3 ⁽¹⁾	0.75	2.1	ND	ND	ND	2
TRICHLOROETHENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9 ⁽¹⁾	1
1,1,1-TRICHLOROETHANE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.3 ⁽¹⁾	50
TRANS 1,2-DICHLOROETHYLENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
TETRACHLOROETHENE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2
TOTAL COMPOUNDS	39.3	15.5	1.12 ⁽¹⁾	7.97	3.62	2.93	21.87	4.49	1.68	2.3	4.2 ⁽¹⁾	---

	SG-18	SG-18A Duplicate	SG-20	SG-27	SG-34	SG-68	SG-68.5	SG-69	SG-69A	SG-69B Replicate	SG-69C Replicate	SG-70 Replicate	SG-71	SG-78
BENZENE	ND	ND	ND	12	0.08 ⁽¹⁾	ND	6.1	2.4	7.8	3.3	1.8	0.2 ⁽¹⁾	ND	ND
TOLUENE	ND	ND	ND	640	0.13 ⁽¹⁾	ND	4.8	6.9	210	310	230	43	0.47	4.1
ETHYL BENZENE	ND	ND	ND	ND	ND	ND	64	35	340	220	160	30	0.9	2.2
M,P XYLENE	ND	ND	ND	16	ND	ND	20	38	190	180	160	29	0.58	2.4
O-XYLENE	ND	ND	ND	16	ND	ND	21	5.1	45	70	66	9.5	0.19	3.6
TRICHLOROETHENE	0.1 ⁽¹⁾	0.09 ⁽¹⁾	0.05 ⁽¹⁾	210	ND	0.1 ⁽¹⁾	ND	0.8 ⁽¹⁾	ND	ND	ND	ND	ND	ND
1,1,1-TRICHLOROETHANE	ND	ND	ND	150	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TRANS 1,2-DICHLOROETHYLENE	ND	ND	ND	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TETRACHLOROETHENE	ND	ND	ND	ND	ND	0.34 ⁽¹⁾	ND	1.9 ⁽¹⁾	ND	ND	ND	ND	ND	ND
TOTAL COMPOUNDS	0.1 ⁽¹⁾	0.09 ⁽¹⁾	0.51 ⁽¹⁾	1,054	0.21 ⁽¹⁾	0.44 ⁽¹⁾	115.9	90.1	792.8	83.3	617.8	111.7	2.14	12.3

NOTES:

ND = Not Detected above detection limits

(1) = Trace, just below detection limit; the identification and quantification are less certain

Soil gas samples were screened on a Photovac 10,10 Gas Chromatograph equipped with a heated oven and with a CPSIL-5 capillary column.

TABLE 14
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

WETLANDS ASSESSMENT
pH AND SPECIFIC CONDUCTANCE DATA⁽¹⁾

<u>Sample⁽²⁾</u>	<u>pH⁽³⁾</u>	<u>Specific Conductance⁽⁴⁾ (umhos/cm)</u>
WAS-1	7.2	400
WAS-2	6.7	230
WAS-3	7.4	250
WAS-4	7.4	220
WAS-5	8.2	210
WAS-6	7.8	235
WAS-7	7.6	185
WAS-8	7.2	90
WAS-9	7.1	100
WAS-10	7.1	100
WAS-11	6.8	350
WAS-12	6.8	240
WAS-13	6.9	240
WAS-14	7.1	210
WAS-15	7.1	130
WAS-16	7.1	215
WAS-17	7.2	240
WAS-18	7.1	245
WAS-19	6.9	285
WAS-20	7.3	280
WAS-21	7.3	280
WAS-22	7.2	280
WAS-23	7.2	255
WAS-24	7.2	255
WAS-25	7.2	250
WAS-26	7.3	245
WAS-27	7.4	230
WAS-28	7.4	245
WAS-29	7.1	245
WAS-30	7.3	240
WAS-31	7.2	240
WAS-32	7.2	240
WAS-33	7.2	265
WAS-34	7.3	270
WAS-35	7.3	265
WAS-36	7.1	250
WAS-37	6.7	700
WAS-38	6.6	900
WAS-39	6.9	500

Notes:

- (1) Samples WAS-1 through WAS-14 obtained on April 10, 1989; samples WAS-15 through WAS-38 obtained on April 11, 1989; sample WAS-39 obtained on April 14, 1989.
- (2) WAS = Wetlands Assessment Samples
- (3) pH measurements made with a Beckman ϕ 21 pH meter.
- (4) Specific conductance measure taken using a YSI S-C-T meter.

TABLE 15

Old Southington Landfill
Southington, Connecticut

SOIL SAMPLE SUMMARY MATRIX
JANUARY 1990 BORINGS
Page 1 of 2

Boring No.	Sample Depth (ft) (and condition)	GZA Sample ID No.	Net Atlantic Sample ID No.	Analysis
TB2	5-7 (U) ¹	TB2A5	900135301	VOC, metals, CN
TB3	7-9 (U) ¹	TB3A7	900135302	VOC, metals, CN
TB-4	5-7 (U) ¹	TB4A5	900135309	BTU
TB-4	7-9 (U) ¹	TB4B7	900135308S	CN
TB4	9-11 (U) ¹	TB4C9	900135306A	VOC
TB-4	11-13 (U) ¹	TB4D11	900135306S	metals, pH
TB-4	11-13 (U) ¹	TB34A11 (duplicate of TB4D11)	900135311	VOC, metals
TB-6	10-12 (U) ¹	TB6A10	900136801S	metals, CN
TB-6	12-14 (U) ¹	TB6B12	900136801	VOC, ABN, PCB Pest, BTU, pH
TB-7SA	15-17 (S) ²	TB7SAA15	900138907A	VOC
TB7SA	15-24 (S) ² composite	TB7SAB15	900138901	metals, CN, ABN, PCB, Pest
TB7SA	30-32 (S) ²	TB7SAC30	900138913	BTU, pH
TB8	10-12 (S) ²	TB8A10	900135305	VOC, metals, CN, ABN, PCB, Pest
TB10	15-17 (S) ²	TB10A15	900138914	BTU, pH
TB10	20-22 (S) ²	TB10B20	900138905	VOC
TB10	22-27 (S) ² composite	TB10C22	900138902	metals, CN, ABN, PCB, Pest
TB10	15-17 (S) ²	TB40A15 (duplicate of TB10A15)	900138915	BTU, pH
TB10	20-22 (S) ²	TB40B20 (duplicate of TB10B20)	900138906	VOC
TB10	22-27 (S) ² composite	TB40C22 (duplicate of TB10C22)	900138903	metals, CN, ABN, PCB Pest
TB11	5-7 (U) ¹	TB11A5	900135304	VOC, metals, CN, ABN, PCB, Pest
TB12	5-7 (U/S) ³	TB12A5	900135303A	VOC, metals
TB12	7-9 (S) ²	TB12B7	900135303	CN
TB13	1-4 (U) ¹ composite	TB13A1	900128701	VOC, metals, CN, ABN, Pest, PCB

NOTES:

1. Unsaturated sample
2. Saturated sample
3. Groundwater Interface sample

TABLE 15

Old Southington Landfill
Southington, Connecticut

SOIL SAMPLE SUMMARY MATRIX

JANUARY 1990 BORINGS

Page 2 of 2

Boring No.	Sample Depth (ft) (and condition)	GZA Sample ID No.	Net Atlantic Sample ID No.	Analysis
TB-15	5-7 (S) ²	TB15A5	900129801	VOC, metals, CN
TB18	5-7 (U/S) ³	TB18A5	900129802S	metals
TB18	9-11 (S) ²	TB18B9	900129802	VOC, CN
TB18	5-7 (U/S) ³	TB28A5 (duplicate of TB18A5)	900129804S	metals
TB18	9-11 (S) ²	TB28B9 (duplicate of TB18B9)	900129804	VOC, CN
TB20	7-9 (U) ¹	TB20A7	900129803	VOC, metals, CN
TB24	5-11 (U) ¹ composite	TB24A5	900136802	VOC, metals, CN ABN, PCB, Pest
TB25	10-12 (U) ¹	TB25A10	900138908	VOC
TB25	13-17 (U) ¹ composite	TB25B13	900138904S	metals, CN
TB25	20-24 (U) ¹ composite	TB25C20	900138909	VOC, TOC
TB26A	12-14 (S) ²	TB26AA12	900136803C	VOC
TB26B	7-11 (S) ²	TB26BA7	900136803S	metals, CN
TB26B	11-13 (S) ²	TB26BB11	900136803A	ABN, PCB, Pest, TOC
TB26A	12-14 (S) ²	TB36AA12 (duplicate of TB26AA12)	900136804C	VOC
TB26B	7-11 (S) ²	TB36BA7 (duplicate of TB26BA7)	900136804S	ABN, PCB, Pest metals, CN
TB26B	11-13 (S) ²	TB36BB11 (duplicate of TB26BB11)	900136804A	ABN, PCB, Pest
TRIPBLANK A	—	TRIPBL A	900135312A	VOC
TRIPBLANK B	—	TRIPBL B	900138910A	VOC
DECON BLANK	—	DECONBL A	900138911A	VOC

NOTES:

1. Unsaturated sample
2. Saturated sample
3. Groundwater Interface sample

TABLE 16
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

GROUNDWATER ELEVATIONS*
Page 1 of 7

WELL NUMBER	B-1	B-2	B-3	B-4	CW-20	CW-15	LW-103S	LW-103M
<hr/>								
DATE								
12/28/84	-	-	-	-	143.10	142.50	-	-
2/28/85	-	-	-	-	142.30	141.80	142.90	142.80
3/26/85	-	-	-	-	142.50	142.30	143.10	142.90
5/22/85	-	-	-	-	142.40	142.00	142.20	142.30
6/25/85	-	-	-	-	141.80	141.60	141.90	142.00
3/20/86	-	-	-	-	142.80	142.50	143.00	142.70
4/1/86	142.80	146.70	146.40	151.10	142.80	142.50	142.70	142.70
4/14/86	142.80	147.40	146.20	150.10	142.80	142.20	142.70	142.70
7/22/86	-	144.60	144.60	148.20	141.70	-	141.70	141.80
12/30/86	146.90	147.20	147.20	150.80	142.70	142.20	142.70	142.70
2/20/87	146.70	146.81	146.85	150.01	142.63	142.42	142.74	142.72
3/27/87	144.57	-	144.74	-	-	-	143.53	142.36
4/20/87	143.75	147.03	147.27	151.29	144.80	144.17	144.66	144.62
5/2/87	146.77	147.08	147.16	-	141.72	142.57	143.61	143.62
5/4/87	-	-	146.03	-	141.46	-	143.51	146.49
6/23/87	146.42	146.72	148.71	149.28	143.48	143.57	143.66	143.67
8/21/87	146.05	146.14	148.75	148.09	142.98	142.57	142.71	142.75
11/16/88	-	-	147.14	-	141.66	-	-	-
12/15/88	-	-	146.35	-	142.25	-	-	-
1/16/89	-	-	146.08	-	142.13	-	-	-
2/15/89	-	-	147.59	-	141.95	-	-	-
3/15/89	-	-	147.13	-	141.86	-	-	-
4/14/89	-	-	148.66	-	140.57	141.34	142.61	142.60
4/27/89	146.74	146.98	148.40	-	142.71	142.20	142.76	142.78
5/17/89	-	147.35	148.92	153.15	143.72	144.52	143.84	143.80
6/15/89	-	147.10	148.70	150.88	144.12	143.82	144.29	144.35
7/14/89	146.67	146.95	149.36	149.93	143.70	143.25	143.87	143.88
8/18/89	147.09	147.23	148.56	150.33	143.97	143.52	144.38	144.20
8/31/89	146.70	147.04	147.27	149.83	143.68	143.24	143.93	143.93
9/15/89	146.64	146.82	147.77	148.92	143.43	143.03	143.59	143.59
10/16/89	147.00	147.32	148.88	150.00	143.35	142.94	143.50	143.50
11/17/89	147.24	147.44	148.81	150.97	144.45	144.15	144.76	144.76
12/15/89	146.77	147.01	148.14	149.86	-	143.57	144.25	144.26
1/15/90	146.90	146.98	147.12	148.71	-	143.34	143.88	143.90
2/15/90	146.93	147.10	147.24	150.63	144.72	144.99	144.48	144.47
3/15/90	146.87	147.10	147.23	150.13	144.06	143.73	144.31	144.30
4/17/90	146.94	147.17	149.53	152.78	144.34	144.33	144.62	144.62
5/15/90	146.97	147.19	149.65	152.30	144.45	144.07	144.74	144.77
6/15/90	146.55	146.77	147.26	150.34	144.22	143.77	145.53	145.52
7/16/90	146.56	146.77	146.96	149.77	143.77	143.23	143.97	143.96
8/15/90	147.03	147.32	147.34	149.99	144.08	143.47	144.24	144.24
9/17/90	146.78	146.88	148.60	151.04	143.56	143.11	143.70	143.70
10/25/90	147.47	147.80	149.42	150.32	144.05	143.81	144.22	144.22

Water levels obtained by Goldberg-Zoino using an electronic water level indicator or steel tape and chalk.

* All elevations are in feet (MSL)

- = No measurement taken

D = Well destroyed

TABLE 16
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

GROUNDWATER ELEVATIONS*

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WELL NUMBER	LW-103D	LW-15S	LW-15M	LW-15D	TW-17	LW-17D	TW-18	LW-19
<hr/>								
DATE								
12/28/84	-	143.90	143.80	143.60	141.90	145.50	143.00	146.30
2/28/85	142.80	143.50	143.60	143.60	143.80	143.80	142.60	142.20
3/26/85	142.70	143.40	143.70	143.00	143.30	143.20	142.50	142.10
5/22/85	141.40	143.30	143.20	143.20	143.10	142.00	142.30	141.40
6/25/85	141.60	143.00	142.70	142.60	143.30	142.30	142.20	141.40
3/20/86	142.80	143.50	143.70	143.40	143.70	145.60	145.70	145.10
4/1/86	142.70	143.20	143.50	143.30	143.50	145.30	142.70	145.00
4/14/86	142.60	143.00	143.30	143.10	143.40	145.30	143.60	-
7/22/86	141.90	142.20	142.60	143.40	138.70	144.20	-	143.20
12/30/86	142.80	143.50	143.50	143.20	141.20	145.00	142.70	144.20
2/20/87	142.79	143.34	143.41	143.20	143.23	143.31	-	144.60
3/27/87	143.05	143.38	143.54	143.31	142.48	143.52	143.15	145.12
4/20/87	144.63	144.98	145.16	145.08	143.51	146.85	144.55	147.41
5/2/87	143.53	144.36	144.63	144.44	144.49	144.95	144.06	-
5/4/87	143.34	144.15	144.26	144.22	144.49	144.67	144.20	-
6/23/87	143.68	144.29	143.94	144.09	144.28	144.52	143.70	147.55
8/21/87	142.70	143.07	143.21	143.12	143.47	143.37	142.68	146.47
11/16/88	-	142.04	142.20	142.06	142.15	142.38	141.65	D
12/15/88	-	142.73	142.84	142.72	142.81	142.91	142.22	D
1/16/89	-	142.48	142.62	142.49	142.57	142.69	142.02	D
2/15/89	-	142.33	142.39	142.26	142.40	142.50	141.83	D
3/15/89	-	142.22	142.33	142.22	142.32	142.44	141.78	D
4/14/89	142.57	142.94	143.08	142.95	142.87	142.91	142.53	D
4/27/89	142.74	143.10	143.18	143.08	143.19	143.12	142.65	D
5/17/89	143.79	144.16	144.27	144.15	144.21	144.11	143.36	D
6/15/89	144.31	144.64	144.83	144.73	144.84	144.79	144.27	D
7/14/89	143.88	144.23	144.42	144.34	144.63	144.49	143.85	D
8/18/89	144.06	144.60	144.77	144.68	144.92	144.81	144.20	D
8/31/89	143.90	144.29	144.46	144.36	144.64	144.57	143.93	D
9/15/89	143.56	143.92	144.05	143.97	144.33	144.22	143.58	D
10/16/89	143.46	143.83	143.96	143.87	144.19	144.12	143.51	D
11/17/89	144.74	145.16	145.31	145.22	145.52	145.43	144.73	D
12/15/89	144.21	144.63	144.79	144.71	145.04	144.95	144.22	D
1/15/90	143.87	144.30	144.44	144.37	144.66	144.57	143.86	D
2/15/90	144.43	144.85	144.99	144.93	145.27	145.13	144.52	D
3/15/90	144.27	144.70	144.81	144.75	145.08	144.98	144.32	D
4/17/90	144.59	145.24	145.09	144.85	145.39	145.24	144.68	D
5/15/90	144.70	145.14	145.25	145.20	145.51	145.41	144.82	D
6/15/90	144.53	144.90	145.00	144.91	145.26	145.18	144.57	D
7/16/90	143.95	144.38	144.57	144.44	143.06	156.36	144.10	D
8/15/90	144.19	144.74	144.81	144.67	144.92	145.07	144.30	D
9/17/90	143.72	144.06	144.27	144.17	144.36	144.32	143.71	D
10/25/90	140.20	144.61	144.72	144.65	144.83	144.87	144.47	D

Water levels obtained by Goldberg-Zoino using an electronic water level indicator or steel tape and chalk.

* All elevations are in feet (MSL)

- = No measurement taken

D = Well destroyed

TABLE 16
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

GROUNDWATER ELEVATIONS*

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WELL NUMBER	LW-102S	LW-102D	TW-16	LW-101D	LW-101S	TW-20	GZ-1	GZ-2
<hr/>								
DATE								
12/28/84	144.20	143.40	144.00	143.80	144.40	-	-	-
2/28/85	143.50	143.30	143.80	143.40	144.40	-	-	-
3/26/85	143.00	142.60	142.80	143.60	143.00	141.20	-	-
5/22/85	142.80	142.60	143.40	143.50	142.20	140.90	-	-
6/25/85	143.10	142.80	143.40	143.20	144.90	140.90	-	-
3/20/86	143.70	143.90	-	D	D	D	-	-
4/1/86	144.00	144.00	145.50	D	D	D	-	-
4/14/86	141.00	144.00	158.80	D	D	D	-	-
7/22/86	141.40	139.60	D	D	D	D	-	-
12/30/86	142.40	138.30	D	D	D	D	-	-
2/20/87	143.69	143.81	D	D	D	D	148.97	140.69
3/27/87	143.88	144.11	D	D	D	D	149.39	146.19
4/20/87	145.59	145.47	D	D	D	D	150.53	146.11
5/2/87	-	145.81	D	D	D	D		
5/4/87	145.89	145.47	D	D	D	D	151.54	146.83
6/23/87	145.81	144.67	D	D	D	D	152.93	146.74
8/21/87	144.54	-	D	D	D	D	150.28	146.94
11/16/88	D	D	D	D	D	D	147.59	143.83
12/15/88	D	D	D	D	D	D	148.24	144.07
1/16/89	D	D	D	D	D	D	148.17	144.15
2/15/89	D	D	D	D	D	D	148.06	144.04
3/15/89	D	D	D	D	D	D	147.92	143.85
4/14/89	D	D	D	D	D	D	148.54	143.90
4/27/89	D	D	D	D	D	D	148.70	144.10
5/17/89	D	D	D	D	D	D	148.89	144.45
6/15/89	D	D	D	D	D	D	150.29	145.89
7/14/89	D	D	D	D	D	D	151.05	147.08
8/18/89	D	D	D	D	D	D	151.02	147.37
8/31/89	D	D	D	D	D	D	151.07	147.49
9/15/89	D	D	D	D	D	D	150.84	147.47
10/16/89	D	D	D	D	D	D	150.51	147.09
11/17/89	D	D	D	D	D	D	151.53	147.98
12/15/89	D	D	D	D	D	D	151.45	148.21
1/15/90	D	D	D	D	D	D	151.05	147.94
2/15/90	D	D	D	D	D	D	151.39	147.95
3/15/90	D	D	D	D	D	D	151.30	148.10
4/17/90	D	D	D	D	D	D	151.45	148.21
5/15/90	D	D	D	D	D	D	151.53	148.30
6/15/90	D	D	D	D	D	D	151.82	148.58
7/16/90	D	D	D	D	D	D	151.44	148.45
8/15/90	D	D	D	D	D	D	151.09	147.95
9/17/90	D	D	D	D	D	D	150.79	147.62
10/25/90	D	D	D	D	D	D	150.44	147.31

Water levels obtained by Goldberg-Zoino using an electronic water level indicator or steel tape and chalk.

* All elevations are in feet (MSL)

- = No measurement taken

D = Well destroyed

TABLE 16
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

GROUNDWATER ELEVATIONS*
Page 5 of 7

WELL NUMBER	WP-1	WP-2	WP-3	WP-4	WP-5	GZ-5S	GZ-5M	GZ-5D
<hr/>								
DATE								
12/28/84	-	-	-	-	-	-	-	-
2/28/85	-	-	-	-	-	-	-	-
3/26/85	-	-	-	-	-	-	-	-
5/22/85	-	-	-	-	-	-	-	-
6/25/85	-	-	-	-	-	-	-	-
3/20/86	-	-	-	-	-	-	-	-
4/1/86	-	-	-	-	-	-	-	-
4/14/86	-	-	-	-	-	-	-	-
7/22/86	-	-	-	-	-	-	-	-
12/30/86	-	-	-	-	-	-	-	-
2/20/87	-	-	-	-	-	-	-	-
3/27/87	-	-	-	-	-	-	-	-
4/20/87	-	-	-	-	-	-	-	-
5/2/87	-	-	-	-	-	-	-	-
5/4/87	-	-	-	-	-	-	-	-
6/23/87	-	-	-	-	-	-	-	-
8/21/87	-	-	-	-	-	-	-	-
11/16/88	-	-	-	-	-	-	-	-
12/15/88	-	-	-	-	-	-	-	-
1/16/89	-	-	-	-	-	-	-	-
2/15/89	-	-	-	-	-	-	-	-
3/15/89	-	-	-	-	-	-	-	-
4/14/89	-	-	-	-	-	-	-	-
4/27/89	-	-	-	-	-	-	-	-
5/17/89	-	-	-	-	-	-	-	-
6/15/89	-	-	-	-	-	-	-	-
7/14/89	-	-	-	-	-	-	-	-
8/18/89	-	-	-	-	-	-	-	-
8/31/89	-	-	-	-	-	-	-	-
9/15/89	-	-	-	-	-	-	-	-
10/16/89	-	-	-	-	-	-	-	-
11/17/89	-	-	-	-	-	-	-	-
12/15/89	-	-	-	-	-	-	-	-
1/15/90	-	-	-	-	-	-	-	-
2/15/90	-	-	-	-	-	-	-	-
3/15/90	-	-	-	-	-	-	-	-
4/17/90	-	-	-	-	-	-	-	-
5/15/90	-	-	-	-	-	-	-	-
6/15/90	-	-	-	-	-	145.69	145.66	145.65
7/16/90	146.58	146.56	146.50	148.18	145.13	145.11	145.13	145.18
8/15/90	-	-	-	-	-	145.07	145.07	145.21
9/17/90	146.73	146.97	-	148.22	145.25	144.68	144.69	144.65
10/25/90	147.49	146.58	-	148.67	145.73	144.77	144.79	145.01

Water levels obtained by Goldberg-Zoino using an electronic water level indicator or steel tape and chalk.

* All elevations are in feet (MSL)

- = No measurement taken

D = Well destroyed

TABLE 16
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

GROUNDWATER ELEVATIONS*

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WELL NUMBER	TB-7S	GZ-7S	GZ-7M	GZ-7D	GZ-11S	GZ-11D	GZ-12M	GZ-12D
<hr/>								
DATE								
12/28/84	-	-	-	-	-	-	-	-
2/28/85	-	-	-	-	-	-	-	-
3/26/85	-	-	-	-	-	-	-	-
5/22/85	-	-	-	-	-	-	-	-
6/25/85	-	-	-	-	-	-	-	-
3/20/86	-	-	-	-	-	-	-	-
4/1/86	-	-	-	-	-	-	-	-
4/14/86	-	-	-	-	-	-	-	-
7/22/86	-	-	-	-	-	-	-	-
12/30/86	-	-	-	-	-	-	-	-
2/20/87	-	-	-	-	-	-	-	-
3/27/87	-	-	-	-	-	-	-	-
4/20/87	-	-	-	-	-	-	-	-
5/2/87	-	-	-	-	-	-	-	-
5/4/87	-	-	-	-	-	-	-	-
6/23/87	-	-	-	-	-	-	-	-
8/21/87	-	-	-	-	-	-	-	-
11/16/88	-	-	-	-	-	-	-	-
12/15/88	-	-	-	-	-	-	-	-
1/16/89	-	-	-	-	-	-	-	-
2/15/89	-	-	-	-	-	-	-	-
3/15/89	-	-	-	-	-	-	-	-
4/14/89	-	-	-	-	-	-	-	-
4/27/89	-	-	-	-	-	-	-	-
5/17/89	-	-	-	-	-	-	-	-
6/15/89	-	-	-	-	-	-	-	-
7/14/89	-	-	-	-	-	-	-	-
8/18/89	-	-	-	-	-	-	-	-
8/31/89	-	-	-	-	-	-	-	-
9/15/89	-	-	-	-	-	-	-	-
10/16/89	-	-	-	-	-	-	-	-
11/17/89	-	-	-	-	-	-	-	-
12/15/89	-	-	-	-	-	-	-	-
1/15/90	-	-	-	-	-	-	-	-
2/15/90	-	-	-	-	-	-	-	-
3/15/90	-	-	-	-	-	-	-	-
4/17/90	153.00	-	-	146.72	-	-	-	144.72
5/15/90	153.23	150.81	146.80	146.79	143.47	144.37	144.84	144.72
6/15/90	152.48	150.20	146.70	146.73	142.96	144.14	144.58	144.54
7/16/90	152.25	149.50	146.26	146.26	142.88	144.66	144.09	144.09
8/15/90	153.10	-	147.29	146.32	143.23	143.91	144.28	144.31
9/17/90	152.48	149.68	145.70	145.76	142.88	143.41	143.76	143.75
10/25/90	153.62	150.57	146.03	146.08	143.67	143.90	144.29	144.31

Water levels obtained by Goldberg-Zoino using an electronic water level indicator or steel tape and chalk.

* All elevations are in feet (MSL)

- = No measurement taken

D = Well destroyed

TABLE 16
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

GROUNDWATER ELEVATIONS*

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WELL NUMBER	GZ-13S	GZ-13M	GZ-13D	GZ-14S	GZ-14M	GZ-14D	GZ-17M	GZ-17D
<hr/>								
<u>DATE</u>								
12/28/84	-	-	-	-	-	-	-	-
2/28/85	-	-	-	-	-	-	-	-
3/26/85	-	-	-	-	-	-	-	-
5/22/85	-	-	-	-	-	-	-	-
6/25/85	-	-	-	-	-	-	-	-
3/20/86	-	-	-	-	-	-	-	-
4/1/86	-	-	-	-	-	-	-	-
4/14/86	-	-	-	-	-	-	-	-
7/22/86	-	-	-	-	-	-	-	-
12/30/86	-	-	-	-	-	-	-	-
2/20/87	-	-	-	-	-	-	-	-
3/27/87	-	-	-	-	-	-	-	-
4/20/87	-	-	-	-	-	-	-	-
5/2/87	-	-	-	-	-	-	-	-
5/4/87	-	-	-	-	-	-	-	-
6/23/87	-	-	-	-	-	-	-	-
8/21/87	-	-	-	-	-	-	-	-
11/16/88	-	-	-	-	-	-	-	-
12/15/88	-	-	-	-	-	-	-	-
1/16/89	-	-	-	-	-	-	-	-
2/15/89	-	-	-	-	-	-	-	-
3/15/89	-	-	-	-	-	-	-	-
4/14/89	-	-	-	-	-	-	-	-
4/27/89	-	-	-	-	-	-	-	-
5/17/89	-	-	-	-	-	-	-	-
6/15/89	-	-	-	-	-	-	-	-
7/14/89	-	-	-	-	-	-	-	-
8/18/89	-	-	-	-	-	-	-	-
8/31/89	-	-	-	-	-	-	-	-
9/15/89	-	-	-	-	-	-	-	-
10/16/89	-	-	-	-	-	-	-	-
11/17/89	-	-	-	-	-	-	-	-
12/15/89	-	-	-	-	-	-	-	-
1/15/90	-	-	-	-	-	-	-	-
2/15/90	-	-	-	-	-	-	-	-
3/15/90	-	-	-	-	-	-	-	-
4/17/90	-	-	-	-	-	-	-	145.43
5/15/90	146.79	146.66	145.39	145.99	145.90	144.96	-	146.32
6/15/90	147.01	146.89	145.42	146.26	146.16	144.94	145.21	146.09
7/16/90	146.62	146.47	144.93	145.77	145.63	144.49	144.76	145.66
8/15/90	146.43	146.31	144.90	145.64	145.51	144.47	144.98	145.05
9/17/90	145.99	145.89	144.43	145.29	145.14	144.02	144.37	145.25
10/25/90	144.90	145.80	145.87	145.12	145.04	144.25	144.90	145.75

Water levels obtained by Goldberg-Zoino using an electronic water level indicator or steel tape and chalk.

* All elevations are in feet (MSL)

- = No measurement taken

D = Well destroyed

TABLE 17

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

HYDRAULIC CONDUCTIVITY SUMMARY

Page 1 of 2

MONITOR WELL	SAMPLE DEPTH (FT)	LABORATORY DERIVED STRATIGRAPHIC DESCRIPTION	APPROPRIATE RANGE OF POROSITY (n) ⁽⁴⁾	D ₁₀ (cm) ⁽⁵⁾	SIEVE DATA $K^{(1)} = 470 \left[\frac{n^3}{(1-n)^2} \right] D_{10}^2$ $K^{(7)} = AD_{10}^2$		FIELD DATA $K^{(2,6)}$		DOCUMENTED RANGE $K^{(3)}$	
					(gpd/ft ²)	(cm/s)	(gpd/ft ²)	(cm/s)	(gpd/ft ²)	(cm/s)
GZ-1	45-47	f-m SAND, some Silt	--	.0035	26 ⁽⁷⁾	1 ⁻³	--	--	10 ⁻⁵	10 ⁻⁴ -10
GZ-2	22-22	f-m SAND, little Silt	--	.0055	64 ⁽⁷⁾	3 ⁻³	--	--	10 ⁻⁵	10 ⁻⁴ -10
GZ-3	10-12	SILT, some Sand, Gravel	--	.002	8 ⁽⁷⁾	4 ⁻⁴	--	--	10 ⁻² -10	10 ⁻⁷ -5 ⁻⁴
GZ-4S	--	--	--	--	--	--	160 ⁽²⁾	8 ⁻³	--	--
GZ-4M	--	--	--	--	--	--	410 ⁽²⁾	2 ⁻²	--	--
GZ-4D	85-87	f-c SAND and GRAVEL, little Silt	--	0.0019	8 ⁽⁷⁾	4 ⁻⁴	98 ⁽²⁾	5 ⁻³	10 ⁻⁵	10 ⁻⁴ -10
GZ-5S	20-23	f-m SAND, some Silt	.23-.47	.004	3-60 ⁽¹⁾	2 ⁻⁴ -3 ⁻³	42 ⁽²⁾	2 ⁻³	1-10 ³	10 ⁻⁵ -10 ⁻²
GZ-5M	55-57	f. SAND and SILT	.23-.47	.0055	6-110 ⁽¹⁾	3 ⁻⁴ -5 ⁻³	170 ⁽²⁾	8 ⁻³	10 ⁻² -10 ²	10 ⁻⁷ -10 ⁻³
GZ-5D	120-125	f-m SAND, trace Silt	.17-.49	.0060	3-160 ⁽¹⁾	2 ⁻⁴ -8 ⁻³	20 ⁽²⁾	9 ⁻⁴	10 ⁻¹⁰	10 ⁻⁴ -10 ⁻¹
TB-7S	15-17	f-m SAND, trace Silt	.17-.49	.0075	4-250 ⁽¹⁾	2 ⁻⁴ -1 ⁻²	---	---	10 ⁻¹⁰	10 ⁻⁴ -10 ⁻¹
GZ-7M	72-77	f-c SAND and f. GRAVEL, trace Silt	.12-.46	.013	4-560 ⁽¹⁾	2 ⁻⁴ -3 ⁻²	---	---	10 ⁻¹⁰	10 ⁻⁴ -100
GZ-7D	140-145	f-c SAND, some f. Gravel, trace Silt	.17-.49	.0045	1-90 ⁽¹⁾	5 ⁻⁵ -4 ⁻³	---	---	10 ⁻¹⁰	10 ⁻⁴ -100
GZ-11S	20-22	f-m SAND, little Silt	.23-.47	.005	5-90 ⁽¹⁾	2 ⁻⁴ -4 ⁻³	---	---	1-10 ³	10 ⁻⁵ -10 ⁻²
GZ-11D	50-55	f-c GRAVEL and f-c SAND, trace Silt	.12-.46	.013	4-560 ⁽¹⁾	2 ⁻⁴ -3 ⁻²	---	---	10 ⁻¹⁰	10 ⁻⁴ -100
GZ-12M	60-62	f-c SAND, trace Gravel, Silt	.17-.49	.0075	4-250 ⁽¹⁾	2 ⁻⁴ -1 ⁻²	---	---	10 ⁻¹⁰	10 ⁻⁴ -10 ⁻¹
GZ-12D	85-90	fine SAND, little Silt	.23-.47	.0070	10-180 ⁽¹⁾	5 ⁻⁴ -8 ⁻³	---	---	1-10 ³	10 ⁻⁵ -10 ⁻²
GZ-13S	30-36	fine SAND, trace f. Gravel, Silt	.17-.49	.024	40-2600 ⁽¹⁾	2 ⁻³ -1 ⁻³	500 ⁽²⁾	2 ⁻²	10 ⁻¹⁰	10 ⁻⁴ -10 ⁻²

TABLE 17

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

HYDRAULIC CONDUCTIVITY SUMMARY
Page 2 of 2

MONITOR WELL	SAMPLE DEPTH (FT)	LABORATORY DERIVED STRATIGRAPHIC DESCRIPTION	APPROPRIATE RANGE OF POROSITY (n) ⁽⁴⁾	D ₁₀ (cm) ⁽⁵⁾	SIEVE DATA $K^{(1)} = 470 \left[\frac{n^3}{(1-n)^2} \right] D_{10}^2$ $K^{(7)} = AD_{10}^2$		FIELD DATA $K^{(2,6)}$		DOCUMENTED RANGE $K^{(3)}$	
					(gpd/ft ²)	(cm/s)	(gpd/ft ²)	(cm/s)	(gpd/ft ²)	(cm/s)
GZ-13M	105-110	f-m SAND, trace Silt	.17-.49	.012	10-650 ⁽¹⁾	5 ⁻⁴ -3 ⁻²	310 ⁽²⁾	1 ⁻²	10-10 ⁴	10 ⁻⁴ -10 ⁻¹
GZ-13Da	160-165	fine SAND and SILT	.23-.47	.0023	1-20 ⁽¹⁾	5 ⁻⁵ -9 ⁻⁴	300 ⁽²⁾	1 ⁻²	10 ⁻² -10 ²	10 ⁻⁷ -10 ⁻³
GZ-13D	160-165	f-c SAND, trace Silt	.17-.49	.0045	6-400 ⁽¹⁾	3 ⁻⁴ -2 ⁻²	300 ⁽²⁾	1 ⁻²	10-10 ⁴	10 ⁻⁴ -10 ⁻¹
GZ-14S	30-35	fine SAND, little Silt	.23-.47	.0055	6-110 ⁽¹⁾	3 ⁻⁴ -5 ⁻³	--	--	10 ² -10 ⁴	10 ⁻³ -10 ⁻¹
GZ-14M	88-92	fine SAND and SILT	.23-.47	.0018	0.7-10 ⁽¹⁾	3 ⁻⁵ -5 ⁻⁴	--	--	10 ⁻² -10 ²	10 ⁻⁷ -10 ⁻³
GZ-14D	140-145	fine SAND and SILT	.23-.47	.0016	0.5-10 ⁽¹⁾	2 ⁻⁵ -5 ⁻⁴	--	--	10 ⁻² -10 ²	10 ⁻⁷ -10 ⁻³
LW-15S	--	--	--	--	--	--	29 ⁽²⁾	1 ⁻³	--	--
LW-15M	--	--	--	--	--	--	100 ⁽²⁾	5 ⁻³	--	--
LW-15D	--	--	--	--	--	--	100 ⁽²⁾	5 ⁻³	--	--
GZ-17M	55-57	fine SAND, little Silt	.23-.47	.006	7.5-130 ⁽¹⁾	4 ⁻⁴ -6 ⁻³	--	--	1-10 ³	10 ⁻⁵ -10 ⁻²
GZ-17D	95-97	f-c SAND, little Silt	.23-.47	.0045	4-75 ⁽¹⁾	2 ⁻⁴ -4 ⁻³	--	--	1-10 ³	10 ⁻⁵ -10 ⁻²
CW-15	--	--	--	--	--	--	2900 ⁽⁶⁾	1 ⁻¹	--	--
CW-20	--	--	--	--	--	--	3400 ⁽⁶⁾	2 ⁻³	--	--
LW-103D	--	--	--	--	--	--	2500 ⁽⁶⁾	1 ⁻¹	--	--
Municipal Well No. 5	--	--	--	--	--	--	916 ⁽⁸⁾	4 ⁻²	--	--

NOTES:

- (1) Hydraulic conductivity based on the Kozeny-Carmen equation.
- (2) Hydraulic conductivity based on in-situ slug testing (Hvorslev, 1951)..
- (3) Estimated range of hydraulic conductivity based on laboratory soil classification from Freeze and Cherry (1979).
- (4) Porosity range based on laboratory soil classification using NAVFAC DM-7.1 (1982).
- (5) Grain size diameter of 10th percentile finer based on laboratory data.
- (6) Hydraulic conductivity based on pump test; transmissivity ÷ aquifer thickness.
- (7) Hydraulic conductivity based on $K = AD_{10}^2$ from sieve analysis, where A equals 1.0 for K in cm/sec and D₁₀ in mm.
- (8) Estimation of K based on equilibrium equation.

TABLE 18

Old Southington Landfill
Southington, Connecticut

GROUNDWATER SAMPLE COLLECTION SEQUENCE⁽¹⁾

SAMPLE CONTAINERS AND COLLECTION SEQUENCE	SAMPLE PRESERVATIVE	PARAMETERS ANALYZED
40-ml clear glass vials	HCL	volatile organic compounds
125-ml amber glass	H ₂ SO ₄	chemical oxygen demand
1-liter plastic	HNO ₃	dissolved metals (sample pre-filtered)
1-liter plastic	HNO ₃	hardness, mg, Na
1-liter plastic	NaOH	cyanide
1-liter plastic	Unpreserved	alkalinity, chloride, conductivity, nitrate, nitrite, pH, total dissolved solids
1-liter plastic	H ₂ SO ₄	ammonia
1-liter amber glass	Unpreserved	PCBs and pesticides
2-liter amber glass	methanol rinse	acid, base, neutral semi-volatiles
1-liter plastic	HNO ₃	total metals (sample unfiltered)

Notes:

- (1) Not all sample locations analyzed for all parameters listed above.

TABLE 19

Old Southington Landfill
Southington, Connecticut

MONITOR WELL PLACEMENT AND TESTING

Page 1 of 3

ID No.	Purpose of Monitor Well	Soil Test Parameters	Screen Setting (ft below ground) and soil classification ⁽¹⁾⁽²⁾	Groundwater Test Parameters GZA 1987 ⁽³⁾ /Previous ⁽⁴⁾ /Current ⁽⁵⁾	Rationale
■ Existing Monitor Wells					
GZ-1	Background quality	NA	f-c sand; 66.5-86.5	List A/HSLs, I/same	Upgradient chemistry
GZ-2	Background quality	NA	f. sand; 70-90'	List A/V,M, I/same	Upgradient chemistry
GZ-3	Background quality	NA	f-c sand; 10-25'	List A/HSLs/V,M, I	Upgradient chemistry
GZ-4S	GW quality adjacent to Landfill	slug test	f. sand & silt; 23-43'	*List A&B/ I/HSLs, I	Landfill impact; ID Remedial Technologies
GZ-4M	GW quality adjacent to Landfill	slug test	f. sand/f-c sand; 65-85'	*List A/ I/ HSL, I	Vertical impact near source
GZ-4D	GW quality adjacent to Landfill	slug test	f-c sand gr., silt; 110-130'	*List A&B/I/HSL, I	Vertical impact near source
LW-15S	GW quality between Landfill & MW-5	slug test; cont. water level recorder	silt/f-c sand; 7.5-27.5'	List A/I/HSL, I	Northern area plume delineation
LW-15M	GW quality between Landfill & MW-5	slug test	f-c sand; 29-59	List A/I/HSL, I	Northern/vertical plume delineation
LW-15D	GW quality between Landfill & MW-5	slug test	f-c sand/f sand; 49-99'- existing Retrofit to 89-99'±	List A/I/HSL, I	Screened near Bedrock Valley
TW-17S	Near downgradient quality	NA	f-c sand; 20-3'	*List A/I/V,M, I	Downgradient Quality
LW-17D	Water levels only	NA	f sand/gr. layers; 40-100'-existing	None	Water levels only
TW-18	Downgradient plume delineation	NA	f-c sand; 15-25'	List A/V,M, I/V,M, I	Downgradient Quality
LW-103S	Northern plume delineation	NA	f-c sand; 6-31'	List A/I/V,M, I	Site char; plume delineation
LW-103M	Northern plume delineation	NA	f-c sand; 34.5-54.5	List A/I/V,M, I	Vertical Plume; site char.
LW-103D	Northern plume delineation at depth	NA	f-c sand; 60-80'	List A/I/V,M, I	Vertical Plume; site char.
CW-15	Water levels	NA	f sand & gravel; 57.3-59.3'	None/I/V, I	Groundwater flow patterns
CW-20	Water levels	NA	sand & gravel; 48.5-50.5	None/I/V, I	Groundwater flow patterns
■ Existing Observation Points					
B-1	Observation/water levels	NA	Refuse; 3-8'	None	Groundwater flow patterns in refuse
B-2	Observation/water levels	NA	Refuse; 3-13'	None	Groundwater flow patterns in refuse
B-3	Observation/water levels	NA	Refuse; 3-23'	*List A&B/HSLs, I/same	Worst case chemistry (refuse) Risk Assessment; Remedial Technologies
B-4	Observation/water levels	NA	Refuse; 3-20'	None	Groundwater flow patterns in refuse

TABLE 19

Old Southington Landfill
Southington, Connecticut

MONITOR WELL PLACEMENT AND TESTING
Page 2 of 3

ID No.	Purpose of Monitor Well	Soil Test Parameters	Screen Setting (ft below ground) and soil classification ⁽¹⁾⁽²⁾	Groundwater Test Parameters GZA 1987 ⁽³⁾ /Previous ⁽⁴⁾ /Current ⁽⁵⁾	Rationale
■ Others					
Lori Corp.	Industrial supply	Continuous water level recorder (3 day)	Unknown; 62-72'	List A/HSLs, I/I,V,M	In use supply; Risk Assessment
Municipal Well 5	Prior water supply	NA	f-m sand & gravel; 49-58'	List A&B/none/none	Not used; purge volumes excessive
Menard Well	Water supply	NA	Unknown	None/None/HSLs, I	Potable Supply; Risk Assessment
Chuck & Eddies Well	Water supply (Fire only)	NA	Unknown	None/None/V,I	Water supply (Fire only); Risk Assessment
■ Newly Installed Monitor Wells		See Note (6)			
GZ-5S test; TOC	Downgradient plume definition	PID; grain-size; Fine sand; 14-24'±	downgradient aquifer	*-/HSLs, I/same	Characterize shallow
GZ-5M	Downgradient plume definition	PID; grain-size; Fine sand; ±52-62'± slug test		*-/HSLs, I/same	Downgradient plume
GZ-5D	Downgradient plume definition	PID; grain-size; Fine to medium sand; 117-127'± slug test		*-/HSLs, I/same	Downgradient plume at depth
GZ-6	Deleted from RI	None	--	--	Deleted
GZ-7S	Assess southern groundwater	PID; grain-size	Gravel, sand and refuse 5.5-14.5±	-/I/HSL,I	Southern groundwater characterization
GZ-7M	Vertical flow	PID; grain-size; Sand and gravel; 65.5-75.5'±		-/-/HSL,I	Southern plume delineation
GZ-7D	Vertical flow	PID; grain-size; Gravel; 135-145'±		-/-/HSL,I	Southern plume delineation
GZ-8	Delete from RI	---	None	-/V,M,I/delete	Near former VOC spill area; sufficient soil borings and and shallow monitor wells to be installed in this area
GZ-9		---	None	-/V,M,I/delete	Combine/replace with new location GZ-11 series
GZ-10S	Deleted from RI	---	None	-/V,M,I/delete	Delete
GZ-11S	Downgradient of Lori/relocate	PID; grain-size	Fine to Medium Sand; 13-23'±	/V,M,I/same	Between landfill, industry & former well
GZ-11D	Downgradient of Lori/relocate	PID; grain-size	Sand and Gravel; 50-60'±	-/V,M,I/same	Vertical flow patterns

TABLE 19
Old Southington Landfill
Southington, Connecticut

MONITOR WELL PLACEMENT AND TESTING
Page 3 of 3

ID No.	Purpose of Monitor Well	Soil Test Parameters	Screen Setting (ft below ground) and soil classification ⁽¹⁾⁽²⁾	Groundwater	Rationale
				Test Parameters ⁽³⁾ GZA 1987 ⁽⁵⁾ / Previous ⁽⁴⁾ / Current ⁽⁵⁾	
GZ-12M	Downgradient plume definition	PID; grain-size TOC	Sand and Gravel; 52-62±	-/V,M,I/same	Adjacent to TW-18 for vertical assessment
GZ-12D	Downgradient plume definition	PID; grain-size	Fine Sand; 79-89±	-/V,M,I/same	Adjacent to TW-18 for vertical assessment
GZ-13S	Southern flow system delineation	PID; grain-size slug test	Fine to Coarse Sand; 28-38±	-/V,M,I/same	Southern plume delineation
GZ-13M	Vertical flow south of landfill	PID; grain-size slug test	Fine to Medium Sand; 98-108±	-/V,M,I/same	Southern plume delineation
GZ-13D	Vertical flow south of landfill	PID; grain-size slug test	Cobbles and Sand; 162-172±	-/V,M,I/same	Deep Aquifer effects
GZ-14S	S-W flow delineation	PID; grain-size	Sand; 26-36±	-/-/V,M,I	Char. SW downgradient plume
GZ-14M	S-W flow delineation	PID; grain-size	Sand and Silt; 88-92±	-/-/V,M,I	Char. SW mid-depth plume
GZ-14D	S-W Vertical flow	PID; grain-size	Sand and Silt; 135-145±	-/-/V,M,I	Deep Aquifer effects in SW downgradient area
GZ-17M	Vertical downgradient Quality	PID; grain-size	Fine Sand; 49-59±	*List -/-/V,M,I	Vertical downgradient quality
GZ-17D	Vertical downgradient	PID; grain-size	Fine Sand; 89-99±	*List A/I/V,M,I	Vertical downgradient quality
TB-7S	S-E flow the landfill area	PID; grain-size	Sand and Refuse; 10.5-15.5±	-/-/HSL, I	Groundwater characterization

NOTES:

- (1) Existing wells, screen setting in feet below ground, and natural materials around screen based on available data.
- (2) Currently anticipated screen setting and base material for proposed locations. All screens to be placed in soil. Shallow wells to be screened across water table interface; mid-depth wells to be screened at about mid-depth of saturated overburden preferably in coarser, less dense or possible contamination lithologies; deep wells to be screened just above bedrock. Actual settings may vary as installed based on actual conditions encountered.
- (3) Chemical testing performed in 1987 by GZA: see Table 10 for list A and B parameters.
- (4) Test parameters proposed per Work Plan.
- (5) Test parameters currently anticipated based on 12/89 EPA meeting.
HSLs: Indicate all hazardous substance list compounds per Table 17.
V: Indicates HSL volatile compounds per Table 17.
M: Indicates HSL metals per Table 17.
I: Indicates indicator compounds per Table 17.
*: Filtered and unfiltered metal samples.
- (6) Up to one cation exchange capacity /Boring if silt or clay encountered.

TABLE 20

Old Southington Landfill
Southington, Connecticut

EPA Required HSL Analytical Parameters
Page 1 of 3

1) HAZARDOUS SUBSTANCE LIST METALS

Aluminum	Antimony	Arsenic	Barium
Beryllium	Cadmium	Calcium	Chromium
Cobalt	Copper	Iron	Lead
Magnesium	Manganese	Mercury	Nickel
Potassium	Selenium	Silver	Sodium
Thallium	Vanadium	Zinc	

2) HAZARDOUS SUBSTANCE LIST VOLATILE ORGANIC COMPOUNDS

Benzene	Bromodichloromethane (Dichlorobromomethane)	Bromoform (Tribromomethane)	Bromomethane (Methyl Bromide)
Carbon Tetrachloride (Trichloromethane)	Chlorobenzene	Chloroethane (Ethyl Chloride)	Chloroform (Tetrachloromethane)
Chloromethane (Methyl Chloride)	1,1-Dichloroethane (Ethylidene Chloride)	1,2-Dichloroethane (Ethylene [Di] Chloride)	trans 1,2-Dichloroethene (Acetylene Dichloride) (Total)
cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	Methylene Chloride (Dichloromethane)
1,1,2,2-Tetrachloroethane	Toluene	1,1,1-Trichloroethane (Methyl Chloroform)	1,1,2-Trichloroethane
Trichloroethene	Vinyl Chloride (Chloroethylene)	Carbon Disulfide	1,2-Dichloropropane (Propylene Dichloride)
Acetone	Chlorodibromomethane (Dibromochloromethane)	1,1-Dichloroethylene (Vinylidene Chloride)	4-Methyl-2-Pentanone (Methyl Isobutyl Ketone) (Isopropylacetone) (Hexone)
2-Hexanone (Methyl-n-Butyl-Ketone)	Methyl Ethyl Ketone (2-Butanone)	Styrene (Vinyl Benzene) (Phenylethylene)	Tetrachloroethylene
Vinyl Acetate (Acetic Acid Vinyl Ester)	Total Xylenes	Bromodichloromethane (Dichlorobromomethane)	

TABLE 20

Old Southington Landfill
Southington, Connecticut

EPA Required HSL Analytical Parameters
Page 2 of 3

3) OTHER HAZARDOUS SUBSTANCE LIST COMPOUNDS

Acenaphthene	Acenaphthylene	Aldrin	Anthracene
PCB - 1016	PCB - 1221	PCB - 1232	PCB - 1242
PCB - 1248	PCB - 1254	PCB - 1260	Benz(a)Anthracene
Benzo(b)Fluoranthene	Benzo(k)Fluoranthene	Benzoic Acid	Benzo(ghi)Perylene
Benzo(a)Pyrene	Benzyl Alcohol	Alpha - BHC	Beta - BHC
Delta - BHC	Gamma - BHC (Lindane)	bis-(2-chloroethoxy) Methane	bis-(2-chloroethyl) Ether (Dichlorethyl Ether)
bis(2-chloroisopropyl)Ether	bis(2-ethylhexyl)Phthalate (Di-Sec-Octyl Phthalate)	4-Bromophenyl Phenyl Ether	Butyl Benzyl Phthalate
Chlordane (Alpha & Gamma)	p-Chloroaniline	p-Chloro-m-cresol (6-chloro-m-cresol)	2-Chloronaphthalene
2-Chlorophenol			

3) OTHER HAZARDOUS SUBSTANCE LIST COMPOUNDS (CONTINUED)

4-Chlorophenyl Phenyl Ether	Chrysene	o-Cresol (2-Methylphenol)	p-Cresol (4-Methylphenol)
4,4'- DDD	4,4'- DDE	4,4' - DDT	Dibenzo(a,h)anthracene
Dibenzofuran	di-n-Butyl Phthalate	Cyanide	Phenol
3,3'- Dichlorobenzidine	2,4-Dichlorophenol	Dieldrin	Diethyl Phthalate
2,4-Dimethylphenol	Dimethyl phthalate	4,6-Dinitro-o-Cresol (4,6-Dinitro-2-Methylphenol)	2,4 - Dinitrophenol
2,4 - Dinitrotoulene	2,6 - Dinitrotoulene	di-n-Octyl Phthalate	di-n-Propyl nitrosamine (N-Nitrosodipropylamine)
Endosulfan Sulfate	Endosulfan I (alpha)	Endosulfan II (beta)	Endrin
Endrin Ketone	Fluoranthene	Fluorene	Heptachlor

TABLE 20

Old Southington Landfill
Southington, Connecticut

EPA Required HSL Analytical Parameters
Page 3 of 3

Heptachlor Epoxide	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene
Hexachloroethane	Indeno (1,2,3-cd) Pyrene	Isophorone	Methoxychlor
2 - Methyl Naphthalene	Naphthalene	m-Nitroaniline	o - Nitroaniline
p - Nitroaniline	Nitrobenzene	2 - Nitrophenol	4 - Nitrophenol
N - Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Pyrene
Toxaphene (Chlorinated Camphene)	1,2,4-Trichlorobenzene	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol
1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2-Dichlorobenzene	
4) <u>INDICATOR PRARMETERS</u>			
Sodium	chloride	alkalinity	nitrate
nitrite	hardness	ammonia	COD
Total Disolved Solids	pH	specific conductance	

TABLE 21

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

SURFACE WATERS, SEDIMENTS, SHALLOW WELLPOINTS: TEST PARAMETERS
Page 1 of 2

ID NO.	PURPOSE	FREQUENCY OF SOIL SAMPLING	ORIGINAL TESTING ⁽¹⁾	TESTING CHANGE	RATIONALE
SW-1	surface water characterization	NA	V, M, I	No	Expected minimal landfill impact downgradient of landfill near MW-5; char. surface water quality by former well.
SW-2	surface water characterization	NA	HSL, I	No	Adjacent to landfill and existing industry; assess impact, consider risk assessment and potential remedial technologies.
SW-3 (Maple St.)	Delete	NA	V, M, I	Delete	Off-site; downgradient; closer site testing more appropriate.
SW-4	surface water characterization	NA	V, M, I	HSL, I	Upgradient of landfill; background data to ID landfill impact by comparisons.
SW-5	surface water characterization	NA	V, M, I	HSL, I	Downgradient; discharge of Black Pond for impact assessment, risk characterization, and consideration of remedial technologies.
SW-6	surface water characterization	NA	HSL, I	V, M, I	Downgradient; evaluate discharge to wetlands, surface water downstream quality for risk assessment.
SW-7	surface water characterization	NA	--	HSL, I	Surface water characterization in southern depression draining to Black Pond.
SED-1	sediment characterization	0-2 feet below grade	V, M	No	Sediment quality at Black Pond outfall for risk assessment.
SED-2	sediment characterization	0-2 feet below grade	V, M	No	Sediment quality due to groundwater discharge for risk assessment. Relocate to SW-6.
SED-3	sediment characterization	0-2 feet below grade	None	HSL	Adjacent to landfill and industry; assess impact, consider risk assessment.
SED-4	sediment characterization	0-2 feet below grade	HSL	No	Background datapoint; establish non-impact quality for comparison.
SED-5	sediment characterization	0-2 feet below grade	HSL	No	At Black Pond drainage for impact assessment, risk consideration and potential remedial technologies.
SED-6	sediment characterization	0-2 feet below grade	HSL	delete	Downstream/downgradient sediment characterization: Better characterized by other locations.
SED-7	sediment characterization	0-2 feet below grade	None	HSL	Sediment characterization in southern depression . draining to Black Pond.

TABLE 21

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

SURFACE WATERS, SEDIMENTS, SHALLOW WELLPOINTS: TEST PARAMETERS

Page 2 of 2

ID NO.	PURPOSE	FREQUENCY OF SOIL SAMPLING	ORIGINAL TESTING ⁽¹⁾	TESTING CHANGE	RATIONALE
WP-1	shallow groundwater/ surface water characterization	NA	SL, I	VM	Adjacent to discharge of Black Pond; provide risk assessment data, and info to consider remedial technologies.
WP-2	shallow groundwater/ surface water characterization	NA	V, M, I	VM	Background upgradient chemistry of groundwater discharge and groundwater/surface water relationship.
WP-3	shallow groundwater/ surface water characterization	NA	HSL	VM	Assess potential contaminants entering Black Pond from landfill and surface water/groundwater relationship.
WP-4	shallow groundwater/ surface water characterization	NA	V, M, I	VM	Impact of landfill in southern depression draining to Black Pond; characterize groundwater as discharged to surface water.
WP-5	shallow groundwater/ surface water characterization	NA	V, M, I	VM	Assess groundwater/surface water relationship and downgradient chemistry by discharge.

Notes:

1. As proposed per Work Plan.
 2. Modified based on Phase 1A data.
- HSLs Indicates HSL compounds used for this study.
V Indicates volatile compounds.
M Indicates metals.
I Indicates indicator parameters.

TABLE 22

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

SURFACE WATER AND SEDIMENT SAMPLE COLLECTION SEQUENCE

SAMPLE CONTAINERS AND COLLECTION SEQUENCE	SAMPLE PRESERVATIVE	PARAMETERS ANALYZED
SURFACE WATER SAMPLES		
2 40-ml clear glass vials	HCL	volatile organic compounds
125-ml amber glass	H ₂ SO ₄	chemical oxygen demand
1-liter plastic	HNO ₃	total metals (sample unfiltered)
1-liter plastic	HNO ₃	hardness, mg, Na
1-liter plastic	NaOH	cyanide
1-liter plastic	Unpreserved	alkalinity, chloride, conductivity, nitrate, nitrite, pH, total dissolved solids
1-liter plastic	H ₂ SO ₄	ammonia
1-liter amber glass	Unpreserved	PCBs and pesticides
2-liter amber glass	methanol rinse	acid, base, neutral semi-volatiles
STREAM SEDIMENT SAMPLES		
3 40-ml clear glass	None	volatile organic compounds
1 125-cc plastic	None	metals
1 125-cc plastic	None	cyanide
1 500-cc glass	None	PCBs and pesticides

TABLE 23

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

APPROXIMATE BEDROCK ELEVATIONS AND CORE DESCRIPTIONS SUMMARY

LOCATION	APPROXIMATE DEPTH TO BEDROCK (FT)	APPROXIMATE BEDROCK ELEVATION (FT MSL)	DESCRIPTION CORE INTERVAL & RQD ¹
CW-15	59	86	* No RQD
CW-20	50.5	92.3	* No RQD
Municipal Well No. 5	63	87	Sandstone & Shale No RQD
LW-103D	78	73	Red-brown Sandstone 78'-85'RQD = 30%
GZ-1	89	120	* No RQD
TW-19	7.5	151	Gray Traprock RQD = 80%
GZ-5D	135	28	Red-brown Sandstone 135'-138' = 0% 138'-144': RQD = 57%
GZ-7D	150	6	Red Sandstone 150'-155': RQD = 33%
GZ-11D	73	75	Red Sandstone 76'-81': RQD = 47%
GZ-12D	96	60	Red Sandstone 96-101': RQD = 15% 181'-185: RQD = 52%
GZ-13D	176	4	Red-brown Sandstone 176'-181': RQD = 10% 181'-185': RQD = 63%
GZ-14D	148	28	Red Sandstone 151'-156': RQD = 14%

Notes:

(1) RQD = Rock Quality Designation
 * = Bedrock not cored, no bedrock description available.
 Elevation based upon drilling refusal.
 MSL = Mean Sea Level

TABLE 24

OLD SOUTHLINGTON LANDFILL
SOUTHLINGTON, CONNECTICUT

NATURE AND EXTENT OF REFUSE IN BORINGS

BORING	DEPTH OF REFUSE (FT. BELOW GRADE)	THICKNESS OF REFUSE (DEPTH IN FT.)	DESCRIPTION OF REFUSE
TB-4	3-12	9	10-20% wood, rubber, plastic, metal, stained soils, paper
TB-5	5-10.2	5.2	20-25% metal, wood, stained soils
TB-7	10-41	31	20-35% paper, wood, metal, glass; oil odor
TB-10	2-14	12	30% wood, paper, glass, metal
TB-13	4-7	3	100% wood and glass
TB-14	3-11.5	8.5	100% wood; creosote odor (R.R. ties)
TB-24	2-9	7	80% wood, paper, metal, glass, plastic, rubber
TB-25	2-20	18	20-35% wood, metal, glass, plastic, paper
TB-26	3-18	15	80% wood, metal, glass, plastic, paper
B-1	6-?	Unknown	petroleum odor, metal scraps
B-2	6-?	Unknown	petroleum odor, refuse
B-3	11-?	Unknown	fibrous material, glass, metal
B-4	8-?	Unknown	wood, glass, plastic
GZ-4	8-25	17	ceramics, plastic, glass, metal
LW-101S	3-18	15	plastic, wood, metal, organic odor
GZ-7S	5-15	10	wood, styrofoam, metal, wire

TABLE 25

WATER BUDGET ANALYSIS
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

PARAMETERS	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEP	OCT	NOV	DEC	YEARLY TOTAL
Temperature ¹ (°F)	27.5	29.1	37.3	48.0	57.7	66.7	72.1	70.8	63.4	53.1	43.0	31.5	
Precipitation ¹ (P)(inches)	3.96	3.52	4.67	4.52	3.90	3.33	3.78	4.23	4.50	4.03	4.59	2.10	47.12
Potential Evapotranspiration ² (PE)(inches)	0	0	.62	1.68	3.40	4.57	5.38	5.00	3.43	2.00	0.74	0	26.82
P-PE (inches)	3.96	3.5	4.05	2.84	0.50	-1.24	-1.60	-0.77	1.07	2.03	3.84	2.10	--
Soil Moisture Storage (ST)(inches) ⁴	4.0	4.0	4.0	4.0	4.0	2.76	1.16	0.39	1.46	3.49	4.0	4.0	--
Soil Moisture Changes (ST)(inches) ⁴	0	0	0	0	0	-1.24	-1.60	-0.77	1.07	2.03	0.51	0	--
Actual Evapotranspiration ⁵ (AE)(inches)	0	0	0.62	1.68	3.40	4.57	5.38	5.00	3.43	2.00	0.74	0	24.71
Water Deficit (D)(inches) ⁶	0	0	0	0	0	0	1.84	1.01	0	0	0	0	2.85
Water Surplus (S)(inches) ⁷	3.96	3.52	4.05	2.84	0.50	0	0	0	0	0	3.33	2.10	20.30
Runoff (inches) ⁸	1.19	1.06	1.22	0.85	0.15	0	0	0	0	0	1.00	0.63	6.10
Revised surplus (S _r)(inches) ⁹	2.77	2.46	2.83	0.99	0.35	0	0	0	0	0	2.33	1.47	13.20

NOTES:

- Temp data: Mount Carmel Station; 1951-1980 data.
Precipitation data: Shuttle Mountain Reservoir Station; 1951-1980 data.
- Estimated based on mean monthly temperature per Mather & Rodriguez, OP.C.T.
- Based on estimated soil moisture storage of 4-inches in two feet of cover, if $4.0 \geq ST_1$; $ST_2 = ST_1 \Delta ST_2$.
- If $P < PE$ and $ST_1 > |(P-PE)_2|$, $\Delta ST_2 = (P-PE)_2$. If $P < PE$ and $ST_1 < |(P-PE)_2|$, $\Delta ST_2 = ST_1$. If $P > PE$ and $ST_1 < 4.0$, $\Delta ST_2 = (P-PE)$ or $4.0 - ST_1$, whichever is less.
- If $P > PE$; $AE = PE$, if $P < PE$; $AE = P - \Delta ST$
- $D = PE - AE$
- $S = P - AE - \Delta ST$; assumes no runoff. This represents a conservative maximum infiltration rate.
- Runoff is estimated to average about 30% overall. Higher runoff rates will occur when the ground is frozen, and on paved and built upon areas. Lower runoff rates would occur in unvegetated pervious soils.
- S_r = revised water surplus which could infiltrate the landsurface taking into account a 30% runoff factor from precipitation.

Table 26
Old Southington Landfill
Southington, Ct
Bi-Weekly Temperature Data

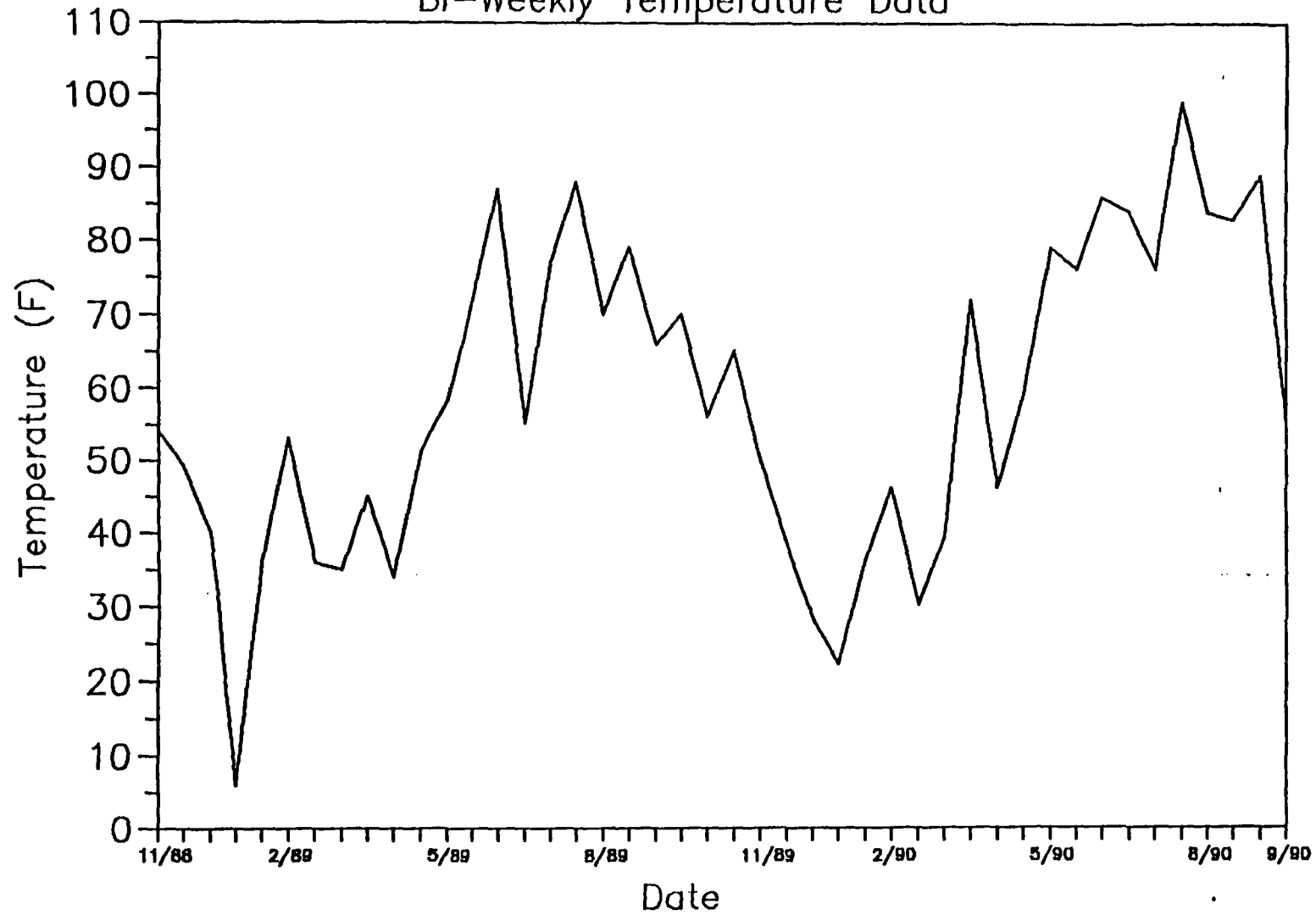


TABLE 27

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

PHYSICAL AND CHEMICAL PROPERTIES OF SITE COMPOUNDS

Page 1 of 2

COMPOUND	WATER SOLUBILITY (mg/l)	VAPOR PRESSURE (mmHg)	HENRY'S LAW CONSTANT (atm-m ³ /mol)	K _{oc} (ml/g)	LOG K _{ow}
=====					
<u>VOLATILE ORGANIC COMPOUNDS</u>					
Vinyl chloride	2.67 E+03	2.66 E+03	8.19 E-02	57	1.54
Acetone	1.00 E+06	2.70 E+02	2.06 E-05	2.2	-0.24
Carbon disulfide	2.94 E+03	3.60 E+03	1.23 E-02	54	2.00
Cis 1,2-dichloroethene	3.5 E+03	2.1 E+02	4.08 E-03	49	1.86
Trans 1,2-dichloroethene	6.30 E+03	3.24 E+02	6.56 E-03	59	0.48
Chloroform	8.20 E+03	1.51 E+02	2.87 E-03	31	1.97
2-butanone (MEK)	2.68 E+05	7.75 E+01	2.74 E-05	4.5	0.26
Trichloroethene	1.10 E+03	5.79 E+01	9.10 E-03	126	2.38
Benzene	1.75 E+03	9.52 E+01	5.59 E-03	83	2.12
Tetrachloroethene	1.50 E+02	1.78 E+01	2.59 E-02	364	2.6
1,1,2,2-tetrachloroethane	2.90 E+03	5.00 E+00	3.81 E-04	118	2.39
Toluene	5.35 E+02	2.81 E+01	6.37 E-03	300	2.73
Chlorobenzene	4.66 E+02	1.17 E+01	3.72 E-03	330	2.84
Ethylbenzene	1.52 E+02	7.00 E+00	6.43 E-03	1,100	3.15
Styrene	---	---	---	---	---
Total xylenes	1.98 E+02	1.00 E+01	7.04 E-03	240	3.26
 <u>INORGANICS</u>					
Aluminum (Al)	---	---	---	---	---
Arsenic (As)	---	---	---	---	---
Barium (Ba)	---	---	---	---	---
Calcium (Ca)	---	---	---	---	---
Cadmium (Cd)	---	---	---	---	---
Chromium (Cr)	---	---	---	---	---
Copper (Cu)	---	---	---	---	---
Iron (Fe)	---	---	---	---	---
Potassium (K)	---	---	---	---	---
Magnesium (Mg)	---	---	---	---	---
Manganese (Mn)	---	---	---	---	---
Nickel (Ni)	---	---	---	---	---
Lead (Pb)	---	---	---	---	---
Antimony (Sb)	---	1.00 E+00	---	---	---
Vanadium (V)	---	---	---	---	---
Zinc (Zn)	---	---	---	---	---
Mercury (Hg) Inorganic	---	2.00 E-03	---	---	---
Cobalt (Co)	---	---	---	---	---
Cyanide	---	---	---	---	---

TABLE 27

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

PHYSICAL AND CHEMICAL PROPERTIES OF SITE COMPOUNDS

Page 2 of 2

COMPOUND	WATER SOLUBILITY (mg/l)	VAPOR PRESSURE (mmHg)	HENRY'S LAW CONSTANT (atm-m ³ /mol)	Koc (ml/g)	LOG Kow
=====					
<u>PESTICIDES/PCBs</u>					
Heptachlor Epoxide	---	---	---	---	---
PCB-1242	3.10 E-02	7.70 E-05	1.07 E-03	530,000	6.04
PCB-1260	6.20 E+02	4.00 E-01	1.88 E-04	20	2.81
PCB-1254	3.1 E-02	7.7 E-05	1.07 E-03	530,000	6.04
4,4-DDT	5.0 E-03	5.5 E-06	5.13 E-04	243,000	6.19
Endrin Ketone	2.5 E-01	2.7 E-07	4.0 E-07	---	5.6
Alpha-chlordane	5.6 E-01	3.0 E-06	4.85 E-05	44,000	5.54
Gamma-chlordane	5.6 E-01	3.0 E-06	4.85 E-05	44,000	5.54
 <u>ACID & BASE/NEUTRAL EXTRACTABLES</u>					
Naphthalene	3.13 E+01	4.92 E-02	---	---	3.37
2-Methylnaphthalene	---	---	---	---	---
Acenaphthene	3.42 E+00	1.55 E-03	9.20 E-05	4,600	4.00
Dibenzofuran	---	---	---	---	---
Acenaphthylene	3.93 E+00	2.90 E-02	1.48 E-03	2,500	3.70
Fluorene	1.69 E+00	7.10 E-04	6.42 E-05	7,300	4.20
Phenanthrene	1.00 E+00	6.80 E-04	1.59 E-04	14,000	4.46
Anthracene	4.50 E-02	1.95 E-04	1.02 E-03	14,000	4.45
di-n-Butyl Phthalate	1.30 E+01	1.00 E-05	2.82 E-07	170,000	3.80
Fluoranthrene	3.06 E-01	5.00 E-06	6.46 E-06	38,000	4.90
Pyrene	1.32 E-01	2.50 E-06	5.04 E-06	38,000	4.88
Butyl Benzyl Phthalate	---	---	---	---	---
Benzo(a)Anthracene	5.70 E-03	2.20 E-08	1.16 E-06	1,380,000	5.60
bis(2-ethylhexyl)Phthalate	8.50 E-01	2.00 E-07	---	---	7.00
Chrysene	1.80 E-03	6.30 E-09	1.05 E-06	200,000	5.61
Benzo(b)Fluoranthene	1.40 E-02	5.00 E-07	1.19 E-05	550,000	6.06
Benzo(k)Fluoranthene	4.30 E-03	5.10 E-07	3.94 E-05	550,000	6.06
Benzo(a)Pyrene	1.20 E-03	5.60 E-09	1.55 E-06	550,000	6.06
Indeno(1,2,3-cd)Pyrene	5.30 E-04	1.00 E-10	6.86 E-08	1,600,000	6.50
Benzo(g,h,i)Perylene	7.00 E-04	1.03 E-10	5.34 E-08	1,600,000	6.51
Acenaphthalene	---	---	---	---	---

NOTES:

- = Data not available.

Sources:

1. Chemical, Physical, and Biological Properties of Compounds Present at Hazardous Waste Sites (Final Report, September 17, 1985. Prepared by Clement Associates, Inc. for U.S. EPA).
2. Superfund Public Health Evaluation Manual, October 1986. Prepared by ICF, Inc. for U.S. EPA. Appendix A-1.
3. Multimedia Environmental Goals for Environmental Assessment, August 1979, U.S. EPA, Industrial Environmental Research Lab.
4. Water-related Environmental Fate of 129 Priority Pollutants, December 1979, U.S. EPA, Office of Water Planning and Standards.
5. Controlling Volatile Emissions at Hazardous Waste Sites, Ehrenfeld, et. al., Pollution Technology Review No. 126. Noyes Publication 1986.

TABLE 28
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

ANTICIPATED BACKGROUND LEVELS OF METALS IN SOILS
Concentration Range in Natural Soils (ppm or %)

ELEMENT	FULLER	BOWEN	FRIBERG ET. AL.	USGS	OLD SOUTHTON LANDFILL BACKGROUND
Aluminum	3.2-6.9%	1-30%	—	0.7->10%	0.4-0.8%
Antimony	—	2-10	—	<1-8.8	24-71
Arsenic	1-50	0.1-4.0	40	<0.1-73	ND
Barium	100-5,000	100-3,000	—	10-1,500	ND
Beryllium	0.2-10	0.1-40	—	<1-7	ND
Cadmium	0.2	0.01-0.7	<1	—	2.5-3.5
Calcium	0.3-1.5%	0.7-50%	—	0.01-28%	<0.19%
Chromium	5-1,000	5-3,000	0-250	1-1,000	7-12
Cobalt	1-50	1-40	—	<0.3-70	ND
Copper	2-100	2-100	—	<1-700	<10
Iron	1.4-4.2%	0.7-55%	—	0.01->10%	0.65-1.0%
Lead	2-200	2-200	2-200	<10-300	3.0-4.2
Magnesium	0.2-0.6%	600-6,000	—	0.005-5%	0.18-0.30%
Manganese	200-5,000	100-4,000	—	<2-7,000	130-230
Mercury	0.02-0.2	0.01-0.3	—	0.01-3.4	ND
Nickel	5-500	10-1,000	—	<5-700	<12.4
Potassium	0.75-2.4%	0.04-3%	—	0.005-3.7%	<0.13%
Selenium	0.1-2.0	0.01-2	1-10	<0.1-3.9	ND
Silver	0.1-1.0	0.01-5	0-50	—	ND
Sodium	0.15-1.5%	750-7,500	—	<0.05-5%	ND
Thallium	—	—	—	—	ND
Vanadium	20-500	20-500	—	<7-300	14-20
Zinc	10-300	10-300	—	<5-2,900	16-28

NOTES:

1. - Indicates no data reported. Concentrations in ppm unless indicated as percent (%).
 2. References: Fuller - Movement of Selected Metals, Asbestos, and Cyanide in Soil: Applications to Waste Disposal Problems by Wallace H. Fuller (EPA-600/2-77/020)/ Bowen - H.J. M. Bowen, "Toxic Elements in Biochemistry," Academic Press, N.Y., 1966. Friberg et. al. - Handbook on the Toxicology of Metals, Lars Friberg, Gunnar F. Nordberg and Velimir B. Vouk, eds., Elsevier/North Holland Biomedical Press, Amsterdam, 1979. USGGS - Hansford Shacklette and Josephine BOergen, "Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States: (USGS Paper 1270, 1984).
 3. USGS data from eastern U.S.
 4. Old Southington Landfill background levels developed from results of 3 soil samples upgradient of landfill.
- ND = Not Detected

TABLE 29

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

SURFACE WATER ANALYTICAL RESULTS
TOTAL HSL METALS
(in ug/l = ppb)

ELEMENT	SWS-SW1-010 SW-1	SWS-SW2-010 SW-2	SWS-SW6-010 SW-6	SWS-SW5-010 SW-5	SWS-SW9-010 SW-5 (DUP)	SWS-SW7-010 SW-7	SWS-SW4-010 SW-4
Aluminum	114J	ND	203	124J	256	4810	111J
Antimony	ND	78.1J	ND	ND	ND	ND	ND
Barium	311	262	156J	171J	185J	583	84.5J
Cadmium	ND	ND	ND	ND	ND	20.7	ND
Calcium	67400J	22000	55400J	20600J	20900J	73900J	20300J
Chromium	ND	12.1J	ND	ND	ND	25.9J	ND
Copper	16.9J	15.2J	11.1J	8.5J	11.4J	45.6	6.9J
Iron	9620J	1960J	1910J	2010J	2750J	70900J	666J
Lead	ND	3.8J	ND	ND	ND	65.4J	ND
Magnesium	11200	10100	8600	7920	7950	11900	5870
Manganese	5580J	1000	733J	757J	1050J	2200J	212J
Mercury	0.90	ND	ND	ND	ND	ND	ND
Nickel	ND	ND	ND	ND	ND	58.2	ND
Potassium	4670J	8340	1780J	6880	6940	7110	5370
Silver	ND	18.1	ND	ND	ND	ND	ND
Sodium	29700J	28900	12200J	26600J	26500J	29400J	24900J
Vanadium	ND	ND	ND	ND	ND	18.2J	ND
Zinc	ND	17.5J	ND	ND	ND	295J	ND

NOTES:

J = Approximate value

ND = Not detected above CRDL (or corrected to ND due to blank).

ppb = parts per billion

TABLE 30

Old Southington Landfill
Southington, Connecticut

SURFACE WATER ANALYTICAL SUMMARY
HSL SEMI-VOLATILE ORGANIC COMPOUNDS

Sample Id		
Surface Water Location	OSLSWSSW4	OSLSWSSW9
Sample Date	SW-4	SW-5 (DUP)
	06/29/90	06/29/90

PARAMETERS	UNITS		
=====			
Naphthalene	ug/l	3J	8J

Notes:

J = Tentatively identified compounds where a 1:1 response is assumed,
or when the mass spectral data indicate the presence of a compound
that meets the identification criteria but the quantitated value
is less than the method quantitation limit.

ug/l = micrograms per liter = ppb, parts per billion

TABLE 31

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

SURFACE WATER ANALYTICAL SUMMARY
HSL VOLATILE ORGANIC COMPOUNDS

Sample Id	OSLSWSSW1	OSLSWSSW2	OSLSWSSW5	OSLSWSSW9	OSLSWSSW6	OSLSWSSW7
Surface Water Location	SW-1	SW-2	SW-5	SW-5 (DUP)	SW-6	SW-7
Sample Date	06/29/90	06/29/90	06/29/90	06/29/90	06/29/90	06/29/90

PARAMETERS	UNITS
------------	-------

Acetone	ug/l	BMDL	1J	13	3J	3J	21
Carbon disulfide	ug/l	6	4J	5	23	BMDL	12
Chlorobenzene	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	2J
Toluene	ug/l	BMDL	1BJ	BMDL	BMDL	BMDL	2J
Xylenes	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	3J

NOTES:

B = Parameter detected in laboratory blank

BMDL = Below Minimum Detection Limits

J = Tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the quantified value is less than the method quantitation limit.

ug/l = micrograms per liter = ppb: parts per billion

TABLE 32

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

SURFACE-WATER ANALYTICAL SUMMARY
INDICATOR PARAMETERS

Sample Number							
Surface Water Location	OSLSWSSW1	OSLSWSSW2	OSLSWSSW4	OSLSWSSW5	OSLSWSSW9	OSLSWSSW6	OSLSWSSW7
Sample Date	SW-1	SW-2	SW-4	SW-5	SW-5 (DUP)	SW-6	SW-7
	06/29/90	06/29/90	06/29/90	06/29/90	06/29/90	06/29/90	06/29/90

PARAMETERS	UNITS							
Alkalinity as CaCO ₃	mg/l	190	110	66	88	90	130	210
Ammonia (N)	mg/l	0.87	8.4	0.73	4.6	5.1	0.47	1
Calcium (Ca)	mg/l	65.0	20.0	19.0	20.0	20.0	49.0	69.0
Chemical Oxygen Demand (COD)	mg/l	24	150	20	28	32	8.1	77
Chloride (Cl)	mg/l	38	51	46	42	46	21	33
Hardness as CaCO ₃	mg/l	210	88.0	69.0	80.0	82.0	160	220
Magnesium (Mg)	mg/l	11.0	9.2	5.4	7.4	7.7	8.3	11.0
Nitrate (N)	mg/l	0.48	0.30	0.51	0.89	0.53	1.1	0.26
Sodium (Na)	mg/l	29.0	28.0	24.0	26.0	27.0	12.0	29.0
Specific conductance	uMhos/cm	670	450	320	450	420	420	720
Total Dissolved Solids (TDS)	mg/l	360	230	170	220	220	270	390
pH	SU	7.21	7.41	7.79	7.29	7.22	7.58	6.67

NOTES

mg/l = milligrams per liter = ppb: parts per billion

uMhos/cm = micromhos per centimeter

SU = Standard Units

TABLE 33

Old Southington Landfill
Southington, Connecticut

STREAM SEDIMENT ANALYTICAL SUMMARY
HSL SEMI-VOLATILE ORGANIC COMPOUNDS

Sample Id	OSLSESED3	OSLSESED4	OSLSESED5	OSLSESED7	OSLSESED8
Sediment Sample	SED-3	SED-4	SED-5	SED-7	SED-7 (DUP)
Sample Date	07/03/90	07/03/90	07/03/90	07/03/90	07/03/90

PARAMETERS	UNITS					
=====						
Benzoic Acid	ug/kg	ND	ND	ND	ND	320J
Naphthalene	ug/kg	ND	ND	ND	1100J	3200J
2-Methylnaphthalene	ug/kg	ND	ND	ND	280J	580J
Acenaphthene	ug/kg	ND	ND	2200J	57J	310J
Acenaphthylene	ug/kg	ND	ND	450J	120J	410J
Dibenzofuran	ug/kg	ND	ND	550J	43J	160J
Fluorene	ug/kg	ND	ND	2000J	110J	370J
Phenanthrene	ug/kg	ND	370J	18000J	310J	850J
Anthracene	ug/kg	ND	ND	3700J	45J	180J
Di-n-butylphthalate	ug/kg	ND	ND	ND	ND	3900J
Fluoranthene	ug/kg	240J	660J	21000J	400J	1200J
Pyrene	ug/kg	260J	580J	22000J	370J	1400J
Butylbenzylphthalate	ug/kg	ND	ND	770J	ND	ND
Benzo(a)Anthracene	ug/kg	150J	600JY	8000J	220J	570J
Chrysene	ug/kg	160J	490J	10000J	310J	910J
bis(2-Ethylhexyl)Phthalate	ug/kg	ND	890J	930J	160J	320J
Benzo(b)Fluoranthene	ug/kg	ND	ND	6700Y	230J	910J
Benzo(k)Fluoranthene	ug/kg	ND	ND	8500J	290J	590J
Benzo(a)Pyrene	ug/kg	ND	ND	9100J	240J	870J
Indeno(1,2,3,-cd)Pyrene	ug/kg	ND	ND	7800J	210J	770J
Dibenzo(a,h)Anthracene	ug/kg	ND	ND	890J	ND	ND
Benzo(g,h,i)Perylene	ug/kg	ND	ND	5500J	180J	620J

TOTAL PAHS:		810	3590	128,090	4,675	18,440

NOTES:

ND = Compound not detected

J = Estimated value

ug/kg = micrograms per kilogram

TABLE 34

Old Southington Landfill
Southington, Connecticut

STREAM SEDIMENT ANALYTICAL SUMMARY
HSL VOLATILE ORGANIC COMPOUNDS

Sample Id	OSLSEDS1	OSLSEDS3	OSLSEDS4	OSLSEDS7	OSLSEDS8
Sediment Sample	SED-1	SED-3	SED-4	SED-7	SED-7 (DUP)
Sample Date	07/03/90	07/03/90	07/03/90	07/03/90	07/03/90

PARAMETERS	UNITS
------------	-------

Acetone	ug/kg	ND	BMDL	ND	ND	ND
Benzene	ug/kg	BMDL	BMDL	BMDL	9J	32J
2-Butanone	ug/kg	BMDL	BMDL	BMDL	110J	BMDL
Carbon disulfide	ug/kg	BMDL	BMDL	210	BMDL	BMDL
Chlorobenzene	ug/kg	BMDL	BMDL	BMDL	120J	370J
Chloromethane	ug/kg	4J	BMDL	BMDL	BMDL	57J
1,1-Dichloroethene	ug/kg	BMDL	BMDL	ND	ND	ND
1,2-Dichloroethene (total)	ug/kg	BMDL	BMDL	BMDL	8J	BMDL
Methylene chloride	ug/kg	BMDL	7J	BMDL	BMDL	BMDL
Toluene	ug/kg	ND	ND	ND	ND	ND
Xylene (total)	ug/kg	BMDL	BMDL	BMDL	360J	1500J
TOTAL VOCs	ug/kg	4	7	210	607	1959

Notes:

BMDL = Below Minimum Detection Limit

J = Tentatively identified compound where a 1:1 response is assumed, or when the spectral data indicate the presence of a compound that meets the identification criteria but the quantified value is less than the method quantitation limit.

ug/kg = micrograms per kilogram

ND = Compound data rejected due to detection in blank or other data validation problems.

TABLE 35

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

STREAM SEDIMENT ANALYTICAL RESULTS
HSL METAL COMPOUNDS
(in mg/kg)

ELEMENT	SED1	SED2	SED3	SED4	SED5	SED7	SED8 (SED7 DUP)
Aluminum	3550	6000	4200	1520	6140	6030	8560
Arsenic	ND	ND	ND	ND	0.8J	1.2J	1.7J
Barium	36.1J	75.1J	40.7J	158J	36.7J	118J	156J
Beryllium	ND	0.39J	0.27J	ND	0.37J	0.42J	0.62J
Cadmium	2.7J	3.7J	2.6J	ND	2.7J	8.2J	12.2J
Calcium	1510	1160J	834J	12400	612J	5880	5250
Chromium	11.0J	13.1J	7.6J	ND	12.4J	24.1J	35.4J
Cobalt	ND	ND	ND	ND	4.4J	ND	ND
Copper	22.7J	21.4J	14.5J	21.8J	9.5J	42.1J	57.2J
Iron	7980	12000	5830	8090	10500	29200	45000
Lead	67.5J	33.2J	11.2J	ND	3.6J	83.2J	109J
Magnesium	1700	2770	1690	1050J	2780	2260	3180
Manganese	145	632J	97.8J	1970J	176J	300J	449J
Nickel	7.6J	13.1J	9.5J	ND	10.3J	22.8J	33.4J
Potassium	652	927J	752J	ND	966	865J	1270J
Sodium	ND	162J	ND	533J	ND	174J	277J
Vanadium	15.3J	20.7J	14.5J	ND	26.0J	23.0J	31.4J
Zinc	82.7J	79.3J	35.1J	60.4J	32.3J	244J	340J

NOTES:

J = Approximate value

ND = Not detected above CRDL (or corrected to ND due to blank).

TABLE 36

Old Southington Landfill
Southington, Connecticut

Test Boring Analytical Summary
Volatile Organic Compounds Reduced Data
Page 1 of 2

Sample Location	DECONBLA	TB10	TB10	TB13	TB15	TB20	TB24	TB18	TB18
Sample ID No.	DECONBLA	TB10B20	TB40B20(1)	TB13A1	TB15A5	TB20A7	TB24A5	TB18B9	TB28B9(2)
Sample Date	1/27/90	01/26/90	01/26/90	01/18/90	01/19/90	1/19/90	1/25/90	1/19/90	1/19/90

PARAMETER	UNITS	CRDL*							
1,1,2,2-Tetrachloroethane	ug/kg	5							
1,2-Dichloroethene (total)	ug/kg	5	2700J	1200J					
2-Butanone	ug/kg	10			14J	17J			
Chlorobenzene	ug/kg	5							
Chloroform	ug/kg	5							
Ethylbenzene	ug/kg	5	2400J	890J			3700		
Methylene chloride	ug/kg	5							
Styrene	ug/kg	5							
Tetrachloroethene	ug/kg	5	13000J	5900J					
Toluene	ug/kg	5	1400J	530J	4	11		2	3
Trichloroethene	ug/kg	5	8900	7200	1				
Vinyl Chloride	ug/kg	10			3				
Xylene (total)	ug/kg	5	10000J	3900J			7000		
TOTAL VOCs	ug/kg		ND 38,400	19,620	22	28	ND 10700	2	3

NOTES:

(1) Sample TB4B20 is a field duplicate of TB10B20 collected from borehole TB-10 at a depth of 20-22 feet below the ground surface.

(2) Sample TB28B9 is a field duplicate of TB18B9 collected from borehole TB18 at a depth of 9-11 feet below the ground surface.

J = Indicates an estimated value. The flag is used for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the quantified value is less than the method quantitation limit or when variations in instrument response factor indicates that quantitation may be biased high or low.

CRDL* = Contract required detection limit

TABLE 36

Old Southington Landfill
Southington, Connecticut

Test Boring Analytical Summary
Volatile Organic Compounds Reduced Data
Page 2 of 2

Sample Location	TB25	TB25	TB26A	TB26A	TB3	TB4	TB4	TB7SA	TRIPBLB
Sample ID No.	TB25A10	TB25C20	TB26AA12	TB36AA12(3)	TB3A7	TB34A11	TB4C9	TB7SAA15	TRIPBLB
Sample Date	1/27/90	01/27/90	01/25/90	01/25/90	01/24/90	1/24/90	1/24/90	1/27/90	1/27/90

PARAMETER	UNITS	CRDL*								
1,1,2,2-Tetrachloroethane	ug/kg	5								
1,2-Dichloroethene (total)	ug/kg	5		4J				2		
2-Butanone	ug/kg	10								
Benzene	ug/kg	5		5J	1					
Carbon disulfide	ug/kg	5		4J	1					
Chlorobenzene	ug/kg	5					1300	2		
Chloroform	ug/kg	5								
Ethylbenzene	ug/kg	5	15000	310000			1800	1200		
Methylene chloride	ug/kg	5								
Styrene	ug/kg	5		19000	2					
Tetrachloroethene	ug/kg	5								
Toluene	ug/kg	5	2400	48000	28J					
Trichloroethene	ug/kg	5		5J	2	2		1		
Xylene (total)	ug/kg	5	18000	210000	7J		11000	5900	7	
TOTAL VOCs	ug/kg		35400	587000	55	4	2	12800	8400	12
										ND

NOTES:

(3) Sample TB36AA12 is a field duplicate of TB26AA12 collected from borehole TB-26 at a depth of 12-14 feet below the ground surface.

J = Indicates an estimated value. The flag is used for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the quantified value is less than the method quantitation limit.

CRDL* = Contract required detection limit

TABLE 37

Old Southington Landfill
 Southington, Connecticut
 Test Boring Analytical Summary
 Semi-Volatile Organic Compounds Reduced Data

Sample Location			TB-13	TB26	TB36	TB7SA	TB8	TB10	TB40	TB6	TB11	TB24
Sample ID No.			TB13A1	TB26B811	TB36B811	TB7SAB15	TB8A10	TB10C22	TB40C22 (1)	TB6B12	TB11A5	TB24A5
Sample Date			1/18/90	01/25/90	01/25/90	01/27/90	01/23/90	1/25/90	1/26/90	1/25/90	1/23/90	1/25/90
PARAMETER	UNITS	CRDL*										
=====												
Acenaphthene	ug/kg	330		280J		950J	42J					
Acenaphthylene	ug/kg	330	160J			1400	190J					
Anthracene	ug/kg	330	120J			2700J	200J					
Benzo(a)Anthracene	ug/kg	330	660J	540J	470J	4200J	630J	310J	300J			64J
Benzo(b)Fluoranthene	ug/kg	330	440J	580J	290J	3300J	660J	220J	370J			54J
Benzo(k)Fluoranthene	ug/kg	330	850J	740J	470J	4300J	480J	460J	480J			56J
Benzo(a)Pyrene	ug/kg	330	720J	560J		4400J	610					59J
Benzo(g,h,i)Perylene	ug/kg	330	500J			2600J	430					
Bis(2-ethylhexyl)phthalate	ug/kg	330				38000						
Butylbenzyl phthalate	ug/kg	330				960J		460	360	100		74
Chrysene	ug/kg	330	730J	710J	310J	5000	690	450J	580J			83J
Di-n-butyl phthalate	ug/kg	330									60J	
Dibenzofuran	ug/kg	330				1100J	71J					
Fluoranthene	ug/kg	330	1400J	1200J	890J	11000	1300		910J			130J
Fluorene	ug/kg	330	70J	240J		2300J	170J	780J				
Indeno(1,2,3-cd)Pyrene	ug/kg	330	560J			3000J	470					
2-Methylnaphthalene	ug/kg	330		370J		2300J	45J					
Naphthalene	ug/kg	330		1500J		7100						60
Phenanthrene	ug/kg	330	750J	740J	370J	13000	1100	530J	600J			110J
Pyrene	ug/kg	330	1200J	690J	490J	7800J	1500	520J	650J			130J
=====												
TOTAL SEMI-VOCS	ug/kg		8160	8150	3290	115410	8588	3730	4250	100	60	820

NOTES:

(1) Sample TB40C22 is a field duplicate of TB10C22 collected from borehole TB-10 at a depth of 22-27 feet below the ground surface.

J = Indicates an estimated value. The flag is used for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the quantified value is less than the method quantitation limit or when variations in instrument response factor indicates that quantitation may be biased high or low.

CRDL* = Contract required detection limit

TABLE 38

Old Southington Landfill
Southington, Connecticut

Test Boring Analytical Summary
Metals and Cyanide Reduced Data
Page 1 of 2

Sample Location			TB10	TB10	TB11	TB12	TB13	TB15	TB18	TB18	TB2	TB20
Sample ID No.			TB10C22	TB40C22 (2	TB11A5	TB12A5	TB13A1	TB15A5	TB18A5	TB28A5 (3)	TB2A5	TB20A77
Sample Date			1/26/90	01/26/90	01/23/90	01/23/90	01/18/90	01/19/90	01/19/90	01/19/90	01/24/90	01/19/90
PARAMETER	UNITS	CRDL* (1)										
Aluminum, total	mg/kg	7.8	5610.00J	5300.00J	8050.00	9160.00	6060.00	10100.00	4980.00	5150.00	4420.00	8030.00
Antimony	mg/kg	1.3			28.10J				71.50J	46.80J	24.00J	57.70J
Arsenic, total	mg/kg	0.89										
Barium, total	mg/kg	7.8				73.30		46.00				79.40
Cadmium, total	mg/kg	0.89	5.60J	4.90J	3.50	4.20	5.80J	4.20	3.40	2.70	2.50	4.40
Calcium, total	mg/kg	16.0							1450.00J	1970.00J		2200.00J
Chromium, total	mg/kg	11.0	15.10J	13.90J	12.20	14.90	23.70	14.00	9.50	9.70	7.20	16.10
Cobalt, total	mg/kg	3.3										
Copper, total	mg/kg	1.1	44.70J	40.00	7.20	11.10	35.80	9.10	7.60	10.10		13.00
Cyanide	mg/kg	2.2		3.70								
Iron, total	mg/kg	8.9	8820.00J	8870.00J	9120.00	13300.00	11300.00	10600.00	7850.00	9590.00	6630.00	11600.00
Lead, total	mg/kg	0.44	27.60J	30.50J	41.0J	7.70J	78.80	6.40M	4.20J	2.40J	2.90J	2.40J
Magnesium, total	mg/kg	7.6	2270.00	2220.00	2950.00	4890.00	2790.00	3000.00	2770.00	3140.00	1770.00	4730.00
Manganese, total	mg/kg	0.67	99.20J	8.80J	229.00J	425.00J	147.00	229.00	131.00J	150.00J	202.00J	299.00J
Mercury, total	mg/kg	0.18	0.25									
Nickel, total	mg/kg	4.0			10.00	15.60J	25.50	14.60	11.10J	12.40		17.90J
Potassium, total	mg/kg	33.0			1290.00	2320.00				1090.00		1660.00
Silver, total	mg/kg	2.0										
Vanadium, total	mg/kg	2.9	18.00	17.70	19.00	29.70	27.20	24.50	18.70	20.70	14.20	26.60
Zinc, total	mg/kg	1.6	104.00	92.70	27.40	41.90J	81.70	33.50	25.10	28.30	16.70	39.80

NOTES:

(1) CRDL values based on instrument detection limit.

(2) Sample TB40C22 is a field duplicate of TB10C22 collected from borehole TB10 at a depth of 22-27 feet below the ground surface.

(3) Sample TB28A5 is a field duplicate of TB18A5 collected from borehole TB18 at a depth of 5-7 feet below the ground surface.

J = Indicates an estimated value. The flag is used for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the quantified value is less than the method quantitation limit or when variations in instrument response factor indicates that quantitation may be biased high or low.

M = Spike sample recovery not within control limits.

CRDL* = Contract required detection limit

TABLE 38

Old Southington Landfill
Southington, Connecticut

Test Boring Analytical Summary
Metals and Cyanide Reduced Data
Page 2 of 2

Sample Location			TB24	TB25	TB26B	TB26B	TB3	TB4	TB4	TB6	TB7SA	TB8
Sample ID No.			TB24A5	TB24B13	TB26BA7	TB36BA7 (2)	TB3A7	TB34A11 (3)	TB4D11	TB6A10	TB7SAB15	TB8A10
Sample Date			1/25/90	01/27/90	01/25/90	01/25/90	01/24/90	01/24/90	01/24/90	01/25/90	01/27/90	01/23/90
PARAMETER	UNITS	CRDL* (1)										
=====												
Aluminum, total	mg/kg	7.8	4210.00J	7370.00J	8150.00J	8050.00J	17400.00	5850.00	7140.00	5260.00J	7260.00J	6520.00
Antimony	mg/kg	1.3					21.80J	36.10J				
Arsenic, total	mg/kg	0.89				3.20						
Barium, total	mg/kg	7.8		53.00	139.00	177.00	107.00			70.40	94.90	
Cadmium, total	mg/kg	0.89	31.0J	6.30K	14.40J	17.20	6.80	6.90	13.40	4.00J	9.20J	3.60
Calcium, total	mg/kg	16.0		1520.00	2820.00	7620.00		3410.00J	1530.00J	9100.00	3110.00	2490.00J
Chromium, total	mg/kg	11.0	8.20J	27.80J	87.60	53.50	17.80	232.00	62.10	11.10J	18.30J	12.40
Cobalt, total	mg/kg	3.3			18.90	23.30		46.70				
Copper, total	mg/kg	1.1	5.80	56.00	293.00	186.00	9.70	81.30	38.30	9.00	25.90	20.50
Cyanide	mg/kg	2.2										
Iron, total	mg/kg	8.9	6120.00J	12500.00J	24200.00J	21000.00J	15200.00	16600.00	12700.00	9280.00J	22600.00J	9760.00
Lead, total	mg/kg	0.44	6.90J	48.00J	153.00J	277.00J	10.50J	112.00J	42.10J	1.90J	143.00J	5.90J
Magnesium, total	mg/kg	7.6	1480.00J	2290.00	3980.00	4170.00J	3770.00	2090.00	2200.00	3470.00	2860.00	3610.00
Manganese, total	mg/kg	0.67	368.00J	213.00J	312.00J	503.00J	939.00J	202.00J	172.00J	255.00J	330.00J	373.00J
Mercury, total	mg/kg	0.18	0.25	0.16J							0.29M	
Nickel, total	mg/kg	4.0		28.70	91.00	77.00	18.00J	306.00	38.40			11.20J
Potassium, total	mg/kg	33.0								1310.00	1470.00	
Silver, total	mg/kg	2.0		3.10		7.50J					2.50J	
Vanadium, total	mg/kg	2.9	15.40	23.60	38.30	40.30	32.50	17.50	16.90	20.00	20.50	21.30
Zinc, total	mg/kg	1.6	32.1J	163.00	354.00	674.00J	409.00	290.00	174.00	26.50J	229.00	30.80J

NOTES:

(1) CRDL values based on instrument detection limit.

(2) Sample TB36BA7 is a field duplicate of TB26BA7 collected from borehole TB26 at a depth of 7-9 feet below the ground surface.

(3) Sample TB34A11 is a field duplicate of TB4D11 collected from borehole TB4 at a depth of 11-13 feet below the ground surface.

J = Indicates an estimated value. The flag is used for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the quantified value is less than the method quantitation limit or when variations in instrument response factor indicates that quantitation may be biased high or low.

M = Spike sample recovery not within control limits.

CRDL* = Contract required detection limit

TABLE 39

Old Southington Landfill
Southington, Connecticut

Test Boring Analytical Summary
PCB/Pesticide Reduced Data

Sample Location	TB24	TB26B	TB26B	TB7SA	TB13
Sample ID No.	TB24A5	TB26BB11	TB368B11 (1)	TB7SAB15	TB13A1
Sample Date	1/25/90	01/25/90	01/25/90	01/27/90	01/18/90

PARAMETER	UNITS	CRDL*			
4,4'-DDT	ug/kg	16	19		
Heptachlor epoxide	ug/kg	8			8.0J
Endrin ketone	ug/kg	16			5.5J
Alpha-chlordane	ug/kg	80			15.0J
Gamma chlordane	ug/kg	80			19.0J
Aroclor-1242	ug/kg	80			2000J
Aroclor-1254	ug/kg	16			560J
Aroclor-1260	ug/kg	16	1100J	310J	
TOTAL PCBs	ug/kg		1100J	310	2560
TOTAL PESTICIDES	ug/kg		19		47.5

NOTES:

(1) Sample TB368B11 is a duplicate of sample TB26BB11.

J = Indicates an estimated value. The flag is used for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the quantified value is less than the method quantitation limit or when variations in instrument response factor indicates that quantitation may be biased high or low.

CRDL* = Contract required detection limit

TABLE 40

Old Southington Landfill
Southington, Connecticut

Test Boring Analytical Summary
Btu, TOC and pH Reduced Data

Sample Location	TB10	TB10	TB25	TB26B	TB4	TB4	TB6	TB7SA
Sample ID No.	TB10A15	TB40A15 (1)	TB25C20	TB26BB11	TB4D11	TB4A5	TB6B12	TB7SAC30
Sample Date	1/26/90	01/26/90	01/27/90	01/25/90	01/24/90	01/24/90	01/25/90	01/27/90

PARAMETER	UNITS							
=====								
Total Organic Carbon (TOC)	mg/kg	NA	NA	760	2000	NA	NA	NA
pH	SU	7.2	7.1	NA	NA	7.9	NA	8.2
Btu	Btus/lb	NI	NI	NA	NA	NA	NI	NI

NOTES:

mg/kg = milligrams per kilogram

SU = Standard Units

NA = Not Analyzed

NI = Not Ignitable

(1) Sample TB40A15 is a field duplicate of TB10A15 collected from borehole TB10 at a depth of 15-17 feet.

TABLE 41

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

SITE SOILS PHYSICAL PARAMETER SUMMARY TABLE

LOCATION	SAMPLE DEPTH (ft)	TOC (ug/g)	RELATIVE SOIL MOISTURE CONTENT
TOC (TOTAL ORGANIC CARBON)			
TB-25	20-24	760	Unsaturated
TB-26	11-13	2000	Saturated
GZ-5S	10-12	170	Unsaturated
GZ-5S (dup)	10-12	380	Unsaturated
GZ-12D	5-10	500	Unsaturated
GZ-12D	90-93	840	Saturated
CEC (CATION EXCHANGE CAPACITY)			
GZ-13D	155-160	30.1	Saturated
GZ-14M	80-85	25.0	Saturated

TABLE 42

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUTSCREENING RESULTS
FIELD GROUNDWATER SUMMARY
Page 1 of 2

LOCATION	pH: S.U.	SPECIFIC CONDUCTANCE: UMHOS/CM
MENARD	7.2	245
GZ-1	8.0	215
GZ-2	6.7	155
GZ-3	7.0	270
CW-20	7.6	385
CW-15	7.9	260
GZ-11D	7.5	350
GZ-11S	5.8	290
LW-103D	7.9	220
LW-103M	7.8	315
LW-103S	7.1	320
GZ-13D	7.5	280
GZ-13M	7.9	150
GZ-13S	6.8	90
GZ-14D	8.3	200
GZ-14M	8.7	90
GZ-14S	7.1	265
GZ-12D	7.6	195
GZ-12M	7.4	290
TW-18	5.7	120
LW-15M	7.6	280
LW-15S	6.2	440
LW-15D	8.0	260
LW-17D	7.2	230

TABLE 42

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUTSCREENING RESULTS
FIELD GROUNDWATER SUMMARY
Page 2 of 2

LOCATION	pH: S.U.	SPECIFIC CONDUCTANCE: UMHOS/CM
LW-17M	8.1	225
TW-17	6.2	360
GZ-5D	7.6	260
GZ-5M	7.2	600
GZ-5S	5.8	75
C&E	7.5	420
GZ-4M	7.5	260
GZ-4D	7.0	400
GZ-4S	6.0	330
GZ-7D	8.2	225
GZ-7M	7.8	280
GZ-7S	6.3	700
TB-7S	6.8	600
B-3	6.8	1650
SW-4	8.0	310
SW-1	7.1	500
SW-6	7.8	335
SW-5	7.9	350
SW-2	7.8	400
SW-7	7.0	600
WP-4	4.8	170
WP-2	6.3	140
WP-3	6.1	500
WP-5	6.9	425
WP-1	6.5	380

NOTE: Although four readings were taken for each parameter, the last reading is shown, as it is most likely representative of a stabilized value.

Old Southington Landfill
Southington, Connecticut

Page 1 of 3

Sample Id	OSLGWSB3*	OSLGWSB13*	OSLGWSCE	OSLGWSGZ11S	OSLGWSGZ12M	OSLGWSGZ14D	OSLGWSGZ24D	OSLGWSGZ14M	GWSGZ11D	CRQL (a)
Well Number	B-3	B-3 (DUP)	C & E	GZ-11S	GZ-12M	GZ-14D	GZ-14D (DUP)	GZ-14M	GZ-11D	
Sample Date	06/28/90	06/28/90	06/25/90	06/14/90	06/20/90	06/19/90	06/19/90	06/19/90		

[illegible]

TABLE 43

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY

COMPOUNDS

HSL Volatile Organic Compds

Page 2 of 3

Sample Id	OSLGWSGZ2	OSLGWSGZ4M	OSLGWSGZ4S	OSLGWSGZ5D	OSLGWSGZ5M	OSLGWSGZ7D	OSLGWSGZ7S	OSLGWSM	GWSLORI	CRQL (a)
Well Number	GZ-2	GZ-4M	GZ-4S	GZ-5D	GZ-5M	GZ-7D	GZ-7S	MENARD	LORI	
Sample Date	06/12/90	06/26/90	06/26/90	06/25/90	06/25/90	06/27/90	06/27/90	06/07/90		

PARAMETERS	UNITS
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Acetone	ug/l	BMDL	BMDL	ND	ND	BMDL	ND	BMDL	BMDL	BMDL	10
Benzene	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	4J	BMDL	BMDL	5
Carbon disulfide	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	2J	BMDL	BMDL	5
Chlorobenzene	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	22	BMDL	ND	5
Chloroethane	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10
Chloroform	ug/l	BMDL	BMDL	BMDL	BMDL	86	BMDL	BMDL	2J	BMDL	5
1,1-Dichloroethane	ug/l	BMDL	2J	3J	BMDL	6J	BMDL	BMDL	BMDL	BMDL	5
1,1-Dichloroethene	ug/l	ND	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
1,2-Dichloroethene	ug/l	BMDL	BMDL	BMDL	BMDL	540	BMDL	BMDL	7	BMDL	5
Ethylbenzene	ug/l	BMDL	BMDL	1J	BMDL	BMDL	BMDL	7	BMDL	BMDL	5
Methylene Chloride	ug/l	BMDL	BMDL	BMDL	BMDL	ND	BMDL	BMDL	BMDL	BMDL	5
Tetrachloroethene	ug/l	BMDL	BMDL	BMDL	BMDL	62	BMDL	BMDL	BMDL	BMDL	5
Toluene	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	2J	BMDL	BMDL	5
1,1,1-Trichloroethane	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Trichloroethene	ug/l	BMDL	BMDL	BMDL	BMDL	580	BMDL	BMDL	1	BMDL	5
Vinyl chloride	ug/l	BMDL	BMDL	170	BMDL	94	BMDL	BMDL	BMDL	BMDL	10
Xylenes	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	200	BMDL	BMDL	5

TABLE 43

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY
HSL VOLATILE ORGANIC COMPOUNDS

Page 3 of 3

Sample Id	OSLGWSLW103D	OSLGWSLW103S	OSLWPSWP2	OSLWPSWP3	OSLWPSWP4	OSLWPSWP5	CRQL (a)
Well Number	LW-103D	LW-103S	WP-2	WP-3	WP-4	WP-5	
Sample Date	06/15/90	06/15/90	07/02/90	07/02/90	07/02/90	07/02/90	

PARAMETERS	UNITS							
Acetone	ug/l	ND	ND	ND	BMDL	260	ND	10
Benzene	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Carbon disulfide	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Chlorobenzene	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Chloroethane	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10
Chloroform	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
1,1-Dichloroethane	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
1,1-Dichloroethene	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
1,2-Dichloroethene	ug/l	BMDL	BMDL	ND	1J	9J	ND	5
Ethylbenzene	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Methylene Chloride	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Tetrachloroethene	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Toluene	ug/l	BMDL	BMDL	BMDL	BMDL	ND	ND	5
1,1,1-Trichloroethane	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Trichloroethene	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Vinyl chloride	ug/l	BMDL	BMDL	BMDL	BMDL	4J	BMDL	10
Xylenes	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5

NOTES:

ug/l = Micrograms per liter

BMDL = Below minimum detection limit

NS = No standard set for this parameter

ND = Compound data rejected due to detection in blank or other data validation problems.

J = Estimated value

(a) Contract Required Detection Limit

* When sample B-3 (dup) was preserved by acidification to pH2 gas bubbles were generated within the water. Since these gas bubbles could purge VOCs a second sample (B-3) was collected without acidic preservation. Sample B-3 is considered more representative of groundwater quality at this location.

TABLE 44

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY
HSL SEMI-VOLATILE ORGANIC COMPOUNDS

Sample Id	OSLGWSB3	OSLGWSB13	OSLGWSGZ7S	USGZ1009	CRQL (a)
Well Number	B-3	B-3	GZ-7S	GZ-1	
Sample Date	06/28/90	06/28/90	06/27/90		

PARAMETERS	UNITS					
Acenaphthene	ug/l	BMDL	BMDL	31J	BMDL	50
Anthracene	ug/l	BMDL	BMDL	12J	BMDL	10
Benzo(a)anthracene	ug/l	BMDL	BMDL	5J	BMDL	10
Benzoic acid	ug/l	BMDL	BMDL	BMDL	BMDL	50
Chrysene	ug/l	BMDL	BMDL	5J	BMDL	10
Dibenzofuran	ug/l	BMDL	BMDL	28J	BMDL	10
Diethyl phthalate	ug/l	BMDL	BMDL	BMDL	BMDL	10
2,4-Dimethylphenol	ug/l	5J	5J	4J	BMDL	10
Fluoranthene	ug/l	BMDL	BMDL	23J	BMDL	10
Fluorene	ug/l	BMDL	BMDL	32J	BMDL	10
2-Methylnaphthalene	ug/l	BMDL	BMDL	42J	BMDL	10
Naphthalene	ug/l	13	10	95J	2J	10
Pyrene	ug/l	BMDL	BMDL	15J	BMDL	10
Phenanthrene	ug/l	BMDL	BMDL	60J	BMDL	10
Benzo(b)fluoranthene	ug/l	BMDL	BMDL	3J	BMDL	10
Benzo(a)pyrene	ug/l	BMDL	BMDL	2J	BMDL	10

NOTES:

BMDL = Below Minimum Detection Limit

J = Tentatively identified compound where a 1:1 response is assumed, or when the spectral data indicate the presence of a compound that meets the identification criteria but the quantified value is less than the method quantitation limit.

ug/l = Micrograms per liter

NS = No standard set for this parameter

(a) Contract Required Detection Limit

TABLE 45

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY
PCB AND PESTICIDE COMPOUNDS

Sample Id	OSLGWSGZ7M	OSLGWSGZ7S	OSLGWSTB7S	CRQL (a)
Well Number	GZ-7M	GZ-7S	TB-7S	
Sample Date	06/27/90	06/27/90	06/28/90	

PARAMETERS	UNITS				
=====					
Aroclor-1248	ug/l	BMDL	BMDL	1.4	0.5
Aroclor-1254	ug/l	BMDL	8.3J	BMDL	1.0
Lindane	ug/l	0.026J	BMDL	BMDL	0.05

NOTES:

BMDL = Below Minimum Detection Limit

J = Tentatively identified compound where a 1:1 response is assumed, or when the spectral data indicate the presence of a compound that meets the identification criteria but the quantified value is less than the method quantitation limit.

ug/l = Micrograms per liter

NS = No standard set for this parameter.

(a) Contract Required Detection Limit

TABLE 46

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY
HSL DISSOLVED METALS AND CYANIDE

Page 1 of 7

Sample Id	OSLGWSB3	OSLGWSB13	OSLGWSCE	OSLGWSCW15	OSLGWSCW20	OSLGWSGZ1	OSLGWSGZ11D	CRQL (a)
Well Number	B-3	B-3 (DUP)	C & E	CW-15	CW-20	GZ-1	GZ-11D	
Sample Date	06/28/90	06/28/90	06/25/90	06/13/90	06/13/90	06/12/90	06/14/90	

PARAMETERS UNITS

Aluminum (Al)	ug/l	BMDL	BMDL	NA	NA	NA	1370J	ND	200
Antimony (Sb)	ug/l	60.1J	BMDL	NA	NA	NA	BMDL	BMDL	60
Arsenic (As)	ug/l	7.20	7.4J	NA	NA	NA	BMDL	BMDL	10
Barium (Ba)	ug/l	1720	1740	NA	NA	NA	268	233	200
Beryllium (Be)	ug/l	BMDL	BMDL	NA	NA	NA	BMDL	BMDL	5
Cadmium (Cd)	ug/l	6.00	5.60	NA	NA	NA	5.00	BMDL	5
Calcium (Ca)	ug/l	38400	39200	52000	50000	77000	39900	54500	5000
Cobalt (Co)	ug/l	BMDL	BMDL	NA	NA	NA	BMDL	BMDL	50
Copper (Cu)	ug/l	ND	ND	NA	NA	NA	ND	ND	25
Cyanide (CN)	ug/l	10.1	6.00	NA	NA	NA	BMDL	BMDL	10
Iron (Fe)	ug/l	23200	28400	NA	NA	NA	ND	ND	100
Lead (Pb)	ug/l	BMDL	ND	NA	NA	NA	ND	ND	3
Magnesium (Mg)	ug/l	38800	39800	11000	8000	10000	6270	7570	5000
Manganese (Mn)	ug/l	286	304	NA	NA	NA	ND	126	15
Mercury (Hg)	ug/l	BMDL	BMDL	NA	NA	NA	BMDL	BMDL	0.2
Nickel (Ni)	ug/l	34.1J	29.9J	NA	NA	NA	BMDL	BMDL	40
Potassium (K)	ug/l	55000	55900	NA	NA	NA	BMDL	971J	5000
Silver (Ag)	ug/l	13.9J	BMDL	NA	NA	NA	BMDL	BMDL	10
Sodium (Na)	ug/l	61000	62900	18000	8800	15000	ND	12200J	5000
Thallium (Tl)	ug/l	BMDL	BMDL	NA	NA	NA	BMDL	BMDL	10
Vanadium (V)	ug/l	BMDL	BMDL	NA	NA	NA	BMDL	BMDL	50
Zinc (Zn)	ug/l	ND	ND	NA	NA	NA	ND	ND	20

TABLE 46

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY
HSL DISSOLVED METALS AND CYANIDE

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Sample Id	OSLGWSGZ11S	OSLGWSGZ12D	OSLGWSGZ12M	OSLGWSGZ13D	OSLGWSGZ13M	OSLGWSGZ13S	OSLGWSGZ14D	CRQL (a)
Well Number	GZ-11S	GZ-12D	GZ-12M	GZ-13D	GZ-13M	GZ-13S	GZ-14D	
Sample Date	06/14/90	06/20/90	06/20/90	06/18/90	06/18/90	06/18/90	06/19/90	

PARAMETERS	UNITS
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Aluminum (Al)	ug/l	ND	BMDL	BMDL	BMDL	64.3J	BMDL	BMDL	200
Antimony (Sb)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	60
Arsenic (As)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10
Barium (Ba)	ug/l	410	123J	252	ND	ND	ND	ND	200
Beryllium (Be)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	1.60J	BMDL	5
Cadmium (Cd)	ug/l	9.20	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Calcium (Ca)	ug/l	18400	30300	50800	51300	26800	9220	33900	5000
Cobalt (Co)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	50
Copper (Cu)	ug/l	ND	5.50J	10.6J	ND	ND	ND	ND	25
Cyanide (CN)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10
Iron (Fe)	ug/l	21700	BMDL	20.5J	BMDL	24.3J	BMDL	63.6J	100
Lead (Pb)	ug/l	ND	BMDL	BMDL	BMDL	2.10J	BMDL	BMDL	3
Magnesium (Mg)	ug/l	5200	6880	8720	7340	2700J	2790J	4200J	5000
Manganese (Mn)	ug/l	342	50.7	1120	6.50J	3.00J	3.20J	3.80J	15
Mercury (Hg)	ug/l	BMDL	BMDL	BMDL	ND	ND	ND	ND	0.2
Nickel (Ni)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	40
Potassium (K)	ug/l	3000J	1460J	BMDL	BMDL	927	BMDL	BMDL	5000
Silver (Ag)	ug/l	BMDL	BMDL	BMDL	BMDL	10.8J	BMDL	BMDL	10
Sodium (Na)	ug/l	23900J	10400	12300	9970	6450	8380	9780	5000
Thallium (Tl)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	1.20J	10
Vanadium (V)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	50
Zinc (Zn)	ug/l	ND	ND	ND	ND	ND	ND	ND	20

TABLE 46

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY
HSL DISSOLVED METALS AND CYANIDE

Page 3 of 7

Sample Id	OSLGWSGZ24D	OSLGWSGZ14M	OSLGWSGZ14S	OSLGWSGZ17D	OSLGWSGZ17M	OSLGWSGZ2	OSLGWSGZ22	CRQL (a)
Well Number	GZ-14D (DUP)	GZ-14M	GZ-14S	GZ-17D	GZ-17M	GZ-2	GZ-2 (DUP)	
Sample Date	06/19/90	06/19/90	06/19/90	06/22/90	06/22/90	06/12/90	06/12/90	

PARAMETERS	UNITS
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Aluminum (Al)	ug/l	BMDL	65.4J	BMDL	BMDL	BMDL	ND	ND	200
Antimony (Sb)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	60
Arsenic (As)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10
Barium (Ba)	ug/l	169J	68.4J	82.6J	141J	111J	136J	178J	200
Beryllium (Be)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Cadmium (Cd)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Calcium (Ca)	ug/l	33500	1890J	57800	39800	40700	22200	22200	5000
Cobalt (Co)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	50
Copper (Cu)	ug/l	ND	ND	ND	BMDL	BMDL	ND	BMDL	25
Cyanide (CN)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10
Iron (Fe)	ug/l	21.3J	70.6J	BMDL	BMDL	BMDL	ND	ND	100
Lead (Pb)	ug/l	BMDL	BMDL	BMDL	ND	BMDL	ND	ND	3
Magnesium (Mg)	ug/l	4180J	1890J	6930	753	7300	4900J	5010	5000
Manganese (Mn)	ug/l	3.90J	BMDL	10.8J	19.8	4.30	ND	ND	15
Mercury (Hg)	ug/l	BMDL	ND	BMDL	BMDL	BMDL	BMDL	BMDL	0.2
Nickel (Ni)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	40
Potassium (K)	ug/l	879J	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5000
Silver (Ag)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10
Sodium (Na)	ug/l	9910	4260J	5410	7640	7600	ND	ND	5000
Thallium (Tl)	ug/l	BMDL	16.6J	BMDL	BMDL	BMDL	BMDL	BMDL	10
Vanadium (V)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	50
Zinc (Zn)	ug/l	ND	ND	214	ND	ND	165J	ND	20

TABLE 46

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY
HSL DISSOLVED METALS AND CYANIDE

Page 4 of 7

Sample Id	OSLGWSGZ3	OSLGWSGZ4D	OSLGWSGZ4M	OSLGWSGZ4S	OSLGWSGZ5D	OSLGWSGZ5M	OSLGWSGZ5S	CRQL (a)
Well Number	GZ-3	GZ-4D	GZ-4M	GZ-4S	GZ-5D	GZ-5M	GZ-5S	
Sample Date	06/13/90	06/26/90	06/26/90	06/26/90	06/25/90	06/25/90	06/25/90	

PARAMETERS	UNITS
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=====									
Aluminum (Al)	ug/l	ND	BMDL	BMDL	130J	BMDL	BMDL	BMDL	200
Antimony (Sb)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	60
Arsenic (As)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10
Barium (Ba)	ug/l	ND	73.9J	76.9J	134J	172J	1080	BMDL	200
Beryllium (Be)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Cadmium (Cd)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Calcium (Ca)	ug/l	46600	49800	42300	20500	35700	109000	9540	5000
Cobalt (Co)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	50
Copper (Cu)	ug/l	ND	BMDL	BMDL	ND	BMDL	ND	BMDL	25
Cyanide (CN)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10
Iron (Fe)	ug/l	ND	1190	103	17800	BMDL	ND	BMDL	100
Lead (Pb)	ug/l	ND	ND	ND	BMDL	BMDL	BMDL	BMDL	3
Magnesium (Mg)	ug/l	7390	9640	8140	7120	7690	20100	3040J	5000
Manganese (Mn)	ug/l	ND	320	1040	594	383	2300	33.0	15
Mercury (Hg)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	0.2
Nickel (Ni)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	40
Potassium (K)	ug/l	BMDL	4070J	916J	3580J	BMDL	ND	BMDL	5000
Silver (Ag)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	ND	BMDL	10
Sodium (Na)	ug/l	10000J	15600	8220	22500	17200	21100	3760J	5000
Thallium (Tl)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10
Vanadium (V)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	50
Zinc (Zn)	ug/l	ND	ND	ND	ND	ND	ND	ND	20

TABLE 46

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY
HSL DISSOLVED METALS AND CYANIDE

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Sample Id	OSLGWSGZ7D	OSLGWSGZ7M	OSLGWSGZ7S	OSLGWSLORI	OSLGWSLW103D	OSLGWSLW103M	OSLGWSLW103S	CRQL (a)
Well Number	GZ-7D	GZ-7M	GZ-7S	LORI	LW-103D	LW-103M	LW-103S	
Sample Date	06/27/90	06/27/90	06/27/90	07/05/90	06/15/90	06/15/90	06/15/90	

PARAMETERS	UNITS							
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Aluminum (Al)	ug/l	BMDL	BMDL	BMDL	BMDL	ND	BMDL	BMDL	200
Antimony (Sb)	ug/l	BMDL	BMDL	BMDL	BMDL	65.6	BMDL	BMDL	60
Arsenic (As)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10
Barium (Ba)	ug/l	135J	95.0J	312	138J	213	ND	ND	200
Beryllium (Be)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Cadmium (Cd)	ug/l	BMDL	BMDL	14.4	BMDL	BMDL	BMDL	BMDL	5
Calcium (Ca)	ug/l	34700	48000	67600	54400J	37200	55000	58200	5000
Cobalt (Co)	ug/l	BMDL	BMDL	21.8J	BMDL	BMDL	BMDL	BMDL	50
Copper (Cu)	ug/l	BMDL	ND	ND	5.10J	ND	ND	ND	25
Cyanide (CN)	ug/l	BMDL	BMDL	5.80	BMDL	BMDL	BMDL	BMDL	10
Iron (Fe)	ug/l	94.5J	31.30J	89800	2200J	BMDL	28.7J	22.8J	100
Lead (Pb)	ug/l	ND	ND	ND	ND	2.20J	BMDL	BMDL	3
Magnesium (Mg)	ug/l	6520	9020	12200	8750	6630	7560	7340	5000
Manganese (Mn)	ug/l	3.80J	1700	1640	214J	BMDL	BMDL	BMDL	15
Mercury (Hg)	ug/l	BMDL	BMDL	BMDL	BMDL	ND	ND	ND	0.2
Nickel (Ni)	ug/l	BMDL	BMDL	69.7	BMDL	BMDL	BMDL	BMDL	40
Potassium (K)	ug/l	1320J	1390J	8570	1500J	1270J	BMDL	BMDL	5000
Silver (Ag)	ug/l	BMDL	BMDL	BMDL	BMDL	12.3J	BMDL	BMDL	10
Sodium (Na)	ug/l	8840	10000	6640	12800J	8760	8690	8970	5000
Thallium (Tl)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10
Vanadium (V)	ug/l	BMDL	BMDL	BMDL	BMDL	13.5J	BMDL	BMDL	50
Zinc (Zn)	ug/l	ND	ND	ND	ND	ND	ND	ND	20

TABLE 46

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY
HSL DISSOLVED METALS AND CYANIDE
Page 6 of 7

Sample Id	OSLGSWLW15D	OSLGSWLW15M	OSLGSWLW25M	OSLGSWLW15S	OSLGWSM	OSLGWSTB7S	OSLGWSTW18	CRQL (a)	
Well Number	LW-15D	LW15M	LW15M (DUP)	LW15S	MENARD	TB-7S	TW-18		
Sample Date	06/21/90	06/21/90	06/21/90	06/21/90	06/07/90	06/28/90	06/20/90		
PARAMETERS	UNITS								
=====									
Aluminum (Al)	ug/l	BMDL	BMDL	BMDL	ND	BMDL	BMDL	200	
Antimony (Sb)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	60	
Arsenic (As)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10	
Barium (Ba)	ug/l	237	42.3J	41.1J	208	210	360	138J	200
Beryllium (Be)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	5
Cadmium (Cd)	ug/l	BMDL	BMDL	BMDL	7.70	BMDL	10.7	BMDL	5
Calcium (Ca)	ug/l	50800	50500	49700	50700	36200	60700	12600	5000
Cobalt (Co)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	50
Copper (Cu)	ug/l	BMDL	BMDL	BMDL	ND	ND	ND	11.5J	25
Cyanide (CN)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	9.30	BMDL	10
Iron (Fe)	ug/l	BMDL	28.0J	51.4J	24300	1800	63800	1200J	100
Lead (Pb)	ug/l	BMDL	BMDL	BMDL	2.40J	10.5J	ND	ND	3
Magnesium (Mg)	ug/l	8840	8940	8800	14600	9220	5740	4320J	5000
Manganese (Mn)	ug/l	BMDL	19.3J	188J	1660	ND	1230	570	15
Mercury (Hg)	ug/l	1.60	ND	ND	ND	BMDL	BMDL	BMDL	0.2
Nickel (Ni)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	42.80	BMDL	40
Potassium (K)	ug/l	BMDL	BMDL	BMDL	ND	BMDL	4030J	BMDL	5000
Silver (Ag)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10
Sodium (Na)	ug/l	7930	7840	7930	9670	11600	54700	9920	5000
Thallium (Tl)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	10
Vanadium (V)	ug/l	BMDL	BMDL	BMDL	BMDL	15.7J	BMDL	BMDL	50
Zinc (Zn)	ug/l	ND	ND	ND	ND	ND	ND	ND	20

TABLE 46

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY
HSL DISSOLVED METALS AND CYANIDE

Page 7 of 7

Sample Id	OSLWPSWP1	OSLWPSWP2	OSLWPSWP3	OSLWPSWP4	OSLWPSWP5	OSLGWSTW117003	CRQL (a)
Well Number	WP-1	WP-2	WP-3	WP-4	WP-5	TW-17	
Sample Date	07/02/90	07/02/90	07/02/90	07/02/90	07/02/90		

PARAMETERS	UNITS						
=====							
Aluminum (Al)	ug/l	BMDL	65.9J	99.6J	477	74.0J	BMDL 200
Antimony (Sb)	ug/l	BMDL	ND	ND	ND	BMDL	BMDL 60
Arsenic (As)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL 10
Barium (Ba)	ug/l	105J	BMDL	BMDL	BMDL	86.0J	152J 200
Beryllium (Be)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL 5
Cadmium (Cd)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL 5
Calcium (Ca)	ug/l	31200J	8350J	5810J	5950J	40000J	37200 5000
Cobalt (Co)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL 50
Copper (Cu)	ug/l	BMDL	5.70	11.6	30.7	BMDL	BMDL 25
Cyanide (CN)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL 10
Iron (Fe)	ug/l	15600J	419J	672J	2620J	9660J	21400J 100
Lead (Pb)	ug/l	BMDL	BMDL	BMDL	20.6J	BMDL	ND 3
Magnesium (Mg)	ug/l	6140	3840	7740	1100	8760	9120 5000
Manganese (Mn)	ug/l	1820J	210J	160J	546J	5240J	584 15
Mercury (Hg)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL 0.2
Nickel (Ni)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL 40
Potassium (K)	ug/l	6390	3100	42300	10100	5420	BMDL 5000
Silver (Ag)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL 10
Sodium (Na)	ug/l	27400J	16900J	58700J	15300J	28200J	26700 5000
Thallium (Tl)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL 10
Vanadium (V)	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL 50
Zinc (Zn)	ug/l	ND	ND	ND	144J	ND	193 20

NOTES:

(a) Contract Required Detection Limit

BMDL = Below Minimum Detection Limit

ug/l = Micrograms per liter

NS = No standard set for this parameter

ND = Compound data rejected due to detection in blank or other data validation problems

NA = Not Analyzed

J = Estimated value

TABLE 47

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY

TOTAL METALS

Page 1 of 6

Sample Id	OSLGWSB13	OSLGWSB3	OSLGWSCE	OSLGWSCW15	OSLGWSCW20	OSLGWSGZ1	OSLGWSGZ11D	OSLGWSGZ11S
Well Number	B-3 (dup)	B-3	C & E	CW-15	CW-20	GZ-1	GZ-11D	GZ-11S
Sample Date	06/28/90	06/28/90	06/25/90	06/13/90	06/13/90	06/12/90	06/14/90	06/14/90

PARAMETERS	UNITS
------------	-------

Aluminum, total	ug/l	59400J	150000J	NA	NA	NA	16500J	NA	NA
Antimony, total	ug/l	446J	841J	NA	NA	NA	BMDL	NA	NA
Arsenic, total	ug/l	38.9J	47.4J	NA	NA	NA	4.30J	NA	NA
Barium, total	ug/l	11000J	19400J	NA	NA	NA	378	NA	NA
Beryllium, total	ug/l	4.40J	9.90J	NA	NA	NA	1.90J	NA	NA
Cadmium, total	ug/l	421J	946J	NA	NA	NA	8.20	NA	NA
Calcium (Ca)	ug/l	245000J	364000J	NA	NA	NA	53600	NA	NA
Chromium, total	ug/l	497J	1170J	NA	NA	NA	38.8J	NA	NA
Cobalt, total	ug/l	110J	253J	NA	NA	NA	BMDL	NA	NA
Copper, total	ug/l	15500J	35500J	NA	NA	NA	57.5	NA	NA
Iron, total	ug/l	517000J	1010000J	NA	NA	NA	18700	NA	NA
Lead, total	ug/l	8220J	15400J	NA	NA	NA	35.7J	NA	NA
Magnesium, total	ug/l	78200	97700	NA	NA	NA	16800	NA	NA
Manganese, total	ug/l	5220J	9600J	NA	NA	NA	706	NA	NA
Mercury, total	ug/l	0.60	0.70	NA	NA	NA	BMDL	NA	NA
Nickel, total	ug/l	2000J	4890J	NA	NA	NA	45.1	NA	NA
Potassium, total	ug/l	71000	77600	NA	NA	NA	5000	NA	NA
Selenium, total	ug/l	11.1J	11.6J	NA	NA	NA	BMDL	NA	NA
Silver, total	ug/l	374J	902J	NA	NA	NA	BMDL	NA	NA
Sodium, total	ug/l	72800	73600	NA	NA	NA	8200J	NA	NA
Vanadium, total	ug/l	222J	484J	NA	NA	NA	51.8	NA	NA
Zinc, total	ug/l	17600J	38200J	NA	NA	NA	110J	NA	NA

Notes:

BMDL = Below Minimum Detection Limit

NA = Not Analyzed

ug/l = micrograms per liter

J = Estimated value

TABLE 47

Old Southington Landfill
 Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY

TOTAL METALS

Page 2 of 6

Sample Id	OSLGWSGZ12D	OSLGWSGZ12M	OSLGWSGZ13D	OSLGWSGZ13M	OSLGWSGZ13S	OSLGWSGZ14D	OSLGWSGZ14M	OSLGWSGZ14S	OSLGWSGZ24D
Well Number	GZ-12D	GZ-12M	GZ-13D	GZ-13M	GZ-13S	GZ-14D	GZ-14M	GZ-14S	GZ-14D (DUP)
Sample Date	06/20/90	06/20/90	06/18/90	06/18/90	06/18/90	06/19/90	06/19/90	06/19/90	06/19/90

PARAMETERS	UNITS
------------	-------

Aluminum, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Antimony, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Barium, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Calcium (Ca)	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Chromium, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Copper, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Iron, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Lead, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Mercury, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Nickel, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Potassium, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Selenium, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Silver, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Sodium, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA
Zinc, total	ug/l	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

NA = Not Analyzed

ug/l = micrograms per liter

TABLE 47

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY

TOTAL METALS

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Sample Id	OSLGWSLW17D	OSLGWSLW17M	OSLGWSGZ2	OSLGWSGZ22	OSLGWSGZ3	OSLGWSGZ4D	OSLGWSGZ4M	OSLGWSGZ4S	OSLGWSTW17010
Well Number	GZ-17D	GZ-17M	GZ-2	GZ-2 (DUP)	GZ-3	GZ-4D	GZ-4M	GZ-4S	TW-17
Sample Date	06/22/90	06/22/90	06/12/90	06/12/90	06/13/90	06/26/90	06/26/90	06/26/90	

PARAMETERS	UNITS									
Aluminum, total	ug/l	565J	13100J	NA	NA	27300J	6880J	455J	25500J	36400J
Antimony, total	ug/l	BMDL	BMDL	NA	NA	BMDL	BMDL	BMDL	BMDL	ND
Arsenic, total	ug/l	BMDL	BMDL	NA	NA	BMDL	BMDL	BMDL	4.60J	8.90J
Barium, total	ug/l	146J	272	NA	NA	790	160J	82.4J	299J	891
Beryllium, total	ug/l	BMDL	BMDL	NA	NA	2.00J	BMDL	BMDL	1.40J	3.00J
Cadmium, total	ug/l	BMDL	BMDL	NA	NA	15.4	BMDL	BMDL	10.4J	14.8
Calcium (Ca)	ug/l	38000	56100	NA	NA	55600	67000J	42800J	25500J	47400
Chromium, total	ug/l	BMDL	26.2J	NA	NA	51.3	19.7J	BMDL	54.5J	82.4
Cobalt, total	ug/l	BMDL	BMDL	NA	NA	25.5J	BMDL	BMDL	25.9J	33.2J
Copper, total	ug/l	BMDL	39.1	NA	NA	67.6	ND	ND	79.7J	139
Iron, total	ug/l	961J	17600J	NA	NA	37300	13200J	818J	40800J	61400J
Lead, total	ug/l	BMDL	ND	NA	NA	47.5J	6.90J	BMDL	54.1J	50.6
Magnesium, total	ug/l	7480	14800	NA	NA	20200	16800	8330	17600	23700
Manganese, total	ug/l	47.8	579	NA	NA	12800	817J	1070J	879J	1230
Mercury, total	ug/l	BMDL	BMDL	NA	NA	BMDL	BMDL	BMDL	BMDL	ND
Nickel, total	ug/l	BMDL	39.3	NA	NA	61.0	18.5J	BMDL	54.7J	61.1
Potassium, total	ug/l	BMDL	3710	NA	NA	8320	10200	ND	9020	5410
Selenium, total	ug/l	BMDL	BMDL	NA	NA	BMDL	BMDL	BMDL	BMDL	ND
Silver, total	ug/l	BMDL	BMDL	NA	NA	BMDL	9.30J	10.0J	9.30J	ND
Sodium, total	ug/l	7030	8210	NA	NA	12200J	23600	7950	25600	27200
Vanadium, total	ug/l	BMDL	42.4J	NA	NA	92.4	26.8J	BMDL	128J	282
Zinc, total	ug/l	ND	91.0	NA	NA	126J	ND	ND	218J	188

Notes:

BMDL = Below Minimum Detection Limit

NA = Not Analyzed

ug/l = micrograms per liter

J = Estimated value

TABLE 47

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY

TOTAL METALS

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Sample Id	OSLGWSG25D	OSLGWSG25M	OSLGWSG25S	OSLGWSG27D	OSLGWSG27M	OSLGWSG27S	OSLGWSLOR1
Well Number	GZ-5D	GZ-5M	GZ-5S	GZ-7D	GZ-7M	GZ-7S	LOR1
Sample Date	06/25/90	06/25/90	06/25/90	06/27/90	06/27/90	06/27/90	07/05/90

PARAMETERS	UNITS
------------	-------

Aluminum, total	ug/l	2050J	9430J	4090J	ND	12000J	41400J	NA
Antimony, total	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	197J	NA
Arsenic, total	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	9.70J	NA
Barium, total	ug/l	210J	1210J	79.6J	159J	278J	850J	NA
Beryllium, total	ug/l	BMDL	BMDL	BMDL	BMDL	1.10J	2.60J	NA
Cadmium, total	ug/l	BMDL	9.30J	BMDL	BMDL	6.00J	62.9J	NA
Calcium (Ca)	ug/l	41300J	118000J	13000J	40100J	52800J	97488J	NA
Chromium, total	ug/l	BMDL	21.6J	14.8J	BMDL	35.2J	593J	NA
Cobalt, total	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	1360J	NA
Copper, total	ug/l	12.7J	29.0J	12.3J	ND	46.8J	461J	NA
Iron, total	ug/l	2830J	12500J	5710J	773J	18300J	273000J	NA
Lead, total	ug/l	3.10J	5.80J	5.20J	BMDL	60.4J	ND	NA
Magnesium, total	ug/l	8980	25400	5440	7100	16000	25200	NA
Manganese, total	ug/l	520J	2820J	279J	21.2J	2700J	6200	NA
Mercury, total	ug/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	NA
Nickel, total	ug/l	BMDL	25.1J	BMDL	BMDL	33.6J	1650J	NA
Potassium, total	ug/l	ND	ND	ND	ND	5220	12600	NA
Selenium, total	ug/l	BMDL	BMDL	BMDL	2.00J	BMDL	2.30J	NA
Silver, total	ug/l	14.7J	8.00J	BMDL	ND	ND	91.50J	NA
Sodium, total	ug/l	17300	21800	4470	7760	10500	7320	NA
Vanadium, total	ug/l	BMDL	29.0J	12.9J	BMDL	54.4J	134J	NA
Zinc, total	ug/l	ND	ND	ND	ND	ND	3540J	NA

Notes:

BMDL = Below Minimum Detection Limit

NA = Not Analyzed

ug/l = micrograms per liter

J = Estimated value

TABLE 47

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY

TOTAL METALS

Page 5 of 6

Sample Id	OSLGWSLW103D	OSLGWSLW103M	OSLGWSLW103S	OSLGWSLW15D	OSLGWSLW15M	OSLGWSLW15S	OSLGWSGZ25M	OSLGWSM
Well Number	LW-103D	LW-103M	LW-103S	LW-15D	LW-15M	LW-15S	LW-15M (DUP)	MENARD
Sample Date	06/15/90	06/15/90	06/15/90	06/21/90	06/21/90	06/21/90	06/21/90	06/07/90

PARAMETERS	UNITS								
Aluminum, total	ug/l	NA	NA	NA	7200J	16800J	69500J	11200J	NA
Antimony, total	ug/l	NA	NA	NA	BMDL	BMDL	101	BMDL	NA
Arsenic, total	ug/l	NA	NA	NA	BMDL	BMDL	8.70J	BMDL	NA
Barium, total	ug/l	NA	NA	NA	383	224	776	212	NA
Beryllium, total	ug/l	NA	NA	NA	BMDL	1.30J	4.30J	BMDL	NA
Cadmium, total	ug/l	NA	NA	NA	BMDL	11.0	25.3	9.40	NA
Calcium (Ca)	ug/l	NA	NA	NA	54600	53200	63300	53100	NA
Chromium, total	ug/l	NA	NA	NA	15.2J	44.7J	138	34.5J	NA
Cobalt, total	ug/l	NA	NA	NA	BMDL	BMDL	51.1	BMDL	NA
Copper, total	ug/l	NA	NA	NA	23.3J	52.0	150	56.0	NA
Iron, total	ug/l	NA	NA	NA	15200J	51800J	107000J	45000J	NA
Lead, total	ug/l	NA	NA	NA	ND	BMDL	90.6	45.3	NA
Magnesium, total	ug/l	NA	NA	NA	12900	18100	43100	15200	NA
Manganese, total	ug/l	NA	NA	NA	359	979	2860	906	NA
Mercury, total	ug/l	NA	NA	NA	0.70J	0.90J	2.80J	BMDL	NA
Nickel, total	ug/l	NA	NA	NA	16.0J	36.8J	111	25.0J	NA
Potassium, total	ug/l	NA	NA	NA	1690J	4410J	16100	2940J	NA
Selenium, total	ug/l	NA	NA	NA	BMDL	BMDL	BMDL	BMDL	NA
Silver, total	ug/l	NA	NA	NA	BMDL	BMDL	BMDL	BMDL	NA
Sodium, total	ug/l	NA	NA	NA	7930	8420	12000	8020	NA
Vanadium, total	ug/l	NA	NA	NA	42.3J	101	303	88.40	NA
Zinc, total	ug/l	NA	NA	NA	ND	ND	352	ND	NA

Notes:

BMDL = Below Minimum Detection Limit

NA = Not Analyzed

ug/l = micrograms per liter

J = Estimated value

TABLE 47

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY

TOTAL METALS

Page 6 of 6

Sample Id	OSLGWSTB7S	OSLGWSTW18	OSLWPSWP1	OSLWPSWP2	OSLWPSWP3	OSLWPSWP4	OSLWPSWP5
Well Number	TB-7S	TW-18	WP-1	WP-2	WP-3	WP-4	WP-5
Sample Date	06/28/90	06/20/90	07/02/90	07/02/90	07/02/90	07/02/90	07/02/90

PARAMETERS	UNITS							
Aluminum, total	ug/l	31700J	NA	NA	NA	NA	NA	NA
Antimony, total	ug/l	164J	NA	NA	NA	NA	NA	NA
Arsenic, total	ug/l	5.00J	NA	NA	NA	NA	NA	NA
Barium, total	ug/l	888J	NA	NA	NA	NA	NA	NA
Beryllium, total	ug/l	1.80J	NA	NA	NA	NA	NA	NA
Cadmium, total	ug/l	95.3J	NA	NA	NA	NA	NA	NA
Calcium (Ca)	ug/l	74800J	NA	NA	NA	NA	NA	NA
Chromium, total	ug/l	120J	NA	NA	NA	NA	NA	NA
Cobalt, total	ug/l	38.8J	NA	NA	NA	NA	NA	NA
Copper, total	ug/l	306J	NA	NA	NA	NA	NA	NA
Iron, total	ug/l	183000J	NA	NA	NA	NA	NA	NA
Lead, total	ug/l	894J	NA	NA	NA	NA	NA	NA
Magnesium, total	ug/l	13100	NA	NA	NA	NA	NA	NA
Manganese, total	ug/l	2700J	NA	NA	NA	NA	NA	NA
Mercury, total	ug/l	6.00	NA	NA	NA	NA	NA	NA
Nickel, total	ug/l	556J	NA	NA	NA	NA	NA	NA
Potassium, total	ug/l	6850	NA	NA	NA	NA	NA	NA
Selenium, total	ug/l	BMDL	NA	NA	NA	NA	NA	NA
Silver, total	ug/l	16.9J	NA	NA	NA	NA	NA	NA
Sodium, total	ug/l	54400	NA	NA	NA	NA	NA	NA
Vanadium, total	ug/l	93.4J	NA	NA	NA	NA	NA	NA
Zinc, total	ug/l	2030J	NA	NA	NA	NA	NA	NA

Notes:

BMDL = Below Minimum Detection Limit

NA = Not Analyzed

ug/l = micrograms per liter

J = Estimated value

TABLE 48
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

Detected Concentration range of HSL Dissolved Metals and Cyanide
Concentration Range in ppb
1990 Data

Parameter	(1)	(2)	(3)	(4)
Aluminum	ND-1,370	ND-130	ND	ND-65.4
Antimony	ND	ND-60.1	ND-65.6	ND
Arsenic	ND	ND-7.4	ND	ND
Barium	ND-268	73.9-1,740	ND-410	ND-1,080
Beryllium	ND	ND	ND	ND-1.6
Cadmium	ND-5.0	ND-14.4	ND-9.2	ND
Calcium	22,200-39,900	20,500-67,600	18,400-77,000	1,890-109,000
Cobalt	ND	ND-21.8	ND	ND
Copper	ND	ND	ND-5.1	ND-11.5
Cyanide	ND	ND-10.10	ND	ND
Iron	ND	ND-89,800	ND-24,300	ND-1,800
Lead	ND	ND	ND-2.4	ND-10.5
Magnesium	4,900-7,390	5,740-39,800	5,200-14,600	1,890-20,100
Manganese	ND	3.8-1,700	ND-1,660	ND-2,300
Mercury	ND	ND	ND-1.6	ND
Nickel	ND	ND-69.7	ND	ND
Potassium	ND	ND-55,900	ND-3,000	ND-1,460
Silver	ND	ND-13.9	ND-12.3	ND-10.8
Sodium	ND-10,000	6,640-62,900	7,930-23,900	3,760-21,100
Thallium	ND	ND	ND	ND-16.6
Vanadium	ND	ND	ND-13.5	ND-15.7
Zinc	ND-165	ND-193	ND	ND-214

NOTES:

1. Upgradient/crossgradient (GZ-1, GZ-2, GZ-3).
2. Landfill area (B-3, GZ-4S/M/D, GZ-7S/M/D, TB-7S, LW-102S/D).
3. Northern area (LW-15S/M/D, LW-103S/M/D, GZ-11S/D, LW-15, LW-20, Lori, Monitor Well No. 5).
4. Downgradient (TW-18, GZ-12M/D, GZ-5S/M/D, GZ-13S/M/D, GZ-14S/M/D, TW-17, GZ-17M/D, Chuck & Eddie's, Menard).

TABLE 49
OLD SOUTHLINGTON LANDFILL
SOUTHLINGTON, CONNECTICUT

Detected Concentration range of HSL Total Metals
Concentration Range in ppb
1990 Data

Parameter	(1)	(2)	(3)	(4)
Aluminum	16,500-27,300	ND-150,000	7,200-69,500	2,050-9,430
Antimony	ND	ND-841	ND-101	ND
Arsenic	< 4.30	ND-47.4	ND-8.7	ND
Barium	378-790	82.4-19,400	224-776	79.6-1,210
Beryllium	1.90-2.00	ND-9.9	ND-4.3	ND
Cadmium	8.2-15.4	ND-946	ND-25.3	ND-9.3
Calcium	53,600-55,600	25,500-245,000	53,200-63,300	13,000-118,000
Chromium	38.8-51.3	ND-1,170	15.2-138	ND-21.6
Cobalt	< 25.5	ND-1,360	ND-51.1	ND
Copper	57.5-67.6	ND-35,500	23.3-150	12.3-29.0
Iron	18,700-37,300	818-1,010,000	15,200-107,000	2,830-12,500
Lead	35.7-47.5	ND-15,400	ND-90.6	3.1-5.8
Magnesium	16,800-20,200	7,100-97,700	12,900-43,100	5,440-25,400
Manganese	706-12,800	21.1-9,600	359-2,860	279-2,820
Mercury	ND	ND-6.00	0.70-2.80	ND
Nickel	45.1-61.0	ND-4,890	16.0-111	ND-25.1
Potassium	5,000-8,320	ND-77,600	1,690-16,100	ND
Selenium	ND	ND-11.6	ND	ND
Silver	ND	ND-902	ND	ND-14.7
Sodium	8,200-12,200	7,030-73,600	7,930-12,000	4,470-21,800
Thallium	ND	ND	ND	ND
Vanadium	51.8-92.4	ND-484	423-303	ND-12.9
Zinc	110-126	ND-38,200	ND-352	ND

NOTES:

1. Upgradient/crossgradient (GZ-1, GZ-3).
2. Landfill area (B-3, TB-7S, GZ-7S/M/D, GZ-4S/M/D).
3. Northern area (LW-15S/M/D).
4. Downgradient (GZ-5S/M/D, TW-17, GZ-17M/D).

TABLE 50

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY

NON-HSL INDICATOR PARAMETERS

Page 1 of 6

Sample Id	OSLGWSB13	OSLGWSB3	OSLGWSCE	OSLGWSCW15	OSLGWSCW20	OSLGWSGZ1	OSLGWSGZ11D	OSLGWSGZ11S
Well Number	B-3	B-3	C & E	CW-15	CW-20	GZ-1	GZ-11D	GZ-11S
Sample Date	06/28/90	06/28/90	06/25/90	06/13/90	06/13/90	06/12/90	06/14/90	06/14/90

PARAMETERS	UNITS								
Alkalinity as CaCO ₃	mg/l	580	560	160	120	190	87	160	66
Ammonia (N)	mg/l	100	100	0.17	BMDL	BMDL	0.11	0.19	0.13
Calcium (Ca)*	ug/l	39200.00	38400.00	52,000*	50,000*	77,000*	39900.00	54500.00	18400.00
Chemical Oxygen Demand (COD)	mg/l	270	390	BMDL	BMDL	BMDL	BMDL	19	43
Chloride (Cl)	mg/l	190	190	19	14	27	16	23	46
Hardness as CaCO ₃	mg/l	900	1200	180	158	233	237	825	168
Magnesium (Mg)*	ug/l	39800.00	38800.00	11,000*	8,000*	10,000*	6270.00	7570.00	5200.00
Nitrate (N)	mg/l	0.21	0.19	0.21	2.6	3.0	3.4	2.4	BMDL
Nitrite (N)	mg/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Sodium (Na)*	ug/l	62900.00	61000.00	18,000*	8,800*	15,000*	7100.00	12200.00	23900.00
Specific conductance	uMhos/cm	1900	2000	420	370	550	210	490	340
Total Dissolved Solids (TDS)	mg/l	670	650	270	210	310	220	330	240
pH	SU	6.97	6.96	7.54	7.79	7.54	7.60	7.09	5.96

NOTES:

BMDL = Below Minimum Detection Limit

mg/l - milligrams per liter

SU = Standard Units

uMhos/cm = micromohs per centimeter

* Calcium, magnesium, and sodium values were analyzed for during dissolved metals analysis except C&E, CW-15 and CW-20 which were analyzed for during hardness analysis.

TABLE 50

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY

NON-HSL INDICATOR PARAMETERS

Page 2 of 6

Sample Id	OSLGWSGZ12D	OSLGWSGZ12M	OSLGWSGZ13D	OSLGWSGZ13M	OSLGWSGZ13S	OSLGWSGZ14D	OSLGWSGZ24D	OSLGWSGZ14M	OSLGWSGZ14S
Well Number	GZ-12D	GZ-12M	GZ-13D	GZ-13M	GZ-13S	GZ-14D	GZ-14D (DUP)	GZ-14M	GZ-14S
Sample Date	06/20/90	06/20/90	06/18/90	06/18/90	06/18/90	06/19/90	06/19/90	06/19/90	06/19/90

PARAMETERS	UNITS									
Alkalinity as CaCO ₃	mg/l	40	140	180	57	24	86	80	40	170
Ammonia (N)	mg/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Calcium (Ca)*	ug/l	30300.00	50800.00	51300.00	26800.00	9220.00	33900.00	33500.00	1890.008	57800.00
Chemical Oxygen Demand (COD)	mg/l	BMDL	16	BMDL	8.1	12	BMDL	24	160	73
Chloride (Cl)	mg/l	15	28	14	6.5	9.4	16	16	4.5	2.5
Hardness as CaCO ₃	mg/l	86	240	155	83	255	86	88	178	238
Magnesium (Mg)*	ug/l	6880.00	8720.00	7340.00	2700.008	2790.008	4200.008	4180.008	1890.008	6930.00
Nitrate (N)	mg/l	2.4	1.3	1.6	2.0	0.94	2.6	2.6	1.1	1.1
Nitrite (N)	mg/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Sodium (Na)*	ug/l	10400.00	12300.00	9970.00	6450.00	8380.00	9780.00	9910.00	4260.008	5410.00
Specific conductance	uMhos/cm	260	380	410	220	140	280	250	140	340
Total Dissolved Solids (TDS)	mg/l	170	270	230	140	130	160	150	160	200
pH	SU	6.65	6.85	7.39	8.21	6.04	8.22	8.13	8.02	7.58

NOTES:

BMDL = Below Minimum Detection Limit

mg/l - milligrams per liter

SU = Standard Units

uMhos/cm = micromohs per centimeter

* Calcium, magnesium, and sodium values were analyzed for during dissolved metals analysis except C&E, CW-15 and CW-20 which were analyzed for during hardness analysis.

TABLE 50

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY

NON-HSL INDICATOR PARAMETERS

Page 3 of 6

Sample Id	OSLGWSGZ17D	OSLGWSGZ17M	OSLGWSGZ2	OSLGWSGZ22	OSLGWSGZ3	OSLGWSGZ4D	OSLGWSGZ4M	OSLGWSGZ4S
Well Number	GZ-17D	GZ-17M	GZ-2	GZ-2 (DUP)	GZ-3	GZ-4D	GZ-4M	GZ-4S
Sample Date	06/22/90	06/22/90	06/19/90	06/19/90	06/13/90	06/26/90	06/26/90	06/26/90

PARAMETERS	UNITS								
Alkalinity as CaCO ₃	mg/l	96	100	36	35	110	110	96	32
Ammonia (N)	mg/l	BMDL	BMDL	BMDL	BMDL	BMDL	0.34	0.13	0.56
Calcium (Ca)*	ug/l	39800.00	40700.00	22200.00	22200.00	46600.00	4980.00	42300.00	20500.00
Chemical Oxygen Demand (COD)	mg/l	BMDL	140	BMDL	8.1	BMDL	4.1	BMDL	37
Chloride (Cl)	mg/l	15	14	15	0.00	22	35	17	83
Hardness as CaCO ₃	mg/l	120	180	93	96	215	210	140	110
Magnesium (Mg)*	ug/l	7530.00	7300.00	4900.00B	5010.00	7390.00	9640.00	8140.00	7120.00
Nitrate (N)	mg/l	3.0	3.1	5.3	5.2	3.2	2.5	0.19	BMDL
Nitrite (N)	mg/l	BMDL	BMDL	0.050	BMDL	BMDL	BMDL	BMDL	BMDL
Sodium (Na)*	ug/l	7640.00	7600.00	6080.00	5940.00	10000.00	15600.00	8220.00	22500.00
Specific conductance	uMhos/cm	290	300	200	0.00	410	480	320	360
Total Dissolved Solids (TDS)	mg/l	190	310	160	170	240	290	210	270
pH	SU	7.67	7.80	6.57	6.62	7.55	6.91	7.59	5.82

NOTES:

BMDL = Below Minimum Detection Limit

mg/l - milligrams per liter

SU = Standard Units

uMhos/cm = micromhos per centimeter

* Calcium, magnesium, and sodium values were analyzed for during dissolved metals analysis except C&E, CW-15 and CW-20 which were analyzed for during hardness analysis.

TABLE 50

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY

NON-HSL INDICATOR PARAMETERS

Page 4 of 6

Sample Id	OSLGWSGZ5D	OSLGWSGZ5M	OSLGWSGZ5S	OSLGWSGZ7D	OSLGWSGZ7M	OSLGWSGZ7S	OSLGWSLORI	OSLGWSTW17
Well Number	GZ-5D	GZ-5M	GZ-5S	GZ-7D	GZ-7M	GZ-7S	LORI	TW-17
Sample Date	06/25/90	06/25/90	06/25/90	06/27/90	06/27/90	06/27/90	07/05/90	

PARAMETERS	UNITS								
Alkalinity as CaCO ₃	mg/l	86	300	33	140	130	390	160	140
Ammonia (N)	mg/l	BMDL	0.39	BMDL	BMDL	BMDL	26	1.0	2.4
Calcium (Ca)*	ug/l	35700.00	109000.00	9540.00	34700.00	48000.00	67600.00	54400.00	37200
Chemical Oxygen Demand (COD)	mg/l	BMDL	BMDL	BMDL	28	BMDL	110	BMDL	28
Chloride (Cl)	mg/l	14	43	2.2	15	22	8.1	19	68
Hardness as CaCO ₃	mg/l	140	370	69	120	200	360	160	220
Magnesium (Mg)*	ug/l	7690.00	20100.00	3040.00B	6520.00	9020.00	12200.00	8750.00	9120
Nitrate (N)	mg/l	0.23	1.8	0.50	4.7	1.1	0.21	0.86	0.19
Nitrite (N)	mg/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Sodium (Na)*	ug/l	17200.00	21100.00	3760.00B	8840.00	10000.00	6640.00	12800.00	26700
Specific conductance	uMhos/cm	310	560	120	310	400	820	480	410
Total Dissolved Solids (TDS)	mg/l	210	490	82	190	280	440	260	280
pH	SU	7.72	7.07	6.01	7.84	7.54	6.18	7.15	6.27

NOTES:

BMDL = Below Minimum Detection Limit

mg/l - milligrams per liter

SU = Standard Units

uMhos/cm = micromohs per centimeter

* Calcium, magnesium, and sodium values were analyzed for during dissolved metals analysis except C&E, CW-15 and CW-20 which were analyzed for during hardness analysis.

TABLE 50

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY

NON-HSL INDICATOR PARAMETERS

Page 5 of 6

Sample Id	OSLGWSLW103D	OSLGWSLW103M	OSLGWSLW103S	OSLGWSLW15D	OSLGWSLW15M	OSLGWSLW25M	OSLGWSLW15S	OSLGWSM
Well Number	LW-103D	LW-103M	LW-103S	LW-15D	LW-15M	LW-15M (DUP)	LW-15S	MENARD
Sample Date	06/15/90	06/15/90	06/15/90	06/21/90	06/21/90	06/21/90	06/21/90	06/07/90

PARAMETERS	UNITS								
Alkalinity as CaCO ₃	mg/l	93	140	140	130	120	130	200	110
Ammonia (N)	mg/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Calcium (Ca)*	ug/l	37200.00	55000.00	58200.00	50800.00	50500.00	49700.00	50700.00	36200.00
Chemical Oxygen Demand (COD)	mg/l	14	19	27	BMDL	53	24	32	BMDL
Chloride (Cl)	mg/l	12	20	24	17	18	18	32	19
Hardness as CaCO ₃	mg/l	129	165	308	180	190	200	230	130
Magnesium (Mg)*	ug/l	6630.00	7560.00	7340.00	8840.00	8940.00	8800.00	14600.00	9220.00
Nitrate (N)	mg/l	2.5	3.3	3.2	2.6	1.6	1.7	0.23	1.3
Nitrite (N)	mg/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Sodium (Na)*	ug/l	8760.00	8690.00	8970.00	7930.00	7840.00	7930.00	9670.00	11600.00
Specific conductance	uMhos/cm	300	440	450	350	360	370	420	270
Total Dissolved Solids (TDS)	mg/l	190	250	360	230	220	220	220	210
pH	SU	7.66	7.57	7.39	6.65	5.52	7.16	6.13	7.88

NOTES:

BMDL = Below Minimum Detection Limit

mg/l - milligrams per liter

SU = Standard Units

uMhos/cm = micromohs per centimeter

* Calcium, magnesium, and sodium values were analyzed for during dissolved metals analysis except C&E, CW-15 and CW-20 which were analyzed for during hardness analysis.

TABLE 50

Old Southington Landfill
Southington, Connecticut

GROUNDWATER ANALYTICAL SUMMARY

NON-HSL INDICATOR PARAMETERS

Page 6 of 6

Sample Id	OSLGWSTB7S	OSLGWSTW18	OSLWPSWP1	OSLWPSWP2	OSLWPSWP3	OSLWPSWP4	OSLWPSWP5
Well Number	TB-7S	TW-18	WP-1	WP-2	WP-3	WP-4	WP-5
Sample Date	06/28/90	06/20/90	07/02/90	07/02/90	07/02/90	07/02/90	07/02/90

PARAMETERS	UNITS							
Alkalinity as CaCO ₃	mg/l	260	44	BMDL	BMDL	BMDL	BMDL	BMDL
Ammonia (N)	mg/l	8.8	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Calcium (Ca)*	ug/l	60700.00	12600.00	31200.00	8350.00	5810.00	5950.00	40000.00
Chemical Oxygen Demand (COD)	mg/l	43	110	BMDL	BMDL	BMDL	BMDL	BMDL
Chloride (Cl)	mg/l	32	17	BMDL	BMDL	BMDL	BMDL	BMDL
Hardness as CaCO ₃	mg/l	230	81	BMDL	BMDL	BMDL	BMDL	BMDL
Magnesium (Mg)*	ug/l	5740.00	4320.00B	6140.00	3840.00B	7740.00	1100.00B	8760.00
Nitrate (N)	mg/l	0.22	0.26	BMDL	BMDL	BMDL	BMDL	BMDL
Nitrite (N)	mg/l	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL	BMDL
Sodium (Na)*	ug/l	54700.00	9920.00	27400.00	16900.00	58700.00	15300.00	28200.00
Specific conductance	uMhos/cm	740	160	BMDL	BMDL	BMDL	BMDL	BMDL
Total Dissolved Solids (TDS)	mg/l	400	190	BMDL	BMDL	BMDL	BMDL	BMDL
pH	SU	6.45	5.80	BMDL	BMDL	BMDL	BMDL	BMDL

NOTES:

BMDL = Below Minimum Detection Limit

mg/l - milligrams per liter

SU = Standard Units

uMhos/cm = micromohs per centimeter

* Calcium, magnesium, and sodium values were analyzed for during dissolved metals analysis except C&E, CW-15 and CW-20 which were analyzed for during hardness analysis.

TABLE 51

Old Southington Landfill
Southington, Connecticut

DETECTED CONCENTRATION RANGE OF INDICATOR PARAMETERS IN GROUNDWATER

PARAMETER	UNITS	AREA			
		1	2	3	4
Alkalinity as CaCO ₃	mg/l	35-110	32-580	66-200	33-300
Ammonia (N)	mg/l	ND-0.11	ND-100	ND-1.0	ND-0.39
Calcium (Ca) (dissolved)	ug/l	22,200-46,600	4,980-67,600	18,400-58,200	9,540-109,000
Chemical Oxygen Demand (COD)	mg/l	ND-8.1	ND-390	ND-53	ND-160
Chloride (Cl)	mg/l	0.0-22	8.1-190	12-46	2.2-43
Hardness as CaCO ₃	mg/l	93-237	110-1,200	129-308	69-370
Magnesium (Mg) (dissolved)	ug/l	4,900-7,390	5,740-39,800	5,200-14,600	1,890-20,100
Nitrate (N)	mg/l	3.2-5.3	ND-4.7	ND-3.3	0.21-2.6
Nitrite (N)	mg/l	ND-0.05	ND	ND	ND
Sodium (Na) (dissolved)	ug/l	5,940-10,000	6,640-62,900	7,840-23,900	4,260-21,100
Specific Conductance	uMho/cm	0-210	290-2,000	300-550	120-560
Total Dissolved Solids (TDS)	mg/l	160-240	190-670	190-360	82-490
pH	S.U.	6.57-7.60	5.82-7.84	5.52-7.79	5.80-8.22

NOTES:

1. Upgradient/crossgradient (GZ-1, GZ-2, GZ-3).
2. Landfill area (B-3, GZ-4S/M/D, GZ-7S/M/D, TB-7S, LW-102S/D).
3. Northern area (LW-15S/M/D, LW-103S/M/D, GZ-11S/D, LW-15, LW-20, Lori, Monitor Well No. 5).
4. Downgradient (TW-18, GZ-12M/D, GZ-5S,M/D, GZ-13S/M/D, GZ-14S/M/D, TW-97, GZ-17M/D, Chuck & Eddie's, Menard).

ND = Not Detected

mg/l = milligrams per liter

S.U. = standard units

uMhos/cm = micromhos per centimeter

TABLE 52
OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

FINAL LIST OF SELECTED INDICATOR SUBSTANCES BY MEDIA

PARAMETERS	SOILS	SEDIMENTS	AIR	GROUNDWATER (Menard Well)
VOLATILE ORGANICS:				
Acetone				
Benzene				
Chloroform				
1,2 Dichloroethene				
Ethylbenzene				
Tetrachloroethene				
Toluene				
Trichloroethene				
Xylenes (total)				
Vinyl Chloride				
SEMIVOLATILE ORGANICS:				
Total PAHs				
Carcinogenic PAHs (as represented by Benzo(a)pyrene)				
Phthalates				
Bis(2-ethylhexyl)phthalate				
Butyl benzyl phthalate				
Di-n-butyl phthalate				
PCBs and Pesticides				
4,4-DDT				
Heptachlor epoxide				
Endrin ketone				
Alpha-chlordane				
Gamma-chlordane				
Total PCBs				
INORGANICS:				
Antimony				
Arsenic				
Barium				
Cadmium				
Chromium, (+ III)				
Cyanide				
Lead				
Mercury				
Vanadium				
Zinc				

TABLE 53

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

SOILS DATA-RANGE OF CONCENTRATION

Page 1 of 2

PARAMETER	FREQUENCY OF DETECTION	RANGE OF CONCENTRATIONS	MEAN CONCENTRATION(1)	CONTRACT REQUIRED DETECTION LIMIT
	(#positives/#samples)	(mg/kg)	(mg/kg)	(mg/kg)
<u>VOLATILE ORGANICS:</u>				
Acetone	3/20	ND - 0.08	0.05	0.01
Benzene	1/20	ND - 0.003	0.005	0.005
2-Butanone	2/20	ND - 0.001	0.01	0.01
Carbon disulfide	1/20	ND - 0.003	0.005	0.005
Chlorobenzene	2/20	ND - 1.3	0.005	0.005
Chloroform	0/20	--	--	0.005
1,2-dichloroethene (total)	2/20	ND - 1.95	0.005	0.005
Ethylbenzene	6/20	ND - 310	1.74	0.005
Styrene	2/20	ND - 19	0.005	0.005
1,1,2,2-Tetrachloroethane	0/20	--	--	0.005
Tetrachloroethene	1/20	ND - 9.5	0.005	0.005
Toluene	8/20	ND - 48	0.009	0.005
Trichloroethene	5/20	ND - 8	0.005	0.005
Xylenes (total)	8/20	ND - 210	0.005	0.005
Vinyl chloride	1/20	ND - 0.003	0.01	0.01
<u>SEMI VOLATILE ORGANICS:</u>				
PAHs:				
Acenaphthene	3/20	ND - 0.95	0.2	0.33
Acenaphthylene	3/20	ND - 1.4	0.23	0.33
Anthracene	3/20	ND - 2.7	0.29	0.33
Benzo(a)anthracene	8/20	ND - 4.2	0.46	0.33
Benzo(a)pyrene	5/20	ND - 4.4	0.32	0.33
Benzo(b)fluoranthene	8/20	ND - 3.3	0.3	0.33
Benzo(g,h,i)perylene	3/20	ND - 2.6	0.32	0.33
Benzo(k)fluoranthene	8/20	ND - 4.3	0.49	0.33
Chrysene	8/20	ND - 5.0	0.53	0.33
Dibenzofuran	2/20	ND - 1.1	0.21	0.33
Fluoranthene	7/20	ND - 11	0.94	0.33
Fluorene	5/20	ND - 2.3	0.3	0.33
Indeno(1,2,3-cd)pyrene	3/20	ND - 3.0	0.34	0.33
2-methyl naphthalene	3/20	ND - 2.3	0.28	0.33
Naphthalene	3/20	ND - 7.1	0.57	0.33
Phenanthrene	8/20	ND - 13.0	0.96	0.33
Pyrene	8/20	ND - 7.8	0.75	0.33
PH				
Bis(2-ethylhexyl)phthalate	1/20	ND - 38	2.1	0.33
Butyl benzyl phthalate	5/20	ND - 0.96	0.23	0.33
Di-n-butyl phthalate	1/20	ND - 0.06	0.16	0.33

Notes:

(1) Geometric mean calculated for volatile organics since compounds are not evenly distributed. This averaging process is used to minimize effects of outlying data points (per EPA protocol). Arithmetic mean (average) calculated for semi volatile organics and inorganics since compounds are fairly evenly distributed.

TABLE 53

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

SOILS DATA-RANGE OF CONCENTRATION

Page 2 of 2

PARAMETER	FREQUENCY OF DETECTION	RANGE OF CONCENTRATIONS	MEAN CONCENTRATION(1)	CONTRACT REQUIRED DETECTION LIMIT
	(#positives/#samples)	(mg/kg)	(mg/kg)	(mg/kg)
<u>PCBS AND PESTICIDES:</u>				
Aroclor 1242	1/20	ND - 2.0	0.14	0.08
Aroclor 1254	1/20	ND - 0.56	0.04	0.016
Aroclor 1260	2/20	ND - 1.1	0.08	0.016
4,4-DDT	1/20	ND - 0.019	0.017	0.016
Heptachlor epoxide	1/20	ND - 0.008	0.004	0.008
Endrin ketone	1/20	ND - 0.006	0.008	0.016
Alpha-chlordane	1/20	ND - 0.015	0.039	0.08
Gamma-chlordane	1/20	ND - 0.019	0.039	0.08
<u>INORGANICS:</u>				
Aluminum	20/20	4,210 - 17,400	7221.5	7.8
Antimony	7/20	ND - 71.5	14.7	1.3
Arsenic	1/20	ND - 3.2	0.58	0.89
Barium	9/20	ND - 177	44.1	7.8
Cadmium	20/20	2.5 - 17.2	6.31	0.89
Calcium	11/20	ND - 9,100	1865.6	16.0
Chromium (+ III)	20/20	7.2 - 232	33.5	11.0
Cobalt	3/20	ND - 46.7	7.3	3.3
Copper	19/20	ND - 293	45.2	1.1
Cyanide	1/20	ND - 3.7	2.3	2.2
Iron	20/20	6,120 - 24,200	12,382	8.9
Lead	20/20	1.9 - 277	48.4	0.44
Magnesium	20/20	1,480 - 4,890	3022.5	7.6
Manganese	20/20	88.8 - 939	283.1	0.67
Mercury	3/20	ND - 0.29	0.19	0.18
Nickel	14/20	ND - 306	35.3	4.0
Potassium	6/20	ND - 2320	468.6	33.0
Vanadium	20/20	14.2 - 40.3	23.1	2.9
Zinc	20/20	16.7 - 674	143.7	1.6

NOTES:

(1) Geometric mean calculated for volatile organics since compounds are not evenly distributed. This averaging process is used to minimize effects of outlying data points (per EPA protocol). Arithmetic mean (average) calculated for semi volatile organics and inorganics since compounds are fairly evenly distributed.

TABLE 54

Old Southington Landfill
Southington, Connecticut

SEDIMENT DATA-RANGE OF CONCENTRATION

Page 1 of 2

PARAMETER	FREQUENCY OF DETECTION (#positives/#samples)	RANGE OF DETECTED CONCENTRATIONS	AVERAGE SEDIMENT CONCENTRATION	CONTRACT REQUIRED QUANTITATION LIMIT (ug/l)
=====				
<u>VOLATILE ORGANICS:</u>				
		(ug/kg)	(ug/l)	
Benzene	1/7	ND-20.5	5.1	5
2-Butanone	1/7	ND-110	62.5	10
Carbon disulfide	1/7	ND-210	32.1	5
Chlorobenzene	2/7	ND-245	37.1	5
Chloromethane	2/7	ND-57	8.6	10
1,2-Dichloroethene (total)	1/7	ND-8	10.2	5
Methylene chloride	1/7	ND-7	11.0	5
Xylene (total)	2/7	ND-930	135.0	5
<u>SEMI-VOLATILE ORGANICS:</u>				
		(ug/kg)	(ug/kg)	
Benzoic acid	1/7	ND-242.5	720.4	1600
Naphthalene	1/7	ND-2150	1155.7	330
2-Methylnaphthalene	1/7	ND-430	448.6	330
Acenaphthylene	2/7	ND-2200	203.0	330
Acenaphthene	2/7	ND-450	220.0	330
Dibenzofuran	2/7	ND-550	211.0	330
Fluorene	2/7	ND-2000	438.0	330
Phenanthrene	3/7	ND-18000	2801.4	330
Anthracene	2/7	ND-3700	665.7	330
Di-n-butylphthalate	1/7	ND-2032.5	431.8	330
Fluoranthene	4/7	ND-21000	3313.6	330
Pyrene	4/7	ND-22000	3468.6	330
Butylbenzylphthalate	1/7	ND-770	251.4	330
Benzo(a)anthracene	4/7	ND-8000	1377.1	330
Chrysene	4/7	ND-10000	1679.3	330
Bis(2-ethylhexyl)phthalate	3/7	ND-930	388.6	330
Benzo(b)fluoranthene	2/7	ND-6700	1627.9	330
Benzo(k)fluoranthene	2/7	ND-8500	1395.0	330
Benzo(a)pyrene	2/7	ND-9100	1497.0	330
Indeno(1,2,3-c,d)pyrene	2/7	ND-7800	1302.0	330
Dibenzo(a,h)anthracene	1/7	ND-890	268.6	330
Benzo(g,h,i)perylene	2/7	ND-5500	961.0	330

TABLE 54

Old Southington Landfill
Southington, Connecticut

SEDIMENT DATA-RANGE OF CONCENTRATION

Page 2 of 2

PARAMETER	FREQUENCY OF DETECTION (#positives/#samples)	RANGE OF DETECTED CONCENTRATIONS	AVERAGE SEDIMENT CONCENTRATION	CONTRACT REQUIRED QUANTITATION LIMIT (ug/l)
=====				
<u>INORGANICS:</u>				
		(mg/kg)	(mg/kg)	
Aluminum	6/6	1520-7295	5142.9	40
Arsenic	2/6	ND-1.5	0.72	2
Barium	6/6	36.1-137	88.7	40
Beryllium	4/6	ND-0.52	0.43	1
Cadmium	5/6	ND-10.2	3.7	1
Calcium	6/6	612-12400	3680.2	1000
Chromium	5/6	ND-29.8	12.48	2
Cobalt	1/6	ND-4.4	1.15	10
Copper	6/6	9.5-49.7	21.1	5
Iron	6/6	5380-37100	13583.3	20
Lead	5/6	ND-96.1	35.3	0.6
Magnesium	6/6	1050-2770	2118.3	1000
Manganese	6/6	97.8-1970	565.9	3
Nickel	5/6	ND-28.1	12.1	8
Potassium	5/6	ND-1067.5	810.8	1000
Sodium	3/6	ND-5331	378	1000
Vanadium	5/6	ND-27.2	18.1	10
Zinc	6/6	32.3-292	97.0	4

TABLE 55

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

SOIL GAS DATA - RANGE OF CONCENTRATION

CENTRAL AREA			
	FREQUENCY	MIN-MAX ¹	GEOMETRIC MEAN ²
BENZENE	6/10	0.2-7.8	1.63
TOLUENE	8/10	0.47-310	11.52
ETHYLBENZENE	8/10	0.9-340	16.60
XYLENES (TOTAL)	8/10	0.77-250	18.28
TRICHLOROETHENE	3/10	0.09-0.8	0.61
TETRACHLOROETHENE	1/10	ND-1.9	1.9
SOUTHERN AREA			
	FREQUENCY	MIN-MAX	GEOMETRIC MEAN
BENZENE	10/10	0.09-5.6	0.60
TOLUENE	9/10	0.36-3.3	1.01
ETHYLBENZENE	8/10	0.13-4.0	0.90
XYLENES (TOTAL)	8/10	0.14-23	2.88

NOTES:

Results in ug of compound/liter of soil gas.

1. Min-Max indicates the minimum to maximum range of compounds detected within the area of detected soil gas per Figure -.

2. Geometric mean = $\sqrt[N_i]{N_1 \times N_2 \times \dots \times N_i}$

TABLE 56

Old Southington Landfill
Southington, Connecticut

GROUNDWATER DATA-RANGE OF CONCENTRATION

Page 1 of 2

PARAMETER	FREQUENCY OF DETECTION (#positives/#samples)	RANGE OF CONCENTRATIONS (ug/l)	AVERAGE CONCENTRATION (ug/l)	CONTRACT REQUIRED DETECTION LIMIT (ug/l)
=====				
<u>VOLATILE ORGANICS:</u>				
Acetone	1/22	ND-260	16.6	10
Benzene	2/22	ND-34	4.0	5
Carbon disulfide	3/22	ND-8	2.7	5
Chlorobenzene	3/22	ND-22	4.2	5
Chloroethane	1/22	ND-50.5	7.1	10
Chloroform	3/22	ND-86	7.8	5
1,1-Dichloroethane	4/22	ND-8.8	3.0	5
1,2-Dichloroethene	7/22	ND-540	28.4	5
Ethylbenzene	3/22	ND-356.3	18.7	5
Tetrachloroethene	2/22	ND-62	6.2	5
Toluene	2/22	ND-60.5	5.1	5
1,1,1 Trichloroethane	1/22	ND-2.5	2.5	5
Trichloroethene	4/22	ND-580	31.0	5
Vinyl chloride	6/22	ND-170	22.0	10
Xylenes	2/22	ND-241.3	22.3	5
<u>SEMI-VOLATILE ORGANICS:</u>				
Acenaphthene	1/22	ND-31	25.3	50
Anthracene	1/22	ND-12	5.3	10
Benzo(a)anthracene	1/22	ND-5	5.0	10
Benzo(a)pyrene	1/22	ND-5	5.0	10
Benzo(b)fluoranthene	1/22	ND-3	5.0	10
Chrysene	1/22	ND-5	5.0	10
Dibenzofuran	1/22	ND-28	6.0	10
2,4-Dimethyphenol	3/22	ND-5	5.0	10
Fluoranthene	1/22	ND-23	5.8	10
Fluorene	1/22	ND-32	137.0	10
2-Methylnaphthalene	1/22	ND-42	6.9	10
Naphthalene	4/22	ND-95	9.6	10
Phenanthrene	1/22	ND-60	7.5	10
Pyrene	1/22	ND-15	5.5	10
<u>PCBS AND PESTICIDES:</u>				
Aroclor - 1248	1/22	ND-1.4	0.3	0.5
Aroclor - 1254	1/22	ND-8.3	0.86	1.0
Lindane	1/22	ND-0.026	0.025	0.05

TABLE 56

Old Southington Landfill
Southington, Connecticut

GROUNDWATER DATA-RANGE OF CONCENTRATION

Page 2 of 2

PARAMETER	FREQUENCY OF DETECTION (#positives/#samples)	RANGE OF CONCENTRATIONS (ug/l)	AVERAGE CONCENTRATION (ug/l)	CONTRACT REQUIRED DETECTION LIMIT (ug/l) *
=====				
<u>INORGANICS:</u>				
Aluminum	8/44	ND-1370	135.5	200
Antimony	2/44	ND-65.6	31.2	60
Arsenic	1/44	ND-7.3	5.0	10
Barium	30/44	ND-1730	200.8	200
Beryllium	1/44	ND-1.6	2.5	5
Cadmium	6/44	ND-14.4	3.36	5
Calcium	44/44	5810-109,000	39,543.0	5000
Cobalt	1/44	ND-21.8	50.0	50
Copper	6/44	ND-30.7	12.6	25
Cyanide	3/44	ND-9.3	5.2	10
Iron	26/44	ND-89,800	6,849.0	100
Lead	5/44	ND-20.6	2.2	3
Magnesium	44/44	753-39,300	4009.0	5000
Manganese	33/44	ND-9120	509.6	15
Mercury	1/44	ND-1.6	0.13	0.2
Nickel	3/44	ND-69.7	21.9	40
Potassium	2/44	ND-42,300	4867.0	5000
Silver	3/44	ND-12.3	1.2	10
Sodium	42/44	ND-61,950	15,519.0	5000
Thallium	2/44	ND-8.3	5.0	10
Vanadium	2/44	ND-15.7	24.5	50
Zinc	4/44	ND-214	25.4	20

TABLE 57

Old Southington Landfill
Southington, Connecticut

SURFACE WATER DATA-RANGE OF CONCENTRATION

PARAMETER	FREQUENCY OF DETECTION (#positives/#samples)	RANGE OF CONCENTRATIONS (ug/l)	AVERAGE CONCENTRATION (ug/l)	CONTRACT REQUIRED QUANTITATION LIMIT (ug/l)
=====				
<u>VOLATILE ORGANICS:</u>				
Acetone	4/6	ND-21	7.2	10
Carbon disulfide	4/6	ND-14	6.8	5
Chlorobenzene	1/6	ND-2	2.4	5
Toluene	1/6	ND-1	2.3	
Xylenes	1/6	ND-3	2.6	5
<u>SEMI-VOLATILE ORGANICS:</u>				
Naphthalene	2/6	ND-4	4.5	10
<u>INORGANICS:</u>				
Aluminum	5/6	817.0	200	
Antimony	1/6	38.0	60	
Barium	6/6	250.4	1000	
Cadmium	1/7	5.5	5	
Calcium	6/6	40,071.4	5000	
Chromium	2/6	9.7	10	
Copper	6/6	16.5	25	
Iron	6/6	12,830.9	100	
Lead	2/6	12.5	3	
Magnesium	6/6	9077.1	5000	
Manganese	6/6	1647.4	15	
Mercury	1/6	0.23	0.2	
Nickel	1/6	ND-58.2	26.4	40
Potassium	6/6	1780-8340	5870	
Silver	1/6	ND-18.1	7.2	10
Sodium	6/6	12,200-29,700	25,457	5000
Vanadium	1/6	ND-18.2	23.9	50
Zinc	2/6	ND-2195	58.8	20



APPENDIX A
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APPENDIX A
BIBLIOGRAPHY

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APPENDIX B
HAZARD RANKING SYSTEM SCORE

National Priorities List Site

Hazardous waste site listed under the
Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) ("Superfund")

OLD SOUTHTON LANDFILL Southington, Connecticut

Conditions at listing (September 1983): Old Southington Landfill covers 6 acres in Southington, Connecticut. It is suspected of contaminating the town's Production Well Number 5, which is 500 to 600 feet away and about 3,500 feet east of the Quinnipiac River. The landfill, which the town operated from 1947 to 1967 as a municipal landfill, also accepted hazardous waste. An industrial park and several homes have been built on top of the old landfill. Well Number 5 contains significant concentrations of volatile organic compounds, particularly 1,1,1-trichloroethane, according to analyses done by the State. Volatile organics are also present in nearby surface waters. A hydrogeologic investigation conducted by EPA suggests that the abandoned landfill is a source of volatile organics entering area ground water. An intensive hydrogeologic study is needed to determine flow patterns of local ground water, which will help further define the source(s) of contamination.

Status (June 1984): The State has discussed with the town issuance of an order to require the town to hire a contractor to conduct a remedial investigation/feasibility study. The work would include the intensive hydrogeologic study. The town is presently soliciting proposals for the study.

Facility Name: Abandoned Landfill (Well #5)
 Location: OLD SOUTHTON, LANDELL
Old Turnpike Road, Southington, CT
 EPA Region: 1

Person(s) in Charge of the Facility: _____

Name of Reviewer: Nancy Piligian Date: 8-11-82

General Description of the Facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Abandoned sanitary landfill on
Old Turnpike Road - Historically used
for the disposal of liquid and solid
industrial wastes. The landfill has been
capped and the land area is being
utilized for an industrial park and
residential development

Scores: $S_M = 54.35$ ($S_{gw} = 93.88$ $S_{sw} = 5.33$ $S_a = 0.0$)

$S_{FE} = 0.0$

$S_{DC} = 0.0$

Figure 1

ERS COVER SHEET

GROUND WATER ROUTE WORK SHEET						
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)	
1 OBSERVED RELEASE	0 45	1	45	45	3.1	
If observed release is given a score of 45, proceed to line 4 .						
If observed release is given a score of 0, proceed to line 2 .						
2 ROUTE CHARACTERISTICS					3.2	
Depth to Aquifer of Concern	0 1 2 3	2		6		
Net Precipitation	0 1 2 3	1		3		
Permeability of the Unsaturated Zone	0 1 2 3	1		3		
Physical State	0 1 2 3	1		3		
Total Route Characteristics Score			N/A	15		
3 CONTAINMENT	0 1 2 3	1	N/A	3	3.3	
4 WASTE CHARACTERISTICS					3.4	
Toxicity/Persistence	0 3 6 9 12 15 18	1	18	18		
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	8	8		
Total Waste Characteristics Score			26	26		
5 TARGETS					3.5	
Ground Water Use	0 1 2 3	3	6	9		
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1	40	40		
Total Targets Score			46	49		
6	If line 1 is 45, multiply 1 x 4 x 5		55,320			
	If line 2 is 0, multiply 2 x 2 x 4 x 5		57,330			
7	Divide line 6 by 57,330 and multiply by 100		S _{CV} = 93.88			

Figure 2

Ground Water Route Work Sheet

SURFACE WATER ROUTE WORK SHEET						
Rating Factor	Assigned Value (Circle One)	Multi- plier	Score	Max. Score	Ref. (Section)	
1 OBSERVED RELEASE	0	45	1	0	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.						
2 ROUTE CHARACTERISTICS						4.2
Facility Slope and Intervening Terrain	0 1 2 3	1	0	3		
1-yr. 24-hr. Rainfall	0 1 2 3	1	2	3		
Distance to Nearest Surface Water	0 1 2 3	2	6	6		
Physical State	0 1 2 3	1	3	3		
Total Route Characteristics Score			11	15		
3 CONTAINMENT	0 1 2 3	1	2	3		4.3
4 WASTE CHARACTERISTICS						4.4
Toxicity/Persistence	0 3 6 9 12 15 18	1	18	18		
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	8	8		
Total Waste Characteristics Score			26	26		
5 TARGETS						4.5
Surface Water Use	0 1 2 3	3	6	9		
Distance to a Sensitive Environment	0 1 2 3	2	0	6		
Population Served/ Distance to Water Intake Downstream	0 4 6 8 10 12 16 20 24 24 30 32 35 40	1	0	40		
Total Targets Score			6	55		
6 If line 1 is 45, multiply 1 x 4 x 5			332	64,350		
7 If line 1 is 0, multiply 2 x 3 x 4 x 5						
7 Divide line 6 by 64,350 and multiply by 100			S _W = 5.33			

Figure 7

Surface Water Route Work Sheet

AIR ROUTE WORK SHEET						
Rating Factor	Assigned Value (Circle One)	Multi- plier	Score	Max. Score	Ref. (Section)	
1 OBSERVED RELEASE	0 45	1	0	45	3.1	
Date and Location:						
Sampling Protocol:						
If line 1 is 0, then S = 0. Enter on line 6 .						
If line 1 is 45, then proceed to line 2 .						
2 WASTE CHARACTERISTICS					3.2	
Reactivity and Incompatibility	0 1 2 3	1		3		
Toxicity	0 1 2 3	3		9		
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8		
Total Waste Characteristics Score				20		
3 TARGETS					3.3	
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30		
Distance to Sensitive Environment	0 1 2 3	2		6		
Land Use	0 1 2 3	1		3		
Total Targets Score				39		
4 Multiply 1 x 2 x 3				35,100		
5 Divide line 4 by 35,100 and multiply by 100				S _a = 0.0		

Figure 9

Air Route Work Sheet

	s	s ²
Groundwater Route Score (S _{gw})	93.88	8813.45
Surface Water Route Score (S _{sw})	5.33	28.41
Air Route Score (S _a)	0.0	0.0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		8841.86
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		94.3
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73$		S _M = 54.35

Figure 10

WORKSHEET FOR COMPUTING S_M

FIRE AND EXPLOSION WORK SHEET						
Rating Factor	Assigned Value (Circle One)	Multi- plier	Score	Max. Score	Ref. (Section)	
1 Containment	1 3	1		3	7.1	
2 Waste Characteristics					7.2	
Direct Evidence	0 3	1		3		
Ignitability	0 1 2 3	1		3		
Reactivity	0 1 2 3	1		3		
Incompatibility	0 1 2 3	1		3		
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8		
Total Waste Characteristics Score				20		
3 Targets					7.3	
Distance to Nearest Population	0 1 2 3 4 5	1		5		
Distance to Nearest Building	0 1 2 3	1		3		
Distance to Sensitive Environment	0 1 2 3	1		3		
Land Use	0 1 2 3	1		3		
Population Within 2-Mile Radius	0 1 2 3 4 5	1		5		
Buildings Within 2-Mile Radius	0 1 2 3 4 5	1		5		
Total Target Score				24		
4 Multiply 1 x 2 x 3 x 4				1,440		
5 Divide line 3 by 2,440 and multiply by 100			SFE = 0			

Figure 11
Fire and Explosion Work Sheet

DIRECT CONTACT WORK SHEET						
Rating Factor	Assigned Value (Circle One)	Multi- plier	Score	Max. Score	Ref. (Section)	
1 Observed Incident	0 45	1	0	45	8.1	
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2						
2 Accessibility	0 1 2 3	1	0	3	8.2	
3 Containment	0 15	1	15	15	8.3	
4 Waste Characteristics Toxicity	0 1 2 3	5	15	15	8.4	
5 Targets					8.5	
Population within a 1-mile radius	0 1 2 3 4 5	4	16	20		
Distance to a critical habitat	0 1 2 3	4	0	12		
Total Targets Score			16	32		
6 If line 1 is 45, multiply 1 x 14 x 15			0	21,600		
7 If line 2 is 0, multiply 2 x 13 x 14 x 15						
Divide line 6 by 21,600 and multiply by 100			SDC = 0.0			

Figure 12
Direct Contact Work Sheet

June 23, 1982

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given facility. As briefly as possible, summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference that will make the document used for a given data point easier to find. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review.

FACILITY NAME:

Old Southington (well #5)

LOCATION:

Old Turnpike Road Southington CT

GROUND WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

1,1,1-trichloroethane 1,1-dichloroethane
tetrachloroethylene
ethylene chloride
trans 1,2-dichloroethylene

Rationale for attributing the contaminants to the facility:

Contaminants detected between well
and landfill - See Ref #3

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

Depth(s) from the ground surface to the highest seasonal level of the
saturated zone (water table(s)) of the aquifer of concern:

Depth from the ground surface to the lowest point of waste disposal/
storage:

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

48 inches

Ref: HRS Ranking document

Mean annual lake or seasonal evaporation (list months for seasonal):

30 inches

Ref: HRS Ranking document

Net precipitation (subtract the above figures):

18 inches

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Fine to coarse sand - small amounts of
clay, silt, and gravel overlying sandstone

Permeability associated with soil type:

Range 7×10^{-7} cm/sec (silty, peaty soils) to 5×10^{-8} cm/sec
gravelly, sandy soils

Ref: FIT Report

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

Liquids, sludge

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

55 gal drums and
uncontained waste
Liquid deposited in depressions at site

Method with highest score:

55 gal drums

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

1,1,1-trichloroethane
Chlorobenzene
Isopropyl ether
Carbon tetrachloride

tetrachloroethylene
Methylene chloride
Chloroform

Compound with highest score:

Carbon tetrachloride, chloroform

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

2,700,000 gals.

Ref ①

Basis of estimating and/or computing waste quantity:

2.7 mil gals \div 50 gal/drum = $> 54,000$ drums

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

Drinking water - Well #5 is 400' NW of site.

Well is currently out of service;
alternate is available

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

x see above

Distance to above well or building:

400 ft

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

Well #5 fed into distribution
system serving 30,000

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

Total population served by ground water within a 3-mile radius:

30,000

SURFACE WATER ROUTE

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

None

Rationale for attributing the contaminants to the facility:

2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

1.4%

Name/description of nearest downslope surface water:

Quinnipiac River

Average slope of terrain between facility and above-cited surface water body in percent:

< 3%

Flat, marshy, per USGS

Is the facility located either totally or partially in surface water?

No.

Is the facility completely surrounded by areas of higher elevation?

No

1-Year 24-Hour Rainfall in Inches

3.0 inches

Distance to Nearest Downslope Surface Water

~~1/2~~ < 1000 ft. to Black Pond

Physical State of Waste

Liquid & semiliquid

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Landfill not completely covered,
exposed refuse along channel banks,
no diversion system.

Method with highest score:

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated

See grdu tr pathway

Compound with highest score:

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

See groundwtr. pathway
(200,000 gallons)

Basis of estimating and/or computing waste quantity:

FIT Report

5 TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

Recreation

Is there tidal influence?

No

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

N/A

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

N/A

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

N/A

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

None

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre):

N/A

Total population served:

N/A

Name/description of nearest of above water bodies:

~~##~~ Quinnipiac River

Distance to above-cited intakes, measured in stream miles.

N/A

AIR ROUTE

1 OBSERVED RELEASE

Contaminants detected:

No observed release

Date and location of detection of contaminants

N/A

Methods used to detect the contaminants:

Rationale for attributing the contaminants to the site:

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

Most incompatible pair of compounds:

11/26/90 12:30
Toxicity

Most toxic compound:

N/A

Hazardous Waste Quantity

Total quantity of hazardous waste:

Basis of estimating and/or computing waste quantity:

3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

0 to 4 mi 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

Distance to critical habitat of an endangered species, if 1 mile or less:

N/A

Land Use

Distance to commercial/industrial area, if 1 mile or less:

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

Distance to residential area, if 2 miles or less:

Distance to agricultural land in production within past 5 years, if 1 mile or less:

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

National Priorities List Site*NPL-41-2-2*

Hazardous waste site listed under the
Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA ("Superfund"))

OLD SOUTHTON LANDFILL
Southington, Connecticut

Old Southington Landfill covers 6 acres in Southington, Connecticut. It is suspected of contaminating the town's Production Well Number 5 about 3,500 feet east of the Quinnipiac River. The landfill, which the town operated from 1947 to 1967 as a municipal landfill, also accepted hazardous waste. Well Number 5 contains significant concentrations of volatile organic compounds, particularly 1,1,1-trichloroethane. Volatile organics are also present in nearby surface waters. A hydrogeologic investigation suggests that the abandoned landfill is a source of volatile organics entering area ground water. An intensive hydrogeologic study is needed to determine flow patterns of local ground water, which will help further define the source(s) of contamination.

ABANDONED LANDFILL - OLD TURNPIKE ROAD
SOUTHINGTON, CT

REFERENCES

- ① Ecology & Environment, Inc., FIT TDD #F1-8011-03, 12/29/80, "Work in Support of EPA Enforcement Case: Draft Report Preliminary Investigation of the Abandoned Landfill, Old Turnpike Road, Southington, CT", USEPA Region I files.
- ② Deleted.
- ③ Warzyn Engineering, Inc., 11/12/80, "Hydrogeological Investigation, EPA/JRB Associates, Town of Southington, CT", USEPA Region I files.
- ④ Telephone communication by K. Boyer with Gilbert Bligh, Superintendent, Southington Water Dept., (203) 628-5593, on 6/28/83.

KRB
6/28/83



APPENDIX C
SPECIES IDENTIFICATION

APPENDIX C
SPECIES IDENTIFICATION

Black Pond and Associated Wetlands and Uplands East of Old Turnpike Road

1. Altered/Disturbed Area (Wetlands/Uplands South of Black Pond)

A small (\pm 0.05 acre) isolated wetland is located south of the dirt drive to the Meridan Box Company. The standing water supported shallow marsh (palustrine emergent wetland) vegetation including Broad-leaved Cattail (Typha latifolia) and Reed (Phragmites australis). The banks of this depression were covered with willow saplings (Salix sp.), Swamp Dogwood (Cornus amomum), and Red Maple (Acer rubrum) trees.

North of the unpaved drive is an area of open water and wetland contiguous to Black Pond. Soil moving activities at the Meridan Box company have caused erosion of the red clay and silt into the water; some refuse (tires) were noted. A cattail covered berm at the edge of Black Pond is acting as a filter, and the pond water beyond the cattail berm appeared non-turbid. Cover types included open water with a few tussocks of emergent herbaceous vegetation (3 feet wide), Reed meadow and fringing thickets of shrub swamp (i.e. lacustrine littoral emergent wetland and palustrine scrub-shrub wetland). Species within the herbaceous layer included Arrow-leaved Tearthumb (Polygonum sagittatum), Dodder (Cuscuta p.), Soft Rush (Juncus effusus), sedges (Cyperaceae), Reed (Phragmites australis), and goldenrod (Solidago spp.). The shrub layer contained Swamp Dogwood (Cornus amomum), Sweet Pepperbush (Clethra alnifolia), Speckled Alder (Alnus rugosa), Common Elder (Sambucus canadensis), Willow (Salix sp.), and Highbush Blackberry (Rubus occidentalis). Red Maples (Acer rubrum) formed a sparse tree canopy. Soil at the eastern edge of this wetland (soil sample location, S-1) was dark-reddish-brown, sandy loam (5 YR 3/2) to about 1.5 feet. Groundwater appeared to be at about 6 inches. Adjacent (east) altered upland habitat was an open field of grasses (Gramineae), goldenrod (Solidago spp.), Queen Annes Lace (Daucus carota), Staghorn Sumac (Rhus typhina), Hawthorn (Crataegus sp.), Red Cedar (Juniperus virginiana), Gray Birch (Betula populifolia) and Large-toothed Aspen (Populus grandidentata).

The recent construction/grading activity in the vicinity of these wetlands limits their habitat suitability. In addition, the water quality (high turbidity/tires) would preclude usage by species requiring less turbid water bodies. However, species tolerant of disturbance may utilize the wetland marsh area for feeding/breeding. The shrub thickets and dense herbaceous vegetation

present in portions of this area would provide suitable nesting habitat for various species of songbirds and food/cover for small mammal species. Various species of herptiles (amphibians and reptiles) such as the snapping turtle (Chelydra serpentina), green frog (Rana clamitans melanota), and eastern ribbon snake (Thamnophis sauritus sauritus) may also utilize the shallow areas of water that are well-interspersed with clumps/tussocks of emergent herbaceous vegetation. Usage of the site by the northern cardinal (Richmondia cardinalis), song sparrow (Melospiza melodia), brown-headed cowbird (Molothrus ater), red-winged blackbird (Agelaius phoeniceus), and muskrat (Ondatra zibethica) was observed during the site visit.

2. Black Pond (and Associated Band of Herbaceous Wetland)

Black Pond is fringed by bands of marsh vegetation (lacustrine littoral emergent wetland) consisting of Water Willow (Decodon verticillatus) and Broad-leaved Cattail (Typha latifolia). Interspersed within the cattails are Purple Loosestrife (Lythrum salicaria), Wool-Grass (Scirpus cyperinus), Sensitive Fern (Onoclea sensibilis), Reed (Phragmites australis), sedges (Cyperaceae), Dodder (Cuscuta sp.), and a few shrubs of Steeplebush (Spiraea tomentosa). A soil core (S-2) taken within the band of cattails was a dark-reddish-brown organic silt (5 YR 3/4) to 6 inches; from grade 6 to 12 inches the soil was a black muck (5YR 2.5/1). Water was at the ground surface. Landward of the marsh is a narrow band of wooded swamp (palustrine forested wetland) dominated by pole-sized Red Maples (Acer rubrum) with Tupelo (Nyssa sylvatica) and Highbush Blueberry (Vaccinium corymbosum).

The 10± acre pond and associated wetland vegetation extending around the fringe of the pond provides habitat for various species of waterfowl and other wildlife requiring permanent open water bodies. Canada Geese (Branta canadensis) and Mallard (Anas platyrhynchos) were observed during the visit. The area of emergent vegetation is primarily limited to the shallow portions of the pond present along its edge. However, several small islands of vegetation are present that provide protected nesting sites for waterfowl. A pair of Canada geese were nesting on such an island during the site visit. The limited amount of emergent vegetation, due to the water depth of the pond, provides a low vegetation:water ratio. This low ratio limits the suitability of the pond for dabbling ducks that prefer shallower water interspersed with vegetation. However, diving ducks that prefer deeper water would likely utilize the site during the spring and fall migration periods.

The herbaceous vegetation and shrubs/saplings present along the fringe of the pond would provide feeding and breeding habitat for birds such as the red-winged blackbird (Agelaius phoeniceus), yellow warbler (Dendroica petechia), song sparrow (Melospiza melodia), and others. Mammals such as the muskrat (Ondatra

zibethica), meadow vole (Microtus pennsylvanicus), and raccoon (Procyon lotor) would also likely be present along the fringe of vegetation present. Amphibians (frogs and red-spotted newt, Notophthalmus viridescens viridescens) and reptiles (painted turtles, Chrysemys picta picta; snapping turtles, Chelydra serpentina, northern water snakes, Natrix sipedon sipedon; and garter snakes, Thamnophis sirtalis sirtalis) would also likely be found in this type of habitat. The pond also provides foraging habitat for species such as birds and bats that would feed upon the insects present above the pond surface. Tree swallows (Iridoprocne bicolor) were observed above the pond surface during the site visit.

Black Pond likely contains a fisheries resource, however, discussions with town officials and the Connecticut Department of Environmental Protection (Fisheries Division) did not yield any information regarding this body of water. The DEP last conducted fish sampling of water bodies throughout the state during the 1950s and early 1960s. According to personnel at the Fisheries Division of the DEP, Black Pond was either not sampled at that time or has since been renamed. A warm-water fishery comprised of sunfish (bluegill, Lepomis macrochirus; pumpkinseed, Lepomis gibbosus), pickerel (Stizostedion vitreum vitreum, bass (primarily large-mouth bass, Micropterus salmoides), yellow perch (Perca flavescens), and various smaller minnow (Cyprinidae) and dace (Rhinichthys spp.) species is likely present in the pond. Since the DEP has no recent records of trout stocking in Black Pond, it is doubtful that trout are present in the pond unless recently released by area residents.

3. Forested/Shrub Swamp Northeast of Black Pond

A shrub swamp with a sparse Red Maple (Acer rubrum) overstory (palustrine scrub-shrub wetland/palustrine forested wetland) is located adjacent to marsh in the northeastern corner of Black Pond. Trees and shrubs are located on hummocks within shallow standing water. The shrub layer contains Witch-Hazel (Hamamelis virginiana), Highbush Blueberry (Vaccinium corymbosum), Winterberry (Ilex verticillata), saplings of Red Maple (A. rubrum), and Swamp Azalea (Rhododendron viscosum). Herbs on the hummocks were Cinnamon Fern (Osmunda cinnamomea), Sphagnum Moss (Sphagnum sp.), Tussock Sedge (Carex stricta), and Spotted Jewelweed (Impatiens capensis). Soil within the shrub swamp (S-3) was a black organic muck (10 YR 2/1) to 8 inches grade, from 8 to 12 inches was a very dark-brown-sandy silt (10 YR 2/2). Groundwater was at the surface.

Due to the hummocky topography of this area, the site contained a good interspersions of shrub thickets (with overstory Red Maples) and areas of temporary open water. These shallow water pools likely provide breeding areas for amphibians such as frogs (spring peepers, Hyla crucifer, were present in this area at the time of the visit) and possibly for several species of salamanders. The dense woody vegetation present would preclude usage by waterfowl

except in a portion of this site where emergent herbaceous vegetation was dominant.

The tree and shrub layers would provide nesting sites for various species of birds. In addition, the presence of snags (largest observed was 10 inches in diameter at breast height) would provide feeding/breeding habitat for cavity nesting birds such as the downy woodpecker (Dendrocopos pubescens), white-breasted nuthatch (Sitta carolinensis), tufted titmouse (Parus bicolor), and European starling (Sturnus vulgaris) which were all observed on the site during the visit. Highbush Blueberry (Vaccinium corymbosum) and Winterberry (Ilex verticillata) were common within the dense shrub understory. These species provide berries for use by various birds, both residents of the area and fall migrants. The presence of residential sites nearby may preclude usage of the area by species of wildlife that prefer a more isolated locale or require forested wetlands without an "edge" nearby. The area of edge (the place where different plant communities meet - in this case, forested/shrub wetland and grassed lawn) does provide suitable habitat, however, for other species of birds (northern flicker, Colaptes auratus; American robin, Turdus migratorius) and mammals (eastern cottontail, Sylvilagus floridanus). Other species, recorded during the inspection, included the gray squirrel (Sciurus carolinensis), mourning dove (Zenaidura macroura), and blue jay (Cyanocitta cristata).

4. Isolated Backwater Area of Shrub Swamp

This pool of water (0.5-1 ft deep) and shrub swamp (palustrine scrub-shrub wetland) is east of Black Pond and an upland ridge and south of the wooded swamp. It is connected to the shrub swamp described above by an intermittent drainage swale. Shrubs such as Buttonbush (Cephalanthus occidentalis), and Winterberry (Ilex verticillata) cover about 60% of the pool. Surrounding the pool and shrub swamp is a narrow band of forested swamp (palustrine forested wetland) of Highbush Blueberry (Vaccinium corymbosum, Swamp Azalea (Rhododendron viscosum), Sweet Pepperbush (Clethra alnifolia), Arrow-wood (Viburnum recognitum), and Withe-rod (Viburnum cassinoides) in the shrub layer, and Red Maple (Acer rubrum) and Tupelo (Nyssa sylvatica) in the overstory. The herbaceous layer contained Skunk Cabbage (Symplocarpus foetidus) and Cinnamon Fern (Osmunda cinnamomea). Soil (S-4) at the edge of the pool was black sandy silt (10 YR 2/1) to 1.5 feet below grade.

This backwater pool may be a vernal pool as it appears to contain standing water for a considerable portion of the year based on the dominant shrub species (Buttonbush) that is present in this depression. Vernal pools are important breeding areas for several species of salamanders (referred to as "mole salamanders", Ambystoma spp.), frogs (primarily the wood frog, Rana sylvatica), and crustaceans (amphipods or "fairy shrimp"). Observations during the site visit did not indicate breeding by any of the above

species, however, peak breeding activity would have occurred prior to the visit. A red-back salamander (Plethodon cinereus cinereus) was found in the pool, however, this species does not reproduce in aquatic sites. The pool also provides breeding and hatching sites for various species of insects that can be eaten by resident birds. Mammal usage of this site would likely be limited to a drinking water source and foraging along its border.

5. Forested Oak/Beech Ridge

An upland, forested ridge with steep slopes is on the east side of Black Pond between the isolated pool area described above and Black Pond. The ridge is dominated by Red Oak (Quercus rubrum), White Oak (Quercus alba) and American Beech (Fagus grandifolia) with Red Cedar (Juniperus virginiana), American Hazelnut (Corylus americana), Alternate-leaved Dogwood (Cornus alternifolia), Japanese Barberry (Berberis thunbergii) in the shrub layer. This stand of hardwoods is located between the isolated pool area described above and Black Pond. If the isolated pool to the east is indeed a vernal pool, then this wooded area would provide habitat for the various species of salamanders and frogs for the non-breeding portion of the year. Although the majority of the overstory hardwoods are pole-sized (less than 12 inches d.b.h.), there are areas of the woodland where larger oaks and beeches are predominant. These trees would provide a large seasonal food source in the form of acorns and nuts that are important to species such as the gray squirrel (Sciurus carolinensis) (observed on site) and birds. The tree overstory (and small snags present) provides nesting habitat for various species of birds and mammals. The following species were either directly observed on site or signs of their presence were recorded during the visit: black-capped chickadee (Parus atricapillus), northern flicker (Colaptes auratus), red-tailed hawk (Buteo jamaicensis), and American robin (Turdus migratorius).

6. Open Field and Residential Lawn

These areas would primarily provide ground foraging areas for species of mammals (eastern cottontail, Sylvilagus floridans; voles, Microtus spp.), birds (American robin, Turdus migratorius; European starling, Sturnus vulgaris; mourning dove, Zenaidura macroura; Canada goose, Branta canadensis), amphibians (American toad, Bufo americanus sp.), and reptiles (snakes). Aerial feeders such as bats and some birds (swallows, Hirundinidae) which require open sites may also find these areas suitable. Nesting/ breeding areas would be primarily limited to the few scattered shrubs or trees present in these areas. An eastern cottontail (Sylvilagus floridans) and mockingbird (Mimus polyglottos) were observed at the time of the site visit.

Wetlands and Adjacent Upland West of Old Turnpike Road

At the outlet of Black Pond west of Old Turnpike Road was evidence of silt accumulation. The stream was less than 6 inches in depth with a narrow zone of riparian vegetation, the stream widens and turns northeast. A large isolated shrub swamp (palustrine scrub-shrub wetland) was located beyond the stream to the southwest. A pool was found at the northern limit of the auto junkyard adjacent to the riparian wetland. A ridge separates the pool from the riparian wetland except at its northwestern corner where water periodically discharges from the pool into a Red Maple swamp.

7. Riparian Wetland

The branch of the Black Pond outlet stream which flows west has disturbed areas with little vegetation along its southern banks and, therefore, only a narrow zone of riparian vegetation. The water was shallow with clumps of herbaceous vegetation including hydrophytic grasses (Gramineae), Tussock Sedge (Carex stricta) and some Cinnamon Fern (Osmunda cinnamomea), Sensitive Fern (Onoclea sensibilis), Spotted Jewelweed (Impatiens capensis), and Beggars Ticks (Bidens sp.). Where the riparian zone widens and the stream course shifts there is Water Purslane (Ludwigia palustris in the slow moving waters and, clumps of herbaceous emergent vegetation with shrubs. Along the shoreline willows (Salix sp.), Highbush Blueberry (Vaccinium corymbosum), Common Elder (Sambucus canadensis), Arrow-wood (Viburnum recognitum), Swamp Dogwood (Cornus amomum), Sweet Pepperbush (Clethra alnifolia), Gray Birch (Betula populifolia), and Red Maple (Acer rubrum) were common.

The stream and wetland vegetational cover types associated with it provide a variety of habitats within a narrow corridor. There are shrub thickets, herbaceous vegetation, open water, and overhanging Red Maple (Acer rubrum) trees within the riparian zone that may potentially provide feeding and breeding habitat for a diverse fauna of species. Although portions of the adjacent upland are disturbed, the banks of the stream are well-vegetated and provide a travel corridor for species either foraging along the stream or dispersing from nearby areas such as Black Pond.

The dense shrub thickets provide food (berries) and nesting cover for birds such as the northern cardinal (Richmondia cardinalis) and gray catbird (Dumetella carolinensis) while the overhanging trees may provide nesting sites for various warblers (Parulidae) and other bird species. Portions of the stream widen and provide a high amount of interspersions with clumps of emergent herbaceous vegetation and shrubs. These areas would be suitable for various species of dabbling ducks such as mallards (Anas platyrhynchos) and wood ducks (Aix sponsa) although the small size of this area would likely exclude nesting/brooding.

The bottom of the stream is comprised of a thick organic layer that provides cover and food for many aquatic species including insects, crustaceans, and amphibians. Although fish were not observed during the site inspection, the area may support local populations of minnows (Cyprinidae), dace (Rhinichthys spp.), darters (Percidae, Etheostominae), etc. if the quality of the water is suitable.

Mammal usage would likely include herbivores such as muskrats (Ondatra zibethica), cottontail rabbits (Sylvilagus floridans), meadow voles (Microtus pennsylvanicus), and white-footed mice (Peromyscus leucopus), as well as opportunistic feeders such as the raccoon (Procyon lotor), opossum (Didelphis marsupialis), and striped skunk (Mephitis mephitis). Eastern painted turtles (Chrysemys picta picta), snapping turtles (Chelydra serpentina), northern water snakes (Natrix sipedon sipedon), and ribbon snakes (Thamnophis spp.) are reptiles that may utilize the site. The following species were observed during the site visit: song sparrow (Melospiza melodia), black-capped chickadee (Parus atricapillus), red-winged blackbird (Agelaius phoeniceus), American robin (Turdus migratorius), mourning dove (Zenaidura macroura), common grackle (Quiscalus quiscula), English sparrow (Passer domesticus), mallard (Anas platyrhynchos), European starling (Sturnus vulgaris), northern flicker (Colaptes auratus), tufted titmouse (Parus bicolor), bullfrog (Rana catesbeiana) (tadpole), eastern cottontail (Sylvilagus floridans), and muskrat (Ondatra zibethica).

8. Shrub Swamp West of the Riparian Wetland

Common shrub species in this swamp (palustrine scrub-shrub wetland) were Buttonbush (Cephalanthus occidentalis), Highbush Blueberry (Vaccinium corymbosum), Winterberry (Ilex verticillata), and Swamp Azalea (Rhododendron viscosum) with hydrophytic grasses and Cinnamon Fern (Osmunda cinnamomea) in the herb layer. Dodder (Cuscuta sp.) covered the Buttonbush. The surrounding habitat was forested. Soils (S-5) were black sandy silt (5YR 2.5/1) to 2 feet and dark-reddish-brown sandy silt (5 YR 2.5/2) to 2.5 feet below grade. The water was at 1 inch below the soil surface.

This shrub swamp had habitat features similar to the isolated wetland east of Turnpike Road. The pool of water present in this area, however, was substantially larger and may support more aquatic species such as various species of frogs and turtles. This would be attributed to the potentially longer period of standing water, and the pool's close proximity to the stream and riparian areas that provide year-round aquatic habitat. Since this pool appears to be temporary, it may also function as a vernal pool for those species of amphibians (wood frog, Rana sylvatica and mole salamanders, Ambystoma spp.) requiring these areas for breeding. Wood ducks (Aix sponsa) and a muskrat (Ondatra zibethica) were observed at this site.

9. Wooded Uplands

Slopes comprised of wooded uplands surround the shrub swamp and are adjacent to portions of the stream/riparian zone discussed above. These uplands may provide nesting and den areas for some species such as raccoons (Procyon lotor) and opossums (Didelphis marsupialis) that would forage in the nearby wetland areas. Although the majority of trees in this area were small (less than 10 inches dbh), there were several larger specimens of oaks and beeches that could provide mast food during the fall as well as nesting sites for species such as the gray squirrel and American crow. A variety of birds may be found here that are typical of woodlands in a suburban setting such as blue jays (Cyanocitta cristata), American robins (Turdus migratorius), black-capped chickadees (Parus atricapillus), and tufted titmice (Parus bicolor). These wooded areas would also provide habitat during the non-breeding season for amphibians utilizing the isolated shrub swamp.

10. Disturbed Areas (Sparsely Vegetated Area South of the Stream and Auto Junkyard)

These disturbed areas provide minimal habitat for wildlife. Currently, the junkyard may allow suitable foraging/ breeding areas for species such as the Norway Rat (Rattus norvegicus), English sparrow (Passer domesticus), and European starling (Sturnus vulgaris). The area containing sparse vegetative cover may potentially provide feeding sites for ground foraging birds such as the northern flicker (Colaptes auratus), killdeer (Charadrius vociferus), and European starling (Sturnus vulgaris). The lack of adequate cover would likely preclude any substantial mammalian use of this area.

APPENDIX D
BORING LOGS

MW-5

GERAGHTY & MILLER

44 SINTSINK DRIVE EAST
PORT WASHINGTON, L. I., N. Y. 11050

WELL LOG

PROJECT Southington, Conn.
CLIENT Southington, Conn.
DATE PREPARED 7/23/65 BY D.W.M.

DEPTH, ft

DESCRIPTION

5 Fine to medium sand and
gravel, brown

10 Fine sand, silt and clay,
tight, tan

20 Fine sand with medium
gravel, red

40 Coarse sand with fine to
coarse gravel, red

52 Fine to medium sand and
gravel with some silt,
loose, red

58 Fine sand and silt, red

62 Triassic sandstone and
shale

OWNER Town of Southington
WELL NO. Production Well 2
LOCATION Height Property, Old
Turnpike Road
TOPO SETTING Stream valley
GROUND ELEV. + 150 feet MSL

DRILLING STARTED 7/ 8/65
DRILLING COMPLETED 7/15/65
DRILLER Layne-New England
TYPE OF RIG Cable tool

WELL DATA
HOLE DIAM. 8-inch
FINAL DEPTH 58 feet
CASING DIAM. 8-inch
CASING LENGTH 49 feet
SCREEN DIAM. 8-inch
SCREEN SETTING 49-58
SCREEN SLOT & TYPE 105-slot, Layne
WELL STATUS Test

DEVELOPMENT
Surging and pumping for
several days

TEST DATA
STATIC DEPTH TO WATER 5 ft. below l.s.
DATE MEASURED 7/20/65
PUMPING DEPTH TO WATER 36 ft. below l.s.
DURATION OF TEST 49 hours
PUMPING RATE 380 gpm
DATE OF TEST 7/20/ to 7/22/65
TYPE OF TEST Deep-well turbine
PUMP SETTING 44 feet
SPECIFIC CAPACITY 12 gpm/ft.

FINAL PUMP CAPACITY ---
FINAL PUMP SETTING ---
AVERAGE PUMPAGE ---

WATER QUALITY
pH - 7.6
Fe - less than 0.1 ppm
Total Hardness - 100
(analysis of Well 16 by
Conn. Health Department)

REMARKS
Proposed site for public
water-supply well

NEW YORK CO., INC.

DATE 10/10/63 TEST WELL NO. 20-63

FOI

LOCATION

PROPERTY OWNER _____

65-20

GROUND SURFACE

FINE MED

BROWN SAND

FINE

MED COARSE
SAND AND
GRAVEL

OGG. WELL: NO. _____ DISTANCE _____ DEPTH _____

NO. _____ DISTANCE _____ DEPTH _____

WELL SCREEN: TYPE 2 LENGTH 2 OPENING 2

PUMPING DATA (MEASURED FROM TOP OF PIPE) ELEVATION: _____

[illegible]

STATIC LEVEL 3'2" ORIFICE _____ AIR LINE LENGTH _____

QUALITY: PN _____ HARD. _____ IRON _____ MANGANESE _____

5058 _____ YASTE _____ LAU. CAROLE _____

PIPE LEFT IN WELL 52'6" FT. IN CUS. WITH _____ FT.

SEAL AS LEFT IN WELL _____ FT., IN GAS. WELL _____ FT.

50 1/6" Retinal

CONTENT OF TEST BOOK

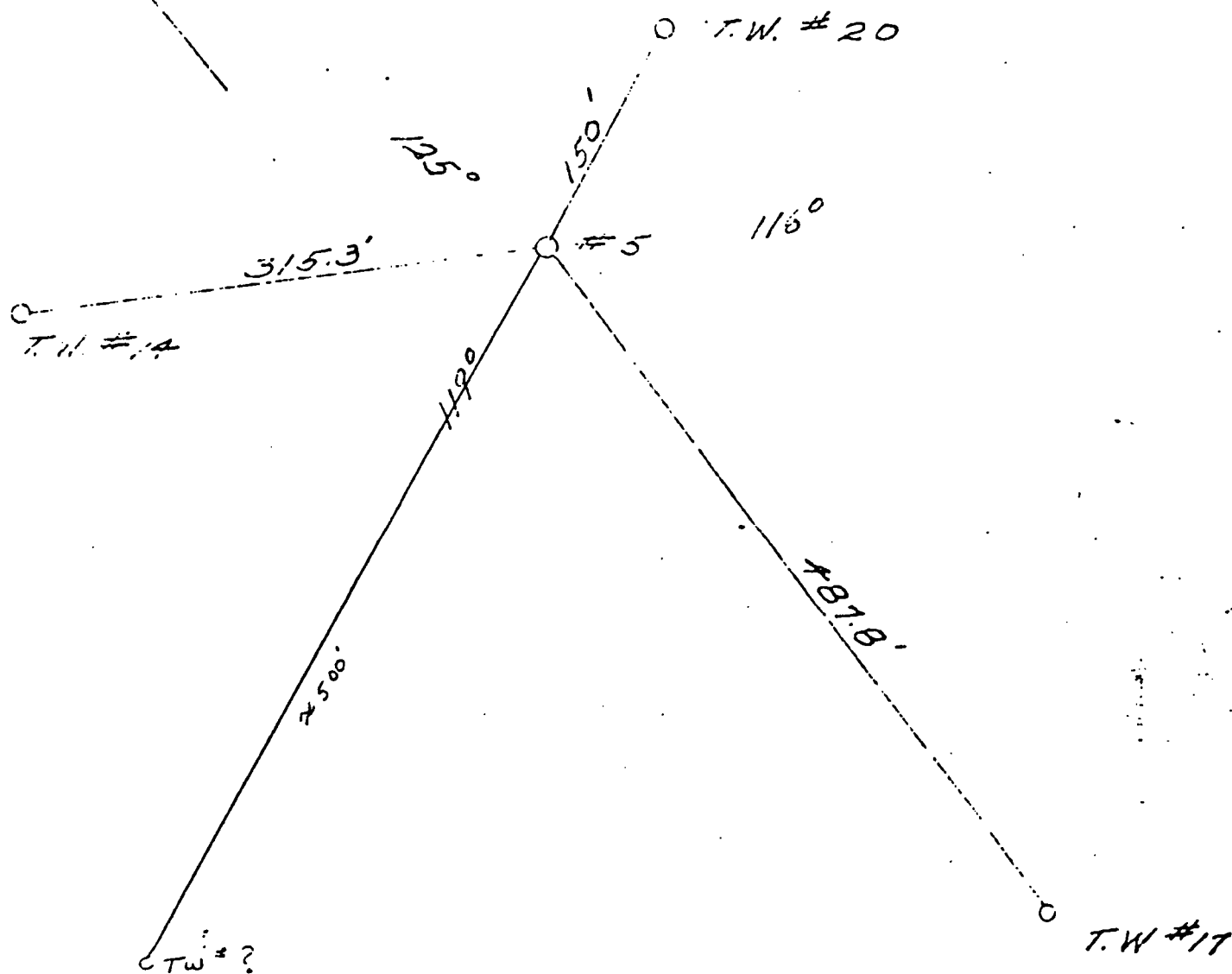
NOTE (1) SKETCH MEASUREMENTS FROM GROUND LEVEL.

(2) OBS. WELL SCREEN IS CRACKED WELL GUARDED.

(3) DEPTH KNOWN IS MAXIMUM DEPTH OF MCL.

FOR LAYNE • NEW YORK CO., INC.

- LOCATION
- LOGS



1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

John Edgar Hoover New York Dept.

2/1/78

TEST WELL RECORD

NEW YORK CO., INC.

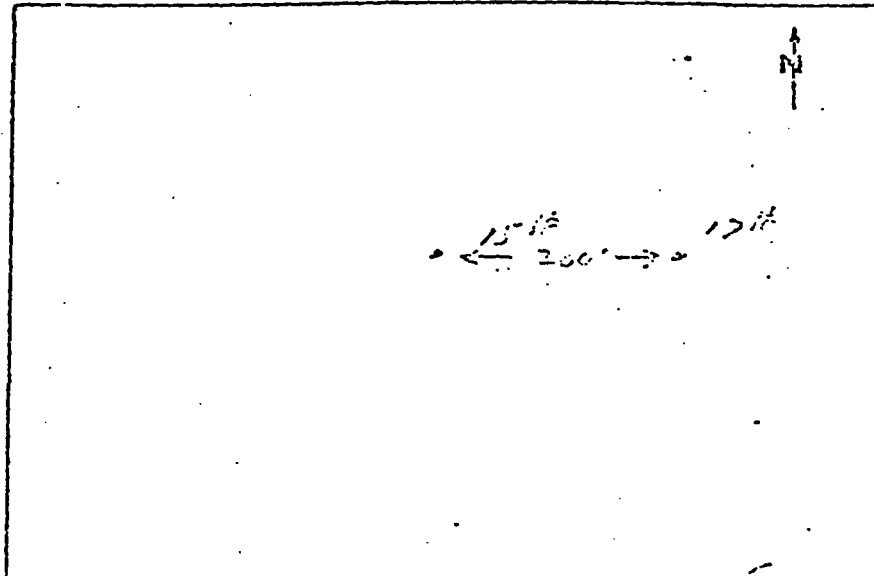
DATE 10-1-65 TEST WELL NO. 17-65

FOR WATER SUPPLY

LOCATION 100' W. OF 100' E. OF 100' N.

PROPERTY OWNER WILLIAM GALT

SKETCH OF LOCATION 65-17 51



ODS. WELL: NO. _____ DISTANCE _____ DEPTH _____

NO. _____ DISTANCE _____ DEPTH _____

WELL SCREEN: TYPE 2" DIA. LENGTH 2' OPENING 2"

PUMPING DATA (MEASURED FROM TOP OF PIPE) ELEVATION: 120'

TIME	GPM	PUMP. WELL	ODS. WELL	ODS. WELL	TIME	GPM	PUMP. WELL	ODS. WELL	ODS. WELL
12:00	100	1	100						
12:15	100	1	100						
12:30	100	1	100						
12:45	100	1	100						
13:00	100	1	100						
13:15	100	1	100						
13:30	100	1	100						
13:45	100	1	100						
14:00	100	1	100						
14:15	100	1	100						
14:30	100	1	100						
14:45	100	1	100						
15:00	100	1	100						
15:15	100	1	100						
15:30	100	1	100						
15:45	100	1	100						
16:00	100	1	100						
16:15	100	1	100						
16:30	100	1	100						
16:45	100	1	100						
17:00	100	1	100						

STATIC LEVEL 8' 2" ORIFICE _____ AIR LINE LENGTH _____

QUALITY: PH _____ HARD. _____ IRON _____ MANGANESE _____

ODOR _____ TASTE _____ LAB. SAMPLE _____

PIPE LEFT IN WELL 47' 3" FT. IN ODS. WELL _____ FT.

SCREEN LEFT IN WELL _____ FT. IN ODS. WELL _____ FT.

49' REFUSAL

BOTTOM OF TEST HOLE

NOTE (1) SKETCH MEASUREMENTS FROM GROUND LEVEL.

(2) ODS. WELL SCREEN IS OPPOSITE WELL SCREEN.

(3) DEPTH SHOWN IS MAXIMUM DEPTH OF HOLE.

FOR LAYNE - NEW YORK CO., INC.

3000

NEW YORK CO., INC.

FOR _____

PROPERTY OWNER _____

CHARTER CRANE

305'

13 1/2'

350'

↑

NO. _____ DISTANCE _____ DEPTH _____

PUMPING DATA (MEASURED FROM TOP OF PIPE) ELEVATION: _____

[illegible]

QUALITY: PS _____ HARD. _____ IRON _____ MANGANESE _____

PIPE LEAD IN WELL NINE FT. IN OSS. WELL _____

SCREEN SET IN WELL _____ FT., IN OSG. WELL _____ FT.

BOTTOM OF TEST HOLE

(2) O38. WELL SCREEN IS OPPOSITE WELL SCREEN.

(3) DEPTH SHOWN IS MAXIMUM DEPTH OF HOLE.

FOR LAYNE - NEW YORK CO., INC.

14

NEW YORK CO., INC.

DATE 10/10/53 TEST WELL NO. 1403

FOR _____

LOCATION 1000 N. 10th St. S. 10th St. S.

PROPERTY OWNER W. H. HARRIS

SKETCH OF LOCATION

GROUND SURFACE

FINE MED
SAND

FINE SAND
AND GRAY CLAY

FINE RED
SAND, COARSE
GRAVEL AND CLAY

1 - FINE MED
COARSE RED SAND
GRAVEL, AND TRACE
OF CLAY

035. WELL: NO. _____ DISTANCE _____ DEPTH _____

NO. _____ DISTANCE _____ DEPTH _____

WELL SCREEN: TYPE 1-1/2" LENGTH 2' OPENING 3'

PUMPING DATA (MEASURED FROM TOP OF PIPE) ELEVATION: 32.0

TIME	GPM	PUMP. WELL	OBS. WELL	OBS. WELL	TIME	GPM	PUMP. WELL	OBS. WELL	OBS. WELL
8:00		20"							
8:15		20"							
8:30		20"							
8:45		20"							
9:00		20"							
9:15		20"							
9:30		20"							
9:45		20"							
10:00		20"							
10:15		20"							
10:30		20"							
10:45		20"							
11:00		20"							
11:15		20"							
11:30		20"							
11:45		20"							
12:00		20"							
12:15		20"							
12:30		20"							
12:45		20"							
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1:30		20"							
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5:45		20"							
6:00		20"							
6:15		20"							
6:30		20"							
6:45		20"							
7:00		20"							
7:15		20"							
7:30		20"							
7:45		20"							
8:00		20"							

STATIC LEVEL 10'3" ORIFICE _____ AIR LINE LENGTH _____

QUALITY: PH _____ HARD. _____ IRON _____ MANGANESE _____

ODOR _____ TASTE _____ LAB. SAMPLE _____

PIPE LEFT IN WELL 60' 9" FT., IN OBS. WELL _____ FT.

SCREEN LEFT: IN WELL _____ FT., IN OES. WELL _____ FT

REFUSAL: 58' 8"

SECTION OF TEST HOLE

NOTE (1) SKETCH MEASUREMENTS FROM GROUND LEVEL.

(2) OBS. WELL SCREEN IS OPPOSITE WELL SCREEN.

(3) DEPTH SHOWN IS MAXIMUM DEPTH OF HOLE.

FOR LAYNE - NEW YORK CO., INC.

Original

NEW YORK CO., INC.

DATE 10/21/1964 TEST WELL NO. 16
FOR WATER
LOCATION 1/2 MI. S. CENTER TWP. SEC. 20 T. 100 N. R. 100 W.
PROPERTY OWNER W. H. HARRIS
SKETCH OF LOCATION 65-16 SW

SKETCH OF LOCATION 65-16 50

CARTER LANE

1120'

500'

16'

CEAR STREET

N

OES. WELL: NO. _____ DISTANCE _____ DEPTH _____

NO. _____ DISTANCE _____ DEPTH _____

WELL SCREEN: TYPE 200 LENGTH 2 OPENING 1

PUMPING DATA (MEASURED FROM TOP OF PIPE) ELEVATION: _____

TIME	GPM	PUMP. WELL	OSS. WELL	OSS. WELL	TIME	GPM	PUMP. WELL	OSS. WELL	OSS. WELL
10:00	100	100	100	100					
10:05	100	100	100	100					
10:10	100	100	100	100					
10:15	100	100	100	100					
10:20	100	100	100	100					
10:25	100	100	100	100					
10:30	100	100	100	100					
10:35	100	100	100	100					
10:40	100	100	100	100					
10:45	100	100	100	100					
10:50	100	100	100	100					
10:55	100	100	100	100					
11:00	100	100	100	100					
11:05	100	100	100	100					
11:10	100	100	100	100					
11:15	100	100	100	100					
11:20	100	100	100	100					
11:25	100	100	100	100					
11:30	100	100	100	100					
11:35	100	100	100	100					
11:40	100	100	100	100					
11:45	100	100	100	100					
11:50	100	100	100	100					
11:55	100	100	100	100					
12:00	100	100	100	100					
12:05	100	100	100	100					
12:10	100	100	100	100					
12:15	100	100	100	100					
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12:25	100	100	100	100					
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12:35	100	100	100	100					
12:40	100	100	100	100					
12:45	100	100	100	100					
12:50	100	100	100	100					
12:55	100	100	100	100					
13:00	100	100	100	100					
13:05	100	100	100	100					
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13:15	100	100	100	100					
13:20	100	100	100	100					
13:25	100	100	100	100					
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13:35	100	100	100	100					
13:40	100	100	100	100					
13:45	100	100	100	100					
13:50	100	100	100	100					
13:55	100	100	100	100					
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14:05	100	100	100	100					
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14:15	100	100	100	100					
14:20	100	100	100	100					
14:25	100	100	100	100					
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14:35	100	100	100	100					
14:40	100	100	100	100					
14:45	100	100	100	100					
14:50	100	100	100	100					
14:55	100	100	100	100					
15:00	100	100	100	100					
15:05	100	100	100	100					
15:10	100	100	100	100					
15:15	100	100	100	100					
15:20	100	100	100	100					
15:25	100	100	100	100					
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15:35	100	100	100	100					
15:40	100	100	100	100					
15:45	100	100	100	100					
15:50	100	100	100	100					
15:55	100	100	100	100					
16:00	100	100	100	100					
16:05	100	100	100	100					
16:10	100	100	100	100					
16:15	100	100	100	100					
16:20	100	100	100	100					
16:25	100	100	100	100					
16:30	100	100	100	100					
16:35	100	100	100	100					
16:40	100	100	100	100					
16:45	100	100	100	100					
16:50	100	100	100	100					
16:55	100	100	100	100					
17:00	100	100	100	100					
17:05	100	100	100	100					
17:10	100	100	100	100					
17:15	100	100	100	100					
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17:45	100	100	100	100					
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18:05	100	100	100	100					
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18:20	100	100	100	100					
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18:40	100	100	100	100					
18:45	100	100	100	100					
18:50	100	100	100	100					
18:55	100	100	100	100					
19:00	100	100	100	100					
19:05	100	100	100	100					
19:10	100	100	100	100					
19:15	100	100	100	100					
19:20	100	100	100	100					
19:25	100	100	100	100					
19:30	100	100	100	100					
19:35	100	100	100	100					
19:40	100	100	100	100					
19:45	100	100	100	100					
19:50	100	100	100	100					
19:55	100	100	100	100					
20:00	100	100	100	100					
20:05	100	100	100	100					
20:10	100	100	100	100					
20:15	100	100	100	100					
20:20	100	100	100	100					
20:25	100	100	100	100					
20:30	100	100	100	100					
20:35	100	100	100	100					
20:40	100	100	100	100					
20:45	100	100	100	100					
20:50	100	100	100	100					
20:55	100	100	100	100					
21:00	100	100	100	100					
21:05	100	100	100	100					
21:10	100	100	100	100					
21:15	100	100	100	100					
21:20	100	100	100	100					
21:25	100	100	100	100					
21:30	100	100	100	100					
21:35	100	100	100	100					
21:40	100	100	100	100					
21:45	100	100	100	100					
21:50	100	100	100	100					
21:55	100	100	100	100					
22:00	100	100	100	100					
22:05	100	100	100	100					
22:10	100	100	100	100					
22:15	100	100	100	100					
22:20	100	100	100	100					
22:25	100	100	100	100					
22:30	100	100	100	100					
22:35	100	100	100	100					
22:40	100	100	100	100					
22:45	100	100	100	100					
22:50	100	100	100	100					
22:55	100	100	100	100					
23:00	100	100	100	100					
23:05	100	100	100	100					
23:10	100	100	100	100					
23:15	100	100	100	100					
23:20	100	100	100	100					
23:25	100	100	100	100					
23:30	100	100	100	100					
23:35	100	100	100	100					
23:40	100	100	100	100					
23:45	100	100	100	100					
23:50	100	100	100	100					
23:55	100	100	100	100					
24:00	100	100	100	100					

STATIC LEVEL 3.3" ORIFICE _____ AIR LINE LENGTH _____

QUALITY: PH _____ HARD. _____ IRON _____ MANGANESE _____

COOR: _____ TASTE _____ LAB. SAMPLE _____

PIPE LEFT IN WELL 250 1/2 FT. IN OBS. WELL FT.

SCREEN LEFT: IN WELL _____ FT., IN OBS. WELL _____ FT.

59' REFUSAL

SECTION OF TEST HOLE

NOTE (1) SKETCH MEASUREMENTS FROM GROUND LEVEL.

(2) OBS. WELL SCREEN IS OPPOSITE WALL SCREEN.

(3) DEPTH SHOWN IS MAXIMUM DEPTH OF HOLE.

FOR LAYNE - NEW YORK CO., INC.

CLIENT: Warzyn Engineering Project #8909	General Borings, Inc. P.O. BOX 7135 PROSPECT, CT 06712	SHEET <u>1</u> OF <u>1</u> HOLE NO. <u>TW-14</u>
JOB NO. 12-80	PROJECT NAME Southington	LINE -
EMAN-DRILLER J.D. M.S.	LOCATION Southington, CT.	STATION -
SPECTOR G.K.		OFFSET -
GROUND WATER OBSERVATIONS T <u>7</u> FT. AFTER <u>0</u> HOURS T <u>3</u> FT. AFTER <u> </u> HOURS	CASING TYPE HA SIZE I.D. 3 1/2" HAMMER WT. 140 LBS. HAMMER FALL 30"	SAMPLER SS CORE BAR 1-3/8" BIT 30"
		DATE <u>2/22</u> <u>2/22/80</u> SURFACE ELEV. <u> </u> GROUND WATER ELEV. <u> </u>

CASING BLOWS PER FOOT	SAMPLE					BLOWS PER 6" ON SAMPLER (FORCE ON TUBE)			DENSITY OR CONSIST.	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
	NO	TYPE	PEN	REC	DEPTH @ BOT.	0-6	6-12	12-18			
	1	SS	18"	10"	2.5'	24	25	20	MOIST	ELEV.	
									Dry	.83'	Frost.
									Dense		1) Red-brown fine-medium Sand, little Silt with soft Shale.
										4.0'	0.0'-4.0' red-brown fine-coarse Sand, Gravel and Cobbles.
	2	SS	18"	4"	6.5'	3	3	1	Wet		2) Red-brown coarse-fine Sand, some Silt, trace fine Gravel.
	3	SS	18"	10"	9.0'	2	1	2	Very Loose		3) Red-brown coarse-fine Sand, some Silt, trace fine Gravel.
									"		4) Gray organic Peat.
	4	SS	18"	12"	11.5'	1	1	1	Very Soft	10.0'	
	5	SS	18"	15"	16.5'	3	5	7	Wet Stiff	16.0'	5) Top 12" Same as sample #4. Bottom 3" red-brown fine-coarse Sand, trace Silt.
	6	SS	18"	11"	21.5'	2	1	1	Wet Very Loose		6) Brown fine-coarse Sand, trace Silt.
	7	SS	18"	15"	26.5'	3	4	5	Wet Loose	26.5'	7) Top 12" gray fine-coarse Sand, trace Silt.
									EOB		Bottom 3" gray Clay.

TYPE OF SAMPLES:
 D= DRY W= WASHED C= CORED A= AUGER SS= SPLIT SPOON
 UB= UNDISTURBED BALL CHECK UP= UNDISTURBED PISTON VT= VANE SPOON
 PROPORTIONS USED TRACE= 0-10% LITTLE= 10-20% SOME= 20-35% AND= 35-50%

END OF BORING 26.5' Soil

Installed 24.58' Observation Well - 1.33' stick-up

BY: <u>Warron Engineering</u> Project: <u>#8909</u> JOB NO. <u>12-80</u> MAN-DRILLER <u>J. D. E.P.</u> DIRECTOR <u>G. K.</u> GROUND WATER OBSERVATIONS <u>58.5</u> FT. AFTER <u>16</u> HOURS <u> </u> FT. AFTER <u> </u> HOURS	General Borings, Inc. P.O. BOX 7135 PROSPECT, CT 06712 PROJECT NAME <u>Southington</u> LOCATION <u>Southington, CT.</u>	SHEET <u>1</u> OF <u>2</u> HOLE NO. <u>TW-16-B</u> LINE _____ STATION _____ OFFSET _____ DATE <u>3/4</u> <u>3/6/80</u> SURFACE ELEV. _____ GROUND WATER ELEV. _____
TYPE HW & HA CASING SAMPLER CORE BAR. SIZE I.D. <u>4"</u> <u>3 1/2"</u> <u>1-3/8"</u> _____ HAMMER WT. _____ <u>140</u> LBS. BIT HAMMER FALL <u>30"</u>		

CASING BLOWS PER FOOT	SAMPLE					BLOWS PER 6" ON SAMPLER (FORCE ON TUBE)			DENSITY OR CONSIST.	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
	NO	TYPE	PEN	REC	DEPTH @ BOT	0-6	6-12	12-18			
	1	SS	18"	10"	2.5'	4	9	7	Dry Medium		1) Red-brown fine-coarse Sand, little Silt, trace fine Gravel.
	2	SS	18"	7"	6.5'	6	5	5	"		2) Same as sample #1.
	3	SS	12"	6"	8.5'	9	100/5"		Dry Very Dense	8.0'	3) Same as sample #1. Spoon refusal at 8.5' - drilled same as sample #1, Gravel and Cobbles to 10.0'.
	4	SS	18"	12"	11.5'	11	11	10	Dry Medium	10.0'	4) Red-brown fine-coarse Sand, little Silt, trace fine-medium Gravel.
	5	SS	18"	11"	16.5'	8	7	9	"		5) Red-brown fine-coarse Sand, little Silt.
	6	SS	18"	17"	21.5'	4	7	7	"		6) Same as sample #5.
	7	SS	18"	14"	26.5'	4	6	6	"		7) Same as sample #5.
	8	SS	18"	16"	31.5'	7	8	10	"		8) Same as sample #5.
	9	SS	18"	9"	36.5'	8	9	10	"		9) Same as sample #5.
	10	SS	18"	6"	41.5'	9	9	9	"		10) Same as sample #5.

TYPE OF SAMPLES:
 D= DRY W= WASHED C= CORED A= AUGER SS= SPLIT SPOON
 • UNDISTURBED BALL CHECK UP= UNDISTURBED PISTON VT= VANE SPOON
 PROPORTIONS USED TRACE= 0-10% LITTLE= 10-20% SOME= 20-35% AND= 35-50%

Wagon Engineering Project #8909 12-80 MAN-DRILLER J.D. E.P. SPECTOR G.K. GROUND WATER OBSERVATIONS 58.5 FT. AFTER 16 HOURS FT. AFTER HOURS 2.5		General Borings, Inc. P.O. BOX 7135 PROSPECT, CT 06712 PROJECT NAME: Southington LOCATION: Southington, CT.		SHEET <u>2</u> OF <u>2</u> HOLE NO. <u>TV-16-B</u> LINE STATION OFFSET <u>73</u> DATE <u>3/4</u> <u>3/6/80</u> SURFACE ELEV. _____ GROUND WATER ELEV. _____	
TYPE HW CASING SAMPLER CORE BAR. SIZE I.D. 4" 3 1/2" 1-3/8" _____ HAMMER WT. _____ 140 LBS. BIT HAMMER FALL 30"					

CASING BLOWS PER FOOT	SAMPLE					BLOWS PER 6" ON SAMPLER (FORCE ON TUBE)			DENSITY OR CONSIST.	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
	NO	TYPE	PEN	REC	DEPTH @ BOT.	0-6	6-12	12-18			
	11	SS	18"	12"	46.5'	8	10	11	Dry Medium		11) Red-brown fine-coarse Sand, little Silt. NOTE: Switched to HW 4" I.D. spin with water.
	12	SS	18"	7"	51.5'	26	21	26	Wet Dense		12) Red-brown fine-coarse Sand, little Silt.
	13	SS	18"	2"	56.5'	19	29	26	Wet Very Dense		13) Same as sample #12.
		SS	18"	0"	61.5'	26	21	29	Dense		No recovery - two attempts - over drove.
	14	SS	18"	6"	66.5'	11	12	16	Wet Dense		14) Red-brown fine-coarse Sand, little Silt.
		SS	18"	0"	71.5'	22	29	33	Very Dense		No recovery - two attempts - over drove - drilled same as above to 73.0'.
		SS	18"	0"	73.0'	33	26	34			
										73.0' EOB	END OF BORING 73.0' Soil
											Installed 72.0' Observation Well 2.0' Stick-up

TYPE OF SAMPLES:
 D= DRY W= WASHED C= CORED A= AUGER SS= SPLIT SPOON
 U= UNDISTURBED BALL CHECK UP= UNDISTURBED PISTON VT= VANE SPOON
 PROPORTIONS USED TRACE= 0-10% LITTLE= 10-20% SOME= 20-35% AND= 35-50%

BY: <u>Warzyn Engineering</u> Project # <u>8909</u>		General Borings, Inc. P.O. BOX 7135 PROSPECT, CT 06712		SHEET <u>1</u> OF <u>1</u> HOLE NO. <u>TW-17</u>	
IO. <u>12-80</u> MAN-DRILLER <u>J.D. H.S.</u> ECTOR <u>G.Y.</u>		PROJECT NAME <u>Southington</u> LOCATION <u>Southington, CT.</u>		LINE _____ STATION _____ OFFSET <u>3'</u>	
GROUND WATER OBSERVATIONS <u>14.5</u> FT. AFTER <u>0</u> HOURS <u>15</u> FT. AFTER _____ HOURS		TYPE _____ SIZE I.D. <u>3 1/2"</u> HAMMER WT. _____ HAMMER FALL _____		CASING <u>HA</u> SAMPLER <u>SS</u> <u>1-3/8"</u> <u>140</u> LBS. BIT <u>30"</u>	
				DATE <u>2/27/80</u> SURFACE ELEV. _____ GROUND WATER ELEV. _____	

CASING BLOWS PER FOOT	SAMPLE					BLOWS PER 6" ON SAMPLER (FORCE ON TUBE)			DENSITY OR CONSIST.	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
	NO	TYPE	PEN	REC	DEPTH @ BOT.	0-6	6-12	12-18			
	1	SS	18"	12"	2.5'	12	19	26	Dry Dense		1) Red-brown fine-coarse Sand, little Silt, little fine-medium Gravel. NOTE: From 0.0' drilled same as above Gravel and Cobbles, very dense. 2) Same as sample #1. 3) Same as sample #1.
	2	SS	18"	9"	6.5'	28	29	28	Dry Very Dense		4) Same as sample #1.
	3	SS	18"	12"	9.0'	24	31	25	"		
	4	SS	18"	4"	11.5'	27	29	29	"		
	5	SS	18"	0"	16.5'	25	28	20	Wet Dense		5) Red-brown and gray coarse-fine Sand, little Silt, trace fine Gravel.
	6	SS	18"	11"	21.5'	14	22	16	"		6) Red-brown coarse-fine Sand, little Silt, little fine-medium Gravel.
	7	SS	18"	10"	26.5'	6	8	9	Wet Medium		7) Red-brown coarse-fine Sand, little Silt.
	8	SS	18"	16"	31.5'	11	9	8	"		8) Same as sample #7.
										31.5'	
										EOB	

END OF BORING 31.5' Soil
 Installed 32.5' Observation Well
 2.5' Stick-up

TYPE OF SAMPLES:
 D = DRY W = WASHED C = CORED A = AUGER SS = SPLIT SPOON
 UB = UNDISTURBED BALL CHECK UP = UNDISTURBED PISTON VT = VANE SPOON
 PROPORTIONS USED TRACE = 0-10% LITTLE = 10-20% SOME = 20-35% AND = 35-50%

INT. Warzyn Engineering Project #8909		General Borings, Inc. P.O. BOX 7-35 PROSPECT, CT 06712		SHEET <u>1</u> OF <u>1</u> HOLE NO. <u>TW-18</u>	
JOB NO. <u>12-80</u>		PROJECT NAME <u>Southington</u>		LINE _____	
MAN-DRILLER <u>J.D. M.S.</u>		LOCATION <u>Southington, Ct.</u>		STATION _____	
DIRECTOR <u>G.K.</u>				OFFSET <u> </u>	
GROUND WATER OBSERVATIONS <u>13.92 FT. AFTER 0 HOURS</u> <u> </u> FT. AFTER <u> </u> HOURS		TYPE <u>HA</u> SIZE I.D. <u>3 1/2"</u> HAMMER WT. <u> </u> HAMMER FALL <u>30"</u>		SAMPLER <u>SS</u> <u>1-3/8"</u> <u>140</u> LBS. BIT <u>30"</u>	
				DATE <u>3/6</u> <u>3/7/80</u> SURFACE ELEV. <u> </u> GROUND WATER ELEV. <u> </u>	

CASING BLOWS PER FOOT	SAMPLE					BLOWS PER 6" ON SAMPLER (FORCE ON TUBE)			DENSITY OR CONSIST.	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
	NO.	TYPE	PEN	REC	DEPTH @ BOT.	0-6	6-12	12-18			
	1	SS	18"	12"	2.5'	22	34	50	Dry		1) Red-brown fine-coarse Sand, little Silt, little fine-medium Gravel. NOTE: From 0.0' drilled Gravel and Cobbles. 2) Same as sample #1. 3) Red-brown fine-coarse Sand, little Silt, trace fine-medium Gravel. 4) Same as sample #3. NOTE: 10.0' End of Cobbles.
	2	SS	8"	3"	5.67'	27	100/2"		"		
	3	SS	18"	14"	9.0'	33	27	29	"		
	4	SS	18"	10"	11.5'	29	29	30	"	10.0'	
	5	SS	18"	6"	16.5'	29	35	44	Wet	15.0'	5) Same as sample #3. NOTE: 15.0' Drilled same as above Gravel, Cobbles and small Boulders - very dense.
									Very Dense		
		SS	2"	0"	20.17'	100/2"			Very Dense		Spoon refusal 20.17' - no recovery - drilling shows same as above.
	6	SS	12"	5"	26.0'	46	100/6"		Wet	26.0'	6) Same as sample #3.
									Very Dense	EOB	

END OF BORING 26.0' Soil

Installed 26.92' Observation Well 2.0' Stick-up

OF SAMPLES:

D= DRY W= WASHED C= CORED A= AUGER SS= SPLIT SPOON
 UP= UNDISTURBED PISTON VT= VANE SPOON

ENT: <u>Warzyn Engineering</u> <u>Project #8909</u>		General Borings, Inc. P.O. BOX 7135 PROSPECT, CT 06712		SHEET <u>1</u> OF <u>1</u> HOLE NO. <u>TW-19</u>	
JOB NO. <u>12-80</u>		PROJECT NAME <u>Southington</u>		LINE _____	
OPERMAN-DRILLER <u>J.D. M.S.</u>		LOCATION <u>Southington, CT.</u>		STATION _____	
SUPERVISOR <u>G.K.</u>		_____		OFFSET <u>_____</u>	
GROUND WATER OBSERVATIONS T. <u>7.5</u> FT. AFTER <u>0</u> HOURS <u>_____</u> T. _____ FT. AFTER _____ HOURS <u>_____</u>		TYPE _____ SIZE I.D. <u>4"</u> HAMMER WT. _____ HAMMER FALL _____		CASING <u>HW</u> <u>4"</u> <u>_____</u> <u>30" Carbide & Dia.</u>	
		SAMPLER <u>SS</u> <u>1-3/8"</u> <u>140</u> LBS <u>30" Carbide & Dia.</u>		CORE BAR. <u>NX</u> <u>2-1/8"</u> BIT _____	
				DATE <u>2/18</u> <u>2/19/80</u> SURFACE ELEV. _____ GROUND WATER ELEV. _____	

[illegible]

TYPE OF SAMPLES:
D= DRY W= WASHED C= CORED A= AUGER SS= SPLIT SPOON
UN= UNDISTURBED BALL CHECK UP= UNDISTURBED PISTON VT= VANE SPOON
PROPORTIONS USED TRACE= 0-10% LITTLE= 10-20% SOME= 20-35% AND= 35-50%

CASING BLOWS PER FOOT	SAMPLE :						BLOWS PER 6" ON SAMPLER (FORCE ON TUBE)				DENSITY OR CONSIST.	STRATA CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
	NO	TYPE	PEN	REC.	DEPTH @ BOT.								
						0-6	6-12	12-18					
1	SS	18"	8"	2.5'	13	17	12		Dry	1.17'	Frost		
									Medium	3.0'	1) Red-brown fine-coarse Sand, trace fine Gravel, trace Silt. NOTE: 3.0' Drilled Cobbles.		
2	SS	18"	3"	6.5'	17	29	36		Wet		2) Red-brown fine-coarse Sand, trace Silt, trace fine-coarse Gravel.		
3	SS	18"	10"	9.0'	16	16	20		Very Dense		3) Red-brown fine-coarse Sand, trace Silt, trace fine Gravel, Quartz Gravel.		
4	SS	18"	9"	11.5'	21	21	19		Wet Dense "		4) Red-brown fine-coarse Sand, little fine-medium Gravel.		
5	SS	18"	7"	16.5'	11	11	12		Wet Medium		5) Red-brown fine-coarse Sand, little Silt, trace fine-medium Gravel.		
6	SS	18"	4"	21.5'	19	16	12		"	21.5' EOB	6) Red-brown coarse-fine Sand, little Silt, little fine-medium Gravel.		
											END OF BORING 21.5' Soil		
											Installed 21.58' Observation Well 2.17' Stick-up		

D = DRY W = WASHED C = CORED A = AUGER SS = SPLIT SPOON
UNDISTURBED BALL CHECK UP = UNDISTURBED PISTON VT = VANE SPOON
DISTURBED TRACE = 0-10% LITTLE = 10-20% SOME = 20-35% AND = 35-50%

General Borings, Inc.

Sheet 2 of 3

P. O. BOX 7135

PROSPECT, CONNECTICUT 08712

REPORT OF AUGER BORINGS AND PIPE AND BAR PROBINGS

Southington, CT.

LINE.

OBJECT NAME Southington

PROJECT NO. 12-80

REMAN J. L.

DATE WORK DONE 2/28/80

INSPECTOR

FOR Warzyn Engineering

CONTRACTING ENGINEER

[illegible]

General Borings, Inc.

Sheet 3 of 3

P. O. BOX 7135

PROSPECT, CONNECTICUT 06712

REPORT OF AUGER BORINGS AND PIPE AND BAR PROBINGS

Southington, CT.

LINE

~~PROJECT NAME~~ Southington

PROJECT NO. 12-80

REMAN J.D. M.S.

DATE WORK DONE 3/7/80

SPECTOR ~~SECRET~~ K.

FOR Warzyn Engineering

CONTRACTING ENGINEER

[illegible]

AGENT: <u>Warzyn Engineering</u> Project No. <u>8909</u>		General Borings, Inc. P.O. BOX 7135 PROSPECT, CT 06712		SHEET <u>1</u> OF <u>1</u> HOLE NO. <u>SC-3</u>	
JOB NO. <u>12-80</u>		PROJECT NAME <u>Southington</u>		LINE	
MAN-DRILLER <u>J.D. MS.</u>		LOCATION <u>Southington, CT.</u>		STATION	
SPECTOR <u>G.K.</u>				OFFSET	
ROUND-WATER OBSERVATIONS <u>8.92</u> FT. AFTER <u>0</u> HOURS <u> </u> FT. AFTER <u> </u> HOURS		TYPE <u>HA</u> SIZE I.D. <u>3 1/2"</u> HAMMER WT. <u> </u> HAMMER FALL <u> </u>		CASING <u>HA</u> SAMPLER <u>SS</u> <u>1-3/8"</u> <u>140</u> LBS. BIT <u>30"</u>	
				DATE <u>3/7</u> ^{Start} <u>3/7/80</u> ^{Finish} SURFACE ELEV. <u> </u> GROUND WATER ELEV. <u> </u>	

CASING FLOWS PER FOOT	SAMPLE					BLOWS PER 6" ON SAMPLER (FORCE ON TUBE)				DENSITY OR CONSIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
	NO.	TYPE	PEN	REC	DEPTH @ BOT.	0-6	6-12	12-18	18-24			
	1	SS	24"	8"	2.0'	14	34	50	43	Dry		1) Red-brown fine-coarse Sand, little Silt, little fine-medium Gravel. 2) Red-brown coarse-fine Sand, trace Silt. 3) Same as sample #2. 4) Red-brown fine-coarse Sand, little Silt, trace fine-medium Gravel. 5) Red-brown fine-coarse Sand, little Silt, little fine-medium Gravel. 6) Red-brown coarse-fine Sand, little Silt, little fine-medium Gravel.
	2	SS	24"	10"	4.0'	14	12	10	10	Very Dense		
	3	SS	24"	11"	6.0'	3	5	6	7	Dry Medium		
	4	SS	24"	14"	8.0'	14	16	15	17	"		
	5	SS	24"	8"	10.0'	18	24	36	31	Dry Dense Wet		
	6	SS	24"	8"	12.0'	15	19	15	20	Very Dense Wet Dense		
											12.0'	END OF BORING 12.0' Soil

OF SAMPLES:
 D = DRY W = WASHED C = CORED A = AUGER SS = SPLIT SPOON
 UNDISTURBED BALL CHECK UP = UNDISTURBED PISTON VT = VANE SPOON
 RTIONS USED TRACE = 0-10% LITTLE = 10-20% SOME = 20-35%, AND = 35-50%

BORING CO. East Coast Drilling, Inc.
 FOREMAN William Nicks
 GSA ENGINEER David C. Greene
 BORING LOCATION NE of RV & Song Velding
 GROUND ELEV. 151'
 DATE STARTED 3-20-86 DATE ENDED 3-20-86

CASING		SAMPLER		GROUNDWATER READINGS			
SIZE:	_____	TYPE:	_____	DATE	DEPTH	TEMPERATURE	WATER LEVEL
SIZE:	HSA	TYPE:	Split Spoon	3/20	5		0.0
HAMMER:	10	HAMMER:	140				
FALL:		FALL:	30 inches				

REMARKS: (1) 2" PVC well set at 8.0'.
Well consists of 5.0' of slotted screen and 3.0' of riser pipe with a 2.0' stick-up. Sand was placed around the screen, with a bentonite seal from 1.0 to 2.0' and a protector pipe at the ground surface.

IN THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE REGIONAL. 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. 2) RECORDS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE

COLOBERG-ZOWO & ASSOCIATES, INC.
GEOTECHNICAL/GEOHYDROLOGICAL
CONSULTANTS

PROJECT
Old Turnpike Landfill
Southington, Connecticut

REPORT OF BORING NUMBER B-3A
SHEET 1 OF 1
DATE 3/20/86 FILE V-5125

BORING CO. East Coast Drilling, Inc.
FOREMAN William Mickle
QZA ENGINEER David C. Greene

BORING LOCATION East of AA7 Old Turnpike Road
GROUND ELEV.
DATE STARTED 3/20/86 DATE ENDED 3/20/86

CASING

SAMPLER

SIZE: HSI
HAMMER: 1A
FALL:

TYPE: Split Spoon OTHER:
HAMMER: 140
FALL: 30 inches

GROUNDWATER READINGS			
DATE	WELL	DEPTH	WATER
3/20	1A		0.0

DEPTH	CAS. BL. / FT.	SAMPLE				SAMPLE DESCRIPTION	START CHG. GEN. DESC.	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
		NQ	PEN./REC.	DEPTH	BLOWS/6"					
0							SAND FILL	5		
5						Hole offset 6' south from B-3				
10		S-1	18/1	10-11.5	6-5-2	Red brown, fine-to-medium SAND, trace Silt, coarse Sand, refuse.	11.0'			
15		S-2	18/8	15-16.5	2-3-4	Brown to black SILT AND REFUSE: fibrous material, glass etc.	REFUSE			
20		S-3	18/2	20-21.5	3-3-5	Dark brown, fine-to-medium SAND, some fine-to-medium Gravel, trace Silt, trace metal.	23.0' E.O.B.	23		1)

REMARKS: (1) 2" PVC observation well set at 23.0 feet.
Well consists of 20.0' of slotted screen and 5.0' of riser pipe with a 2.0' stick-up. Sand was placed around the screen, with a bentonite seal from 1.0 to 2.0' and a protector pipe at the ground surface.

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE

GOLDBERG-ZOWO & ASSOCIATES, INC. GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS	PROJECT Old Turnpike Landfill Southington, Connecticut	REPORT OF BORING NUMBER 8-4
	SHEET 1 OF 1 DATE 3/20/86	FILE 8-0123

BORING CO. East Coast Drilling, Inc.	BORING LOCATION East of 147 Old Turnpike Road
FOREMAN William Nickle	GROUND ELEV. 167'
OZA ENGINEER David C. Greene	DATE STARTED 3/20/86 DATE ENDED 3/20/86

CASING		SAMPLER		GROUNDWATER READINGS			
SIZE: HSA	TYPE: Split Spoon	OTHER:	DATE	DEPTH	WATER LEVEL	WATER TEMPERATURE	WATER QUALITY
HAMMER: 140	HAMMER: 140		3/20	20			0.0
FALL: 30 inches	FALL: 30 inches						

DEPTH	CAS. BL. / FT.	NO.	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRTIA CHG GEN. DESC.	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
0		S-1	18/18	0-1.5	1-2-3	Red brown, fine-to-medium SAND, trace fine-to-medium Gravel, trace Silt.	SAND FILL			
5		S-2	6/2	5-5.5	100/6	Red brown, fine-to-medium SAND, trace fine-to-medium Gravel, trace Silt.	8.0'			
10			18/0	10-11.5	31-21-21	No recovery	REFUSE			
15		S-3	18/6	15-16.5	13-18-23	Brown, fine-to-coarse SAND, trace fine-to-medium Gravel, trace Silt, wood, glass, etc.				
20		S-4	18/1	20-21.5	3-5-9	Dark brown, fine-to-medium SAND, trace fine-to-medium Gravel, trace Silt, plastic etc.	23.0' 2.0' E.			(1)

REMARKS:

- (1) 2" PVC observation well set at 23.0 feet. Well consists of 20.0' of slotted screen and 5.0' of riser pipe with a 2.0' stick-up. Sand was placed around the screen, with a bentonite seal from 1.0 to 2.0' and a protector pipe at the ground surface.

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE RECORDS. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO FACTORS NOT ACCOUNTED FOR AT THE

GOLDENBERG-ZOINO & ASSOCIATES, INC.
GEOTECHNICAL/GEOHYDROLOGICAL
CONSULTANTS

PROJECT
Old Turnpike Road Landfill
Southington, CT.

REPORT OF BORING NUMBER GZ-1
SHEET 1 OF 2
DATE 1-12-87 FILE H-6970

BORING CO. General

BORING LOCATION Quaker Drive

FOREMAN J.D.

GROUND ELEV.

GZA ENGINEER Christopher J. Kopley

DATE STARTED 1-12-87

DATE ENDED 1-14-87

CASING

SAMPLER

SIZE: 2" PVC

TYPE: Split Spoon OTHER:

NUMBER: 18

HAMMER: 140 lb.

FALL:

FALL: 30"

GROUNDWATER READINGS

DATE	DEPTH	FAHRENHEIT	STABILIZATION TIME

DEPTH DOWN BL.	CAS. BL. /FT.	SAMPLE				SAMPLE DESCRIPTION	START CHS DOWN GEN.	DESC.	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
		NO.	PEN./REC.	DEPTH	BLOWS/6"						
		S-1	24/11	0-2'	4-7-12	Brown fine to medium SAND, some Silt, and organic matter; topsoil.	TOPSOIL			HNU	1
							#2			0.4 ppm	
5		S-2	24/14	5-7	20-32-42-23	Brown fine to coarse SAND, some Silt and medium-to-coarse Gravel, trace Cobbles.	FINE TO COARSE SAND			0.3 ppm	
10		S-3	24/15	10-12	20-11-10-10	Brown fine to coarse SAND, some Silt and fine to coarse Gravel, trace Cobbles.				0.2 ppm	
15		S-4	24/	15-17	0-8-9-13	Cobble in Split Spoon; No recovery.					
20		S-5	24/0	20-22	7-10-0-12	Red fine to medium SAND and SILT.	#17 FINE TO MEDIUM SAND			0.5 ppm	
25		S-6	24/10	25-27	2-14-15-16	Red fine to medium SAND, some Silt.				0.5 ppm	
30		S-7	24/10	30-32	9-11-14-12	Red fine to medium SAND, some Silt.				0.4 ppm	
35		S-8	24/14	35-37	3-18-20-25	Red fine to medium SAND, some Silt.				0.0 ppm	
40		S-9	24/15	40-42	5-15-17-20	Red fine to coarse SAND, some Silt.	#40 FINE TO COARSE SAND			0.2 ppm	
45		S-10	24/15	45-47	12-15-18-15	Red fine to coarse SAND, some Silt.				0.2 ppm	
50		S-11	24/17	50-52	12-15-20-24	Red fine to coarse SAND, some Silt.				0.3 ppm	

REMARKS:

1. Soil samples were screened for volatile organic compounds using an HNU model PI-101 Organic Photoionization Analyser.

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO FACTORS NOT ACCOUNTED FOR AT THE

COLOBERG-ZOINO & ASSOCIATES, INC.
 GEOTECHNICAL/GEOHYDROLOGICAL
 CONSULTANTS

PROJECT
 Old Turnpike Road Landfill
 Southington, CT.

REPORT OF BORING NUMBER GZ-1
 SHEET 2 OF 2
 DATE 1-12-87 FILE H-6970

BORING CO General
 FOREMAN J.D.
 GZA ENGINEER Christopher J. Kopley

BORING LOCATION Quaker Drive
 GROUND ELEV
 DATE STARTED 1-12-87 DATE ENDED 1-14-87

CASING SAMPLER
 SIZE: 2" PVC TYPE: Split Spoon OTHER:
 HAMMER: 140 HAMMER: 140
 FALL: 30" FALL: 30"

GROUNDWATER READINGS
 DATE DEPTH TAILING AT STABILIZATION TIME

DEPTH	CAS BL. /FT.	NO	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	STRAT. CHG. GEN. DESC.	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
55'		S-12	24/13	55-57	16-20-20-20	Red fine to coarse SAND, some Silt.			HNU 0.5 ppm	
60'		S-13	24/17	60-62	10-20-24-25	Red fine SAND and SILT.	±60 FINE SAND AND SILT		0.6 ppm	
65'		S-14	24/15	64-66	14-18-21-23	Red fine SAND and SILT.			0.2 ppm	
70'		S-15	24/17	69-71	21-19-20-25	Red fine SAND and SILT.			0.7 ppm	
75'		S-16	24/16	74-76	18-18-20-28	Red CLAY and SILT, trace fine Sand	±74 CLAY AND SILT		0.2 ppm	
80'		S-17	24/13	79-81	49-34-24-19	Red fine to coarse SAND, some Silt and medium Gravel.	±78 FINE TO COARSE SAND		0.6 ppm	
85'		S-18	24/10	84-86	18-16-100-	Red fine to coarse SAND, some Silt and medium Gravel.			0.6 ppm	
90'						End of boring ± 89'	Possible BEDROCK			

REMARKS:

1. GZ-1

Refusal on possible bedrock

Screen: 20' of 20 slot, threaded flush joint, schedule 40, pvc.
 Setting: 66.5 to 86.5 feet: ±2.5 feet of cave-in at bottom of boring.
 Gravel pack: #18 silica sand: 53 to 86.5 feet.
 Seal: bentonite pellets: 50 to 53 feet and 3 to 5 feet.
 Development: airlift for ± 1 hr.

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE

GOLDBERG-ZOINO & ASSOCIATES, INC. GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS	PROJECT Old Turnpike Road Landfill Southington, CT.	REPORT OF BORING NUMBER <u>GZ-2</u> SHEET <u>1</u> OF <u>2</u> DATE <u>1-15-87</u> FILE # <u>H-6970</u>
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BORING CO General _____ FOREMAN J.D. _____ OZA ENGINEER Christopher J. Kozler _____	BORING LOCATION <u>Benny Drive</u> GROUND ELEV _____ DATE STARTED <u>1-15-87</u> DATE ENDED <u>1-16-87</u>
---	--

CASING SIZE: <u>2" PVC</u> NUMBER: _____ FALL: _____	SAMPLER TYPE: <u>Split Spoon</u> OTHER: _____ HAMMER: <u>140</u> lb. FALL: <u>30"</u>	GROUNDWATER READINGS <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>DATE</th> <th>DEPTH</th> <th>WATER LEVEL</th> <th>WATER TEMPERATURE</th> </tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>	DATE	DEPTH	WATER LEVEL	WATER TEMPERATURE												
DATE	DEPTH	WATER LEVEL	WATER TEMPERATURE															

DEPTH	CAS BL. /FT.	SAMPLE				SAMPLE DESCRIPTION	STRATA CHG OR GEN. DESC.	EQUIPMENT INSTALLED	FIELD TESTING	RMKS.
		NQ	PEN./REC.	DEPTH	BLOWS/6"					
		S-1	24/13	0-2	2-7-10-12	Dark Brown fine to coarse SAND, some medium Gravel, little Silt.	FINE TO COARSE SAND			HNU 0.0 ppm
	5	S-2	24/12	5-7	5-10-13-12	Red fine to coarse SAND, little Silt.	±5' FINE TO COARSE SAND			0.2 ppm
		10	S-3	24-14	10-12	7-11-10-12	Red fine to coarse SAND, little Silt.			
15		S-4	24/10	15-17	7-7-12-12	Red fine to coarse SAND, little Silt.				0.4 ppm
	20	S-5	24/10	20-22	10-9-10-13	Red fine SAND, some Silt.	±20 FINE SAND			0.0 ppm
25		S-6	24/14	25-27	12-15-15-21	Red fine SAND, some Silt.				0.6 ppm
30		S-7	24/13	30-32	20-27-27-31	Red fine to coarse SAND, some Silt.	±30 FINE TO COARSE SAND			0.6 ppm
	35	S-8	24/12	35-37	16-20-29-22	Red fine SAND and SILT.	±35 FINE SAND AND SILT			0.2 ppm
40		S-9	24/10	40-42	14-17-16-17	Red fine SAND and SILT.				0.2 ppm
45		S-10	24/16	45-47	12-16-17-18	Red fine to medium SAND, some Silt.	±45 FINE TO MEDIUM SAND			0.4 ppm
50		S-11	24/9	50-52	19-19-24-29	Red fine to medium SAND, some Silt.				0.4 ppm

REMARKS:

- Soil samples were screened for volatile organic compounds using an HNU Model PI-101 Organic Photoionization Analyser.

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE DRAWING. 3) FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO FACTORS NOT ACCOUNTED FOR AT THE

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

PROJECT
Old Turnpike Road Landfill
Southington, CT.

REPORT OF BORING NUMBER GZ-2
SHEET 2 OF 2
DATE 1-15-87 FILE H-6970

BORING CO General

FOREMAN J.O.

GZA ENGINEER Christopher J. Kopley

BORING LOCATION Benny Drive

GROUND ELEV.

DATE STARTED 1-15-87 DATE ENDED 1-16-87

CASING

SIZE: 2" PVC
HAMMER: 14
FALL:

SAMPLER

TYPE: Split Spoon OTHER:
HAMMER: 140
FALL: 30"

GROUNDWATER READINGS:

DATE	DEPTH	CAUSE AT	FLUCTUATION

DEPTH /FT.	CAS. BL. /FT.	SAMPLE				SAMPLE DESCRIPTION	START CHG GEN. DESC.	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
		NO.	PEN./REC.	DEPTH	BLOWS/6"					
55		S-12	24/18	65-67	16-14-19-21	Red fine to medium SAND, some Silt.			HNU 0.2 ppm	
60		S-13	24/14	60-62	18-15-22-20	Red fine to medium SAND, some Silt.			0.2 ppm	
65		S-14	24/17	65-67	14-12-18-16	Red fine to medium SAND, some Silt.			0.2 ppm	
70		S-15	24/20	70-72	12-13-14-16	Red SILT, some Clay and fine Sand.	± 70 SILT		0.2 ppm	
75		S-16	24/15	75-77	13-14-16-19	Red SILT, some Clay and fine Sand.			0.2 ppm	
80		S-17	24/18	80-82	16-21-24-26	Red fine SAND and SILT, trace Clay.	± 80 FINE SAND		0.2 ppm	
85		S-18	24/12	85-87	14-21-22-23	Red fine SAND, some Silt.			0.4 ppm	
90		S-19	24/17	90-92	16-19-30-32	Red fine SAND, some Silt.			0.2 ppm	
						End of Boring ± 92'.				
95										
100										

REMARKS:

1. GZ-2

Screen: 20' slot, threaded flush joint, scheduled 40 pvc.
Setting: 70 to 90 feet: ± 2 feet of cave-in at bottom of boring.
Gravel pack: #18 silica sand: 66 to 90 feet.
Seal: bentonite pellets; 50 to 66 feet and 3 to 5 feet.
Development: Airlift for ± 2 hr.

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORINGS LOGS. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO FACTORS NOT ACCOUNTED FOR AT THE

GOLDBERG-ZOINO & ASSOCIATES, INC. GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS	PROJECT	REPORT OF BORING NUMBER
	Old Turnpike Road Landfill	GZ-3
	Southington, CT.	
SHEET 1 OF 1		DATE 1-16-87
FILE 11-6470		

BORING CO. General	BORING LOCATION Rejoan Drive
FOREMAN J.D.	GROUND ELEV.
OZA ENGINEER Christopher J. Kopley	DATE STARTED 1-16-87 DATE ENDED 1-19-87

CASING		SAMPLER		GROUNDWATER READINGS			
SIZE: 2" PVC	TYPE: Split Spoon	OTHER:	DATE	DEPTH	READING AT	STRATIFICATION	TIME
HAMMER: 140 lb.	HAMMER: 140	lb.					
FALL: 30"	FALL: 30"						

DEPTH	CAS. BL. /FT.	SAMPLE				SAMPLE DESCRIPTION	STRATA CHG. GEN. DESC.	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
		NO.	PEN./REC.	DEPTH	BLOWS/6"					
		S-1	24/12	0-2	1-4-9-17	Brown fine to coarse SAND, little medium Gravel, trace Silt.	BROWN FINE TO COARSE SAND		HNU 0.3 ppm	1
5		S-2	24/9	5-7	6-7-9-17	Red fine to coarse SAND, some fine to medium Gravel, and Silt.	± 5' RED FINE TO COARSE SAND		0.7 ppm	
10		S-3	24/12	10-12	4-4-7-6	Red fine to coarse SAND, some fine to medium Gravel and Silt.			0.5 ppm	
15		S-4	24/16	15-17	11-22-11-10	Red fine to coarse SAND, some fine to medium Gravel and Silt.			0.6 ppm	
20		S-5	24/7	20-22	21-20-10-11	Red fine to coarse SAND, little Silt.			0.4 ppm	
25						End of Boring ± 25'				2

REMARKS:

- Soil samples were screened for volatile organic compounds using an HNU Model PI-101 Organic Photoionization Analyser.
- GZ-3
Screen: 15' of 10 slot, threaded flush joint, scheduled 40 pvc.
Setting: 10 to 25 feet.
Gravel pack: #10 silica sand; 5 to 25 feet.
Seal: bentonite pellets; 3 to 5 feet.
Development: Airlift for ± 1 hr.

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE

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

PROJECT
Old Turnpike Road Landfill
Southington, CT.

REPORT OF BORING NUMBER GZ-4 S.M.D.
SHEET 1 OF 3
DATE 1-19-87 FILE H-6970

BORING CO. General

BORING LOCATION Near Old LW-101 Wells

FOREMAN J.O.

GROUND ELEV

GZA ENGINEER Christopher J. Kopley

DATE STARTED 1-19-87 DATE ENDED 1-30-87

CASING		SAMPLER		GROUNDWATER READINGS			
SIZE:	2" PVC	TYPE:	Split Spoon	DATE	DEPTH	CASING AT	STABILIZATION TIME
HAMMER:	14	HAMMER:	140 lb.				
FALL:		FALL:	30"				

DEPTH	CAS. BL. / FT.	SAMPLE				STRATA CHG. GEN. DESC.	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
		NO.	PEN./REC.	DEPTH	BLOWS/6"				
		S-1	24/18	0-2	5-6-5-34			HNU 0.5 ppm	1
5		S-2	24/14	5-7	8-11-11-12			0.0 ppm	
10		S-3	24/6	10-12	7-4-4-10			0.0 ppm	
15		S-4	24/10	15-17	30-29-30-30	FILL		0.1 ppm	
20		S-5	24/12	20-22	60-59-45-38			0.7 ppm	
25		S-6	24/10	25-27	12-10-10-10	± 25 FINE SAND AND SILT		0.5 ppm	
30		S-7	24/5	30-32	26-13-10-8			0.7 ppm	
35		S-8	24/10	35-37	10-13-13-11			0.4 ppm	
40		S-9	24/10	40-42	11-4-4-7			--	
45		S-10	24/11	45-47	9-9-3-2	± FINE TO COARSE SAND		0.9 ppm	2
50		S-11	24/8	50-52	6-6-5-7			0.6 ppm	

REMARKS:

- Soil samples were screened for volatile organic compounds using an HNU Model PI-101 Organic Photoionization Analyser.
- GZ-4S
End of boring ± 45 feet
Screen: 20' of 20 slot, threaded flush joint, schedule 40 pvc.
Setting: 23 to 43 feet; ± 2 feet of cave-in at bottom of boring.
Gravel pack: #18 silica sand; 18 to 43 feet
Seal: bentonite pellets; 13 to 16 feet and 3 to 5 feet.
Development: Airlift for ± 1 hr.

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE

GOLDBERG-ZOINO & ASSOCIATES, INC. GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS	PROJECT Old Turnpike Road Landfill Southington, CT.	REPORT OF BORING NUMBER GZ-4 S.H.D.
	SHEET 2 OF 3 DATE 1-19-87 FILE H-6970	

BORING CO. General	BORING LOCATION Near Old LW-101 Wells
FOREMAN J.D.	GROUND ELEV.
GZA ENGINEER Christopher J. Xopley	DATE STARTED 1-19-87 DATE ENDED 1-30-87

CASING		SAMPLER		GROUNDWATER READINGS			
SIZE: 2" PVC	TYPE: Split Spoon	OTHER:	DATE	DEPTH	CAVITY AT	STABILIZATION	TIME
HAMMER: 140	HAMMER: 140	IB.					
FALL: 30"	FALL: 30"						

DEPTH /FT.	CAS. BL. /FT.	NO.	PEN./REC.	DEPTH	BLOWS/6"	SAMPLE DESCRIPTION	START CHG. GEN. DESC.	EQUIPMENT INSTALLED	FIELD TESTING	RMKS.
55		S-1	24/13	55-57	5-4-6-5	Brown fine SAND and SILT, little coarse Sand.	± 55 FINE SAND AND SILT		HNU 0.4 ppm	
60		S-1	24/-	60-62	-----	Boulder.	± 59 BOULDER		-	
65		S-1	24/15	65-67	5-4-7-9	Brown fine SAND and SILT, little coarse Sand.	± 62 FINE SAND AND SILT		0.5 ppm	
70		S-1	24/14	70-72	7-9-12-10	Brown fine SAND and SILT, little coarse Sand.			0.9 ppm	
75		S-1	24/-	75-77	-----	Boulder.	± 74 BOULDER		-	
80		S-1	24/13	80-82	45-23-17-13	Brown fine to coarse SAND and GRAVEL, some Silt.	± 76 FINE TO COARSE SAND AND GRAVEL		0.5 ppm	
85		S-1	24/17	85-87	28-25-26-16	Brown fine to coarse SAND and GRAVEL, some Silt.			0.6 ppm	1
90		S-1	24/6	90-92	25-35-29-22	Brown fine to coarse SAND and GRAVEL, some Silt.			0.4 ppm	
95		S-2	24/-	95-97	-----	Boulders.	± 93 BOULDERS		-	
100		S-2	24/-	100-102	-----	Boulders.			-	
105		S-2	24/-	105-107	-----	Boulders.			-	

REMARKS:

- GZ-4 M
End of Boring ± 85 feet.
Screen: 20' of 20 slot threaded flush joint, schedule 40 pvc.
Setting: 65 to 85 feet below grade.
Gravel pack: #10 silica sand, 85 to 50 feet.
Seal: bentonite pellets; 40 to 50 feet and 3 to 5 feet.
Development: Airlift for ± 1 hr.

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE REPORT. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO FACTORS NOT ACCOUNTED FOR AT THE

GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

Old Turnpike Road Landfill
Southington, CT

CHKD. BY _____

GZA ENGINEER A. Bjarngard

DATE START 11-16-84

DATUM

DATE START 11-16-84

DATE END 11-16-84

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING 300LB HAMMER FALLING 24 in.

CASING SIZE: HSA to 16 feet

OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER DEPTH	COORDINATE AT	STABILIZATION TIME
11-16-84	1045	9.8'	16.0'	10 minutes
11-26-84	1430	9.0'	*	observation well

[illegible]

GRANULAR SOILS		COHESIVE SOILS	
LOWS/FT	DENSITY	BLOWS/FT.	DENSITY
0-4	V. LOOSE	< 2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

REMARKS:

1. Spoon moist.
2. Spoon wet.
3. Auger chatter from 11 to 15 feet, very slow auger penetration
4. Auger refusal at 16.2 feet.
5. One 2 inch PVC observation well installed with a screened range from 6 to 16 feet. Bentonite seal from 4 to 5 feet.

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON _____

GOLDBERG-ZOINO & ASSOCIATES, INC.
320 NEEDHAM ST., NEWTON UPPER FALLS, MA.
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Turnpike Road Landfill
Southington, CT

REPORT OF BORING No. LW15D

SHEET 1 OF 1
FILE No. T-6020
CHKD. BY

BORING Co. GZA Drilling, Inc.

FOREMAN R. Jones

GZA ENGINEER A. Bjarngard

BORING LOCATION See Plan

GROUND SURFACE ELEVATION

DATUM

DATE START 11-19-84

DATE END 11-21-84

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING 300 lb. HAMMER FALLING 24 in. Johnson Revert mud used to keep

CASING SIZE: HSA to 70 feet OTHER: hole open to 100 feet

GROUNDWATER READINGS

DATE	TIME	WATER LEVEL	DOWN AT	STABILIZATION TIME
11-20-84	0630	5.5'	30	15 hours
11-26-84	0845	5.6'	*	observation well

DEPTH (ft)	CASING (in/ft)	SAMPLE				SAMPLE DESCRIPTION	STRATUM DESCRIPTION
		No.	PEN. (in)	DEPTH (ft)	BLOWS/ft		
		S-1	24/16	0-2	3-4-9-13	S-1 Top 8 inches: Loose brown fine to coarse SAND, some Silt, trace fine to coarse Gravel Bottom 8 inches: Medium dense red-brown fine to coarse SAND, little Silt, trace fine to coarse Gravel	0.7' TOPSOIL
5		S-2	24/4	5-7	12-4-2-2	S-2 Top 12 inches: Medium dense red-brown fine to coarse SAND, little Silt little fine to coarse Gravel, frequent cobbles Bottom 12 inches: Soft dark brown to black SILT, trace fine Sand, organic odor	6.0' FILL
10		S-3	24/24	10-12	2-1-1-1	S-3 Top 12 inches: Soft dark brown to black SILT, trace fine Sand, trace wood organic odor Bottom 12 inches: Very soft light gray fine SAND, some Silt, trace fine Gravel trace wood slight organic odor	11.0' ORGANIC SILT
15		S-4	24/24	15-17	1-2-1-1	S-4 Very soft gray SILT, some fine SAND, trace Clay, trace Gravel Alternately layered 1 inch Silt layers, 1/4 inch fine Sand layers	19.0' SILT WITH FREQUENT FINE SAND LAYERS
20		S-5	24/24	20-22	1-1-3-4	S-5 Very loose red-brown fine to coarse SAND, trace fine Gravel, trace (-) Silt	
25						No Sample	
30		S-6		30-32	14-14-14-12	S-6 Medium dense red-brown fine to coarse SAND, trace (-) Silt	FINE TO COARSE SAND

GRANULAR SOILS

COHESIVE SOILS

REMARKS:

BLOWS/FT	DENSITY	BLOWS/FT	DENSITY
0-4	V. LOOSE	<2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V. DENSE	15-30	V. STIFF
		>30	HARD

1. Spoon wet.
2. Five feet of blown sands inside augers prior to sampling

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) GROUNDWATER READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON

G. LUBBERG-ZOINO & ASSOCIATES, INC.
281 HARTFORD TURNPIKE, VERNON, CONNECTICUT
GEOTECHNICAL/GEODHYDROLOGICAL CONSULTANTS

PROJECT

old Turnpike Road Landfill
Southington, CT

REPORT OF BORING No. LW15D

SHEET 2 OF 3

FILE No. T-6020

CHKD. BY _____

DEPTH (ft)	CASING (in)	SAMPLE				SAMPLE DESCRIPTION		REMARKS	STRATUM DESCRIPTION
		No.	PEN. (in)	REC	DEPTH (ft)	BLOWS/6"	Burmister CLASSIFICATION		
35									
40		S-7	24/8		40-42	10-11-10-11	S-7 Medium dense red-brown fine to coarse SAND, little (+) Silt, trace fine to coarse Gravel, stratified		
45		S-8	24/24		45-47	9-10-20-29	S-8 Top 12 inches: Medium dense red-brown fine to coarse SAND, little fine to coarse Gravel, trace Silt Bottom 12 inches: Dense red-brown fine to coarse SAND, some (+) Silt, trace fine to coarse Gravel		
50									
55		S-9	18/10		55-57	61-12-15	S-9 Very dense red-brown fine to coarse SAND, little (+) Silt, trace fine to coarse Gravel, stratified	3.	FINE TO COARSE SAND
60							No Sample		
65							No Sample		
70		S-10	24/7		70-72	19-33-40-38	S-10 Very dense red-brown fine to coarse SAND, little (+) Silt, Vaguely stratified		

REMARKS:

3. Spoon driven with 300 lb hammer falling 24 inches for sample 9.

REPORT OF BORING No. LW150 (GZ-8)
SHEET 3 OF 3
FILE No. T-6020
CHKD. BY _____

4. One 2 inch observation well installed with a screened range from 49 to 99 feet. Bentonite seal from 45 to 46 feet.



GOLDBERG-ZOINO & ASSOCIATES, INC.
320 NEEDHAM ST., NEWTON UPPER FALLS, MA.
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Turnpike Road Landfill
Southington, CT

REPORT OF BORING No. LW15M
SHEET 1 OF 2
FILE No. T-6020
CHKD. BY _____

BORING Co. GZA Drilling, Inc.

FOREMAN R. Jones

GZA ENGINEER A. Bjarngard

BORING LOCATION See Plan

GROUND SURFACE ELEVATION _____ DATUM _____

DATE START 11-26-84 DATE END 11-26-84

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A
140lb HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING 300lb HAMMER FALLING 24 in.

GROUNDWATER READINGS

DATE	TIME	WATER IN CASSING	STABILIZATION TIME
11-27-84	0700	5.9	* observation well (16 hours)

CASING SIZE: HSA to 60 feet OTHER: _____

DEPTH (ft)	CASING (in/ft)	SAMPLE				SAMPLE DESCRIPTION <u>Burmister</u> CLASSIFICATION	REMARKS	STRATUM DESCRIPTION
		No.	PEN. (in)	REC.	BLOWS/ft			
5								FILL
6.0'								
10								ORGANIC SILT
11.0'								
15								SILT WITH FREQUENT FINE SAND LAYERS
19.0'								
20								FINE TO COARSE SAND
25								
30								

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/FT.	DENSITY	BLOWS/FT.	DENSITY
0-4	V. LOOSE	< 2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
> 50	V. DENSE	15-30	V. STIFF
		> 30	HARD

REMARKS:

1. See log for boring No. LW15D for soil sample classifications.

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON

GOLDBERG-ZOINO & ASSOCIATES, INC.
320 NEEDHAM ST., NEWTON-UPPER FALLS, MA.
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Turnpike Road Landfill
Southington, CT

REPORT OF BORING No. LW155

SHEET 1 OF 1

FILE No. T-6020

CHKD. BY

BORING Co. GZA Drilling, Inc.

FOREMAN R. Jones

GZA ENGINEER A. Bjarngard

BORING LOCATION See Plan

GROUND SURFACE ELEVATION DATUM

DATE START 11-27-84 DATE END 11-27-84

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A
140lb HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING 300lb HAMMER FALLING 24 in.

GROUNDWATER READINGS

DATE	TIME	WATER LEVEL	DEPTH AT	STABILIZATION TIME
11-27-84	0930	6.0	30	10 minutes

CASING SIZE:

OTHER:

DEPTH (ft)	CASING (in/ft)	SAMPLE				SAMPLE DESCRIPTION <u>Burmister</u> CLASSIFICATION	REMARKS	STRATUM DESCRIPTION
		No.	PEN. (in)	REC.	BLOWS/ft			
5								FILL
6.0'								
10								ORGANIC SILT
11.0'								
15								SILT WITH FREQUENT FINE SAND LAYERS
19.0'								
20								FINE TO COARSE SAND
25								
30								END OF EXPLORATION
30.0'								

GRANULAR SOILS

BLOWS/FT.	DENSITY	BLOWS/FT.	DENSITY
0-4	V. LOOSE	< 2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
> 50	V. DENSE	15-30	V. STIFF
		> 30	HARD

REMARKS:

- See log for boring LW15D for soil sample descriptions.
- One 2 inch PVC observation well installed with a screened range from 7.5 to 27.5 feet. Bentonite seal from 4.0 to 5.0 feet.

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.

2) GROUNDWATER READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON

GOLDBERG-ZOINO & ASSOCIATES, INC.
320 NEEDHAM ST., NEWTON UPPER FALLS, MA.

GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Turnpike road landfill
Southington, CT

REPORT OF BORING No. LW17D

SHEET 1 OF 3

FILE No. T-6020

CHKD. BY

BORING Co. GZA Drilling, Inc.

FOREMAN R. Jones

GZA ENGINEER A. Bjarngard

BORING LOCATION See Plan

GROUND SURFACE ELEVATION DATUM

DATE START 11-9-84 DATE END 11-12-84

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A
140lb HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING 300lb HAMMER FALLING 24 in.
NN casing to 85 feet Johnson
Revert Drilling mud used to hold

CASING SIZE: HSA to 70 feet

OTHER: hole open to 99.5 feet.

GROUNDWATER READINGS

DATE	TIME	WATER AT	DEPTH AT	STABILIZATION TIME
11-10-84	0700	10.8'	30	14 hours
11-26-84	1430	11.0'	*	observation well

DEPTH (ft)	CASING (b/i/n)	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION
		No.	PEN. (in) REC.	DEPTH (ft)	BLOWS/ft		
0		S-1	24/12	0-2	2-3-9-11	S-1 Medium dense red-brown fine to coarse SAND, some Silt, little fine to coarse Gravel frequent cobbles, roots	FINE TO COARSE SAND WITH COBBLES
5		S-2	24/11	0-5	8-11-14-14	S-2 Medium dense red-brown fine to coarse SAND, some Silt, little fine to coarse Gravel occasional cobble	
10		S-3	24/19	10-12	15-20-18-26	S-3 Dense red-brown fine to coarse SAND, some Silt, little fine to coarse Gravel, frequent cobbles, Black stained 1 inch layer at 11.0 feet.	
15		S-4	24/16	15-17	12-14-13-15	S-4 Medium dense red-brown fine to coarse SAND, little fine to coarse Gravel, trace Silt occasional cobble	
20		S-5	24/8	20-22	9-8-11-11	S-5 Medium dense red-brown SAND, and Gravel, little Silt, frequent cobbles	
25						No Sample	
30		S-6	24/8	30-32	2-2-3-6	S-6 Loose red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt	

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/FT	DENSITY	BLOWS/FT	DENSITY
0-4	V. LOOSE	< 2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
> 50	V. DENSE	15-30	V. STIFF
		> 30	HARD

REMARKS:

1. Sample saturated.
2. Five feet of blowing sands inside augers.

NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.

2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN

BORING No. LW17D

GOLDBERG-ZOINO & ASSOCIATES, INC.
281 HARTFORD TURNPIKE, VERNON, CONNECTICUT
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

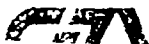
Old Turnpike Road Landfill
Southington, CT

REPORT OF BORING No. WH17D

SHEET 2 OF 1
FILE No. T-6020
CHKD. BY _____

DEPTH (ft)	CASING (in)	SAMPLE				SAMPLE DESCRIPTION		REMARKS	STRATUM DESCRIPTION
		No.	PEN. (lb)	REC.	DEPTH (ft)	BLOWS/6"	Burmister CLASSIFICATION		
									FINE TO COARSE SAND
									37'
40		S-7	24/8		40-42	47-44-41-35	S-7 Very dense red-brown SAND and GRAVEL, little Silt, frequent cobbles		SAND AND GRAVEL WITH FREQUENT COBBLES
									43'
45		S-8	24/8		45-47	31-42-45-59	S-8 No Recovery		
50		S-9	24/24		50-52	10-8-11-17	S-9 Medium dense red-brown fine SAND, little Silt		
55							No Sample		FINE SAND
60		S-10	24/24		60-62	9-18-22-26	S-10 Dense red-brown fine SAND, little Silt		
65							No Sample		
70		S-11	24/6		70-72	13-23-38-47	S-11 Very dense red-brown fine SAND, little Silt		

REMARKS:



[illegible]

REMARKS:

3. One 2 inch PVC observation well installed with a screened range from 40 to 100 feet. Bentonite from 35 to 36.5 feet.

GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

Old Turnpike Road Landfill
Southington, CT

SHEET 3 OF 1
FILE No. T-6020
CHKD. BY

[illegible]

REMARKS:

3. One 2 inch PVC observation well installed with a screened range from 51 to 101 feet. Bentonite seal from 45 to 46 feet.

GOLDEBERG-ZOINO & ASSOCIATES, INC.
320 NEEDHAM ST., NEWTON UPPER FALLS, MA.

GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Turnpike Road Landfill
Southington, CT

REPORT OF BORING No. LW-1015

SHEET 1 OF 2

FILE No. T-6020

CHKD. BY

BORING Co. GZA Drilling, Inc.

FOREMAN Richard Jones

GZA ENGINEER A. Bjarngard

BORING LOCATION See Plan

GROUND SURFACE ELEVATION DATUM

DATE START 11-7-84 DATE END 11-8-84

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140lb. HAMMER FALLING 30in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING 300lb. HAMMER FALLING 24in.

GROUNDWATER READINGS

DATE	TIME	WATER	DEPTH	STABILIZATION TIME
11-8-84	1500	18.0	70	15 min.
11-9-84	0645	17.5	*	observation well
11-26-84	0930	17.5	*	observation well

CASING SIZE:

OTHER:

DEPTH (ft)	CASING (in)	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION
		No.	PEN. (in) REC.	DEPTH (ft)	BLOWS/6"		
		S-1	24/8	0-2	2-3-3-10	S-1 Loose red-brown fine to coarse SAND, little Silt, trace fine to coarse Gravel, trace roots, trace wood	1.
5		S-2	24/4	5-7	2-3-3-5	S-2 Loose red-brown SAND and GRAVEL, trace Silt, occasional cobble, plastic, wood, metal	
10		S-3	24/6	9.5-11.5	2-3-3-4	S-3 Loose red-brown fine to coarse SAND, little fine to coarse Gravel, trace Silt, occasional cobble, metal	
15		S-4	24/17	15-17	6-11-21-40	S-4 Medium dense dark red-brown fine to coarse SAND, some fine to coarse Gravel, trace (+) Silt, slight organic odor	2. 18' (±)
20		S-5	24/16	20-22	26-39-21-25	S-5 Very dense dark red-brown fine to coarse SAND, little fine to coarse Gravel, little Silt, occasional cobble	
25		S-6	24/24	25-27	7-9-38-23	S-6 top 8 inches: Medium dense red-brown fine to medium SAND, trace (-) Silt bottom 16 inches: Very dense dark red-brown fine to coarse SAND, some (+) fine to coarse Gravel, trace Silt, trace Clay	
30		S-7	24/10	30-32	8-12-23-108/5	S-7 Dense red-brown fine to coarse SAND, some Silt, little fine to coarse Gravel occasional cobble	3. FINE TO CONCRETE SAND

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/FT.	DENSITY	BLOWS/FT.	DENSITY
0-4	V. LOOSE	< 2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M. DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
> 50	V. DENSE	15-30	V. STIFF
		> 30	HARD

REMARKS:

1. Metal fencing obstruction from 2 to 3 feet.
2. Spoon refusal at 14.9 feet, penetrated with roller bit.
3. End of first shift.



NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.

2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON

GOLDBERG-ZOINO & ASSOCIATES, INC.
281 HARTFORD TURNPIKE, VERNON, CONN.

GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Turnpike Road Landfill
Southington, CT

REPORT OF BORING No. LW-1015

SHEET 2 OF 2

FILE No. T-6020

CHKD. BY

DEPTH (ft.)	CASING (in./ft.)	SAMPLE				SAMPLE DESCRIPTION		REMARKS	STRATUM DESCRIPTION
		No.	PEN. (in)/ REC.	DEPTH (ft.)	BLOWS/ft.	Brumister	CLASSIFICATION		
35		S-8	24/9	35-37	18-20-22-24	S-8	Dense red-brown fine to coarse SAND some Silt, little fine to coarse Gravel		
40		S-9	18/18	40-42	4-8-9	S-9	Medium dense red-brown fine SAND little Silt, trace fine to coarse Gravel		
45		S-10	24/24	45-47	19-9-5-6	S-10	Medium dense red-brown fine to coarse GRAVEL some fine to coarse Sand, trace Silt slight organic odor		
50		S-11	24/8	50-52	9-14-17-18	S-11	Medium dense red-brown fine to coarse SAND some fine to coarse Gravel, trace Silt, slight organic odor		FINE TO COARSE SAND
55		S-12	24/16	55-57	10-12-14-17	S-12	Medium dense red-brown fine SAND, little Silt, trace fine to coarse Gravel, slight organic odor		
60							No Sample		
65		S-13	24/8	65-67	16-24-40-57	S-13	Very dense red-brown fine to medium SAND, some Silt, trace Clay		
70		S-14	24/	70-72	3-6-10-10	S-14	Medium dense red-brown fine SAND, some (+) Gravel frequent cobbles	5.	
								72'	
									END OF EXPLORATION

REMARKS:

5. One 2 inch PVC observation well installed with a screened range of 48 to 18 feet. Bentonite seal from 18 to 17 feet.

GZA/HELLER GOLDBERG-ZOINO & ASSOCIATES, INC. GEOTECHNICAL GEOLOGICAL CONSULTANTS 881 LAFAYETTE BOULEVARD BRIDGEPORT, CONNECTICUT 06604		PROJECT Old Turnpike Road Landfill Southington, Connecticut		REPORT OF BORING No. LW-1025 SHEET 1 OF 2 FILE No. T-6020 CHKD. BY																					
DRILLING Co. GZA Drilling Inc. OPERATOR R. Jones GZA ENGINEER A. Blomgard		BORING LOCATION See plan GROUND SURFACE ELEVATION _____ DATUM _____ DATE START 11-6-84 DATE END 11-7-84																							
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140lb HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING 300lb. HAMMER FALLING 24 in.		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="5">GROUNDWATER READINGS</th> </tr> <tr> <th>DATE</th> <th>TIME</th> <th>WATER LEVEL AT</th> <th>COARSE AT</th> <th>STABILIZATION TIME</th> </tr> <tr> <td>11-7-84</td> <td>0800</td> <td>31.0</td> <td>55</td> <td>16 Hrs.</td> </tr> <tr> <td>11-26-84</td> <td>0945</td> <td>30.9</td> <td>*</td> <td>observation well</td> </tr> </table>				GROUNDWATER READINGS					DATE	TIME	WATER LEVEL AT	COARSE AT	STABILIZATION TIME	11-7-84	0800	31.0	55	16 Hrs.	11-26-84	0945	30.9	*	observation well
GROUNDWATER READINGS																									
DATE	TIME	WATER LEVEL AT	COARSE AT	STABILIZATION TIME																					
11-7-84	0800	31.0	55	16 Hrs.																					
11-26-84	0945	30.9	*	observation well																					
CASING SIZE: H.S.A. to 70 feet OTHER:																									
DEPTH (ft)	CASING (lb/ft)	No.	PEN. (in)	SAMPLE DEPTH (ft)	BLOWS/ft	SAMPLE DESCRIPTION <u>Burmister CLASSIFICATION</u>	FEET	STRATUM DESCRIPTION																	
		S-1	24/8	0-2	2-4-9-9	Medium dense, red-brown, fine-to-coarse SAND, little fine-to-coarse Gravel, little Silt, occasional Cobble.																			
5		S-2	24/10	5-7	3-2-2-1	Very loose, red-brown, fine-to-coarse SAND, some (-) Silt, little fine-to-coarse Gravel occasional Cobble.	1	FILL																	
10		S-3	28/14	10-11.5	21-38-110	Top 4": Dense, brown, fine-to-coarse SAND, some fine-to-coarse Gravel, trace(+) Silt. Next 4": Very dense, red-brown SILT, partly cemented. Bottom 6": Very dense, red-brown, fine-to-coarse SAND, some fine-to-coarse Gravel, trace Silt, frequent Cobbles.	2	12' COBBLES IN A MATRIX OF FINE TO COARSE SAND																	
15		S-4	24/15	15-17	6-9-12-10	Top 10" Medium dense, red-brown, fine-to-coarse SAND, trace fine-to-coarse Gravel, trace Silt. Bottom 5": Medium dense, red-brown, fine SAND, some(-) Silt.																			
20		S-5	24/17	20-22	10-11-12-9	Medium dense, red-brown, fine SAND, trace(-) Silt, trace(-) fine-to-coarse Gravel, frequent brown fine Sand seams.																			
25		S-6	24/14	25-27	8-17-21-41	Dense, red-brown, fine SAND, trace (-) fine-to-coarse Gravel, trace Silt, occasional Cobble.		FINE SAND WITH OCCASIONAL GRAVEL AND COBBLE LAYERS																	
30		S-7	24/18	30-32	16-15-16-14	Medium dense, red-brown, fine-to-coarse GRAVEL, some fine-to-coarse Sand, trace Silt, frequent Cobbles.	3																		
GRANULAR SOILS		COHESIVE SOILS		REMARKS:																					
LOWS/FT.	DENSITY	BLOWS/FT.	DENSITY																						
0-4	V. LOOSE	< 2	V. SOFT																						
4-10	LOOSE	2-4	SOFT																						
10-30	M. DENSE	4-8	M. STIFF																						
30-50	DENSE	8-15	STIFF																						
50	V. DENSE	15-30	V. STIFF	1. Spoon moist. 2. Sugar chatter and very slow auger penetration from 12 to 15 feet roughly 80% cobbles and coarse gravel in auger cuttings. 3. Spoon wet at 30 feet.																					
> 50		> 30	HARD																						
NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE NOTED AT THE TIME MEASUREMENTS WERE MADE.				BORING No. LW-1025																					

GZA/MILLER

GOLDBERG, ZIMING & ASSOCIATES, INC.
ENGINEERING, GEOLOGICAL CONSULTANTS
1 LAFAYETTE BOULEVARD
MIDGERTON, CONNECTICUT 06401

PROJECT

Old Turnpike Road Landfill
Southington, Connecticut

REPORT OF BORING No. LW-1025

SHEET 2 OF 2

FILE No. T-6020

CHKD. BY

DEPTH (ft)	CASING (in)	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION
		No.	PER (in)/ REC	DEPTH (ft)	BLOWS/6"		
35		S-8	24/24	35-37	14-23-23-20	Dense red-brown, fine-to-medium SAND, trace fine-to-coarse Gravel, trace (-) Silt, occasional Cobble.	4
40		S-9	24/24	40-42	8-8-10-18	Medium dense, red-brown, fine SAND, little (-) Silt.	
45		S-10	24/18	45-47	4-8-16-17	Ditto	
50		S-11	24/24	50-52	2-5-8-11	Medium dense, red-brown, fine SAND, little Silt.	
55		S-12	24/10	55-57	3-7-9-13	Medium dense, red-brown, fine SAND, little Silt.	5 6
60		S-13	24/24	60-62	8-11-13-15	Medium dense, red-brown fine SAND, little Silt.	7
65						No sample/	
70		S-14	24/24	70-72	23-32-35-35	Very dense, red-brown, fine SAND, some Silt, trace Clay.	8 9
							72'
							END OF EXPLORATION.

REMARKS:

4. Blowing sands five feet into augers after sample was taken.
5. Five feet of blown sand inside augers. Washed out prior to sampling.
6. End of first shift.
7. Four feet of blown sand inside augers. Washed out prior to sampling.
8. Hole collapsed to 50 feet.
9. One 2 1/2 inch PVC observation well installed with a screened range from 20 to 50 feet. Bentonite seal from 28 to 29 feet.

GZA

BORING No. LW-1025

[illegible]

GOLDBERG-ZOINO & ASSOCIATES, INC.
281 HARTFORD TURNPIKE, VERNON, CONNECTICUT
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Turnpike Road Landfill
Southington, CT

REPORT OF BORING No. LW-103S, M, D
SHEET 1 OF 3
FILE No. T-6020
CHKD. BY

BORING Co. East Coast Drilling Inc.
FOREMAN J. DeAngelis
GZA ENGINEER A. Biarngard

BORING LOCATION See Plan
GROUND SURFACE ELEVATION
DATE START 1-13-85 DATE END 1-17-85

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A
140lb HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING 300lb HAMMER FALLING 24 in.
4" I.D. driven w/440 lb.

CASING SIZE: hammer falling 24" OTHER: Hole preaugered to 45'

GROUNDWATER READINGS

DATE	TIME	WATER AT	CASING AT	STABILIZATION TIME
1-13-85	0920	8.5	10.0	5 min.

DEPTH (ft)	CASING (in)	SAMPLE			SAMPLE DESCRIPTION Burmister CLASSIFICATION	REMARKS	STRATUM DESCRIPTION
		No.	PEN. (in) REC	DEPTH (ft)	BLOWS/6"		
		S-1	24/20	0-2.0	3-6-20-65	Top 6" Loose gray-brown fine to coarse SAND, some Silt, trace Organics Bottom 14" Very dense red-brown fine to coarse SAND, little (+) Silt, trace fine to coarse Gravel, occasional Cobble	1.0'± TOPSOIL
5		S-2	24/16	5.0-7.0	7-5-3-2	Top 4" Medium dense red-brown fine to coarse SAND, little Silt Bottom 12" Loose red-brown fine to coarse SAND, little (-) Silt	6.0'±
10		S-3	24/14	10.0-12.0	1-1-1-2	Very loose red-brown fine to coarse SAND, little (-) Silt	1.
15		S-4	24/24	15.0-17.0	2-3-3-9	Loose red-brown coarse SAND, little fine Gravel, occasional Cobble, one 5" layer fine Sand, little Silt	FINE TO
20		S-5	24/22	20.0-22.0	12-7-7-7	Medium dense red-brown, fine to coarse SAND, trace Silt	2. COARSE SANDS
25		S-6	24/2	25.0-27.0	8-8-8-8	Medium dense red-brown fine to coarse SAND, trace Silt, little fine to coarse Gravel	
30		S-7	24/4	30.0-32.0	12-32-18-10	Dense red-brown fine to coarse SAND, little Silt, little fine to coarse Gravel, occasional Cobble	

GRANULAR SOILS		COHESIVE SOILS	
BLOWS/FT.	DENSITY	BLOWS/FT.	DENSITY
0-4	V. LOOSE	< 2	V. SOFT
4-10	LOOSE	2-4	SOFT
10-30	M DENSE	4-8	M. STIFF
30-50	DENSE	8-15	STIFF
>50	V DENSE	15-30	V. STIFF
		>30	HARD

REMARKS: 1. Spoon wet.
2. Five feet of blown sands inside augers.



NOTES: 1) THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.

2) WATER LEVEL READINGS HAVE BEEN MADE IN THE DRILL HOLES AT TIMES AND UNDER CONDITIONS STATED ON THE BORING LOGS. FLUCTUATIONS IN THE LEVEL OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

BORING No. LW-103

GOLDBERG-ZOINO & ASSOCIATES, INC.
281 HARTFORD TURNPIKE, VERNON, CONN.

GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Turnpike Road Landfill
Southington, CT

REPORT OF BORING No. LW-103S.M.D

SHEET 2 OF 3

FILE No. T-6020

CHKD. BY

DEPTH (ft)	CASING (b./ft)	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	REMARKS	STRATUM DESCRIPTION
		No.	PEN. (in) / REC.	DEPTH (ft)	BLOWS/6"			
						No sample		
								FINE TO COARSE SANDS
40		S-8	24/6	40.0-42.0	13-8-5-6	Medium dense red-brown Clayey SILT, little fine to coarse Sand, little fine to coarse Gravel		41.0'±
								CLAYEY SILT
								43.0'±
45		S-9	24/24	45.0-47.0	8-17-26-36	Dense red-brown fine to medium SAND, little (-) Silt, trace fine to coarse Gravel		
								FINE TO COARSE SANDS
50		S-10	24/10	50.0-52.0	28-20-32-70	Very dense red-brown fine to coarse SAND, little Silt, trace fine to coarse Gravel, trace (-) Clay		
		72						
		87						
		198						
		109						
55		S-11	24/12	55.0-57.0	25-29-32-17	Very dense red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, trace (-) Clay, occasional Cobble		56.5'±
		85						
		80						
		95						
60		S-12	24/6	60.0-62.0	115-25-29-37	Very dense red-brown fine SAND, little (+) Silt, occasional Gravel layer		
		150						
		184						
		128						
		112						
65		S-13	24/18	65.0-67.0	11-20-32-40	Very dense red-brown fine SAND, little Silt		FINE SANDS
		110						
		146						
		168						
70		S-14	24/24	70.0-72.0	13-12-15-23	Dense red-brown fine SAND, some (+) Silt	2.	
		92						
		100						
		103						
		134						
		156						

REMARKS:

1. Brown sands 14' inside casing.



BORING No. LW-103

REPORT OF BORING No. LW-103S, M, D
SHEET 3 OF 3
FILE No. T-6020
CHKD. BY _____

REMARKS:

3. Washed ahead of casing with roller bit from a depth of 77.7' to 78.2'.
4. Sample 15, 100 blows with 140 lb. hammer for 3.5", then 100 blows with 300 lb. hammer for 2.5", red-brown Siltstone in tip of spoon.
5. 0.4' of Glacial Till recovered in core barrel.
6. 15' of "H" casing lost at bottom of hole.
7. One 1½" PVC well installed with a screened range from 34.8 to 54.5 feet. (Screens wrapped with filter fabric sleeves). Bentonite seal installed from 31.5 to 38 feet.
8. A second 1½" PVC well installed with a screened range from 6.1 to 31.3 feet. (Screens wrapped with filter fabric sleeves). Bentonite seal from 0.5 to 2.5.
9. Clacium used to melt ice on ground surface around hole.



GOLDBERG-ZOINO & ASSOCIATES, INC.
604 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. BP-3
SHEET 1 OF 1
FILE No. 50124.09
CHKD. BY M.L.

BORING Co. Clarence Welti & Associates
FOREMAN Larry Lindenberg
GZA ENGINEER Dave Swettland

BORING LOCATION West Side of Old turnpike Rd-NW of WNTY
GROUND SURFACE ELEVATION DATUM
DATE START 1/18/90 DATE END 1/18/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT
SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb.
HAMMER FALLING 24 in.

CASING SIZE: 3 3/4" HSA OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
1/18/90	1510	6'	CUT	0 Hours

DEPTH	CLOGS	SAMPLE				SAMPLE DESCRIPTION <u>Burmister</u> CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-1	24/11	1.0-3.0	21-5-5-4	Loose red brown, fine to medium SAND, some SILT, trace Organics (fill).	Grass	NONE	ND	1
5		S-2	18/8	5.0-6.5	5-4-7	Medium dense red brown, fine to medium SAND and SILT, little Organics (fill).	SAND (FILL)		ND	2
		S-3	24/15	8.0-10.0	8-19-39-72	Top 6": Red brown, fine to medium SAND and SILT, little Organics. Middle 5": Dark brown-red Organic SILT, some fine Sand. Bottom 4": Brown fine SAND, trace Silt.	8.5' ORGANIC SILT		ND	
10		S-4	24/24	10.0-12.0	31-28-23-22	Top 10": Brown fine Sand, trace Silt. Bottom 14": Brown fine GRAVEL, some medium to coarse Sand. (Landfill odor)	9.0' SAND		ND	
							11.0' GRAVEL			
							12.0'			
15		S-5	24/16	15.0-17.0	6-5-12-12	Medium dense, brown medium to coarse SAND, little fine Gravel, trace Silt.	SAND		2.8 ppm	
20		S-6	18/6	20.0-21.5	8-14-14	Medium dense, brown medium to coarse SAND, little fine Gravel, trace Silt.			3.0 ppm	
							22.0' E.O.B.			3
25										
30										
35										
40										

REMARKS:

- Soil samples field screened for volatile organic compounds with 11.7 eV HNU model P1-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.6 ppm. ND = None Detected. ppm = parts per million.
- Sample wet at approximately 6 feet below ground surface.
- Boring ended at approximately 22 feet below ground surface. E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. BP-3

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. BP-4
SHEET 1 OF 1
FILE No. 50124.09
CHKD. BY H.L.

BORING Co. Clarence Welti & Associates
FOREMAN Larry Lindenberg
GZA ENGINEER Linda McKee

BORING LOCATION East Side of OTR across from WNTY
GROUND SURFACE ELEVATION DATUM
DATE START 1/18/90 DATE END 1/18/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3 3/4" HSA

OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
1/18/90	1210	10'	10'	0 Hours

DEPTH H	C B L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
							Grass	NONE		1
		S-1	24/3	2.0-4.0	4-5-2-3	Loose red-brown, fine SAND, little Silt, trace fine Gravel.	FINE SAND		8.8 ppm	
5		S-2	24/18	5.0-7.0	18-24-40-50	Very dense, red-brown, GRAVEL, and some medium to coarse Sand, little Silt.	4.0'		4.8 ppm	
		S-3	24/8	10.0-12.0	33-30-27-23	Very dense, red-brown, GRAVEL, and fine to coarse SAND, little Silt, trace Clay.	GRAVEL		3.8 ppm	2
10										3
							12.0' E.O.B.			
15										
20										
25										
30										
35										
40										

REMARKS:

- Soil samples field screened for volatile organic compounds with an HNU model PI-101 11.7 eV photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.8 ppm. ppm = parts per million.
- Sample wet at approximately 10 feet below grade.
- Boring ended at approximately 12 below grade. E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. BP-4

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. BP-6
SHEET 1 OF 1
FILE No. 50T24.09
CHKD. BY M.L.

BORING Co. Clarence Welti & Associates
FOREMAN Larry Lindenberg
GZA ENGINEER Dave Swettland

BORING LOCATION South of Lori Corporation

GROUND SURFACE ELEVATION _____ DATUM _____
DATE START 1/17/90 DATE END 1/17/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT
SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb.
HAMMER FALLING 24 in.

CASING SIZE: 3 3/4" HSA

OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
1/17/90		3'	5'	0 Hours

DEPTH FT	C B S L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
								NONE		1
		S-1	24/7	1.0-3.0	13-12-5-5	Medium dense, red-brown, medium to coarse, SAND, little Silt.			ND	
5										
		S-2	3/3	5.0-5.3	60/3"	Very dense, red-brown, medium to coarse SAND, little Silt.	SAND		ND	2
		S-3	24/24	7.0-9.0	13-5-3-2	Loose, red-brown, fine to coarse SAND, some Silt, little Organics, trace Glass.			ND	
10										
		S-4	24/24	10.0-12.0	2-1-1-2	Top 14": Red-brown, fine to coarse SAND, some Silt. Middle 6": Brown SILT, little Peat. Bottom 4": Black-brown PEAT.	11.1'		ND	
							SILT AND PEAT			
15									ND	
		S-5	24/15	15.0-17.0	1-2-2-2	Top 8": Brown SILT, little Peat. Bottom 7": Brown-black PEAT.	16.0'			
20										
		S-6	18/8	20.0-21.5	2-2-2	Very loose, dark brown, PEAT.	PEAT		ND	
25										
		S-7	18/9	25.0-26.5	2-2-4	Top 7": Dark brown, PEAT. Bottom 2": Brown, fine to medium SAND, some Silt.	25.6'		ND	
							PEAT			
30										
		S-8	24/20	30.0-32.0	13-11-7-7	Top 20": Brown, fine SAND, little Silt. Bottom 4": Brown, SILT and fine SAND.	30.0'		ND	
							FINE SAND AND SILT			
35										
		S-9	24/18	35.0-37.0	9-10-10-10	Top 14": Brown, coarse SAND, trace Silt. Bottom 14": Brown, fine to coarse SAND, little fine Gravel.	35.0' FINE TO COARSE SAND 37.0' E.O.B.		ND	3
40										

REMARKS:

- Soil samples field screened for volatile organic compounds with 11.7 eVU HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 1.0 ppm. ND = None Detected.
- Sample wet at approximately 3 feet below ground surface.
- Boring ended at approximately 37 feet below grade. E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. BP-6

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. BP-7
SHEET 1 OF 1
FILE No. 50724.09
CHKD. BY M.L.

BORING Co. Clarence Welter & Associates
FOREMAN Larry Lindenberg
GZA ENGINEER Dave Swetland

BORING LOCATION West side of 425 Old Turnpike Rd.
GROUND SURFACE ELEVATION DATUM
DATE START 1/18/90 DATE END 1/18/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT
SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb.
HAMMER FALLING 24 in.

CASING SIZE: 3 3/4" HSA

OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
1/18/90		6.5'	OUT	0 Hours

DEPTH FT	C ASING S B L O W S	SAMPLE				SAMPLE DESCRIPTION <u>Burmister</u> CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
							GRASS	NONE		1
		S-1	24/18	2.4-4.0	46-35-48-36	Very dense, red-brown, fine GRAVEL, some fine to medium Sand, little Silt.	GRAVEL		ND	
5		S-2	24/10	5.0-7.0	14-14-11-13	Medium dense, red-brown, fine GRAVEL, some fine to medium Sand, little silt.			ND	1 2
		S-3	24/12	8.0-10.0	1-1-2-2	Loose, dark brown-black PEAT.	7.5'		ND	
10		U-4	24/-	10.0-12.0	PUSH	Brown PEAT.	PEAT		NA	3
		S-5	24/24	13.0-15.0	1-3-4-6	Top 12": Dark brown, PEAT. Middle 5": Olive, gray, fine SAND, little Silt. Bottom 7": Olive, gray SILT, some fine Sand, laminations of medium sand.	14.0' SAND AND SILT		ND	
15		S-6	18/12	15.0-16.5	4-5-9	Top 8": Olive gray, SILT, some fine Sand. Bottom 4": Light brown, fine SAND little Silt.	15.0' GRAVEL		ND	
							15.5'			
20		S-7	18/18	20.0-21.5	7-11-8	Top 5": Red-brown, fine GRAVEL, some fine to medium SAND. Bottom 13": Light brown, fine SAND, trace Silt.	SAND		ND	
25		S-8	18/18	25.0-26.5	5-8-8	Medium dense brown, medium to coarse, SAND, some fine GRAVEL.	26.5' E.O.B.		ND	4
30										
35										
40										

1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.6 ppm. ND = None Detected. NA = Not screened, sample collected for analysis.
2. Sample wet at approximately 6.5 feet below grade.
3. Undisturbed Shelby Tube sample collected 10 to 12 feet below grade. No recovery recorded.
4. Boring ended at approximately 26.5 feet below grade. E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. BP-7

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. BP-8
SHEET 1 OF 1
FILE No. 50124.09
CHKD. BY M.L.

BORING Co. Clarence Welter & Associates
FOREMAN Larry Lindenberg
GZA ENGINEER Dave Swetland

BORING LOCATION Adjacent to LW-15s, 15M, 15D
GROUND SURFACE ELEVATION DATUM
DATE START 1/17/90 DATE END 1/17/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3 3/4" HSA

OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
1/17/90		7'	OUT	0 Hours
1/17/90		6.5	OUT	1 Hour

DEPTH FT	C A S I N G S	SAMPLE				SAMPLE DESCRIPTION <u>Burmister</u> CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	RE M A R K S
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
5		S-1	24/11	1.0-3.0	6-6-7-9	Medium dense, red-brown, medium SAND, little Silt.	SAND	NONE	NS	1
10		S-2	24/3	6.0-8.0	1-1-3-2	Loose, red-brown, black PEAT, some fine to medium Sand.	5.5' PEAT		NS	
		S-3	24/12	8.0-10.0	4-4-1-1	Top 7": Brown SILT, little fine Sand, little PEAT. Bottom 5": Light brown, fine to medium SAND, little Silt.	9.5' SAND		NS	
		S-4	24/24	10.0-12.0	2-2-3-2	Top 18": Fine to medium SAND little Silt. Bottom 6": Olive-brown, SILT and fine SAND.	10.5' SILT AND SAND		NS	
15		S-5	24/18	15.0-17.0	2-3-3-3	Top 12": Light, olive-brown, SILT and SAND. Bottom 6": Fine to coarse SAND, little Silt.	16.0' SAND		NS	
20		S-6	18/18	20.0-22.0	5-6-6	Medium dense, red-brown, medium SAND, trace Silt.	22.0 E.O.B.		NS	2
25										
30										
35										
40										

REMARKS:

1. Sample wet at approximately 7 feet below grade during drilling.
2. Boring ended approximately 22 feet below grade. E.O.B. = End of Boring. NS = Not screened, samples removed from site by Greiner Engineering.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. BP-8

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBOLL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. BP-9
SHEET 1 OF 1
FILE No. 50T24.09
CHKD. BY R.L.

BORING Co. Clarence Welfi & Associates
FOREMAN Larry Lindenberger
GZA ENGINEER Dave Shettland

BORING LOCATION Lori Corporation entrance.
GROUND SURFACE ELEVATION DATUM
DATE START 1/17/90 DATE END 1/17/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3 3/4" HSA

OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
1/17/90		9.0'	10'	0 Hours

DEPTH FT	C B L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-1	24/15	0.0-0.5	GRABS	Very dense, red-brown, fine, SAND, some SILT.	ASPHALT	NONE	ND	1
		S-2	24/15	0.5-2.5'	42-32-35-27		0.5'			2
							SAND			
5		S-4	24/20	5.0-7.0	1-1-2-2	Top 14": Brown SILT, some fine SAND. Bottom 6": Dark brown, PEAT.	5.0' SILT		ND	
							6.5' PEAT			3
10		S-5	24/24	10.0-12.0	1-1-1-3	Top 5": Dark, brown-black PEAT. Bottom 19": Olive-gray, SILT, little fine Sand, trace Organics.	10.5'		ND	
15		S-6	24/24	15.0-17.0	2-3-2-2	Loose, SILT, little, fine to medium SAND.	SILT		ND	
20		S-7	18/18	20.0-21.5	WOR-1-1	Top 16": Olive-brown, SILT. Bottom 2": Brown, medium SAND.	21.8' SAND		ND	4
							22.0' E.O.B.			
25										
30										
35										
40										

1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.6 ppm.
ND = None Detected.
2. S-1 and S-2 grab samples of asphalt.
3. Samples wet at approximately 9 feet below grade.
4. Boring ended 22 feet below grade. E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. BP-9

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				PROJECT <u>Old Southington Landfill</u> <u>Southington, Connecticut</u>		REPORT OF BORING No. <u>TB-1</u> SHEET <u>1</u> OF <u>1</u> FILE No. <u>50T24.09</u> CHKD. BY <u>M.L.</u>																					
BORING Co. <u>Clarence Velti & Associates</u> FOREMAN <u>Larry Lindenberger</u> GZA ENGINEER <u>Linda McKee</u>		BORING LOCATION <u>East of Penn Equipment Company.</u> GROUND SURFACE ELEVATION <u>DATUM</u> DATE START <u>1/24/90</u> DATE END <u>1/24/90</u>																									
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:					GROUNDWATER READINGS <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>DATE</th> <th>TIME</th> <th>WATER</th> <th>CASING</th> <th>STABILIZATION TIME</th> </tr> <tr> <td>1/24/90</td> <td>1330</td> <td>NONE</td> <td>10'</td> <td>0 Hours</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>			DATE	TIME	WATER	CASING	STABILIZATION TIME	1/24/90	1330	NONE	10'	0 Hours										
DATE	TIME	WATER	CASING	STABILIZATION TIME																							
1/24/90	1330	NONE	10'	0 Hours																							
DEPTH	C A S I N G S	SAMPLE				SAMPLE DESCRIPTION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS																	
		No.	PEN. / REC.	DEPTH (Ft.)	BLOWS/6"	<u>Burmister CLASSIFICATION</u>																					
5		S-1	24/12	1.0-3.0	22-15-18-23	Top 19": Red-brown, fine to coarse SAND, little Silt, trace fine Gravel. Bottom 5": Red-brown, medium to coarse SAND, little fine Gravel.	FINE TO COARSE SAND	NONE		ND																	
							2.5'																				
		S-2	24/24	5.0-7.0	3-5-6-6		MEDIUM TO COARSE SAND				ND																
10		S-3	24/24	10.0-12.0	6-6-7-6	Medium dense, red-brown medium to coarse SAND, some fine Gravel.				ND																	
							12.0' E.O.B				2																
15																											
20																											
25																											
30																											
35																											
40																											

REMARKS:
 1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 1.0 ppm.
 ND = None Detected.
 2. Boring ended at approximately 12 feet below grade.
 E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA
BORING No. TB-1

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				PROJECT <u>Old Southington Landfill</u> <u>Southington, Connecticut</u>		REPORT OF BORING No. TB-2 SHEET <u>1</u> OF <u>1</u> FILE No. <u>50T24.09</u> CHKD. BY <u>M.L.</u>	
BORING Co. FOREMAN <u>Clarence Welti & Associates</u> GZA ENGINEER <u>Larry Lindenberger</u> <u>Linda McKee</u>		BORING LOCATION East of U.S. Chemical Corporation GROUND SURFACE ELEVATION <u>DATUM</u> DATE START <u>1/24/90</u> DATE END <u>1/24/90</u>					

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:					GROUNDWATER READINGS <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>DATE</th> <th>TIME</th> <th>WATER</th> <th>CASING</th> <th>STABILIZATION TIME</th> </tr> <tr> <td>1/24/90</td> <td>1500</td> <td>NONE</td> <td>10'</td> <td>0 Hours</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>					DATE	TIME	WATER	CASING	STABILIZATION TIME	1/24/90	1500	NONE	10'	0 Hours										
DATE	TIME	WATER	CASING	STABILIZATION TIME																									
1/24/90	1500	NONE	10'	0 Hours																									

DEPTH H	C A S I N G S	B L O W S	SAMPLE			SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
			No.	PEN./ REC.	DEPTH (Ft.)					
5			S-1	24/24	1.0-3.0	3-4-4-7	SAND	NONE	ND	1
10			S-2	24/24	5.0-7.0	4-4-4-4	SAND	NONE	ND	2
15			S-3	24/24	10.0-12.0	6-6-7-7	12.0' E.O.B.	NONE	ND	2
20										
25										
30										
35										
40										

REMARKS:
 1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.2 ppm. ND = None Detected.
 2. Boring ended at approximately 12 feet below ground surface. E.O.B. = End of Boring.

NOTES:
 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA
BORING No. TB-2

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611

GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. TB-3

SHEET 1 OF 1
FILE No. 50124.09
CHKD. BY M.L.

BORING Co. Clarence Welts & Associates
FOREMAN Larry Lindenberger
GZA ENGINEER Dave Swettland

BORING LOCATION Solomon Casket

GROUND SURFACE ELEVATION DATUM
DATE START 1/24/90 DATE END 1/24/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT
SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb.
HAMMER FALLING 24 in.

CASING SIZE: 3 3/4" HSA

OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
1/24/90		NONE	10'	0 Hours

DEPTH	C A S I N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HMU	REMARKS
		No.	PEM- / REC.	DEPTH (Ft.)	BLOWS/6"					
		S-1	24/24	0-2.0	3-3-4-2	Loose, red-brown SAND, little Silt, little fine Gravel.	GRASS	NONE	1.2 ppm	1
							SAND			
5		S-2	24/2	5.0-7.0	3-2-7-7	Loose, red-brown fine SAND and fine GRAVEL, trace Silt.	4.5'		2.2 ppm	
		S-3	24/24	7.0-9.0	2-2-3-2	Loose, red-brown fine SAND and fine GRAVEL, trace Silt.	SAND AND GRAVEL		NA	
10		S-4	7/7	10.0-10.6	20-60/1"	Top 6": Red-brown, fine to coarse GRAVEL, some fine to coarse Sand, little Silt. Bottom 1": Rock.	10.6' E.O.B.		1.2 ppm	2
15										
20										
25										
30										
35										
40										

REMARKS:

- Soil samples field screened for volatile organic compounds with 11.7 eV HMU model PI-101 photoionization detector. Recorded HMU values represent total HMU values recorded. Background 0.8 ppm. ppm = parts per million. NA = Not analyzed, sample collected for analysis.
- Boring ended at approximately 10.6 feet below grade.
E.O.B. = End of Boring.

NOTES:

- STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
- WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. TB-3

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS	PROJECT	REPORT OF BORING No. TB-4
	Old Southington Landfill Southington, Connecticut	SHEET 1 OF 1 FILE No. 50724.09 CHKD. BY ML

BORING Co. Clarence Welter & Associates	BORING LOCATION Eastern edge of Southington Metal Fab.
FOREMAN Larry Lindenberg	GROUND SURFACE ELEVATION DATUM
GZA ENGINEER Dave Swetland	DATE START 1/24/90 DATE END 1/24/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:	GROUNDWATER READINGS				
	DATE	TIME	WATER	CASING	STABILIZATION TIME
	1/24/90		None	15'	0 Hours

DEPTH	CASSING	SAMPLE				SAMPLE DESCRIPTION <u>Burmister CLASSIFICATION</u>	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN./REC.	DEPTH (Ft.)	BLOWS/6"					
		S-1	24/3	0-2.0	15-13-17-17	Medium dense, red, GRAVEL, little fine Sand, little Silt.	GRAVEL		3.4 ppm	1
5		S-2	24/4	5.0-7.0	10-7-2-9	Loose, brown, fine SAND, little Silt, little Refuse.	3.0'		NA	
		S-3	24/2	7.0-9.0	Not Recorded		REFUSE		NA	
10		S-4	24/8	9.0-11.0	10-10-23-11	Dense, brown, fine SAND, little Silt, little Refuse.			NA	
		S-5	18/8	11.0-12.5	11-10-24	Dense, brown, fine SAND, little Silt, little Refuse.	12.0'		3.5 ppm	
15		S-6	24/7	15.0-17.0	7-4-5-6	Loose, red, fine to coarse SAND and fine to coarse Gravel, little Silt.	SAND AND GRAVEL		NS	
							17.0' E.O.B.			2
20										
25										
30										
35										
40										

REMARKS:

- Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.9 ppm. ppm = parts per million. NS = not screened. NA = Not analyzed, sample collected for analysis.
- Boring ended at approximately 17 feet below ground surface. E.O.B. = End of Boring.

NOTES:	1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
	2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE
GZA	BORING No. TB-4

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				PROJECT Old Southington Landfill Southington, Connecticut		REPORT OF BORING No. TB-5 SHEET 1 OF 1 FILE No. 50T24.09 CHKD. BY RL				
BORING Co. Clarence Welts & Associates FOREMAN Larry Lindenberger GZA ENGINEER Linda McKee				BORING LOCATION East of Southington Metal Fabricating GROUND SURFACE ELEVATION DATE START 1/24/90 DATE END 1/24/90						
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:				GROUNDWATER READINGS						
				DATE	TIME	WATER	CASING	STABILIZATION TIME		
				1/24/90	1145	None	20'	0 Hours		
DEPTH	C.B. S.N.W.S.	SAMPLE				SAMPLE DESCRIPTION <u>Burmister</u> CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN./REC.	DEPTH (Ft.)	BLOWS/6"					
5		S-1	24/12	1.0-3.0	28-14-8-10	Medium dense, brown, fine to coarse SAND, some fine Gravel.	SAND	NONE	ND	1
10		S-2	22/6	5.0-7.0	8-18-60/4"	Very dense, brown, fine to coarse SAND, some fine Gravel, some Metal chips, bolts (Refuse), strong odor.	5.0' REFUSE		1.4 ppm	
15		S-3	24/3	10.0-12.0	8-6-8-6	Top 2": WOOD. Bottom 1": Red-brown, fine GRAVEL, some fine to coarse Sand, little Silt (strong odor).	10.2' GRAVEL		3.2 ppm	
20		S-4	24/24	15.0-17.0	13-11-14-18	Medium dense, brown, GRAVEL, some fine to coarse Sand, trace Silt.	17.0' SAND		0.6 ppm	
25		S-5	24/24	20.0-22.0	11-10-13-13	Medium dense, red-brown, medium to coarse SAND, some fine Gravel.	22.0' E.O.B.		ND	2
30										
35										
40										
REMARKS: 1. Soil samples field screened for volatile organic compounds with 11.7 Ev HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.4 ppm. ND = None Detected. ppm = parts per million. 2. Boring ended at approximately 22 feet below ground surface. E.O.B. = End of Boring.										
NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE										
GZA										BORING No. TB-5

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				PROJECT Old Southington Landfill Southington, Connecticut		REPORT OF BORING No. TB-6 SHEET 1 OF 1 FILE No. 50T24.09 CHKD. BY ML		
BORING Co. Clarence Welts & Associates FOREMAN Larry Lindenberger GZA ENGINEER Dave Swetland				BORING LOCATION West side of Southington Metal Fabrication GROUND SURFACE ELEVATION _____ DATUM _____ DATE START 1/25/90 DATE END 1/25/90				
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:				GROUNDWATER READINGS				
				DATE	TIME	WATER	ASING	STABILIZATION TIME
				1/25/90		None	10'	0 Hours

DEPTH	C B A L O N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	RE M A R K S
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
5		S-1	24/12	0-2.0	1-5-5-4	Loose, red-brown, fine to medium SAND, trace Silt.	SAND	NONE	ND	
10		S-2	24/18	5.0-7.0	1-1-2-4	Very loose, red-brown, fine to medium SAND, little Silt, trace fine Gravel.			NS	
15		S-3	24/16	10.0-12.0	14-12-12-10	Medium dense, red-brown, fine to medium SAND, some fine Gravel.	10.0'		NA	
20		S-4	24/18	12.0-14.0	10-7-8-6	Medium dense, red-brown, fine to medium SAND, some fine Gravel.	SAND		NA	
25							14.0' E.O.B.			
30										
35										
40										

REMARKS:
 1. Boring ended at approximately 14 feet below ground surface.
 E.O.B. = End of Boring. NS = Not Screened. ND = Not Detected. NA = Not screened, sample taken for laboratory analysis.

NOTES:
 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA
BORING No. TB-6

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				PROJECT <u>Old Southington Landfill</u> <u>Southington, Connecticut</u>		REPORT OF BORING No. TB-7s SHEET <u>1</u> OF <u>1</u> FILE No. <u>50T24.09</u> CHKD. BY <u>ML</u>			
BORING Co. <u>Clarence Welti & Associates</u> FOREMAN <u>Larry Lindenberger</u> GZA ENGINEER <u>Linda McKee</u>		BORING LOCATION <u>SW corner of Meridan Box property</u> GROUND SURFACE ELEVATION <u> </u> DATUM <u> </u> DATE START <u>1/26/90</u> DATE END <u>1/26/90</u>							
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER: <u> </u>					GROUNDWATER READINGS				
					DATE	TIME	WATER	CASING	STABILIZATION TIME
					1/27/90	0830	12'	13'	0 Hours

DEPTH	C.B. S.O. N.G.S.	SAMPLE				SAMPLE DESCRIPTION <u>Burmister CLASSIFICATION</u>	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN./REC.	DEPTH (Ft.)	BLOWS/6"					
		S-1	24/18	1.0-3.0	9-9-20-14	Top 5": Brown, fibrous ORGANICS. Bottom 13": Gray-brown, fine to coarse SAND, some fine GRAVEL, little Silt.	ORGANICS 0.5'	NONE	ND	1
5		S-2	24/24	5.0-7.0	2-2-2-7	Loose, gray, brown, fine to coarse SAND, trace fine GRAVEL, little Silt.	SAND		ND	
10		S-3	24/6	10.0-12.0	8-4-5-7	Top 2": PAPER, WOOD, METAL. Bottom 4": Red-brown, fine to coarse SAND, some fine Gravel, little Silt.	10.0' REFUSE 10.1'		3.6 ppm	2
15		S-4	24/10	15.0-17.0	17-23-9-9	Dense REFUSE.	15.0' REFUSE 17.0' E.O.B.		1.6 ppm	3
20										
25										
30										
35										
40										

1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.6 ppm. ND = None Detected. ppm = parts per million.

2. Sample wet at approximately 12 feet below grade.

3. Boring ended at approximately 17 feet below grade because HNU malfunctioned. Completed boring on 1/27/90. See boring log TB-7A. E.O.B. = End of boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA
BORING No. TB-7s

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611				PROJECT Old Southington Landfill Southington, Connecticut				REPORT OF BORING No. TB-7SA SHEET 1 OF 2 FILE No. 50724.09 CHKD. BY ML																							
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				BORING Co. Clarence Welti & Associates FOREMAN Larry Lindenberger GZA ENGINEER Linda McKee				BORING LOCATION Approx. 3 feet N-NE of TB-7 GROUND SURFACE ELEVATION _____ DATUM _____ DATE START 1/27/90 DATE END 1/27/90																							
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:								GROUNDWATER READINGS <table border="1"> <thead> <tr> <th>DATE</th> <th>TIME</th> <th>WATER</th> <th>CASING</th> <th>STABILIZATION TIME</th> </tr> </thead> <tbody> <tr> <td>1/27/90</td> <td>0830</td> <td>12'</td> <td>13'</td> <td>0 Hours</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				DATE	TIME	WATER	CASING	STABILIZATION TIME	1/27/90	0830	12'	13'	0 Hours										
DATE	TIME	WATER	CASING	STABILIZATION TIME																											
1/27/90	0830	12'	13'	0 Hours																											
DEPTH	CASING	BLOWS	SAMPLE			SAMPLE DESCRIPTION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS																					
			No.	PEN./REC.	DEPTH (Ft.)	BLOWS/6"	Burmister CLASSIFICATION																								
5							ORGANICS 0.5'	NONE		1																					
							SAND AND GRAVEL			2																					
10							10.0' REFUSE																								
							10.1'			3																					
							SAND																								
15			S-5	24/2	15.0-17.0	40-44-18-16	Very dense, brown, fine to coarse SAND and fine GRAVEL, some Wood.	15.0'		1.0 ppm																					
			S-6	24/10	18.0-20.0	7-12-21-14	Top 8": Brown, fine to coarse SAND and fine GRAVEL, some Wood. Bottom 2": Brown SILT, METAL, WOOD.			NA																					
20			S-7	24/3	20.0-22.0	5-10-6-35	Medium dense, brown, fine to coarse SAND, some fine Gravel, little Wood, little Newspaper, trace Silt.			NA																					
			S-8	24/18	22.0-24.0	14-16-24-18	Top 6": Black, fine to coarse SAND, some fine Gravel, little Silt (strong Petroleum odor). Middle 4": REFUSE (Foam Rubber). Bottom 8": Red-brown, fine to coarse SAND, some fine Gravel. No Recovery.			NA																					
25			S-9	24/0	25.0-27.0	16-18-12-17				NS																					
			S-10	24/8	27.0-29.0	29-23-14-17	Dense, black, fine to coarse SAND, some fine Gravel, little Glass, Metal, Wood.	REFUSE AND SAND		4.2 ppm																					
30			S-11	24/18	30.0-32.0	8-22-23-36	Medium dense, black, fine to coarse SAND, some fine Gravel, some Glass, Metal, little Silt.			3 ppm																					
			S-12	24/10	32.0-34.0	8-22-23-36	Dense, black, fine to coarse SAND, some Metal, Glass, Wood, little Silt.			2.8 ppm																					
35			S-13	18/8	35.0-36.5	18-23-60/6"	Very dense, black, fine to coarse SAND and fine GRAVEL, little Glass, little Metal.	35.0'		0.2 ppm																					
							SAND AND GRAVEL																								
40																															
1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.6 ppm. ND = None Detected, NA = Not screened because soil samples were composited for analyses. NS = Not Screened. ppm = parts per million. See boring log TB-7. 2. No samples taken 0-15 feet. See boring log TB-7. 3. Sample wet at approximately 12 feet below grade.																															
NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE																															
GZA										BORING No. TB-7SA																					

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. TB-7SA
SHEET 2 OF 2
FILE No. H-50124.09
CHKD. BY ML

DEPTH H	C A S I N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-14	24/24	40.0-42.0	5-4-3-3	Top 8": Black, fine to coarse SAND and fine GRAVEL, little Glass, little Metal. Bottom 16": Dark brown PEAT, little Metal (Petroleum odor).	SAND AND GRAVEL 41.0' PEAT	NONE	ND	
45		S-15	24/18	45.0-47.0	1-1-1-1	Very loose, brown PEAT (Top 6" oil- stained).	47.0' E.O.B.		ND	4
50										
55										
60										
65										
70										
75										
80										
85										

REMARKS:

4. Boring ended at approximately 47 feet below grade.
E.O.B. = End of Boring.

NOTES:

- 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. TB-7SA

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				PROJECT Old Southington Landfill Southington, Connecticut				REPORT OF BORING No. TB-8 SHEET 1 OF 1 FILE No. 50T24.09 CHKD. BY ML			
BORING Co. Clarence Velti & Associates FOREMAN Larry Lindenberg GZA ENGINEER Linda McKee				BORING LOCATION Southeast portion of landfill GROUND SURFACE ELEVATION DATUM DATE START 1/23/90 DATE END 1/23/90							
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:				GROUNDWATER READINGS							
				DATE	TIME	WATER	CASING	STABILIZATION TIME			
				1/23/90	1300	8'	10'	0 Hours			
DEPTH	C A S I N G S	SAMPLE			SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	RE M A R K S		
		No.	PEN./ REC.	DEPTH (Ft.)						BLOWS/6"	
5		S-1	24/24	1.0-3.0	13-18-23-27	Dense, brown, fine to coarse SAND, some fine Gravel, some Silt, trace Clay, trace Brick (FILL). Dense, brown, fine to coarse SAND and fine to coarse GRAVEL, some Silt. SAND	NONE	4.5 ppm	1		
10		S-2	24/24	5.0-7.0	63-25-18-21	Medium dense, brown, fine to coarse SAND, some fine Gravel, little Silt, trace Wood. Medium dense, brown, fine to coarse SAND, some fine Gravel, little Silt, trace Clay.	14.0' E.O.B.	5.9 ppm	2		
15		S-3	24/18	10.0-12.0	15-7-12-7			NS			
20		S-4	24/24	12.0-14.0	8-12-9-16			3.1 ppm	3		
25											
30											
35											
40											
1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.7 ppm. NS = Sample not screened. ppm = parts per million. 2. Sample wet at approximately 8 feet below ground surface. 3. Boring ended at approximately 14 feet below ground surface. E.O.B. = End of Boring.											
NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE											
GZA								BORING No. TB-8			

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611				PROJECT Old Southington Landfill Southington, Connecticut				REPORT OF BORING No. TB-9 SHEET 1 OF 1 FILE No. 50T24.09 CHKD. BY RL																							
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				BORING Co. Clarence Welter & Associates FOREMAN Kevin Christiania GZA ENGINEER Dave Shettland				BORING LOCATION Meriden Box GROUND SURFACE ELEVATION DATE START 1/23/90 DATE END 1/23/90																							
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:								GROUNDWATER READINGS <table border="1"> <thead> <tr> <th>DATE</th> <th>TIME</th> <th>WATER</th> <th>CASING</th> <th>STABILIZATION TIME</th> </tr> </thead> <tbody> <tr> <td>1/23/90</td> <td></td> <td>7.5'</td> <td>10'</td> <td>0 Hours</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				DATE	TIME	WATER	CASING	STABILIZATION TIME	1/23/90		7.5'	10'	0 Hours										
DATE	TIME	WATER	CASING	STABILIZATION TIME																											
1/23/90		7.5'	10'	0 Hours																											
DEPTH	CAL	BLOW	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS																				
	S	N	No.	PEN./REC.	DEPTH (Ft.)	BLOWS/6"																									
			S-1	7/7'	0-0.6	50-60/1"	Very dense, GRAVEL, little fine Sand, trace Silt.	GRAVEL	NONE	1.2 ppm	1																				
			S-2	24/10	2.0-4.0	12-26-20-20	Dense, red-brown, fine SAND, some Silt, some Gravel.	1.0'		2.6 ppm																					
5			S-3	24/16	5.0-7.0	3-2-2-3	Loose, red-brown, fine SAND, little fine Gravel, trace Silt.	SAND		ND																					
10			S-4	24/10	10.0-12.0	2-3-4-6	Loose, red-brown, fine SAND, trace Silt.			ND																					
15																															
20																															
25																															
30																															
35																															
40								12.0' EOB																							
1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.5 ppm. 2. Sample wet at approximately 7.5 feet below grade. 3. Boring ended at approximately 12 feet below ground surface. E.O.B. = End of Boring.																															
NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE																															
GZA										BORING No. TB-9																					

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				PROJECT Old Southington Landfill Southington, Connecticut				REPORT OF BORING No. TB-10 SHEET 1 OF 1 FILE No. 50124.09 CHKD. BY ML																							
BORING Co. Clarence Welti & Associates FOREMAN Larry Lindenberger GZA ENGINEER Linda McKee				BORING LOCATION East side of parking lot Four 93 Assoc. GROUND SURFACE ELEVATION DATUM DATE START 1/26/90 DATE END 1/26/90																											
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.						GROUNDWATER READINGS																									
CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.						<table border="1"> <tr> <th>DATE</th> <th>TIME</th> <th>WATER</th> <th>CASING</th> <th>STABILIZATION TIME</th> </tr> <tr> <td>1/26/90</td> <td>1100</td> <td>15'</td> <td>15'</td> <td>0 Hours</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>						DATE	TIME	WATER	CASING	STABILIZATION TIME	1/26/90	1100	15'	15'	0 Hours										
DATE	TIME	WATER	CASING	STABILIZATION TIME																											
1/26/90	1100	15'	15'	0 Hours																											
CASING SIZE: 3 3/4" HSA OTHER:																															
DEPTH	CASING	BLOW COUNT	SAMPLE		SAMPLE DESCRIPTION		STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS																					
			No.	PEN./REC.	DEPTH (Ft.)	BLOWS/6"	Burmister CLASSIFICATION																								
5			S-1	6/3	1.0-1.5	60/6"	Very dense, red-brown, fine to medium SAND, little Silt little fine to coarse Gravel.	GRAVEL	NONE	ND	1																				
							2.0'																								
							REFUSE		1.0 ppm																						
									25.6 ppm																						
10			S-2	10/3	7.0-7.8	18-60/4"	Very dense, WOOD, METAL, and brown fine to medium SAND, little Silt.				2																				
									11.6 ppm																						
15			S-3	24/2	10.0-12.0	17-30-30-20	Very dense, fine GRAVEL, GLASS, METAL, and WOOD, some fine to coarse Sand.	12.0' GRAVEL			2																				
20			S-4	24/6	12.0-14.0	3-10-18-28	Medium dense, brown, fine GRAVEL, some fine to coarse Sand, some Glass, Wood.	14.0' SILT AND REFUSE			2																				
25			S-5	24/4	15.0-17.0	1-1-1-1	Very loose, black, SILT, WOOD, and GLASS. (Petroleum sheen).	17.0' SILT AND PEAT			2																				
30			S-6	24/6	17.0-19.0	5-14-8-8	Medium dense, brown, SILT and PEAT.	21.0' SAND			3																				
35			S-7	24/10	20.0-22.0	18-20-24-29	Top 5": Black, fine SAND, some Silt, little fine Gravel, trace Wood. Bottom 5": Brown, fine to coarse SAND, some Silt.				3																				
40			S-8	24/24	22.0-24.0	20-23-25-21	Dense, brown, fine to coarse SAND, little Silt.				3																				
45			S-9	24/24	25.0-27.0	8-8-13-15	Medium dense, brown, fine to coarse SAND, little Silt.	27.0' E.O.B.			3																				
1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.6 ppm. ND = None Detected, NA = Not screened because samples were composited for analyses. NS = Not screened. ppm = parts per million. 2. Sample wet at approximately 15 feet below ground surface. 3. Boring ended at approximately 27 feet below ground surface. E.O.B. = End of Boring.																															
NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE																															
GZA										BORING No. TB-10																					

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS	PROJECT	REPORT OF BORING No. TB-11
	Old Southington Landfill Southington, Connecticut	SHEET 1 OF 1 FILE No. 50724.09 CHKD. BY ML

BORING Co. Clarence Welti & Associates	BORING LOCATION North of Meridan Box
FOREMAN Larry Lindenberger	GROUND SURFACE ELEVATION DATUM
GZA ENGINEER Linda McKee	DATE START 1/23/90 DATE END 1/23/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:	GROUNDWATER READINGS				
	DATE	TIME	WATER	CASING	STABILIZATION TIME
	1/23/90	1015	7'	10'	0 Hours

DEPTH	C.B. LOGS	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
5		S-1	24/24	0-2.0	11-11-13-22	Medium dense, brown, fine to coarse GRAVEL, some Silt, trace Clay. Top 6": Brown, fine SAND, some Silt, trace Clay. Bottom 14": Brown, medium to coarse SAND, little Silt, little fine Gravel. Brown medium dense, medium to coarse SAND, little Silt, little fine Gravel.	GRASS	NONE	3.2 ppm	1
							0.5' SAND			
							5.0' FINE SAND			
10		S-2	24/20	5.0-7.0	18-29-23-23	Top 6": Brown, fine SAND, some Silt, trace Clay. Bottom 14": Brown, medium to coarse SAND, little Silt, little fine Gravel. Brown medium dense, medium to coarse SAND, little Silt, little fine Gravel.	5.5'		5.6 ppm	2
		S-2A	24/20	7.0-9.0	16-16-18-16		MEDIUM TO COARSE SAND			
							11.5' FINE SAND			
15		S-3	24/24	10.0-12.0	6-7-8-12	Top 18": Brown, medium to coarse SAND, little fine Gravel. Bottom 6": Brown, fine SAND, some Silt, trace Clay.	12.0' E.O.B.		5.6 ppm	3
20										
25										
30										
35										
40										

- Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.4 ppm.
- Sample wet at approximately 7 feet below ground surface.
- Boring ended at approximately 12 feet below ground surface.

NOTES:	1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE
GZA	BORING No. TB-11

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				PROJECT <u>Old Southington Landfill</u> <u>Southington, Connecticut</u>		REPORT OF BORING No. TB-12 SHEET <u>1</u> OF <u>1</u> FILE No. <u>50T24.09</u> CHKD. BY <u>ML</u>		
BORING Co. <u>Clarence Welty & Associates</u> FOREMAN <u>Kevin Christiana</u> GZA ENGINEER <u>Dave Swetland</u>				BORING LOCATION <u>North of Meriden Box</u> GROUND SURFACE ELEVATION _____ DATUM _____ DATE START <u>1/23/90</u> DATE END <u>1/23/90</u>				
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER: _____				GROUNDWATER READINGS				
				DATE	TIME	WATER	CASING	STABILIZATION TIME
				1/23/90		6'	10'	0 Hours

DEPTH	C B L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
5		S-1	24/18	0-2.0	10-8-7-9	Medium dense, red-brown, fine to medium SAND, some Silt, trace fine Gravel.	GRASS	NONE	2.4 ppm	1
							0.5' SAND			
							3.0'			
10		S-2	24/8	5.0-7.0	5-5-6-5	Medium dense, red-brown, fine to medium SAND and GRAVEL, trace Silt.	SAND AND GRAVEL		1.4 ppm	2
		S-3	24/12	7.0-9.0	3-3-3-4					
15		S-4	24/10	10.0-12.0	3-5-5-6	Loose to medium dense, red-brown, fine to medium SAND, some fine Gravel, trace Silt.	12.0' E.O.B.		NS	3
20										
25										
30										
35										
40										

1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PJ-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.8 ppm. NS = Not Screened. ppm = parts per million.

2. Sample wet at approximately 6 feet below ground surface.

3. Boring ended at approximately 12 feet below ground surface. E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.

2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA
BORING No. TB-12

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				PROJECT <u>Old Southington Landfill</u> <u>Southington, Connecticut</u>		REPORT OF BORING No. <u>TB-13/BP-5</u> SHEET <u>1</u> OF <u>1</u> FILE No. <u>50124.09</u> CHKD. BY <u>ML</u>																										
BORING Co. <u>Clarence Welts & Associates</u> FOREMAN <u>Kevin Christiana</u> GZA ENGINEER <u>Linda McKee</u>				BORING LOCATION <u>North side of Pallato residence driveway</u> GROUND SURFACE ELEVATION <u>DATUM</u> DATE START <u>1/18/90</u> DATE END <u>1/18/90</u>																												
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="5">GROUNDWATER READINGS</th> </tr> <tr> <th>DATE</th> <th>TIME</th> <th>WATER</th> <th>CASING</th> <th>STABILIZATION TIME</th> </tr> <tr> <td>1/18/90</td> <td>1445</td> <td>4'</td> <td>5'</td> <td>0 Hours</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>				GROUNDWATER READINGS					DATE	TIME	WATER	CASING	STABILIZATION TIME	1/18/90	1445	4'	5'	0 Hours										
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DATE	TIME	WATER	CASING	STABILIZATION TIME																												
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DEPTH C B L O W S S O W N G S	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4">SAMPLE</th> <th rowspan="2">SAMPLE DESCRIPTION Burmister CLASSIFICATION</th> <th rowspan="2">STRATUM DESCRIPTION</th> <th rowspan="2">EQUIPMENT INSTALLED</th> <th rowspan="2">FIELD TESTING HNU</th> <th rowspan="2">REMARKS</th> </tr> <tr> <th>No.</th> <th>PEN./ REC.</th> <th>DEPTH (Ft.)</th> <th>BLOWS/6"</th> </tr> </table>				SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS	No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"															
SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS																								
No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"																													
5	S-1	24/3	0-2.0	8-9-14-18	Top 2": Brown SILT and CLAY, trace Organics. Bottom 1": Red-brown, fine GRAVEL and fine to coarse SAND, little Silt.	SILT AND CLAY 0.2'	NONE	7.8 ppm	1																							
	S-2	24/4	2.0-4.0	5-4-7-6	Red-brown, fine to coarse SAND, little fine Gravel, little Silt.	SAND AND GRAVEL		6.8 ppm																								
	S-3	24/6	4.0-6.0	60/4"	Very dense WOOD.	4.0'		3.8 ppm		2																						
	S-4	24/2	5.0-7.0	1/12"-1/12"	Very loose, GLASS and WOOD.	REFUSE		5.3 ppm																								
	S-5	24/4	7.0-9.0	1/12"-1/12"	Very loose, brown PEAT, little Silt.	7.0'		3.8 ppm																								
	U-6	24/3	9.0-11.0	PUSH	PEAT.			NA																								
	S-7	24/24	11.0-13.0	1/12"-1/12"	Very loose PEAT.	PEAT		3.8 ppm																								
	S-8	24/18	15.0-17.0	1/12"-1/12"	Top 7": Brown PEAT. Bottom 11": Green-brown PEAT.			1.8 ppm																								
	S-9	24/18	17.0-19.0	1/12"-1/12"	Top 6": Brown PEAT. Middle 3": Gray, fine to coarse SAND, little Silt. Bottom 7": Gray, SILT some CLAY.	18.0'		1.6 ppm																								
	20	S-10	24/16	20.0-22.0	1/12"-1-4	Top 15": Gray SILT, some CLAY. Bottom 1": Red-brown, fine to medium SAND, little Silt.		SILT		2.8 ppm																						
25						22.0'																										
	S-11	24/10	25.0-27.0	4-7-6-9	Medium dense, red-brown, fine to coarse SAND, little Silt, trace fine Gravel.	FINE TO COARSE SAND	3.3 ppm																									
30						27.0' E.O.B.			3																							
35																																
40																																

1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.8 ppm. ppm = parts per million. NA = Not analyzed, sample collected for analysis.

2. Sample wet at approximately 4 feet below ground surface.

3. Boring ended at approximately 27 feet below ground surface.
E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA
BORING No. TB-13/BP-5

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				PROJECT Old Southington Landfill Southington, Connecticut				REPORT OF BORING No. TB-14 SHEET 1 OF 1 FILE No. 50T24.09 CHKD. BY ML			
BORING Co. Clarence Welti & Associates FOREMAN Larry Lindenberger GZA ENGINEER Linda McKee				BORING LOCATION North edge of Black Pond GROUND SURFACE ELEVATION DATUM DATE START 1/19/90 DATE END 1/19/90							
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:						GROUNDWATER READINGS					
						DATE	TIME	WATER	CASING	STABILIZATION TIME	
						1/19/90	1420	2'	5'	0 Hours	
DEPTH	CAL S N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS	
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"						
		S-1	24/18	0-2.0	6-5-4-5	Loose, red-brown, fine to coarse SAND, little fine Gravel, little Silt.	SAND	NONE	7.4 ppm	1	
										2	
5		S-2	9/2	5.0-7.0	8-60/3"	Very dense, black WOOD, little fine to medium Sand, little Silt (possible creosote odor, railroad ties).	WOOD		7.0 ppm		
10		S-3	24/12	10.0-12.0	20-24-13-10	Top 4": Gray, fine to medium SAND, trace Silt. Middle 3": Black WOOD. Bottom 5": Red-brown, fine to medium SAND, little Silt.	11.5' SAND		5.1 ppm	3	
							12.0' E.O.B.				
15											
20											
25											
30											
35											
40											
1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.8 ppm. 2. Sample wet at approximately 2 feet below ground surface. 3. Boring ended at approximately 12 feet below ground surface. E.O.B. = End of Boring.											
NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE											
GZA										BORING No. TB-14	

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. TB-15
SHEET 1 OF 1
FILE No. 50724.09
CHKD. BY ML

BORING Co. Clarence Welti & Associates
FOREMAN Larry Lindenberger
GZA ENGINEER Linda McKee

BORING LOCATION north side of Black Pond
GROUND SURFACE ELEVATION DATUM
DATE START 1/19/90 DATE END 1/19/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT
SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb.
HAMMER FALLING 24 in.

CASING SIZE: 3 3/4" HSA

OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
1/19/90	1345	5'	5'	0 Hours

DEPTH H	C B L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	RE M K S
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-1	24/18	0-2.0	10-18-18-20	Dense, brown, fine to medium SAND, little fine Gravel, trace Silt.	GRASS 0.5'	NONE	8.0 ppm	1
5		S-2	24/24	5.0-7.0	18-16-18-3	Dense, brown, fine to coarse SAND, little Silt, trace Wood, trace fine Gravel.	SAND		8.2 ppm	2
10		S-3	24/24	10.0-12.0	1-1-3-7	Loose, brown, fine to coarse SAND, little Silt, little fine Gravel, trace Wood.	12.0' E.O.B.		8.0 ppm	3
15										
20										
25										
30										
35										
40										

1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.8 ppm.
2. Sample wet at approximately 5 feet below ground surface.
3. Boring ended at approximately 12 feet below ground surface.
E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. TB-15

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				PROJECT Old Southington Landfill Southington, Connecticut				REPORT OF BORING No. TB-16 SHEET 1 OF 1 FILE No. 50T24.09 CHKD. BY RL			
BORING Co. Clarence Welts & Associates FOREMAN Larry Lindenberger GZA ENGINEER Dave Swettland				BORING LOCATION Corner of Old Turnpike and Reigan Roads GROUND SURFACE ELEVATION DATUM DATE START 1/23/90 DATE END 1/23/90							
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:				GROUNDWATER READINGS							
				DATE	TIME	WATER	CASING	STABILIZATION TIME			
				1/23/90		9'	10'	0 Hours			
DEPTH	C.B. S.O.W.G.S.	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS	
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"						
5		S-1	24/8	0-2.0	3-6-5-10	Medium dense, red, fine SAND, some Silt, some fine Gravel.	GRASS	NONE	ND	1	
						0.5' SAND					
						3.0'					
						SAND					
10		S-2	24/10	5.0-7.0	0-3-3-2	Loose, red, fine to coarse SAND, little Silt.			ND	2	
15		S-3	24/0	10.0-12.0	6-12-12-18	No Recovery.			NS 0.7 ppm	3	
20		S-4	24/6	12.0-14.0	6-12-12-16	Medium dense, red, fine to medium SAND, some fine GRAVEL, little Silt.	14.0' E.O.B.				
25											
30											
35											
40											

1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.5 ppm. ppm = parts per million. ND = None Detected NS = Not Screened

2. Sample wet at approximately 9 feet below ground surface.

3. Boring ended at approximately 14 feet below ground surface. E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. TB-16

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. TB-17
SHEET 1 OF 1
FILE No. 50124.09
CHKD. BY ML

BORING Co. Clarence Welti & Associates
FOREMAN Kevin Christiana
GZA ENGINEER Dave Swetland

BORING LOCATION 101 Rejean Road
GROUND SURFACE ELEVATION DATUM
DATE START 1/19/90 DATE END 1/19/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3 3/4" HSA OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
1/20/90		10'	10'	0 Hours

DEPTH	C.B. ALLOWS	SAMPLE				SAMPLE DESCRIPTION <u>Burmister</u> CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN. / REC.	DEPTH (Ft.)	BLOWS/6"					
		S-1	24/10	0-2.0	6-4-5-10	Loose, red, fine SAND, some Silt.	GRASS 0.5'	NONE	2.4 ppm	1
5										
		S-2	24/10	5.0-7.0	6-6-5-9	Medium dense, red, fine SAND, some Silt.	SAND		19.0 ppm	
		S-3	24/10	7.0-9.0	3-3-3-4	Loose, red, fine SAND, some Silt, some fine Gravel.			3.6 ppm	
10										
		S-4	24/10	10.0-12.0	1-1-1-3	Top 12": Red, fine SAND, some Silt, some fine Gravel. Bottom 12": Gray-brown, Organic SILT, some fine Sand.	11.0' ORGANIC SILT		ND	2
							12.0' EOB			3
15										
20										
25										
30										
35										
40										

1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.5 ppm. ND = None Detected. PPM = parts per million.
2. Sample wet at approximately 10 feet below ground surface.
3. Boring ended at approximately 12 feet below ground surface. E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. TB-17

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. TB-18
SHEET 1 OF 1
FILE No. 50124.09
CHKD. BY ML

BORING Co. Clarence Welti & Associates
FOREMAN Kevin Christiana
GZA ENGINEER Dave Swetland

BORING LOCATION North of Black Pond.
GROUND SURFACE ELEVATION DATUM
DATE START 1/19/90 DATE END 1/19/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3 3/4" HSA

OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
1/20/90		6'	10'	0 Hours

DEPTH H	C B A L L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-1	24/18	0-2.0	4-1-1-8	Very loose, brown, fine SAND, some fine Gravel, little Silt.		NONE	1.4 ppm	1
5		S-2	24/8	5.0-7.0	3-4-5-3	Loose, brown, fine SAND, some Silt.	SAND		3.1 ppm	2
			24/0	7.0-9.0	3-3-3-2	No Recovery.			NS	
10		S-3	24/24	9.0-11.0	1/12"-1-1	Top 18": Very loose, fine to medium, red, SAND, little fine Gravel, little Silt. Bottom 6": PEAT.	10.5' PEAT 11.0' E.O.B.		2.0 ppm	3
15										
20										
25										
30										
35										
40										

1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 5.0 ppm. ppm = parts per million. NS = Not screened
2. Sample wet at approximately 6 feet below ground surface.
3. Boring ended at approximately 11 feet below ground surface.
E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. TB-18

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS	PROJECT	REPORT OF BORING No. TB-19
	Old Southington Landfill Southington, Connecticut	SHEET 1 OF 1 FILE No. 50724.09 CHKD. BY ML

BORING Co. Clarence Welti & Associates	BORING LOCATION central portion of Lori Corp. site
FOREMAN Larry Lindenberger	GROUND SURFACE ELEVATION DATUM
GZA ENGINEER Linda McKee	DATE START 1/19/90 DATE END 1/19/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3 3/4" HSA OTHER:

GROUNDWATER READINGS				
DATE	TIME	WATER	CASING	STABILIZATION TIME
1/19/90	1010	9'	10'	0 Hours

DEPTH H	C B A L O N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
5		S-1	24/10	0-2.0	8-33-57-40	Very dense, red-brown, fine to coarse SAND, some fine Gravel, little Silt.	SAND 2.0'	NONE	1.0 ppm	1
10		S-2	24/8	5.0-7.0	38-30-32-18	Very dense, red-brown, fine GRAVEL and fine to coarse SAND, little Silt.	GRAVEL		7.0 ppm	2
15		S-3	24/16	10.0-12.0	13-18-32-15	Dense, red-brown, fine GRAVEL and fine to coarse SAND, little Silt.	12.0' EOB		7.6 ppm	3
20										
25										
30										
35										
40										

- Soil samples field screened for volatile organic compounds with an HNU model PI-101 11.7 eV photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.8 ppm
- Sample wet at approximately 9 feet below ground surface.
- Boring ended at approximately 12 feet ground surface.
E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS						PROJECT <u>Old Southington Landfill</u> <u>Southington, Connecticut</u>		REPORT OF BORING No. TB-20 SHEET 1 OF 1 FILE No. 50724.09 CHKD. BY ML		
BORING Co. Clarence Welti & Associates FOREMAN Larry Lindenberger GZA ENGINEER Linda McKee						BORING LOCATION Lori Corporation GROUND SURFACE ELEVATION _____ DATUM _____ DATE START 1/19/90 DATE END 1/19/90				
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER: _____						GROUNDWATER READINGS				
						DATE	TIME	WATER	CASING	STABILIZATION TIME
						1/19/90	1110	9'	10'	0 Hours
DEPTH H	C A S I N G S	B L O W S	SAMPLE			SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
			No.	PEN./REC.	DEPTH (Ft.)					
5		S-1	24/18	0-2.0	10-25-40-30	Very dense, red-brown, GRAVEL and fine to coarse SAND, little Silt.	GRAVEL	NONE	6.4 ppm	1
							2.0'			
10		S-2	24/2	5.0-7.0	14-16-20-19	Dense, red-brown, fine to coarse SAND, some fine Gravel, trace Silt.	SAND		7.2 ppm	2
15		S-3	18/10	7.0-8.5	14-17-60/6"	Very dense, red-brown, fine to coarse SAND, fine to coarse GRAVEL and little Silt.	12.0' E.O.B.		4.2 ppm	3
20		S-4	18/12	10.0-11.5	45-38-50	Very dense, red-brown, fine to coarse GRAVEL and fine to coarse SAND, little Silt.			8.4 ppm	
25										
30										
35										
40										

1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.8 ppm.
ppm = parts per million.

2. Sample wet at approximately 9 feet below ground surface.

3. Boring ended at approximately 12 feet below ground surface.
E.O.B. = End of Boring.

NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.

2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. TB-20

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				PROJECT <u>Old Southington Landfill</u> <u>Southington, Connecticut</u>		REPORT OF BORING No. TB-21 SHEET <u>1</u> OF <u>1</u> FILE No. <u>50T24.09</u> CHKD. BY <u>ML</u>	
BORING Co. <u>Clarence Velti & Associates</u> FOREMAN <u>Kevin Christiana</u> GZA ENGINEER <u>Dave Swetland</u>				BORING LOCATION <u>Lori Corporation</u> GROUND SURFACE ELEVATION _____ DATUM _____ DATE START <u>1/19/90</u> DATE END <u>1/19/90</u>			

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER: _____					GROUNDWATER READINGS				
DATE		TIME		WATER		CASING		STABILIZATION TIME	
1/20/90				5'		10'		0 Hours	

DEPTH	C B A S E S	SAMPLE				SAMPLE DESCRIPTION <u>Burmister CLASSIFICATION</u>	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
5		S-1	24/6	0.5-2.5	5-6-7-8	Medium dense, red, GRAVEL, little fine Sand, trace Silt.	GRAVEL	NONE	1.9 ppm	1
							2.5'			
		S-2	24/3	5.0-7.0	9-2-2-3	Loose, red, fine SAND, some silt, little fine Gravel.	SAND		18.0 ppm	2
10										
		S-3	24/24	10.0-12.0	3-3-5-6	Loose, olive-gray, fine to medium SAND, little Silt.			2.7 ppm	
15							12.0' E.O.B.			3
20										
25										
30										
35										
40										

1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.7 ppm.
 ppm = parts per million.
 2. Sample wet at approximately 5 feet below ground surface.
 3. Boring ended at approximately 12 feet below ground surface.
 E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA	BORING No. TB-21
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GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS					PROJECT Old Southington Landfill Southington, Connecticut			REPORT OF BORING No. TB-22 SHEET 1 OF 1 FILE No. 50T24.09 CHKD. BY ML			
BORING Co. Clarence Welti & Associates FOREMAN Kevin Christiania GZA ENGINEER Dave Swetland					BORING LOCATION Lori Corporation GROUND SURFACE ELEVATION DATUM DATE START 1/19/90 DATE END 1/19/90						
SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:					GROUNDWATER READINGS						
					DATE	TIME	WATER	CASING	STABILIZATION TIME		
					1/20/90		6.5'	OUT	0 Hours		
DEPTH	C A S I N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	RE M K S	
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"						
		S-1	24/8	0.5-2.5	18-37-25-19	Dense, gray GRAVEL, little red fine Sand, trace Silt.	ASPHALT	NONE	ND	1	
							0.5' GRAVEL				
							2.5'				
5		S-2	24/9	5.0-7.0	4-5-6-5	Medium dense, light red-brown, fine SAND, little Silt.	SAND		3.2 ppm	2	
10		S-3	24/12	10.0-12.0	3-4-3-5	Loose, red-gray, medium to coarse SAND, trace Silt.			2.7 ppm	3	
							12.0' E.O.B.				
15											
20											
25											
30											
35											
40											
1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.5 ppm. ND = None Detected. ppm = parts per million. 2. Sample wet at approximately 6.5 feet below ground surface. 3. Boring ended at approximately 12 feet below ground surface. E.O.B. = End of Boring.											
NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE											
GZA									BORING No. TB-22		

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS	PROJECT	REPORT OF BORING No. TB-23
	Old Southington Landfill Southington, Connecticut	SHEET 1 OF 1 FILE No. 50T24.09 CHKD. BY MC

BORING Co. Clarence Welts & Associates	BORING LOCATION East of Southington Metal Fabricators
FOREMAN Larry Lindenberger	GROUND SURFACE ELEVATION _____ DATUM _____
GZA ENGINEER Linda McKee	DATE START 1/23/90 DATE END 1/23/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:	GROUNDWATER READINGS				
	DATE	TIME	WATER	CASING	STABILIZATION TIME
	1/23/90	1430	None	10'	0 Hours

DEPTH	C B A S N W G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	RE M K S
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
5		S-1	24/16	1.0-3.0	17-25-14-22	Dense, brown, fine to coarse SAND, some fine Gravel, little Silt, trace Clay.	SAND	NONE	6.3 ppm	1
10		S-2	24/14	5.0-7.0	3-4-7-8	Medium dense, red-brown, medium to coarse SAND, trace fine Gravel.	SAND	NONE	3.0 ppm	2
15		S-3	24/16	10.0-12.0	5-7-7-8	Medium dense, red-brown, medium to coarse SAND, trace fine Gravel.	12.0' E.O.B.	NONE	1.8 ppm	
20										
25										
30										
35										
40										

1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 0.6 ppm.
 ppm = parts per million.

2. Boring ended at approximately 12 feet below ground surface.
 E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. TB-23

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. TB-24
SHEET 1 OF 1
FILE No. 50T24.09
CHKD. BY MC

BORING Co. Clarence Welter & Associates
FOREMAN Kevin Christiana
GZA ENGINEER Dave Swetland

BORING LOCATION Southwest edge of Four 93 Associates
GROUND SURFACE ELEVATION DATUM
DATE START 1/25/90 DATE END 1/25/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.

CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in.

CASING SIZE: 3 3/4" HSA

OTHER:

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
1/25/90		None		

DEPTH FT	C A S I N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-1	24/20	0-2.0	4-2-2-3	Top 16": Loose, brown, fine to coarse SAND, littler fine Gravel, little Silt. Bottom 4": Brown, fine to medium SAND and REFUSE.	SAND	NONE	1.6 ppm	1
							2.0'			
5		S-2	24/5	5.0-7.0	2-3-2-2	Loose REFUSE and brown, fine to medium SAND.	REFUSE AND SAND		13.0 ppm	2
		S-3	24/13	7.0-9.0	2-3-3-3	Loose REFUSE and red-brown, fine to medium SAND.			NA	
10		S-4	24/20	9.0-11.0	3-3-5-6	Loose, red, fine to medium SAND, trace Silt.	9.0'		NA	
		S-5	24/24	11.0-13.0	3-5-5-4	Loose to medium dense, red, fine to medium SAND, trace Silt.	SAND		18.0 ppm	
							13.0' E.O.B.			3
15										
20										
25										
30										
35										
40										

- Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 1.0 ppm. ppm = parts per million, NA = Not analyzed, sample collected for analysis.
- Strong odor noted 5-11 feet below grade.
- Boring ended at approximately 13 feet ground surface.
E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. TB-24

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				PROJECT Old Southington Landfill Southington, Connecticut		REPORT OF BORING No. TB-25 SHEET 1 OF 1 FILE No. 50T24.09 CHKD. BY M.L.	
BORING Co. Clarence Welti & Associates FOREMAN Larry Lindenberger GZA ENGINEER Linda McKee				BORING LOCATION N. West edge of Southington Metal Fab. GROUND SURFACE ELEVATION _____ DATUM _____ DATE START 1/27/90 DATE END 1/27/90			

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in. CASING: UNLESS OTHERWISE NOTED, CASING DRIVEN USING A 300 lb. HAMMER FALLING 24 in. CASING SIZE: 3 3/4" HSA OTHER:						GROUNDWATER READINGS				
						DATE	TIME	WATER	CASING	STABILIZATION TIME
						1/27/90	1300	None		

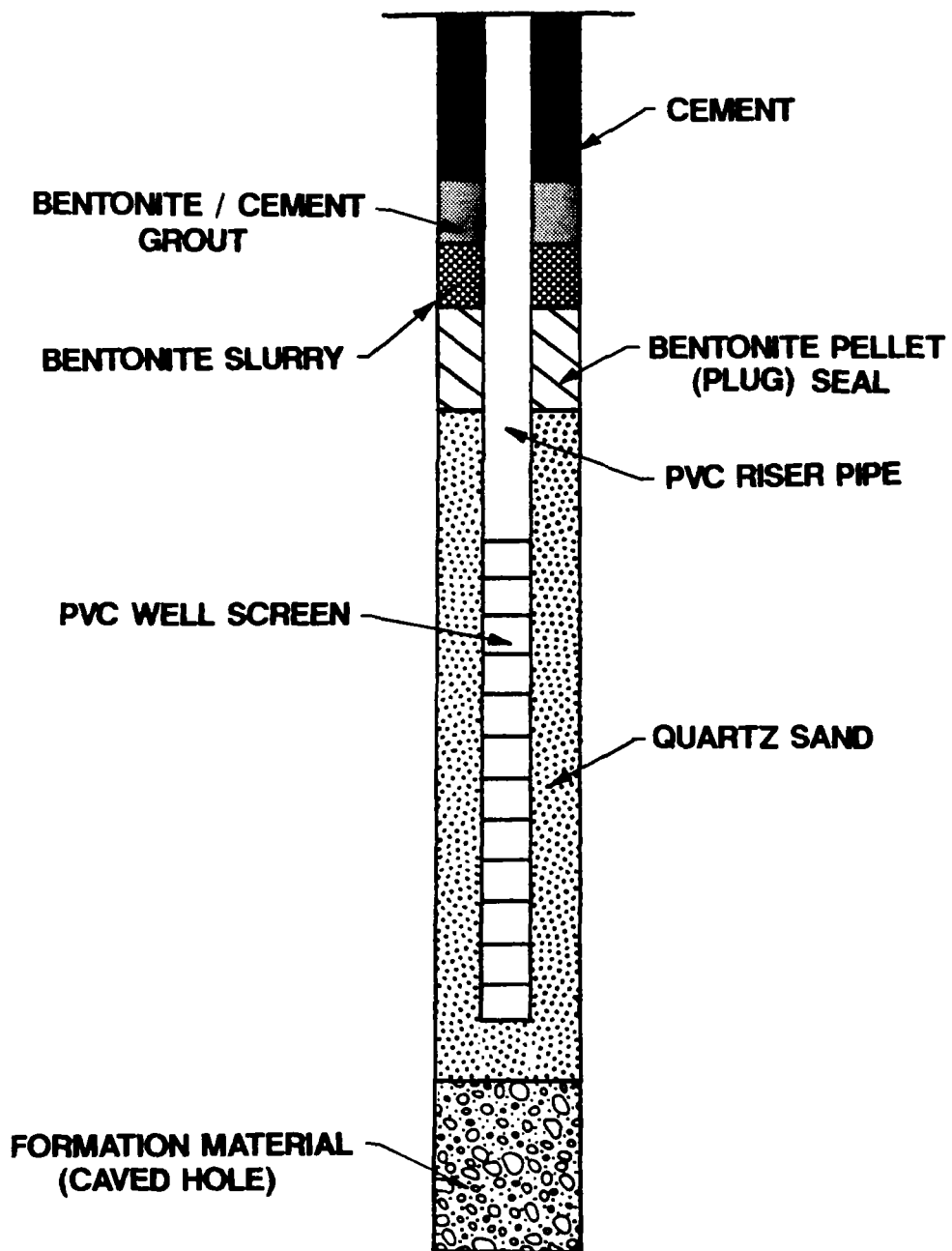
DEPTH	CASING	B	SAMPLE				SAMPLE DESCRIPTION <i>Burmister CLASSIFICATION</i>	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU	REMARKS
			No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
5			S-1	24/10	1.0-3.0	7-4-4-7	Top 4": Brown, fine to coarse SAND some fine Gravel, little Silt. Bottom 6": REFUSE, (newspaper)	SAND	NONE	9.2 ppm	1
								2.0'			
10			S-2	24/0	5.0-7.0	27-8-7-7	No recovery.	REFUSE AND SAND		NS	
15			S-3	6/6	10.0-10.5	60/6%	Very dense, black-brown, fine to coarse SAND, some fine Gravel, little Wood, little Silt.			26 ppm	
20			S-4	24/3	13.0-15.0	43-23-18-12	Dense, brown-black, fine to coarse SAND, some Refuse.			40 ppm	
25			S-5	24/3	15.0-17.0	23-18-11-11	Medium dense, brown-black, fine to coarse SAND, some Refuse.			40 ppm	
30			S-6	24/10	20.0-22.0	9-7-8-7	Medium dense, red-brown, fine to medium SAND, little Silt, trace fine Gravel.	20.0'		NA	
							SAND				
35			S-7	24/20	22.0-24.0	9-9-9-9	Medium dense, redbrown, fine to coarse SAND, trace Silt.	24.0' E.O.B.		NA	2
40											

REMARKS:
 1. Soil samples field screened for volatile organic compounds with 11.7 eV HNU model PI-101 photoionization detector. Recorded HNU values represent total HNU values recorded. Background = 1.0 ppm.
 NA = Not analyzed, sample collected for analysis. NS = Not Screened. ppm = parts per million
 2. Sample wet at approximately 24 feet below ground surface.
 3. Boring ended at approximately 24 feet below ground surface. E.O.B. = End of Boring.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA
BORING No. TB-25

WELL LEGEND



GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. TB-7S
SHEET 1 OF 1
FILE No. SUT24.10
CHKD. BY ML

BORING Co. Clarence Welter & Associates
FOREMAN Don Moodie
GZA ENGINEER Linda McKee

BORING LOCATION East of Southington Metal Fabricators
GROUND SURFACE ELEVATION 159.6 DATUM 161.56
DATE START 4/2/90 DATE END 4/2/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 24"
SPOON DRIVEN USING A 140 LB. HAMMER FALLING 30 In.

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
4/2/90	1020	9'	15'	0 hours
4/3/90	0805	6.8'	out	20 hours

DRILLING METHOD: 3 3/4" HSA

DEPTH H	C B A L S O N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	RE M K S
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
						See boring log TB-7SA for description.				1
5										
10										2
15		S-1	24/18	15.0-17.0		Brown, fine to medium SAND, little Refuse (Newspaper, Plastic), trace Silt.	17.0' E.O.B.			3
20										4
25										
30										
35										

REMARKS:

- 1) Soil samples field screened for volatile organic compounds with 11.7 eV HNU Model PI-101 photoionization detector.
- 2) 4.8/3.8=Total HNU reading/background value prior to reading.
- 3) Sample wet at approximately 9 feet below grade.
- 4) Ten feet of 2-inch schedule 40 10-slot pvc well screen set at approximately 15.5 feet below grade.
- 5) Well completed with 2-inch schedule 40 threaded, flush-joint PVC riser to approximately 2 feet above grade.
- 6) No. 12 quartz sand placed around well from approximately 4 to 16 feet. Bentonite pellet seal placed around well from 0.5 to 4 feet. Well capped with locking steel pipe cemented in place. Well developed for approximately 1 hour and ten minutes.
- 7) Boring ended at approximately 17 feet below grade. No blow counts recorded.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. TB-7S

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-5S
SHEET 1 OF 1
FILE No. 50T24.10
CHKD. BY ML

BORING Co. Clarence Welti & Associates
FOREMAN Dave Bromley
GZA ENGINEER Linda McKee

BORING LOCATION 10 feet south of GZ-5D
GROUND SURFACE ELEVATION 162.9 DATUM 165.01
DATE START 5/17/90 DATE END 5/17/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 36" SPLIT
SPOON DRIVEN USING A 300 lb. HAMMER FALLING 30 in.

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
5/17/90	1550	17'	20	0 hours
5/21/90	1015	17.2'	out	4 days

DRILLING METHOD: 3 3/4" HSA OTHER:

DEPTH	C B A L O W S	SAMPLE				SAMPLE DESCRIPTION <u>Burmister CLASSIFICATION</u>	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
5						See Boring GZ-5D for description	FINE TO MEDIUM SAND			1
10		S-1	24/12	10.0-12.0		Red-brown fine SAND, trace Silt.	10' FINE SAND		0.8/0.8	
15							15' FINE SAND AND SILT			2
20		S-2	36/18	20.0-23.0		Red-brown fine SAND, little Silt.	19.5' FINE SAND		0.8/0.8	
25							24' E.O.B.			3 4
30										
35										

REMARKS:

- 1) Soil samples field screened for volatile organic compounds with 11.7 eV HNU Model PI-101 photoionization detector. 0.8/0.8=Total HNU reading/background value prior to reading.
- 2) Sample wet at approximately 17 feet below ground surface.
- 3) Ten feet of 2-inch, schedule 40, 10-slot pvc well screen set at approximately 24 feet below grade. Well completed with 2-inch, schedule 40, threaded, flush-joint pvc riser pipe. No. 12 quartz sand placed around well from 12 to 24 feet below grade. Bentonite seal (hole plug) placed around the well from 3 to 12 feet. Well capped with locking steel pipe cemented in place. Well developed for approximately 1 hour.
- 4) Boring ended at approximately 24 feet below grade. No blow counts recorded.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-5S

[illegible]

C H	B S O N W G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
						See Boring GZ-5D for description				2
							FINE SAND			
							50'			
							FINE TO COARSE SAND AND GRAVEL			
		S-1	24/12	55.0-57.0		Red-brown, fine to medium SAND, little Silt.	55'			
							FINE SAND			
							62' E.O.B.			

REMARKS:

- Soil sample field screened for volatile organic compounds with 11.7 eV HNU Model PI-101 photoionization detector. 1.6/0.6=Sample HNU value/background HNU value prior to reading. ppm = parts per million
- Ten feet of 2-inch, schedule 40, 10-slot pvc well screen set at approximately 62 feet below grade.
- Well completed with 2-inch, schedule 40, threaded, flush-joint pvc riser pipe to approximately 2 feet above grade. No. 12 quartz sand placed around well from approximately 50 to 62 feet below grade. Bentonite slurry placed around well from 20 to 50 feet. Bentonite seal (hole plug) placed around well from approximately 15 to 20 feet. Well annulus backfilled with bentonite/cement grout from 3 to 15 feet. Well capped with locking steel pipe cemented in place. Well developed for approximately 1.5 hours.
- Boring ended at approximately 62 feet below grade. No blow counts recorded.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-5M

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-50
SHEET 1 OF 4
FILE No. 50T24.10
CHKD. BY ML

BORING Co. Clarence Welter & Associates
FOREMAN Don Moody
GZA ENGINEER Linda McKee

BORING LOCATION Eastern slope of Chuck and Eddies
GROUND SURFACE ELEVATION 162.6 DATUM 164.50
DATE START 5/9/90 DATE END 5/16/90

SAMPLER: UNLESS OTHERWISE NOTED, SAMPLER CONSISTS OF A 2" X 60" SPLIT SPOON DRIVEN USING A 600 LB. HAMMER FALLING 30 IN.
DRILLING METHOD: 5.0" I.D. CASING DRIVEN TO 138 FEET BELOW GRADE USING A 600 LB. HAMMER FALLING 24 IN.

ROCK CORE OBTAINED USING 4 1/4" WIRE-LINE SAMPLER HQ CORE BARREL

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
5/9/90	1010	17.0'	20'	0 hours
5/21/90	1015	16.15'	out	12 days

DEPTH FT	C A S I N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-1	60/26	0-5.0		Red-brown fine to medium SAND, little fine to coarse Gravel, Silt.			a) 0.8/1.6 b) 0.6/1.4	1
5		S-2	60/16	5.0/10.0		Red-brown fine to medium SAND, little fine Gravel.	FINE TO MEDIUM SAND		a) 0.4/1.0 b) 0.4/1.0	
10		S-3	60/26	10.0-15.0		Red-brown fine SAND, trace Silt.	10.0' FINE SAND		a) 0.4/1.2 b) 0.6/1.8 c) 0.4/1.4	
15		S-4	60/39	15.0-20.0		Top 35": Red fine SAND and SILT. 35-36": Red-brown fine to coarse SAND 36-39": Red-brown fine SAND, trace Silt.	15.0' FINE SAND AND SILT		a) 0.4/1.0 b) 0.4/1.0	2
20		S-5	60/20	20.0-25.0		Red-brown fine SAND, trace Silt.	19.5' FINE SAND		a) 0.4/1.8 b) 0.4/1.6	
25		S-6	60/16	25.0-30.0		Red-brown fine to medium SAND.	25.0' FINE TO MEDIUM SAND		a) 0.4/2.2 b) 0.4/1.8	
30		S-7	60/3	30.0-35.0		Red-brown fine to medium SAND.			a) 0.4/1.8	
35		S-8	60/6	35.0-40.0		Red-brown fine SAND, little Silt.	35.0' FINE SAND		a) 2.0/1.6 b) 2.2/1.4	
40										

REMARKS:

- Soil samples field screened for volatile organic compounds with 11.7 eV HNU Model PI-101 photoionization detector. 0.4/1.8 = total HNU reading/background value prior to reading. Letters denote specific soil jars screened. ppm= parts per million.
- Sample wet at approximately 17 feet below grade.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-50










DEPTH	C A S I N G	B L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
			No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
			S-9	60/32	40.0-45.0		Red-brown fine SAND, trace Silt.			a) 1.0/0.6 b) 1.2/0.6	
45			S-10	60/30	45.0-50.0		Red-brown fine SAND, little Silt.	FINE SAND		a) 1.0/0.6 b) 1.0/0.8	
50			S-11	60/8	50.0-55.0		Red-brown fine to coarse SAND, and fine to coarse GRAVEL, little Silt.	50' FINE TO COARSE SAND AND GRAVEL		a) 0.8/0.8 b) 1.0/1.0	
55			S-12	60/20	55.0-60.0		Red-brown fine SAND, little Silt.	55'		a) 1.0/0.8 b) 1.0/0.8	
60			S-13	60/14	60.0-65.0		Red-brown fine SAND, little Silt.			a) 1.5/0.8 b) 6/0.8	
65			S-14	60/8	65.0-70.0		Red-brown fine SAND, little Silt.	FINE SAND		a) 3.0/1.0 b) 5.2/0.8	
70			S-15	60/10	70.0-75.0		Top 8": Red-brown fine SAND, little Silt. Bottom 8": Light brown fine SAND little Silt.			a) 2.2/0.8 b) 1.8/0.8	
75			S-16	60/22	75.0-80.0		Red-brown fine SAND, little Silt.			a) 2.0/0.8 b) 1.8/0.8	
80			S-17	60/21	80.0-85.0		Red-brown fine SAND, trace Silt.			a) 2.4/2.0 b) 2.0/1.8	
85											

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-5D

DEPTH H	C B L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-18	60/20	85.0-90.0		Red-brown fine to medium SAND, grades into red-brown fine to medium SAND, trace Silt.	FINE TO MEDIUM SAND		a) 2.4/2.2 b) 2.2/2.0	
90									a) 2.6/2.0 b) 2.8/2.0	
		S-19	60/23	90.0-95.0		Red-brown fine to medium SAND, trace Silt.	92.0'		a) 2.6/2.0 b) 2.8/2.0	
95		S-20	60/20	95.0-100.0		Red-brown fine SAND, little Silt.			a) 2.8/1.8 b) 2.4/2.0	
100		S-21	60/27	100.0-105.0		Red-brown fine SAND, little Silt	FINE SAND		a) 3.2/2.4 b) 2.8/2.2	
105		S-22	60/27	105.0-110.0		Red-brown fine SAND, little Silt			a) 2.8/2.4 b) 3.0/2.4	
110		S-23	60/25	110.0-115.0		Red-brown fine SAND, little Silt			a) 2.6/2.4 b) 2.4/2.4	
115		S-24	60/8	115.0-120.0		Red-brown fine to medium SAND, trace Silt.	115.0'		a) 2.6/2.6 b) 2.8/2.8	
120		S-25	60/31	120.0-125.0		Red-brown fine to medium SAND, trace Silt.	FINE TO MEDIUM SAND		a) 3.2/3.0 b) 3.8/2.0	
125		S-26	60/20	125.0-130.0		Red-brown fine to medium SAND.			a) 2.8/2.0 b) 3.2/2.0	3
130										

REMARKS:
3) Ten feet of schedule 40, 10-slot pvc well screen set at approximately 127 feet below grade. Well completed with threaded, flush-joint pvc riser pipe. No. 12 quartz sand placed around well from approximately 113 to 133 feet. Bentonite seal (hole plug) placed around well from approximately 108 to 113 feet. Well annulus backfilled with bentonite/cement grout. Well capped with locking steel sleeve cemented in place. Well developed for approximately 21 hours.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611

GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS


PROJECT

Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-50

SHEET 4 OF 4

FILE No. 50T24.10
CHKD. BY ML

DEPTH	C A S I N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	RE M A R K S
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
135		S-27	60/26	130.0-135.0		Red-brown fine to medium SAND, little Silt.	FINE TO MEDIUM SAND		a) 3.8/2.0 b) 3.2/2.0	4 5 7
140		S-28	38/26	135.0-138.0		Weathered Red-brown, fine to medium-grained SANDSTONE.	135.0'			
		C-1	36/12	138.0-143.0		Weathered red-brown, fine to medium-grained SANDSTONE.	WEATHERED SANDSTONE			
145							142'			8 6
		C-2	36/36	143.0-146.0		Red-brown, fine to medium-grained SANDSTONE.	SANDSTONE			
150							146' E.O.B.			
155										
160										
165										
170										
175										

REMARKS:

- 4) Casing refusal at approximately 135 feet below grade.
- 5) Bedrock cored with HQ wire-line diamond core barrel. Bedrock sealed with bentonite slurry.
- 6) Boring ended at approximately 146 feet below grade. No blow counts recorded.
- 7) RQD 0% at rock interval 135'-138'.
- 8) RQD 57% at rock interval 138'-144'.

NOTES:

- 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
- 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-50

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS				PROJECT Old Southington Landfill Southington, Connecticut				REPORT OF BORING No. GZ-7S SHEET 1 OF 1 FILE No. 50T24.10 CHKD. BY ML				
BORING Co. Clarence Welte & Associates FOREMAN Don Moodie GZA ENGINEER Linda McKee				BORING LOCATION 5 feet east of GZ-7M GROUND SURFACE ELEVATION 155.9 DATE START 4/27/90 DATE END 4/27/90 DATUM 157.50								
SAMPLER: SAMPLER CONSISTS OF A 2" X 36" SPLIT SPOON DRIVEN USING A 140 lb. HAMMER FALLING 30 in.								GROUNDWATER READINGS				
								DATE	TIME	WATER	CASING	STABILIZATION TIME
								4/27/90	1305	9.4'	10	0 hours
DRILLING METHOD: 3 3/4" HSA								4/30/90	0830	5.6'	out	3 days
DEPTH	CASING	BLOWS	SAMPLE				SAMPLE DESCRIPTION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS	
			No.	PEN./REC.	DEPTH (Ft.)	BLOWS/6"	Burmister CLASSIFICATION			HNU (ppm)		
5												
10			S-1	36/10	10.0-13.0		WOOD, STYROFOAM, METAL, little fine Sand, trace Silt.	GRAVEL, SAND AND REFUSE		7.4/1.8		
15								15.0' E.O.B.				
20												
25												
30												
35												
REMARKS:												
1) Sample wet at approximately 9.4 feet below grade. Soil sample field-screened for volatile organic compounds with 11.7 eV HNU Model PI-101 photoionization detector. 2) 7.4/1.8=sample HNU value/background HNU value prior to reading. ppm = parts per million.												
3) Ten feet of 2-inch, schedule 40 threaded, flush-joint, 10-slot PVC well screen set at approximately 14.5 feet below grade. Well completed with 2-inch, schedule 40, solid PVC riser pipe. No. 12 quartz sand placed around the well from 3 to 15 feet below grade. Bentonite seal (hole plug) placed around well from 0.5 to 3 feet. Well capped with locking steel pipe cemented in place. Well developed for approximately 30 minutes.												
4) Boring ended at approximately 15 feet below grade. No blow counts recorded.												
NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE												
GZA										BORING No. GZ-7S		

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-7M
SHEET 1 OF 5
FILE No. 50T24.10
CHKD. BY ML

BORING Co. Clarence Welti & Associates
FOREMAN Don Moody
GZA ENGINEER Linda McKee

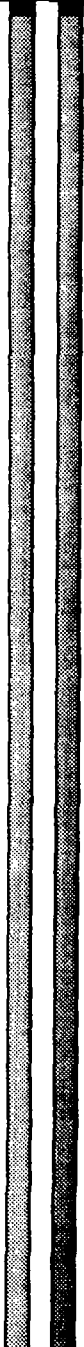
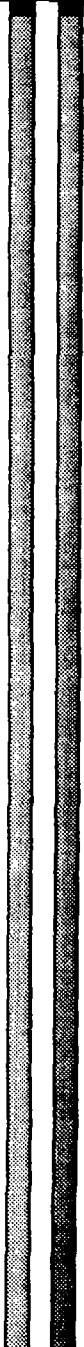
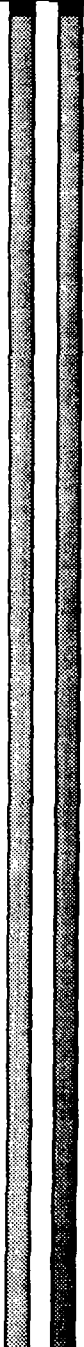
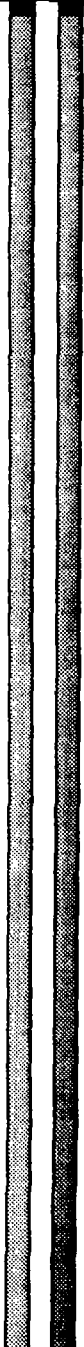
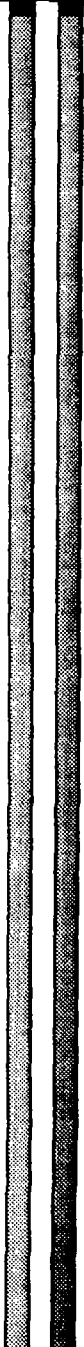
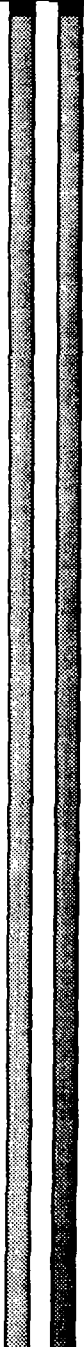
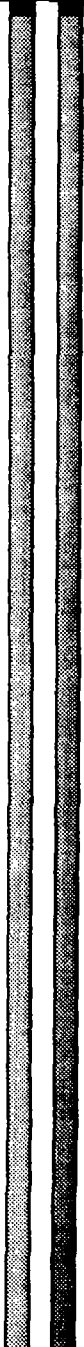
BORING LOCATION 5 feet east of GZ-7D
GROUND SURFACE ELEVATION 155.9 DATUM 157.57
DATE START 4/26/90 DATE END 4/27/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 60" SPLIT
SPOON DRIVEN USING A 300 lb. HAMMER FALLING 30 in.

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
4/26/90	0845	10'	10'	0 hours
4/30/90	0850	9.2'	out	3 days

DRILLING METHOD: 3 3/4" HSA

DEPTH H	C A S I N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
5						See GZ-7D boring log	GRAVEL SAND AND REFUSE			1
10										
						PEAT	15.0'			
15										
						GRAY SAND	24.0'			
20										
						SAND AND GRAVEL	29.5'			
25										
										
30										
										
35										
										
40										

REMARKS:
1) Sample wet at approximately 10 feet below grade.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

REMARKS:

2) Ten feet of 2-inch schedule 40 threaded flush-joint 10-slot pvc well screen set at approximately 75.5 feet below grade. Well completed with 2-inch schedule 40, solid pvc riser to approximately 2 feet hole collapsed to 77 feet below grade. No. 12 sand placed around well from approximately 60 to 77 feet below grade. Bentonite seal (hole plug) placed around well from 55 to 60 feet. Well annulus backfilled with bentonite/cement grout. Well capped with locked steel pipe cemented in place. Well developed for approximately 2 hours.

NOTES:

1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-7M

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-7M
SHEET 3 OF 3
FILE No. 50T24.10
CHKD. BY ML

DEPTH H	C B A S E S	SAMPLE				SAMPLE DESCRIPTION <u>Burmister</u> CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	RE M K S
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
90							FINE TO COARSE SAND AND GRAVEL			
							87.0' FINE TO COARSE SAND			
							92.0'			
95							GRAVEL			
100										
							102.0'			
105		S-1	60/20	105.0-110.0		Red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt.	FINE TO COARSE SAND		1.6/1.8	3
110							110.0' E.O.B.			4
115										
120										
125										
130										

REMARKS:
3) Soil sample field-screened for volatile organic compounds with 11.7 eV HNU Model PI-101 photoionization detector.
1.6/1.8=Total HNU reading/background value prior to reading. ppm= parts per million
4) Boring ended at approximately 110 feet below grade. No blow counts recorded.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-7M

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-7D
SHEET 1 OF 4
FILE No. 50T24.10
CHKD. BY ML

BORING Co. Clarence Welter & Associates
FOREMAN Don Moodie
GZA ENGINEER Linda McKee

BORING LOCATION West of Meriden Box Company
GROUND SURFACE ELEVATION 155.9 DATUM 157.58
DATE START 3/26/90 DATE END 4/4/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 60" SPLIT
SPOON DRIVEN USING A 300 lb. HAMMER FALLING 30 in.

DRILLING METHOD: 4" CASING-DRIVEN USING A 300 lb. HAMMER
FALLING 24 in.

ROCK CORE OBTAINED USING 4-INCH STEEL CASING NX DIAMOND CORE
BARREL

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
3/26/90	1040	8'	10'	0 hours

DEPTH FT	C ASING INCHES	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-1	60/30	0-5.0		Red-brown fine to coarse GRAVEL, and fine to coarse SAND, little Silt, trace Slag (FILL).			a) 0.2/0.2 b) 0.6/0.2 c) 1.2/0.4	1
5		S-2	60/24	5.0-10.0		Top 12": Red-brown fine to coarse GRAVEL and fine to coarse SAND, little Silt (FILL). Middle 10": Red-brown fine to coarse SAND, some fine to coarse GRAVEL, little Silt (possible petroleum odor). Bottom 2": Red-brown fine to coarse SAND and REFUSE (Plastic, Glass).	GRAVEL, SAND AND REFUSE		a) 3.2/1.0 b) 4.8/1.2 c) 4.6/1.2	2
10		S-3	60/24	10.0-15.0		Red-brown fine to medium SAND, little fine to coarse Gravel, trace Refuse (Plastic).			a) 2.8/1.2 b) 4.2/1.2	
15		S-4	60/30	15.0-20.0		Brown PEAT, trace Metal Chips, Wire.	15.0'		a) 2.6/1.0 b) 2.8/1.0	
20		S-5	60/35	20.0-25.0		Top 12": BROWN PEAT 12-13": Light brown GRAVEL, and fine to coarse SAND. 13-19": BROWN PEAT 19-35": Gray fine to medium SAND, some Silt, trace Metal.	PEAT		a) 1.2/1.0 b) 2.2/1.2	
25		S-6	60/50	25.0-30.0		Top 45": Gray fine to medium SAND, some Silt. Bottom 5": Brown fine SAND and SILT, trace Clay.	24.0' GRAY SAND		a) 2.8/1.2 b) 2.0/1.2	
30		S-7	60/40	30.0-35.0		Red-brown fine to coarse SAND, little Silt, trace fine Gravel.	29.5' SAND AND GRAVEL		a) 1.2/1.0 b) 1.8/1.2	
35		S-8	36/22	35.0-38.0		Red-brown fine to coarse GRAVEL and fine to coarse SAND, some Silt.			a) 2.4/1.0 b) 1.2/1.0	
40										

REMARKS:
1) Soil samples field screened for volatile organic compounds with 11.7 eV HNU Model PI-101 photoionization detector.
4.8/0.2=total HNU reading/background value prior to reading. Letters denote specific soil jars screened.
2) Sample wet at approximately 8 feet below grade.
ppm= parts per million

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-7D

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-7D
SHEET 2 OF 4
FILE No. 50124.10
CHKD. BY ML

DEPTH FT	C ASING G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-9	24/3	40.0-42.0		Red-brown fine to coarse GRAVEL and fine to coarse SAND, some Silt.			2.0/1.0	
		S-10	50/12	42.0-47.0		Red-brown fine to coarse GRAVEL and fine to coarse SAND, some Silt trace Clay.			a) 3.6/1.2 b) 4.0/1.4	
45										
		S-11	60/12	47.0-52.0		Red-brown fine to coarse GRAVEL and fine to coarse SAND, some Silt trace Clay.			a) 3.6/1.4 b) 3.2/1.4	
50										
		S-12	60/25	52.0-57.0		Red-brown fine to coarse GRAVEL and fine to coarse SAND, trace Silt.			a) 2.8/1.4 b) 3.2/1.4	
55										
		S-13	60/30	57.0-62.0		Red-brown fine to coarse GRAVEL and fine to coarse SAND, trace Silt.			a) 3.0/1.8 b) 3.0/1.6	
60										
		S-14	60/22	62.0-67.0		Red-brown fine to coarse GRAVEL and fine to coarse SAND, trace Silt.	FINE TO COARSE SAND AND GRAVEL		a) 4.2/1.4 b) 3.8/1.4	
65										
		S-15	60/0	67.0-72.0		No recovery				
70										
		S-16	60/4	72.0-77.0		Red-brown fine to coarse GRAVEL and fine to coarse SAND, little Silt.			3.4/0.8	
75										
		S-17	60/0	77.0-82.0		No recovery				
80										
		S-18	60/3	82.0-87.0		Red-brown fine to coarse GRAVEL and SAND, some Silt.			2.8/1.0	
85										

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-7D

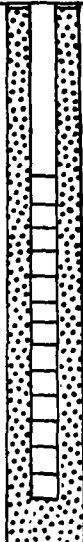
DEPTH	C B S L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
90		S-19	60/20	87.0-92.0		Red-brown fine to coarse SAND, some fine to coarse Gravel, trace Silt.	FINE TO COARSE SAND AND GRAVEL		a) 0.8/0.6 b) 1.2/0.8	
							87.0'			
							FINE TO COARSE SAND			
95		S-20	60/3	92.0-97.0		Red-brown coarse GRAVEL, some fine to coarse Sand, trace Silt.	92.0'		a) 6.4/0.8	
							BOULDER			3
100		S-21	60/10	97.0-102.0		Red-brown Arkosic SANDSTONE (Boulder).				
105		S-22	60/28	102.0-107.0		Red-brown fine to coarse SAND, some fine to coarse Gravel, trace Silt.	102.0'		a) 2.4/0.8 b) 5.2/0.8	
110		S-23	60/25	107.0-112.0		Red-brown fine to coarse SAND, some fine to coarse Gravel, trace Silt.	FINE TO COARSE SAND		a) 10.2/1.2 b) 8.2/0.8	
115		S-24	36/25	112.0-115.0		Red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt, trace Clay.			a) 7.2/1.2 b) 6.8/1.0	
							115.0'			
120		S-25	60/12	115.0-120.0		Red-brown fine to medium SAND, some fine to coarse Gravel, trace Silt.	FINE TO MEDIUM SAND		a) 5.8/1.0 b) 5.0/1.2	
125		S-26	54/20	120.0-124.5		Red-brown fine to coarse GRAVEL, little fine to coarse Sand, trace Silt.			a) 3.8/0.6 b) 3.6/0.8	
							125.0'			
130		S-27	60/1	125.0-130.0		Red-brown Arkosic SANDSTONE (Boulder).	BOULDER			3

REMARKS:
3) Cored through boulder.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-7D

DEPTH	C A S E S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-28	60/22	130.0-135.0		Red-brown fine to coarse GRAVEL, little medium to coarse Sand, trace Silt.			a) 6.4/0.8 b) 6.8/1.0	
135		S-29	60/30	135.0-140.0		Red-brown fine to coarse GRAVEL, and fine to coarse SAND, little Silt.			a) 0.8/0.8 b) 0.7/0.7	
140		S-30	60/30	140.0-145.0		Red-brown fine to coarse GRAVEL and fine to coarse SAND, little Silt.	GRAVEL		a) 0.8/0.8 b) 0.8/0.8	
145		S-31	60/8	145.0-150.0		Red-brown fine to coarse GRAVEL little fine to coarse SAND, Silt.			a) 0.8/0.8 b) 0.7/0.7	4
150		C-1	60/40	150.0-155.0		Red SANDSTONE.	150.0' SANDSTONE			5 6 7 8
155							155.0' E.O.B.			
160										
165										
170										
175										

REMARKS:

- 1) Ten feet of 2-inch, schedule 40, threaded, flush-joint, 10-slot pvc well screen set at approximately 145 feet below grade. Well completed with 2-inch, schedule 40, pvc riser pipe to approximately 2 feet above grade. No.12 quartz sand placed around the well from 130 to 146 feet below grade. Bentonite slurry placed around the well from 125 to 130 feet. Well annulus backfilled with bentonite/cement grout. Well capped with steel pipe cemented in place. Well developed for approximately 5 hours.
- 2) Auger refusal at approximately 146 feet below grade.
- 3) Bedrock cored with NX wire-line, split core barrel. Bedrock sealed with bentonite slurry.
- 4) Boring ended at approximately 155 feet below grade. No blowcounts recorded.
- 5) RQD 33% at rock interval 150'-155'.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-7D

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-11S
SHEET 1 OF 1
FILE No. 50724.10
CHKD. BY ML

BORING Co. Clarence Welter & Associates
FOREMAN Don Moody
GZA ENGINEER Linda McKee

BORING LOCATION 5' East of GZ-11D
GROUND SURFACE ELEVATION 148.6 DATUM 150.69
DATE START 4/25/90 DATE END 4/25/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 24" SPLIT
SPOON DRIVEN USING A 300 LB. HAMMER FALLING 30 In.

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
4/25/90	1245	5'	5'	0 Hours
4/30/90	1218	5.5'	out	6 Days

DRILLING METHOD: 3 3/4" HSA

DEPTH H	C B A S E S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HMU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
						See boring log GZ-11D				1
5							FINE TO COARSE SAND			2
10							9' PEAT			
15							11'			
20		S-1	24/22	20.0-22.0		Gray fine to medium SAND, trace Silt.	FINE TO MEDIUM SAND		7.2/2.0	3
25							24 E.O.B			4
30										
35										
38										

REMARKS:

- 1) Soil samples field screened for volatile organic compounds with 11.7 HNU model PI-101 photoionization detector. 7.2/2.0= total HNU reading/background value prior to reading.
- 2) Sample wet at approximately 5 feet below grade.
- 3) Ten feet of 2-inch, schedule 40, 10-slot pvc riser set at approximately 23 feet below grade. No.12 quartz sand placed around well from approximately 10 to 24 feet below grade. Bentonite seal (hole plug) placed around well from 4 to 10 feet. Well capped with locked steel pipe cemented in place. Well developed for approximately 1 hour.
- 4) Boring ended at approximately 24 feet below grade. No blow counts recorded.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-11S

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-11D
SHEET 1 OF 2
FILE No. 50124.10
CHKD. BY ML

BORING Co. Clarence Welter & Associates
FOREMAN Don Moody
GZA ENGINEER Linda McKee


BORING LOCATION Northwest corner of Lori Corp.
GROUND SURFACE ELEVATION 148.1 DATUM 149.67
DATE START 4/23/90 DATE END 4/24/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 60" SPLIT
SPOON DRIVEN USING A 300 lb. HAMMER FALLING 30 in.

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
4/23/90	1300	11'	15	0 Hours
4/30/90	1218	3.9'	out	7 Days

DRILLING METHOD: 3 3/4" HSA
ROCK CORE OBTAINED WITH NX DIAMOND CORE BARREL.


DEPTH TH	C A S I N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	RE M A R K S
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
5		S-1	60/20	0-5.0		Top 14": Red-brown fine to coarse SAND, little fine to coarse Gravel, Silt. Bottom 6": Gray SILT and fine to coarse SAND, little fine to coarse Gravel, Clay.	FINE TO COARSE SAND		0.8/0.6	1
		S-2	60/16	5.0-10.0		Top 8": Brown, fine to coarse SAND, some fine Gravel, some Silt. Bottom 8": Black PEAT.			a) 1.0/0.6 b) 0.2/0.6	
10		S-3	60/30	10.0-15.0		Top 4": Black PEAT. Bottom 26": Gray fine to medium SAND.	9.0' PEAT 11.0'		0.6/0.6	2
15		S-4	60/40	15.0-20.0		Gray fine SAND, trace Silt.	FINE TO MEDIUM SAND		a) 0.6/0.6 b) 0.6/0.6	
20		S-5	60/48	20.0-25.0		Gray fine SAND, little silt.			a) 0.8/0.6 b) 0.6/0.6	
25										
		S-6	60/48	25.0-30.0		Gray fine SAND, little Silt, inter-layered with 1-inch thick red-brown SILT and fine SAND.		a) 0.6/0.6 b) 0.6/0.6		
30		S-7	60/48	30.0-35.0		Top 10": Gray fine to medium SAND, little Silt. Bottom 38": Gray Silty CLAY.	31.0' SILTY CLAY	a) 0.8/0.8 b) 1.2/1.0 c) 0.8/0.8		
35										
		S-8	60/40	35.0-40.0		Top 6": Gray Clayey SILT, trace fine Sand. Middle 30": Gray and light brown SILT and CLAY, trace fine Sand. Bottom 4": Red-brown fine to coarse SAND, some fine to coarse Gravel, little Silt.	35.5' SILT AND CLAY	a) 0.6/0.6 b) 0.8/0.6 c) 0.6/0.6 d) 0.6/0.6		
40							39.5'			

REMARKS:
1) Soil samples field screened for volatile organic compounds with 11.7 eV HNU Model PI-101 photoionization detector.
0.8/0.6= total HNU reading/background value prior to reading. Letters denote specific soil jars screened.
2) Sample wet at approximately 11 feet below grade.
ppm= parts per million

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-11D

DEPTH Feet	C AS ING	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNW (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-9	60/2	40.0-45.0		Red-brown fine GRAVEL, some fine to coarse Sand, little Silt.	FINE TO COARSE SAND		a) 5.8/1.0	
45		S-10	60/20	45.0-50.0		Red-brown fine to coarse SAND, some fine Gravel, trace Silt. Grades into red-brown GRAVEL, some fine to coarse Sand, little Silt.	47.0'		a) 5.2/1.8	
50		S-11	60/18	50.0-55.0		Red-brown fine to coarse GRAVEL, some fine to coarse Sand, little Silt.	GRAVEL		a) 4.8/0.6	
55		S-12	60/48	55.0-60.0		Top 24": Red-brown fine to medium SAND, little Silt. Bottom 24": Red-brown GRAVEL and fine to coarse SAND, little Silt.	54.0' FINE TO MEDIUM SAND		a) 2.8/0.6	
60		S-13	60/48	60.0-65.0		Top 24": Red-brown fine to medium SAND, trace Silt. Bottom 24": Red-brown fine SAND, some Silt, trace Clay.	57.0' SAND AND GRAVEL		a) 3.4/0.6	3
65		S-14	60/12	65.0-70.0		Red-brown fine SAND, some Silt, trace Clay.	60.0' FINE TO MEDIUM SAND		a) 2.6/0.4 b) 2.2/0.4	
70		S-15	42/18	70.0-73.5		Red-brown fine to coarse GRAVEL and fine to coarse SAND, some Silt, (weathered bedrock), (Spoon refusal at 73.5'.)	62.0'		a) 0.8/0.4 b) 2.2/0.4	
75		C-1	60/45	76.0-81.0		Red SANDSTONE.	73.3' RED SANDSTONE		a) 0.6/0.4	4
80							81.0' E.O.B.			5
85										6
										7

REMARKS:

3) Ten feet of 2-inch Schedule 40, 10-slot pvc well screen set at approximately 60 feet below grade. Well completed with 2-inch, Schedule 40 threaded, flush-joint pvc riser to approximately 2 feet above grade. No. 12 quartz sand placed around well from approximately 48 to 60 feet below grade. Bentonite seal (hole plug) placed around well from 42.5 to 48 feet. Well annulus backfilled with bentonite/cement grout. Well capped with locking steel pipe cemented in place. Well developed for approximately 2 hours.

4) Auger refusal at approximately 75 feet below grade.

5) Bedrock cored with NX diamond core barrel, bedrock sealed with bentonite slurry.

6) Boring ended at approximately 81 feet below grade. No blow counts recorded.

7) RQD 47% at rock interval 76'-81'.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-12M
SHEET 1 OF 2
FILE No. 50T24.10
CHKD. BY ML

BORING Co. Clarence Welter & Associates
FOREMAN Don Moody
GZA ENGINEER Linda McKee

BORING LOCATION 5' west of GZ-12D
GROUND SURFACE ELEVATION 156.3 DATUM 157.79
DATE START 4/10/90 DATE END 4/11/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 24" SPLIT
SPOON DRIVEN USING A 300 LB. HAMMER FALLING 30 In.

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
4/10/90	1345	11'	15'	0 hours
4/11/90	0800	11.2'	out	1 day
4/23/90	0830	11.6'	out	13 days

DRILLING METHOD: 3 3/4" HSA

DEPTH H	C A S I N G S	B L O W S	SAMPLE			SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
			No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"				
5							FINE TO COARSE SAND			
10							10.0'			
15							FINE TO MEDIUM SAND			
20							25.0'			
25							FINE TO COARSE SAND			
30							29.0'			
35							FINE TO COARSE GRAVEL			
							35.0'			
							FINE TO COARSE SAND			
							37.0'			
							FINE TO COARSE GRAVEL			
40										

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-12M

DEPTH H	C AS S G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
45						See GZ-12D boring log.	FINE TO MEDIUM SAND			1
							42.0' GRAVEL			
							45.0' FINE SAND			
							47.0' GRAVEL AND FINE TO COARSE SAND			
60		S-1	24/16	60.0-62.0		Red-brown fine to coarse GRAVEL and fine to coarse SAND, little silt.			2.2/0.8	2
65							66.0' FINE TO COARSE SAND			3
70							68.0' E.O.B.			
75										
80										
85										

- REMARKS:
- 1) Soil sample field-screened for volatile organic compounds with 11.7 eV HNU Model P1-101 photoionization detector. 2.2/0.8 = Total HNU reading/background value prior to reading. ppm = parts per million
 - 2) Ten feet of 2-inch schedule 40, threaded, flush-joint 10-slot pvc well screen set at approximately 62 feet below grade. Well completed with 2-inch, schedule 40 pvc riser pipe to approximately 2 feet above grade. Formation material around well from approximately 47 to 62 feet; hole caved. Bentonite slurry placed around well from approximately 42 to 47 feet. Annulus from 3 to 42 feet backfilled with bentonite/cement grout. Well capped with locked steel pipe cemented in place. Well developed for approximately 2.5 hours.
 - 3) Boring ended at approximately 68 feet below grade. No blow counts recorded.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-12D
SHEET 1 OF 3
FILE No. 50T24.10
CHKD. BY ML

BORING Co. Clarence Welter & Associates
FOREMAN Don Moody
GZA ENGINEER Linda McKee

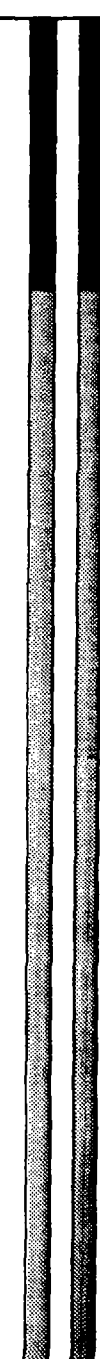
BORING LOCATION West of WNTY
GROUND SURFACE ELEVATION 156.4 DATUM 158.25
DATE START 4/5/90 DATE END 4/10/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 60" SPLIT
SPOON DRIVEN USING A 300 lb. HAMMER FALLING 30 In.

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
4/5/90	1315	15'	10'	0 hours
4/12/90	0900	11.4'	out	7 days

DRILLING METHOD: 3 3/4" HSA
ROCK CORE OBTAINED USING NX DIAMOND CORE BARREL

DEPTH FTH	C B S O U N D S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS	
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"						
5		S-1	60/25	0-5.0		Red-brown fine to coarse SAND, some fine to coarse Gravel, some Silt.	FINE TO COARSE SAND		a) 1.0/0.2 b) 2.8/0.2	1	
		S-2	60/26	0.5-10.0		Red-brown fine to coarse SAND, some fine to coarse Gravel, some Silt.			a) 5.0/0.4		
10											
		S-3	60/20	10.0-15.0		Red-brown fine to medium SAND, some Silt, little fine to coarse Gravel.	10.0'			a) 2.6/0.4	
15											
		S-4	60/34	15.0-20.0		Top 4": Red-brown coarse SAND. Middle 28": Red-brown fine to medium SAND, little fine to coarse Gravel, trace Silt. Bottom 2": Red-brown GRAVEL.	FINE TO MEDIUM SAND			a) 5.0/0.8 b) 4.2/0.6	2
20											
		S-5	60/15	20.0-25.0		Red-brown fine to medium SAND, little Silt, trace fine Gravel.			a) 4.8/0.4		
25											
		S-6	60/55	25.0-30.0		Top 50": Red-brown fine to coarse SAND, little Silt. Bottom 5": Red-brown fine to coarse GRAVEL, some fine Sand, little Silt.	25.0'		a) 4.0/0.4 b) 4.2/0.4		
30							FINE TO COARSE SAND				
							29.0'				
		S-7	60/14	30.0-35.0		Red-brown fine to coarse GRAVEL, some fine Sand, Silt.	FINE TO COARSE GRAVEL		a) 3.8/0.4		
35											
		S-8	60/30	35.0-40.0		Top 5": Red-brown fine to medium SAND, some Silt. Middle 12": Red-brown medium to coarse SAND, some Silt. Bottom 13": Red-brown fine to coarse GRAVEL, trace Silt.	35.0'		a) 1.8/0.4		
40							FINE TO COARSE SAND				
							37.0'				
							FINE TO COARSE GRAVEL				

REMARKS:

- Soil samples field screened for volatile organic compounds with 11.7 eV HNU Model PI-101 photoionization detector. 2.8/0.2= Total HNU reading/background value prior to reading. Letters denote specific soil jars screened.
- Sample wet at approximately 15 feet below grade.
ppm= parts per million

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-12D






DEPTH H	C B A L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-9	60/50	40.0-45.0		Top 18": Red-brown medium to coarse SAND. Middle 6": Red-brown fine to coarse GRAVEL. Bottom 26": Red-brown fine to coarse GRAVEL, some fine to coarse Sand, Silt.	FINE TO MEDIUM SAND 42.0' GRAVEL		a) 4.0/0.4 b) 3.2/0.4	
45		S-10	48/48	45.0-50.0		Top 20": Red-brown fine SAND, little Silt. Bottom 28": Red-brown fine to coarse SAND and fine to coarse GRAVEL, some Silt.	45.0' FINE SAND 47.0'		a) 3.6/0.4 b) 4.0/0.4	
50		S-11	60/26	50.0-55.0		Red-brown GRAVEL, little fine to coarse SAND, Silt, trace Clay.			a) 6.2/0.8	
55		S-12	60/22	55.0-60.0		Red-brown fine to coarse GRAVEL, little fine to coarse Sand, Silt.	GRAVEL AND FINE TO COARSE SAND		a) 6.4/0.8 b) 6.2/1.0	
60		S-13	60/22	60.0-65.0		Red-brown fine to coarse GRAVEL, and fine to coarse SAND, little Silt.			a) 5.4/0.8 b) 5.0/1.0	
65		S-14	60/35	65.0-70.0		Top 5": Red-brown fine to coarse GRAVEL and fine to coarse SAND, little Silt. Bottom 30": Red-brown fine to coarse SAND, some fine to coarse GRAVEL.	66.0' FINE TO COARSE SAND		a) 5.0/0.8 b) 5.0/0.8	
70		S-15	60/30	70.0-75.0		Top 6": Red-brown fine to coarse SAND, little fine Gravel. Bottom 24": Red-brown fine SAND, some Silt, trace Gravel.	72.0'		a) 5.2/1.0 b) 5.8/1.0	
75		S-16	60/30	75.0-80.0		Red-brown fine SAND, some Silt.			a) 5.8/1.0 b) 5.0/0.8	
80		S-17	60/32	80.0-85.0		Red-brown fine SAND, some Silt.	FINE SAND		a) 4.8/1.0	
85										

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-120

DEPTH H	C B L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-18	60/50	85.0-90.0		Red-brown fine SAND, some Silt.	FINE SAND		a) 4.6/1.0	3
90										
		S-19	36/22	90.0-93.0		Top 6": Red-brown fine to medium SAND. Middle 4": Red-brown fine SAND. Bottom 12": Red-brown fine to coarse SAND and fine to coarse GRAVEL, some Silt, trace Clay. (TOC sample)	90.0' SAND AND GRAVEL		a) 6.2/0.8	4
95										
		S-20	12/6	95.0-96.0		Red-brown fine to coarse SAND and fine to coarse GRAVEL, some Silt.	96.0' RED SANDSTONE		a) 4.6/0.8	5
		C-1	60/12	96.0-101.0		Red SANDSTONE.				
100										
										6
		C-2	60/53	101.0-106.0		Red SANDSTONE.	106.0' E.O.B.			7
105										
110										
115										
120										
125										
130										

REMARKS:
3) Ten feet of 2-inch, Schedule 40 threaded, flush-joint 10-slot pvc well screen set at approximately 89 feet below grade. Well completed with 2-inch, Schedule 40 pvc riser to approximately 2 feet above grade. No. 12 quartz sand placed around well from 76.5 to 90.5 feet below grade. Bentonite seal (pellets) placed around well from 71.5 to 76.5 feet. Annulus around well from 8 to 71.5 feet backfilled with bentonite/cement grout. Well capped with locking steel pipe cemented in place. Well developed for approximately 6.5 hours.
4) Auger refusal at approximately 96 feet below grade.
5) Bedrock cored with NX diamond core barrel. Bedrock sealed with bentonite slurry.
6) Boring ended at approximately 106 feet below grade. No blow counts recorded.
7) RQD 15% at rock interval 96'-101', RQD 52% at rock interval 101'-106'.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA BORING No. GZ-120

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-13S
SHEET 1 OF 1
FILE No. 50124.10
CHKD. BY ML

BORING Co. Clarence Welter & Associates
FOREMAN Dave Bromley
GZA ENGINEER David Swettland

BORING LOCATION Menard's northeastern property boundary
GROUND SURFACE ELEVATION 179.4 DATUM 181.35
DATE START 4/20/90 DATE END 4/20/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 72" SPLIT
SPOON DRIVEN USING A 300 lb. HAMMER FALLING 30 in.
DRILLING METHOD: 3 3/4" HSA

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
4/20/90	1245	32.8'	30'	1 hour

DEPTH Feet	C ASING S G	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
						See GZ-13D boring log.			11.7 ev	1
5							FINE TO COARSE SAND			2
10										
15							13.0'			
20							FINE GRAVEL			
25										
30		S-1	72/40	30.0-36.0		Light brown fine to coarse SAND, little fine Gravel, trace Silt.	29.0'		a)5.6/0.8 b)4.7/0.5 c)6.0/0.6 d)6.0/0.6	3
35							FINE TO COARSE SAND			
38							38.0' E.O.B.			4

- 1) Soil samples field screened for volatile organic compounds with 11.7 eV HNU Model PI-101 photoionization detector. 5.6/0.8=Total HNU reading/background value prior to reading. Letters denote specific soil jars screened.
2) No blow counts recorded. ppm=parts per million.
3) Sample wet at approximately 32 feet below ground surface.
4) Ten feet of 2-inch, schedule 40, 10-slot pvc well screen set at approximately 28 to 38 feet below grade. Well completed with 2-inch, schedule 40, threaded, flush-joint pvc riser to approximately 2 feet above grade. No. 12 quartz sand backfilled around annulus from approx. 26 to 38 feet. Bentonite seal approx. 19 to 26 feet. Well annulus backfilled with bentonite/cement grout. Well capped with locking steel pipe cemented in place. Well developed for 4 hours.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-13S

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-13M
SHEET 1 OF 3
FILE No. 50724.10
CHKD. BY ME

BORING Co. Clarence Welts & Associates
FOREMAN Dave Bromley
GZA ENGINEER Linda McKee


BORING LOCATION 15 feet east of GZ-130
GROUND SURFACE ELEVATION 179.6 DATUM 181.92
DATE START 4/18/90 DATE END 4/19/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 60" SPLIT
SPOON DRIVEN USING A 300 LB. HAMMER FALLING 30 In.

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
4/20/90	1020	32.8'	Out	1 Day

DRILLING METHOD: 3 3/4" HSA

DEPTH H	C ASINGS	B LOW S	SAMPLE			SAMPLE DESCRIPTION <u>Burmister</u> CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS					
			No.	PEN./ REC.	DEPTH (Ft.)						BLOWS/6"				
5						See GZ-130 boring log.	FINE TO COARSE SAND								
	10														
15												13.0'			
20							FINE GRAVEL								
25															
30							29.0'								
35							FINE TO COARSE SAND								
40															

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-13M

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611

GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-13M

SHEET 2 OF 3
FILE No. 50124.10
CHKD. BY ML

DEPTH H	C A S I N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
						See GZ-13D boring log.	SAND AND GRAVEL			
45							45.0'			
50										
55										
60							FINE TO MEDIUM SAND			
65										
70										
75										
80										
85										

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-13M

DEPTH H	C B A L L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
90						See boring log GZ-130.				
95							FINE TO MEDIUM SAND			
100		S-1	60/60	100.0-105.0		Red-brown fine to medium SAND, trace Silt.			a) 1.0/0.8 b) 1.0/0.8	2
105										
110							108.0' E.O.B.			3
115										4
120										
125										
130										

REMARKS:

- Soil sample field-screened for volatile organic compounds with 11.7 eV HNU Model PI-101 photoionization detector. 1.0/0.8=Total HNU reading/background value prior to reading. Letters denote specific soil jar screened.
 - Ten feet of 2-inch, schedule 40, 10-slot pvc well screen set at approximately 98 to 108 feet below grade. Well completed with 2-inch, schedule 40 pvc riser to approximately 2 feet above grade. Sand backfilled to approximately 96 feet. Bentonite seal 90.5 to 96 feet. Well annulus backfilled with bentonite/cement grout. Well capped with locking steel pipe cemented in place. Well developed for 4 hours.
- ppm=parts per million.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-13M

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-130
SHEET 1 OF 5
FILE No. 50724.10
CHKD. BY ML

BORING Co. Clarence Welti & Associates
FOREMAN Dave Bromley
GZA ENGINEER David Swetland









BORING LOCATION Fifteen feet east of GZ-130
GROUND SURFACE ELEVATION 180.2 DATUM 182.32
DATE START 4/10/90 DATE END 4/18/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 60" SPLIT
SPOON DRIVEN USING A 300 lb. HAMMER FALLING 30 in.

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
4/18/90	12:00	50'	80'	None
4/24/90	11:00	35.1'	out	1 Day

DRILLING METHOD: 4 INCH CASING DRIVEN USING A 600 LB. HAMMER
FALLING 24 IN. ROCK CORE OBTAINED WITH NX
CORE BARREL.

DEPTH H	C A S E S	B L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS																					
			No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"																										
5							See boring log GZ-13DA	FINE TO COARSE SAND																								
10							See boring log GZ-13DA	13.0'																								
15							See boring log GZ-13DA	FINE GRAVEL																								
20							See boring log GZ-13DA	29.0'																								
25							See boring log GZ-13DA	FINE TO COARSE SAND																								
30							See boring log GZ-13DA	FINE TO COARSE SAND																								
35							See boring log GZ-13DA	FINE TO COARSE SAND																								
40							See boring log GZ-13DA	FINE TO COARSE SAND																								

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-130

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611

GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-13D

SHEET 2 OF 5

FILE No. 50124.10
CHKD. BY ML

DEPTH H	C A S E S	SAMPLE				SAMPLE DESCRIPTION <u>Burmister CLASSIFICATION</u>	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	RE M A R K S
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
						See boring log GZ-13DA				
							SAND AND GRAVEL			
							43.5'			
45										
50										
55										
60										
65							FINE TO MEDIUM SAND			
70										
75										
80										
85										

REMARKS:

NOTES:

- 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
- 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-13D

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-13D
SHEET 3 OF 5
FILE No. 50724.10
CHKD. BY RL

DEPTH H	C B A S E S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
						See boring logs GZ-13DA				
90										
95										
100										
105										
110										
115										
120										
125										
130										

FINE TO
MEDIUM SAND

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

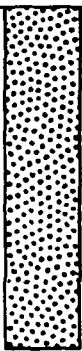
GZA

BORING No. GZ-13D

DEPTH	C A S E S	SAMPLE			SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
		No.	PEW./ REC.	DEPTH (Ft.)					
					See boring log GZ-13DA			None	
135									
140						FINE TO MEDIUM SAND			
145						144.0'			
						FINE TO COARSE SAND			
150						150.0'			
						FINE SAND AND SILT			
155						155.0'			
						SILT			
160						161.0'			
						FINE TO COARSE SAND			
165						167.0'			
						COBBLES			
170		S-31	50/16	170.0-175.0	Top 4": Fine to coarse GRAVEL. Bottom 12": Red-brown fine SAND, some Silt.				1
									2
						FINE TO COARSE GRAVEL			
175									

REMARKS:
1) No blow counts recorded.
2) Ten feet of 2-inch schedule 40, 10-slot pvc well screen set at approximately 162 to 172 feet below grade. Well completed with 2-inch schedule 40 pvc riser pipe to approximately 2 feet above grade. Quarry sand backfilled approximately 158 to 174 feet. Bentonite placed 135 to 158 and 174 to 185 feet below grade. Well capped with locking steel pipe cemented in place. Well developed for 6 hours. Grout installed from grade to 158 feet below grade.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

DEPTH	C A S E S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		C-1	60/33	176.0-181.0		Weathered Red-brown SANDSTONE.			None	
180							WEATHERED SANDSTONE			
		C-2	48/32	181.0-185.0		Red-brown SANDSTONE.	181.0'			
							SANDSTONE			
185										
190										
195										
200										
205										
210										
215										
220										

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-13DA
SHEET 1 OF 4
FILE No. 50124.10
CHKD. BY ML

BORING Co. Clarence Welter & Associates
FOREMAN Dave Bromley
GZA ENGINEER David Swetland

BORING LOCATION Menard's northeastern property boundary
GROUND SURFACE ELEVATION DATUM
DATE START 4/4/90 DATE END 4/9/90

SAMPLER: SAMPLER CONSISTS OF A 3" X 60" SPLIT WIRELINE CASING
ADVANCED INSIDE 4 INCH CASING

DRILLING METHOD: 4 INCH CASING SPUN WITH CHRISTIANSEN
SAMPLER

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME

DEPTH FT	C ASING NO.	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-1	60/36	0-5.0		Red-brown fine to medium SAND, little Silt.			a) 0.8/7.8 b) 0.8/1.4	1 2
5										
		S-2	60/30	5.0-10.0		Red-brown fine to coarse SAND, little fine Gravel, little Silt.	FINE TO COARSE SAND		a) 0.8/1.2 b) 0.8/1.8	
10										
		S-3	60/10	10.0-15.0		Red-brown fine to medium SAND, some fine Gravel, little Silt.			a) 0.9/1.1 b) 0.9/1.2	
15							13.0'			
		S-4	12/9	15.0-16.0		Red-brown fine GRAVEL, some medium Sand, little Silt.			a) 0.9/1.2	
		S-5	48/6	16.0-20.0		Red-brown fine GRAVEL, some medium Sand, little Silt.				
20										
		S-6	60/4	20.0-25.0		Red and gray, fine GRAVEL, trace fine Sand (fragments of volcanic tuff or altered conglomerate).	FINE GRAVEL		0.9/1.8	
25										
		S-7	60/4	25.0-30.0		Red and gray, fine GRAVEL, little fine Sand, trace Silt.			0.9/1.9	
30							29.0'			
			60/0	30.0-35.0		No recovery	FINE TO COARSE SAND			
35										
		S-8	60/4	35.0-40.0		Brown fine to coarse SAND, little Silt.			0.9/1.4	
40										

REMARKS:

- 1) Soil samples field screened for volatile organic compounds with 11.7 eV HNU Model PI-101 photoionization detector. 0.8/2.8=Total HNU reading/background value prior to reading. Letters denote specific soil jars screened.
- 2) No blow counts recorded.
ppm= parts per million

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-13DA

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-13DA
SHEET 2 OF 4
FILE No. 50124.10
CHKD. BY HL

DEPTH H	C A S E S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-9	60/18	40.0-45.0		Red-brown fine to coarse SAND, and fine GRAVEL, little Silt.	SAND AND GRAVEL		1.5/1.0	
45							43.5'			
			60/0	45.0-50.0		No recovery.			1.4/0.9	
50		S-10	50/10	50.0-55.0		Red-brown fine to medium SAND, some fine Gravel, little Silt.			2.2/0.8	
55		S-11	60/8	55.0-60.0		Red-brown fine to medium SAND, some fine Gravel, little Silt.			a) 1.6/0.8 b) 1.4/0.8	
60		S-12	60/26	60.0-65.0		Red-brown fine SAND, little Silt.	FINE TO MEDIUM SAND		a) 2.4/0.8 b) 2.4/1.0	
65		S-13	60/36	65.0-70.0		Red-brown fine SAND, some Silt.			a) 2.2/1.0 b) 1.8/0.8	
70		S-14	60/30	70.0-75.0		Red-brown fine SAND, some Silt.			a) 1.9/0.8 b) 1.0/0.9	
75		S-15	60/28	75.0-80.0		Red-brown fine SAND, little fine Gravel, Silt (Gravel mainly in bottom 4")			a) 1.7/0.8 b) 1.5/0.8	
80		S-16	60/24	80.0-85.0		Red-brown fine SAND, little Silt. (more cohesive in bottom 12").			a) 2.0/0.9 b) 1.6/0.8	
85										

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-13DA

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-130A
SHEET 3 OF 4
FILE No. 50T24.10
CHKD. BY ML

DEPTH	C B A L L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)v	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
90		S-17	60/18	85.0-90.0		Red-brown fine SAND, some Silt.	FINE TO MEDIUM SAND		1.7/1.0	
									1.8/1.0	
95		S-18	60/42	90.0-95.0		Red-brown fine SAND, little Silt, trace Clay.			2.0/1.0	
									3.2/1.0	
100		S-19	60/31	95.0-100.0		Red-brown fine SAND, little Silt, trace Clay.			2.8/1.0	
									3.0/1.0	
105			60/0	100.0-105.0		No recovery.				
110		S-20	60/12	105.0-110.0		Red-brown fine to medium SAND, little Silt.			8.0/1.2	
115		S-21	60/36	110.0-115.0		Red-brown fine to medium SAND, little Silt. (some thin layers of fine SAND and SILT).			2.4/1.2	
120		S-22	60/50	115.0-120.0		Red-brown fine SAND, some Silt.			a) 3.0/1.2 b) 2.0/1.2	
125			60/0	120.0-125.0		No recovery.				
130		S-23	60/12	125.0-130.0		Red-brown fine SAND, little Silt			3.6/1.2	

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-130A

DEPTH	C B L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
135		S-24	60/26	130.0-135.0		Red-brown fine SAND, some Silt.			a) 1.2/1.2 b) 1.0/1.0	
140		S-25	60/18	135.0-140.0		Red-brown fine SAND, little Silt.	FINE TO MEDIUM SAND		3.6/1.2	
145		S-26	60/20	140.0-145.0		Red-brown fine SAND, little Silt.			4.6/1.2	
150							144.0'		3.6/1.2	
		S-27	60/11	145.0-150.0		Red-brown fine to coarse SAND, some Silt, trace fine Gravel.	FINE TO COARSE SAND			
155		S-28	60/24	150.0-155.0		Red-brown fine SAND and SILT.	150.0'		a) 4.0/1.9 b) 2.8/1.3	
							FINE SAND AND SILT			
160		S-29	60/20	155.0-160.0		Red-brown SILT, some CLAY (4" layer of fine to medium GRAVEL and fine SAND).	155.0'		a) 3.6/1.0 b) 4.2/1.0	3
							SILT			
165		S-30	60/40	160.0-165.0		Top 12": Red-brown SILT and fine SAND. Bottom 28": Gray fine to coarse SAND, trace Silt.	161.0'		4.0/0.9	
							FINE TO COARSE SAND			
170		C-1	24/6	165.0-167.0	.25 min.	Red-brown fine to coarse SAND, little Silt.				4
		C-2	36/6	167.0-170.0		Red-brown COBBLES.	167.0'			5
175		C-3	36/0	170.0-173.0		No recovery.	COBBLES			6
							173.0' E.O.B.			

REMARKS:
3) Took cation exchange capacity sample from 155-160 feet below grade.
4) At 167.0' sample barrel plugged.
5) Plugged casing prevented further sampling, hole abandoned, grouted to surface.
6) RQD 10% at rock interval 176'-181'.
RQD 63% at rock interval 181'-185'.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-14S
SHEET 1 OF 1
FILE No. 50724.10
CHKD. BY ML

BORING Co. Clarence Welter & Associates
FOREMAN Dave Bromley
GZA ENGINEER David Swetland

BORING LOCATION Southwestern corner of Chuck & Eddie's property
GROUND SURFACE ELEVATION 176.6 DATUM 178.29
DATE START 5/4/90 DATE END 5/4/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 60" SPLIT
SPOON DRIVEN USING A 300 lb. HAMMER FALLING 30 in.

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
5/4/90	1200	32.9' below PVC		1.5 hours

DRILLING METHOD: 3 3/4" HSA

DEPTH Feet	C A S I N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
						See boring log GZ-14D.			None	
5										
10										
15										
20							SAND			
25										
30		S-1	60/37	30.0-36.0		Top 10": Red-brown fine to coarse SAND, some fine Gravel, trace Silt. Middle 10": Lt. gray fine to medium SAND, trace Silt. Bottom 17": Red-brown fine to medium SAND, little Silt.				1 2
35										3
37							36' E.O.B.			

- REMARKS:
- 1) Sampled for physical parameters at 30-35 feet below grade.
 - 2) Sample wet at approximately 30 feet below grade.
 - 3) Ten feet of 2-inch schedule 40, 10-slot pvc well screen set at approximately 26 to 36 feet below grade. Well completed with 2-inch, schedule 40, threaded, flush-joint pvc riser to approximately 2 feet above grade. No. 12 quartz sand placed around well from approximately 23 to 36 feet. Bentonite seal 21 to 23 feet. Well annulus backfilled with bentonite/cement grout. Well capped with locking steel pipe cemented in place. Well developed for 6 hours.
 - 3) Boring ended at approximately 36 feet below grade. No blow counts recorded.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-14S

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-14M
SHEET 1 OF 3
FILE No. 50T24.10
CHKD. BY ML

BORING Co. Clarence Welter & Associates
FOREMAN Dave Bromley
GZA ENGINEER David Swetland

BORING LOCATION southwestern corner of Chuck & Eddie's property
GROUND SURFACE ELEVATION 178.5 DATUM 178.11
DATE START 5/1/90 DATE END 5/3/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 60" SPLIT
SPOON DRIVEN USING A 300 lb. HAMMER FALLING 30 in.

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
5/3/90		30.6'	Out	1 Day

DRILLING METHOD: 4 INCH CASING SPUN WITH CHRISTIANSEN
SAMPLER. CASING POUNDED WITH 600 LB.
HAMMER AFTER CIRCULATION LOST AT 70'

DEPTH FT	C A S I N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HMU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
						See boring log GZ-140.				1
5										
10										
15										
20							SAND			
25										
30										
35										
40										

REMARKS:
1) Soil samples field screened for volatile organic compounds with 11.7 eV HMU Model PI-101 photoionization detector.
4.2/0.8=Total reading/background value prior to reading. Letters denote specific soil jars screened.
ppm= parts per million.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA BORING No. GZ-14M

DEPTH FEET	C B L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
45		S-1	60/36	45.0-50.0		Top 12": Red-brown, fine to coarse GRAVEL, trace Silt. Bottom 24": Fine to medium SAND, trace Silt.			1.8/1.8	2
50		S-2	48/24	50.0-55.0		Red-brown fine to medium SAND, trace Silt.			1.7/1.7	
55		S-3	60/20	55.0-60.0		Red-brown fine to medium SAND, trace Silt.			1.8/1.8	
60		S-4	50/25	60.0-65.0		Red-brown fine SAND, little Silt.	SAND		4.2/0.8	
65										
70										
75										
80		S-5	50/28	80.0-85.0		Top 16": Brown, plastic SILT and CLAY. Bottom 12": Brown fine SAND, little Silt, little fine Gravel.	77.0' SILT AND CLAY 82.0' SAND		4.0/1.0 0.9/1.0	3
85										

REMARKS:
2) No blow counts recorded.
3) At 81.0' sample collected for cation exchange capacity.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-14M

DEPTH (Feet)	CORRECTIONS	SAMPLE			SAMPLE DESCRIPTION <u>Burmister</u> CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)					
						SAND			4
						87.0'		a)3.2/1.0 b)3.0/1.0	
90		S-6	48/18	88.0-92.0	Red-brown, fine SAND and SILT, little Clay.	SAND AND SILT			
95									5
100									
105									
110									
115									
120									
125									
130						95.5' E.O.B.			

REMARKS:
4) Sample for physical parameters collected from 88 to 92 feet below grade. No blowcounts recorded.
5) Ten feet of 2-inch, schedule 40, 10-slot, pvc well screen set at approximately 85 to 95 feet below grade.
Well completed with 2-inch, schedule 40, threaded, flush-joint pvc riser to approximately 2 feet above grade.
No. 12 sand placed around well from approximately 78 to 95 feet. Bentonite seal 76 to 78 feet.
Well annulus backfilled with bentonite/cement grout. Well capped with locking steel pipe cemented in place.
Well developed for 12 hours.

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-140
SHEET 1 OF 4
FILE No. 50T24.10
CHKD. BY ML

BORING Co. Clarence Welter & Associates
FOREMAN Dave Bromley
GZA ENGINEER David Swetland

BORING LOCATION Southwestern corner of Chuck & Eddie's property
GROUND SURFACE ELEVATION 176.3 DATUM 177.90
DATE START 4/25/90 DATE END 5/1/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 60" SPLIT
SPOON DRIVEN USING A 300 lb. HAMMER FALLING 30 in.
DRILLING METHOD: 4 INCH CASING SPUN USING A CHRISTIANSEN
SAMPLER.

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
5/1/90		31.5'	out	2 hours

DEPTH FT	C ASING NO.	B LOW S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HMU (ppm)	RE MARKS
			No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
			S-1	48/24	0.1-5.0		Red-brown, fine to coarse SAND, trace Silt.			0.6/0.6	1
5			S-2	60/30	5.0-10.0		Red-brown, fine to medium SAND, trace Silt.			0.6/0.6	
10			S-3	60/30	10.0-15.0		Red-brown, fine to medium SAND, trace Silt.			0.5/0.5	
15			S-4	60/36	15.0-20.0		Top 18": Red-gray fine to coarse SAND, trace Silt, Gravel. Bottom 18": Red-gray fine SAND, little Silt.			0.5/0.5	
20			S-5	60/34	20.0-25.0		Red-gray fine SAND, trace Silt.	SAND		0.5/0.5	
25			S-6	60/35	25.0-30.0		Red-gray fine SAND, trace Silt.			0.4/0.4	
30			S-7	60/22	30.0-35.0		Red-brown fine to medium SAND, little Silt.			0.4/0.4	3
35			S-8	60/34	35.0-40.0		Red-brown fine to medium SAND, little Silt.			0.4/0.4	
40											

REMARKS:

- 1) Soil samples field screened for volatile organic compounds with 11.7 eV HMU Model PI-101 photoionization detector. 0.6/0.6=total HMU reading/background value prior to reading. Letters denote specific soil jars screened.
- 2) No blow counts recorded.
- 3) Sample wet at approximately 30 feet below ground surface.
ppm= parts per million.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-140

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-14D
SHEET 2 OF 4
FILE No. 50124.10
CHKD. BY RL

DEPTH H	C A S E S	B L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
			No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
			S-9	60/22	40.0-45.0		Red-brown fine SAND, little Silt.				
45				60/0	45.0-50.0		No recovery.				
50				60/0	50.0-55.0		No recovery.				
55				60/0	55.0-60.0		No recovery.	SAND			
60				60/0	60.0-65.0		No recovery.			0.6/0.6	
65			S-10	60/22	65.0-70.0		SAND, some Silt.			0.5/0.5	
70			S-11	60/20	70.0-75.0		SAND, some Silt, fine Gravel.			a) 3.2/1.0 b) 3.6/0.8	
75			S-12	60/20	75.0-80.0		Top 12": Red-brown fine SAND, little Silt. Bottom 8": SILT, some fine Sand, little Clay.	77.0'			
80				60/0	80.0-85.0		No recovery.	SILT			
85								82.0' SAND			

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-14D

DEPTH - FT -	C AS N G S	B L O W S	SAMPLE			SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
			No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"				
				60/0	85.0-90.0		SAND			
							87.0'			
90			S-13	60/29	90.0-95.0	Brown SILT and CLAY, little fine Sand.	SILT AND CLAY		13.2/1.0	
95			S-14	60/50	95.0-100.0	Brown SILT and fine SAND.	95.0'		3.2/0.6	
100			S-15	60/35	100.0-105.0	Brown fine SAND and SILT, little CLAY.	SILT AND SAND		1.8/0.6	
105			S-16	60/20	105.0-110.0	Brown fine SAND and SILT, little CLAY.			1.7/0.6	
110			S-17	60/45	110.0-115.0	Top 12": Brown SILT and CLAY, little fine SAND. Bottom 33": SAND and SILT, little Clay.	109.0' SILT AND CLAY		2.6/0.7	
							111.0' SAND AND SILT			
115			S-18	60/37	115.0-120.0	Brown fine SAND, some Silt, little Clay.	115.0' SAND		3.0/0.7	4
120				60/0	120.0-125.0	No recovery.	119.0' SAND AND SILT			
125			S-19	60/60	125.0-130.0	Brown fine SAND and SILT, trace Clay.			3.4/0.7	
130										

REMARKS:
4) Drilled through hard sediment or rock 117'-119'.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-14D

DEPTH Ft.	C B L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
		S-20	60/32	130.0-135.0		Brown fine SAND, some silt, trace Clay.	SAND		4.6/0.7	
135							134.0'		4.8/0.7	
		S-21	60/4	135.0-140.0		Brown fine SAND and SILT, trace Clay.				
140							SAND AND SILT		4.2/0.6	
		S-22	60/32	140.0-145.0		Brown fine SAND and SILT.				
145										
		S-23	60/30	145.0-150.0		Top 16": Brown SAND and SILT. Middle 6": Fine SAND and SILT, some broken Rock Fragments. Bottom 8": Weathered, gray, SANDSTONE.				
							148.0'			
150							WEATHERED SANDSTONE			
		C-1	60/38	151.0-156.0		Top 6": Brown, fine to medium SAND and GRAVEL, some silt. Bottom 3": Red SANDSTONE.				
							152.0'			
155							RED SANDSTONE			
							156.0' E.O.B.			
160										
165										
170										
175										

REMARKS:
5) Ten feet of 2-inch schedule 40, 10-slot pvc well screen set at approximately 135 to 145 feet below grade. Well completed with 2-inch, schedule 40, threaded, flush-joint pvc riser to approximately 2 feet above grade. No. 18 mystic white sand around well from approximately 130 to 148 feet. Hole collapsed 148 to 156 ft. below grade. Bentonite seal 130 to 120 feet. Well annulus backfilled with bentonite/cement grout. Well capped with locking steel pipe cemented in place. Well developed for 10 hours.
6) ROD 14" at rock interval 151'-156'.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA BORING No. GZ-14D

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT
Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-17M
SHEET 1 OF 2
FILE No. 50T24.10
CHKD. BY ML

BORING Co. Clarence Welter & Associates
FOREMAN Don Hoodie
GZA ENGINEER Linda McKee

BORING LOCATION 7 feet west of GZ-17D
GROUND SURFACE ELEVATION 155.2 DATUM 157.13
DATE START 4/4/90 DATE END 4/5/90

SAMPLER: SAMPLER CONSISTS OF A 2" X 24" SPLIT
SPOON DRIVEN USING A 300 lb. HAMMER FALLING 30 in.

GROUNDWATER READINGS

DATE	TIME	WATER	CASING	STABILIZATION TIME
4/4/90	1230	11'	15'	0 hours
4/13/90	0810	10'	out	9 days

DRILLING METHOD: 3 3/4" HSA OTHER:

DEPTH H	C A S I N G S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
5						See boring log LW-17D	FINE TO COARSE SAND			1
10						See boring log LW-17D	FINE TO COARSE SAND			1
15						See boring log LW-17D	FINE TO COARSE SAND			1
20						See boring log LW-17D	FINE TO COARSE SAND			1
25						See boring log LW-17D	FINE TO COARSE SAND			1
30						See boring log LW-17D	FINE TO COARSE SAND			1
35						See boring log LW-17D	FINE TO COARSE SAND			1
40						See boring log LW-17D	37.0' SAND AND GRAVEL			1

REMARKS:
1) Sample wet at approximately 11 feet below ground surface.

NOTES:
1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER
MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

DEPTH FT	C A S E S	SAMPLE				SAMPLE DESCRIPTION <u>Burmister CLASSIFICATION</u>	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
						See boring log LW-17D for description	SAND AND GRAVEL			2
45							43.0'			
50							FINE SAND			
55		S-1	24/10	55.0-57.0		Red-brown fine SAND, little Silt.			1.8/1.6	
60							60.0' E.O.B.			3
65										4
70										
75										
80										
85										

- REMARKS:
- Soil sample field-screened for volatile organic compounds with 11.7 eV HNU Model PI-101 photoionization detector.
 - 1.8/1.6=Sample HNU value/background HNU value prior to reading. ppm = parts per million
 - Ten feet of 2-inch Schedule 40, threaded flush-joint, 10-slot pvc well screen set at approximately 59 feet below grade. Well completed with 2-inch schedule 40, 10-slot pvc riser pipe to approximately 2 feet above grade. No. 12 quartz sand placed around well from 45 to 60 feet below grade. Bentonite seal (pellets) placed around well from 40 to 45 feet. Well annulus from approximately 3 to 40 feet backfilled with bentonite/cement grout. Well capped with locking steel pipe cemented into place. Well developed for approximately 1 hour.
 - Boring ended at approximately 60 feet below grade. No blow counts recorded.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GOLDBERG-ZOINO & ASSOCIATES, INC. 204 SPRING HILL ROAD, TRUMBULL, CT 06611 GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS						PROJECT <u>Old Southington Landfill</u> <u>Southington, Connecticut</u>						REPORT OF BORING No. <u>GZ-17D</u> SHEET <u>1</u> OF <u>3</u> FILE No. <u>50724.10</u> CHKD. BY <u>ML</u>									
BORING Co. <u>Clarence Welti & Associates</u> FOREMAN <u>Don Moody</u> GZA ENGINEER <u>Linda McKee</u>						BORING LOCATION <u>5 feet west of LW-17D</u> GROUND SURFACE ELEVATION <u>155.3</u> DATUM <u>157.25</u> DATE START <u>4/2/90</u> DATE END <u>4/4/90</u>															
SAMPLER: SAMPLER CONSISTS OF A 2" X 24" SPLIT SPOON DRIVEN USING A 300 LB. HAMMER FALLING 30 In.												GROUNDWATER READINGS									
												DATE		TIME		WATER		CASING		STABILIZATION TIME	
												4/4/90		1405		10'		15'		0 hours	
												4/13/90		0810		10.2'		out		9 days	
DRILLING METHOD: 3 3/4" HSA																					
DEPTH	C A S I N G S	B L O W S	SAMPLE				SAMPLE DESCRIPTION				STRATUM		EQUIPMENT		FIELD		REMARKS				
			No.	PEN./REC.	DEPTH (Ft.)	BLOWS/6"	<u>Burmister CLASSIFICATION</u>				DESCRIPTION		INSTALLED		TESTING						
								See boring log LW-17D for description.				FINE TO COARSE SAND						1			
5																					
10																					
15																					
20																					
25																					
30																					
35																					
40												37.0' SAND AND GRAVEL									
REMARKS: 1) Sample wet approximately 10 feet below ground surface.																					
NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL. 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE																					
GZA																					
BORING No.GZ-17D																					

GOLDBERG-ZOINO & ASSOCIATES, INC.
204 SPRING HILL ROAD, TRUMBULL, CT 06611
GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

GEOTECHNICAL/GEOHYDROLOGICAL CONSULTANTS

PROJECT

Old Southington Landfill
Southington, Connecticut

REPORT OF BORING No. GZ-170
SHEET 2 OF 3
FILE No. 50124.10
CHKD. BY ML

OF BOOKING NO. 52-178
SHEET 2 OF 3
FILE NO. 50T24.10
CHKD. BY ML

[illegible]

REMARKS:

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

GZA

BORING No. GZ-17D

DEPTH (Feet)	C B L O W S	SAMPLE				SAMPLE DESCRIPTION Burmister CLASSIFICATION	STRATUM DESCRIPTION	EQUIPMENT INSTALLED	FIELD TESTING HNU (ppm)	REMARKS
		No.	PEN./ REC.	DEPTH (Ft.)	BLOWS/6"					
90										
95										
		S-1	24/18	95.0-97.0		Red-brown fine SAND, little Silt.			7.2/4.8	2
100										
		S-2	18/16	100.0/101.5		Red-brown fine SAND, little Silt.			5.6/4.2	3
105										
110										
115										
120										
125										
130										

- REMARKS:
- Soil samples field screened for volatile organic compounds with 11.7 eV HNU Model PI-101 photoionization detector.
 - 7.2/4.8 = Total HNU reading/background value prior to reading. ppm = parts per million
 - Ten feet of 2-inch Schedule 40 10-slot pvc well screen set at approximately 99 feet below grade. Well completed with 2-inch schedule 40 threaded flush-joint pvc riser to approximately 1.5 feet above ground surface. No. 12 quartz sand placed around the well from approximately 84 to 101.5 feet. Bentonite pellets placed around the well from 79.5 to 84 feet. Well annulus backfilled with bentonite/cement slurry. Well capped with locking steel pipe cemented in place. Well developed for approximately 1 hour and 20 minutes.
 - Boring ended at approximately 101.5 feet below ground surface. No blow counts recorded.

NOTES: 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES. TRANSITIONS MAY BE GRADUAL.
2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE

GZA

BORING No. GZ-17D



APPENDIX E

AQUIFER CHARACTERISTICS/HYDRAULIC CONDUCTIVITY DATA

APPENDIX E

AQUIFER CHARACTERISTICS/HYDRAULIC CONDUCTIVITY DATA

A 72-hour pump test was conducted at former Municipal Well No. 5 during the period from April 29, 1987 through May 2, 1987 to assess the behavior of the study area aquifer under pumping conditions. This test was performed in conjunction with the sampling program of on-site monitor wells and within the specifications defined within the DEP Discharge Permit (DEP/WPC-131-120)⁽²³⁾.

The discharge rate of the pump test was approximately 650 gallons per minute (gpm) as recorded by a BIF Venturi type flow recorder. Prior to testing, the Venturi Meter was calibrated and tested for accuracy by both BIF and Goldberg-Zoino. Water was discharged to the sanitary sewer system located about 500 feet west of the pumping well. Periodic measurements were taken at the pumping well and the following observation wells:

CW-20	TW-18
CW-15	TW-17
LW-103S	LW-17D
LW-103M	B-1
LW-103D	B-2
LW-15S	B-3
LW-15M	GZ-4S
LW-15D	GZ-4M
	GZ-4D

Prior to initiation of testing, static water levels were taken from surrounding monitor wells. Water levels throughout the test were measured in approximately one-hour intervals using an electric water level indicator; no measurements were taken between 1:00 AM and 5:00 AM throughout the test. Water level measurements were taken from similar reference points located on the pumping and monitor wells throughout the test.

Based upon groundwater measurements taken at the conclusion of the test, Figure 4 was drawn. This figure depicts the cone of depression established in the shallow water table by pumping at a continuous rate of about 650 gpm. At approximately 72 hours after pumping began, drawdown in the observation and pumping well had approached stabilization. A maximum drawdown of 12.7 feet was measured in Municipal Well No. 5 while a maximum drawdown of 0.3 feet was measured in GZ-4D, the most distant observation well measured.

Figure 4 depicts a radius of influence of approximately 1100-1500 feet from former Municipal Well No. 5. Distance-drawdown calculations indicate a maximum cone of depression of approximately

1550 feet at stabilization. Greater pumping rates could increase the radius of cone of depression. As shown on Figure 4, pumpage of this former water supply well establishes a northwestern groundwater flow pattern toward the pumping well beneath the northern part of the study area. No interference due to pumpage of the Lori Well Corporation was evident during the pump test.

Aquifer transmissivity is likely on the order of 140,000 gpd/ft, as calculated using a distance-drawdown relationship as stated by Cooper and Jacob⁽¹¹⁾. This high transmissivity is typical for unconfined sand and gravel aquifers with large saturated thicknesses and is similar to results of past testing of former Municipal Well No. 5 by others. A transmissivity of 100,000 gpd/ft was reported from testing performed in 1970 using similar methodology⁽¹⁰⁾.

Water samples were taken from the pumping well discharge at approximately four hour intervals throughout the test. These samples were screened for volatile organic compounds at the Goldberg-Zoino Environmental Chemistry Laboratory located in Newton, Massachusetts using a gas chromatograph. No volatile organic compounds were detected in any of the samples throughout the test.

Hydraulic conductivities of on-site materials were estimated in the past using pump test data, described above, sieve analyses and the equilibrium well equation. As part of site characterizations described in this report, estimates of hydraulic conductivity have been refined. Data developed from the pump test is summarized here and referred to in later sections.

Hydraulic conductivity was estimated by dividing the calculated transmissivity by the saturated overburden thickness. This method indicates an average hydraulic conductivity of 2900 gpd/ft² for the on-site saturated overburden.

The equilibrium well equation assumes that the cone of depression created by the pumping well has reached its maximum extent. Using this empirical equation, a hydraulic conductivity of approximately 920 gpd/ft² was calculated.

Calculations

HYDRAULIC CONDUCTIVITY (K)

Estimation of k using transmissivity ÷ Aquifer thickness

$$\begin{array}{l} \text{At CW-20} \\ K = 171600 \text{ gpd/ft} \times \frac{1}{50.5 \text{ ft}} = 3400 \text{ gpd/ft}^2 \end{array}$$

$$\begin{array}{l} \text{At CW-15} \\ K = 171600 \text{ gpd/ft} \times \frac{1}{59 \text{ ft}} = 2900 \text{ gpd/ft}^2 \end{array}$$

$$\begin{array}{l} \text{At LW-103D} \\ K = 188000 \text{ gpd/ft} \times \frac{1}{75 \text{ ft}} = 2500 \text{ gpd/ft}^2 \end{array}$$

Average 933 gpd/ft²
Minimum 2500 gpd/ft²
Maximum 3400 gpd/ft²

Estimation of K using $K = \frac{Ad^2}{10}$ from sieve analysis

$$\text{GZ-1 } K = 1(0.035)^2 = 1.23 \times 10^{-3} \frac{\text{cm}}{\text{s}} = 1.23 \times 10^{-5} \text{ m/s} = 26.1 \text{ gpd/ft}^2$$

$$\text{GZ-2 } k = 1(0.055)^2 = 3.03 \times 10^{-3} \frac{\text{cm}}{\text{s}} = 3.03 \times 10^{-5} \text{ m/s} = 64.2 \text{ gpd/ft}^2$$

$$\text{GZ-3 } K = 1(0.02)^2 = 4 \times 10^{-4} \frac{\text{cm}}{\text{s}} = 4 \times 10^{-6} \text{ m/s} = 8.5 \text{ gpd/ft}^2$$

$$\text{GZ-4 } K = 1(0.019)^2 = 3.6 \times 10^{-4} \frac{\text{cm}}{\text{s}} = 3.6 \times 10^{-6} \text{ m/s} = 7.6 \text{ gpd/ft}^2$$

Average 26.6 gpd/ft²
Minimum 7.6 gpd/ft²
Maximum 64.2 gpd/ft²

Estimation using equilibrium well equation at location Municipal Well No. 5.

$$K = \frac{Q(1055) \log \frac{R}{G^2 - h^2}}{(54^2 - 13^2)} = \frac{650(1055) \log \frac{1550}{.33}}{(54^2 - 13^2)} = 916 \text{ gpd/ft}^2$$

CALCULATIONS

Transmissivity

Estimated Transmissivity as calculated using the
Modified - non equilibrium equation, Cooper & Jacob (1946)

$$T = \frac{264Q}{\Delta s}$$

Q = 650 gpm

Δs = Drawdown over one log cycle

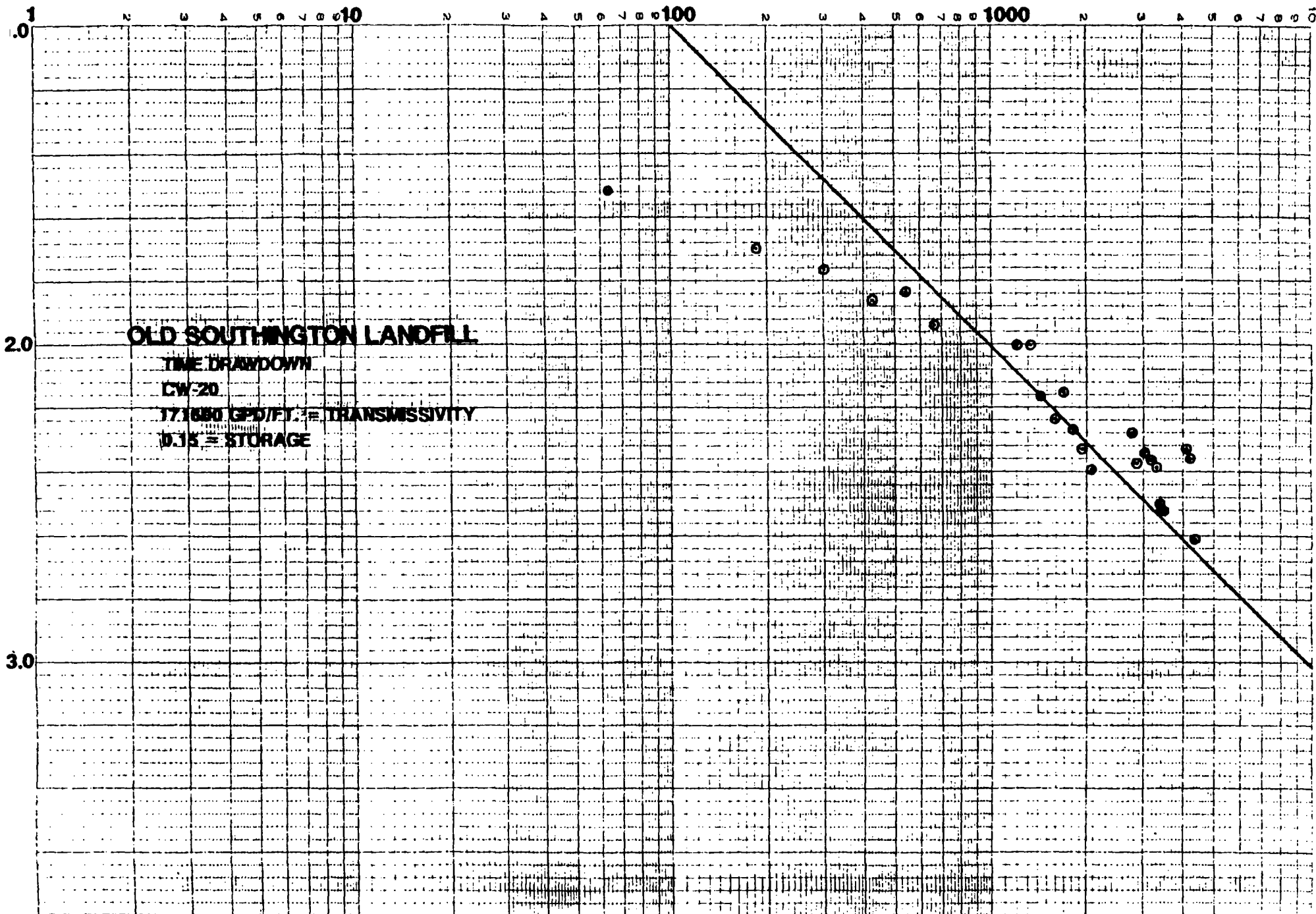
T = Transmissivity

GPD/ft = Gallons Per Day Per Foot

As Calculated using the distance drawdown relationship

$$T = 140,000 \text{ gpd/ft}$$

T (MINS)



OLD SOUTHTON LANDFILL

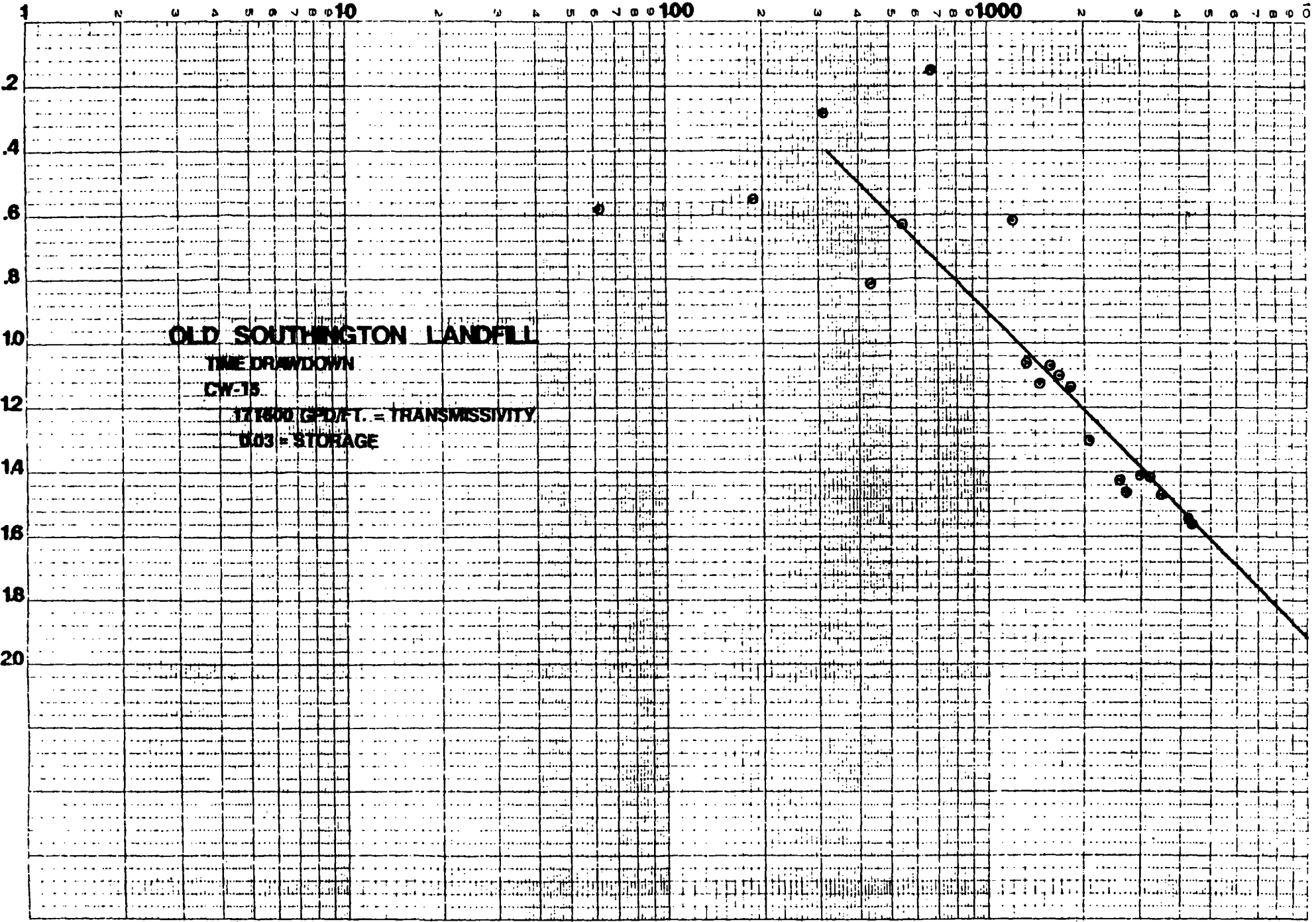
TIME DRAWDOWN

CW-20

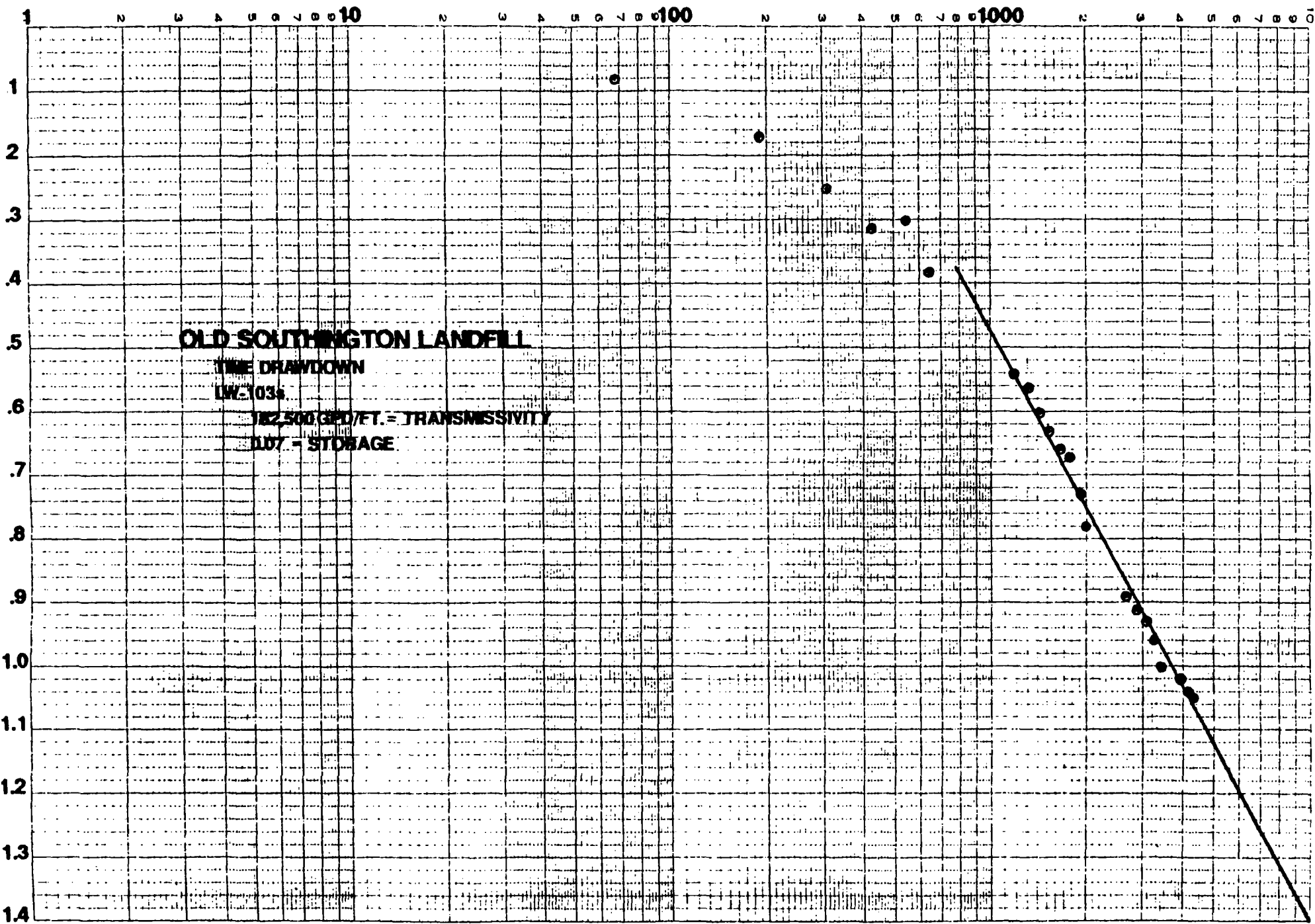
171680 GPD/FT. = TRANSMISSIVITY

0.15 = STORAGE

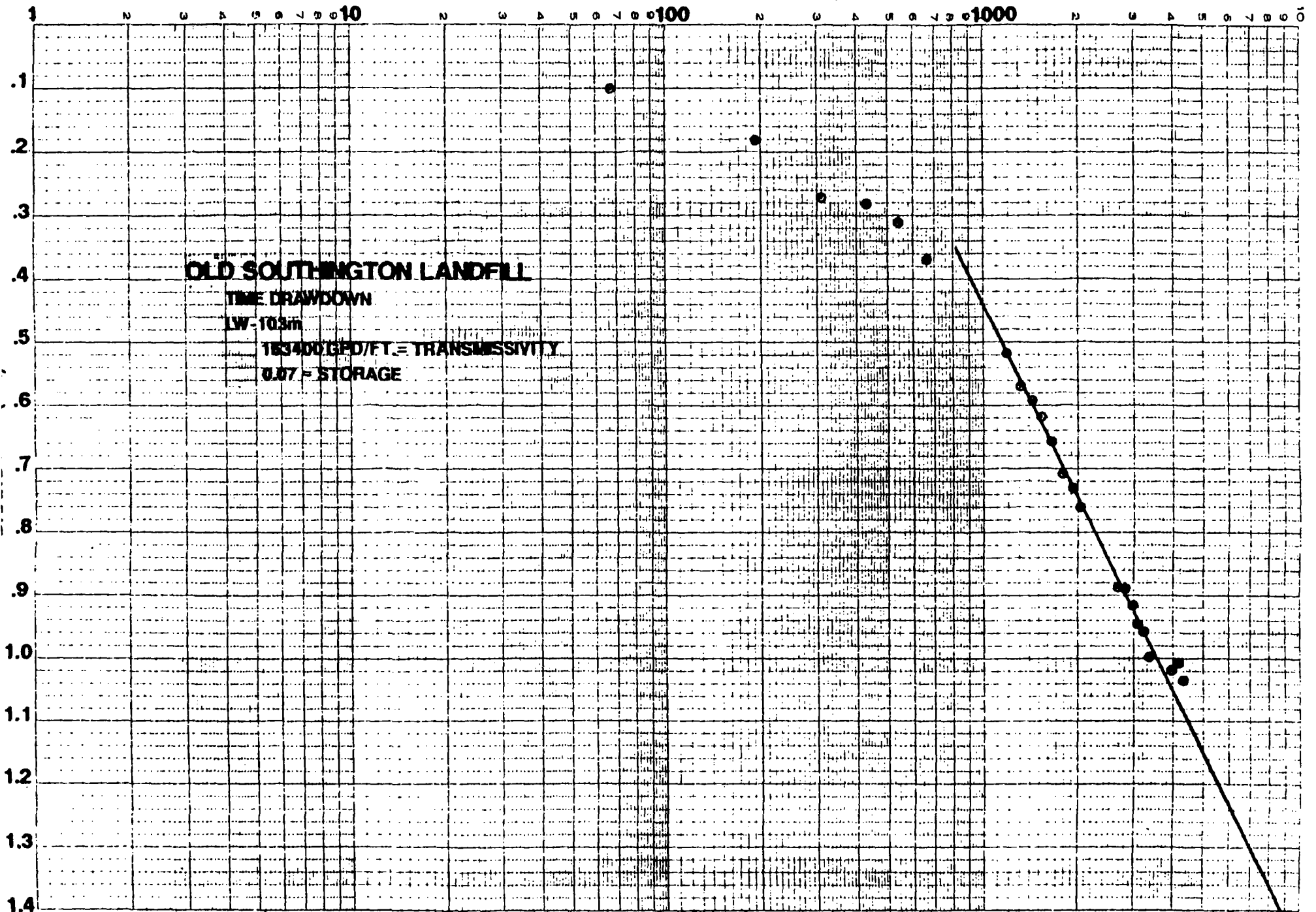
TIME (MINS)



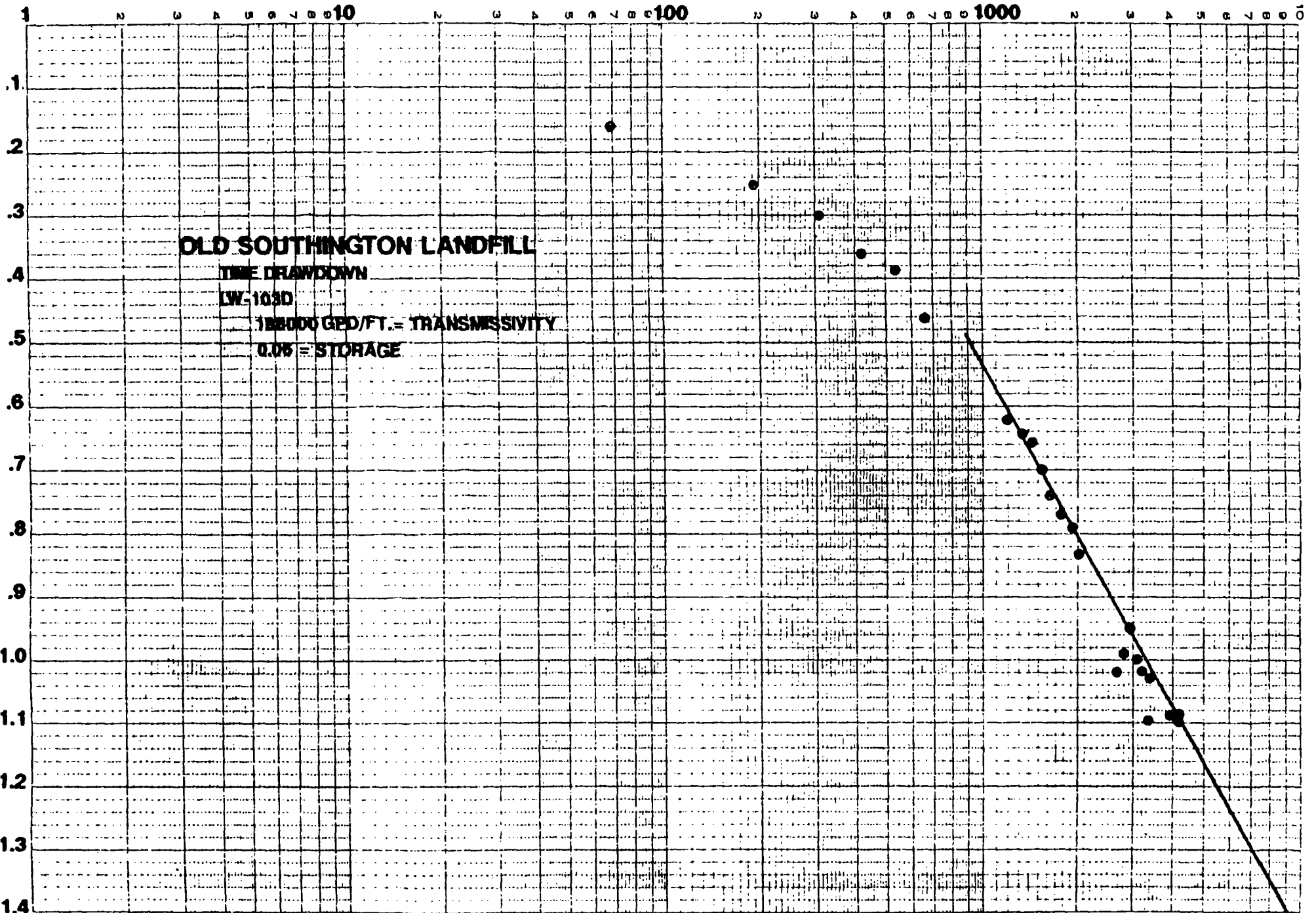
TIME (MINS)



TIME (MINS)



TIME (MINS)



TIME (MINS)

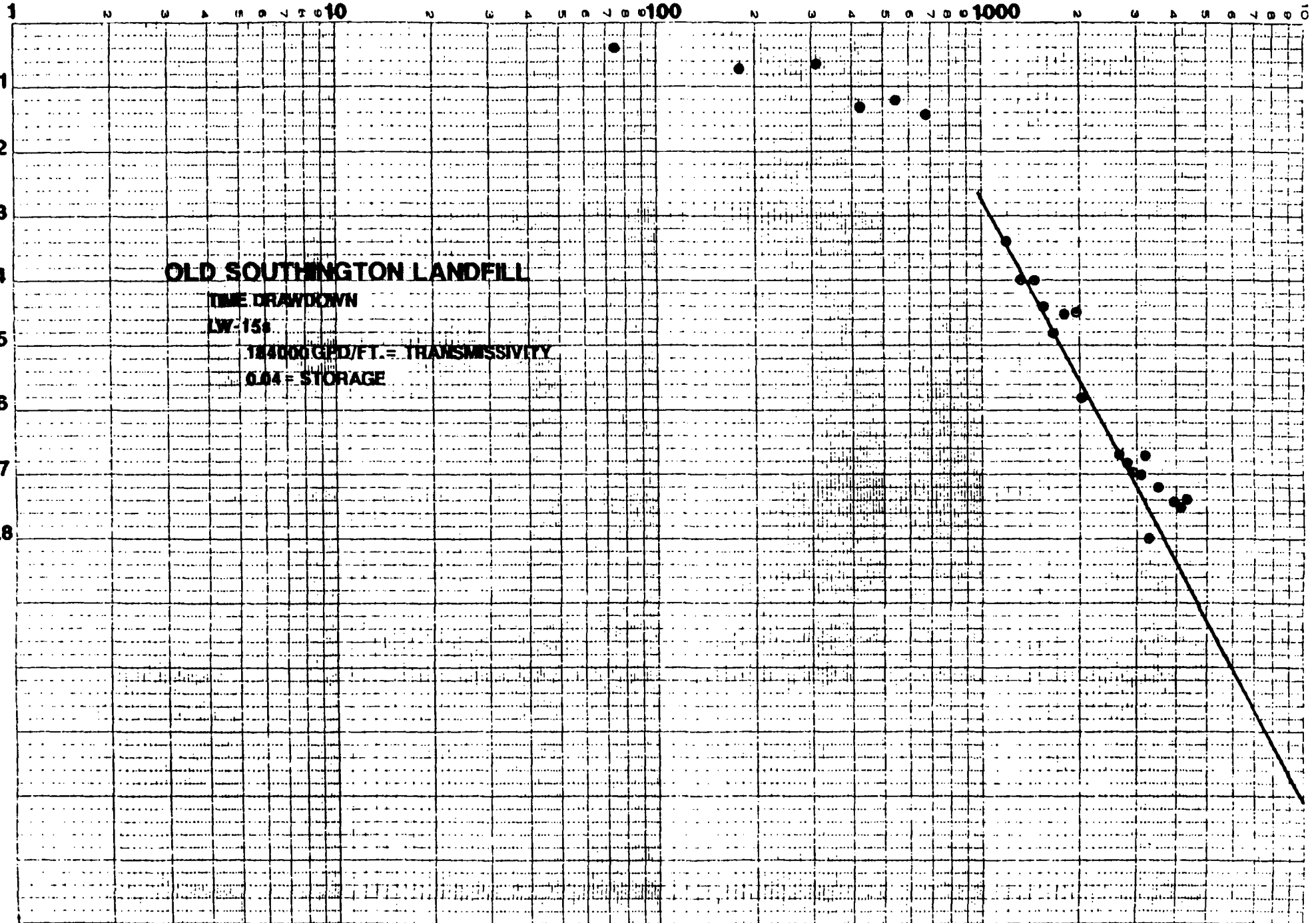
OLD SOUTHTON LANDFILL

TIME DRAWDOWN

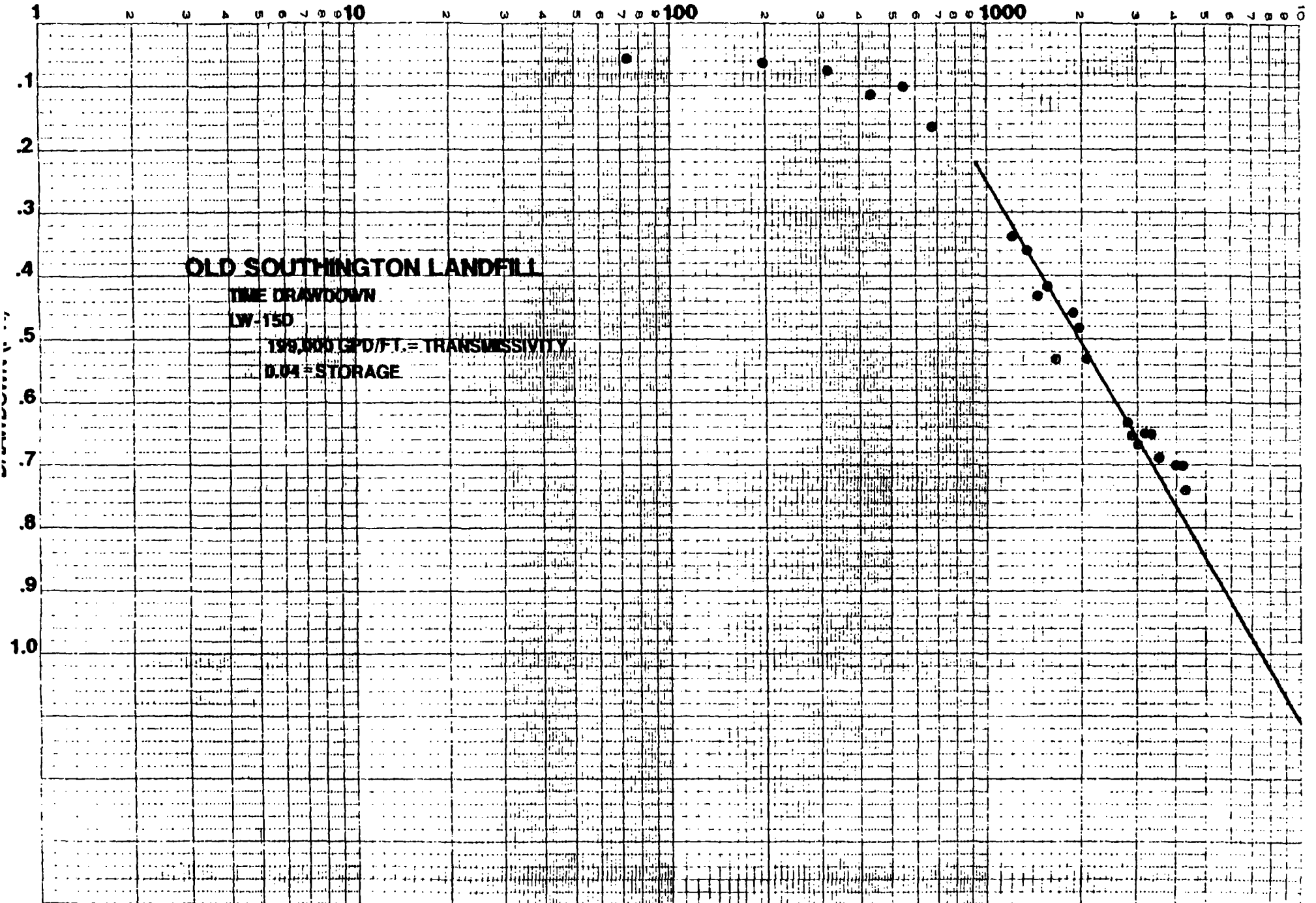
LW-156

184000 GPD/FT. = TRANSMISSIVITY

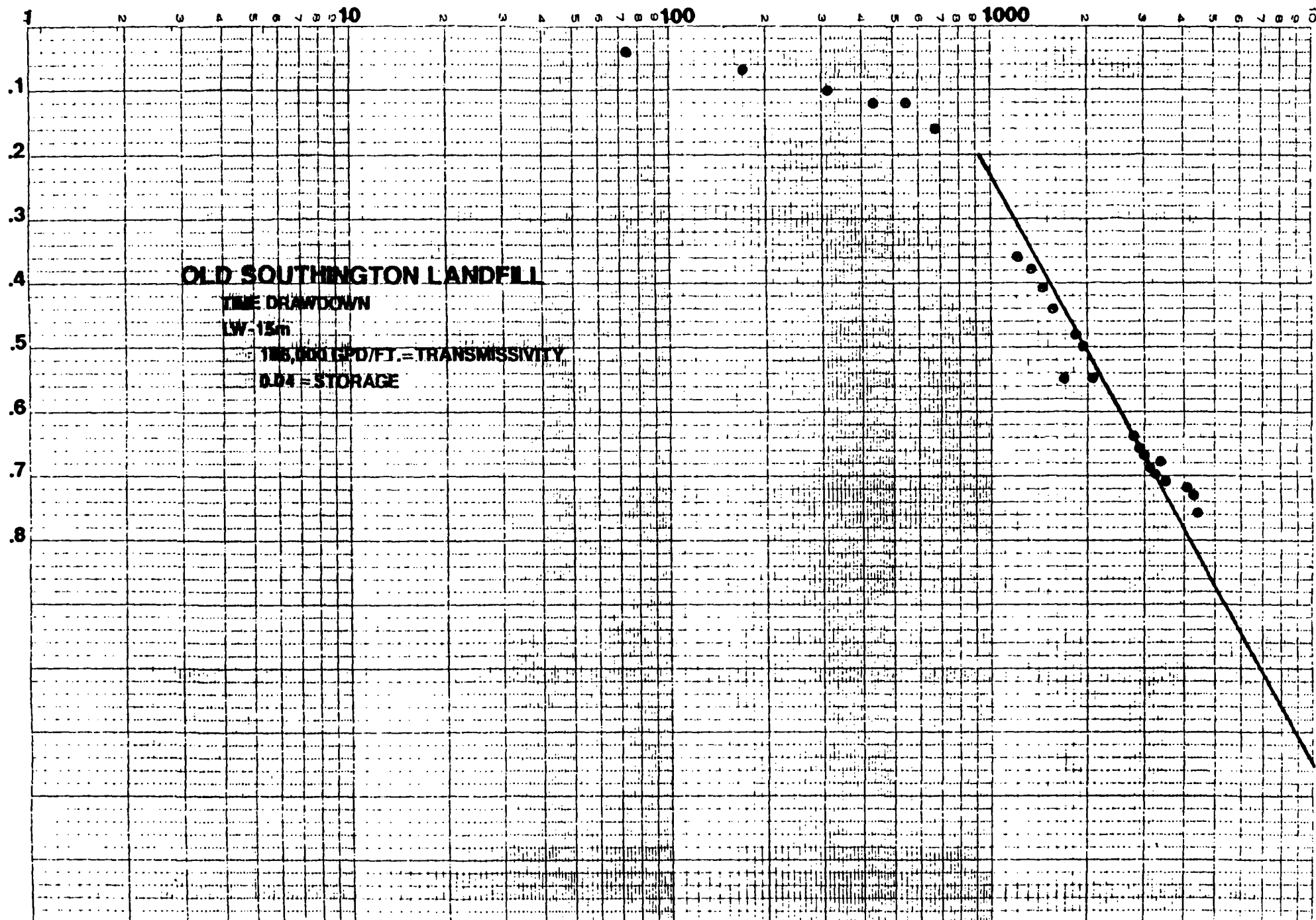
0.04 = STORAGE



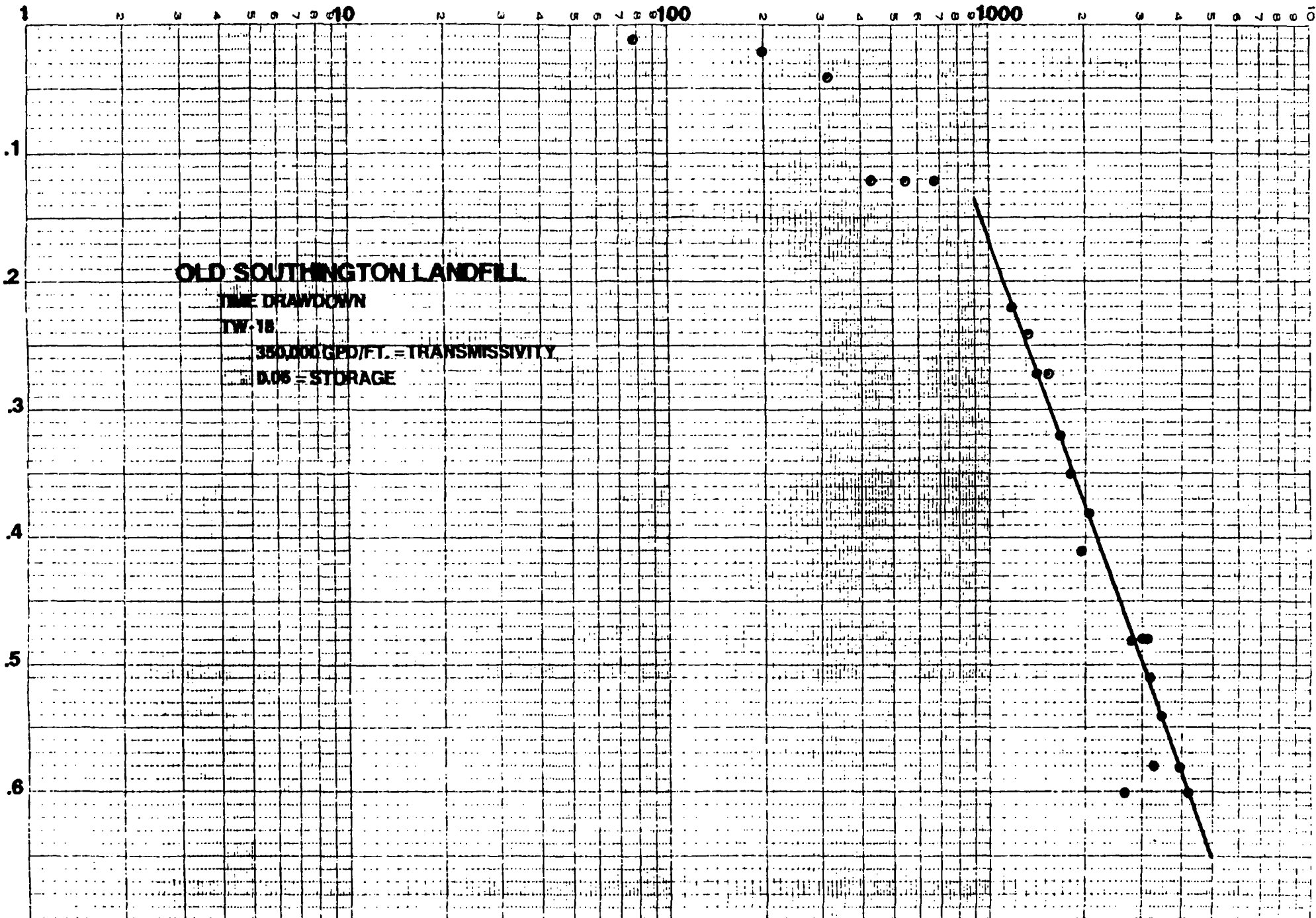
TIME (MINS)



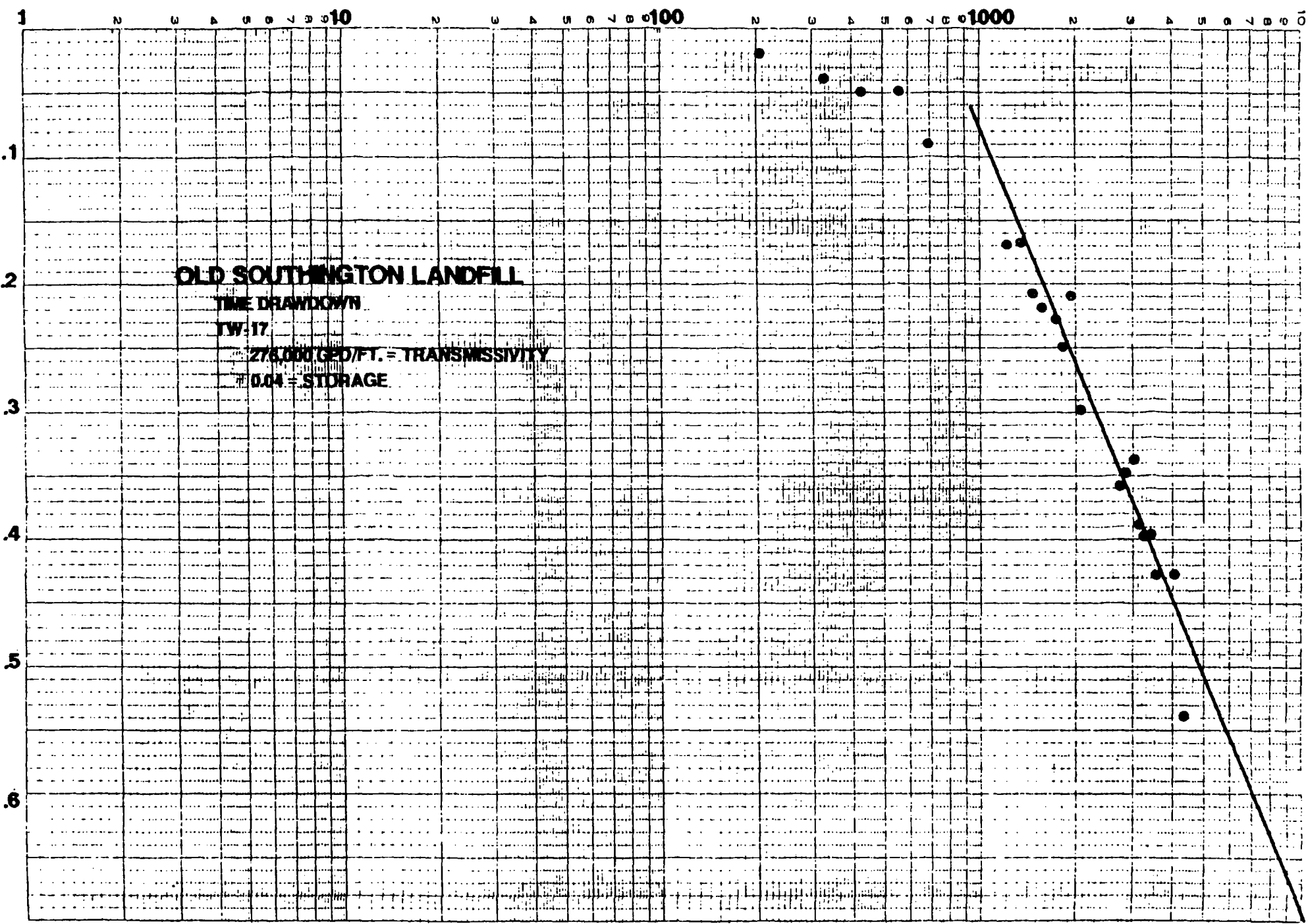
TIME (MINS)



TIME (MINS)



TIME (MINS)



TIME (MINS)

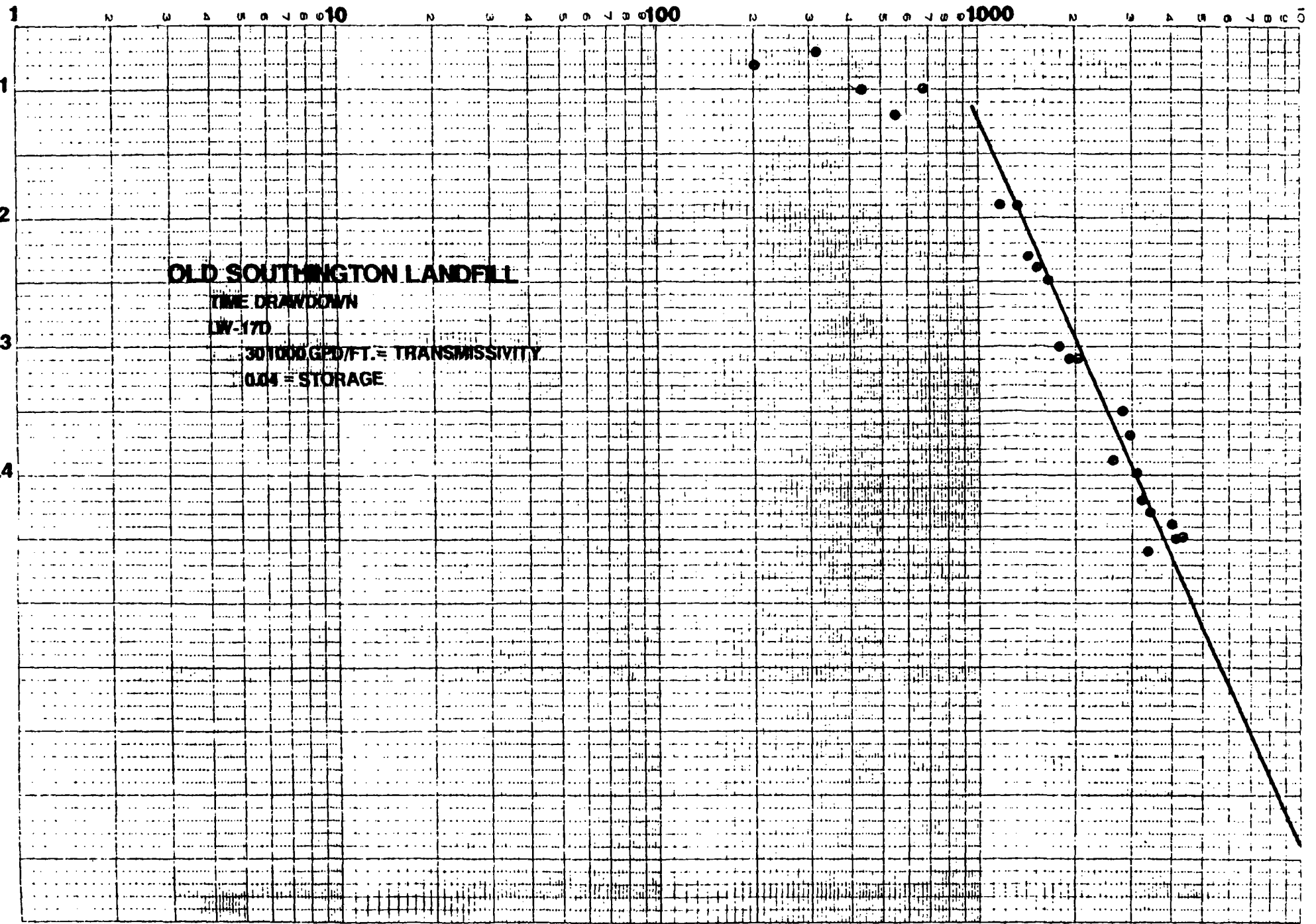
OLD SOUTHWINGTON LANDFILL

TIME DRAWDOWN

LW-170

301000 GPD/FT. = TRANSMISSIVITY

0.04 = STORAGE



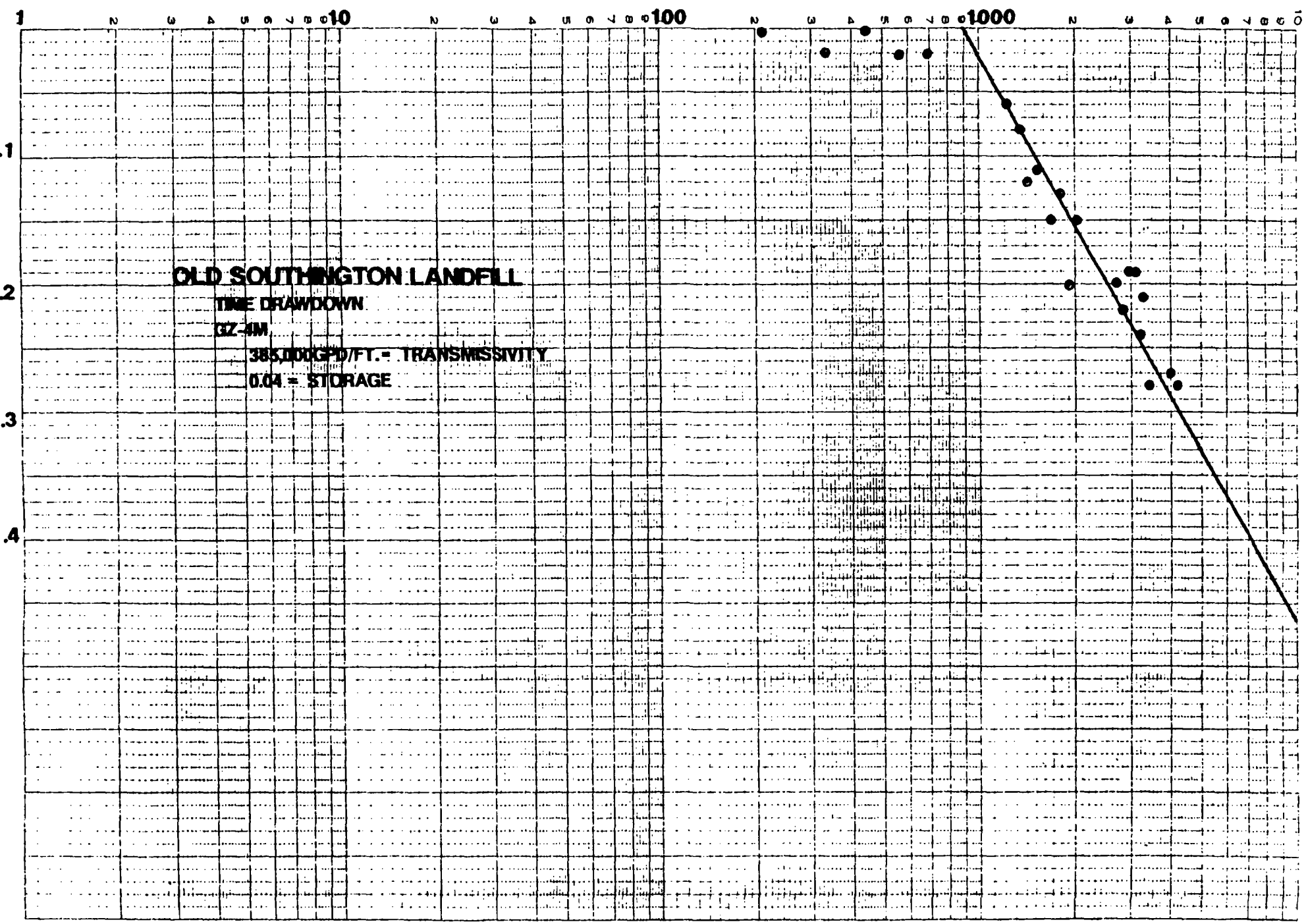
OLD SOUTHINGTON LANDFILL

GZ-AS

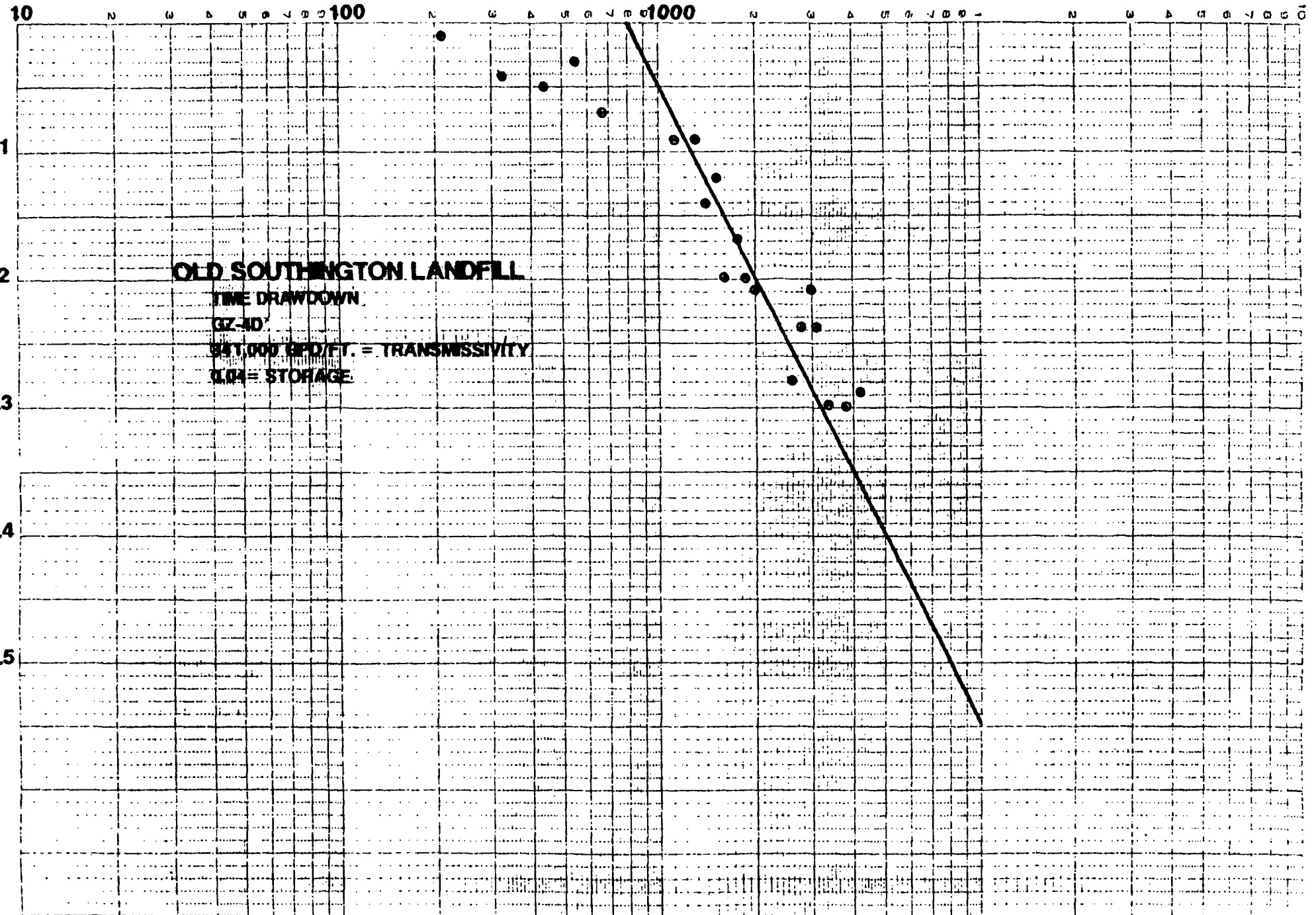
281,000 CPD/FT. = TRANSMISSIVITY.

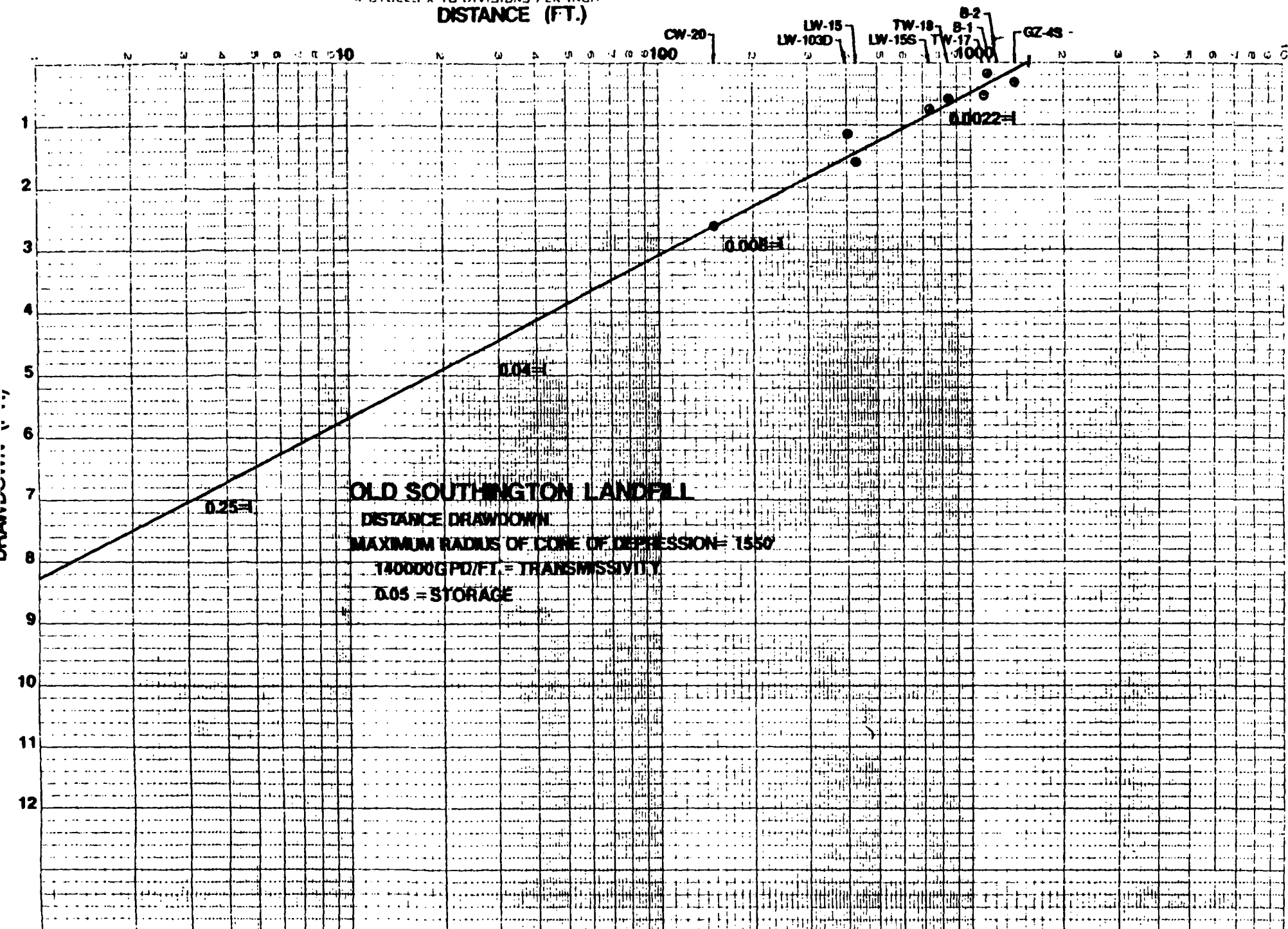
003 = STORAGE

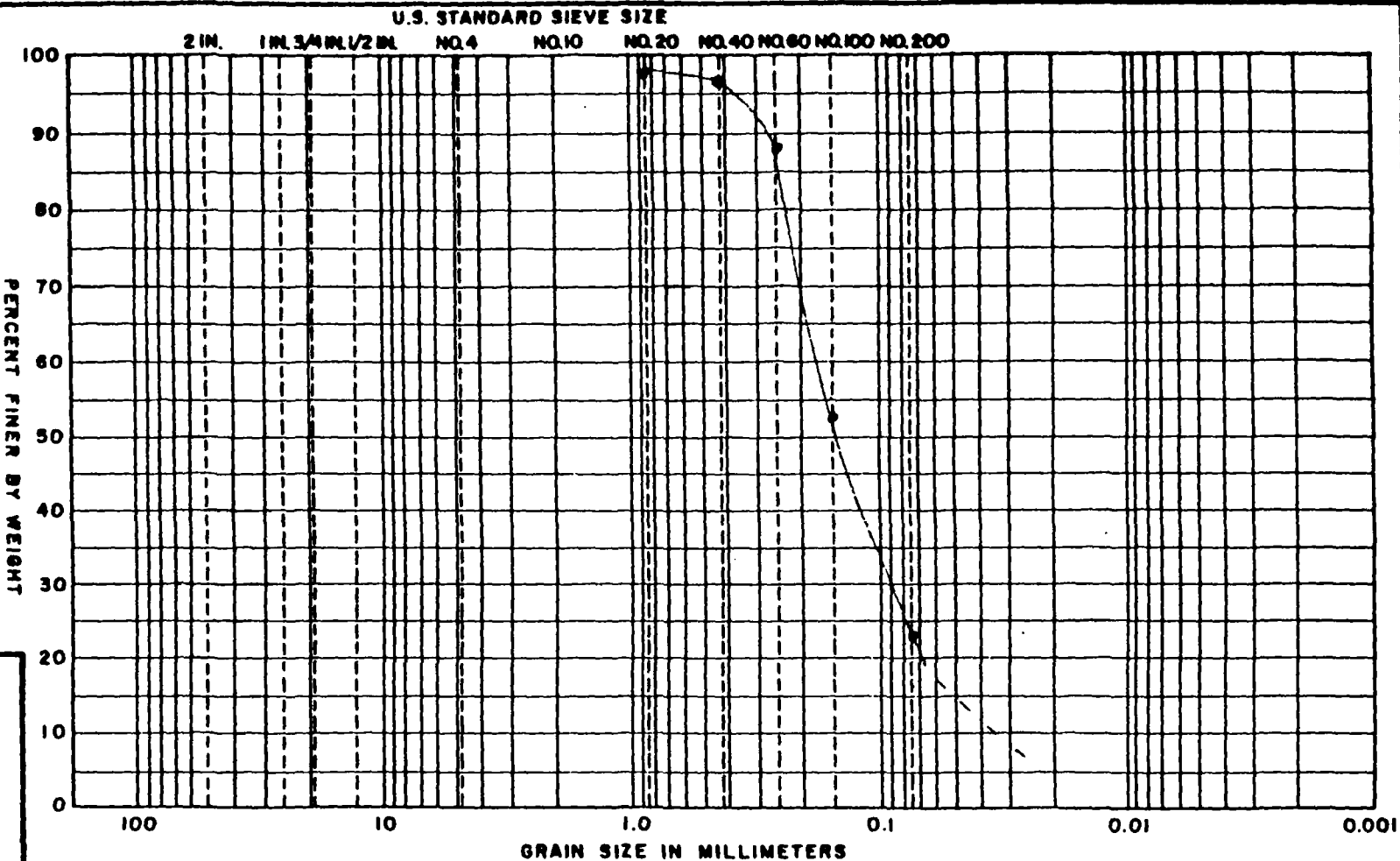
TIME (MINS)



TIME (MINS)







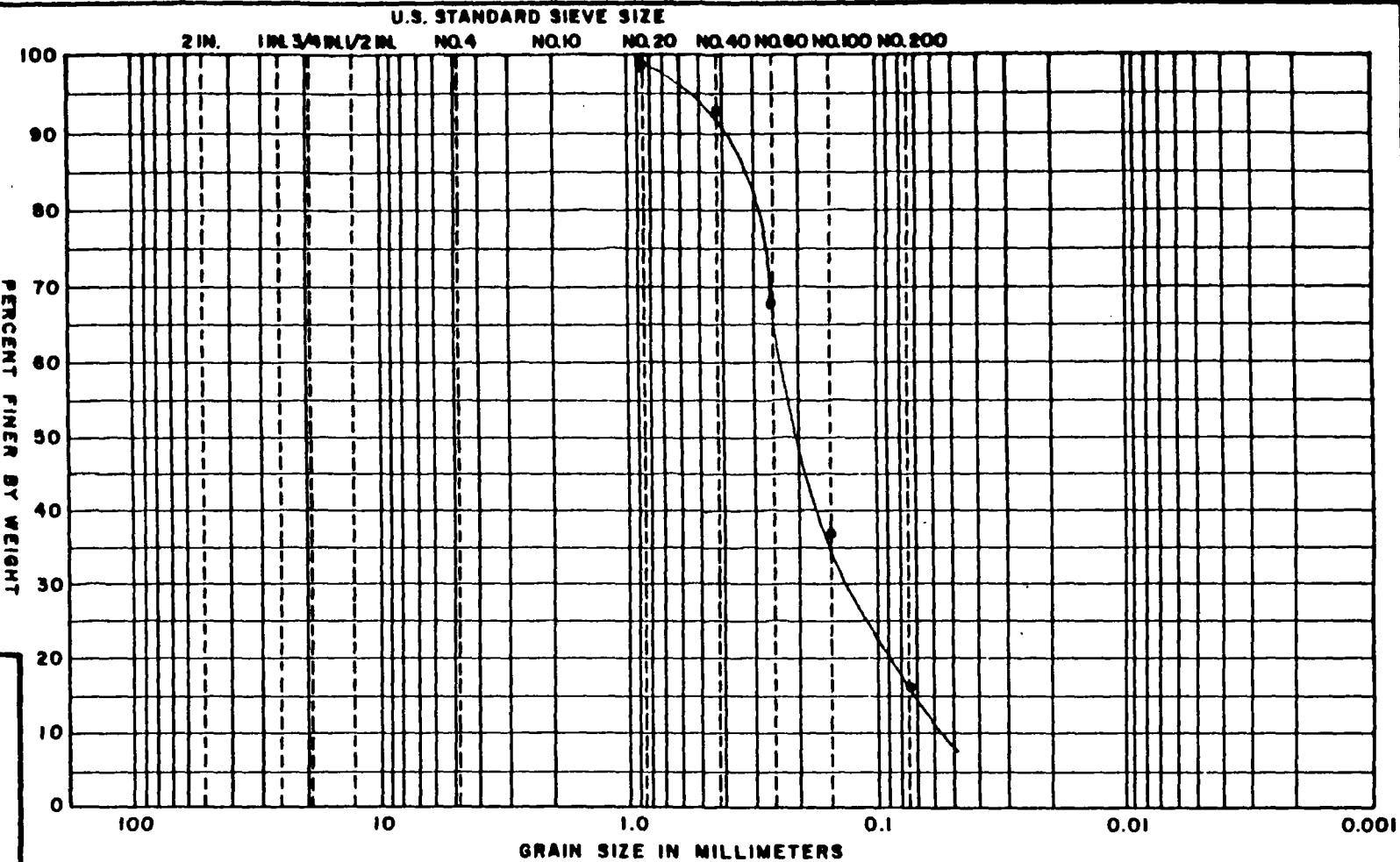
COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
			Medium-fine SAND, some Silt.

GRADATION TESTS

BORING NO. GZ-1
 SAMPLE NO. 1
 DEPTH 45.0-47.0
 TECH. D. O'Neare
 REVIEWER
 FILE H-50124
 APPENDIX E-9
 S.3



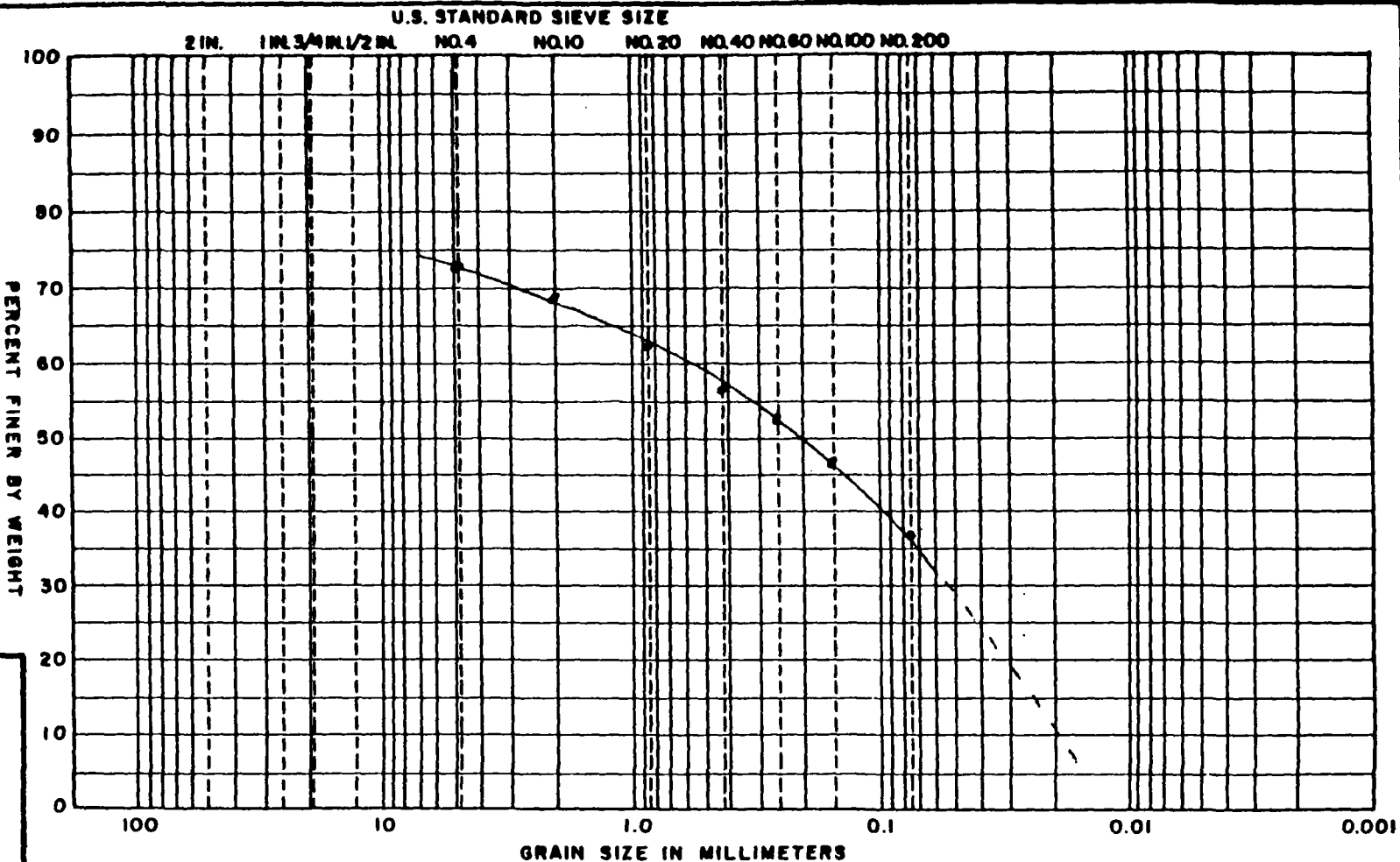
GRADATION TESTS

BORING NO. GZ-2
 SAMPLE NO. 2
 DEPTH 20.0-22.0
 TECH. D. O'Meara
 REVIEWER _____
 FILE H- 50124
 S.3

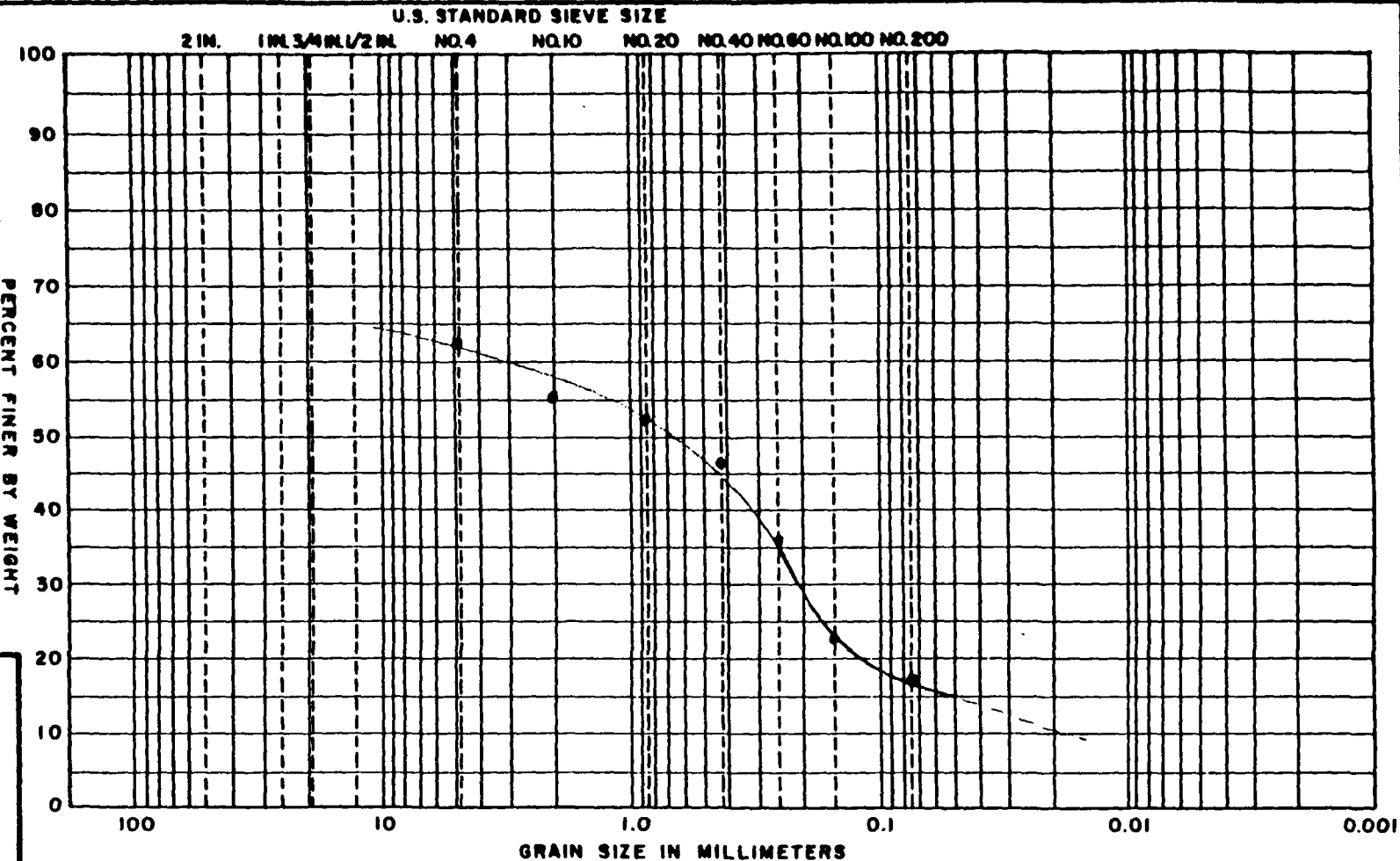
TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
			Medium-fine SAND, little Silt.

BORING NO. GZ-3
 SAMPLE NO. 3
 DEPTH 10.0-12.0
 TECH. D. O'Meara
 REVIEWER _____
 FILE H-50124
 S.3

GRADATION TESTS



GRADATION TESTS



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

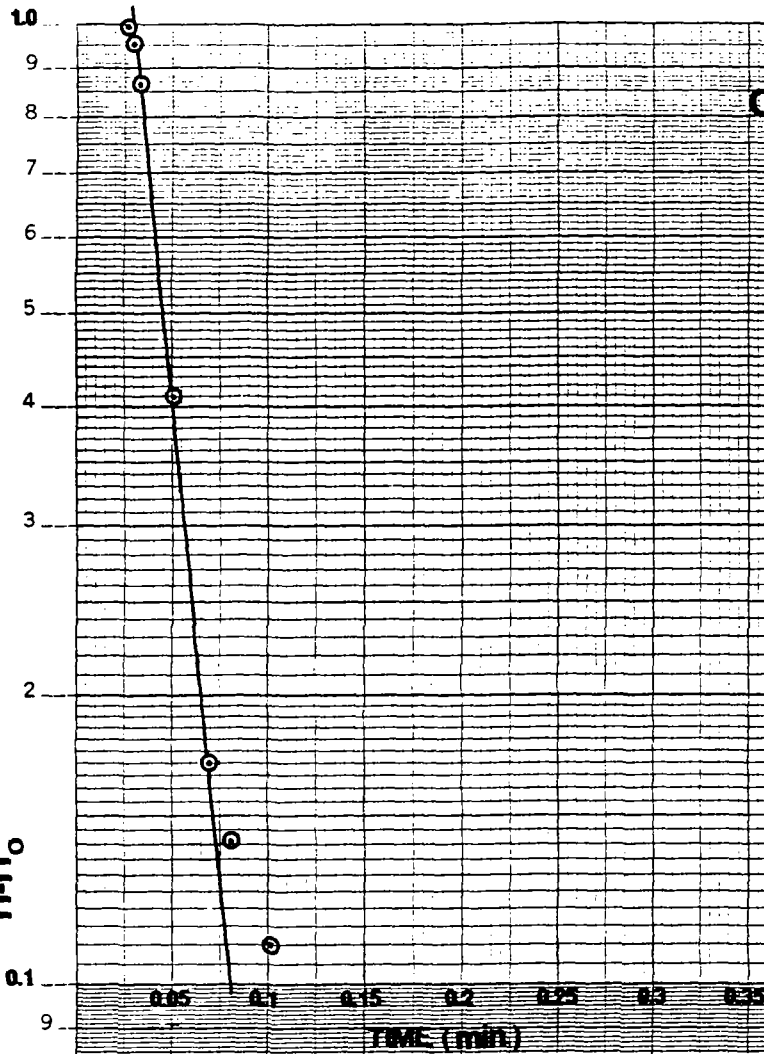
UNIFIED SOIL CLASSIFICATION SYSTEM

TEST NO.	SYM.	MATERIAL SOURCE	REMARKS
			Coarse-medium-fine SAND and GRAVEL, little Silt.

BORING NO. GZ-4
 SAMPLE NO. 4
 DEPTH 85.0-87.0
 TECH. D. O'Neara
 REVIEWER _____
 APPENDIX E-9
 FILE H-50124
 S.3

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT
GZ-4s
RISING HEAD

$\frac{H-H_0}{H-H_0}$



$$K = \frac{r^2 \ln(L/R)}{2LT_0}$$

$$H_0 = 17.25 \text{ ft}$$

$$H = 16.12 \text{ ft}$$

$$r^2 = 0.0069 \text{ ft}^2$$

$$L = 20 \text{ ft}$$

$$T_0 = 0.05 \text{ min}$$

$$R = 0.25 \text{ ft}$$

$$K = 0.00025 \text{ ft/sec OR } 160 \text{ g/d/ft}^2$$

OLD SOUTHTON LANDFILL

SOUTHTON, CONNECTICUT

GZ-4m

RISEING HEAD

$\frac{H-h}{H-H_0}$

10

9

8

7

6

5

4

3

2

1

0.1

0.05

0.1

0.15

0.2

0.25

0.3

0.35

TIME (min)

$$K = \frac{r^2 \ln(L/R)}{2LT_0}$$

$$H_0 = 17.95 \text{ ft}$$

$$H = 16.88 \text{ ft}$$

$$r^2 = 0.0069 \text{ ft}^2$$

$$L = 20 \text{ ft}$$

$$T_0 = 0.02 \text{ min}$$

$$R = 0.25 \text{ ft}$$

$$K = 0.00063 \text{ ft/sec OR } 410 \text{ g/d/ft}^2$$

2

3

4

5

6

7

8

9

10

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

GZ-4D
RISING HEAD

$\frac{H-H_0}{H-H_0}$

1.0
 9
 8
 7
 6
 5
 4
 3
 2
 1
 0.1

0.05 0.1 0.15 0.2 0.25 0.3 0.35
 TIME (min)

$$K = \frac{r^2 \ln(L/R)}{2LT_0}$$

$$H_0 = 18.92 \text{ ft}$$

$$H = 16.95 \text{ ft}$$

$$r^2 = 0.0069 \text{ ft}^2$$

$$L = 20 \text{ ft}$$

$$T_0 = 0.083 \text{ min}$$

$$R = 0.25 \text{ ft}$$

$$K = 0.00015 \text{ ft/sec OR } 98 \text{ g/d/ft}^2$$

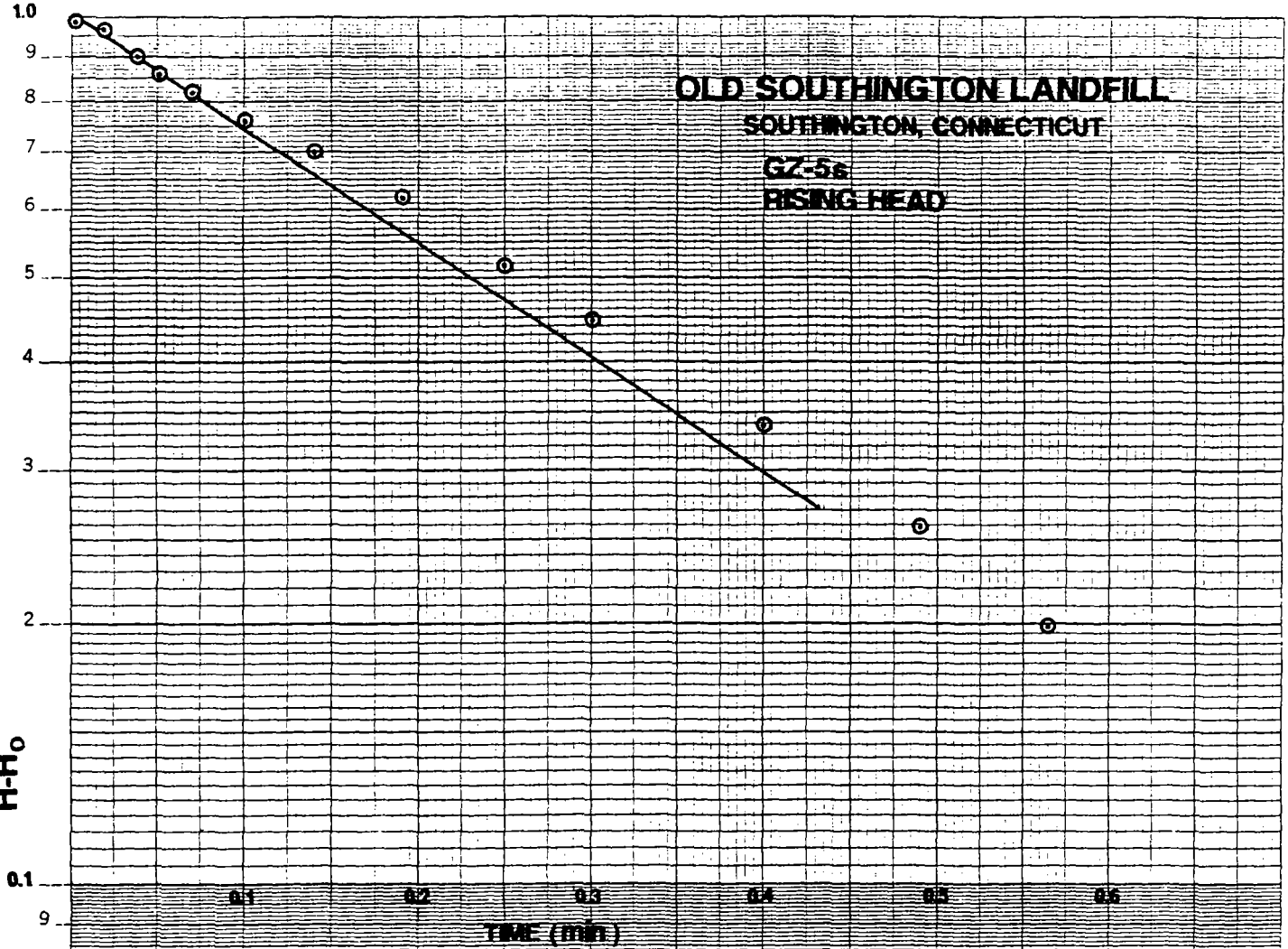
OLD SOUTHLINGTON LANDFILL

SOUTHLINGTON, CONNECTICUT

GZ-5s

RIISING HEAD

$$\frac{H-H_0}{H-H_0}$$



$$K = \frac{r^2 \ln(L/R)}{2LT_0}$$

$$H_0 = 22.29 \text{ ft}$$

$$H = 19.89 \text{ ft}$$

$$r^2 = 0.0069 \text{ ft}^2$$

$$L = 10 \text{ ft}$$

$$T_0 = 0.33 \text{ min}$$

$$R = 0.25 \text{ ft}$$

$$K = 0.00006 \text{ ft/sec OR } 42 \text{ g/d/ft}^2$$

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT

GZ-5m
RISING HEAD

$$\frac{H-H_0}{H-H_0}$$

TIME (min)

$$K = \frac{r^2 \ln(L/R)}{2LT}$$

$$H_0 = 21.84 \text{ ft}$$

$$H = 19.59 \text{ ft}$$

$$r^2 = 0.0069 \text{ ft}^2$$

$$L = 10 \text{ ft}$$

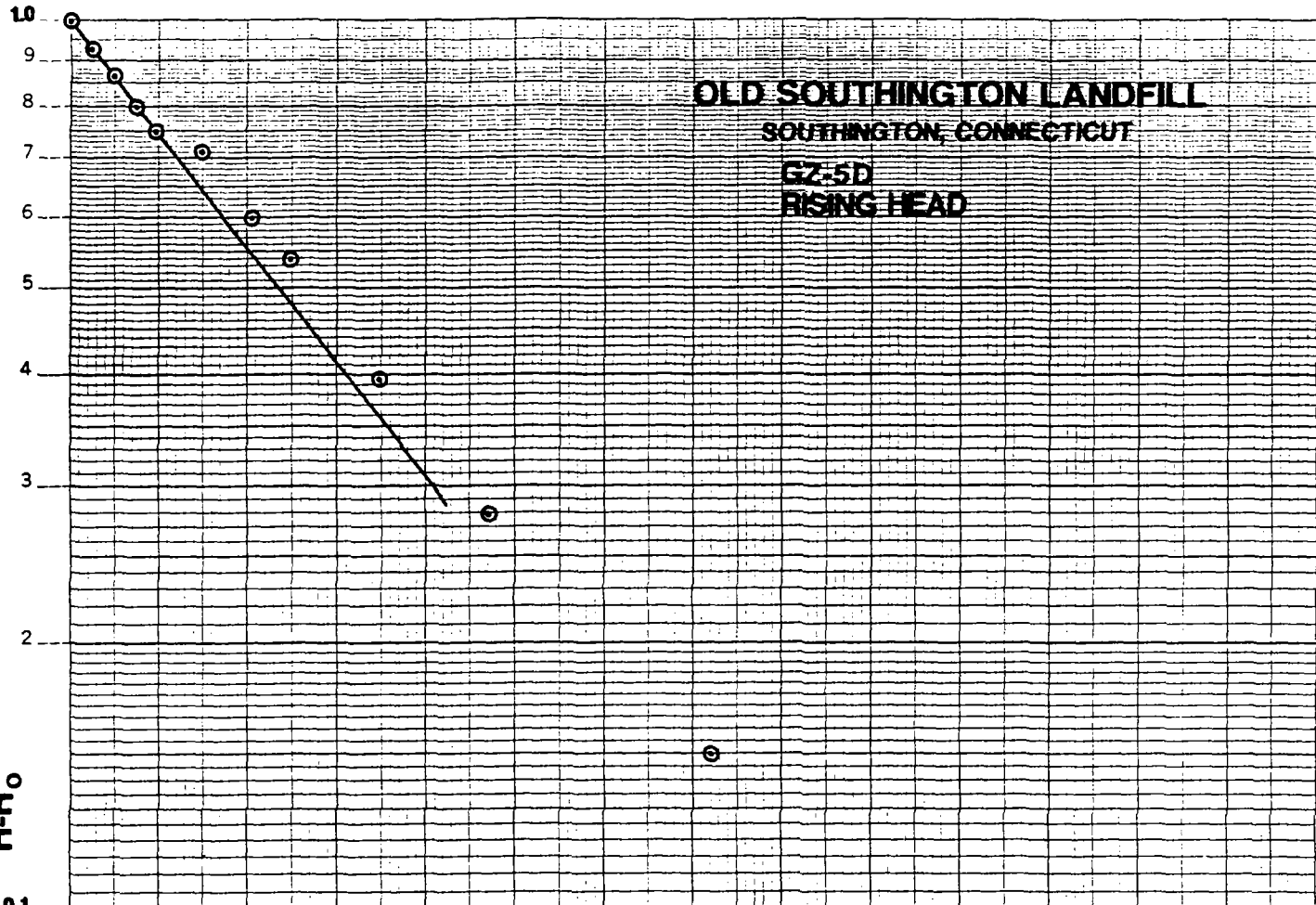
$$T_0 = 0.08 \text{ min}$$

$$R = 0.25 \text{ ft}$$

$$K = 0.00026 \text{ ft/sec OR } 170 \text{ g/d/ft}^2$$

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT
GZ-5D
RISING HEAD

$\frac{H-H_0}{H_0}$



0.1 1.0 2.0
 TIME (min)

$$K = \frac{r^2 \ln(L/R)}{2LT_0}$$

$$H_0 = 21.84 \text{ ft}$$

$$H = 19.33 \text{ ft}$$

$$r^2 = 0.0069 \text{ ft}^2$$

$$L = 10 \text{ ft}$$

$$T_0 = 0.68 \text{ min}$$

$$R = 0.25 \text{ ft}$$

$$K = 0.00003 \text{ ft/sec OR } 20 \text{ g/d/ft}^2$$

OLD SOUTHTON LANDFILL

SOUTHTON, CONNECTICUT

GZ-13s

RISE HEAD

$\frac{H-h}{H-H_0}$

0.1

0.01

0.05

0.1

TIME (min)

$$K = \frac{r^2 \ln(L/R)}{2LT_0}$$

$$H_0 = 35.52 \text{ ft}$$

$$H = 34.70 \text{ ft}$$

$$r^2 = 0.0069 \text{ ft}^2$$

$$L = 10 \text{ ft}$$

$$T_0 = 0.027 \text{ min}$$

$$R = 0.25 \text{ ft}$$

$$K = 0.0008 \text{ ft/sec OR } 500 \text{ g/d/ft}^2$$

NOTE:

DATA QUALITY POOR

OLD SOUTHTON LANDFILL

SOUTHTON, CONNECTICUT

GZ-13m

RISING HEAD

$\frac{H-h}{H-H_0}$

0.1

0.01

0.05

0.1

TIME (min)

$$K = \frac{r^2 \ln(L/R)}{2LT_0}$$

$$H_0 = 37.39 \text{ ft}$$

$$H = 35.43 \text{ ft}$$

$$r^2 = 0.0069 \text{ ft}^2$$

$$L = 10 \text{ ft}$$

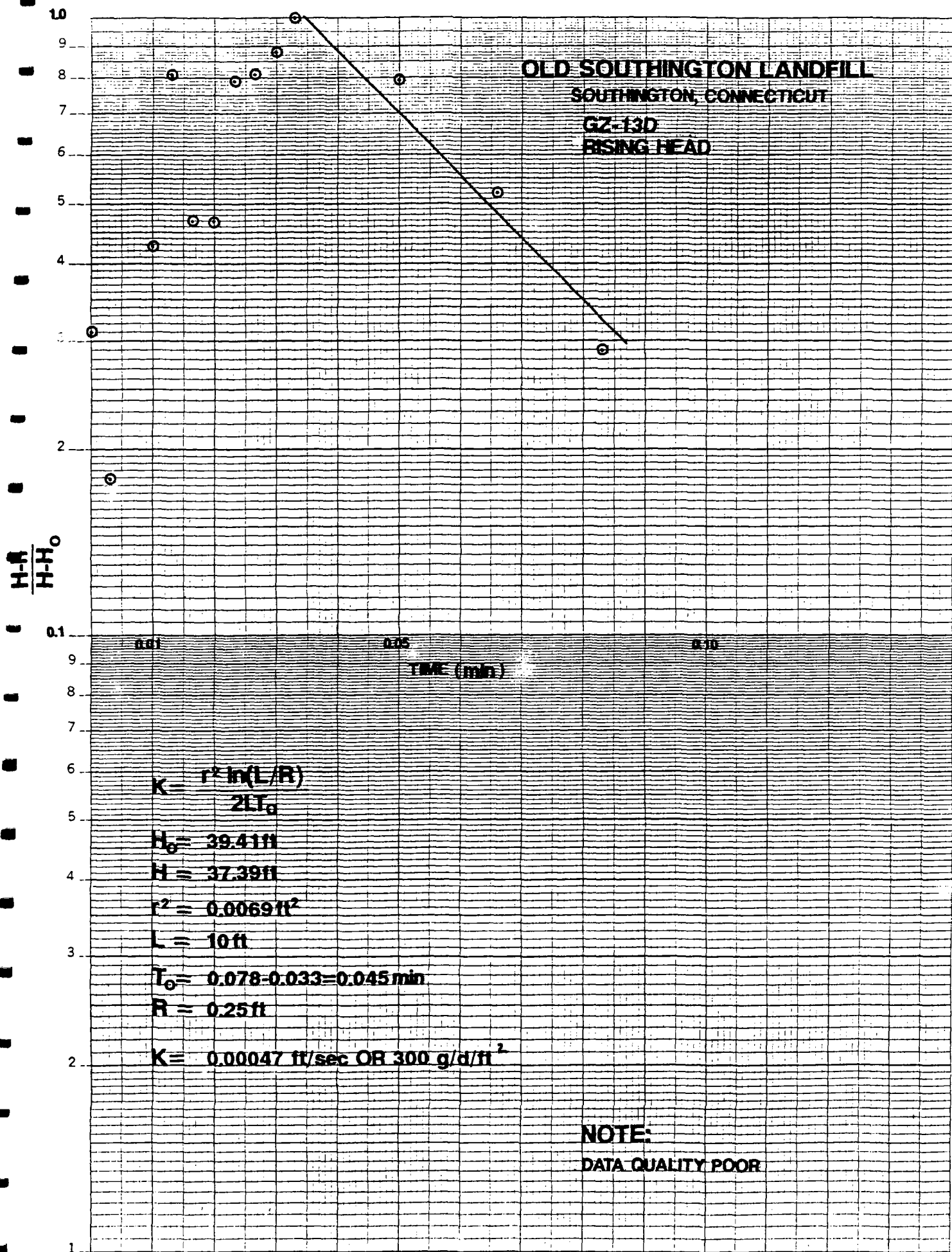
$$T_0 = 0.044 \text{ min}$$

$$R = 0.25 \text{ ft}$$

$$K = 0.00048 \text{ ft/sec OR } 310 \text{ g/d/ft}^2$$

2

1



OLD SOUTHTON LANDFILL

SOUTHTON, CONNECTICUT

LW-15s

RISEING HEAD

$\frac{H-H_0}{H-H_0}$

0.1 0.2 0.3 0.4 0.5 0.6

TIME (min)

$$K = \frac{r^2 \ln(L/R)}{2LT_0}$$

$$H_0 = 7.42 \text{ ft}$$

$$H = 5.28 \text{ ft}$$

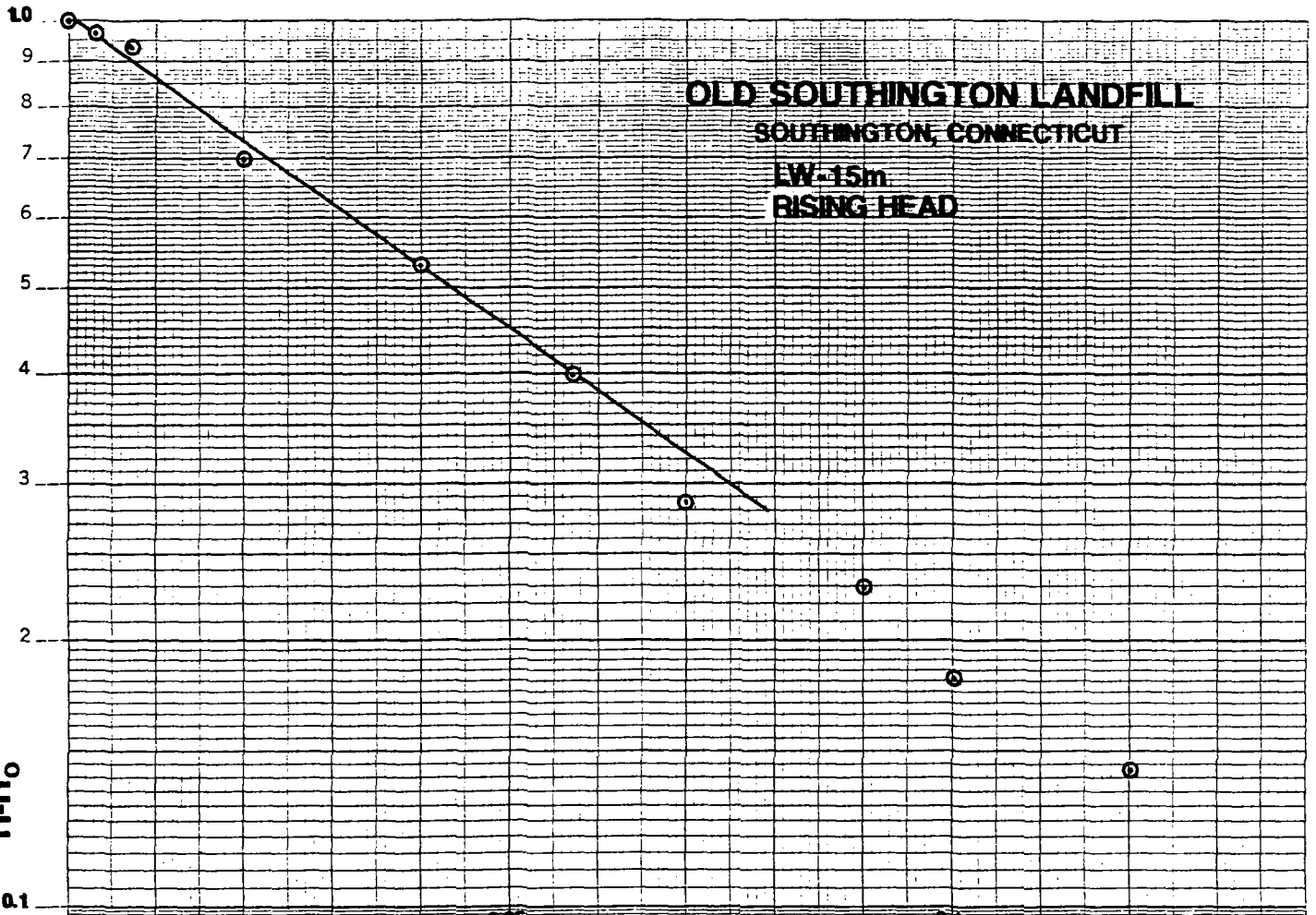
$$r^2 = 0.0069 \text{ ft}^2$$

$$L = 20 \text{ ft}$$

$$T_0 = 0.28 \text{ min}$$

$$R = 0.25 \text{ ft}$$

$$K = 0.00004 \text{ ft/sec OR } 29 \text{ g/d/ft}^2$$



$$K = \frac{r^2 \ln(L/R)}{2LT_0}$$

$$H_0 = 6.26 \text{ ft}$$

$$H = 5.00 \text{ ft}$$

$$r^2 = 0.0069 \text{ ft}^2$$

$$L = 30 \text{ ft}$$

$$T_0 = 0.062 \text{ min}$$

$$R = 0.25 \text{ ft}$$

$$K = 0.00015 \text{ ft/sec OR } 100 \text{ g/d/ft}^2$$

OLD SOUTHTON LANDFILL
SOUTHTON, CONNECTICUT
LW-15D
RIISING HEAD

$\frac{r-h}{H-H_0}$

1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1

TIME (min)

$$K = \frac{r^2 \ln(L/R)}{2LT_0}$$

$$H_0 = 6.51 \text{ ft}$$

$$H = 5.10 \text{ ft}$$

$$r^2 = 0.0069 \text{ ft}^2$$

$$L = 50 \text{ ft}$$

$$T_0 = 0.04 \text{ min}$$

$$R = 0.25 \text{ ft}$$

$$K = 0.00015 \text{ ft/sec OR } 100 \text{ g/d/ft}^2$$

1