Metcalf & Eddy
An Air & Water Technologies Company

US EPA RECORDS CENTER REGION 5
502208

June 14, 1994

Mr. Joe Fredle
U.S. Environmental Protection Agency
Region 5, Emergency Response Branch
25089 Center Ridge Road
Westlake, Ohio 44145

Subject: Granville Solvents Site (GSS) Interim Response Action
Requested Data- Ed Hanlon letter to Ben Pfefferle June 10, 1994

Dear Mr. Fredle:

On behalf of the Granville Solvents PRP Group, Metcalf & Eddy, Inc. respectfully submits this data package in response to Mr. Edward J. Hanlon's letter to Mr. Ben Pfefferle, III, Esq. dated June 10, 1994. It is currently our understanding that the conference call originally scheduled for 10:00 on June 15, 1994 has been postponed due to scheduling conflicts to June 20, 1994 at 10:00. It is also our understanding that Mr. Mike Anastasio will be providing the detailed logistics of the conference call to the participants by mid-day Friday, June 17, 1994.

The proposed agenda for the conference call is as follows:

1.) Brief Summary of the Results of the Data Collection Activities,
2.) Implication of the Results on the Interim Response Action,
3.) Conceptual Approach to the Interim Response Action,
4.) Conceptual Schedule, and
5.) Discussion.

The following items are included in this transmittal:

1.) Field boring logs for the Hydropunch™ sampling locations;

2.) Groundwater potentiometric surface maps with data tables (3);

3.) Data Tables of the:
a.) Soil Gas Survey,
b.) Geoprobe™ Shallow Groundwater,
c.) Soil Sampling,
d.) Hydropunch™ Groundwater Sampling, and
e.) Groundwater Monitoring Well Sampling;

4.) Maps of the:
a.) Sampling locations, and
b.) Hydropunch™ and Monitoring Well Data Maps; and

5.) Conceptual Schedule.

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614-890-5501 FAX 614-890-7421

Not included in this transmittal are the soil vapor removal data acquisition test data and results which will be forwarded Thursday, June 16, 1994.

If you have questions regarding this submittal, please contact Mr. Ben Pfefferle with Thompson, Hine, and Flory at (614) 469-3200 or Mr. Gerald Myers with my office.

Respectfully,

METCALF & EDDY, INC.

Michael S. Raimonde

Michael S. Raimonde
Project Hydrogeologist

Attachment

cc: Ben Pfefferle, Thompson, Hine, and Flory
Ed Hanlon, U.S. EPA
Mike Anastasio, U.S. EPA
Fred Myers, Ohio EPA
Gerald Myers, M&E

GRANVILLE SOLVENTS SITE

GRANVILLE, OHIO

INTERIM RESPONSE ACTION

CONCEPTUAL SCHEDULE

This schedule is intended for discussion purposes only for the scheduled conference call between members of the Granville Solvents Site (GSS) Technical Committee and the U.S. EPA, Monday, June 20, 1994 at 10:00. The expected Conceptual Approach includes three critical elements, 1.) Groundwater Gradient Control, 2.) Source Area Impacted Groundwater Migration Control, and 3.) Source Area Impacted Soil Migration Control. The details of this approach will be discussed in the scheduled conference call. The schedule uses the number of business days and not specific dates. The actual dates may be dependent on the date on which the PRP Group receives approval on previously submitted plans. The number of days are subject to applicable permit issuances where required and are not accounted for here.

Final Conceptual Approach to the Interim Response Action	**10 days***

Groundwater Gradient Control (based on approval of Final Conceptual Approach)

Sixty Percent Design for Groundwater Gradient Control	30 days*
95 Percent Design for Groundwater Gradient Control	20 days*
Final Design for Groundwater Gradient Control	5 days*
Commence Construction	60 days*

Source Groundwater Migration Control (based on approval of Groundwater Gradient Control)

Sixty Percent Design for Source Groundwater Migration Control	30 days*
95 Percent Design for Source Groundwater Migration Control	20 days*
Final Design for Source Groundwater Migration Control	5 days*
Commence Construction	60 days*

Source Soil Migration Control **

* These indicate business days following receipt of approval of related documents. For example, the delivery of the 95 Percent Design is 20 business days after receipt of approval of the Sixty Percent Design by the U.S. EPA. The number of business days for the Final Conceptual Approach is based on receipt of approval from the U.S. EPA of the Conceptual Approach to be presented on Monday, June 20, 1994.

** Based on the soil vapor removal data acquisition test, soil vapor removal (the presumptive remedy) using vertical wells in the area of impacted soil does not appear to be to be effective. These results were unexpected. As such additional evaluation will be required to choose a remedial technology for these materials. Batch testing and pilot testing may be necessary to evaluate other alternatives. As such, the schedule is not currently specified and will be dependent on decisions made regarding batch or pilot testing.

GRANVILLE SOLVENT SITE
CLOSE SUPPORT LABORATORY
ANALYTICAL RESULTS FOR
SOIL GAS SURVEY

SOIL GAS POINT #	PCE ppb	TCE ppb	TCA ppb	DCE ppb	TOTAL VOCs
MDL	**32.8**	**35.0**	**25.5**	**40.3**	
SG 1	ND	NA	NA	NA	ND
SG 2	NA	NA	NA	NA	NA
SG 3	ND	NA	NA	NA	ND
SG 4	695	9323	3931	305	14254
SG 5	NA	NA	NA	NA	NA
SG 6	1502	9093	6271	778	17644
SG 7	1517	9741	6151	780	18189
SG 8	1551	9774	6158	823	18306
SG 9	1619	10121	6689	972	19401
SG 10	2015	9479	8027	3091	22612
SG 11	308	6719	7370	1647	16044
SG 12	89	6164	6029	823	13105
SG 13	573	7342	6331	516	14762
SG 14	NA	NA	NA	NA	NA
SG 15	ND	7130	7313	395	14838
SG 16	69	5661	5905	345	11980
SG 17	ND	ND	56	ND	ND
SG 18	ND	146	2238	ND	2384
SG 19	ND	139	2231	ND	2370
SG 20	ND	ND	ND	ND	ND
SG 21	ND	260.6	151.5	ND	412.1
SG 22	ND	ND	ND	ND	ND
SG 23	ND	ND	ND	ND	ND
SG 24	ND	ND	ND	ND	ND
SG 25	ND	245.1	109.4	ND	354.5
SG 26	112	319	110	ND	541
SG 27	ND	218.6	191.9	ND	410.5
SG 28	ND	ND	ND	ND	ND
SG 29	ND	106.5	ND	ND	ND
SG 30	40.3	491.4	64	ND	595.7
SG 31	373.6	2993	295	ND	3661.6
SG 32	ND	ND	ND	ND	ND
SG 33	182	1138	167	ND	1487
SG 34	ND	285.3	264.5	ND	549.8
SG 35	ND	ND	ND	ND	ND
SG 36	ND	54	43.7	ND	ND
SG 37	ND	ND	ND	ND	ND
SG 38	ND	59.5	ND	ND	ND
SG 39	ND	387.8	179.7	ND	567.5
SG 40	ND	ND	ND	ND	ND
SG 41	ND	ND	ND	ND	ND
SG 42	ND	ND	ND	ND	ND
SG 43	ND	ND	ND	ND	ND
SG 44	ND	59.25	ND	ND	ND
SG 45	ND	ND	ND	ND	ND

NA = DATA NOT AVAILABLE

ND = BELOW METHOD DETECTION LIMIT

ppb = Parts Per Billion

GRANVILLE SOLVENT SITE
CLOSE SUPPORT LABORATORY
ANALYTICAL RESULTS FOR
SOIL SAMPLES

SOIL SAMPLE POINT #	SAMPLING INTERVAL (FEET)	PCE ppb	TCE ppb	TCA ppb	DCE ppb	TOTAL VOCs
MDL		**8.31**	**45.61**	**27.88**	**62.26**	
SS 1	4–6	ND	ND	ND	ND	0
SS 2	8–10	ND	ND	ND	ND	0
SS 3	12–14	58.34	4169.06	1093.9	ND	5321.3
SS 4	16–18	ND	251.83	915.90	ND	1167.73
SS 5	20–22	23.8	78.93	131.11	ND	233.84
SS 6	2–4	965	5167	1184	ND	7316
SS 7	6–8	1304	7499	3109	ND	11912
SS 8	10–12	1075	6682	1163	ND	8920
SS 9	14–16	1535	10251	5407	39	17232
SS 10	4–6	1513	6810.1	3425.2	ND	11748.3
SS 11	8–10	1960	8621	4574	ND	15155
SS 12	12–14	1898.2	8627.5	4601.9	ND	15127.6
SS 13	16–18	1232	6774	2614	ND	10620
SS 14	2–4	43	ND	ND	ND	43
SS 15	6–8	ND	ND	ND	306	306
SS 16	10–12	ND	ND	ND	ND	0
SS 17	4–6	ND	ND	ND	ND	0
SS 18	8–10	ND	ND	ND	ND	0
SS 19	12–14	50.9	163.5	ND	ND	214.4
SS 20	2–4	ND	ND	ND	797	797
SS 21	6–8	ND	ND	ND	879	879
SS 22	12–14	ND	ND	ND	729	729
SS 23	2–4	ND	ND	ND	2125	2125
SS 24	6–8	ND	ND	ND	2408	2408
SS 25	10–12	ND	366	234	1901	2501
SS 26	4–6	769	8080	3521	483	12853
SS 27	8–10	212	6536	2289	1800	10837
SS 28	12–14	13	6498	2236	1353	10100
SS 29	16–18	1753	11397	6527	1267	20944
SS 30	20–22	ND	6672	4170	1355	12197
SS 31	6–8	ND	ND	ND	888	888
SS 32	10–12	ND	ND	ND	639	639
SS 33	16–18	ND	ND	ND	979	979
SS 34	4–6	ND	ND	ND	1322	1322
SS 35	8–10	ND	69	60	1163	1292
SS 36	12–14	ND	ND	64	443	507
SS 37	6–8	ND	ND	ND	430	430
SS 38	10–12	ND	ND	ND	473	473
SS 39	14–16	ND	ND	ND	197	197
SS 40	2–4	1210	4875	1284	72	7441
SS 41	8–10	1860	8102	4804	488	15254
SS 42	12–14	2506	8711	4787	239	16243
SS 43	16–18	1986	8046	4400	204	14636
SS 44	20–22	2238	8891	5032	255	16416
SS 45	8–10	ND	ND	69	ND	69
SS 46	4–6	ND	ND	133	ND	133
SS 47	16–18	ND	709	3489	104	4302
SS 48	12–14	ND	ND	79	ND	79

ND = BELOW METHOD DETECTION LIMIT

ppb = Parts Per Billion

GRANVILLE SOLVENT SITE
CONTRACTED LABORATORY
HYDROPUNCH ANALYTICAL DATA

METHOD	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW
SAMPLE NUMBER	HP1-1	HP1-2	HP1-3	HP1-4	HP2-1	HP2-2	HP2-3	HP3-1	HP3-2
DATE COLLECTED	4/29/94	4/29/94	4/30/94	4/30/94	5/1/94	5/1/94	5/1/94	5/2/94	5/2/94
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Compound									
dichlorodifluoromethane									
chloromethane	0.5 U	0.5 U	2	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
vinyl chloride	0.5 U	0.5 U	0.6	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trichlorofluoromethane									
1,1-dichlorethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
acetone	5 U	12	2200	1000 E	860 E	620 E	320 E	33	110
carbon disulfide	0.5 U	0.9	0.5	0.3 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
methylene chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-dichloropropane									
cis-1,2-dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-butanone	5 U	5 U	5 U	2 J	5 U	5 U	5 U	5 U	5 U
bromochloromethane									
chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	8	8
carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-dichloropropene									
benzene	0.5 U	0.3 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.7	1
1,2-dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
dibromomethane									
bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-methyl-2-pentanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
toluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1	1
trans-1,3-dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tetrachloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-dichloropropane									
2-hexanone	5 U	5 U	2 J	5 U	5 U	5 U	5 U	5 U	5 U
dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-dibromoethane									
chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1,2-tetrachloroethane									
ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m- & p-xylene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
o-xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
xylenes (total)									
styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
isopropylbenzene									
bromobenzene									
1,1,2,2-tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-trichloropropane									
n-propylbenzene									
2-chlorotoluene									
4-chlorotoluene									
1,3,5-trimethylbenzene									
tert-butylbenzene									
1,2,4-trimethylbenzene									
sec-butylbenzene									
1,3-dichlorobenzene									
1,4-dichlorobenzene									
p-isopropyltoluene									
1,2-dichlorobenzene									
n-butylbenzene									
1,2-dibromo-3-chloropropane									
1,2,4-trichlorobenzene									
hexachlorobutadiene									
naphthalene									
1,2,3-trichlorobenzene									

U = NONDETECT

J = The mass spectrum indicates the presence of the compound, but the calculated concentration is less than the reporting limit.

E = The associated concentration exceeds the calibrated concentration range and is therefore an estimated concentration.

CLP LOW = Method for the analysis of low concentration water for volatile (purgeable) organic compounds, in U.S. EPA Contract Laboratory Program Statement of Work for Low Concentration Water Organic Analysis, OLC01.0, 1992.

ug/l = Micrograms per liter.

METHOD	CLP LOW	CLP LOW	524.2	524.2	524.2	524.2	524.2	524.2	524.2	524.2
SAMPLE NUMBER	HP3-3	HP4-1	HP4-2	HP4-3	HP4-4	HP5-2	HP5-3	HP5-4	HP6-1	HP6-2
DATE COLLECTED	5/2/94	5/3/94	5/3/94	5/4/94	5/4/94	5/5/94	5/5/94	5/5/94	5/5/94	5/5/94
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Compound										
dichlorodifluoromethane										
chloromethane	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
vinyl chloride	0.5 U	5 U	2 U	0.5 U	0.7	0.5 U	0.5 U	0.5 U	50 U	0.5 U
bromomethane	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
chloroethane	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
trichlorofluoromethane										
1,1-dichlorethene	0.5 U	5 U	2 U	0.5 U	0.5 U	0.4 J	0.5 U	0.5 U	50 U	0.5 U
acetone	89	120	990 E	300 E	50	360 E	480 E	240 E	5100	28
carbon disulfide	0.3 J	5 U	2 U	0.5 U	0.5 U	0.7	0.6	0.5 U	50 U	0.3 J
methylene chloride	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
trans-1,2-dichloroethene	0.5 U	5 U	2 U	0.5 U	0.5 U	1.8	0.8	0.5 U	50 U	0.5 U
1,1-dichloroethane	0.5 U	5 U	2 U	1.7	0.9	19	8.2	5.6	50 U	0.5 U
2,2-dichloropropane										
cis-1,2-dichloroethene	0.5 U	5 U	2 U	0.5 U	0.3 J	56	27	18	50 U	0.5 U
2-butanone	5 U	50 U	20 U	5 U	5 U	5 U	5 U	5 U	500 U	5 U
bromochloromethane										
chloroform	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
1,1,1-trichloroethane	13	80	33	15	9.5	34	14	8.8	50 U	0.7
carbon tetrachloride	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
1,1-dichloropropene										
benzene	0.9	5 U	2 U	0.5 U	0.2 J	0.5 U	0.5 U	0.5 U	50 U	0.5 U
1,2-dichloroethane	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
trichloroethene	0.5 U	140	44	23	13	31	10	5	50 U	0.5 U
1,2-dichloropropane	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
dibromomethane										
bromodichloromethane	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
cis-1,3-dichloropropene	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
4-methyl-2-pentanone	5 U	50 U	20 U	5 U	5 U	5 U	5 U	5 U	500 U	5 U
toluene	2	5 U	2 U	0.5 U	0.2 J	0.5 U	0.5 U	0.5 U	50 U	0.5 U
trans-1,3-dichloropropene	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
1,1,2-trichloroethane	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
tetrachloroethene	0.5 U	5 U	2 U	0.5 U	0.5 U	26	8.1	3.9	50 U	0.5 U
1,3-dichloropropane										
2-hexanone	5 U	50 U	20 U	5 U	5 U	5 U	5 U	5 U	500 U	5 U
dibromochloromethane	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
1,2-dibromoethane										
chlorobenzene	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
1,1,1,2-tetrachloroethane		5 U								
ethylbenzene	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
m- & p-xylene	1 U	10 U	4 U	1 U	1 U	1 U	1 U	1 U	100 U	1 U
o-xylene	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
xylenes (total)										
styrene	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
bromoform	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
isopropylbenzene										
bromobenzene										
1,1,2,2-tetrachloroethane	0.5 U	5 U	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	0.5 U
1,2,3-trichloropropane										
n-propylbenzene										
2-chlorotoluene										
4-chlorotoluene										
1,3,5-trimethylbenzene										
tert-butylbenzene										
1,2,4-trimethylbenzene										
sec-butylbenzene										
1,3-dichlorobenzene										
1,4-dichlorobenzene										
p-isopropyltoluene										
1,2-dichlorobenzene										
n-butylbenzene										
1,2-dibromo-3-chloropropane										
1,2,4-trichlorobenzene										
hexachlorobutadiene										
naphthalene										
1,2,3-trichlorobenzene										

U = NONDETECT
J = The mass spectrum indicates the presence of the compound, but the calculated concentration is less than the reporting limit.
E = The associated concentration exceeds the calibrated concentration range and is therefore an estimated concentration.
CLP LOW = Method for the analysis of low concentration water for volatile (purgeable) organic compounds, in U.S. EPA Contract Laboratory Program Statement of Work for Low Concentration Water Organic Analysis, OLC01.0, 1992.
ug/l = Micrograms per liter.

METHOD	524.2	524.2	524.2	524.2	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW
SAMPLE NUMBER	HP6-3	HP6-4	HP7-1	HP7-2	HP8-1	HP8-2	HP8-3	HP9-2	HP9-3	HP9-4
DATE COLLECTED	5/5/94	5/6/94	5/6/94	5/6/94	5/9/94	5/9/94	5/9/94	5/9/94	5/9/94	5/9/94
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Compound										
dichlorodifluoromethane										
chloromethane	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
vinyl chloride	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
bromomethane	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
chloroethane	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trichlorofluoromethane										
1,1-dichlorethene	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
acetone	170 E	160 E	860	1300 E	3600 E	1500 E	900 E	5 U	600 E	150 E
carbon disulfide	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.3 J
methylene chloride	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-dichloroethene	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-dichloroethane	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-dichloropropane										
cis-1,2-dichloroethene	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	2	0.5 U
2-butanone	5 U	5 U	50 U	50 U	12 U	5 U	5 U	5 U	5 U	5 U
bromochloromethane										
chloroform	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-trichloroethane	0.8	0.5 U	5 U	5 U	50	53 E	34	0.5 U	0.5 U	0.5 U
carbon tetrachloride	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-dichloropropene										
benzene	0.6	0.5 U	5 U	5 U	5	0.6	1	0.5 U	0.5 U	0.5 U
1,2-dichloroethane	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trichloroethene	0.5 U	0.5 U	5 U	5 U	27	18	11	0.5 U	0.5 U	0.5 U
1,2-dichloropropane	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
dibromomethane										
bromodichloromethane	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-dichloropropene	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-methyl-2-pentanone	5 U	5 U	50 U	50 U	12 U	5 U	5 U	5 U	5 U	5 U
toluene	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-dichloropropene	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-trichloroethane	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tetrachloroethene	0.5 U	0.5 U	5 U	5 U	21	9	5	0.5 U	0.5 U	0.5 U
1,3-dichloropropane										
2-hexanone	5 U	5 U	50 U	50 U	12 U	5 U	5 U	5 U	5 U	5 U
dibromochloromethane	0.5 U	0.5 U			1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-dibromoethane			5 U	5 U						
chlorobenzene	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1,2-tetrachloroethane			5 U	5 U						
ethylbenzene	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m- & p-xylene	1 U	1 U	10 U	10 U	2.5 U	1 U	1 U	1 U	1 U	1 U
o-xylene	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
xylenes (total)										
styrene	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
bromoform	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
isopropylbenzene										
bromobenzene										
1,1,2,2-tetrachloroethane	0.5 U	0.5 U	5 U	5 U	1.2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-trichloropropane										
n-propylbenzene										
2-chlorotoluene										
4-chlorotoluene										
1,3,5-trimethylbenzene										
tert-butylbenzene										
1,2,4-trimethylbenzene										
sec-butylbenzene										
1,3-dichlorobenzene										
1,4-dichlorobenzene										
p-isopropyltoluene										
1,2-dichlorobenzene										
n-butylbenzene										
1,2-dibromo-3-chloropropane										
1,2,4-trichlorobenzene										
hexachlorobutadiene										
naphthalene										
1,2,3-trichlorobenzene										

U = NONDETECT

J = The mass spectrum indicates the presence of the compound, but the calculated concentration is less than the reporting limit.

E = The associated concentration exceeds the calibrated concentration range and is therefore an estimated concentration.

CLP LOW = Method for the analysis of low concentration water for volatile (purgeable) organic compounds, in U.S. EPA Contract Laboratory Program Statement of Work for Low Concentration Water Organic Analysis, OLC01.0, 1992.

ug/l = Micrograms per liter.

METHOD	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW	524.2	524.2
SAMPLE NUMBER	HP10-1	HP10-2	HP10-3	HP10-4	HP11-1	HP11-2	HP11-3	HP12-1	HP12-2
DATE COLLECTED	5/9/94	5/9/94	5/9/94	5/9/94	5/10/94	5/10/94	5/10/94	5/14/94	5/14/94
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Compound									
dichlorodifluoromethane								0.5 U	0.5 U
chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
vinyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
trichlorofluoromethane								0.5 U	0.5 U
1,1-dichlorethene	0.5	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
acetone	43	48	8	160 E	0.5 U	140	73		
carbon disulfide	0.5 U	0.5 U	0.5 U	0.5 U	5 U	1 U	0.5 U		
methylene chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
trans-1,2-dichloroethene	2	1	0.8	0.4 J	0.5 U	1 U	0.5 U	0.5 U	0.5 U
1,1-dichloroethane	3	1	2	1	0.5 U	2	0.5 U	0.5 U	0.5 U
2,2-dichloropropane								0.5 U	0.5 U
cis-1,2-dichloroethene	73	24	19	12	0.5 U	9	5	0.5 U	0.5 U
2-butanone	5 U	5 U	5 U	5 U	5 U	10 U	5 U		
bromochloromethane								0.5 U	0.5 U
chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
1,1,1-trichloroethane	45	17	12	7	0.5 U	40	21	0.5 U	0.5 U
carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
1,1-dichloropropene								0.5 U	0.5 U
benzene	0.5 U	0.5 U	0.5 U	0.3 J	0.5 U	1 U	0.5 U	0.5 U	0.5 U
1,2-dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
trichloroethene	41	12	9	6	0.5 U	47	24	0.5 U	0.5 U
1,2-dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
dibromomethane								0.5 U	0.5 U
bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
cis-1,3-dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
4-methyl-2-pentanone	5 U	5 U	5 U	5 U	5 U	10 U	5 U		
toluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
trans-1,3-dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
1,1,2-trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
tetrachloroethene	13	5	3	2	0.5 U	17	9	0.5 U	0.5 U
1,3-dichloropropane								0.5 U	0.5 U
2-hexanone	5 U	5 U	5 U	5 U	5 U	10 U	5 U		
dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
1,2-dibromoethane								0.5 U	0.5 U
chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
1,1,1,2-tetrachloroethane								0.5 U	0.5 U
ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
m- & p-xylene	1 U	1 U	1 U	1 U	1 U	2 U	1 U		
o-xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U		
xylenes (total)								0.5 U	0.5 U
styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
isopropylbenzene								0.5 U	0.5 U
bromobenzene								0.5 U	0.5 U
1,1,2,2-tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U
1,2,3-trichloropropane								0.5 U	0.5 U
n-propylbenzene								0.5 U	0.5 U
2-chlorotoluene								0.5 U	0.5 U
4-chlorotoluene								0.5 U	0.5 U
1,3,5-trimethylbenzene								0.5 U	0.5 U
tert-butylbenzene								0.5 U	0.5 U
1,2,4-trimethylbenzene								0.5 U	0.5 U
sec-butylbenzene								0.5 U	0.5 U
1,3-dichlorobenzene								0.5 U	0.5 U
1,4-dichlorobenzene								0.5 U	0.5 U
p-isopropyltoluene								0.5 U	0.5 U
1,2-dichlorobenzene								0.5 U	0.5 U
n-butylbenzene								0.5 U	0.5 U
1,2-dibromo-3-chloropropane								0.5 U	0.5 U
1,2,4-trichlorobenzene								0.5 U	0.5 U
hexachlorobutadiene								0.5 U	0.5 U
naphthalene								0.5 U	0.5 U
1,2,3-trichlorobenzene								0.5 U	0.5 U

U = NONDETECT

J = The mass spectrum indicates the presence of the compound, but the calculated concentration is less than the reporting limit.

E = The associated concentration exceeds the calibrated concentration range and is therefore an estimated concentration.

CLP LOW = Method for the analysis of low concentration water for volatile (purgeable) organic compounds, in U.S. EPA Contract Laboratory Program Statement of Work for Low Concentration Water Organic Analysis, OLC01.0, 1992.

ug/l = Micrograms per liter.

METHOD	524.2	524.2	524.2	524.2	524.2	524.2
SAMPLE NUMBER	HP12-3	HP12-4	HP13-1	HP13-2	HP13-3	HP14-60
DATE COLLECTED	5/14/94	5/14/94	5/14/94	5/14/94	5/14/94	5/19/94
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Compound						
dichlorodifluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
chloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
vinyl chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
chloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trichlorofluoromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-dichlorethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
acetone						9
carbon disulfide						
methylene chloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-butanone						
bromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
dibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-methyl-2-pentanone						
toluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tetrachloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-hexanone						
dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-dibromoethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1,2-tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m- & p-xylene						
o-xylene						
xylenes (total)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
isopropylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
bromobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-trichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-propylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-isopropyltoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-dibromo-3-chloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
hexachlorobutadiene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
naphthalene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

U = NONDETECT

J = The mass spectrum indicates the presence of the compound, but the calculated concentration is less than the reporting limit.

E = The associated concentration exceeds the calibrated concentration range and is therefore an estimated concentration.

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ug/l = Micrograms per liter.

GRANVILLE SOLVENT SITE
CONTRACTED LABORATORY
SOIL ANALYTICAL DATA

DATE COLLECTED	5/1/94	5/2/94	5/2/94	5/2/94
SAMPLE NUMBER	SS-10	SS-15	SS-19	SS-20
SAMPLING INTERVAL (IN FEET)	4-6	6-8	12-14	2-4
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Compound				
Analytical Method: 8260				
chloromethane	12 U	13 U	12 U	12 U
vinyl chloride	12 U	13 U	12 U	12 U
bromomethane	12 U	13 U	12 U	12 U
chloroethane	12 U	13 U	12 U	12 U
1,1-dichlorethene	6 U	6 U	6 U	6 U
acetone	12 U	32 U	12 U	12 U
carbon disulfide	6 U	6 U	6 U	6 U
methylene chloride	6 U	6 U	6 U	6 U
trans-1,2-dichloroethene	6 U	6 U	6 U	6 U
1,1-dichloroethene	6 U	6 U	6 U	6 U
cis-1,2-dichloroethene	6 U	6 U	6 U	6 U
2-butanone	12 U	5 J	12 U	12 U
chloroform	6 U	6 U	6 U	6 U
1,1,1-trichloroethane	6 U	6 U	6 U	6 U
carbon tetrachloride	6 U	6 U	6 U	6 U
benzene	6 U	6 U	6 U	6 U
1,2-dichloroethane	6 U	6 U	6 U	6 U
trichloroethene	6	6 U	1 J	6 U
1,2-dichloropropane	6 U	6 U	6 U	6 U
bromodichloromethane	6 U	6 U	6 U	6 U
cis-1,3-dichloropropene	6 U	6 U	6 U	6 U
4-methyl-2-pentanone	12 U	13 U	12 U	12 U
toluene	6 U	6 U	6 U	6 U
trans-1,3-dichloropropene	6 U	6 U	6 U	6 U
1,1,2-trichloroethane	6 U	6 U	6 U	6 U
tetrachloroethene	5 J	6 U	2 J	6 U
2-hexanone	12 U	13 U	12 U	12 U
dibromochloromethane	6 U	6 U	6 U	6 U
chlorobenzene	6 U	6 U	6 U	6 U
ethylbenzene	6 U	6 U	6 U	6 U
m- & p-xylene	12 U	13 U	12 U	12 U
o-xylene	6 U	6 U	6 U	6 U
styrene	6 U	6 U	6 U	6 U
bromoform	6 U	6 U	6 U	6 U
1,1,2,2-tetrachloroethane	6 U	6 U	6 U	6 U

U = NONDETECT

J = The mass spectrum indicates the presence of the compound, but the calculated concentration is less than the reporting limit.

E = The associated concentration exceeds the calibrated concentration range and is therefore an estimated concentration.

ug/Kg = Micrograms per kilogram.

GRANVILLE SOLVENT SITE
CONTRACTED LABORATORY
SOIL ANALYTICAL DATA

DATE COLLECTED	5/2/94	5/3/94	5/3/94	5/3/94
SAMPLE NUMBER	SS-30	SS-31	SS-39	SS-43
SAMPLING INTERVAL (IN FEET)	20-22	12-14	20-22	12-14
	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Compound				
Analytical Method: 8260				
chloromethane	62 U	12 U	1400 U	11 U
vinyl chloride	62 U	12 U	1400 U	11 U
bromomethane	62 U	12 U	1400 U	11 U
chloroethane	62 U	12 U	1400 U	11 U
1,1-dichlorethene	13 J	6 U	700 U	6 U
acetone	62 U	12 U	1400 U	8 J
carbon disulfide	31 U	6 U	700 U	6 U
methylene chloride	31 U	6 U	700 U	6 U
trans-1,2-dichloroethene	31 U	6 U	700 U	6 U
1,1-dichloroethene	31 U	6 U	700 U	6 U
cis-1,2-dichloroethene	31 U	6 U	700 U	6 U
2-butanone	62 U	12 U	1400 U	11 U
chloroform	31 U	6 U	700 U	6 U
1,1,1-trichloroethane	200	6 U	380 J	6 U
carbon tetrachloride	31 U	6 U	700 U	6 U
benzene	31 U	6 U	700 U	6 U
1,2-dichloroethane	31 U	6 U	700 U	6 U
trichloroethene	1300	6 U	2400	6 U
1,2-dichloropropane	31 U	6 U	700 U	6 U
bromodichloromethane	31 U	6 U	700 U	6 U
cis-1,3-dichloropropene	31 U	6 U	700 U	6 U
4-methyl-2-pentanone	62 U	12 U	1400 U	11 U
toluene	31 U	6 U	700 U	6 U
trans-1,3-dichloropropene	31 U	6 U	700 U	6 U
1,1,2-trichloroethane	31 U	6 U	700 U	6 U
tetrachloroethene	230	6 U	6100	6 U
2-hexanone	62 U	12 U	1400 U	11 U
dibromochloromethane	31 U	6 U	700 U	6 U
chlorobenzene	31 U	6 U	700 U	6 U
ethylbenzene	31 U	6 U	700 U	6 U
m- & p-xylene	62 U	12 U	1400 U	11 U
o-xylene	31 U	6 U	700 U	6 U
styrene	31 U	6 U	700 U	6 U
bromoform	31 U	6 U	700 U	6 U
1,1,2,2-tetrachloroethane	31 U	6 U	700 U	6 U

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E = The associated concentration exceeds the calibrated concentration range and is therefore an estimated concentration.

ug/Kg = Micrograms per kilogram.

GROUNDWATER MONITORING WELL AND GROUNDWATER ELEVATION DATA
GRANVILLE SOLVENTS SITE

METCALF & EDDY, INC.

MONITORING WELL	ELEVATION TOC (FEET)	APRIL 20, 1994 DEPTH TO GROUNDWATER TOC (FEET)	APRIL 20, 1994 GROUNDWATER ELEVATION (FEET)	MAY 3, 1994 DEPTH TO GROUNDWATER TOC (FEET)	MAY 3, 1994 GROUNDWATER ELEVATION (FEET)	MAY 25, 1994 DEPTH TO GROUNDWATER TOC (FEET)	MAY 25, 1994 GROUNDWATER ELEVATION (FEET)
MW-1	930.671	29.51	901.161	30.26	900.411	30.44	900.231
MW-2	924.319	23.08	901.239	23.82	900.499	23.94	900.379
MW-2D	924.982	23.76	901.222	24.50	900.482	24.61	900.372
MW-3	917.707	5.16	912.547	6.80	910.907	8.09	909.617
MW-4	916.850	13.97	902.880	15.50	901.350	16.27	900.580
MW-4D	916.830	15.47	901.360	16.29	900.540	16.57	900.260
MW-4D2	917.096	16.94	900.156	16.69	900.406	16.83	900.266
MW-5	921.800	20.60	901.200	21.36	900.440	22.55	899.250
MW-6	936.647	35.38	901.267	36.13	900.517	36.24	900.407
MW-6D	936.700	35.42	901.280	36.19	900.510	36.31	900.390
MW-7	918.242	17.32	900.922	18.05	900.192	18.02	900.222
MW-7D	918.336	17.31	901.026	18.09	900.246	18.09	900.246
MW-8	928.483	–	–	28.15	900.333	28.25	900.233
MW-8D	928.270	–	–	28.05	900.220	28.06	900.210
MW-P1	924.517	23.33	901.187	24.08	900.437	24.24	900.277
RACOON CREEK	935.13	–	–	35.28	899.850	35.38	899.750
VOG PW-1	909.413	–	–	10.05	899.363	9.19	900.223
VOG PW-2	909.375	–	–	–	–	9.38	899.995
VOG PW-3	909.713	–	–	–	–	–	909.713
HP-13	910.078	–	–	–	–	9.67	900.408
HP-14	911.054	–	–	–	–	10.66	900.394
HP-15	911.409	–	–	–	–	11.10	900.309

GRANVILLE SOLVENT SITE
CONTRACTED LABORATORY
EXISTING, TEMPORARY, AND MUNICIPAL WELLS
ANALYTICAL DATA

METHOD	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW
Sample Number:	MW-1	MW-2	MW-2D	MW-3	MW-4	MW-4D	MW-4D2	MW-5	MW-6	MW-6D
DATE COLLECTED	5/13/94	5/12/94	5/13/94	5/12/94	5/13/94	5/13/94	5/13/94	5/13/94	5/13/94	5/13/94
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Compound										
dichlorodifluoromethane										
chloromethane	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
vinyl chloride	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
bromomethane	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
chloroethane	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
trichlorofluoromethane										
1,1-dichlorethene	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
acetone	250 U	250 U	890	5 U	12000	690	740 E	380 E	660	2600 E
carbon disulfide	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
methylene chloride	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
trans-1,2-dichloroethene	25 U	25 U	25 U	0.5 U	50 U	19	2.1 U	0.5 U	36 U	0.5 U
1,1-dichloroethane	25 U	25 U	25 U	1	50 U	71	4	0.5 U	36 U	2
2,2-dichloropropane										
cis-1,2-dichloroethene	25 U	770	660	1	50 U	660	120	0.5 U	36 U	2
2-butanone	250 U	250 U	250 U	5 U	500 U	140 U	4.2 U	5 U	360 U	5 U
bromochloromethane										
chloroform	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.9
1,1,1-trichloroethane	770	910	800	0.5 U	680	360	40	2	1500	9
carbon tetrachloride	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
1,1-dichloropropene										
benzene	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
1,2-dichloroethane	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
trichloroethene	290	1200	1000	5	2100	650	52	2	880	14
1,2-dichloropropane	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
dibromomethane										
bromodichloromethane	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	1
cis-1,3-dichloropropene	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
4-methyl-2-pentanone	250 U	250 U	250 U	5 U	500 U	140 U	21 U	5 U	360 U	5 U
toluene	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.4 J	36 U	0.4 J
trans-1,3-dichloropropene	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
1,1,2-trichloroethane	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
tetrachloroethene	92	310	280	0.5 U	330	730	120	2	36	10
1,3-dichloropropane										
2-hexanone	250 U	250 U	250 U	5 U	500 U	140 U	21 U	5 U	360 U	5 U
dibromochloromethane	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
1,2-dibromoethane										
chlorobenzene	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
1,1,1,2-tetrachloroethane										
ethylbenzene	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.4 J
m- & p-xylene	50 U	50 U	50 U	1 U	100 U	28 U	4.2 U	1 U	71 U	1
o-xylene	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	1
xylenes (total)										
styrene	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
bromoform	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	3
isopropylbenzene										
bromobenzene										
1,1,2,2-tetrachloroethane	25 U	25 U	25 U	0.5 U	50 U	14 U	2.1 U	0.5 U	36 U	0.5 U
1,2,3-trichloropropane										
n-propylbenzene										
2-chlorotoluene										
4-chlorotoluene										
1,3,5-trimethylbenzene										
tert-butylbenzene										
1,2,4-trimethylbenzene										
sec-butylbenzene										
1,3-dichlorobenzene										
1,4-dichlorobenzene										
p-isopropyltoluene										
1,2-dichlorobenzene										
n-butylbenzene										
1,2-dibromo-3-chloropropane										
1,2,4-trichlorobenzene										
hexachlorobutadiene										
naphthalene										
1,2,3-trichlorobenzene										

U = NONDETECT

J = The mass spectrum indicates the presence of the compounds, but the calculated concentration is less than the reporting limit.

E = The associated concentration exceeds the calibrated concentration range and is therefore an estimated concentration.

CLP FLOW = Method for the analysis of low concentration water for volatile (purgeable) organic compounds, in U.S. EPA Contract Laboratory Program Statement of Work for Low Concentration Water Organic Analysis, OLCO1.0, 1992.

ug/l = Micrograms per liter.

METHOD	CLP LOW	CLP LOW	CLP LOW	CLP LOW	CLP LOW	524.2	524.2	CLP LOW	CLP LOW	CLP LOW
Sample Number:	MW-7	MW-7D	MW-8	MW-8D	MW-P1	PW-2	PW-3	HP-13	HP-14	HP-15
DATE COLLECTED	5/12/94	5/12/94	5/12/94	5/12/94	5/13/94	5/17/94	5/17/94	5/26/94	5/26/94	5/26/94
	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Compound										
dichlorodifluoromethane						0.5 U	0.5 U			
chloromethane	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
vinyl chloride	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
bromomethane	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
chloroethane	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
trichlorofluoromethane						0.5 U	0.5 U			
1,1-dichlorethene	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
acetone	73	6	10 U	32	160 J	5 U	5 U	5 U	5 U	5 U
carbon disulfide	0.5 U	0.5 U	1 U	0.5 U	25 U			1 U	1 U	1 U
methylene chloride	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	2 U	2 U	2 U
trans-1,2-dichloroethene	0.5 U	0.5 U	3	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
1,1-dichloroethane	0.5 U	0.5 U	2	0.5 U	71	0.5 U	0.5 U	1 U	1 U	1 U
2,2-dichloropropane						0.5 U	0.5 U			
cis-1,2-dichloroethene	0.5 U	0.5 U	32	0.5 U	600	0.5 U	0.5 U	1 U	1 U	1 U
2-butanone	5 U	5 U	10 U	5 U	250 U			5 U	5 U	5 U
bromochloromethane						0.5 U	0.5 U			
chloroform	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
1,1,1-trichloroethane	0.5 U	0.5 U	1 U	0.5 U	1800	0.5 U	0.5 U	1 U	1 U	1 U
carbon tetrachloride	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
1,1-dichloropropene						0.5 U	0.5 U			
benzene	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
1,2-dichloroethane	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
trichloroethene	0.5 U	0.5 U	1 U	0.5 U	6200	0.5 U	0.5 U	1 U	0.5 J	1 U
1,2-dichloropropane	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
dibromomethane						0.5 U	0.5 U			
bromodichloromethane	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
cis-1,3-dichloropropene	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
4-methyl-2-pentanone	5 U	5 U	10 U	5 U	250 U			5 U	5 U	5 U
toluene	0.5 U	0.5 U	1 U	0.9	25 U	0.5 U	0.5 U	1 U	1 U	1 U
trans-1,3-dichloropropene	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
1,1,2-trichloroethane	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
tetrachloroethene	0.5 U	0.5 U	1 U	0.5 U	1400	0.5 U	0.5 U	1 U	1 U	1 U
1,3-dichloropropane						0.5 U	0.5 U			
2-hexanone	5 U	5 U	10 U	5 U	250 U			5 U	5 U	5 U
dibromochloromethane	0.5 U	0.5 U	1 U	0.7	25 U	0.5 U	0.5 U	1 U	1 U	1 U
1,2-dibromoethane						0.5 U	0.5 U			
chlorobenzene	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
1,1,1,2-tetrachloroethane						0.5 U	0.5 U			
ethylbenzene	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
m- & p-xylene	1 U	1 U	2 U	1	50 U					
o-xylene	0.5 U	0.5 U	1 U	0.5	25 U					
xylenes (total)						0.5 U	0.5 U	1 U	1 U	1 U
styrene	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
bromoform	0.5 U	0.5 U	1 U	2	25 U	0.5 U	0.5 U	1 U	1 U	1 U
isopropylbenzene						0.5 U	0.5 U			
bromobenzene						0.5 U	0.5 U			
1,1,2,2-tetrachloroethane	0.5 U	0.5 U	1 U	0.5 U	25 U	0.5 U	0.5 U	1 U	1 U	1 U
1,2,3-trichloropropane						0.5 U	0.5 U			
n-propylbenzene						0.5 U	0.5 U			
2-chlorotoluene						0.5 U	0.5 U			
4-chlorotoluene						0.5 U	0.5 U			
1,3,5-trimethylbenzene						0.5 U	0.5 U			
tert-butylbenzene						0.5 U	0.5 U			
1,2,4-trimethylbenzene						0.5 U	0.5 U			
sec-butylbenzene						0.5 U	0.5 U			
1,3-dichlorobenzene						0.5 U	0.5 U	1 U	1 U	1 U
1,4-dichlorobenzene						0.5 U	0.5 U	1 U	1 U	1 U
p-isopropyltoluene						0.5 U	0.5 U			
1,2-dichlorobenzene						0.5 U	0.5 U	1 U	1 U	1 U
n-butylbenzene						0.5 U	0.5 U			
1,2-dibromo-3-chloropropane						0.5 U	0.5 U	1 U	1 U	1 U
1,2,4-trichlorobenzene						0.5 U	0.5 U			
hexachlorobutadiene						0.5 U	0.5 U			
naphthalene						0.5 U	0.5 U			
1,2,3-trichlorobenzene						0.5 U	0.5 U			

U = NONDETECT

J = The mass spectrum indicates the presence of the compounds, but calculated concentration is less than the reporting limit.

E = The associated concentration exceeds the calibrated concentration range and is there an estimated concentration.

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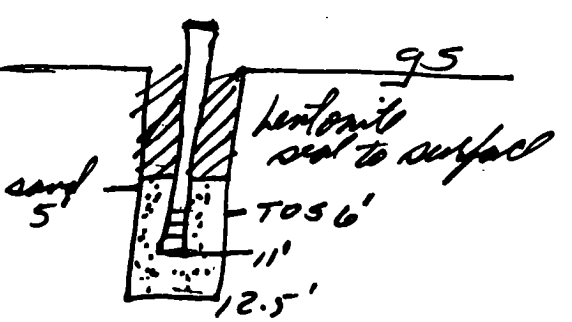
ug/l = Micrograms per liter.

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: Granville Solvents		SHEET 1 OF 1	BORING NO. SVE1
SITE LOCATION: Granville, OH.	JOB NO. 014910		
	LOCATION: 0:0	GROUND ELEV.	TOTAL DEPTH 12.5

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	GRAPHIC LOG
0947	1	0-2	18"	5·7·5·11		black oil looking material, top 2" silt with trace clay, dry, dk brown no plasticity	
0950	2	2-4'	10"	8·7·5·4		3" of black oil material at the end of the spl, dark/brown 7.5YR 6/8, silt with trace clay, slightly moist, dense, no plasticity	
0952	3	4-6'	16"	4·4·4·4		soft, same silt as above (4"-bottom) top 12" is black oil material, moist/wet	
0958	4	6-8'	14"	2·1·1·2		moist, silt with little-trace clay, no plasticity, soft,	
1000	5	8-10'	10"	1·2·1·3		same as above	
1003	6	10-12'	13"	1·2·2·2		same as above	



SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES:

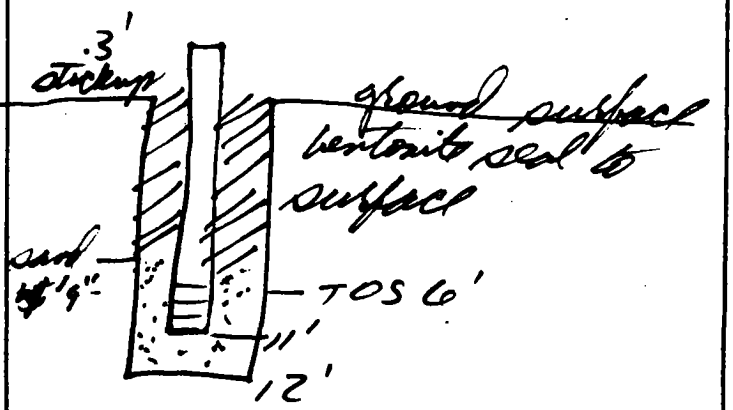
BORING NO.: SVE1

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: Granville Solvent		SHEET 1 OF	BORING NO. SVE2
SITE LOCATION: Granville, OH.	JOB NO. 014912		
	LOCATION: -15.0 ϕ	GROUND ELEV.	TOTAL DEPTH 12'

	DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	GRAPHIC LOG
1058		1	0-2'	22"	5·6·8·8		black ash material (14"), 8" dk brown silt, grass and roots present, dry, soft	
1100		2	4-6'	8"	4·5·5·2		black ash material w/ 2" of sand silt from above (fall off)	
1105		3	8-10'	14"	1·4·4		silt w/ trace clay, dry, v. low plasticity, tan/brown 7.5YR 6/6, dense	



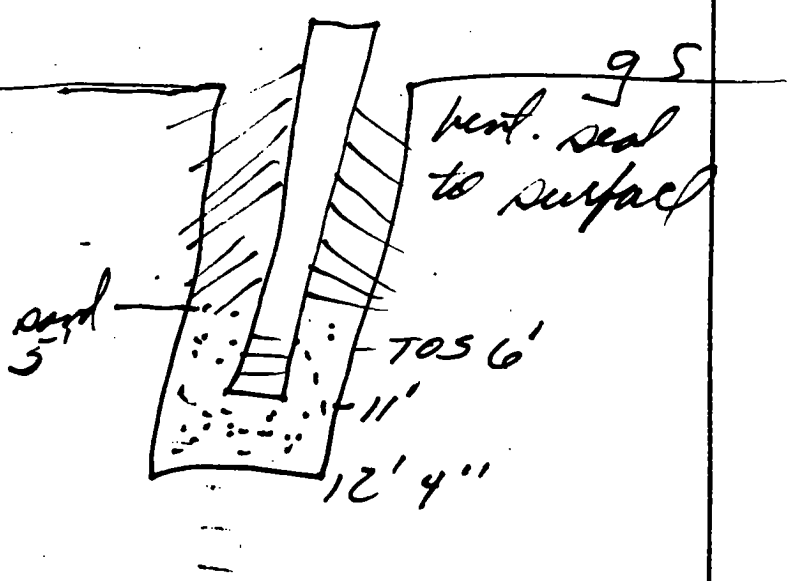
SAMPLE TYPES	NOTES:	BORING NO.:
SS=SPLIT SPOON, ST=SHELBY TUBE, R=ROCK CORE, O=OTHER		SVE2

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: GSS		SHEET 1 OF 1	BORING NO. SVE 3
SITE LOCATION: Granville, OH.	JOB NO. 014910		
	LOCATION: Φ:1Φ	GROUND ELEV.	TOTAL DEPTH 12'4"

	DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	GRAPHIC LOG
1142		1	0-2'	15"	9.18.13.12		dry, brittle, silt with trace clay and trace black ash, orange/brown color 7.5YR 5/8, sub angular rocks present throughout spoon	
1144		2	4-6'	11"	9.7.5.3		same as above, 2" of black ash material at end of spoon	
1151		3	8-10'	10"	3.4.4.5		tan/brown 7.5YR 5/4, silt with trace clay, soft, moist, low plasticity	



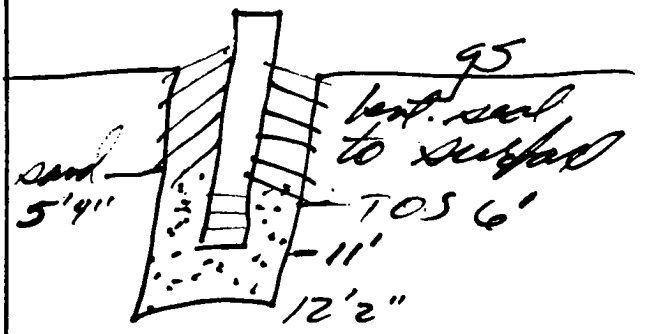
SAMPLE TYPES	NOTES:	BORING NO.:
SS-SPLIT SPOON, ST-SHELBY TUBE R-ROCK CORE, O-OTHER		SVE 3

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: Granville Solvent		SHEET 1 OF 1	BORING NO. SVE 4
SITE LOCATION: Granville, OH.	JOB NO. 014910		
	LOCATION: Φ·25	GROUND ELEV.	TOTAL DEPTH 12'

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	GRAPHIC LOG
1333	1	0-2	11"	10·26·19	15	silt heavy silt with trace clay, trace black organic material throughout sample, dry, loose	
	2	2-4'	8"	12·8·6·6		heavy/gray 7.5YR 5/8, silt with trace clay, dense, dry, no plasticity, trace amount of material present	



SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES:

BORING NO.: SVE4

ENGINEERS

PROJECT: GRANVILLE SOLVENTS		SHEET 1 OF 4	BORING NO. HP-1
SITE LOCATION: GRANVILLE SOLVENTS.	JOB NO. 014910 0002		
	LOCATION: MIDWAY PW-1 - MW-7	GROUND ELEV.	TOTAL DEPTH 95 / Start: 14:45 4/29 / Finish: 4/30
DRILLING COMPANY: HAD INC		DRILL RIG: CME-75	
DRILLER(s): TODD BROMLEY.		METHOD: HSA	
GEOLOGIST: M. ANDREW		AUGER SIZE: 4'4 ID	
Water Zone Encountered: YES	Static Water Level: NOT MEASURED. 11' ±		

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
4-6	SS.	4-6	89"	3-2	40%	SILTY SAND (SM) SOME GRAVEL, PEBBLES	14:55
				2-2		FRIABLE SOFT DRY LT-MED BROWN	.50 - .75
						(2.5YR 3/2)	
9-11	SS	9-11	12"	1-1	80	AS ABOVE. w/ 1'3" SILTY SAND (FINE)	15:07
				1-2		WELL SORTED SSAM 2" FROM SHOE	P. .25-.50
						(10YR 3/3)	
14-16	SS	14-16		3-4		SILTY SAND (SM) SOME GRAVEL 40% + PEBBLES	P.25 - .50
				5-5		2-15 MM SUB ROUNDED. MED BROWN	
						(10YR 4/2) FRIABLE SAT MOIST.	
17'-18'	WATER ZONE.					THIS LAST SAMPLE BORDERLINE SILTY	
						SANDY GRAVEL	
19-21	SS	19-21		3-2		SILTY SAND (SM) 40% GRAVEL PEBBLES	
				6-8		POORLY SORTED. MED-DK BROWN.	
						FRIABLE SOFT. SATURATED.	
						10YR 3/2	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-1

5 SPLIT SPOONS
95' TD.

P:\EVERYONE\GEOLOGIC.LOG

ENGINEERS

PROJECT: GRANVILLE	JOB NO. D14710	SHEET 2 OF 4	BORING NO. HP-1

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
24-26	SS	24-26		5-5		SILTY SAND AS ABOVE	16:00
				6-5		POORLY SORTED @ BASE MORE SORTED	
						NEVER DRY.	
~~24-26~~		16:15				~~ASSABLE~~	
~~24-26~~		16:25				~~ASSABLE~~	
		16:45	DRIVE	1ST	HYDRO PUNCH. THROUGH 5'- HEAVE IN		
			AUGERS	AUGERS @ 34'½' DRIVE PUNCH TO 3			
		16:55	PULL UP ON HYDRO PUNCH BACK TO PURGE				
		17:05	ATTEMPT TO SAMPLE				
		17:08	FILL	1ST	40 ml VOA		
		17:41	LAST VOA FILLED.				
		17:50	HYDRO PUNCH OUT. STILL HAD STEEL POINT ATTACHED				
			EXPLAINS SLOW RECHARGE. WAS RECHARGE ACTUALLY				
			FROM THREADS OR BASE?				
		17:55	GO TO ANDREW'S HOUSE TO FIX "SWORDED" HYDRO PUNCH"				
			HEAD.				
		18:10	RETURN. RE TAKE SAMPLE.				
		18:15	PICK UP AND DRILL DOWN W/ AUGERS TO CLEAR "HEAVE" 8'-0				
		18:19	8" HEAVE	RE ASSEMBLE SAMPLER			
		18:21	ON BTM	LITTLE WATER 20-20 ml			
		18:33	PULL UP	SAMPLER	SAMPLE 18:35.		

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES: 16:00 MEETING TO CHANGE PLAN. NO MORE SAMPLING @ EACH CHANGE OVER

BORING NO.: HP-1

PROJECT: GRANVILLE	JOB NO. 014710	SHEET 3 OF 4	BORING NO. HP-1

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
		18:45				PULL SAMPLER	
		18:52				PUT ON 35-40 AUGER	
		18:54	40'			AS ABOVE - SILTY SAND.	
		18:55				CHANGE OVER @ 40 GRAVEL CUTTINGS	
		18:59	45'			CHANGE OVER @ 45	
						LARGE COBBLE - ? @ 49' GRAVEL CUTTINGS	
		19:05	50'				
		19:09	55'			PULL RODS TO RUN HYDROPUNCH COARSE GRAVEL	
		19:18				PULL OUT 1 TAPE 5½' HEAVE CUTTINGS	
		19:35				DRIVE HYDRO PUNCH POINT 1	
		19:42				BAILER 80 ml ±	
		19:45				SAMPLE PULL RODS + SAMPLER	
		20:05				SHUT DOWN FOR NIGHT	
4/30		07:10				RESUME DRILLING 55'-60'	
		07:25	60'				
		07:35	65'				
		07:38	70'				
		07:40	75'			PUNCH OUT LEAD AUGER PLUG	
		07:50				PULL RODS + PULL REAMOUT HEAVE	
		8:18				DRIVE HYDRO PUNCH	
		8:20					
		8:30				SAMPLE	
						PULL PUNCH	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-1

METCALF & EDDY, INC.
ENGINEERS

GEOLOGIC LOG

M&E

PROJECT: GRANITE	JOB NO. D14710	SHEET 4 OF 4	BORING NO. HP-1

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
		08:50				PUNCH OUT.	
		08:55				DRILL	
		0859				Down to 79'	
		09:35				PUSH AQUA PROBE	
		09:46				OPEN PUNCH.	
						TD 95' - PUNCH TO 97'	
						PUNCH MET OBSTRUCTION @ 97'	
		10:15				READY TO MIX GROUT	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-1

ENGINEERS

PROJECT: GRANULLE SOLOSNTS		SHEET 1 OF 4	BORING NO. HP-2
SITE LOCATION:	JOB NO. 014910		
	LOCATION:	GROUND ELEV.	TOTAL DEPTH 9B — Start: 5-1 — Finish: 5-1
DRILLING COMPANY: HAD INC		DRILL RIG: CME-75	
DRILLER(s):		METHOD: HSA	
GEOLOGIST: M. ANDREW		AUGER SIZE: 4'4 ID	
Water Zone Encountered: YES	Static Water Level: 18' ±		

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
1-3		1-3	3-4	12"	50%	6" SAND (SPA) MEDGR DK BROWN SOFT	
			3-4			FRIABLE MOIST 10YR 4/2	0 PPM
07:35						6" SILTY CLAY (CL) REDDISH BROWN.	.5 P
						SOME TR SAND. NON PLASTIC SOFT FRIABLE	
						MED DENSITY MOIST 10 YR 3/3	
3-5		3-5	10"	3 3	45%	SILTY CLAY (CL) TR SAND MED	0 PPM
				2 3		BROWN. MED FIRM NON PLASTIC MOIST	
07:42						DENSE	1.5 P.
5-7		5-7		1 3	60%	8" AS ABOVE	0 PPM
				3 5		8" SAND (SM) POORLY SORTED SOME SILT	
07:46						~~AND GRAV~~ TR GRAVEL SOFT FRIABLE	1.0 P
						LOOSE DEN. - SL MOIST	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-2

21 SPLIT SPOONS

PROJECT: GRANNELL	JOB NO. 014710	SHEET 2 OF 4	BORING NO. HP-2

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
7-9		7-9	18"	3-8	75%	AS ABOVE 10YR 4/2	0 PPM
7:50				8-7			
9-11		9-11	18"	3-5	75	AS ABOVE	0 PPM
7:55				7 7			
11-13		11-13	20	3-4	80%	AS ABOVE.	0 PPM
8:03				6 9			
13-15		13-15	18"	4 7	75%	AS ABOVE SOME LARGER GRAVELS.	0 PPM
				6 5		(15-20 MM.) SOME Fe STAINING	
8:06							
15-17		15-17	18"	6-4	75%	AS ABOVE INC MOISTURE & SHOR	0 PPM
8:10				4-4		10YR 4/2	
17-19		17-19	12"	1-5	50%	8" SILTY CLAY (CL) SOME GRAVEL MED DENSE	WET @ 18'
				4-4		REDDISH BROWN STAINING FIRM. → FRIABLE	0 PPM
						WET 10YR 4/6	
						4" SILTY SAND (SM) ~~MEDGRAIN FINE~~ SOME COARSE SAND.	
						DK BLK-BROWN SOFT WET. 10YR 3/1	
19-21		19-21	12"	2-4	50%	SILTY SAND (SM) AS ABOVE	
				5-4		10YR 3/1	

SAMPLE TYPES SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES	NOTES:	BORING NO.: HP-2

ENGINEERS

PROJECT: GRANVILLE	JOB NO. 014710	SHEET 3 OF 4	BORING NO. HP-2

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
24-26		2426	14"	1 3	60%	SILTY SAND (SM) POORLY SORTED, MED GR	0 PPM
				5 3		TR GRAVEL + COARSE SAND SOFT LOOSE	
						WET DK GRAY 10YR 4-1	
29-31		2731	18"	1-4	75%	AS ABOVE	0PPM
9:46				5 4			
35-37		no sample →				HYDRO PUNCH (SW) (SM)	
39-41		3941	24"	2-4	100%	well sorted, silty sand, fine sand	0 ppm
				7-9		and gravel @ 41', wet, loose/slightly	
						compacted, soft, dk. gray 10YR 4/1	
44-46		44-46		4-8		Same as above	0 ppm
9:44				6-9			
46						(ANGRY RATTLE THROUGH COBBLES.)	
						DRILLING W/ SPOON. WELL SORTED MTL IS DRILLING EASIER	
49-51		49-51.		4-5.		AS ABOVE SILTY SAND (SM) SOME GR	
09:58						SAND + GRAVEL. DK GRAY SOFT	
						FRIABLE WET	
54-56		54-56		7-6		AS ABOVE SILTY SAND (SW) (SM) POORLY SORTED	
10:05				7			

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-2

ME[illegible]ALF & EDDY, INC.
ENGINEERS

GEOLOGIC LOG

M&E

PROJECT: GRANNELL	JOB NO. D14710	SHEET 4 OF 4	BORING NO. HP-2

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
59-61'				2-5	90%	silty (5%) fine/med ~~sand~~ (SW) wet, soft,	0 ppm
11:03				5-5		poorly sorted w/ trace gravel @	HNu
						61' (1-2")	
64-66		64-66	14"	3-5	60%	AS ABOVE SILTY SAND (SW) TR GRAVEL	0 PPM
11:14				9-10			
69-71		69-71		3-6		AS ABOVE	0 PPM
11:35				8-7			
74-76'		74-76'		3-7	100%	well graded, med sand & gravel w/ minor	0 PPM
11:40			9-10			silt, gravel up .25", wet, soft	HNu
						dk gray	
77'						AQUA PROBE SAMPLE	
						MUCH MORE SILT AT TD THAN	
						PREVIOUSLY ENCOUNTERED. AQUA-PUNCH	
						NOT RETAINING SCREEN. HCl EFFERVESCENCE	
						W/ CARBONATES IN SAMPLE SILT.	
79-81		79-81		7-9	100.	MOSTLY WASHED SAND, SOME	0 PPM
15:20						MSD FIRM SILTY SAND IN SHOE.	
						STUCK PUC.	
						TD 98'	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-2

MEYCAU & EDDY, INC.
ENGINEERS

GEOLOGIC LOG

M&E

PROJECT: GRANVILLE SOLOSNTS		SHEET 1 OF 3	BORING NO. HP-3
SITE LOCATION:	JOB NO. 014910		
	LOCATION:	GROUND ELEV.	TOTAL DEPTH 95' / Start: 5-2 / Finish: 5-2
DRILLING COMPANY: HAD INC		DRILL RIG: CME-75	
DRILLER(s):		METHOD: HSA	
GEOLOGIST: M. ANDREW		AUGER SIZE: 4'4 ID	
Water Zone Encountered: YES		Static Water Level: 55' ±	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
4-6		4-6	14"	5-3	55%	3" TOPSOIL DK BROWN ORGANIC SOIL	
				3-3		GRAVEL (ROAD)	HNU 0
38'40						6" SANDY SILT (ML) w/ SANDSTONE (BYER)	3.0
						4" SILTY CLAY (CL) CLAY SILT (ML) FEW PEBBLES,	
						DK BROWN 10YR 4/2 MED SOFT, MED	0.5
						DENSE NON PLASTIC MOIST.	
10-12		10-12	3"	2-3	15%	SILT (ML) SOME PEBBLES + GRAVEL + CLAY.	
				3-5		MOIST FRIABLE LOOSE	
						POOR RECOVERY WEATHERED GRANITE WEDGED IN SHOE	
15-17		15-17	15"	6-5	25%	8" SILTY CLAY (CL) DK BROWN MED-PLASTIC TR PEBBLES	
				5-6		MED DENSITY + FIRM MOIST 10YR 4/3	
						10" SANDY SILT (SM) SOME PEBBLES + GRAVEL	
						LT BROWN LOOSE FRIABLE DRY. 10YR 4/2 NON PLASTIC	

SAMPLE TYPES SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES	NOTES:	BORING NO.: HP-3

15 SPLIT SPOONS
95' TD

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ENGINEERS

PROJECT: GRANVILLE	JOB NO. 014710	SHEET 2 OF 3	BORING NO. HP-3

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
20-22		20-22	10"	7 5	45%	SILTY SAND (SM) LT-MED GRAY-BROWN.	0 PPM
	09:16			11 9		SOME PEBBLES + GRAVEL SOFT LOOSE DRY.	
						SANDSTONE IN SHOE.	
25-27			20"	6-6	80%	8" AS ABOVE.	0 PPM
				5 6		12" CLAYEY SILT (ML) DK BROWN SOME	
	09:25					PEBBLES. FIRM, DENSE, MOIST	
						SAND FILLED FRACTURES.	
30-32		30-32	24	9-11	100	10" AS ABOVE, MOIST - WET	0 PPM
				10-12		14" CLAY SAND (SM) SOME SILT GRAVEL PEBBLES	
	09:42					MED GRAY W/ LOCALIZED IRON OXIDE SAND STONE	
						PEBBLES FIRM RUBBER DRY.	
35-37		35-37	14	8-16	60%	AS ABOVE COARSER GRAVELS. PRESENT.	
	09:50			20-12			0 PPM
40-42		40-42	16	3-4	70%	AS ABOVE	0 PPM
				6-12			
	10:13						
45-47		45-47	14	6-5	60%	AS ABOVE	0 PPM
				7-3			
	10:27						
50-52		50-52	19	5-8	80%	AS ABOVE SILT INCREASING	0 PPM
				9-10			
	10:38						

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-3

ENGINEERS

PROJECT: GRANNELL	JOB NO. D14710	SHEET 3 OF 3	BORING NO. HP-3

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
55-57		55-57	20"	4-6	80%	SILTY SAND (SW) W/ GRAVEL + PEBBLES.	WATER
10:44				5-10		POORLY SORTED, LOOSE, FRIABLE	
						fe STAINING SATURATED.	0 PPM
60-62		60-62	24	3-8	80%	AS ABOVE	0 PPM
				8 8			
10:57							
11:00						RUN HYDROPUNCH	
11:25						HP-3-1 11:25 5-2-94	
65-67		65-67	24	7-9	100%	SILTY SAND (SW) AS ABOVE	0 PPM
				7 7			
70-72		70-72	24	4 6	100%	AS ABOVE	0 PPM
				5 6			
75-77		75-77		5-6		SAND (SP) ~~SOME~~ TR SILT + SOME PEBBLES 30%	0 PPM
				5 9		LARGER GRAVEL IN ABSENCE.	
						LOOSE SOFT. SATURATED.	
						HEAVING @ 80' DRILL TO	
						TD 95' AND SAMPLE	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:
DRILLING W/SPOON AHEAD OF AUGERS.
SAMPLE RECOVERY NOT ACTUAL

BORING NO.: HP-3

METCALF & EDDY, INC.
ENGINEERS

GEOLOGIC LOG

M&E

PROJECT: GRANVILLE SOLOSWTS		SHEET 1 OF 5	BORING NO. HP-4
SITE LOCATION: GRANVILLE SOLVENTS	JOB NO. 014910 0002		
	LOCATION: 40' SOUTH MW-3	GROUND ELEV.	TOTAL DEPTH 95' / Start: 5-3-94 / Finish: 5-4-94
DRILLING COMPANY: HAD INC		DRILL RIG: CME-75	
DRILLER(s): T. Brantley		METHOD: HSA	
GEOLOGIST: M. ANDREW		AUGER SIZE: 4'4 ID	
Water Zone Encountered: YES	Static Water Level: 17' ±		

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
0-2'		0-2'	95%	2-10		soft becoming hard, dry silty sand	0ppm
1256				22-18		w/ rock fragments up .25",	
						hardness ranges from 2.5-4.5	
						w/ penetrometer, brown/gray w/	
						some ash looking material up	
						at surface to 6" below surface	
2-4'		2-4	70%	7-5		silty sand becoming silt/clay	0ppm
1302				5-6		ashy (charcoal looking) material	HNu
						present between sand/clay	
						interface, small rock fragments	
						present, sand is brownish tan	
						clay is greenish gray,	
						2.5 sand, 4.0 clay (penetrometer)	
4-6		4-6'		3-2		SILT (ML) TR CLAY, GRAYISH BROWN 2.5Y 3/2	
1310				2-3		- BROWN 2.5Y 3/3 & BOTTOM. SOFT DRILL	
						MOIST.	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-4

23 SPLIT SPOONS
95' TD

METCALF & EDDY, INC.
ENGINEERS

GEO LOGIC LOG

PROJECT: GRANITE	JOB NO. 014910	SHEET 2 OF 5	BORING NO. HP-4

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
6-8		6+8	16"	2-5	70%	SILT (ML) SOME CLAY (2.5Y4/3) OLIVE BROWN	
13:20				5-6		SOME GRAY MOTTLING @ BASE.	OHWU
						SOFT DENSE MOIST	
8-10		8-10	24"	2-2	100%	SILTY CLAY (CL) BROWN W/ GRAY	OHWO
				3-2		MOTTLING. SOFT DENSE MOIST	0.25
10-12		10-12	24	1-1	100%	AS ABOVE W/ ZONE OF MOISTURE @	OHWU
				1-1		BASE	
12-14		12-14	24	1 2	100%	SILTY CLAY (CL) MED GRAY W/ BROWN	
				1 1		Fe MOTTLING + STAINING SOFT	
						VERY MOIST PLASTIC	
14-16		14-16'	70"	1-1		very plastic, silty, tan	OHW
13:38				1-1		clay, moist/wet (sticky)	
						tan gray (mottling)	
16-18		16-18	24	1-W	100	12" SAME	
				1-3		12" DK GRAY SILTY CLAY (2.5Y4/1) W BLACK	
						MOTTLING MED SOFT NOT AS MOIST.	
18-20		18-20	24	1-1	100	AS ABOVE MORE MOISTURE → WET	
				1-1			

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-4

M & E CAMPBELL & ASSOCIATES, INC.
ENGINEERS

GEOLOGIC LOG

M&E

PROJECT: GRANNIS	JOB NO. 014710	SHEET 3 OF 5	BORING NO. HP-4

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
20-22		20-22	24	1.1	100	AS ABOVE	O HWL
				1.2			
24-26		24-26	24	2 3	100	AS ABOVE W/ TRACE OF GRAVEL	O HWL
				3 2		@ BASE	
28-30		28-30	24	3 5	100	AS ABOVE ONLY SOFT + MOIST @	
14.43				8 9		MID POINT (DRYER + FIRMER @ BASE	
						SEVERAL PCS GRAVEL. 20 MM ±	
34-36		34-36	14	1-11	55	GRAVEL (GM) SOME SILT + SAND	
				10-6		SPOON CUT THROUGH SHALE COBBLES	
38-40		38-40	12	1-3	50	SILTY CLAY (CL) DK GRAY 2.5Y 4/1	
				5 7		FIRM DENSE MOIST (AQUATARD)	O HWL
						(SOME SAND ABOVE FROM DRILLING W/ SPOON)	
44-46		44-46		5-11		SAND (SW) COULDBE WASHED FROM	
				14.15		DRILLING W/ SPOON.	
						CRYSTALINE ROCK IN BOTTOM OF SPOON	
						PERHAPS ONLY REAL RECOVERY.	
						NO CUTTINGS TO SURFACE SINCE	
						30'-	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-4

ENGINEERS

PROJECT: GRAMMER	JOB NO. D14910	SHEET 4 OF 5	BORING NO. HP-4

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
48-50		48-50	16	1-16	60	SILTY SAND (SM) MEDIUM BROWN W/	0 HNu
				15 14		SOME GRAVEL + PEBBLES. 3-4 HEAVE	
						SOFT FINE SATURATED.	
54-56			8	4 12	30	AS ABOVE MOSTLY PLUG + WASH	0 HNu
17:30				10 8		FROM HEAVE + DRILLING	
						HYDRO PUNCH 52'-58' 180 SAMPLE	
						5-4-94	
54-56		54-56	0	17 19	0	RERUN AFTER CLEANOUT.	0 HNu
				14 11		NO SAMPLE SPOON DROVE A COBBLE	
01:55						SHOE HAD A BROKEN STONE WEDGED IN IT.	
						AS WELL AS SOME SAND (PLUG)	
						ADD 2' EXTENSION TO LOWER	
						AUGER CHANCE WORK FROM	
60-62		60-62	10"	2-7	30	SILTY SAND (SM) W/ SOME GRAVEL (BRN)	
00:10				8 8		PEBBLES AND TR. SILT + CLAY. (UNCONSOLIDATED)	
						DK GRY. MED TIGHT + DENSITY. (PACKED)	
						WET.	
65-67		65 67	6"	5 6	25%	AS ABOVE 6" SAMPLE 18" WASH.	
				6 5			

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-4

METCALF & EDDY, INC.
ENGINEERS

GEOLOGIC LOG

PROJECT: GRANITE	JOB NO. 014710	SHEET 5 OF 5	BORING NO. HP-4

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
70-72		70-72	3"	2 2	15%	AS ABOVE (SILTY SAND SM SOME	
08:49				6 7		GRAVEL + SILT.	0 HNU
75-77		75-77	8"	4 5	30%	AS ABOVE	0 HNU
09:02				7 7			
						HYDRO PUNCH 77'	
						SAMPLE HP-4-3 09:30	
						TOO MUCH HEAVE @ 80 TO SAMPLE	
						PUSH TO 95' AND RETRIEVE HP-4-4	
10:10						DRIVE HYDRO PUNCH.	
						SAMPLE HP-4-4 96'	
						TD 95 + 1' HP.	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-4

M E T & E D D Y, INC. ENGINEERS — GEOLOGIC LOG — M&T

PROJECT: GRANVILLE SOLOSNITS		SHEET 1 OF 5	BORING NO. HP-5
SITE LOCATION: GRANVILLE SOLOSNITS	JOB NO. 014910		
	LOCATION: SW MW 4 CLUSTER	GROUND ELEV.	TOTAL DEPTH 95' / Start: 5-5-94 / Finish: 5-5-94
DRILLING COMPANY: HAD INC		DRILL RIG: CME-75	
DRILLER(s): TODD BROMLEY SMITH JAYSON		METHOD: HSA	
GEOLOGIST: M. ANDREW		AUGER SIZE: 4'4 ID	
Water Zone Encountered: YES		Static Water Level: 16' ±	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES Hnu 0.5 BKGND
0-2	SS	0-2	12"	8 9	50%	SILTY CLAY (CL) W/ GRAVEL. TIGHT	6 8 10
07:45				9 9		DENSE DRY (FILL)	PPM.
						POSSIBLE OLD TANK?	
2-4	SS	2-4	18"	6 5	75%	SILT (ML) W CLAY. FEW PEBBLES. BROWN	0.5 - 2 PPM
7:56				4 5		DENSE FIRM DRY. (ALLUVIUM) BROWNISH	
						GRAY (10YR 4/2)	
4-6	SS	4-6	14"	4-5	60%	AS ABOVE GRAVEL INCREASES. SHOWS	0.5 - 1 PPM
8:03				6 6		MORE IN CUTTINGS THAN SPOONS	
				2 3			
6-8		6-8	12"	4 4	50%	8" AS ABOVE	0.6 PPM
08:10						2" SILT → V FINE SAND. (SD)	
						LT BROWN LOOSE SOFT DRY (10YR 5/3)	0.8 PPM
8-10		8-10	10"	2-2	40	SILT (ML) SOME GRAVEL + LITTLE SAND.	0.2 PPM
				4 4		MED DENSE, MED FIRM MOIST IRON OX	0.4 PPM
						STAINING - CUTTINGS 50% GRAVEL ±	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP 5

26 SPLIT SPOONS
95' TD

ENGINEERS

PROJECT: GRANVILLE	JOB NO. D14910 0003	SHEET 2 OF 5	BORING NO. HP-5

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
10-12		10-12	8"	3-10	30%	AS ABOVE. PRIMARY SHATTERED SANDSTONE	1.0 PPM
				7 8		IN SHOE. COBBLE.	1.2 PPM
12-14		12-14	12"	18-24	50%	PULVERIZED COBBLE (LIME STONE)	1.5 PPM
				10 8		SILTY SAND (SM) 50% SILT.	2.0 PPM
						DK BROWN. fe STAINING.	
						WATER EXUDING ON EXTERIOR OF	
						SPOON.	
14-16		14-16	14.	3-4	60	6" SANDY SILT (SM) W/ COBBLES PRESENT	2.0 PPM
				8 8		4" SILT ML GRAY, MED, SOFT, WET (10YR4/2)	1.5 PPM
						4" SANDY SILT W/ GRAVEL AS ABOVE	2.0 PPM
WATER @ 16'-0						TR CLAY MOIST.	
16-18		16-18	11"	3-7	45%	SILT (SM) W/ GRAVEL. fe STAINS	0.5 PPM
				5 6		MED LOOSE SATURATED.	0.8 PPM
18-20		18-20	4"	3-7	80%	AS ABOVE	0.2 PPM
				9 9			
20-22		20-22	8"	5-7	30%	AS ABOVE (LIMESTONE COBBLE, IN BASE)	1.0 PPM
				8-8		SILT (SM) SAND + COBBLES.	1.2 PPM
							0.8 PPM
25-27		25-27	8"	3-5	30%	SILT (SM) BR-GRAY. 10YR3/1	
				5 7		FIRM W/ SAND + GRAVEL DENSE SATURATED	0.2 PPM

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-5

ENGINEERS

PROJECT: GRANVILLE	JOB NO. 014710	SHEET 3 OF 5	BORING NO. HP-5

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
30-32		30-32	20	1-4	80%	AS ABOVE SILTIER IN MIDDLE 12"	0.2 PPM
				3-4		GRADES TOP + BTM SOME SAND	
						SOFT FRIABLE SATURATED	0.2 PPM
35-37		35-37	8"	1-3	30%	AS ABOVE SAND CONTENT INCREASING TO	0.1 PPM
				5-15		50% W/ SILT MATRIX + COBBLES,	0.1 PPM
						fe STAINING	
						DRIVING W/ SPOON. IN AUGER SAND	
						BEGINNING TO WASH INTO AUGER	
						NO CUTTINGS TO SURFACE	
40-45		40-45	8"	6-15	30%	SILTY SAND (SM) SOME GRAVEL	0.1
				11-9		FIRM, BROWN.. SATURATED.	(MOISTURE)
						NO DRILL CUTTINGS SINCE 25'-0	
45-47		45-47	3"	3 6	30%	AS ABOVE	0
09:50				9 8			
50-52		50-52	8"	1-4-5	30%	AS ABOVE	0
				5			
55-57		55-57	3"	4 7	10%	AS ABOVE	
10:20				6 8			
10:30						RUN PUSH HP-5-2 10:30	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-5

ENGINEERS

M&C

PROJECT: GRANVILLE	JOB NO. 014710	SHEET 4 OF 5	BORING NO. HP-5

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
60-62		60-62	10	4-6	40	SILTY SAND (SM) DK BROWN	0
				8-8		SOME PEA GRAVEL TR SILT. SATURATED	
						CUTTINGS RETURN TO SURFACE	
65-67		65-67	10	34	40	AS ABOVE	0
11:10				66		CUTTINGS STOP	
70-72		70-72	8"	4.5	30	AS ABOVE.	0
				89			
75-77		75-77		5.6		AS ABOVE	0
~~70-75~~				8.9			
80-82		80-82	12"	5-6	50%	SILTY SAND (SM) W/ PEA GRAVEL	
13:53				10 9		AND TR SILT DK GRAY. LOOSE	
						SOFT	
85-87		85-87	16"	5-6	60%		
14:06			16	10 9		8" SAND SOME LITTLE SILT MED-FINE	
						GRAIN. LOOSE	
						8" SILTY SAND (SM) AS ABOVE W/	
						FEW GRAVEL + TR SILT DK GRAY LOOSE	
						SOFT, CUTTINGS RETURN	
~~90-92~~		~~90-92~~					

SAMPLE TYPES SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES	NOTES:	BORING NO.: HP-5

P:\EVERYONE\GEOLOGIC LOG\GEOLOG.PG2

METCALF & EDDY, INC.
ENGINEERS

GEOLOGIC LOG

PROJECT: GRANNELL	JOB NO. 014910	SHEET 5 OF 5	BORING NO. HP-5

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
90-92		90-92	10	6 6	40%	SAND (SM) W/ PEA GRAVEL + TR SILT	
14:26				6 8		DK GRAY 10YR3/1 SOFT-MED. WELL SORTED	
95-97		95-97	18	7 7	75	GRAVEL (GW) PEA. WELL SORTED	
14:40				9 4		DK GRAY 10YR3/1 SOFT FINE SAND SATURATED.	
14:45						RUN HP-5-4	
15 00						SAMPLE HP-5-4 95'	
						TD 95'	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-5

Metcalf & Eddy, Inc. ENGINEERS

GEOLOGIC LOG

M&E

Acker Soil Thax II

PROJECT: Granville Solvents		SHEET 1 OF 3	BORING NO. HP6
SITE LOCATION: Granville, OH	JOB NO. 014910		
	LOCATION: HP6 ~~Night Forward~~	GROUND ELEV.	TOTAL DEPTH

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	GRAPHIC LOG
0855	1	0-2'	18"	3·3·5·6		brown, moist silt w/ trace clay and fine sand, no plasticity, sspt 0.75 penetrometer, dense, 10YR 4/6 ML	
0858	2	2-4'	14"	6·9·8·10		same as above, less clay, harder 1.75 ML	
0903	3	4-6'	16"	2·3·4·5			
0911	4	6-8'	NR	5·5·5·4		tight silt, very moist, tan brown color, very soft 0.25, with-slight plasticity, ML No recovery 6-8'	
0915	5	8-10'	12"	3·4·6·1		moist to wet, wet trace rocks up to .5", same silt as above very soft, med-high plasticity	
0918	6	10-12'	16"	2·3·3·6		tight silt with high clay present, stiff, dense, wet lens @ 11.5' - 2" thick, rest of spoon is dry/moist, 2.0 penetrometer	
0924	7	12-14'	18"	4-5·4·6		becoming gray in color, small pebbles present, silty w/ med sand (very fine) 10YR 4/1, dry/moist	

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES:

BORING NO.: HP6

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: GSS		SHEET 2 OF 3	BORING NO. HP6
SITE LOCATION: Granville, OH	JOB NO.		
	LOCATION: HP6 50' W. of MW-3	GROUND ELEV.	TOTAL DEPTH 95'

	DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	GRAPHIC LOG
0927		8	14-16	6"	3.5.5.6		same as above, but wet, rock fragments present, 1.0' penetrometer reads up 0.50"	
0933		9	20-22	3"	3.5.9.6		some silt as above (6"-top), becoming fine/med sand, poorly graded wet, orange/brown tan color 5YR 6/8, wet	
0951		10	25-27	6"	3.4.6.6		6" of washed, poorly graded sand, 1 layer cobble that 1.5", wet, trace silt	
0957		11	30-32	24"	10.12.14	20	well graded sand & gravel with trace silt	
1052		12	40-42	8"	50/4"		washed sand, mod. graded	
1105		13	45-47	10"	7.24.14.40		well graded sand and gravel trace amounts of silt, gray 5YR 5/1 wet	
1120		14	50-52	6"	17.33.18	45	same as above	
1454		15	60-62	10"	14.16.20.16		poorly graded, well sorted, med. gray fine sand, little/no silt, wet, 5YR 5/1, soft, compacted	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE
R-ROCK CORE, O-OTHER

NOTES:

BORING NO.: HP6

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

M&E

PROJECT: GSS		SHEET 3 OF 3	BORING NO. HP6
SITE LOCATION: Grafton, OH	JOB NO. 01491		
	LOCATION: HP6 50' W. of MW-3	GROUND ELEV.	TOTAL DEPTH 95'

	DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	GRAPHIC LOG
1450		16	65-67	0	~~14-16-20-16~~		No Recovery	
1504					2-5-3			
1516		17	70-72	1'	8-11-10-10		well graded sand and gravel, gray 5Y 4/5 1, loose, v. trace silt wet	
1555		18	~~73-75~~	24"			same as above, more silt at end of spoon	
516 1504								
0730		19	80-82	10'	40-50/4"		washed gray sands	
0750		20	85-87	22"	23-50/3"		Same as above	
0810		21	90-92	3"	6-9-40-8		well graded sand and gravel (pebbles) gray 5Y 4/5 1, trace amount of silt, wet, compact	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE
R-ROCK CORE, O-OTHER

NOTES:

BORING NO.: HP6

ENGINEERS

PROJECT: GRANVILLE SOLOSNTS		SHEET 1 OF 4	BORING NO. HP-7
SITE LOCATION:	JOB NO. 014910		
	LOCATION:	GROUND ELEV.	TOTAL DEPTH 89' / Start: 5-6-94 / Finish: 5-6-94
DRILLING COMPANY: HAD INC		DRILL RIG: CME-75	
DRILLER(s):		METHOD: HSA	
GEOLOGIST: M. ANDREW		AUGER SIZE: 4'4 ID	
Water Zone Encountered: YES		Static Water Level: 29' ±	

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
2-4	SS	2-4	18"	2 4	75%	SILT LOAM (ML) CLEAN. MED BROWN)	.75 P.
08:15				4 4		MED FIRM + DENSITY MOIST 10YR4/3	0 HNU
0-2	SS	0-2	20"	2 2	85%	8" DK BR TOPSOIL w/ ROOTS.	0 HNU
8:23				4 4		12" SILT LOAM AS ABOVE	.75 P
4-6		4-6	6"	2 3	25%	SILT (ML) MED BROWN (~~[illegible]~~) 10YR4/3	1.0 P
08:30			ROCK IN SHOE	4 4		TR PEBBLES. GRAVEL MED SOFT. MED DENSITY MOIST.	0 HNU
6-8		6-8	18.	5 4	25%	AS ABOVE	0 HNU
08:35.				2 3			0.8 P.
8-10		8-10	12	2 2	50	4" AS ABOVE	
08:39				5 4		8" SAND (SM) TR GRAVEL + SILT.	0 HNU
						Fe STAINS, GRAY-BROWN MIX.	FRIABLE P
						SLT RAMPAN. SOFT LOOSE MOIST.	

SAMPLE TYPES SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES	NOTES:	BORING NO.: HP-7

25 SPLIT SPOONS,

ENGINEERS

M&T

PROJECT: GRANVILLE	JOB NO. 014710	SHEET 2 OF 4	BORING NO. HP-7

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
0-12		10-12	14	36	55%	~~SILTY~~ SAND (SM) SOME GRAVEL TR SILT	OHM
				7-6		MEDIUM fe STAINING SOFT FRIABLE	
						DAMP.	
12-14		12-14	0	5 9	0	LIMESTONE IN SHOE NO RECOVERY.	0 HM
				9 12			
14-16		14-16	16	17 12	60%	SILTY GRAVEL (GM) SOME SAND TR SILT. COBBLES.	OHM
08:53				10 9		LIMESTONE, SANDSTONE, CHERT.	
						fe STAINING	
16-18		16-18	4"	5-6	20%	AS ABOVE 10 - 30 CM COBBLES IN	OHM
				10.9		CUTTINGS.	
18-20		18-20	12"	55	50%	10" AS ABOVE SAND INCREASING	OHM
09:08				79		2" FINE - MED GR SAND W/ GRAVEL	
						SOFT FRIABLE MED BROWN MOIST	
24-26		24-26	18	8.9	75	SANDY GRAVEL (GM) TR SILT, SOME SAND	OHM
				9-7		30% BROWN TO GRAY MED SOFT	
						FRIABLE MOIST fe STAINING	
26-28		26-28	18"	6-7	75	AS ABOVE WT @ 28'	OHM
09:22				7-11		WET AT BASE OF SPOON,	
						OHM @ TOP OF WT.	
29-31		29-31	16"	5-7	65%	SAND (SW) SOME GRAVEL (SP) + TR LAMINA	OHM
				6-7		TR SILT SATURATED, FRIABLE, SOFT,	
34-36		34-36		2-8		ASABOVE	
09:40				8 7			

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-7

PROJECT: GRANNIS	JOB NO. D14710	SHEET 3 OF 4	BORING NO. HP-7

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
39-41		39-41	14"	3-4	60%	SAND (SW) SOME PEA GRAVEL TR SILT	0 PPM
				6-7		SOFT FRIABLE ROUNDED - SUB ROUNDED	
						SATURATED COTTING STOP COMMING BACK	
44-46		44-46	16"	3 5	65%	AS ABOVE	0 PPM
69-57				7 5			
49-51		49-51	18"	5-7	75%	AS ABOVE STILL NO CUTTINGS	0 PPM
				7 8		BEGINNING TO HEAVE	
50'						HP-7-1 DOPE - CSL 49'-50'	
						STD OSL	
						POUND OUT 5' HEAVE, DRILL TO	
						54' - VERY TIGHT TO GET STARTED AFTER	
						SAMPLE	
54-56		54-56	0	6-7	0	NO RECOVERY, BASKET MISSING	0 PPM
				10-14		1 POINT, DRILL ON TO 59'	
						1 TBS IN SPOON, COARSE SAND	
59-61		59-61	20	6 8	80	6" SAND SW MED GRAINED FEW PEA GRAVEL	0 PPM
				9 14		6" SAND (SW) WITH 40% GRAVEL	
						8" SILT (MH) DK GRAY (2.5Y 4/1)	
						FIRM, DENSE, TIGHT, LAMINATED ARMATURED, MOIST	
64-66		64-66	20	5 6	80	SAME SILT (MH) AS ABOVE (5Y 3/1)	0 PPM
				6 12			
						~~HP-7-2 BLASTER SAMPLE~~	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.:

METCALF & EDDY, INC.
ENGINEERS

GEOLOGIC LOG

M&E

PROJECT: GRANVILLE	JOB NO. D14710	SHEET 4 OF 4	BORING NO. HP-7

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
69-71		69-71	22	6.6	95%	6" SAND (SW) MED-F GRAINED SORTED	OHm
				8.9		SOFT.	
						4" SAND SW SOME GRAVEL, LOT WELL SORTED.	
						12" SILT. (MH) SAME AS 64-66 SILT,	
						SAND COULD BE WASH BORE	
74-76		74-76	16"	9 9	60	INTERBEDDED SILT + SAND.	OHm
				12 13		10" SAME SILT AS ABOVE.	
						4" SAME SAND AS ABOVE	
						77' AUGERS "RING" ON COBBLES	
79-81		79-81	18"	9-14	75	10" SAME SAND SM INC IN SILT CONTENT	OHm
				14-20		8" GRAVELLY SILT (ML) DK GRAY (10YR3/1)	
						FIRM. TIGHT MOIST, DRILLS HARD	
84-86		84-86	18"	2 6	75	SAME HARD SILT W/ GRAVEL +	
				10 14		TR SAND.	
14:58							
89-91		89-91				SAME HARD SILT. (MH) W/	O
				1 5		SOME SAND + GRAVEL. FIRM. TIGHT.	
				6 7		WET.	
89-1	15:15	RUN →				RUN AQUA PUNCH HP-7-3	
	15:33	RUN BAILER					

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-7

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: Ø1491 Granville Solvent		SHEET 1 OF 3	BORING NO. HP8
SITE LOCATION: Granville, OH.	JOB NO.		
	LOCATION: next to MW-1	GROUND ELEV.	TOTAL DEPTH 88 feet

	DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	GRAPHIC LOG
Ø800	0-	2',	0-2'	0"	1.5.4.5		No recovery	
Ø802		2	2-4'	0"	5.6.7.7		No recovery	
Ø813		3	4-6'	13"	~~5.4.7.7~~ 6.8.7.7		tan/brown silt w/ minor clay, stiff, dry, no plasticity, small angular lime-stone fragments present, 7.5YR5/4, 2.Ø	0ppm HNu
Ø821		4	6-8'	10"	5.7.16.13		same as above, larger rock fragments	0ppm HNu
Ø826		5	8-10'	14"	6.7.13.15		3.25 stiff, same silt with minor clay, becoming gray 10YR 6/3, minor mottling, dry, no plasticity	4.7ppm
Ø832		6	10-12'	8"	8.12.17.17		same as above, softer 2.5	0ppm HNu
Ø841		7	12-14'	5"	12.12.12.15		Same as, large sub rounded limestone rock at end of spoon, softer, moist, slight plasticity	0.2ppm
Ø851		8	14-16'	3"	12.24.11.21		silt w/ less clay, dry, no plasticity small sub-rounded limestone rocks present, gray/brown 10YR 5/4	0ppm
Ø905		9	16-18'	6"	9.11.8.13		silt w/ trace amounts of clay, moist/wet med/high plasticity, angular rock fragments	0ppm
Ø917		10	18-20'	14"	7.5.10.9		[illegible] clay, low plasticity gray, moist with wet zones about 3-4"	0ppm

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES:

BORING NO.: HP8

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

M&E

PROJECT :		SHEET 2 OF 3	BORING NO. HP8
SITE LOCATION: Granville, PA	JOB NO.		
	LOCATION: MW-1 Next to	GROUND ELEV.	TOTAL DEPTH 88 ft

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	GRAPHIC LOG
	11	20-22	16"	5·8·11	17	sand as above but becomes sat at 21.5', larger sub angular 1"	0 ppm
0933	12	22-24'	5"	13·18·22·49		silt w/ trace of sand, angular limestone fragments, moist, gray/brown low plasticity	0 ppm
0945	13	24-26'	10"	6·21·25·26		silt and sand (some), dry, sub plasticity, loose to compacted, small - large sub rounded limestone rocks, reddish brown w/	14 ppm HNU
1000	14	26-28'	18"	8·21·17·26		same as above, limestone @ 28'	
1009	15	31-33'				No recovery	
5/9/94 0845	16	36-38'	12"	10·14·12·20		wet, sand and gravel with trace silt, gravel is sub-angular to sub rounded, loosely compacted, tan/brown 10YR 6/8	
0859	17	41-43'	8"	15·13·17·17		same sand and gravel with trace silt as above	
0958	18	~~46-48~~ 51-53'	13"	13·10·11·15		gray, sand and gravel w/ trace silt 10YR 4/1, slightly compacted, wet	

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES:

BORING NO.: HP8

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

M&E

PROJECT: Granville Solvents		SHEET 3 OF 3	BORING NO. HP8
SITE LOCATION: Granville, OH	JOB NO. 014910		
	LOCATION: HP-8 Next to MW-1	GROUND ELEV.	TOTAL DEPTH 88 ft.

	DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	GRAPHIC LOG
1018		19	66-68'	18"	7.9.13.12		top 3" (61') is fine sand well sorted becoming sand and gravel. Rest of spoon tan/brown 10YR 6/4, wet, slightly compacted	
1213		20	71-73'	13"	23.23.15.16		gray, wet, sand and gravel with trace silt, 10YR 4/2	
1225		21	76-78'	22"	13.14.13.9		same as above	
1243		22	81-83'	24"	24.27.13.10		top 6-8", med, well sorted sand gray 10YR 4/2, overlying dol or sand and gravel with little to no fines, gray, wet, loose, 10YR 4/2	

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES:

BORING NO.: HP8

METCALF & EDDY, INC.
ENGINEERS

GEOLOGIC LOG

M&E

PROJECT: GRANVILLE SOLOSWTS		SHEET 1 OF 2	BORING NO. HP-9
SITE LOCATION: Granville, OH.	JOB NO. 014910		
	LOCATION: HP-9 along bike path at Palmer Lane/Bike Path intersection	GROUND ELEV.	TOTAL DEPTH 95' / Start: 5/8/94 0900 / Finish: 5-8-94
DRILLING COMPANY: HAD INC		DRILL RIG: CME-75	
DRILLER(s):		METHOD: HSA	
GEOLOGIST: M. ANDREW		AUGER SIZE: 4'4 ID	
Water Zone Encountered: YES	Static Water Level: 12' ±		

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
0-2		0.2	18"	2.2	75	SILT (ML) FINE BROWN, SOFT (NO GRAVEL)	1.0 P OHM
08:10				2.2		MED DENSE MOIST. 10YR 3/4	0.25P OHM
2-4		2-4	20	1 2	85	AS ABOVE NO GRAVEL	0.25P
09:20				2 1			
4-6		4-6	24	1 2	100	8" SOME SILT.	
09:40				3 3		16" SOME SILT GRAVEL CONTENT 20%	1.0P OHM
						LARGE BROKEN STONE IN SHOE.	
						NO SAND. FIRMER MOIST.	
6-8		6-8	12	W-1	50	6" AS ABOVE	OHM
				2-4		6" SANDY SILT (ML) 40% SAND 20% GRAVEL	1.0P
8-10		8-10	2"	8 5	10%	BROKEN COBBLE OR SAND STONE	OHM
				10 5			
10-12		10-12	10"	3.10	45%	SILT (ML) W/ GRAVEL. BRN COBBLES IN	OHM
10:00				5.3		SPOON. BROWN 10YR 4/3	
						MED SOFT, MOIST.	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES: Drilled to 95 feet with 4¼" ID augers

BORING NO.: HP-9

14 SPLIT SPOONS
95' TD

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PROJECT: GRANNIS	JOB NO. D14910	SHEET 2 OF 2	BORING NO. HP-9

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
12-14		12-14	10"	1-2	40	SILT (MH) TR FINE SAND, BROWN 10YR4/3	0 OHM
				1-1		SOFT MED DENSITY SATURATED, to	0.25 P
						WATER TABLE @ 12'-0"	
14-16		14-16	6"	1 1	25%	SILT (MH) WITH SAND SOME GRAVEL	40 P,
				2 3		SOFT MED SILT + DENSE SATURATED	0 OHM
						POURING SPOON	
16-18		16-18	10"	W	35	SAND (SM) W/ SILT TR GRAVEL	0 OHM
						VERY SOFT, LOOSE SATURATED,	
18-20		18-20	10"	1 1	35	AS ABOVE	0 OHM
				2 2		CUTTINGS CEASE TO SURFACE	
24-26		24-26	12"	1 4	50	6" ~~SILT~~ SAND AS ABOVE	0 OHM
				6 12		6" SILT (MH) W/ SAND + TR GRAVEL	
						FIRM DENSE SATURATED	
29-31		29-31	18"	9 7	75	18" SAME SILT,	
10:50				9 9		10" SAME SILT W/ COARSE COBBLES,	
						BRW W/ SPOON DENSE	
34-36		NOT	SAMPLED		DUE	TO REMOVED SANDS.	
10:58						HP-9-1 NOT SUCCESSFUL	
39-41		39-41	12"	3 5	50%	SAND. (SW) TR SILT SOME	
12:58				6 8		GRAVEL. (RIVER HEAVE) SOFT FRIABLE	
						SATURATED	
	No more split spoons taken due to the high amounts of heave. T. Smith 1630 5/8/94						

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-9

M & E & EDD, INC. ENGINEERS — GEOLOGIC LOG

PROJECT: GRANVILLE SOLOSNTS		SHEET 1 OF 4	BORING NO. HP-10
SITE LOCATION:	JOB NO. 014910		
	LOCATION:	GROUND ELEV.	TOTAL DEPTH 100' — Start: 5-9 — Finish: 5-9
DRILLING COMPANY: HAD INC		DRILL RIG: CME-75	
DRILLER(s):		METHOD: HSA	
GEOLOGIST: M. ANDREW		AUGER SIZE: 4'4 ID	
Water Zone Encountered: YES	Static Water Level: 16' ±		

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
0-2		0-2	8"	4 4	33	4" TOPSOIL DKBR SOFT LOOSE ROOTS.	0 HNu
				3 4		4" SILT (ML) MED BROWN 10YR 3/3.	
2-4		2-4	16	3 4	60	SILT (ML) MED BROWN. CLAY. 10YR 4/4	4.0, 2.0, 2.5 D
				4 5		MED FIRM + DENSE DAMP.	0 HNu
4-6		4-6	20	3 2	80	8" SAME SILT	HNu 0
				3 3		12" SILT (ML) BROWN 10YR 3/3. TR	1.0
						SANDSTONE COBBLES (FRAGMENTED BY SPOON)	HNu 0.
						SOFT, MED DENSE VERY MOIST TO MED	0.25
						SECTION fe STAINED SANDSTONE FRAG	0.5
6-8		6-8	14"	1 3	60	SAME SILT. GRADE INC TO 20%	1.0 HNu 0
10:20				4 3		DAMP.	1.5
8-10				2 3		SAME SILT MOISTURE INC TO MOIST.	0.5 HNu 0
10:26				3 2		LESS GRAVEL	1.25
10-12		10-12	14	1 2	60	4" SAND. FINE TO MED GRAIN. TR SILT	
				3 2		LOOSE DAMP,	
						10" SILTY SAND WITH FRAGMENTS	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-10

23 SPLIT SPOONS

100' TD

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ENGINEERS

GEOLOGIC LOG

PROJECT: GRANNELL	JOB NO. 014710	SHEET 2 OF 4	BORING NO. HP-10

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
10-12 cont						GRAYISH BROWN. TR SILT.	
						LOOSE FRIABLE MOIST.	
12-14		12-14	6"	1 2	25%	SAME SILTY SAND W TR TO SILT.	OHM
10:35				2 1		SOFT FRIABLE MOIST	
14-16		14-16	6"	1 2	25%	SAME SAND. MOIST AT BASE	OHM
				4 4			
16-18		16-18	18"	W 1	25	SILT (ML) TR SAND. MED BROWN 10YR 4/3.	OHM
				3 5		SOFT, LOOSE SATURATED, FEW PEA	
						GRAVEL @ BASE	
18-20		18-20	12"	4 7	50	6" SILT (ML) DK GRAY 10YR 3/1	OHM
				8 7		MED PLAST DENSE ~~MOIST~~ DAMP.	
						SILT (ML) DK BROWN 10YR 3/2	OHM
						MEDIUM DENSE DAMP	
20-22		20-22	8"	1 4	33	SILT (MW) MED BROWN 10YR 4/3	OHM
10:55.				9 11		SOME GRAVEL + SAND TR. COBBLE	
24-26		24-26	18"	10 9	75.	SILTY SAND (SM) W/ GRAVEL. BROWN	OHM
				7 8		FRIABLE SATURATED	
29-31		29-31		2 6		SAME AS ABOVE	
				5 6			
						LEAVE 2'-0 ABOVE SAMPLE	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-10

MITCALF & EDDY, INC.
ENGINEERS

GEOLOGIC LOG

M&E

PROJECT: GRANITE	JOB NO. D14910 0002	SHEET 3 OF 4	BORING NO. HP-10

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
34-36		34-36	18"	4 7	75.	9" SAND (SW) MED GRAINED POORLY	O
				8 6		LT BROWN FRIABLE SAT.	
						9" SANDY GRAVEL (GM) TR SILT. POORLY	
						LT-MED BROWN FRIABLE SAT.	
39-41		39-41.	6"	7 9	25	SAME SANDY GRAVEL	O
				10 10			
44-46		44-46	16"	3 5	60.	SAME	O
				7 7			
49-51		49-51	16"	3 5	60	SAME	O
				7 7			
54-56		54-56	8	7 7	33	SAME	
				8 7			
				2 7			
59-61		59-61	10"	9 12	45	SAME	
13:56							
						HP-10-2 14:55	
64-66		64-66	10"	7 6	45	SAME	
				7 10			

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-10

M & E, INC. ENGINEERS — GEOLOGIC LOG

PROJECT: GRANNIS	JOB NO. 014710	SHEET 3 4 OF 3 4	BORING NO. HP-10

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
69-71		69-71		8 10		SAME	
15:03				10 20			
71-81				12 18		SAME	
15:15				23 25			
71-81				12-15		SAME	
15:30				18-28		5'-0 HEAVE	
						HP-10-3 80' 16:05	
						SEVERE HEAVING WELL ACCES FURTHER	
						SPLIT SPOON SAMPLES	
						HP-10-4 100' 17:10	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-10

M & T & ASSOC., INC. ENGINEERS — GEOLOGIC LOG

PROJECT: GRANVILLE SOLOSWITS		SHEET 1 OF 3	BORING NO. HP-11
SITE LOCATION:	JOB NO. 014910		
	LOCATION:	GROUND ELEV.	TOTAL DEPTH 85 — Start: 5-10 Finish: 5-10
DRILLING COMPANY: HAD INC		DRILL RIG: CME-75	
DRILLER(s):		METHOD: HSA	
GEOLOGIST: M. ANDREW		AUGER SIZE: 4'4 ID	
Water Zone Encountered: YES	Static Water Level: 24'±		

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES
0-2		0-2	8"	4 4	33	TOPSOIL W/ ASPHALT – SILTY W/ CLAY (ML) DK BROWN	15 PPM
09:02				3 3		TR GRAVEL + SAND, MOIST MED FIRM + DENSE	5 PPM
						10YR 2/2	
2-4		2-4	6"	1 2	25	SILT (ML) DK BROWN. (10YR 4/4) W/	2 PPM 0.5P
				3 2		SANDSTONE COBBLES MED SOFT + DENSITY MOIST	
4-6		4-6	10"	1 1	40	SILT (ML) DK BR 10YR 3/3 SOME	2.5, 0.25P
				1 2		SAND + GRAVEL, SOFT, MOIST TO WET,	0.75P
6-8		6-8	18"	1 2	75.	SAME SILT AS ABOVE	HM 3, 8, 12 15
				4 7		AUGERS BEGIN TO CHATTER ON GRAVEL	
8-10		8-10	16"	5 5	65	4" SAND/SILT	2.5
				6 7		12" SILT (ML) W/ ABUNDANT GRAVEL	2.2
						AND SAND. FIRMER MOIST.	2.5

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-11

18 SPLIT SPOONS
85' ID

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METCALF & EDDY, INC.
ENGINEERS

GEOLOGIC LOG

M&E

PROJECT: GRANVILLE	JOB NO. 014910	SHEET 2 OF 3	BORING NO. HP-11

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES HM
10-12		10-12	12	5 7	50	SILT (ML) 40% GRAVEL. SOME SAND.	15-4-8
				6 8		PLASTIC MOIST.	
12-14		12-14	12	3-12	50	GRAVEL (GM) W/ SILT + SAND	4-5-7
				6-7		MED BROWN PLASTIC MOIST.	
14-16		14-16	14	4 7	60	AS ABOVE	4-7-5
				9 9			
16-18		16-18	14	2 4	60	AS ABOVE	6-7-8
09:42				6 7			
18-20		18-20	8	1 3	33	ABOVE. LG FINE GR SANDSTONE	6-14-7
				30 50/5		COBBLE	
20-22		20-22	16"	6-6	65	10" AS ABOVE	8-12
				7 12		3" SILT (ML) . FINE GR. DK BROWN	
WATER 21' PRESENT						(10YR 3/6) WET SOFT.	14
						3" COBBLE BRN	
22-24		22-24	10"	5 5	40	GRAVEL (GM) SOME SAND LTL SILT	14-9
				6 7		LOOSE, PLASTIC ~~SATURATED~~. WET	
24-26		24-26		1-4		ABOVE	6-14-1
WATER TABLE @ 24'-0							
				3-5			

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-11

METCALF & EDDY, INC.
ENGINEERS

GEOLOGIC LOG

PROJECT: GRANNELL	JOB NO. 014710	SHEET 3 OF 3	BORING NO. HP-11

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (over 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	FIELD TEST OR DRILLING NOTES HNu
						HEAVE	
29-31		29-31	12"	1 4	50%	SAND (SM) SOME SILT + GRAVEL	4 - 6
				4 5		LOOSE. FINE. SAT	
34-36		34-36	12	1.7	50	ABOVE · NOTE HNu NOW	0
10:28				7.7		NOT PICKING UP ANY.	
39-41		39-41	12	4.7	50.	AS ABOVE	0
				7 7			
44-46		44-46	12	4 5	50	AS ABOVE COLOR → GRAY.	0
				5 5		(WAS BROWN.	
10:45.						HP-11-1 RUN PULL.	
49-51		49-51	8"	1 5	33	SAME GRAY SAND	0
11:30				6 10			
						WORK OUT PUSH NO MORE SPOONS	
						DUE TO HEAVING	
						SAMPLE HP-11-2 12:20	
						SAMPLE HP-11-3 14:10	
						TD 85'	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE, R-ROCK CORE, O-OTHER, CS-CONTINUOUS SAMPLES

NOTES:

BORING NO.: HP-11

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

PROJECT: 014910 GSS		SHEET 1 OF 2	BORING NO. HP-14
SITE LOCATION: Granville, OH	JOB NO. 014910		
	LOCATION: HP-14 100' West of PW-1	GROUND ELEV.	TOTAL DEPTH 90'

DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	GRAPHIC LOG
0915	1	0-2'	13"	3·4·5·5		Dk. brown silt w/ trace amounts of clay, dry, no plasticity, 7.5YR 3/2 2" of med brown fine grain sand and silt at end of spoon	
0920	2	2-4'	6"	3·3·3·4		very soft, no plasticity, compacted fine grain sand and silt, sl. moist med brown, 7.5YR 5/8, minor mottling	
0926	3	4-6'	10"	1·1·3·2		same as above, lighter color 7.5YR 6/6,	
0935	4	6-8'	16"	3·2·3·2		fine-med sand and silt, compacted, moist, pale brown 10YR 7/4, soft, sandstone rocks at end of spoon	
0939	5	8-10'	6"	1·4·4·3		silt, fine-med. sand, and gravel, becoming wet, well graded	
0946	6	10-12'	12"	2·4·4·7		wet, well graded sand and gravel with little silt	
0955	7	~~14-16'~~ 14-16'	14"	3·7·7·6		same as above	
1001	8	~~16-18'~~ 19-21'	13"	3·5·4·5		same as above	
1014	9	24-26'	8"	3·6·7·8		same as above	
1020	10	29-31	24"	2·3·3·5		well sorted, coarse sand, gray 10YR 4/1	
1027	11	34-36'	24"	8·8·10·7		sand and gravel, gray 10YR 4/1, 0.5" fine sand/silt lense at about 35.5'	

SAMPLE TYPES
SS-SPLIT SPOON, ST-SHELBY TUBE
R-ROCK CORE, O-OTHER

NOTES:

BORING NO.: HP-14

Metcalf & Eddy, Inc.
ENGINEERS

GEOLOGIC LOG

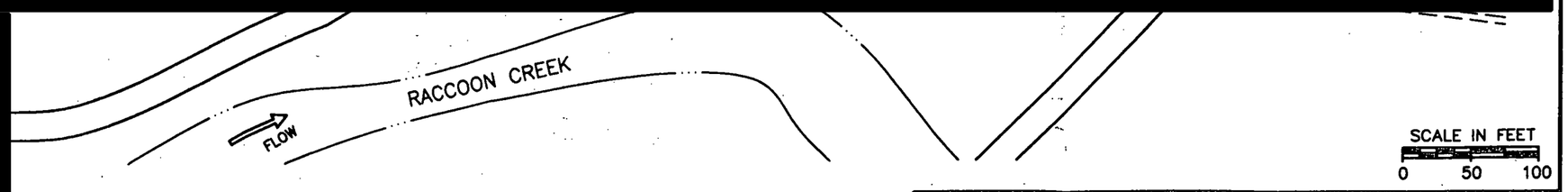
PROJECT : GSS		SHEET 2 OF 2	BORING NO. HP-14
SITE LOCATION: Granville	JOB NO. 014910		
	LOCATION: HP-14 100' West PW-1	GROUND ELEV.	TOTAL DEPTH 90'

	DEPTH	SAMPLE TYPE/NO.	SAMPLE DEPTH	SAMPLE RECOVERY	BLOW COUNT (per 6 inches) OR DRILLING TIME (min/ft)	% RECOVERY OR RQD	SAMPLE DESCRIPTION	GRAPHIC LOG
1036		12	39-41	24"	3.4.5.9		same as above	
1045		13	44-46	24"	3.3.3.4		same well graded sand and gravel	
1052		14	49-51	24"	7.9.14.10		same as above	
1105		15	54-56	24"	6.6.6.8		same as above	
1116		16	59-61	24"	9.9.8.12		same as above	
							Stopped split sampling due to sand heaving	

SAMPLE TYPES
SS=SPLIT SPOON, ST=SHELBY TUBE
R=ROCK CORE, O=OTHER

NOTES:

BORING NO.: HP-14



Metcalf & Eddy

GRANVILLE SOLVENTS SITE

POTENTIOMETRIC SURFACE PW-3 PUMPING

GRANVILLE, OHIO

FILE NAME	CHECKED	DRAWN	DATE	PROJECT NO.	FIGURE
POT2B		CAP	5/25/94	014910	

United States Environmental Protection Agency
Region V
77 West Jackson Blvd.
Chicago, Illinois 60604

Office of Superfund
Remedial & Enforcement Response Branch
Facsimile Cover Sheet
FAX COMM: 312-353-5541

To: Greg Powell

Office phone: 513-569-7537 Machine No: x7276

From: Ed Hanlon

Office phone: (312) 353-9228 Office code: HSRM-6J

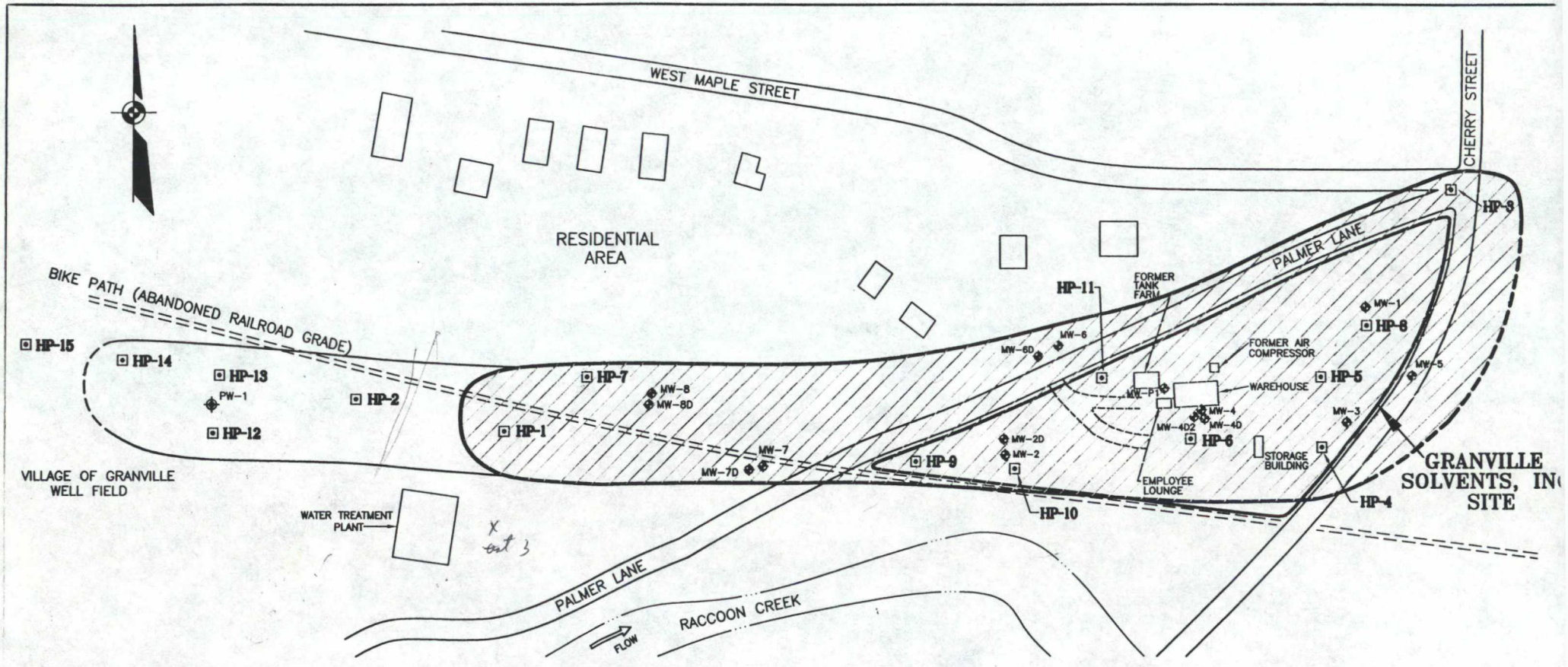
Date: 6/15/94 Number of pages, including cover: 5

MESSAGE:

Per our call tody, this is a request for your review for acceptability of the attached 3 groundwater potentiometric surface maps and groundwater sample results map prepared by the PRP's for the Granville site. Specifically, your review of the flow maps for acceptability, whether the lines were drawn reasonably, and whether there is a divide and whether it could exist where they say it does would be of interest. Since we're conducting a conference call with the PRP's next Monday (6/20/94), your comments (even if verbal) by this Friday afternoon, or by early monday morning, would be appreciated.

Thanks for your help on this project. Please call if any questions (note: while i might not be in this friday, you could leave me verbal comments on the answering machine).

Signature:



EXPLANATION

- HP = HYDROPUNCH LOCATIONS
- = ACETONE PRESENT WHERE CHLORINATED SPECIES ARE NOT
- = CHLORINATED SPECIES ABOVE AND BELOW DETECTION LIMITS

M&E Metcalf & Eddy

GRANVILLE SOLVENTS SITE

GROUNDWATER SAMPLE RESULTS

GRANVILLE, OHIO

FILE NAME	CHECKED	DRAWN		PROJECT NO.	FIGURE
OVER7a		CAP		014910	

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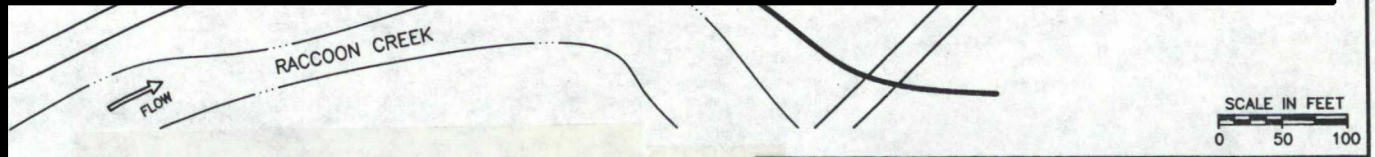

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M&E Metcalf & Eddy

GRANVILLE SOLVENTS SITE

POTENTIOMETRIC SURFACE

GRANVILLE, OHIO

FILE NAME	CHECKED	DRAWN	DATE	PROJECT NO.	FIGURE
POT2		CAP	6/7/94	014910	

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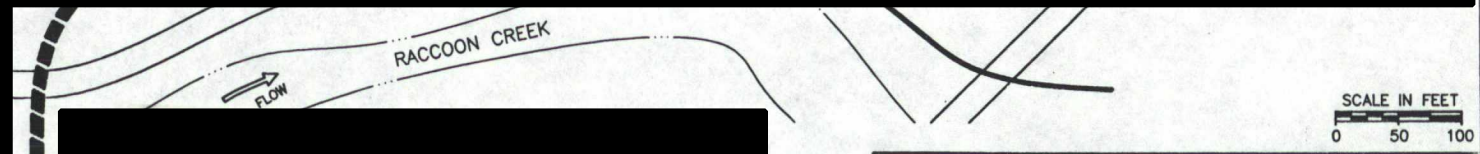

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M&E Metcalf & Eddy

GRANVILLE SOLVENTS SITE

POTENTIOMETRIC SURFACE

PW-2 ON

GRANVILLE, OHIO

FILE NAME	CHECKED	DRAWN	DATE	PROJECT NO.	FIGURE
POT2		CAP	6/7/94	014910	

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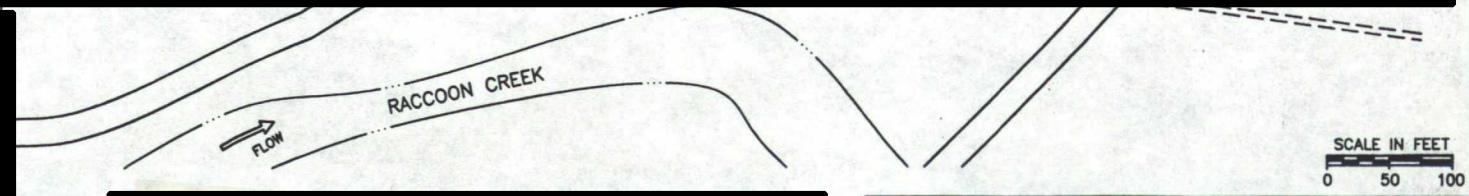

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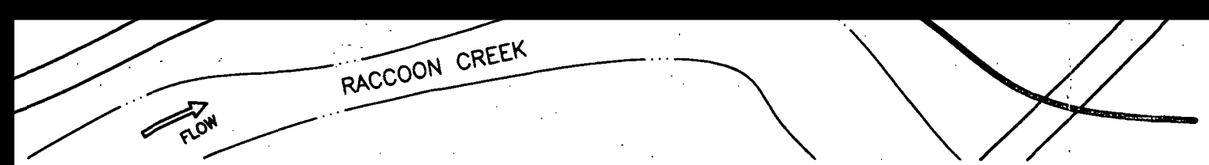
M&E Metcalf & Eddy

GRANVILLE SOLVENTS SITE

POTENTIOMETRIC SURFACE PW-3 PUMPING

GRANVILLE, OHIO

FILE NAME	CHECKED	DRAWN	DATE	PROJECT NO.	FIGURE
POT2B		CAP	5/25/94	014910	



SCALE IN FEET
0 50 100

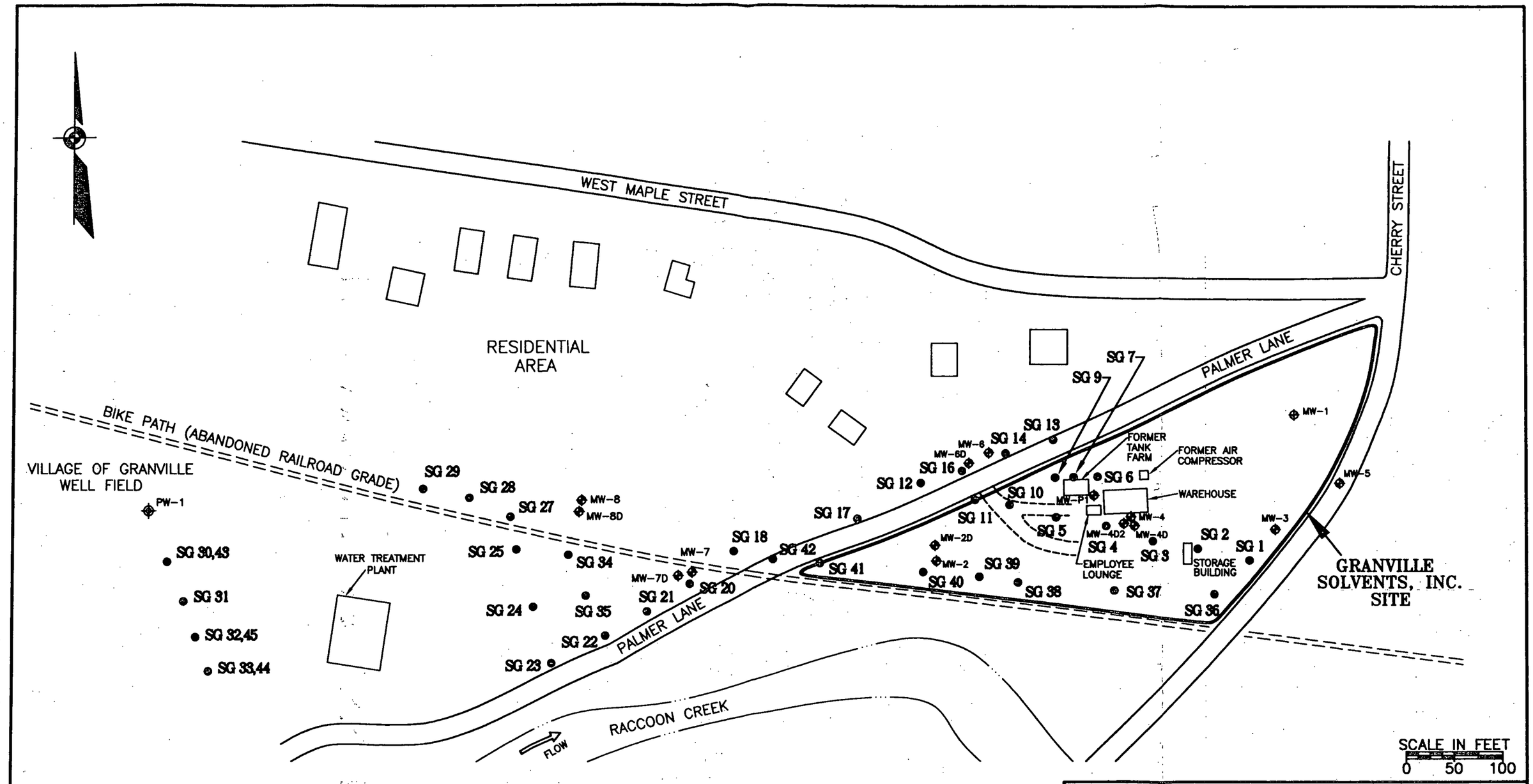
M&E Metcalf & Eddy

GRANVILLE SOLVENTS SITE

POTENTIOMETRIC SURFACE

GRANVILLE, OHIO

FILE NAME	CHECKED	DRAWN	DATE	PROJECT NO.	FIGURE
POT2		CAP	6/7/94	014910	



M&E Metcalf & Eddy

GRANVILLE SOLVENTS SITE

SOIL GAS SAMPLING LOCATIONS

GRANVILLE, OHIO

FILE NAME	CHECKED	DRAWN	DATE	PROJECT NO.	FIGURE
SGAS		CAP	6/8/94	014910	

[redacted]

EXPLANATION

[redacted]

[redacted]

CHERRY STREET

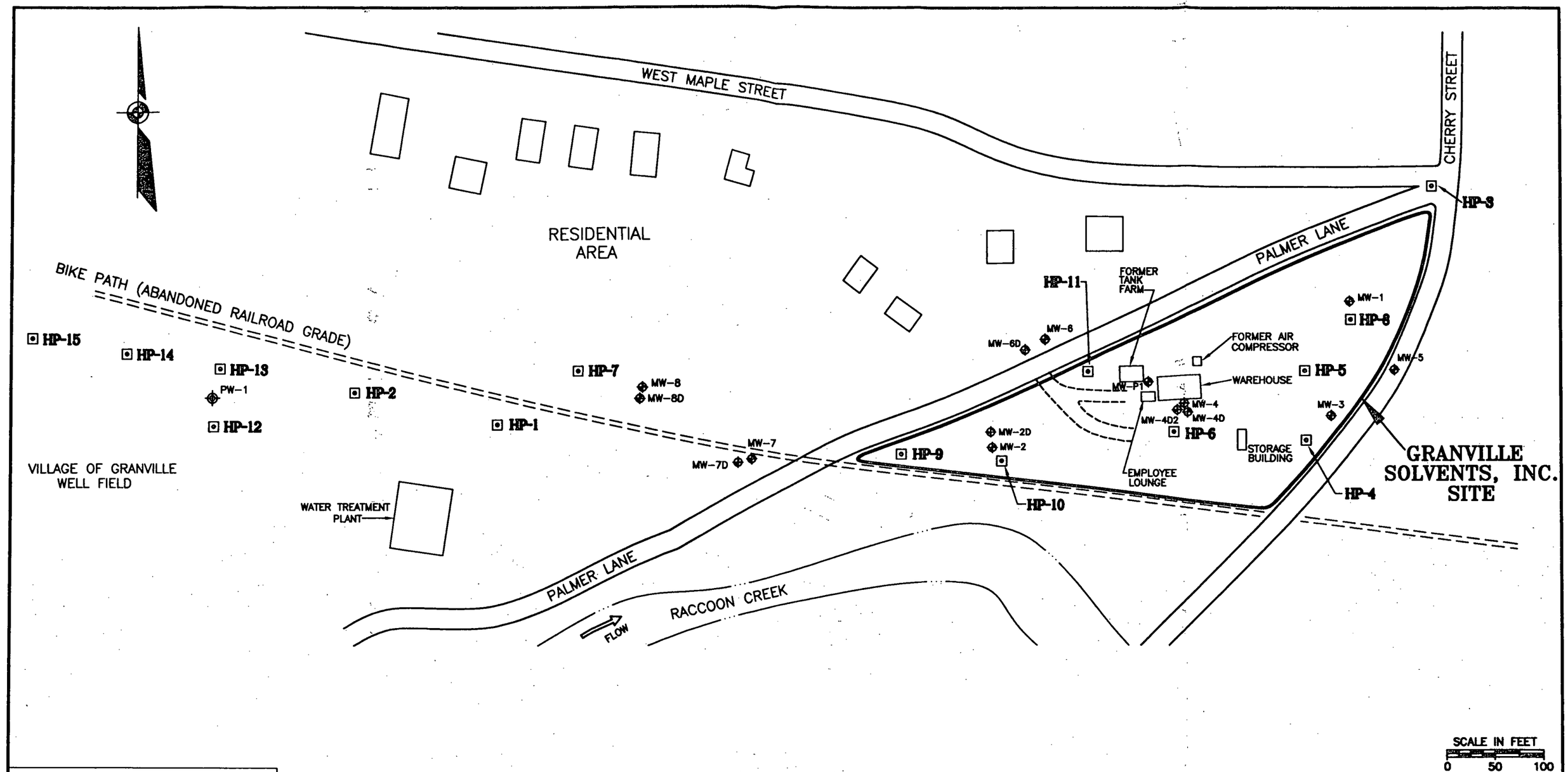
Metcalf & Eddy

GRANVILLE SOLVENTS SITE

SOIL SAMPLE LOCATION MAP

GRANVILLE, OHIO

FILE NAME	CHECKED	DRAWN	DATE	PROJECT NO.	FIGURE
SOILS		CAP	6/7/94	014910-1	



EXPLANATION

HP = HYDROPUNCH LOCATIONS

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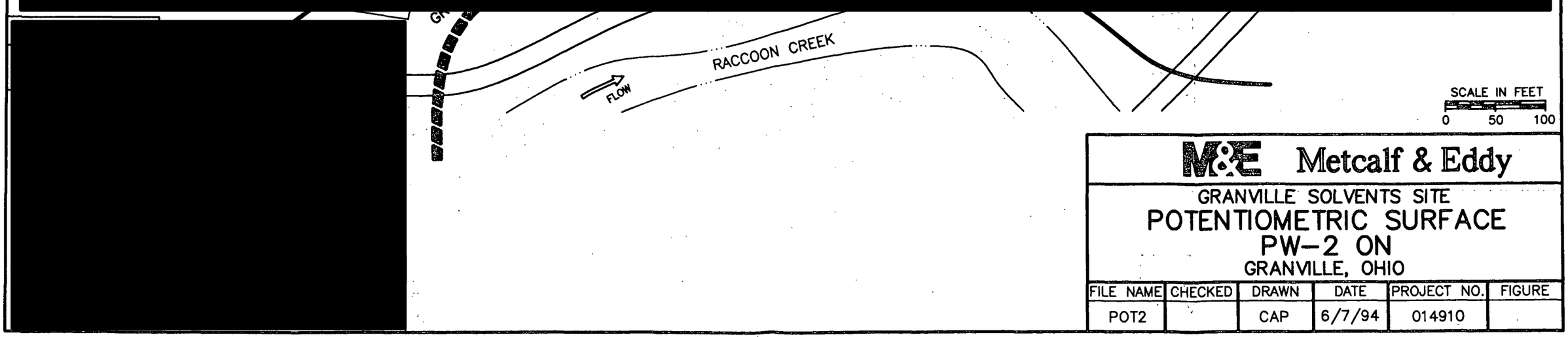
GRANVILLE SOLVENTS SITE

HYDROPUNCH & MONITORING WELL SAMPLING LOCATIONS

GRANVILLE, OHIO

FILE NAME	CHECKED	DRAWN		PROJECT NO.	FIGURE
OVER7b		CAP		014910	

[redacted]



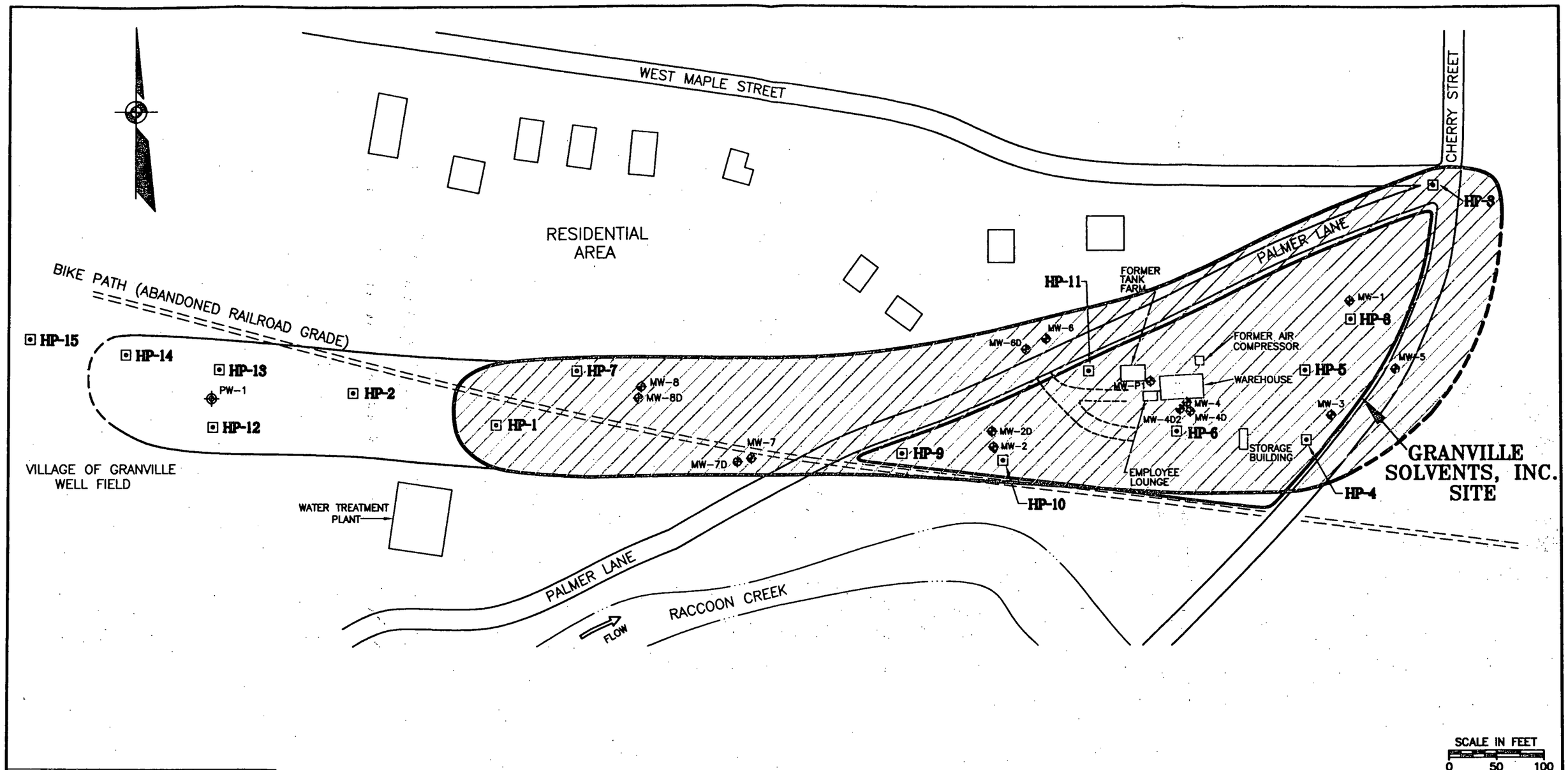
Metcalf & Eddy

GRANVILLE SOLVENTS SITE

POTENTIOMETRIC SURFACE PW-2 ON

GRANVILLE, OHIO

FILE NAME	CHECKED	DRAWN	DATE	PROJECT NO.	FIGURE
POT2		CAP	6/7/94	014910	



EXPLANATION

HP = HYDROPUNCH LOCATIONS

= ACETONE PRESENT WHERE CHLORINATED SPECIES ARE NOT

= CHLORINATED SPECIES ABOVE AND BELOW DETECTION LIMITS

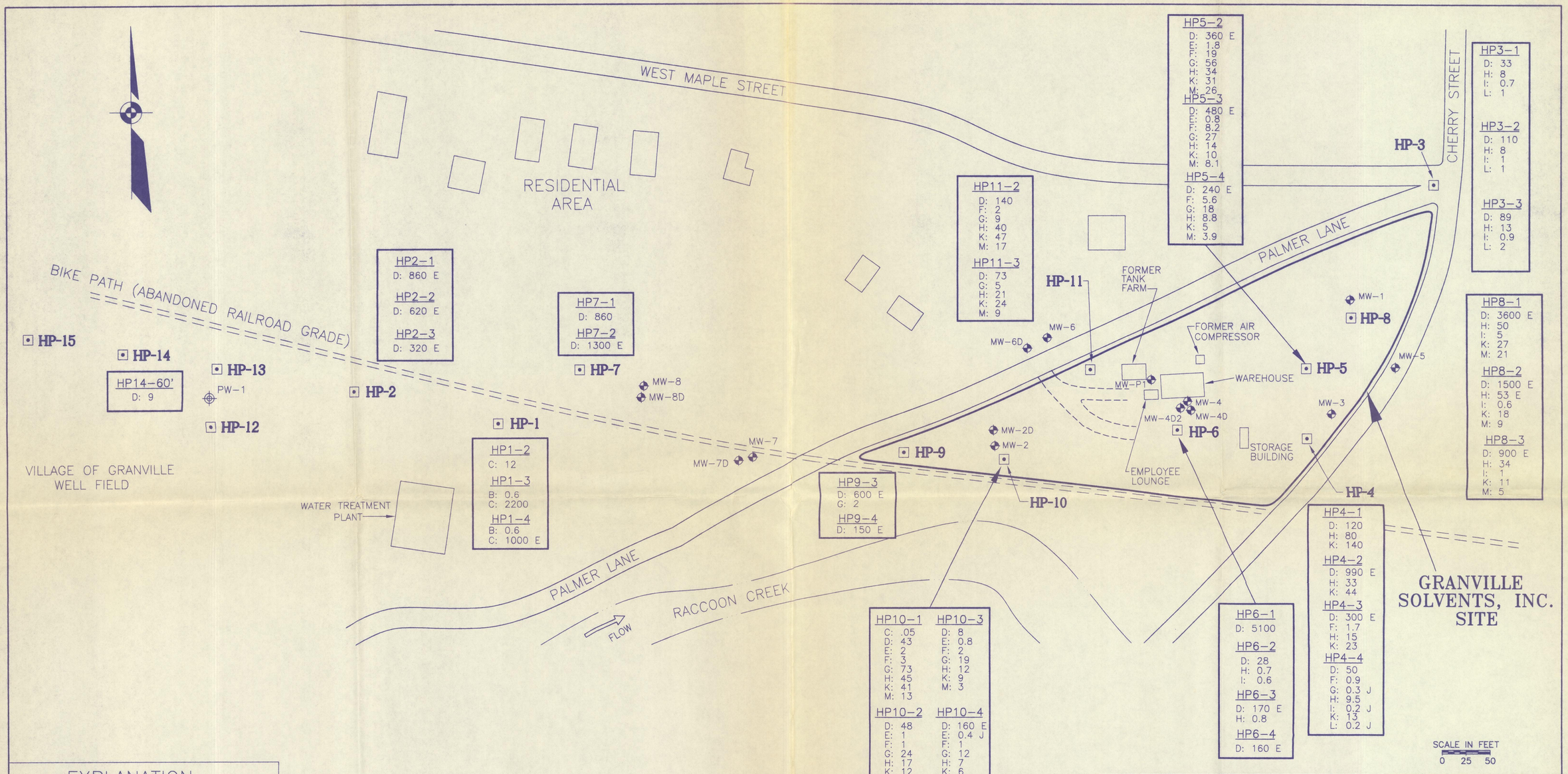
Metcalf & Eddy

GRANVILLE SOLVENTS SITE

GROUNDWATER SAMPLE RESULTS

GRANVILLE, OHIO

FILE NAME	CHECKED	DRAWN		PROJECT NO.	FIGURE
OVER7a		CAP		014910	



EXPLANATION

HP = HYDROPUNCH LOCATIONS

B: VINYL CHLORIDE
C: 1,1-DCE
D: ACETONE
E: TRANS-1,2-DCE
F: 1,1-DCA
G: CIS-1,2-DCE
H: 1,1,1-TCA
I: BENZENE
J: 1,2-DCA
K: TCE
L: TOLUENE
M: PCE
N: TOTAL XYLENES
O: DIBROMOCHLOROMETHANE
P: ETHYLBENZENE
Q: BROMODICHLOROMETHANE

HP1-1: 20' BELOW WATER
HP1-2: 40' BELOW WATER
HP1-3: 60' BELOW WATER
HP1-4: 80' BELOW WATER

CONCENTRATIONS IN PARTS BER BILLION

CONTRACTED LABORATORY ANALYTICAL DATA

M&E Metcalf & Eddy

GRANVILLE SOLVENTS SITE

HYDROPUNCH SAMPLING LOCATIONS

GRANVILLE, OHIO

FILE NAME	CHECKED	DRAWN		PROJECT NO.	FIGURE
HPSL	DRAFT	CAR		014910	

[redacted]

EXPLANATION

[redacted]

FLO

CHERRY STREE

CONTRACTED LABORATORY ANALYTICAL DATA

M&E Metcalf & Eddy

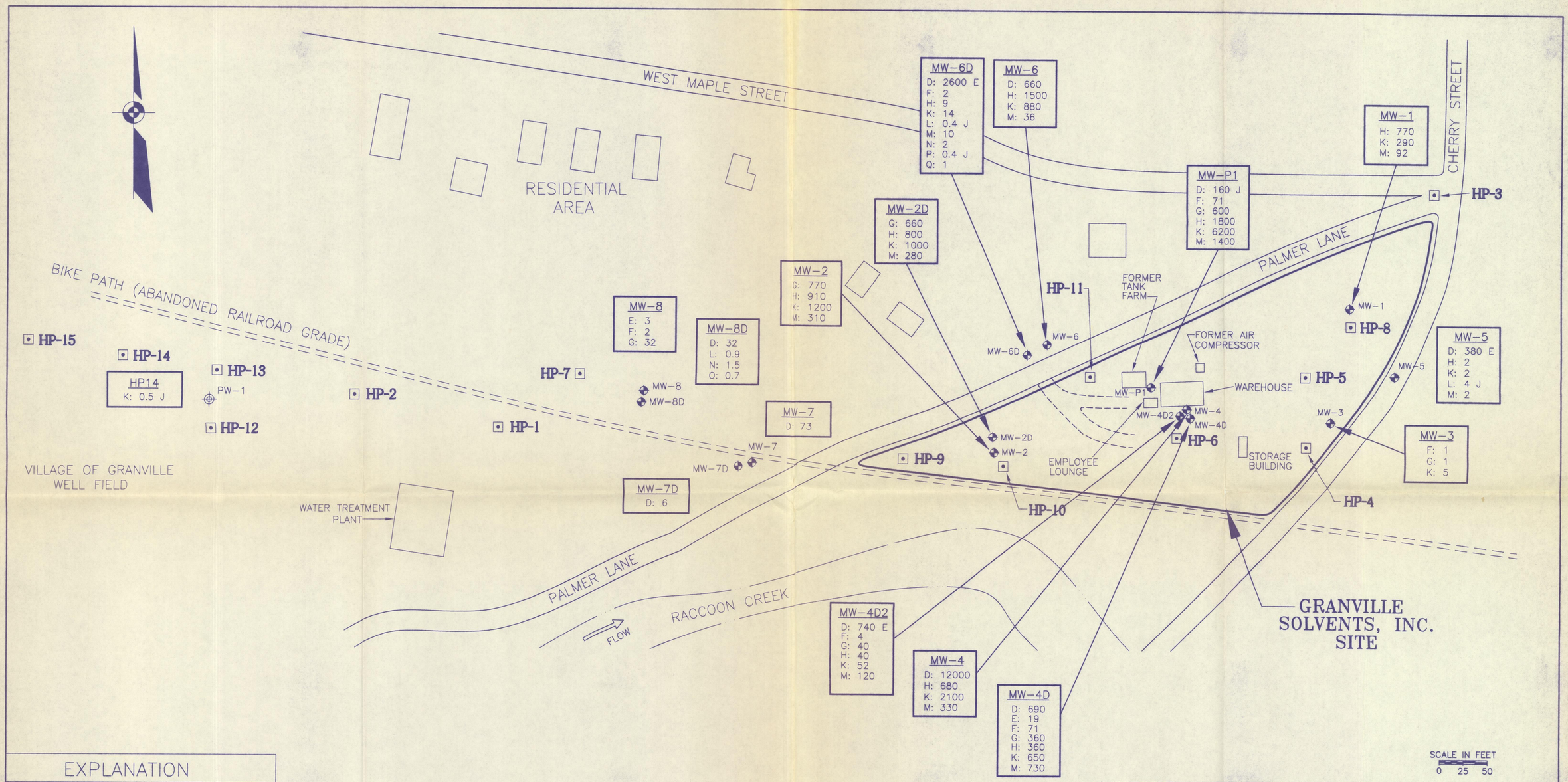
GRANVILLE SOLVENTS SITE

SOIL SAMPLE LOCATION MAP

GRANVILLE, OHIO

FILE NAME	CHECKED	DRAWN	DATE	PROJECT NO.	FIGURE
SOILS		CAP	6/7/94	014910-1	

DRAFT



EXPLANATION

HP = HYDROPUNCH LOCATIONS
MW = MONITORING WELL

B: VINYL CHLORIDE
C: 1,1-DCE
D: ACETONE
E: TRANS-1,2-DCE
F: 1,1-DCA
G: CIS-1,2-DCE
H: 1,1,1-TCA
I: BENZENE
J: 1,2-DCA
K: TCE
L: TOLUENE
M: PCE
N: TOTAL XYLENES
O: DIBROMOCHLOROMETHANE
P: ETHYLBENZENE
Q: BROMODICHLOROMETHANE

HP1-1: 20' BELOW WATER
HP1-2: 40' BELOW WATER
HP1-3: 60' BELOW WATER
HP1-4: 80' BELOW WATER

CONCENTRATIONS IN PARTS BER BILLION

CONTRACTED LABORATORY ANALYTICAL DATA

M&E Metcalf & Eddy

GRANVILLE SOLVENTS SITE

MONITORING & TEMPORARY WELL SAMPLING LOCATIONS

GRANVILLE, OHIO

FILE NAME	CHECKED	DRAWN		PROJECT NO.	FIGURE
HPSL	DRAFT			014910	