DAYTON THERMAL PRODUCTS
DAYTON, OHIO

GROUND-WATER QUALITY DATA
UNITS ARE IN MICROGRAMS PER LITER (ug/L)

WELL	DATE	VINYL CHLORIDE	1,1-DICHLORO-ETHENE	1,1-DICHLORO-ETHANE	1,1,1-TRI-CHLORO-ETHANE	TRI-CHLORO-ETHENE	TETRA-CHLORO-ETHENE	trans-1,2-DICHLORO-ETHENE	cis-1,2-DICHLORO-ETHENE
VAP MCLs	09/13/1993	2.0	7.0	--	200	5.0	5.0	100	70
PZ-007I	21-Jan-98	< 1.0	< 1.0	< 1.0	< 1.0	1.8	1.2	< 0.50	4.3
PZ-007I	14-Oct-98	< 1	< 0.8	J 0.4	J 0.3	2	1	< 0.8	3
PZ-007I	06-Jul-99	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4
PZ-007I	13-Oct-99	< 1.0	< 1.0	< 1.0	< 1.0	5.8	< 1.0	< 1.0	6.0
PZ-007I	01-Feb-00	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	6.4
PZ-007I	17-May-00	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
PZ-007I	22-Aug-00	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	5.8
PZ-007I	18-Nov-00	< 2.0	< 5.0	< 5.0	J 0.62	J 0.76	J 0.53	< 5.0	J 3.7
PZ-007I	02-Aug-01	< 1.0	< 1.0	< 1.0	< 1.0	1.6	< 1.0	< 0.50	6.3
PZ-007I	15-Oct-01	< 1	< 1	< 1	< 1	J 2	< 1	< 1	8
PZ-008D	22-Jan-98	< 4.2	< 4.2	< 4.2	7.2	91	38	< 2.1	14
PZ-008D	15-Oct-98	< 4	13	48	D 94	D 82	20	< 3	22
PZ-008D	08-Jul-99	< 2.0	< 5.0	5.6	12	16	11	< 5.0	9.3
PZ-008D	13-Oct-99	< 1.0	< 1.0	1.3	2.7	15.5	2.4	< 1.0	6.6
PZ-008D	01-Feb-00	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	7.8
PZ-008D	18-May-00	< 2.0	< 5.0	< 5.0	< 5.0	64	< 5.0	< 5.0	12.0
PZ-008D	23-Aug-00	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
PZ-008D	19-Nov-00	< 2.0	< 5.0	< 5.0	< 5.0	14	11	< 5.0	J 3.4
PZ-008D	02-Aug-01	< 1.0	< 1.0	< 1.0	1.6	17	< 1.0	< 0.50	4.6
PZ-008D	15-Oct-01	< 1	< 1	< 1	< 1	J 4	J 1	< 1	J 4
PZ-008I	22-Jan-98	< 500	< 500	< 500	< 500	4700	10000	< 250	< 250
PZ-008I	15-Oct-98	< 500	< 380	< 250	< 380	2700	D 9400	< 380	< 250
PZ-008I	08-Jul-99	79	9.2	61	58	D 5600	D 7000	26	D 470
PZ-008I	13-Oct-99	< 100	< 100	< 100	< 100	2850	6550	< 100	< 100
PZ-008I DUP	13-Oct-99	< 100	< 100	< 100	< 100	3150	7370	< 100	105
PZ-008I	01-Feb-00	32	5.1	38	33	D 3700	8800	D 12	310
PZ-008I	18-May-00	20	8.0	45	48	D 7400	D 18000	14	D 230
PZ-008I	23-Aug-00	5.8	< 5.0	21	42	D 2800	D 9100	9.4	180
PZ-008I DUP	23-Aug-00	6.7	< 5.0	22	41	D 2800	D 9000	9.5	180
PZ-008I	19-Nov-00	8.3	J 3.4	16	40	D 3000	D 8700	7.1	180
PZ-008I	02-Aug-01	< 330	< 330	< 330	< 330	1900	10000	< 170	< 170
PZ-008I	17-Oct-01	< 10	< 10	J 24	J 42	2400	12000	< 10	110
PZ-009D	22-Jan-98	< 100	< 100	< 100	< 100	2800	< 100	< 50	210
PZ-009D	15-Oct-98	J 16	< 75	< 50	< 75	D 2800	< 75	< 75	240
PZ-009D	08-Jul-99	7.3	< 5.0	< 5.0	< 5.0	D 1000	< 5.0	5.0	89
PZ-009D	13-Oct-99	< 20	< 20	< 20	< 20	1710	< 20	< 20	76.4
PZ-009D	01-Feb-00	7.2	< 5.0	< 5.0	< 5.0	D 1400	< 5.0	12	91.0
PZ-009D	18-May-00	< 20	< 5.0	< 5.0	< 5.0	D 1600	< 5.0	< 50	110
PZ-009D	23-Aug-00	7.3	< 5.0	< 5.0	< 5.0	D 4100	< 5.0	18	D 470
PZ-009D	19-Nov-00	D,J 13	J 1.3	J 3.2	< 5.0	D 2200	38	13	D 140
PZ-009D	02-Aug-01	< 83	< 83	< 83	< 83	2000	< 83	< 42	150
PZ-009D	17-Oct-01	18	J 3	J 4	< 1	1700	16	17	200
PZ-010I	22-Jan-98	< 250	< 250	< 250	< 250	7800	< 250	< 120	3200
PZ-010I	15-Oct-98	< 250	< 190	< 120	< 190	4500	< 190	< 190	2200
PZ-010I	08-Jul-99	< 20	< 50	< 50	< 50	D 5100	< 50	< 50	D 2300

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

GROUND-WATER QUALITY DATA
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WELL	DATE	VINYL CHLORIDE	1,1-DICHLORO-ETHENE	1,1-DICHLORO-ETHANE	1,1,1-TRI-CHLORO-ETHANE	TRI-CHLORO-ETHENE	TETRA-CHLORO-ETHENE	trans-1,2-DICHLORO-ETHENE	cis-1,2-DICHLORO-ETHENE
VAP MCLs	09/13/1993	2.0	7.0	--	200	5.0	5.0	100	70
PZ-010I	13-Oct-99	22.5	24.4	< 10	23.3	5440	< 10	99.8	2370
PZ-010I DUP	13-Oct-99	22.8	26.0	10.1	22.6	5490	< 10	105	2450
PZ-010I	01-Feb-00	< 200	< 500	< 500	< 500	5300	< 500	< 500	2300
PZ-010I	18-May-00	6.4	10	7.5	18	14000	< 5.0	56	D 2700
PZ-010I	23-Aug-00	9.6	14	8.1	21	D 14000	< 5.0	65	D 2500
PZ-010I	19-Nov-00	21	11	6.7	19	D 20000	23	58	D 2800
PZ-010I	02-Aug-01	< 830	< 830	< 830	< 830	20000	< 830	< 420	2600
PZ-010I	17-Oct-01	230	J 15	< 10	J 12	21000	< 10	69	2900
PZ-012D	21-Jan-98	< 10	< 10	< 10	67	270	< 10	< 5.0	72
PZ-012D	14-Oct-98	< 4	5	3	33	35	66	< 3	16
PZ-012D	07-Jul-99	< 2.0	< 5.0	< 5.0	6.6	9.3	5.1	< 5.0	< 5.0
PZ-012D	13-Oct-99	< 1.0	< 1.0	< 1.0	< 1.0	3.5	4.8	< 1.0	1.1
PZ-012D	01-Feb-00	< 2.0	< 5.0	< 5.0	< 5.0	39	57	< 5.0	< 5.0
PZ-012D	18-May-00	< 2.0	< 5.0	< 5.0	< 5.0	11	< 5.0	< 5.0	< 5.0
PZ-012D	22-Aug-00	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
PZ-012D	18-Nov-00	< 2.0	< 5.0	< 5.0	5.2	J 4.9	9.6	< 5.0	8.4
PZ-012D	02-Aug-01	< 1.0	< 1.0	< 1.0	4.1	39	< 1.0	< 0.50	5.8
PZ-012D	15-Oct-01	< 1	< 1	< 1	< 1	J 2	< 1	< 1	< 1
PZ-012I	21-Jan-98	< 12	< 12	< 12	69	310	< 12	< 6.2	200
PZ-012I	14-Oct-98	< 12	44	16	D 260	D 1300	< 9	10	D 350
PZ-012I	07-Jul-99	5.6	18	11	84	D 240	< 5.0	26	D 570
PZ-012I	13-Oct-99	< 10	22.4	17.0	75.2	333	< 10	49.6	1250
PZ-012I	01-Feb-00	2.5	8.2	9.3	22	120	< 5.0	27	D 700
PZ-012I	18-May-00	2.5	< 5.0	5.9	7.3	89	< 5.0	20	D 850
PZ-012I	22-Aug-00	< 2.0	< 5.0	< 5.0	< 5.0	42	< 5.0	14	D 480
PZ-012I	18-Nov-00	2.4	J 2.6	J 3.1	J 2.3	70	J 0.39	19	D 460
PZ-012I	02-Aug-01	< 18	< 18	< 18	< 18	61	< 18	17	370
PZ-012I	15-Oct-01	J 2	J 2	J 3	< 1	91	< 1	23	420
PZ-013I DUP	21-Jan-98	< 31	43	31	400	960	710	< 16	290
PZ-013I	21-Jan-98	< 50	< 50	< 50	410	1000	770	< 25	300
PZ-013I	14-Oct-98	< 50	J 30	34	300	140	800	< 38	47
PZ-013I	07-Jul-99	< 2.0	18	22	D 140	90	D 370	< 5.0	31
PZ-013I	13-Oct-99	< 10	17.6	20.5	177	90.0	591	< 10	29.2
PZ-013I	01-Feb-00	21	110	81	D 600	D 520	D 710	10	D 370
PZ-013I	17-May-00	14	120	66	D 560	D 400	D 570	5.2	D 180
PZ-013I	23-Aug-00	26	110	77	D 830	D 790	D 670	8.7	J,D 210
PZ-013I	19-Nov-00	19	50	48	D 300	D 520	D 200	J 4.6	120
PZ-013I	02-Aug-01	< 31	88	54	740	1100	560	< 16	93
PZ-013I	17-Oct-01	6	56	38	600	750	550	5	79
PZ-014I	22-Jan-98	< 5.0	< 5.0	13	47	150	19	< 2.5	37
PZ-014I DUP	22-Jan-98	< 5.0	< 5.0	13	48	150	19	2.7	38
PZ-014I	14-Oct-98	< 1	J 0.6	3	3	D 130	2	J 0.7	12
PZ-014I	07-Jul-99	< 2.0	< 5.0	15	16	D 120	17	5.5	57
PZ-014I	13-Oct-99	< 10	< 10	13.8	12.6	238	18.6	< 10	56.9
PZ-014I	02-Feb-00	< 2.0	< 5.0	15	9.5	D 240	11	6.4	64

DAYTON THERMAL PRODUCTS
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GROUND-WATER QUALITY DATA
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WELL	DATE	VINYL CHLORIDE	1,1-DICHLORO-ETHENE	1,1-DICHLORO-ETHANE	1,1,1-TRI-CHLORO-ETHANE	TRI-CHLORO-ETHENE	TETRA-CHLORO-ETHENE	trans-1,2-DICHLORO-ETHENE	cis-1,2-DICHLORO-ETHENE
VAP MCLs	09/13/1993	2.0	7.0	--	200	5.0	5.0	100	70
PZ-014I DUP	02-Feb-00	< 2.0	< 5.0	15.5	9.83	D 251	13	6.70	65.0
PZ-014I	18-May-00	< 2.0	< 5.0	13	6.4	170	6.0	< 5.0	54
PZ-014I	23-Aug-00	< 2.0	< 5.0	17	7.6	I 280	14	6.3	69
PZ-014I	19-Nov-00	J 1.2	J 3.8	15	6.9	D 230	9.8	6.0	D 59
PZ-014I DUP	19-Nov-00	J 1.3	J 3.7	15	6.8	D 240	9.9	5.7	D 58
PZ-014I	02-Aug-01	< 10	< 10	15	< 10	260	10	7.1	67
PZ-014I	15-Oct-01	J 1	6	19	6	290	12	9	83
PZ-015I	21-Jan-98	< 1.0	< 1.0	4.9	8.5	16	33	< 0.50	1.9
PZ-015I	14-Oct-98	< 2	J 0.7	10	9	4	33	< 2	J 0.8
PZ-015I	06-Jul-99	< 2.0	< 5.0	6.0	5.4	< 5.0	23	< 5.0	< 5.0
PZ-015I	13-Oct-99	< 1.0	< 1.0	6.5	5.8	2.1	18.6	< 1.0	< 1.0
PZ-015I	01-Feb-00	< 2.0	< 5.0	12	22	< 5.0	77	< 5.0	< 5.0
PZ-015I DUP	01-Feb-00	< 2.0	< 5.0	12	23	< 5.0	77	< 5.0	< 5.0
PZ-015I	17-May-00	< 2.0	< 5.0	12	16	< 5.0	63	< 5.0	< 5.0
PZ-015I	22-Aug-00	< 2.0	< 5.0	11	15	< 5.0	49	< 5.0	< 5.0
PZ-015I	18-Nov-00	J 1.2	J 1.4	12	13	J 1.2	57	< 5.0	J 1.4
PZ-015I	02-Aug-01	< 2.0	2.5	10	11	5.8	52	< 1.0	3.2
PZ-015I	15-Oct-01	< 1	J 3	12	18	J 2	67	< 1	J 5
PZ-015I DUP	15-Oct-01	< 1	J 3	12	18	J 2	67	< 1	J 5
PZ-016D	22-Jan-98	< 83	< 83	86	1900	230	97	< 42	890
PZ-016D	15-Oct-98	< 25	J 12	26	290	52	100	< 19	150
PZ-016D	07-Jul-99	15	< 5.0	5.2	140	65	D 97	< 5.0	< 5.0
PZ-016D	13-Oct-99	< 20	76.2	99.6	712	284	190	< 20	66.6
PZ-016D	02-Feb-00	22	< 5.0	5.8	120	25	180	< 5.0	8.7
PZ-016D	17-May-00	16	25	12	180	140	200	< 5.0	59
PZ-016D	23-Aug-00	7.8	7.5	6.7	140	45	190	< 5.0	34
PZ-016D	18-Nov-00	12	J 4.4	J 4.6	100	22	190	J 0.49	37
PZ-016D	02-Aug-01	14	< 5.0	< 5.0	< 5.0	14	170	< 2.5	< 2.5
PZ-016D	15-Oct-01	13	< 1	J 1	9	12	170	< 1	J 4
PZ-017D	21-Jan-98	10	< 2.5	4.5	< 2.5	8.0	67	< 1.2	3.5
PZ-017D	15-Oct-98	< 1	2	3	17	D 340	D 80	J 0.5	D 72
PZ-017D	07-Jul-99	23	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	60
PZ-017D	13-Oct-99	13.2	< 1.0	1.4	< 1.0	1.5	< 1.0	< 1.0	26.9
PZ-017D	02-Feb-00	15.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	11.0
PZ-017D	17-May-00	23	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
PZ-017D	23-Aug-00	20	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	8.2
PZ-017D	18-Nov-00	11	< 5.0	J 0.38	J 0.85	J 1.2	J 1.3	< 5.0	7.9
PZ-017D	02-Aug-01	9.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	5.3
PZ-017D	15-Oct-01	15	< 1	< 1	< 1	< 1	< 1	< 1	J 3
PZ-017I	21-Jan-98	< 71	< 71	< 71	< 71	< 71	1600	< 36	< 36
PZ-017I	15-Oct-98	< 40	< 30	< 20	J 12	66	780	< 30	23
PZ-017I	07-Jul-99	< 2	< 5.0	< 5.0	9.8	44	D 570	< 5.0	14
PZ-017I	13-Oct-99	< 1.0	< 1.0	< 1.0	14.7	56.6	612	2.6	19.9
PZ-017I	02-Feb-00	< 20	< 50	< 50	< 50	72.0	920	< 50	< 50
PZ-017I	17-May-00	< 2.0	< 5.0	< 5.0	26	82	560	< 5.0	48

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DAYTON, OHIO

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WELL	DATE	VINYL CHLORIDE	1,1-DICHLORO-ETHENE	1,1-DICHLORO-ETHANE	1,1,1-TRI-CHLORO-ETHANE	TRI-CHLORO-ETHENE	TETRA-CHLORO-ETHENE	trans-1,2-DICHLORO-ETHENE	cis-1,2-DICHLORO-ETHENE
VAP MCLs	09/13/1993	2.0	7.0	--	200	5.0	5.0	100	70
PZ-017I	23-Aug-00	< 2.0	< 5.0	< 5.0	13	29	270	< 5.0	10
PZ-017I	18-Nov-00	< 2.0	J 0.60	J 0.68	11	21	D 300	J 0.82	9.4
PZ-017I	02-Aug-01	< 42	< 42	< 42	< 42	94	1700	< 21	47
PZ-017I	17-Oct-01	J 1	J 3	J 3	50	130	1600	6	47
PZ-019I DUP	20-Jan-98	< 1.0	< 1.0	< 1.0	< 1.0	3.4	< 1.0	0.52	4.6
PZ-019I	20-Jan-98	< 1.0	< 1.0	< 1.0	< 1.0	3.7	< 1.0	0.55	5.0
PZ-019I	14-Oct-98	< 1	< 0.8	< 0.5	< 0.8	4	J 0.3	J 0.5	4
PZ-019I	06-Jul-99	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
PZ-019I	13-Oct-99	< 1.0	< 1.0	< 1.0	< 1.0	9.4	< 1.0	< 1.0	5.6
PZ-019I	02-Feb-00	< 5.0	< 5.0	< 5.0	< 5.0	12	< 5.0	< 5.0	6.4
PZ-019I	22-Aug-00	< 5.0	< 5.0	< 5.0	< 5.0	6.7	< 5.0	< 5.0	6.2
PZ-019I	18-Nov-00	< 2.0	< 5.0	J 0.28	< 5.0	6.4	< 5.0	J 0.71	5.6
PZ-019I	01-Aug-01	< 1.0	< 1.0	< 1.0	< 1.0	11	< 1.0	0.77	7.7
PZ-019I	15-Oct-01	< 1	< 1	< 1	< 1	9	< 1	< 1	6
PZ-020D	20-Jan-98	< 1.0	< 1.0	< 1.0	< 1.0	1.8	< 1.0	< 0.50	< 0.50
PZ-020D	14-Oct-98	< 1	< 0.8	< 0.5	< 0.8	< 0.8	< 0.8	< 0.8	< 0.5
PZ-020D	06-Jul-99	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
PZ-020D	13-Oct-99	3.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
PZ-020D	12-Feb-00	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
PZ-020D	22-Aug-00	3.8	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
PZ-020D	18-Nov-00	J 0.91	< 5.0	< 5.0	< 5.0	J 0.80	< 5.0	< 5.0	< 5.0
PZ-020D	01-Aug-01	2.6	< 1.0	< 1.0	< 1.0	3.6	< 1.0	< 0.50	< 0.50
PZ-020D	15-Oct-01	J 3	< 1	< 1	< 1	J 1	< 1	< 1	< 1
PZ-021I	20-Jan-98	< 1.0	< 1.0	< 1.0	< 1.0	7.5	< 1.0	< 0.50	3.1
PZ-021I	14-Oct-98	< 1	< 0.8	< 0.5	< 0.8	4	< 0.8	J 0.5	4
PZ-021I	06-Jul-99	< 2.0	< 5.0	< 5.0	< 5.0	6.8	< 5.0	< 5.0	< 5.0
PZ-021I	13-Oct-99	< 1.0	< 1.0	< 1.0	< 1.0	12.8	< 1.0	< 1.0	7.8
PZ-021I	01-Feb-00	< 2.0	< 5.0	< 5.0	< 5.0	5.7	< 5.0	< 5.0	< 5.0
PZ-021I	17-May-00	< 2.0	< 5.0	< 5.0	< 5.0	5.9	< 5.0	< 5.0	< 5.0
PZ-021I	22-Aug-00	< 2.0	< 5.0	< 5.0	< 5.0	7.9	< 5.0	< 5.0	< 5.0
PZ-021I	18-Nov-00	< 2.0	< 5.0	J 0.22	< 5.0	11	J 0.35	J 0.57	J 4.5
PZ-021I	01-Aug-01	< 1.0	< 1.0	< 1.0	< 1.0	5.9	< 1.0	< 0.50	< 0.50
PZ-021I	15-Oct-01	< 1	< 1	< 1	< 1	9	< 1	< 1	6
PZ-022I	20-Jan-98	< 1.0	< 1.0	< 1.0	< 1.0	17	< 1.0	< 0.50	1.0
PZ-022I	14-Oct-98	< 1	< 0.8	< 0.5	J 0.4	15	< 0.8	< 0.8	J 0.4
PZ-022I	06-Jul-99	< 2.0	< 5.0	< 5.0	< 5.0	17	< 5.0	< 5.0	< 5.0
PZ-022I	13-Oct-99	< 1.0	< 1.0	< 1.0	< 1.0	19.0	< 1.0	< 1.0	< 1.0
PZ-022I	01-Feb-00	< 2.0	< 5.0	< 5.0	< 5.0	18	< 5.0	< 5.0	< 5.0
PZ-022I	18-May-00	< 2.0	< 5.0	< 5.0	< 5.0	22	< 5.0	< 5.0	< 5.0
PZ-022I	22-Aug-00	< 2.0	< 5.0	< 5.0	< 5.0	13	< 5.0	< 5.0	< 5.0
PZ-022I	18-Nov-00	< 2.0	< 5.0	< 5.0	J 0.67	12	< 5.0	< 5.0	J 0.52
PZ-022I	01-Aug-01	< 1.0	< 1.0	< 1.0	< 1.0	13	< 1.0	< 0.50	0.80
PZ-022I	15-Oct-01	< 1	< 1	< 1	< 1	10	< 1	< 1	< 1
PZ-024D	01-Aug-01	< 1.0	< 1.0	< 1.0	< 1.0	6.9	< 1.0	< 0.50	1.2
PZ-024D	16-Oct-01	< 1	< 1	< 1	< 1	J 2	< 1	< 1	< 1

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

GROUND-WATER QUALITY DATA
UNITS ARE IN MICROGRAMS PER LITER (ug/L)

WELL	DATE	VINYL CHLORIDE	1,1-DICHLORO-ETHENE	1,1-DICHLORO-ETHANE	1,1,1-TRI-CHLORO-ETHANE	TRI-CHLORO-ETHENE	TETRA-CHLORO-ETHENE	trans-1,2-DICHLORO-ETHENE	cis-1,2-DICHLORO-ETHENE
VAP MCLs	09/13/1993	2.0	7.0	--	200	5.0	5.0	100	70
PZ-024I	01-Aug-01	< 17	31	< 17	120	380	< 17	15	400
PZ-024I	16-Oct-01	J 5	61	22	290	840	J 4	27	580
PZ-025D	01-Aug-01	< 1.0	< 1.0	< 1.0	< 1.0	10	< 1.0	< 0.50	2.1
PZ-025D	16-Oct-01	< 1	< 1	< 1	< 1	J 2	< 1	< 1	< 1
PZ-025I	01-Aug-01	< 50	< 50	< 50	< 50	< 50	< 50	46	1000
PZ-025I	16-Oct-01	9	15	33	10	63	< 1	58	1100
PZ-026D	01-Aug-01	< 1.0	< 1.0	< 1.0	< 1.0	16	< 1.0	1.5	29
PZ-026D	16-Oct-01	J 1	< 1	< 1	< 1	J 1	< 1	J 2	30
PZ-026I	01-Aug-01	< 120	< 120	< 120	210	3100	< 120	< 62	1000
PZ-026I	16-Oct-01	J 13	31	19	220	3000	< 3	30	1100
PZ-027D	01-Aug-01	< 1.0	< 1.0	< 1.0	< 1.0	3.1	< 1.0	< 0.50	< 0.50
PZ-027D	16-Oct-01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
PZ-027I DUP	01-Aug-01	< 1.0	< 1.0	< 1.0	< 1.0	25	< 1.0	< 0.50	1.7
PZ-027I	01-Aug-01	< 1.0	< 1.0	< 1.0	< 1.0	27	< 1.0	< 0.50	2.2
PZ-027I	16-Oct-01	< 1	< 1	< 1	< 1	J 5	< 1	< 1	J 2
PZ-028D	01-Aug-01	< 6.2	< 6.2	< 6.2	< 6.2	160	< 6.2	< 3.1	37
PZ-028D	16-Oct-01	< 1	J 2	6	J 5	130	< 1	J 2	40
PZ-028I	01-Aug-01	< 25	< 25	< 25	45	770	< 25	< 12	120
PZ-028I	16-Oct-01	J 2	8	13	59	920	< 1	10	170
PZ-029D	31-Jul-01	8.1	< 1.0	< 1.0	< 1.0	19	< 1.0	3.0	36
PZ-029D	16-Oct-01	J 1	< 1	< 1	< 1	6	< 1	< 1	8
PZ-029I	31-Jul-01	17	< 1.0	< 1.0	< 1.0	32	< 1.0	2.8	27
PZ-029I	16-Oct-01	16	< 1	< 1	< 1	34	< 1	J 3	38
PZ-030D	31-Jul-01	< 1.0	< 1.0	< 1.0	< 1.0	5.1	< 1.0	< 0.50	< 0.50
PZ-030D	16-Oct-01	< 1	< 1	< 1	< 1	10	< 1	< 1	J 2
PZ-030I	31-Jul-01	< 1.0	< 1.0	< 1.0	< 1.0	4.4	< 1.0	< 0.50	< 0.50
PZ-030I	16-Oct-01	< 1	< 1	< 1	< 1	17	< 1	< 1	J 1
PZ-031D	01-Aug-01	< 1.0	< 1.0	< 1.0	< 1.0	2.2	< 1.0	< 0.50	< 0.50
PZ-031D	16-Oct-01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
PZ-031I	01-Aug-01	< 5.0	< 5.0	13	43	100	< 5.0	< 2.5	7.6
PZ-031I	16-Oct-01	< 1	J 2	16	66	160	< 1	J 1	12
PZ-032D	31-Jul-01	< 10	< 10	< 10	< 10	300	< 10	< 5.0	5.0
PZ-032D	17-Oct-01	< 1	< 1	J 2	< 1	280	< 1	< 1	J 4
PZ-032I	31-Jul-01	< 18	< 18	< 18	< 18	530	< 18	< 9.1	< 9.1
PZ-032I	17-Oct-01	< 1	< 1	< 1	< 1	89	< 1	< 1	J 1
PZ-033D	31-Jul-01	< 1.0	< 1.0	< 1.0	< 1.0	2.1	< 1.0	< 0.50	< 0.50
PZ-033D	16-Oct-01	< 1	< 1	< 1	< 1	11	< 1	< 1	< 1
PZ-033I	31-Jul-01	< 5.0	< 5.0	< 5.0	< 5.0	170	< 5.0	< 2.5	13
PZ-033I	16-Oct-01	< 1	< 1	J 3	< 1	97	< 1	< 1	9
PZ-034D	31-Jul-01	< 1.0	< 1.0	< 1.0	< 1.0	3.0	< 1.0	< 0.50	< 0.50
PZ-034D	16-Oct-01	< 1	< 1	< 1	< 1	12	< 1	< 1	< 1
PZ-034I	31-Jul-01	< 1.0	< 1.0	< 1.0	< 1.0	4.5	< 1.0	< 0.50	< 0.50
PZ-034I	16-Oct-01	< 1	< 1	< 1	< 1	J 3	< 1	< 1	< 1
PZ-035D	31-Jul-01	< 1.0	< 1.0	< 1.0	< 1.0	2.0	< 1.0	< 0.50	< 0.50
PZ-035D	17-Oct-01	< 1	< 1	< 1	< 1	J 5	< 1	< 1	< 1

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

GROUND-WATER QUALITY DATA
UNITS ARE IN MICROGRAMS PER LITER (ug/L)

WELL	DATE	VINYL CHLORIDE	1,1-DICHLORO-ETHENE	1,1-DICHLORO-ETHANE	1,1,1-TRI-CHLORO-ETHANE	TRI-CHLORO-ETHENE	TETRA-CHLORO-ETHENE	trans-1,2-DICHLORO-ETHENE	cis-1,2-DICHLORO-ETHENE
VAP MCLs	09/13/1993	2.0	7.0	--	200	5.0	5.0	100	70
PZ-035I	31-Jul-01	< 8.0	< 8.0	< 8.0	9.1	310	< 8.0	< 4.0	8.3
PZ-035I	17-Oct-01	< 1	< 1	J 3	13	290	< 1	< 1	8
PZ-036D	31-Jul-01	< 1.0	< 1.0	< 1.0	< 1.0	29	< 1.0	< 0.50	1.4
PZ-036D	17-Oct-01	< 1	< 1	< 1	< 1	16	< 1	< 1	< 1
PZ-036I	31-Jul-01	< 1.0	< 1.0	< 1.0	< 1.0	4.6	< 1.0	< 0.50	< 0.50
PZ-036I	17-Oct-01	< 1	< 1	< 1	< 1	J 3	< 1	< 1	< 1
PZ-037D	31-Jul-01	< 1.7	< 1.7	< 1.7	< 1.7	24	< 1.7	< 0.84	< 0.84
PZ-037D	17-Oct-01	< 1	< 1	< 1	< 1	8	< 1	< 1	< 1
PZ-037I	31-Jul-01	< 100	< 100	< 100	< 100	3600	< 100	< 50	< 50
PZ-037I	17-Oct-01	< 2	J 4	J 7	17	3300	< 2	< 2	12
PZ-038D	31-Jul-01	< 11	< 11	< 11	< 11	340	< 11	< 5.6	27
PZ-038D	17-Oct-01	< 1	< 1	9	7	980	< 1	J 4	78
PZ-038I	31-Jul-01	< 67	< 67	< 67	< 67	2400	< 67	< 33	320
PZ-038I	17-Oct-01	< 2	< 2	J 5	J 10	2600	< 2	J 5	160
PZ-039D	31-Jul-01	< 1.0	< 1.0	< 1.0	< 1.0	4.6	< 1.0	< 0.50	< 0.50
PZ-039D	16-Oct-01	< 1	< 1	< 1	< 1	7	< 1	< 1	J 1
PZ-039I	31-Jul-01	< 12	< 12	< 12	< 12	380	< 12	< 6.2	28
PZ-039I	16-Oct-01	< 1	J 1	5	J 2	420	< 1	J 2	35
PZ-040D	01-Aug-01	< 1.0	< 1.0	< 1.0	< 1.0	2.4	< 1.0	< 0.50	< 0.50
PZ-040D	16-Oct-01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
PZ-040I	01-Aug-01	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0	< 0.50	< 0.50
PZ-040I	16-Oct-01	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
SVE-1D	16-Mar-98	3.0	16	D 160	D 120	D 850	D 90	J 6.0	D 210

5.1 EXCEEDS VAP MCL

R: BIASED HIGH DUE TO SUSPECTED CARRY-OVER CONTAMINATION FROM PRECEDNG SAMPLE

D: ANALYTE WAS QUANTIFIED AT A SECONDARY DILUTION FACTOR.

J: PRESENT BELOW NORMAL REPORTING LIMITS.

I: SEMIQUANTITATIVE RESULT, OUT OF INSTRUMENT CALIBRATION RANGE.

NUMBERS IN BOLD WERE DETECTED ABOVE THE LABORATORY METHOD DETECTION LIMIT

VAP MCLs: OHIO VOLUNTARY ACTION PROGRAM MAXIMUM CONTAMINANT LEVELS FOR GENERIC UNRESTRICTED POTABLE USE STANDARDS

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 24 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS Heidelberg Distributing 1600 WEBSTER STREET, DAYTON, OHIO	SCREEN: 2" Sched 40 PVC DIAMETER: Deep: 88-90 Inter: 55-57 Shallow: 18-33 SLOT NO. 10
DATE COMPLETED: 3/30/01	SETTING:
DRILLING COMPANY: MOODY'S/BOWSER MORNER	SAND PACK: #6 Silica Sand
Dave = Driller, Nick & Don helpers	SETTING: 91-86, 57.5-53, 33.5-16
DRILLING METHOD: ROTO SONIC	CASING 2" Sched. 40 PVC
SAMPLING METHOD: Roto sonic continuous core 4" x 10'	SETTING: 88-0, 55-0, 18-0
OBSERVER: DVS / MCP	SEAL TYPE: Medium Bentonite Chips
REFERENCE POINT: grade	SETTING: 99-91, 86-57.5, 53-33.5
REFERENCE POINT ELEVATION: Elev. at DP017 = ~50.6 / Water elev estimated at HG heater, ~751	DEVELOPMENT: pumped ~ 3-5 gpm until sediment free
STICK-UP: NA	DURATION: ~1.5 hrs Nest
SURFACE COMPLETION: FLUSH GRADE	WATER LEVEL: ~751 - ~725 = ~26'
REMARKS: SSW of DP017	YIELD:

Estimated

Original photo: MVC-0355

Sampled @ 38 feet @ 14:30 Sample ID:- PZ-24I 38feet

Soil quality: DP017 12-16' non-detect ; DP019 18-20' non-detect

OVM 580B

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION (733/18, 718/33)	PID READING (ppm) feet	ppm
0	0.5	Concrete		
0.5	1.0	Sand, gravel, m-m; and asphalt; blk; wet from drilling first 6" Concrete	3	0
1.0	5.0	Sand + gravel, m-m; tr. crs gvl; brn; wet from drilling	6	3
5.0	9.0	SAND, crs-vcrs, tr. f gvl, tr m gvl; brn; dry	8	1
9.0	11.0	Sand + gravel, m-f; tr. f sand, tr. m gvl, tr. crs gvl, brn, wet	11	3
11.0	12.0	SAND, m. vcrs; ltl f gvl; tr. m gvl; brn, moist	14	3
12.0	15.5	Sand + gravel, m-m; tr. crs gvl, brn, moist	18	5
15.5	19.0	Sand + gravel, f-m; tr. crs gvl, grey, dry	1	3
19.0	20.5	Silty sand + gvl, f-f; firm but crumbly; brn, dry	24	9
20.5	21.0	SAND, f-m; tr. silt; tr. f gvl; tr. m gvl, black, moist	28	3
21.0	24.0	Sand + gravel; m-f; tr. m gvl; brn, moist	31	5
24.0	27.0	Sand + gravel, f-f; tr. m gvl, brn dry	34	10
27.0	29.0	Sand + gravel, vf-f; tr. m gvl, grey, dry	38	41
29.0	32.0	SAND m-vcrs; tr. f. gvl; brn, sat	41	2
32.0	35.0	Sand + gvl; m-f; brn, sat	45	0
35.0	39.0	SAND, m-vcrs tr. f gvl; brn, sat	48	0
39.0	40.5	Same as 35-39'	51	0
40.5	41.0	Sand + gvl; m-f; brn, sat	55	5
41.0	49.0	SAND vf-f; tr. m sand; brn; sat 2 inch silty clay layer at 41.3 feet	58	4
49.0	49.5	Sand + gravel; crs-f; brn, sat.	—	—

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 24 PAGE 2 OF 2 PAGES DATE: 3/30/01

	DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	
	FROM	TO		feet	PPM
55	49.5	57.5	GRAVEL, f; ltl crs-vcrs snd; tr. m gvl, tr. cob, brn, sat	61	0
57	57.5	58.2	SAND, v. crs; tr. f gvl; tr. f snd; brn, sat.	65	0
	58.2	58.4	GRAVEL, f-m; ltl v. crs snd, brn, sat	68	2
	58.4	59.0	SAND, m-vcrs; ltl f. gvl; brn, sat.	71	0
	59.0	66.0	Sand + gravel, m-m; brn; sat	75	0
	66.0	68.0	GRAVEL, f-m, ltl crs-vcrs snd; tr. crs gvl; brn sat	78	0
	68.0	69.0	SAND, m; well sorted; brn, sat	81	0
	69.0	70.5	same as 68-69 feet	85	0
	70.5	73.0	sand + gvl, m-f; tr. m gvl; brn, sat	88	0
	73.0	74.0	sand + gvl, m-f; tr. m gvl; grey; sat	91	0
	74.0	75.0	SAND, crs-vcrs, grey sat	95	0
	75.0	79.0	SAND, crs-vcrs; ltl f. gvl; grey; sat	98	0
	79.0	79.5	same as 75-79		
	79.5	80.5	Sand + gravel; m-f; tr. m gvl; grey; sat		
	80.5	81.5	SAND, f-m; tr. clay; grey, sat		
	81.5	82.0	CLAY, grey, firm, moist.		
	82.0	83.0	SILT; ltl clay; some v.f snd; grey; sat		
	83.0	84.0	Silty SAND, f-m; tr. clay; grey sat		
	84.0	88.0	SAND, f-m; grey, sat		
88	88.0	88.5	Sand + gravel; crs-f; tr. m gvl; grey sat		
	88.5	89.0	Silty sand + gravel; f-f; tr. m gvl; tr. clay; grey; sat		
90	89.0	91.5	SAND, f-crs; tr. silt; tr. m gvl; grey sat		
	91.5	93.0	Silty SAND, vf-f; tr. clay; tr. crs snd; tr. f gvl, grey; sat		
	93.0	95.5	Silty SAND, f-m; tr. f gvl; tr. m gvl; grey sat		
	95.5	99.0	TILL; firm, ltl f gvl; tr. m gvl; grey, moist		
		99.0	EOB		
			Proposed well screens — Measured Total Depths:		
			Deep: 88-90 — Deep = 92.70		
			Intermediate: 55-57 — Int = 58.05		
			Shallow: 18-33' — Shallow = 33.70		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 25 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS Heidelberg 1600 WEBSTER STREET, DAYTON, OHIO Distribution	SCREEN: 2" Sched 40 PVC DIAMETER: Deep: 88-86 Intermediate: 52-50 SLOT NO. 10 SETTING: Shallow: 33.5-18.5
DATE COMPLETED: 3/26/01, 3/27/01	SAND PACK: #6 Silica sand
DRILLING COMPANY: MOODY'S/BOWSER MORNER Dave = driller, Don & Nick helpers	SETTING: Deep: 89-84 ; Inter: 52.5-48, Shallow: 34-16.5
DRILLING METHOD: ROTO SONIC	CASING 2" Sched 40 PVC
SAMPLING METHOD: Roto sonic; continuous 4" core x10'	SETTING: Deep: 86-grade; Inter: 50-grade; Shallow: 18.5-grade
OBSERVER: ~~DVS~~ MCP	SEAL TYPE: Medium Bentonite chips
REFERENCE POINT: grade	SETTING: Back plugs 99-89, 84-52.5, 48-34, 16.5-2.5
REFERENCE POINT ELEVATION: DP019=751.9 DP021=751.2 > Average = ~751.5	DEVELOPMENT: pumped 3-5 gpm until sediment free
STICK-UP: NA	DURATION: ~1.5 hrs/Nest
SURFACE COMPLETION: FLUSH GRADE	WATER LEVEL: ~725.0 from 3/24/01 onsite fluid levels; ~26.5' below grade
REMARKS: dmj-bor-MW0255-d MW0255-c Digital photos MVC-0295 + MVC-0305	YIELD:

Estimated

751.5 − 733 = 18.5 ; 751.5 − 718 = 33.5

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	OVM 5808 PID READING (ppm) feet	PPM
		0-3 feet, Fill, no recovery. 0-0.3 Asphalt		
3.0	4.0	Sand + gravel; f-m; ——; grey; dry	1	8
4.0	9.5	Sand + gravel, f-f; tr. m gvl; brown; dry	3	4
9.0	10.0	Sluff of 3-4'	5	2
10.0	15.0	Sand + gravel, f-f; tr. m. gvl; tr. crs gvl; dry, brown	10	4
15.0	19.0	Sand + gvl; f-f, tr. m gvl; dry grey.	14	16
19.0	20.0	same as 15-19; saturated from drilling	18	11
20.0	20.5	Sand + gvl, m-f; tr. m gvl; brown; saturated from drilling	22	1
20.5	27.0	Sand + gvl; vf-f; tr. m. gvl; grey, saturated; ltl silt.	25	2
27.0	29.0	Sand + gvl, m-f; tr. m gvl; brn; sat.	28	1
29.0	32.0	Sand + gvl; m-f; tr. m gvl; grey; sat	32	2
32.0	36.0	SAND; crs-vcrs; tr. f. gvl; brn, sat; 2-inch silt layer at 33 feet.	35	3
36.0	39.0	SAND; m-crs; brn; sat.	38	6
39.0	42.0	SAND; m-vcrs; brn; sat	42	2
42.0	47.0	SAND; crs v.crs; brn, sat	45	5
47.0	49.0	SAND, m-v.crs; tr. f gvl; brn, sat	48	1
49.0	52.0	Sand + gravel, m-f; brn; sat	52	0
52.0	53.0	SAND f-crs; brn, sat	55	0
53.0	53.6	Silty CLAY, brn, moist	58	0
53.6	54.5	SAND, vf; w/silt; grey, wet	52	1
54.5	55.0	CLAY, stiff; grey, moist	55	

18.5 33.5 50 52

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: West 25 PAGE 2 OF 2 PAGES DATE:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	
FROM	TO		feet	ppm
55.0	55.5	silty SAND; vf; grey, sat	58	3
55.5	55.8	CLAY, firm, grey, moist	62	0
55.8	56.3	silty SAND, vf; grey; sat	65	0
56.3	58.3	CLAY, firm, grey, moist	68	0
58.3	58.6	CLAY, firm, brown, moist	72	1
58.6	59.0	Sand + gravel; m-f, tr. m gvl, tr crs gvl, brn, sat.	75	1
59.0	66.0	Sand + gravel; m-f; tr. m gvl; tr. crs gvl; tr. cob, brn, sat	78	0
66.0	69.0	Sand + gravel; m-f; tr. m gvl; tr. cob, brown, sat.	82	0
69.0	79.0	same as 66-69'	85	0
79.0	87.0	Sand + gravel, m-f; tr. m gvl; brown; sat; 1-inch	88	0
		oxidized layer at 84.5 and 85.5 feet bgl.	92	0
87.0	89.0	SAND, crs-vcrs; ltl f gvl; grey; sat; trace amounts of	95	0
		clay on top of drill bit. May be top of till.		
89.0	99.0	TILL, with f-m gvl; grey hard, moist		
	99.0	EOB		

Proposed well screen depths — Measured TD's

Shallow: 18.5-33.5 — 33.00'

Intermediate: 50-52 — 51.85'

Deep: 86-88 — 87.45'

Backplug bentonite: 99-89 feet

No soil samples collected due to low PID readings below the water table.

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 26 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS Heidelberg 1600 WEBSTER STREET, DAYTON, OHIO Distribution	SCREEN: 2" Sched 40 PVC DIAMETER: Deep: 83-81 Inter: 53-51 SLOT NO. 10 Estimated SETTING: Shallow: 34-32
DATE COMPLETED: 3/23/01, 3/26/01	SAND PACK: #6 Silica sand
DRILLING COMPANY: MOODY'S/BOWSER MORNER Don = driller	SETTING: Deep. 85-79 Inter. 53.5-49 Shallow: 34.5-30
DRILLING METHOD: ROTO SONIC	CASING 2" sched 40 PVC
SAMPLING METHOD: Roto sonic, continuous core 4"	SETTING: Deep: 81-grade; Inter: 51-grade; Shallow: 32-grade
OBSERVER: ~~DVB~~ MCP	SEAL TYPE: Medium Bentonite chips
REFERENCE POINT: grade - same elev. at DP043	SETTING: Backplug: 89-85, 79-53.5, 49-34.5, 30-3
REFERENCE POINT ELEVATION: @ DP043 = 751.04	DEVELOPMENT: pumped 3-5 gpm until sediment free
STICK-UP: NA	DURATION: ~1.5 hrs/Nest
SURFACE COMPLETION: FLUSH GRADE	WATER LEVEL: water level on plant ~725; 751-725 = ~26'
REMARKS: ~150' NNE of DP043.	YIELD:

Sample @ 50' @ 10:40 am (PZ-26I 50 feet) photos: MUC-0275 + MUC-0285

Geo. CLAY @ DP041: ~16-35., Till @ 85' @ PZ-12D, Till below 85' @ MWC-3.

Soil quality: Non-detect @ DP040; No soils sampled from DP041 or DP043.

DEPTH IN FEET FROM	DEPTH IN FEET TO	GEOLOGIC DESCRIPTION	5808 PID READING (ppm) feet	ppm
0	0.3	Asphalt	2	0
0.3	2.0	Fill: sand + gravel	5	0
2.0	5.0	SILT, with f-m gvl; tr. crs gvl; Hl m. snd; wet; firm; brown	8	1
5.0	9.0	Sand + gravel; f-m; tr. crs gvl; dry; grey/brn.	10	0
9.0	10.5	GRAVEL, f-m; with m-crs snd; dry; grey	14	0
10.5	15.5	Sand + gravel, m-m; dry; brown	18	6
15.5	16.5	SAND, f-m; tr. crs snd; tr. f gvl; dry; brown	20	0
16.5	19.0	Sand + gravel; vf-m; dry; grey	23	0
19.0	19.5	Silty sand + gravel, vf-m; tr. crs gvl wet, grey with brown mot	26	0
		silt.	28	0
19.5	29.0	TILL; with f-crs gvl and m-crs snd; grey; very firm; damp.	30	0
29.0	30.5	TILL same as 19.5-29'	31	0
30.5	31.5	Silty sand + gravel; vf-m; tr. crs gvl; brown; sat	35	0
31.5	33.5	Sand + gravel, crs-f; tr. m gvl; grey-brown, sat	38	0
33.5	38.0	SAND, m-crs, tr. m gvl; brown, sat.	41	0
38.0	39.0	SAND; crs-v.crs; some f. gvl, tr. m gvl; grey brown, sat.	45	0
39.0	43.0	SAND, crs-v.crs, some f. gvl, tr. m. gvl; brown, sat	48	1
43.0	49.0	Sand + gravel, v.crs-f; tr. m gvl; tr. crs gvl; brown, sat	50	11
49.0	53.5	same as 43-49'	53	11
53.5	54.5	Silty SAND, vf; brown, sat	56	0

33-34

51-53

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 26 PAGE 2 OF 2 PAGES DATE: 3/23 & 26/01

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	
FROM	TO		~~Ref~~	PPM
54.5	56.0	Silty SAND, vf., grey; sat, soft	58	0
56.0	57.0	CLAY; firm, grey, moist	60	5
57.0	57.3	Silty SAND, vf, soft; grey sat	63	3
57.3	57.6	CLAY, firm, grey, moist	67	3
57.6	58.0	Silty SAND, vf, soft, grey, sat	70	5
58.0	59.0	CLAY, firm, grey, moist, Trace silty, f-m gvl at bottom	74	9
		1-inch.	78	5
59.0	60.5	GRAVEL, f-m; with crs-vcrs snd; brown; sat	81	0
60.5	62.0	Sand + gravel; vcrs-f; tr. m gvl, brown, sat.	83	0
62.0	69.0	Sand + gravel; m-f; tr. m gvl; brown, sat.	84	0
69.0	71.5	Sand + gravel; vcrs-f; tr. m gvl, brown, sat	87	0
71.5	78.0	Sand + gravel, m-f; tr. m gvl; tr. crs gvl, brown sat		
78.0	78.5	Silty sand + gravel; f-f; tr. m gvl; brown; sat		
78.5	79.0	Sand + gravel, f-f, tr. m gvl, brown, sat		
79.0	80.0	same as 78.5-79.'		
80.0	83.0	Sand + gravel, m-f; tr. m gvl; grey, sat		
83.0	84.0	SAND, f-m; tr. crs snd; grey + brown mot, sat		
84.0	85.0	Sand + gravel, m-f; tr. m. gvl, tr. crs gvl, grey, sat		
85.0	89.0	SILT; w/vf. snd; firm, grey, wet.		
	89.0	EOB		

81 - 83

Proposed well screen settings

Deep: 81-83

Inter: 51-53 (above intermediate clay)

Shallow: 32-34 (2' screen below shallow till)

Measured Total Depths

Shallow 34.10

Int 53.70

Deep 84.75

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 27 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS Heidelburg 1600 WEBSTER STREET, DAYTON, OHIO Winery	SCREEN: Sch 40 PVC, 2" DIAMETER: SLOT NO. 10
DATE COMPLETED: 4/2/01	SETTING: 28-33, 48-50, 81-83
DRILLING COMPANY: MOODY'S/BOWSER MORNER Dave = driller, Nick & Don = helpers	SAND PACK: #6 Silica SETTING: 83.5 – 79, 50.5 – 46, 33.5 – 26
DRILLING METHOD: ROTO SONIC	CASING 2" Sch 40 PVC
SAMPLING METHOD: Continuous 4" x 10' core	SETTING: 81 – 0, 48 – 0, 28 – 0
OBSERVER DVS	SEAL TYPE: Medium Bentonite chips
REFERENCE POINT: grade	SETTING: 89 – 83.5, 79 – 50.5, 46 – 33.5, 26 – 5
REFERENCE POINT ELEVATION: ~750.0 @ DP049	DEVELOPMENT: pumped 3-5 gpm until sediment free
STICK-UP: NA	DURATION: ~1.5 hrs / nest
SURFACE COMPLETION: FLUSH GRADE	WATER LEVEL: ~25' based on FCs (725.0 elev.)
REMARKS: Heidelburg Winery due S. of DP049 Picture MVC 036 Digital Camera, No pictures of geology	YIELD:

Estimated

GVM

No soils for lab analysis collected

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING (ppm) feet	ppm
0	0.3	Asphalt	2	0
0.3	3.0	Clay trace silt and sand; f-m; red brown; moist; no odor	4	0
3.0	9.0	Silty s & g; vf-vc; trace cobbles to 4"; brown; saturated from added water	6	25
9.0	14.0	as above	8	1
14	19.0	TILL; Clay w/ little s & g vf-vc disseminated throughout; gray (upper 4" = brown); damp	11	0
		to moist; somewhat pliable; no odor	13	0
19.0	28	as above; damp	16	2
28	29	Silty Sand; gravel; cobbles; vf-vc; gray; moist; lots of water added to hole +	18	2
		blowing out casing	21	0
29	30	Sand vf-med; brown; saturated	24	0
30	32	Sand very coarse and fine gravel; brown; saturated; well sorted (fines may have washed out from drilling water)	28	1
32	35.5	Sand & g; vf-vc; little cobbles to 3.5"; trace silt; brown; saturated; poorly sorted	31	3
35.5	39.0	Sand; f-m; little coarse sand; trace gravel; f-m; brown; saturated	34	4
39.0	49.0	Sand & gravel; vf-vc; some cobbles up to 5"; brown; slightly gray 24-27	36	5
		Cobble lodged in tip of spoon	38	5
49.0	51	as above	42	2
51	59	TILL clay w/ trace f-c s & g disseminated throughout; gray; dry; very hard & stiff	45	7
			48	2
			52	0
			55	0

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 27 PAGE 2 OF 2 PAGES DATE: 4/2/01

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING feet/ppm
59	64	TILL as above	58 0
64	65	Sand f-m; trace coarse; gray, saturated	61 0
65	69	Sand f-c; some vcs & fine gravel locally; gray; saturated	64 0
69	79	as above also trace m-c gravel; locally more fine @	66 0
		73.5-74 and 76-77 (sand f-m)	68 0
		77-79 trace f gravel only	71 3
79	85	Sand f-c; trace vcs & fine gravel; gray saturated	75 1
85	89	TILL; clay; trace s&g disseminated thrsout; locally silty;	78 3
		moist; pliable;	82 0
	89	EOB	85 0
			88 0
		No soil samples collected for lab analysis	
		Shallow 28-33	
		Int 48-50	
		Deep 81-83	
		Measured Total Depths	
		Deep = 85.30	
		Int = 50.55	
		Shallow = 33.15	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 28 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS RIS Paper 1600 WEBSTER STREET, DAYTON, OHIO	SCREEN: 2" Sched 40 PVC DIAMETER: Deep: 80.5-78.5 Inter: 57-55 SLOT NO. 10 SETTING: Shallow: 39-37
DATE COMPLETED: 3/28/01, 3/30/01	SAND PACK: #6 Silica
DRILLING COMPANY: MOODY'S/BOWSER MORNER Dave = driller, Nick & Don helpers	SETTING: 81-76, 57.5-53, 39.5-35
DRILLING METHOD: ROTO SONIC	CASING 2" Sched. 40 PVC
SAMPLING METHOD: Rotosonic continuous core, 4" x 10'	SETTING: 78.5-grade, 55-grade, 37-grade
OBSERVER: ~~DVS~~ MCP	SEAL TYPE: medium Bentonite chips
REFERENCE POINT: grade	SETTING: Backplug: 89-81, 76-57.5, 53-39.5, 35-2.5
REFERENCE POINT ELEVATION: about 6-inches above DP036 elevation@DP036 = 750.5, ~751	DEVELOPMENT: pumped 3-5 gpm until sediment free
STICK-UP: NA	DURATION: ~1.5 hrs Nest
SURFACE COMPLETION: FLUSH GRADE	WATER LEVEL: 750.5-725.1 = ~25.4 ft below grade
REMARKS: south of parking lot at RIS Paper	YIELD:
Digital photos: MVC-0315 + MVC0325	Sampled soil at 41 feet. Sample ID = PZ-28I 41 feet @ 10:35 3/28/01
Soil quality: DP036 12-16' = 14 ug/kg PCE; DP036 16-20' = non-detect.	OVM

Estimated

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION (751 − 733 = 18; 751 − 718 = 33)	580B PID READING (ppm) Feet	PPM
0.0	4.0	SILT, with f-m gvl; brn, firm, dry: Topsoil first 2 inches.	1	1
4.0	9.0	No recovery, although traces of concrete and silt from above.	3	6
9.0	17.5	Sand + gvl, m-m; tr. crs gvl, tr. silt; dry, brn.	5	1
17.5	19.0	TILL; with f-m gvl; firm, grey; moist; top 2-inches	10	1
		are brown.	14	2
19.0	29.0	No recovery, pushed cobble or concrete; although the bit had	18	4
		about 1-2 inches of the same till seen at 17.5-19.0 feet	35	2
29.0	39.0	No recovery, pushed cobble. Cobble was stuck in sampling tip.	38	8
		Drove sampler to 39 feet again. Retracted and had 5	41	36
		feet of sand + gravel. This sand and gravel collapsed	45	10
		back in the hole. It is assumed that the till continues	48	12
		down to 34 feet because that was the point at which	51	12
		nothing was collapsing into the hole. Then again it could	54	8
		have been dry sand that didn't collapse but this is unlikely	58	11
		since the water table is at ~25'. The casing was at 29'.	—	
17.5	34	Estimated TILL thickness 16.5 feet. Same till as 17.5-19	feet	
34.0	34.5	SAND, f-m; brn, sat	—	
34.5	35.5	SAND, crs-vcrs; tr. f. gvl; brn, sat	—	
35.5	39.0	Sand + gravel, crs-m, brn, sat.	—	
39.0	41.0	Sand + gravel, m-f; brn, sat	—	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 28 PAGE 2 OF 2 PAGES DATE: 3/28 & 30/01

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING feet	ppm
41.0	43.0	SAND, m-vcrs; tr. f gvl, tr. m gvl, grey; sat	62	2
43.0	45.5	Sand + gvl, vcrs-f; tr. m gvl, brown, sat	65	1
45.5	45.8	GRAVEL, f-m, ~~with~~ m-vcrs snd, brn sat	68	0
45.8	46.1	Sand + gravl, crs-f; brn, sat	72	0
46.1	46.5	GRAVEL, m; tr. m-vcrs snd; brn. sat	75	0
46.5	49.0	Sand + gravel; m-m; tr. crs gvl; brn; sat	78	0
49.0	50.5	same as 46.5-49.0.	82	0
50.5	52.0	TILL, with f-m gvl; tr. crs gvl; from some vcrs snd; brn, moist	85	0
52.0	55.5	Sand + gravel, f-f; tr. m gvl, tr. crs gvl, brn, sat.	88	0
55.5	59.0	Sand + gravel, m-f; coarsening downwards; tr. m gvl,		
		tr. crs gvl; brn, sat.		
59.0	65.5	Sand + gravel, m-f, tr. m gvl; brn, sat		
65.5	69.0	Sand + gravl, m-f, tr. m gvl, tr. crs gvl; grey, sat,		
		Grey clay in bottom 2 inches of core.		
69.0	77.0	Sand + gravel, m-f; tr. m. gvl; grey, sat		
77.0	77.5	SAND, crs-vcrs; tr. f. gvl, grey sat		
77.5	79.0	Sand + gravel, crs-m; grey; sat.		
79.0	81.0	same as 77.5-79 feet		
81.0	88.0	TILL, with f-m gvl; firm; grey; moist		
88.0	89.0	clayey sand; m-vcrs; tr. f gvl, grey, wet.		
	89.0	EOB.		
		Proposed well screens		
		Deep: 78-80', above based till.		
		Intermediate: 55-57'		
		Shallow: 37-39', below shallow till		
		Bentonite backplug 89-81 feet		
		Rig was broken down all day 3/29/01. All drilling on 3/28/01		
		All wells set 3/30/01.		
		Measured Total Depths: Deep = 81.90 Int = 58.55 Shallow = 39.80		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 29 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS Kelcor Machine Tool 1600 WEBSTER STREET, DAYTON, OHIO	SCREEN: Deep: 79-77 2" PVC DIAMETER: Inter: 50-48 SLOT NO. 10
DATE COMPLETED: 3/19/01, 3/20/01	SETTING: Shallow: 30-15
DRILLING COMPANY: MOODY'S/BOWSER MORNER Dave: driller, Nick/Ron helpers.	SAND PACK: 79-75: Deep #6 Silica SETTING: 50.5-46.5: Inter. Shallow: 30.5-13
DRILLING METHOD: ROTO SONIC	CASING 77-grade 2" PVC 48-grade
SAMPLING METHOD: roto sonic, continuous 10' sleeves	SETTING: 15-grade
OBSERVER: ~~DVS~~ MCP	SEAL TYPE: Medium bentonite chips
REFERENCE POINT: grade and DP-39 @ 7	SETTING: plug back: 89-79, 75-50.5, 46.5-30.5, 13-3'
REFERENCE POINT ELEVATION: ~748.5	DEVELOPMENT: pumped 3-5 gpm until sediment free
STICK-UP: NA	DURATION: ~1.5 hrs Nest
SURFACE COMPLETION: FLUSH GRADE	WATER LEVEL: southend of plant ~725 so it should be ~23' bgl
REMARKS: Near DP-39	YIELD: 3/20 depth to water in casing ~25.1'

Estimated

pictures MVC-0185 + MVC-0195. PID not working after 49 feet. Reading Ø "Lamp-Out" and "Over range"

Soil Quality: No soil collected from DP-39; DP-15 16-20' cis = 48 ug/kg, PCE = 33 ug/kg, TCE = 1800 ug/kg

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	OVM PID READING (ppm) ft.	ppm
0	2.0	Silt, brown; tr. m-crs snd; v. firm; wet from drilling	2'	0
2.0	5.0	Sand + gravel; with cobbles; f-v.crs; brown; dry (fill)	5'	0
5.0	7.0	Sand f-v.crs; with m-crs gvl; brown; wet from drilling, tr. cob (fill)	9'	0
7.0	7.2	Concrete; broken up concrete foundation from old house @ this location		
7.2	9.0	Sand + gravel, f-m; tr. silt, wet from drilling; brown	10'	23
9.0	12	Sand + gravel, f-m; wet from drilling; brown	12'	35
12.0 ~~TOE~~	12.5	Silt; brown, wet; tr. v.crs snd;	15'	101
12.5	19.0	Sand, f-crs; some gravel f-m, brown; dry	18'	82
19.0	19.5	Sand + gvl; m-crs; with silt; slightly stiff until broken		
19.5	24.0	Sand + gravel; m-v.crs; saturated; water table is here somewhere as	20'	20
		calculated above; saturated from drilling; brown.	23'	48
24.0	24.4	large cobble > 4-inch diam.	25'	106
24.4	28.0	SAND; f-m; some f-crs gvl; brown, wet; coarsening with depth from 27'	29'	115
28.0	29.0	SAND; m-v.crs; tr. m. gvl; brown; wet	29.5'	90
29.0	30.0	SAND; m-crs; tr. silt; tr. m. gvl; brown; sat	32'	49
30.0	39.0	GRAVEL, f-crs; tr. cob; brown/multicolored/dark grey; 1" oxidation lense @ 38.5' sat.	36'	29
39.0	45.0	GRAVEL, f-crs; tr. cob; brown/multicolored;	39'	
45.0	49.0	SAND f-crs; tr. f gvl; brown, sat	42'	23
49.0	51.5	SAND, f-v.crs; tr. f-m gvl; brown; sat	46'	20
51.5	59	CLAY, firm; slightly moist; dark grey	49'	0

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 29 PAGE 2 OF 2 PAGES DATE: 3/19-20/01

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING
			N/A
59	66	CLAY, firm; grey; dry Note: Clay from 59-65 feet liquified.	↓
66	69	GRAVEL ~~with sand~~ f-m; with sand m-v,crs; sat; brown, tr. cob.	
		Note: may have pushed a large cobble from 69-79 feet	
		because the core came up empty.	
69	79	No recovery; pushing cobble	
79	89	Pushed cobble however this time it got wedged in	
		the tip of the drill bit.	
		The driller noted that the clay ~~mus~~ might be	
		between 79 + 89 feet because something firm	
		gave the cobble enough resistance to get wedged	
		in the tip of the drill bit. This would make	
		sense compared to clay/till levels @ PZ-9D and	
		NEST 34. Will plug back with bentonite 89-78.5:	
		Proposed screen settings Measured TD's	
		Shallow: 15-30 29.30'	
		Intermediate: 50-48 48.80'	
		Deep: 76-78' 77.90	
		14:40 Soil sample from 28-29 feet, 115 ppm.	
		Sample ID = MW-29S 28 feet	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 30 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS Amer. Legion 1600 WEBSTER STREET, DAYTON, OHIO	SCREEN: 2" Sched 40 PVC DIAMETER: Deep: 86-84 (may be a little deeper... it sank). Inter: 52-50 SLOT NO. 10
DATE COMPLETED: 3/21/01, 3/22/01	SETTING: Shallow: 28-13
DRILLING COMPANY: MOODY'S/BOWSER MORNER	SAND PACK: #6 Silica
Dave = driller, Nick & Don = helpers	SETTING: Deep: 87-82.5; Inter: 52.5-48; Shallow: 28.5-11
DRILLING METHOD: ROTO SONIC	CASING 2" Sched. 40 PVC
SAMPLING METHOD: Roto sonic; continuous core	SETTING: Deep: 84-grade; Inter: 50-grade; Shall: 13-grade
OBSERVER: ~~DVS~~ MCP	SEAL TYPE: Medium Bentonite chips
REFERENCE POINT: grade	SETTING: Back plug 89-87, 82.5-52.5, 48-28.5; 11-2.5
REFERENCE POINT ELEVATION: 746.65 @ DP035	DEVELOPMENT: pumped 3-5 gpm until sediment free
STICK-UP: NA	DURATION: ~1.5 hrs/Nest
SURFACE COMPLETION: FLUSH GRADE	WATER LEVEL: ~746.65 - ~725.2 = ~21.4
REMARKS: ~3 feet from DP-35.	YIELD:

Estimated

Mag hit basal till @ 80 feet based on MWB-5 + Nest 32 geolog. logs.

Pictures MVC-0225 - MVC-0235

No soil analysis from DP-35; DP-16 = non-detect; DP-22 = non-detect; DP-16 + DP-22 PID = Ø ppm

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION (746 − 733 = 13; 746 − 718 = 28)	OVM PID READING (ppm) feet	PID
0.0	0.5	Topsoil; moist; grass; organics + roots; black	1	0
0.5	6.0	SILT; little f-m gvl; lt/ m-crs snd; wet; soft; brown	3	0
6.0	9.0	Sand + gvl; f-m; brown; moist	6	0
9.0	10.5	GRAVEL, f-m; w/m-v.crs snd; brn; moist	9	0
10.5	14.0	Sand + gvl; f-f; tr. m gvl; dry; brn	10	1
14.0	15.5	Silty GRAVEL; w/f-crs snd; orange-brown; moist	12	0
15.5	19.0	SAND; vf-m; tr. f. gvl; tr. cob; grey-brown; dry	15	0
19.0	22.0	Silty sand + gravel, vf-f; tr. m gvl; firm but crumbly; wet; brown	18	3
22.0	23.0	Silty SAND; vf-m; tr. m gvl; saturated; grey	20	0
23.0	24.0	SAND, f-m; sat; grey	23	0
24.0	29.0	SAND, m-crs; tr. f-m gvl; sat; grey	25	0
29.0	38.5	SAND, crs-v.crs; tr. f. gvl; tr. cob near 38'; grey; sat	27	0
38.5	39.5	GRAVEL, f-crs, tr. cob. w/m-crs snd; grey; sat	29	0
39.0	40.0	SILT; w f gvl; tr. m gvl; tr. cob; sat; grey	31	0
40.0	42.3	SAND m-v.crs; tr. f gvl; sat grey	33	0
42.3	42.5	Silty SAND, vf; tr. m. sand; sat grey	36	0
42.5	49.0	SAND, m-vcrs; with f gvl; tr. m gvl; coarsening downwards	39	0
		to 49 feet; grey; sat	42	0
49.0	50.0	Sand + gvl, m-f; tr. m gvl; grey; sat	45	0
50.0	51.0	GRAVEL; f-m; tr. crs gvl; tr. crs snd; grey; sat	48	0

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 30 PAGE 2 OF 2 PAGES DATE: 3/21-22/01

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING feet	ppm
51.0	57.0	Sand + gravel, crs - m; grey; sat	52	0
57.0	58.0	GRAVEL; f-m; some m-vcrs snd; grey sat.	55	0
58.0	59.0	SAND; m-vcrs; some f. gvl; grey, sat	58	0
59.0	61.0	Sand + gvl, crs-m; tr. crs gvl; grey; sat	62	0
61.0	66.5	sand + gvl; m-f; tr. m gvl, grey; sat	65	0
66.5	67.5	GRAVEL, f-m; ltl crs snd; grey; sat	68	0
67.5	69.0	Sand + gvl; m-f; tr. m gvl; grey; sat	72	0
69.0	70.5	same as 67.5-69.0	75	0
70.5	71.5	SAND, fine-m; grey, sat	78	0
71.5	77.0	SAND, m-vcrs; ltl f-m gvl, grey, sat	80	0
77.0	77.5	SAND, m-crs; grey, sat	82	0
77.5	79.0	Sand + gravel, crs-f; ltl m gvl; grey; sat	85	0
79.0	87.0	Sand + gravel, crs-f; ltl m gvl, tr. crs gvl; grey, sat	88	0
87.0	88.5	Silty sand, vf-f; soft, sat, grey		
88.5	89.0	TILL, ltl f gvl, stiff, grey, moist		
	89.0	EOB		

Proposed well screen setting:

Shallow: 13-28' within high + low water table

Inter: 50-52' in sand + gravel

Deep: 84-86' above silty sand

No soil samples submitted for analytical

Total Depth from TOC: Deep = 88.20 Int = 52.40 Shallow = 28.05

from grade { Well sounding, feet below grade (estimated 3/26/01)
Deep: 87.63', Inter: 51.86', Shallow: 28.11'

Note: Deep well sank during installation, it is partially in the silty sand and bentonite backplug. This due to the weight of the PVC, letting the PVC drop a few feet inside the casing (the drillers can only reach down in the casing so far because it sticks out of the ground), and the vibration while retracting the casing.

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. ~~PAUL~~, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 31 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS RIS Paper 1600 WEBSTER STREET, DAYTON, OHIO	SCREEN: PVC 2" PVC Sch 40 DIAMETER: 2" SLOT NO. 10
DATE COMPLETED: 4/3/01	SETTING: 29-34 52-54 73-75
DRILLING COMPANY: MOODY'S/BOWSER MORNER	SAND PACK: #6 silica
Dave Driller, Nick + Don = Helpers	SETTING: 75.5-71, 54.5-50, 34.5-27
DRILLING METHOD: ROTO SONIC	CASING 2" PVC Sch 40
SAMPLING METHOD: 4" x 10' continuous	SETTING: 73-0, 52-0, 29-0
OBSERVER: DVS	SEAL TYPE: medium bentonite chips
REFERENCE POINT: grade	SETTING: 85-75.5, 71-54.5, 50-34.5, 27-5
REFERENCE POINT ELEVATION: 748.83 = DP038 (We are approx 1 foot higher)	DEVELOPMENT: pumped 3-5 gpm until sediment free
STICK-UP: NA	DURATION: ~1.5 hrs Nest
SURFACE COMPLETION: FLUSH GRADE	WATER LEVEL:
REMARKS: South property @ RIS Paper ~35' North of DP038 and 40' east of Kiser (~35 east of DP038) Digital Camera Picture MVC-0385	YIELD: Filter broke off in OVM wand. Used HNU #2

Estimated

DEPTH IN FEET FROM	DEPTH IN FEET TO	GEOLOGIC DESCRIPTION	PID READING (ppm) feet	PID READING (ppm) ppm
0	6.0	Grass then Clay; trace silt and sand f-c; brown; damp, no odor	2	0
6.0	9.0	Silty, Sand + gravel; vf-vc; trace cobbles to 4", brown dry no odor	4	0
9.0	17.0	as above, slight odor ~16', no cobbles	6	1
17.0	19.0	Till; trace-little sand disseminated throughout; gray; slightly pliable damp	8	0
19.0	29.0	as above damp-moist; pliable; gravelly in tip	12	5
29	39.0	Silty Sand, gravel vf-vf; w/ cobbles up to 5" diameter; very poorly sorted	16	14
		brown; saturated;	18	5
39.0	49.0	as above	22	1
49	51.0	as above	26	1
51.	59.0	Sand; f-vc; trace fine and med gravel; 2 cobbles 3.5" & 5"); brown; satur.	31	1
		locally more fine w/ no definate bedding visible	35	1
59.0	64.0	Sand + gravel; vf-vc; gray; saturated	38	1
64.0	69.0	Sand medium; little fine, coars + very coarse; trace f-m gravel; gray; sat.	41	1
69.0	72.0	as above	45	2
72.0	76.0	Sand; very coarse; little fine to coarse; tr fine gravel; gray Sat	48	3
76.0	79.0	Same as 64-69	52	1
	*	(had 7-8' recovery, driller thought bottom 2' may have been TILL)	56	2
79	85	Very hard drilling, Told driller to stop since he thought we were in a	58	1
		very competent Till. Could not hardly push the sampler down	61	1
		Cobble lodged in tip of spoon. Approx 1 foot of TILL squeezed around	65	1

GEOLOGIC LOG L.EGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 31 PAGE 2 OF 2 PAGES DATE: 4/3/01

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION feet/PID	PID READING
			68 = 0
79	85 cont	the cobble and into sampler. Gray Till w/ s&g	71 = 1
		disseminated throughout.	74 = 0
		Casing is run only to 79'. No need to run additional casing	77 = 1
		to 85' since we will run bentonite chips up to 77' (the	82 = 0
		suspected top of TILL.	
		Proposed Screen Settings:	
		Shallow: 29-34 = just below upper TILL	
		Intermediate: 52-54 = roughly in the middle between shallow & deep	
		Deep: 73-75 = puts us two feet above the basal TILL in	
		the event the well should drop some when pulling casing.	
		Measured Total Depths:	
		Deep = 77.45	
		Int = 55.55	
		Shallow = 34.85	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 32 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS 1600 WEBSTER STREET, DAYTON, OHIO	SCREEN: Deep 74.5-72.5 (~74-72 per driller) 2" PVC DIAMETER: Intermediate 56-54 SLOT NO. 10
DATE COMPLETED: 3/14-15/01	SETTING: Shallow 28-13 (~28.5-13.5 per driller)
DRILLING COMPANY: MOODY'S/BOWSER MORNER	SAND PACK: 75.5-70.5 #6 Silica (Global) 56.5-52
Dave = driller, Nick = Helper, Ron = helper, 3/15 Jarrod = helper	SETTING: 28.5-11
DRILLING METHOD: ROTO SONIC	CASING 72.5 to grade 2" PVC 54 to grade
SAMPLING METHOD: Continuous 10' sleeves 3-4" diameter	SETTING: 13 to grade
OBSERVER: DVS	SEAL TYPE: Medium Bentonite Chips (Pure Gold) Plug back 79-75.5
REFERENCE POINT: Grade	SETTING: Deep 70.5-56.5, Int 52-28.5, shallow 11-5
REFERENCE POINT ELEVATION: ~746.3 (DP028)	DEVELOPMENT: pumped 3-5 gpm ~1.5 hrs/Nest
STICK-UP: NA	DURATION: until sediment free
SURFACE COMPLETION: FLUSH GRADE Concrete 5' on up	WATER LEVEL: S end of plant = 725.24 West to 725.09 East should be ≈ 21' based on DP elevations + gw elev @ plant
REMARKS: NW Corner of Claridge Park	YIELD: Nest 32 = 726.2 ≈ 20.1' based on this nest
	DTW = 23' ~ 45 min after drilling stopped

Estimated

DEPTH IN FEET FROM	TO	Soil quality of nearest Drivepoints DP-14 TCE 28 ug/kg @ 16-20' ND 8-12' DP-28 ND 4-8' DP-22 ND 12-16' both field + fixed labs GEOLOGIC DESCRIPTION	PID READING (ppm) feet	PID
0	2.5'	Grass; brown clay; trace sand + silt; f-c; moist; no odor; organics/roots	1	0
2.5	9.0	Silty s+g; vf-vc; trace cobbles to 3.5"; damp to 5' then dry brown	3	0
9.0	19.0	as above	5	1
19.0	23.0	Too coarse to sample (can't analyze rock) " " Saturated; but adding water while drilling (see "WATER LEVEL" above)	8	2
23	23.5	Sand f-m; brown; saturated	10	1
23.5	27.5	Sand vf-vc and gravel; trace silt and cobbles to 3.5" brown;	14	4
27.5	28.0	Sand f-coarse; brown saturated	18	6
28.0	29.0	Sand + gravel vf-vc; trace cobbles to 3.5" ~ WT	21	6
29.0	33	"	22	16
33	34	Sand; f-c; trace fine gravel; brown Saturated Lab Soil Sample *	23	16
34	39	Sand + gravel vf-vc; brown saturated	25	18
39	40.5	Sand vf-med; trace silt brown saturated	28	18
40.5	44	Gravel; f-vc; little sand vf-vc; trace cobbles to 4.5"; brown saturated	31	6
44.0	44.5	Sand f-m; trace coarse-vc; brown; saturated	34	8
44.5	45.5	Cobbles, 2 of them, one = 3.5" one = 6" w/ s+g vf-vc	38	21
45.5	49.0	Sand; coarse; little f-m-vc; trace f-c gravel; trace cobbles to 3.5"	38	17
49	53	Sand; fine to med; some coarse sand; brown saturated; coarsens w/	40	13
		depth in last 1 foot	43	27
53	55.5	As above; little fine-med gravel; trace coarse gravel; coarsens w/	46	31
		depth in last 8" or so	48	15

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 32 PAGE 2 OF 2 PAGES DATE: 3/14-15/01

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING Feet / PID
55.5	56.5	Sand and gravel; vf-vc; brown; saturated	51 14
	Note:	(From 49-56.5 the entire length gradually coarsens w/ depth)	53 35
56.5	59	TILL; s+g vf-vc disseminated throuout; % of clasts	55 31
		increases w/ depth; cobble 4½" in end of sample; gray	58 9
		stiff; moist	61 0
59	63	Start w/ another cobble 5" mixed w/ silty sand + gravel vf-vc	63 Too wet
		gray; saturated	65 Too wet
63	64	Sand fine; little med; tr coarse; gray; saturated	66 0
64	65.5	Silt and vf sand; gray; saturated	68 0
65.5	69.0	Sand vf-vc with fine gravel; little med to coarse gravel; gray; wet.	72 0
69.0	70.0	as above	75 0
70	71.0	Sand fine-med gray saturated	78 0
71	75.5	Sand med-coarse; trace fine and vc; trace fine gravel; gray	
		saturated; little med-vc gravel last 6"	
75.5	77.5	TILL; trace s+g disseminated throut; gray; dry; v stiff, v. hard	
77.5	79.0	Silty sand + g; vf-c; trace clay; gray; saturated	
		EOB	

Log is bailing w/ water above the silt

Measured Total Depths Deep = 72.85, Int = 55.25, Shallow = 27.50

Digital Camera Pictures MVC-0115 = Drill Core 0-79'

MVC-0125 = Drill Site

Clay elev ≈ [Grade Elev ~746.3 (DP028)] − [77.5 (Depth to clay)] = 668.8 (669)

Clay elev @ Nest 36 = [748.86 (DP032)] − [82 DT clay] = 666.9 (667)

" " Nest 38 = [748] − 85 = 663

" " " 33 = [748.5 DP14] − 84 = 665 = Silty clay transition; − 90 = 659 = TILL

" " " 34 = [749.77 DP31] − 82.5 = 667

Plug back to 75.5

Sand 75.5-74.5, Deep 74.5-72.5, Sand to 70.5, Bentonite to 56.5;

Sand to 56, Intermediate 56-54, shallow 28-13' allows 4' below low water table and 2' above high water table

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 33 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS Clavidge 1600 WEBSTER STREET, DAYTON, OHIO Park	SCREEN: 82-80 2" PVC DIAMETER: 59.5-57.5 SLOT NO. 10 SETTING: 34.5-19.5
DATE COMPLETED: 3/7/01 - 3/8/01	
DRILLING COMPANY: MOODY'S/BOWSER MORNER Dave / Dave driller; Nick & Pete helpers	SAND PACK: #6 Silica (Global) SETTING: Deep 83-78, Int 60-55.5, Shallow 35-17.5
DRILLING METHOD: ROTO SONIC	CASING Deep 80-grade 2" PVC
SAMPLING METHOD: Continuous 4" x 10' plastic sleeve	SETTING: Int 57.5-grade Shallow 19.5-grade
OBSERVER: DVS	SEAL TYPE: Pure Gold Medium Bentonite Chips
REFERENCE POINT: grade	SETTING: Plugback 94-83, Deep 78-60, Int 55.5-35, Shallow 17.5-5.0
REFERENCE POINT ELEVATION: 748.5 e DPOM	DEVELOPMENT: Pumped 3-5 gpm until sediment free
STICK-UP: NA	DURATION: ~1.5 hrs / Nest
SURFACE COMPLETION: FLUSH GRADE Concrete 5' on up	WATER LEVEL: ~23'
REMARKS: Clavidge Park Corner of Daniel & Lamar	YIELD:

Estimated

DTW 19 15:35 Nest 33 e

GW elevations MW-8S = 725.25, MW-10S = 725.17, MW-11S = 725.10

Pictures on disk MVC-003S = Rig, MVC-004S = drillcore to 79'

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING (ppm) feet / PID
0	0.3	grass	2 / 0
0.3	1.5	Clay; trace silt & sand, f-c; organics; brown; moist	4 / 1.9
1.5	9.0	silty sand & gravel; trace cobbles up to 3"; brown; no odor poorly sorted damp	6 / 1.0
		to moist; subrounded	8 / 1.5
9.0	17.0	as above trace clay; very moist above clay below @ 17'; Coarsens slightly w/ depth very poorly sorted	11 / 1.5
17.0	17.5	clay w/ silt sand & gravel; appeared to be consistant clay but crumbled when	15 / 19
		squeezed into material which looks like above Lab soil sample	18 / 36
17.5	19.0	Silt w/ fine sand; varved appearance; light whitish brown; dry	21 / 1.0
19.0	19.5	as above	24 / 15
19.5	21.0	see 17-17.5' (clayey sand & gravel) saturated from drilling water	27 / 14
21.0	25	gravel; v coarse; little fine-coarse gravel; trace cobbles to 3"; trace silt-	31 / 7
		saturated (may be from driller / formation) DTW = 19' but seems high	34 / 5
		when look @ Nest 34 fairly well sorted	36 / 3
25	29	Silty Sand & gravel vf-vc; little cobbles to 3" brown saturated; last inch or so	38 / 2
		@ end of spoon has Sand, fine-med; brown saturated	
29	30	Sand; fine-med; trace silt; brownish gray saturated	
31	34	Sand & gravel; vf-vc; trace 3" cobbles 31-32; gray; saturated subrounded	
34	37	clay (T.11); little sand, gravel & cobbles (cm = 6" diameter) disemminated throughout	
		34-34.5 oxidized brown, very hard & stiff; dry;	
		34.5-37 gray; softer & moist slightly pliable but quite firm	

GEOLOGIC LOG L.EGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 33 PAGE 2 OF 2 PAGES DATE: 3/7/01

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING
			feet/Pid
37	39	Sand f-vc; trace gravel f-c; gray saturated trace 2-3" cobbles	
39	45	Sand fine-med; trace coarse sand & fine gravel; fairly well sorted	41 1.0
		gray saturated	45 0.5
45	49	Gravel fine; trace f-c sand and f-m gravel and cobbles to 4"	48 1.0
		coarsens w/depth; gray saturated	51 0.5
49	50	as above	54 0.8
50	56	Sand vf-vc; trace gravel; f-c; brownish gray saturated	58 0.0
56	58.5	Sand f-m; well sorted brownish gray; saturated	61 1.0
58.5	59.0	Silty Sand & gravel; vf-vc; brownish gray saturated	64 0.9
59.0	62	Sand f-m; well sorted; brownish gray; saturated	67 0.7
62	62.5	Clay; gray damp hard & stiff; NO stg	70 0
62.5	64.0	Gravel; m-c; trace fine; trace coarse sand; trace cobbles	73 0
		to 4½": gray; saturated	76 0
64.0	67.0	Sand f-c; little gravel f-c; gray saturated	79 0
67.	68.0	Gravel; f-c; trace sand f-c; gray saturated	82 0
68.0	69.0	Sand as @ 64-67.	85 0
69	74.0	Gravel Coarse w/ vf-vc gravel; trace cobbles 4"; trace silt and sand	88 0
		vf-vc.	91 0
74	79	Sand coarse w/vf-vc sand; trace gravel; vf-vc; some gravel @	93 0
		77-77.5'; gray saturated	
79	82.5	Sand & gravel vf-vc; poorly sorted; gray; saturated	
82.5	83.5	Clay w/ silt sand & gravel; crumbly; gray saturated	
83.5	84	Sand f-c; gray saturated	
84.0	84.5	clayey silt; gray saturated	
84.5	85.5	Silt; soupy; g-m	
85.5	86.5	Silty clayey sand f-m; trace cobbles to 4"	
86.5	88.0	silty clayey sand & gravel vf-vc; gray saturated	
88.0	89.	Silt; gray; feels moist but likely saturated; crumbles easily	
89	90	"	
90	93	Clay (Till) trace stg throughout; damp; very hard; stiff; gray	
93	94	Silt.	

82 Sand

83

Chip

EOB Plugged back 94-83

Measured Total Depths: Shallow = 33.95
Int = 59.35
Deep = 81.80

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 34 PAGE 1 OF PAGES 2
LOCAT ON: ~~DAYTON THERMAL PRODUCTS~~ Claridge Park 1600 WEBSTER STREET, DAYTON, OHIO	SCREEN: Deep 81-79' DIAMETER: Intermediate 58-56 SLOT NO. 10 slot SETTING: shallow 31-16' 2" PVC
DATE COMPLETED: 3/6/01 - 3/7/01	
DRILLING COMPANY: MOODY'S/BOWSER MORNER Dave driller; Pete Associate driller; Nick helper	SAND PACK: #6 Silica (Global) Deep 82-77 Int 58.5-54 shallow 31.5-14 SETTING:
DRILLING METHOD: ROTO SONIC	CASING Deep 79' to grade Intermediate 56 to grade 2" PVC
SAMPLING METHOD: Continuous 10' x 3-4" plastic sleeve	SETTING: Shallow 16 to grade
OBSERVER: DVS	SEAL TYPE: Pure Gold Medium Bentonite chips
REFERENCE POINT: Grade	SETTING: Deep 77-58.5, Int = 54-31.5, shallow 14-5' Plugged back 89-82
REFERENCE POINT ELEVATION: ~749.77 (DP-31)	DEVELOPMENT: Pumped 3-5 gpm until sed free
STICK-UP: NA	DURATION: ~1.5 hrs/Nest
SURFACE COMPLETION: FLUSH GRADE Concrete on up	WATER LEVEL: 11:45 24.2 / 749.77-24.2 = 725.57
REMARKS: Claridge Park 3/4 block east of Lamar & Daniel Streets	YIELD: 12:35 26.4 / 749.77-26.4 = 723.37 3/6/01 7AM 24.0 / 749.77-24 = 725.77

Estimated

Digital Camera MVC-0015 = DVS trig by KJV, Disk file MVC-0023 = drillcore
day-bor-MW0345-C day-bor-MW0345-d

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING (ppm)
0	0.3	Grass	feet / ppm
0.3	1.5	Clay, little sand f-coarse; brown; moist;	5' = 6.0
1.5	4.0	Sand; gravel + cobbles up to 3½"; little silt; brown; damp; poorly sorted; no odor	7' = 2.0
4.0	9.0	as above; rounded; moist; poorly sorted	9' = 3.0
9	14	" " max cobbles = 2.5" " "	11' = 0.7
14	19	Sand; v fine-coarse; trace gravel to 1.5" diameter; little silt; poorly sorted	13' = 5.0
		damp; much finer & dryer than 9-14'	15' = 12
19	27	Sand & gravel vf-vc, trace cobbles up to 4" diameter; trace silt; brown; damp-moist (note: also adding fair amount of water to borehole while drilling)	17 = 8
			19 = 3
27	28	Clay (TILL); some s, g & c; gray; damp; hard	21 = 12
Above	DTW =	15' but likely from water added while drilling	23 = 25
28	30	Sand vf-vc; trace silt and gravel f-m; gray; saturated Lab Sample X	25 = 57
30	34	Sand; medium; little fine to coarse; trace fine gravel; gray; saturated	28 = 22
		slightly finer 32-33'	30 0
34	39	Gravel; f-c; little sand coarse; trace f-m sand; trace cobbles to 4" diameter	33 0
		gray; saturated; becomes finer w/ depth ~38-39'	35 0
39	40	Sand, f-m; trace silt; gray; saturated	37 0
40	43	Sand coarse w/ fine gravel; some f-m sand; gray saturated	39 0.1
43	47	Sand as @ 39-40 plus trace coarse	41 0 43 0
47	49	Sand; fine; gray saturated	45 0.4 47 0 49 0

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 34 PAGE 2 OF 2 PAGES — DATE: 3/6-7/01

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION feet = PID	PID READING
			50.0
49	50	as above	53 =0
50	53	Sand vf-vc gravel & cobbles to 3"; poorly sorted; gray saturated	56 =0
53	55.5	Gravel fine-coarse; trace sand f-c; gray saturated	59=0
55.5	59	Sand f-c; trace gravel, f-c; trace cobble ~ 2" gray saturated	62 - 0.1
		coarsens 58-59'	65 - 0.4
59	61	as above	67 0
61	63	Sand, vf-vc gravel and cobbles to 5" diameter; trace silt; (poorly sorted)	69 0
		rounded; gray; saturated	71 0
63	66	as above w/o cobbles	73 0
66	69	gravel f-coarse; little sand f-c; trace silt gray saturated	75 0
69	72	Gravel f-coarse; trace sand f-c; gray saturated	77 0
72	75	Sand and gravel; f-c; trace cobbles to 3"; gray saturated	79 0
75	79	Sand fine-medium; trace coarse; trace fine gravel; gray; saturated	81 0
79	81	as above	83 0
81	82.5	Sand and gravel; fine-very coarse; gray; saturated	85 0
82.5	85.5	clay; gray saturated; musky & soft; no coarse material	88 0
85.5	88.7	clay (Till); trace sand & gravel disseminated throughout;	
		f-coarse; gray damp; locally moist; no odor	
88.7	89	Sand & gravel w/ little clay in very end of retrieval	
		Driller thought it was material from above & we may have	
		went thru the clay into another s & g layer	
		11:45 DTW 24.2 — Measured TDS	
		12:35 DTW 26.4 — Deep = 80.85	
15	3/7	7:00 DTW 24.0 — Int = 57.20	
		Shallow = 30.85	
30	End Pnp	3 5/8" = 3.625"	
	2'	Screen Slotted portion = " = '	
	5'	Screen " " 51 1/2" = 4.3'	
	10'	Screen " " 112 1/2" = 9.375'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 35 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS Claridge Park 1600 WEBSTER STREET, DAYTON, OHIO	SCREEN: 2" Sched 40 PVC DIAMETER: Deep: 78-76 Inter: 63-61 SLOT NO. 10
DATE COMPLETED: 3/20/2001 3/21/01	SETTING: Shallow: 31-16
DRILLING COMPANY: MOODY'S/BOWSER MORNER	SAND PACK: #6 Silica sand
	SETTING: Deep: 79-73 ; Inter: 63.5-59 Shallow: 31.5-14
DRILLING METHOD: ROTO SONIC	CASING 2" Sched 40 PVC Shallow: 16 - grade
SAMPLING METHOD: Roto sonic, continuous 10' sleeves	SETTING: Deep: 76-grade, Inter: 61-grade;
OBSERVER: ~~DVB~~ MCP	SEAL TYPE: Medium Bentonite chips
REFERENCE POINT: grade	SETTING: Back plug: 89-79, 73-63.5, 59-31.5, 14-2.5
REFERENCE POINT ELEVATION: +1' + 748.2 (PP030) = ~749	DEVELOPMENT: pumped 3-5 gpm until sediment free
STICK-UP: NA	DURATION:
SURFACE COMPLETION: FLUSH GRADE	WATER LEVEL: @ MW-75 = 725.21 ; ~749 - 725.21 = ~24'
REMARKS: west of DP030, Digital photos MVC-0205 + MVC-0215	YIELD:

Might see clay 55-60' based on Nest 37 + Nest 32; may see till @ 90' based on Nest 33 or deeper as on Nest 37.

Note: This PID is an OVM 580B rented from Total Safety/Hazco

Soil Quality: DP030-4-8' non-detect; DP014-16-20' TCE 28 ug/kg; DP025-12-16' TCE 47 ug/kg

749 - 718 = 31

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	OVM PID READING (ppm) feet	ppm
0	0.5	Topsoil; some organics + small roots; black; moist	1	0
0.5	9.0	Sand + gravel; v.f-v.crs; tr. cob; dry; brown	3	0
9.0	10.0	Silty sand + gravel; v.f-v.crs; tr. cob; wet from drilling; brown	6	0
10.0	19.0	Sand and gravel, v.f-crs; tr. v.crs gvl; dry; brown.	9	0
19.0	20.0	Sand + gvl; v.f-crs; tr. v.crs gvl; wet from drilling; brown	11	0
20.0	20.5	Silty sand + gvl; v.f.-crs; wet from drilling; brown	15	2
20.5	29.0	Gravel; f-m; some f-crs snd; dry; brown; 1/4-3/8" round gravel 25-29'	18	2
29.0	31.0	Gravel; f-crs; tr. v.crs snd; tr. cob; brown multicolored; sat.	20	0
31.0	33.5	Sand + Gravel; fine-med; tr. m gvl; brown; sat	25	4
33.5	37.5	SAND, course; well sorted; tr. f gvl; brown, sat	29	1
37.5	38.0	Sand and gvl; crs-f; brn, sat	30	1
38.0	39.0	Same as 33.5-37.5'	33	2
39.0	48.5	Sand + gvl; crs-m; with cobbles; brown; sat.	36	5
48.5	49.0	SAND, m; brn, sat, tr course snd	39	2
49.0	58.0	SAND; m; brn, sat.	41	5
58.0	59.0	Sand + gravel, m-f; tr. cob; brn, sat	45	5
59.0	64.5	Sand + gravel, m-m; tr. cob, brn. sat	48	1
64.5	65.0	CLAY; with f. gvl; firm, brn top 3-inch, grey bottom 3-inch, wet.	51	0
65.0	68.5	Silty sand; vf-f, w/f. gvl; tr. cob; grey; sat	53 55	0 0
68.5	69.0	CLAY with silt + f. sand; soft, grey, sat.	57 59	0 0

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 35 PAGE 2 OF 2 PAGES DATE: 3/21/01

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING feet	PPM
69.0	72.0	CLAY, with silt + fine sand; pliable to mushy; grey; saturated	62	0
72.0	76.0	Sand + gravel; vf-f; tr. m gvl, grey, sat	65	0
76.0	77.0	SAND, f-v.crs; tr. silt; tr. f. gvl; grey; sat	68	0
77.0	79.0	Sand + gravel, m-m; tr. cob; grey; sat	71	0
—	—	Begin drilling on 3/21/01	74	0
79.0	82.5	TILL, tr. cob; tr crs snd, tr. f gvl; grey firm, moist	77	0
82.5	83.0	SAND; coarse; with silt; grey; moist tr. cob	79	0
83.0	86.5	TILL; with m-crs snd; tr. m gvl; grey moist	82	0
86.5	87.0	Silty SAND; crs; tr. f. gvl; tr. cob; grey, moist	85	0
87.0	89.0	TILL; with m-v.crs snd; tr. f. gvl; tr. cob, grey moist.	89	0
	89.0	EOB		

No soil samples submitted for analytical due to low PID readings.

Proposed screen settings:

Shallow: 16-31 feet

Intermediate: 61-63 feet

Deep: 76-78 feet

Measured Total Depths

Deep = 77.30

Int. = 62.40

Shallow = 30.85

76' - 78'

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 36 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS Claridge 1600 WEBSTER STREET, DAYTON, OHIO Park	SCREEN: Plugged back 89-82 2" PVC DIAMETER: Deep 81-79 Intermediate 56-54 SLOT NO. 10
DATE COMPLETED: 3/12-13/01	SETTING: Shallow 31-16
DRILLING COMPANY: MOODY'S/BOWSER MORNER Dave = Driller	SAND PACK: Deep 82-77 Intermediate 56.5-52 #6 Silica (Global) SETTING: Shallow 31-16
DRILLING METHOD: ROTO SONIC	CASING Deep 79-0 Intermediate 54-0 2" PVS
SAMPLING METHOD: Continuous 4" x 10' plastic sleeve	SETTING: Shallow 16-0
OBSERVER: DVS	SEAL TYPE: Pure Gold medium bentonite chips Plugged back 89-82
REFERENCE POINT: grade	SETTING: Deep 77-56.5, Int 52-31, Shallow 14-5
REFERENCE POINT ELEVATION: DP032 = 748.86	DEVELOPMENT: Pumped 3-5 gpm until sediment free
STICK-UP: NA	DURATION: ~1.5 hrs/nest
SURFACE COMPLETION: FLUSH GRADE Concrete 5' on up	WATER LEVEL: ~23.5' based on WL's @ the plant
REMARKS: Claridge Park, just east of DP-032 and just west of Apartment Complex west of Melburn Ave	YIELD: DTW 3/12 in Nest 34 = 24' but just got done developing wells DP-32 Soil 12-16' = ND both mobile and fixed lab DTW 3/14/01 = 22.7' Elev ~726.2 DC's OVM 5608

Estimated

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION (Digital Camera PNJC-0085 = drill core 49-89', 95 = " " 79-89', 105 = drill location; Calibrated to 100.7 ppm)	PID READING (ppm) feet	PID
0	0.1	grass	2	0
0.1	1.4	clay, brown; w/ organics & tree roots; trace s&g; moist; no odor	4	0
1.4	9.0	silty sand & gravel; fv-fc; trace cobbles to 3.5"; poorly sorted; brown; damp	6	0
		no odor	8	0
9.0	19.0	as above w/ 1-foot clayey/med gravel lens ~12-13'; end of recovery contains	10	2
		~0.5 mm very hard disk of s&g cemented w/ silt	14	11
19	26	as above sprinkling - drizzle ~2:35 Lab sample *	18	57
26	29	Sand f-c w/ fine gravel; trace m-c gravel; brown; saturated	20	10
	Aside	DTW ~23.5' based on plant WL's	23	18
29	31	as above	26	42
31	32.5	TILL, top 6" brown rest is gray hard some s,g & cobbles to 5" disseminated through wt; damp	28	100
32.5 33.5	35.5	clayey silt w/ s, g, & cobbles to 5"; very soft, locally soupy; gray	30	4
35.5	37	s & g; vf-vc; trace	33	2
37.0	38.0	Sand vf-fine; gray; saturated Raining	36	1
38	39.0	Sand & g; f-vc; gray; saturated	38	1
39	44	as above w/ little cobbles to 3.5" · becomes more sandy near bottom 1'	42	1
44	49	Gravel; m-vc; trace fine gravel & vc sand; trace cobbles up to 5" diameter in upper	45	1
		2.5'; then no cobbles; gray; saturated; very coarse material	48	1
	Aside	Quit for the day		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 36 PAGE 2 OF 2 PAGES DATE: 3/12-13/01

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING feet	PID
		→ as above		
49	53	Gravel; medium; little f-vc; (resembles pea gravel); trace vc sand;	50	0
		gray; saturated;	52	0
53	55	Sand & gravel vf-m; little cobbles to 3"; trace silt; gray; saturated	55	1
55	59	Sand; m-c; little fine and vc; upper 1' has trace fine-med gravel	58	2
		so does lower 1'.	61	0
59	60	as above	64	0
60	62	Gravel m-vc w/ cobbles up to 4"; some sand vf-vc; gray saturated	66	0
62	63.5	Sand m-vc; trace fine sand; trace fine gravel; gray; saturated	68	0
63.5	67.0	same as 60-62	71	0
67.0	69.0	same as 62.0-63.5	73	0
69	71.5	same " "	75	0
71.5	75.5	Sand vf-c; trace gravel; fv-fc; gray; saturated	78	0
75.5	76.5	same as 60-62	81	0
76.5	78.0	same as 71.5-75.5	83	0
78.0	79.0	Same as 60-62 w/o cobbles	86	0
79.0	80.0	" (pea gravel)	88	0
80.0	82.0	Sand, medium; trace f-vc; trace fine gravel; gray saturated		
82.0	87.0	TILL; Clay w/ s+g & cobbles disseminated throughout; gray		
		damp; very hard; v stiff; clasts make up to 30% of matrix		
87.0	89.0	Sand v.f-fine; trace med-coarse; little silt; gray; saturated		
		90B		
		Plugging hole back w/ bentonite chips to 82'		
		Shallow screen set on top of Till @ 31'-16'		
		Intermediate screen split difference between shallow and deep = 54-56'		
		Deep screen set 1 foot above Till (79-81) which would put bottom		
		1' of screen in medium sand and top 1' in pea gravel		
		Shallow screen ~4" lower than 31' per driller		

Measured Total Depths: Deep = 80.95, Int = 55.25, Shallow = 30.85

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 37 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS Claridge 1600 WEBSTER STREET, DAYTON, OHIO Park	SCREEN: Deep 99-97 2" PVC DIAMETER: Int 49-47 SLOT NO. 10 SETTING: shallow 28-13
DATE COMPLETED: 3/15, 16 and 19/01	SAND PACK: Deep 99-95 #6 silica (Global) SETTING: Int 50-45 shallow 28.5-11
DRILLING COMPANY: MOODY'S/BOWSER MORNER Dave: driller, Nick: helper Jarrod: helper (15th) Don: Helper (16th)	CASING Deep 97 to grade 2" PVC SETTING: Int 47 to grade shallow 13 to grade
DRILLING METHOD: ROTO SONIC	SEAL TYPE: Deep 95-50 Medium Bentonite Chips Int 45-28.5 Global Brand SETTING: shallow 11-5
SAMPLING METHOD: 10' continuous core ~3-4"	DEVELOPMENT: Pumped 3-5 gpm until sediment free
OBSERVER: DVS	DURATION: 2/1.5 hrs/nest
REFERENCE POINT: grade	WATER LEVEL: ~20' based on surrounding data
REFERENCE POINT ELEVATION: 746.12 = DP025	YIELD: ▼ ~726 3/16
STICK-UP: NA	
SURFACE COMPLETION: FLUSH GRADE Concrete 5' on up	
REMARKS: SW Corner Claridge Park	Digital Camera MVC013S = drill core 14S = drill site facing south

Soil quality @ DP025 (nearest Geoprobe) 8-12' = 37 ug/kg TCE mobile lab EQL; 12-16' = 47 ug/kg TCE Kemron

DEPTH IN FEET FROM	TC	GEOLOGIC DESCRIPTION (* = potential sample; (*) = Lab Sample)	PID READING (ppm) Feet	PPM
0	2.0	Grass, Clay; little silt; organics upper 1'; brown; moist; no odor	1	0
2.0	4.0	Silty Sand & gravel vf-vc; trace cobbles to 4" diameter; brown damp.	3	5
4.0	9.0	as above; no odor	6	9
9.0	11.0	as above; no odor (9-19 = 5.5' recovery, hard to tell sand thickness)	8	10
11.0	13.0	Sand; f-m; damp; no odor	11	6
13.0	19.0	Same as 2-4' Vapors @ wellhead 0.0	15	4
19.0	21.0	as above; trace clay (only 5' recovery 19-29) brown, saturated (driller adding water to)	19	24 *
21.0	26.0	Gravel; f-vc; little sand vf-vc; upper 2' has trace cobbles to 4"; brown saturated	21	24
			25	34
26	28	Sand; m-vc; (becomes finer w/depth); trace f-m gravel; brown; saturated	28	50 *
28	29	Silt; brown; moist; (likely saturated)	31	5
29	32	A lot of water added to hole; hard to tell upper 2-3' geology (5' recovery)	35	19
29	30	Silt as @ 28-29 Jarrod dropped ~4' in mud tub hard to say how much fell out of bag	38	69 *
30	35	sand vf-vc; with f-m gravel; trace coarse; brown; saturated	41	54
35	36	sand f-m; stradeled by thin cobble layer above and below (3-4" cobbles)	43	70
36	39	Sand m-vc and gravel f-c; brown; saturated	45	99
39	40	as above (Jarrod dropped bag in mud tub again)	46	121
40	41	Gravel, f-vc; trace sand vf-vc; brown; saturated Lab Soil Sample	48	127
41	49	Sand; m-c; trace fine and vc sand; little fine-md gravel 44.5-46 brown; saturated		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 37 PAGE 2 OF 2 PAGES DATE: 3/15-16/01

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING Feet/PPM
49	52.5	Sand f-vc; trace fine gravel; brown saturated	51 23
52.5	53	Till; oxidized brown; trace s & g disseminated throughout; damp; v hard/stiff	53 18
53	56	Clayey; silty; sandy; sand and gravel; vf-vc; trace cobbles	55 3
		up to 4" diameter; gray; saturated	57 1
56	57.5	Till, gray; little silt sand and gravel; vf-coarse trace cobble to 4" damp; hard/stiff	61 2
57.5	58.0	clayey silty sand; vf-vc; trace f-m gravel	64 3
58.0	59	Till; gray; moist some s, g, vf-vc;	66 4
		1-inch fine sand @ end of recovery	68 3
59	64.5	Sand fine to medium; gray; saturated; well sorted	72 1
64.5	66.5	Sand vf-f; gray saturated well sorted	75 2
66.5	68.0	Silt; gray; saturated	78 1
68.0	69.0	Sand; f-m; gray saturated well sorted	82 1
69.	71.5	Sand vf-coarse; gray saturated	85 2
71.5	72.0	Silt; gray; saturated	88 1
72.0	75.	Sand f-vc and gravel fine to med; gray; saturated	92 1
75	77.5	Silt; gray; upper foot soft; bottom 1.5' very firm	95 1
77.5	78.0	Sand; f-c; gray; saturated	98 1
78.0	78.5	Silt; gray; saturated	
78.5	79.0	silty sand; f-vc; trace f gravel; gray; saturated	
79	79.5	" "	
79.5	83	Gravel; fine-med; trace coarse; little sand; f-vc; gray	
83	86.	Sand; coarse-vc; some med sand; trace vf-vc gravel; gray sat	
86	88.5	Sand & gravel vf-vc; tr cobbles to 4" gray; sat.	
88.5	89.0	Sand; fine; gray sat	
89.0	91	"	
91	99	s & g	
		Rig broke down 3/16 @ noon, Took rig to shop. Will back Monday 3/19.	
		MCI will complete supervision of installation	
		Measured Total Depths: Deep=100.90, Int=47.80, Shallow=27.80	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 38 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS Claridge Park 1600 WEBSTER STREET, DAYTON, OHIO	SCREEN: 81-83 2" PVC DIAMETER: 56-58 15-30 SLOT NO. 10
DATE COMPLETED: 3/9/01 and 3/12/01	SETTING:
DRILLING COMPANY: MOODY'S/BOWSER MORNER Dave Driller, Pete helper	SAND PACK: #6 Silica Deep 85-79 SETTING: Intermediate 60-54 Shallow 31-13
DRILLING METHOD: ROTO SONIC	CASING Deep 81 to grade 2" PVC Intermediate 56 to grade
SAMPLING METHOD: Continuous 4" x 10' Core	SETTING: Shallow 15 to grade
OBSERVER: DVS	SEAL TYPE: Pure Gold Medium Bentonite chips Plugged back 89-85
REFERENCE POINT: grade	SETTING: Deep 79-60, Int. 54-31; Shallow 13-5'
REFERENCE POINT ELEVATION: ~748.0 DP-29 = 748.75 slightly higher than Nest38	DEVELOPMENT: pumped 3-5 gpm until sed free
STICK-UP: NA	DURATION: ~1.5 hrs/nest
SURFACE COMPLETION: FLUSH GRADE Concrete 5' on up	WATER LEVEL: ~23' GW elevation ~725.5 @ MW-7S
REMARKS: South side of Claridge Park between baseball diamond and Claridge Community Center, Digital Camera MVC-0055 = drill core of entire hole 6S = closeup of clay 85-89' 7S = drill location 15-17' and 21-23' soil samples from closest geoprobe hole were all ND	YIELD: 3/14/01 DTW = 21.5 Elev ~726.5

Estimated

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING (ppm) Feet / PID
0	0.7	grass	2' 1.0
0.7	1.5	clay w/ organics; ~r sand f-c brown; moist; no odor	5' 2.1
1.5	9.0	Silty sand and gravel; vf-vc; some cobbles to 4"; very poorly sorted	8' 3.2
		light brown; damp; no odor	11 2.0
9.0	19.0	as above w/o cobbles dry	13 5.0
19	23	as above saturated from drilling water; slightly clayey 19-20. 6" fine-med sand w/ gravel to sand	15 8.0
23	24.0	Sand fine-medium trace coarse; brown; moist	18 9.0
24.0	26.5	Gravel w/ silt and sand; vf-vc; 1-2" rock common brown; moist	20 0.7
26.5	29.5	Sand; m-vc; trace gravel f-m; brown; saturated; end of sample is	22 3.5
		slightly silty w/ v. coarse gravel	24 7.0
29	39	3' recovery; driller not sure what interval it would be but thought it may be	26 13
		the upper portion and the bottom portion was pushed into the formation	Lab sample # 28 19
		due to the coarse material	33 2.6
		Gravel f-vc; some sand vf-vc; grayish-brown; saturated	36 3.9
39	41	1' recovery Sand: vf-vc; trace fine gravel; brown; saturated	41 5
41	49	Sand and gravel; vf-vc; trace 3" cobbles; brown saturated	43 10
49	56.5	as above; up to 5" cobbles cobbles stop @ 53'	45 10
56.5	59.0	Sand m-vc; trace fine; trace fine-med gravel, brown, saturated	47 20
59	65	Plastic bag ripped all material submerged in Mud Tub, driller said	50 10
		it was all 59 as above	52 28

GEOLOGIC LOG L.EGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 38 PAGE 2 OF 2 PAGES DATE: 3/9 & 12/01

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING
			54 30
65	69	Gravel; vf-vc; little sand vf-vc; trace cobbles to 4" diameter	56 41
		brown saturated subrounded	58 57
69	77	No return, Driller thought we may have passed a big rock	65 30
77	78.5	Sand vf-vc; brown; saturated	68 32
78.5	79.0	Gravel; med-vc; one 4" cobble; saturated	78 15
79	85	No Return chewed up cobble in spoon	86 0.7
85	89	clay; gray somewhat plastic and pliable; moist-saturated	88 0.4
		No stg in the clay	
		EOB	
		DTW MW-7S = 24.70 750.18-24.70 = 725.48	
		Plugged back w/ bentonite 89-85'	
		Measured Total Depths:	
		Deep = 82.75	
		Int = 57.80	
		Shallow = 29.20	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 39 PAGE 1 OF 2 PAGES
LOCATION: DAYTON THERMAL PRODUCTS Clean City 1600 WEBSTER STREET, DAYTON, OHIO Janitor	SCREEN: 18-33 2" PVC Sch 40 DIAMETER: 53-55 SLOT NO. 10
DATE COMPLETED: 4/4/01	SETTING: 76-78
DRILLING COMPANY: MOODY'S/BOWSER MORNER	SAND PACK: #6 Silica
Dave driller, Nick & Don helpers	SETTING: 78.5-74 55.5-51 33.5-16
DRILLING METHOD: ROTO SONIC	CASING 18-0 2" PVC Sch 40
SAMPLING METHOD: 4" x 10' Continuous cores	SETTING: 53-0 76-0
OBSERVER: DVS	SEAL TYPE: medium bentonite chips
REFERENCE POINT: grade	SETTING: 89-78.5 74-55.5, 51-33.5, 16-5
REFERENCE POINT ELEVATION: 750.43 @ DP023	DEVELOPMENT: pumped 3-5 gpm until sediment free
STICK-UP: NA	DURATION: ~1.5 hrs/Nest
SURFACE COMPLETION: FLUSH GRADE	WATER LEVEL: Historic high = 711 then shallowest DTW @ 19.5'
REMARKS: Clean City Janitor parking lot entrance	YIELD: 19' bg = high WT
Digital Camera pictures MVC-039S, 40S, 45S thru 49S	

Estimated

5808

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	OVM PID READING (ppm) Avg	PID
0	2"	asphalt	2	0
2"	1.2'	Clay; trace silt & sand & gravel vf-c; brown; moist; no odor	4	0
1.2'	9.0	Silty sand & gravel; vf-vc; trace cobbles to 4"; brown; dry; no odor	6	1
9.0	19.0	as above	8	0
19	20.0	" "	11	20
20	24.0	Silty, sandy; vf-vc; gravelly vf-f; clay; brown; trace gray mottling;	14	21
		locally compact & locally crumbly; very poorly sorted; saturated (drillers adding H_2O)	17	36
24.0	28.0	TILL; trace vf-vc s & g disseminated throughout; near dry; stiff	* Collected Soil @ 19' = high WT	
28.0	29.0	Silty sand & gravel; fv-vc; trace clay; gray; saturated; poorly sorted		
29.0	31.0	as above except brown	20	6
31.0	36.0	Sand; medium; little f to vc; trace gravel f-vc; trace 3½" cobbles; brown	24	4
36	39.0	Silty sand & gravel; vf-vc; brown; saturated	28	3
39.0	42.0	Sand medium; little f-vc sand ~~trace f gravel~~; brown; sat	31	1
42	49.0	Silty sand & gravel; vf-vc; very poorly sorted; one 4" cobble;	34	8
		6" pea gravel lense @ 48-48.5; brown; saturated	37	9
	*	2 pictures w/ digital camera	41	4
		MVC-039S = Drill core 0-49'	44	6
		MVC-040S = Drill location looking SW	47	15
49.0	54.2	Gravel; fine; some m-vc sand; little m-c gravel; one 6" cobble	51	2
		brown; bottom foot 53-54 turns gray and becomes much coarser	55	4

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 39 PAGE 2 OF 2 PAGES DATE: 4/4/01

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING feet/PPM	
54	59	Sand; c-vc; little f-m sand; trace fine gravel; gray saturated	58	2
59	65	as above; fine-med sand @ 62-62.5 63.5-64 gray	61	0
65	69	Silty sand & gravel vf-vc; trace cobbles up to 6";	65	0
		locally very gravelly	68	0
69	73	as above; no cobbles	71	0
73	77	Sand vf-med; becomes slightly coarser bottom foot or so; gray	74	1
77	79	Silty sand & gravel; vf-vc; gray; possible till in last	77	0
		inch or so, appeared to be disseminated s&g in a silt but not	81	0
		much recovery. Till estimated to be @ 84' based on other holes	84	0
79	79.3	as above	88	0
79.3	80.0	TILL trace disseminated s&g thruout; stiff, very hard; gray; dry		
80	81.5	Silt w/ f-m sand; trace medium gravel; gray saturated		
81.5	85.0	Till; some s&g dissem thruout; gray; near dry		
85.0	86.0	Silt; trace clay; gray; moist		
86.0	87.5	Till; little s&g thruout; gray near dry		
87.5	89.0	clayey silty f-m sand; trace f-m gravel; gray; saturated		
	89	EOB		
		~11:30 done drilling		
		Measured Total Depths		
		Deep = 81.45		
		Int = 56.25		
		Shallow = 33.60		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ~~ST. PAUL~~, MINNESOTA	OWNER: DAIMLERCHRYSLER CORPORATION BORING NO. Nest 40 PAGE OF 1 PAGES 2
LOCATION: DAYTON THERMAL PRODUCTS City of 1600 WEBSTER STREET, DAYTON, OHIO Dayton	SCREEN: 2" Sch40 PVC DIAMETER: SLOT NO. 10
DATE COMPLETED: 4/5/01	SETTING: 15-30, 55-57, 83-85
DRILLING COMPANY: MOODY'S/BOWSER MORNER	SAND PACK:
Dave Driller, Nick & Don helpers	SETTING: 87-81, 57.5-53, 30.5-13
DRILLING METHOD: ROTO SONIC	CASING
SAMPLING METHOD: 4" x 10' Continuous Core	SETTING: 30-0 55-0 83-0
OBSERVER: DVS	SEAL TYPE: medium bentonite chips
REFERENCE POINT: grade	SETTING: 89-87, 81-57.5, 53-30.5, 13-5
REFERENCE POINT ELEVATION: ~747 @ DP068 & 069 across street we are ~1 to 2' higher	DEVELOPMENT: pumped 3-5 gpm until sediment free
STICK-UP: NA	DURATION: ~1.5 hrs/Nest
SURFACE COMPLETION: FLUSH GRADE	WATER LEVEL: ~748-731=high WT=17' to high WT, currently ~748-725=23'
REMARKS: 6 car parking lot in front the City of Dayton 520 Kiser St. Carpenter shop Incl Vault pictures only	YIELD:

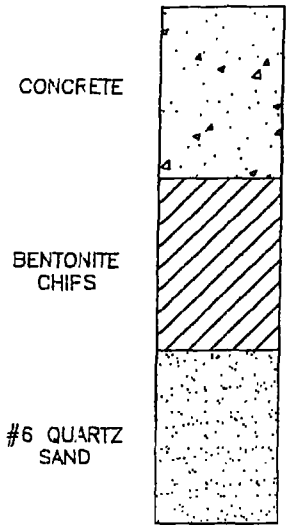
Estimated

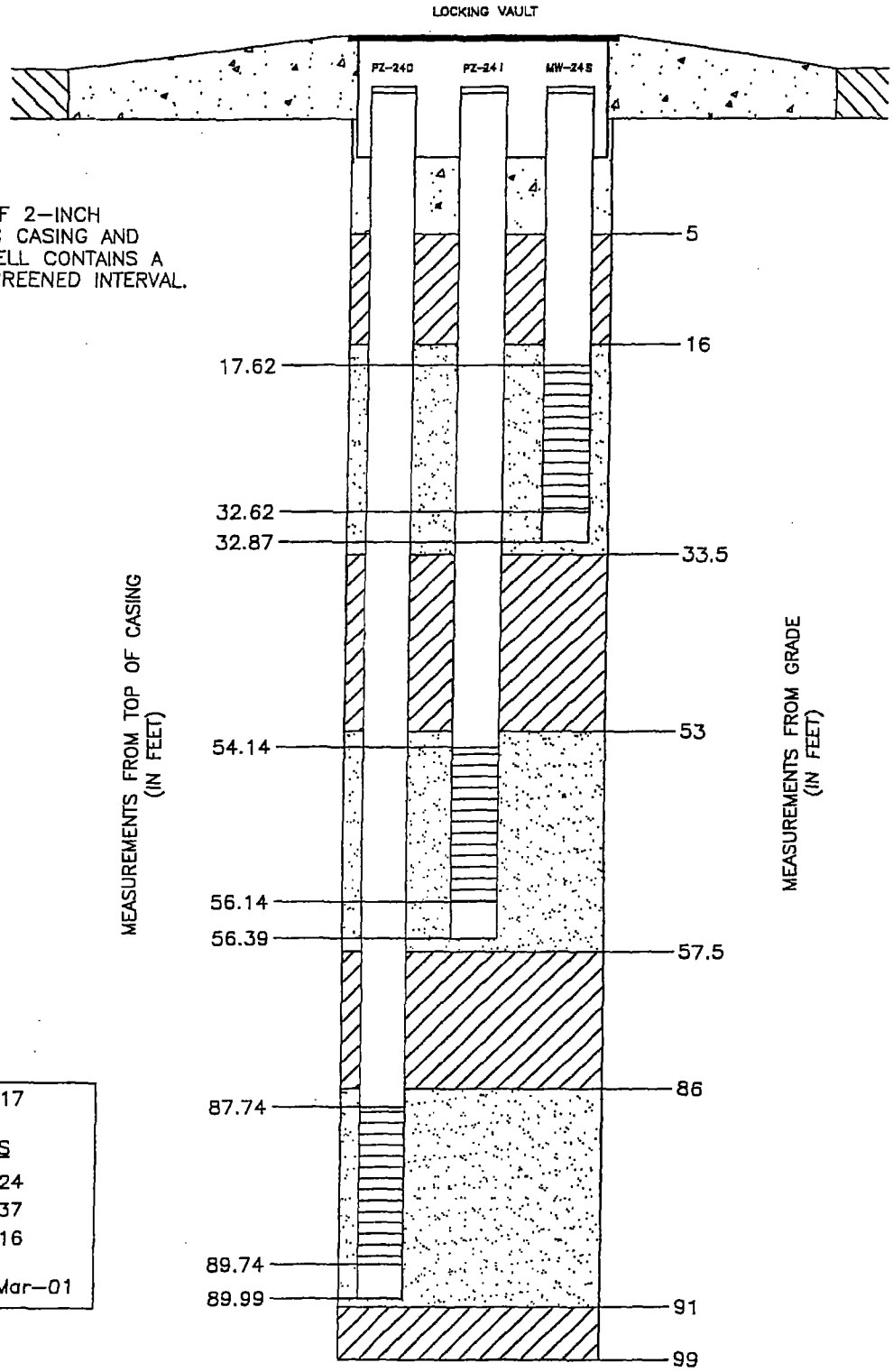
DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION (Calibrated to 102 ppm w/isobutylene)	OVM 580B PID READING (ppm) Feet	PPM
0	2"	Asphalt	3	2
2"	9.0	Silty sand & gravel; trace cobbles to 3.5" brown; dry;	6	2
9.0	19.0	as above, calculated high WT @ 17'	11	1
19.0	23.0	as above	14	2
23.0	24.0	Sand very coarse and fine gravel; orange brown (oxidized rusty appearance) sat. lab sample	*18	15
24.0	25.5	Silty S & G; trace cobbles to 4": orange brown (oxidized rusty appearance) satur.	22	4
25.5	26.5	Till; trace vf-vc S & G disseminated throughout; gray sat	25	2
26.5	27.0	Sand; f-m; gray; sat	28	2
27.0	29.0	Gravel f-m; trace f-vc sand; trace cobbles to 3.5"; gray; sat	31	1
29.0	37.0	Sand, Gravel & cobbles to 5"; S & G vf-vc; gray sat.	34	1
37	39.0	Sand; m-vc; trace fine trace f-vc gravel; gray; sat	38	1
39.0	9:20 AM	Casing broke off in hole, went to get fishing tool to pull out casing	41	2
	10:15	Casing out & back drilling	45	1
39.0	44	Gravel; f-m; trace coarse-vc gravel; some sand f-vc; trace cobbles to 3.5"	48	2
44	49	Sand f-vc; little gravel vf-vc; gray; sat	52	1
49	51	as above	55	4
51	57	Silty sand & gravel vf-vc; trace cobbles to 3.5" gray sat	58	5
57	58.5	Sand c-vc; some f-m sand; trace fine gravel; gray sat	61	0
58.5	59.	S & G; vf-vc; gray; sat	64	0
59.0	59.5	as above	68	0

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DAIMLERCHRYSLER, DAYTON THERMAL PRODUCTS WELL NO: Nest 40 PAGE 2 OF 2 PAGES DATE: 4/5/01

DEPTH IN FEET FROM	TO	GEOLOGIC DESCRIPTION	PID READING feet/PPM
59.5	64.0	Sand vf-vc; trace f-c gravel; gray; sat	61 0
64.0	66.0	Sand med; little f & coarse; tr. fine gravel; gray sat	65 0
66.0	69.0	Sand vf-vc and f-m gravel; gray; sat	68 0
69	74.0	as above	71 0
74.0	79.0	Sand f-m; m-vc last one foot; gray sat.	75 0
79.0	83	Sand; m-vc; trace fine	78 0
83	85	Sand m-vc with fine-m gravel;	81 0
85	86.5	Sand f-m; trace coarse; gray sat	84 0
86.5	87.0	Silty skg; vf-vc; gray sat	88 3
87.0	89.0	Till; trace skg disseminated thruout; gray dry	
	89.0	EOB	
		Proposed screens	
		Shallow = 15-30 = 2' above high WT 4' below low WT	
		Intermediate = 55-57 splits the difference	
		deep = 83-85' 2' above TILL incase the screen drops	
		~ Grade = 748	
		High Water = ~731	
		Low Water = 722 26'	
		Measured Total Depths	
		Deep = 88.05	
		Int = 57.80	
		Shallow = 30.20	

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





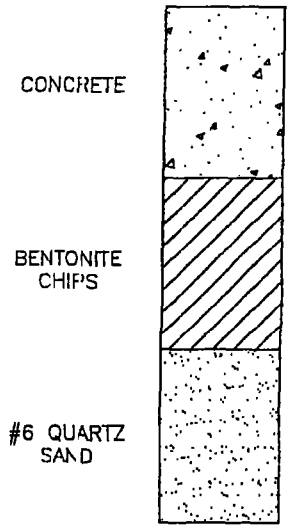
GRADE ELEVATION	752.17
TOP OF CASING ELEVATIONS	
SHALLOW	751.24
INTERMEDIATE	751.37
DEEP	751.16
COMPLETION DATE	30-Mar-01

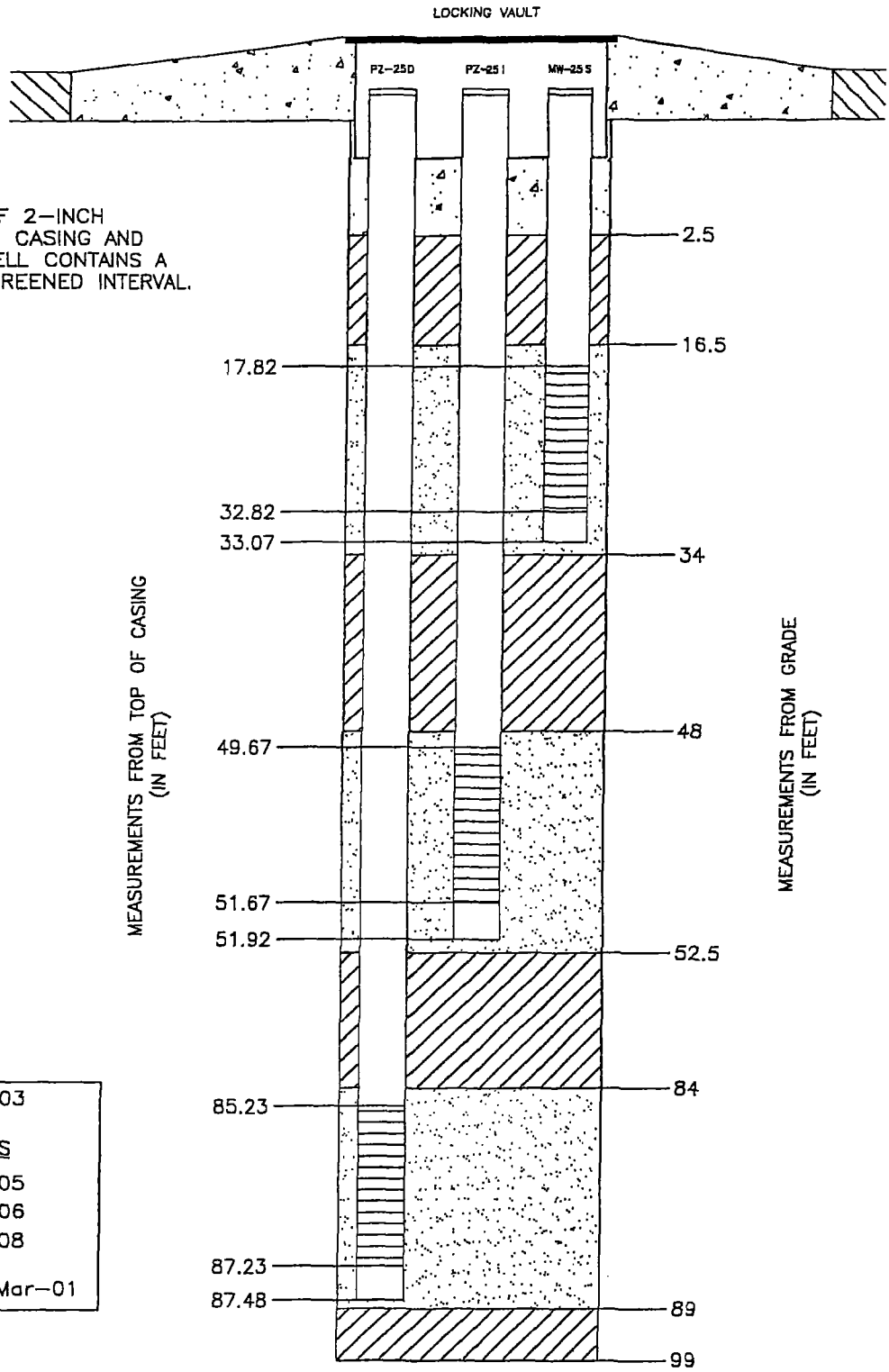
NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED	Prepared By: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water and Environmental Engineering Services Northpark Corporate Center 1210 W. County Road E, Suite 700 St. Paul, MN 55112 (651) 490-1405	DAYTON THERMAL PRODUCTS DAYTON, OHIO
			WELL NEST CONSTRUCTION NEST 24
			FILE: 3chda12w.dwg DATE: AUGUST 2001 FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





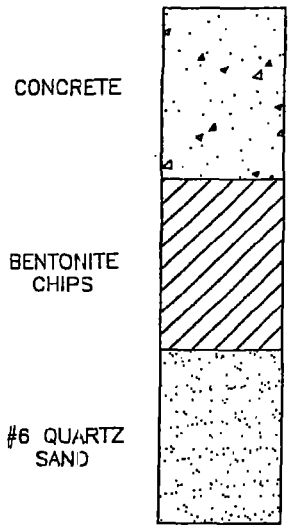
GRADE ELEVATION	752.03
TOP OF CASING ELEVATIONS	
SHALLOW	751.05
INTERMEDIATE	751.06
DEEP	751.08
COMPLETION DATE	27-Mar-01

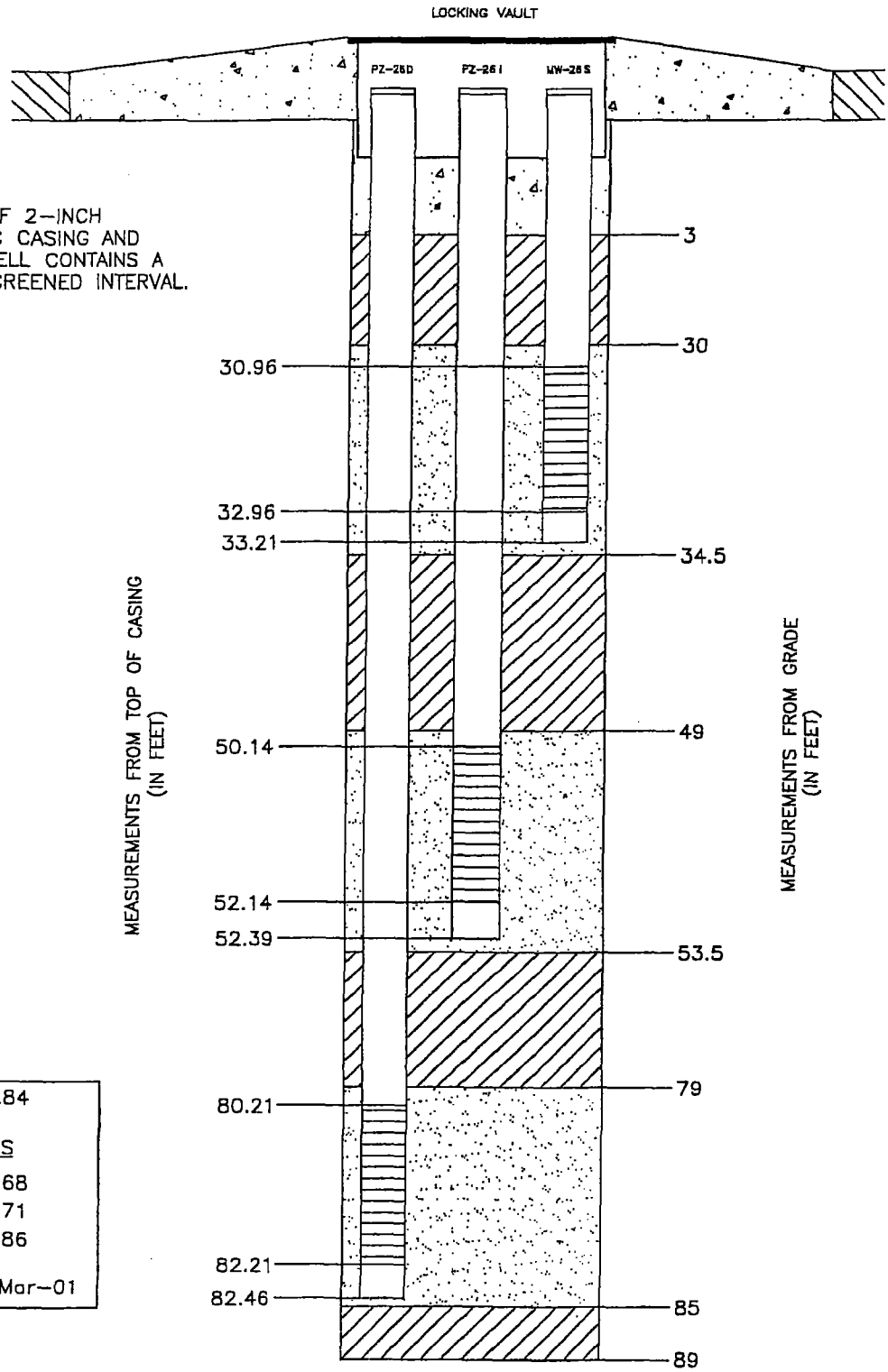
NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED	Prepared By: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water and Environmental Engineering Services Northpark Corporate Center 1210 W. County Road E, Suite 700 St. Paul, MN 55112 (651) 490-1405	DAYTON THERMAL PRODUCTS DAYTON, OHIO
			WELL NEST CONSTRUCTION NEST 25
			FILE: 3chda12x.dwg DATE: AUGUST 2001 FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





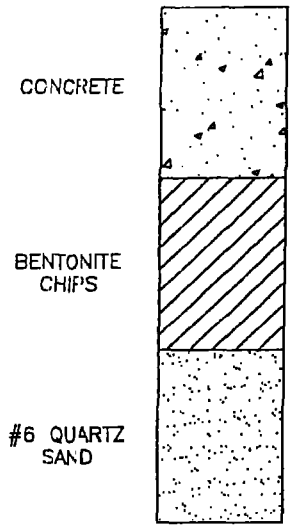
GRADE ELEVATION	751.84
TOP OF CASING ELEVATIONS	
SHALLOW	750.68
INTERMEDIATE	750.71
DEEP	750.86
COMPLETION DATE	26-Mar-01

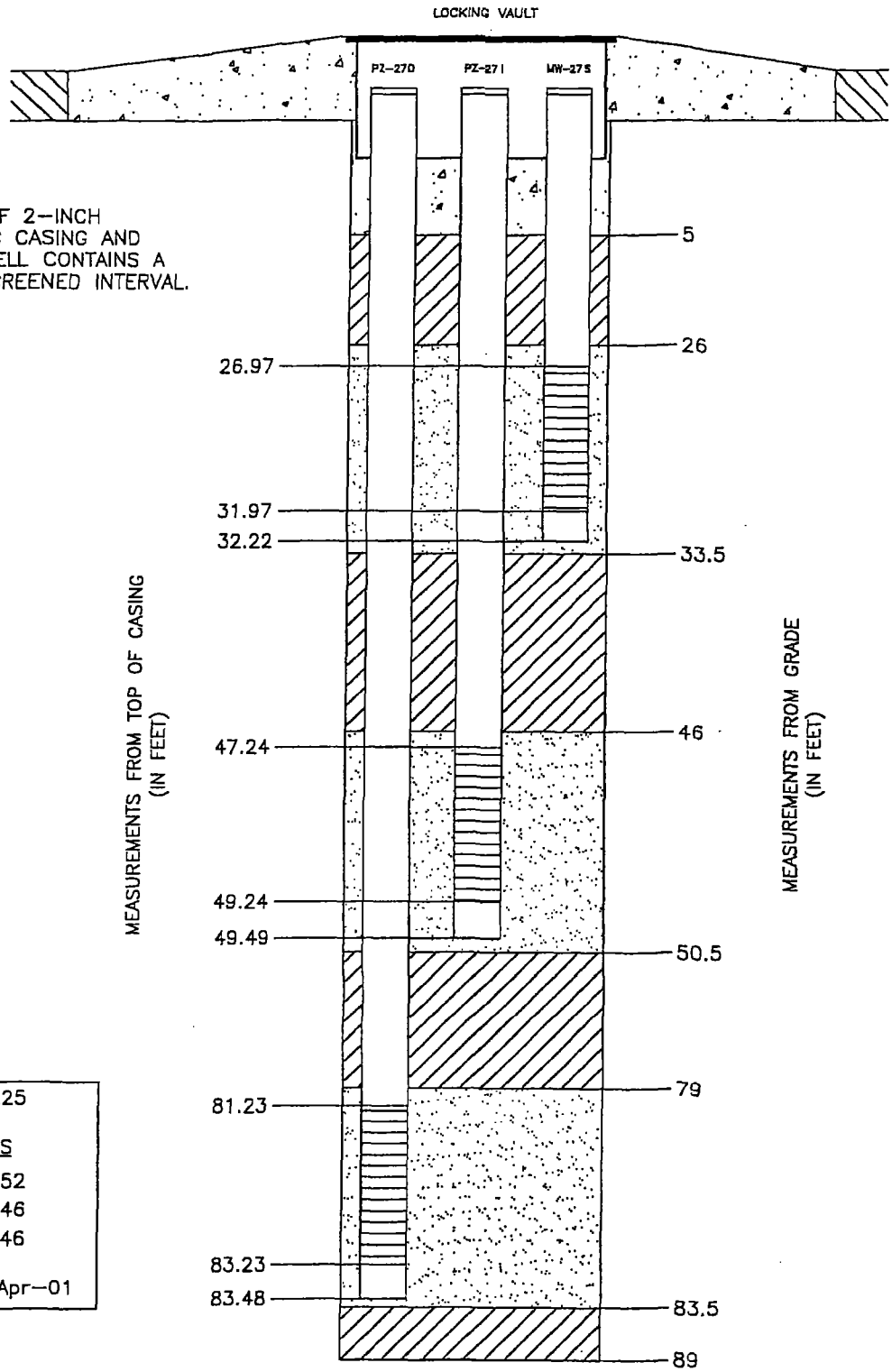
NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED	Prepared By: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water and Environmental Engineering Services Northpark Corporate Center 1210 W. County Road E, Suite 700 St. Paul, MN 55112 (651) 490-1405	DAYTON THERMAL PRODUCTS DAYTON, OHIO
			WELL NEST CONSTRUCTION NEST 26
			FILE: 3chda12v.dwg DATE: AUGUST 2001 FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





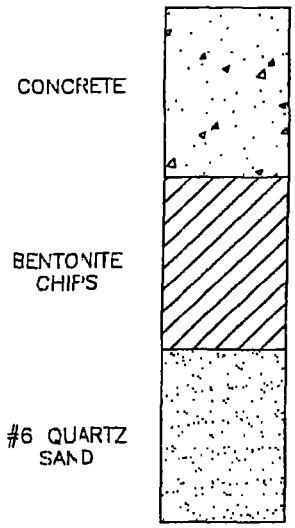
GRADE ELEVATION	750.25
TOP OF CASING ELEVATIONS	
SHALLOW	749.52
INTERMEDIATE	749.46
DEEP	749.46
COMPLETION DATE	02-Apr-01

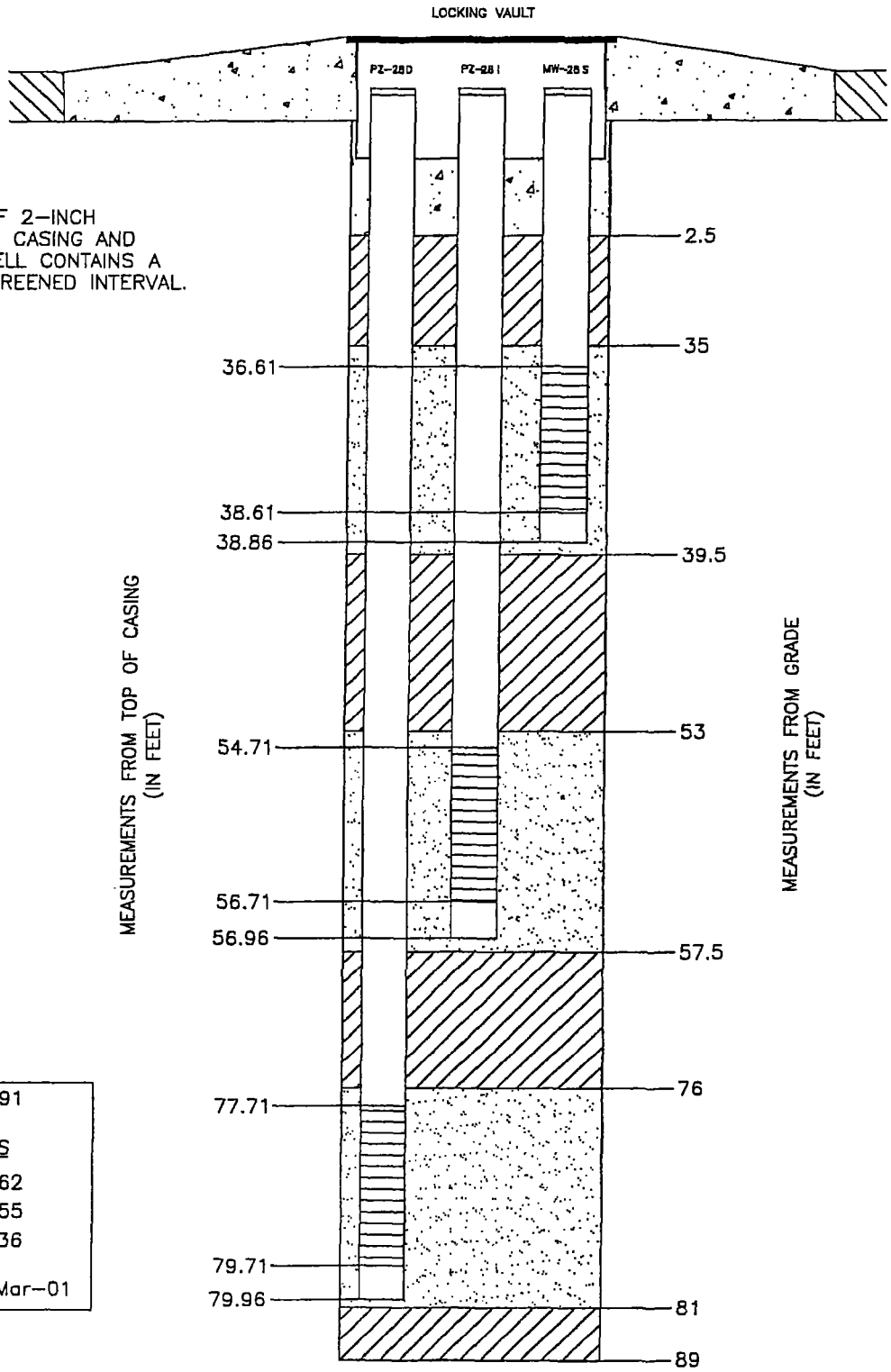
NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED	Prepared By: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water and Environmental Engineering Services Northpark Corporate Center 1210 W. County Road E, Suite 700 St. Paul, MN 55112 (651) 490-1405	DAYTON THERMAL PRODUCTS DAYTON, OHIO
			WELL NEST CONSTRUCTION NEST 27
			FILE: 3chdg12z.dwg DATE: AUGUST 2001 FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





GRADE ELEVATION	751.91
TOP OF CASING ELEVATIONS	
SHALLOW	751.62
INTERMEDIATE	751.55
DEEP	751.36
COMPLETION DATE	30-Mar-01

NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED

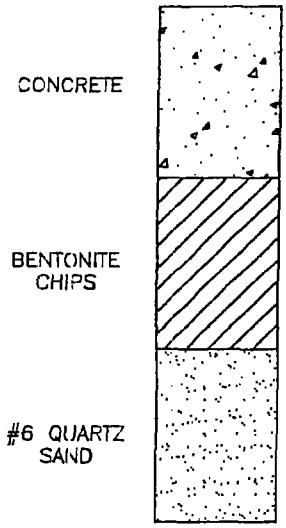
Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and Environmental Engineering Services
Northpark Corporate Center
1210 W. County Road E, Suite 700
St. Paul, MN 55112
(651) 490-1406

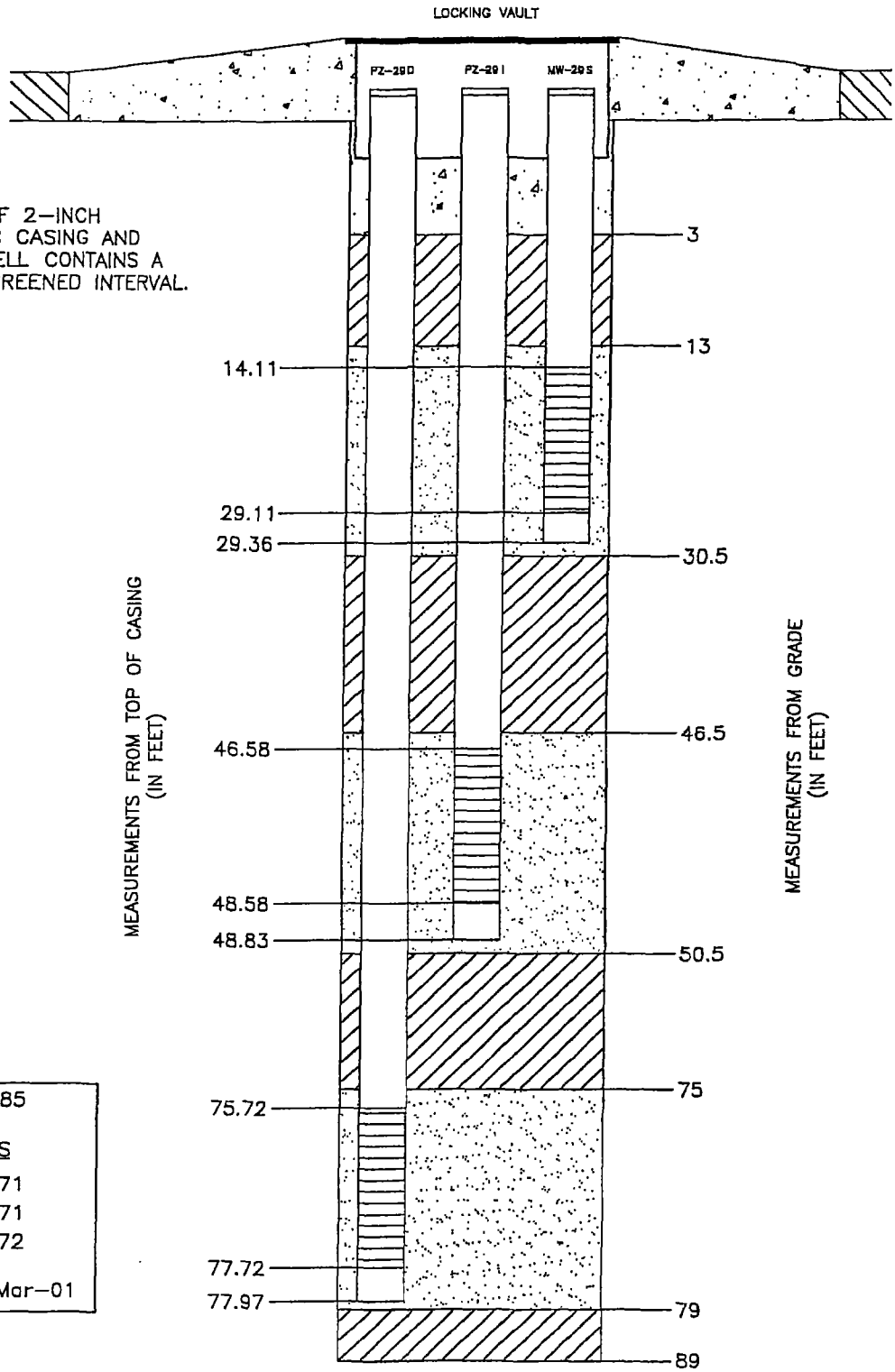
DAYTON THERMAL PRODUCTS
DAYTON, OHIO

WELL NEST CONSTRUCTION
NEST 28

FILE: 3chdo13a.dwg | DATE: AUGUST 2001 | FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





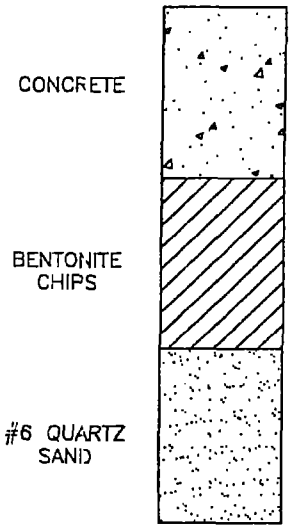
GRADE ELEVATION	748.85
TOP OF CASING ELEVATIONS	
SHALLOW	747.71
INTERMEDIATE	747.71
DEEP	747.72
COMPLETION DATE	20-Mar-01

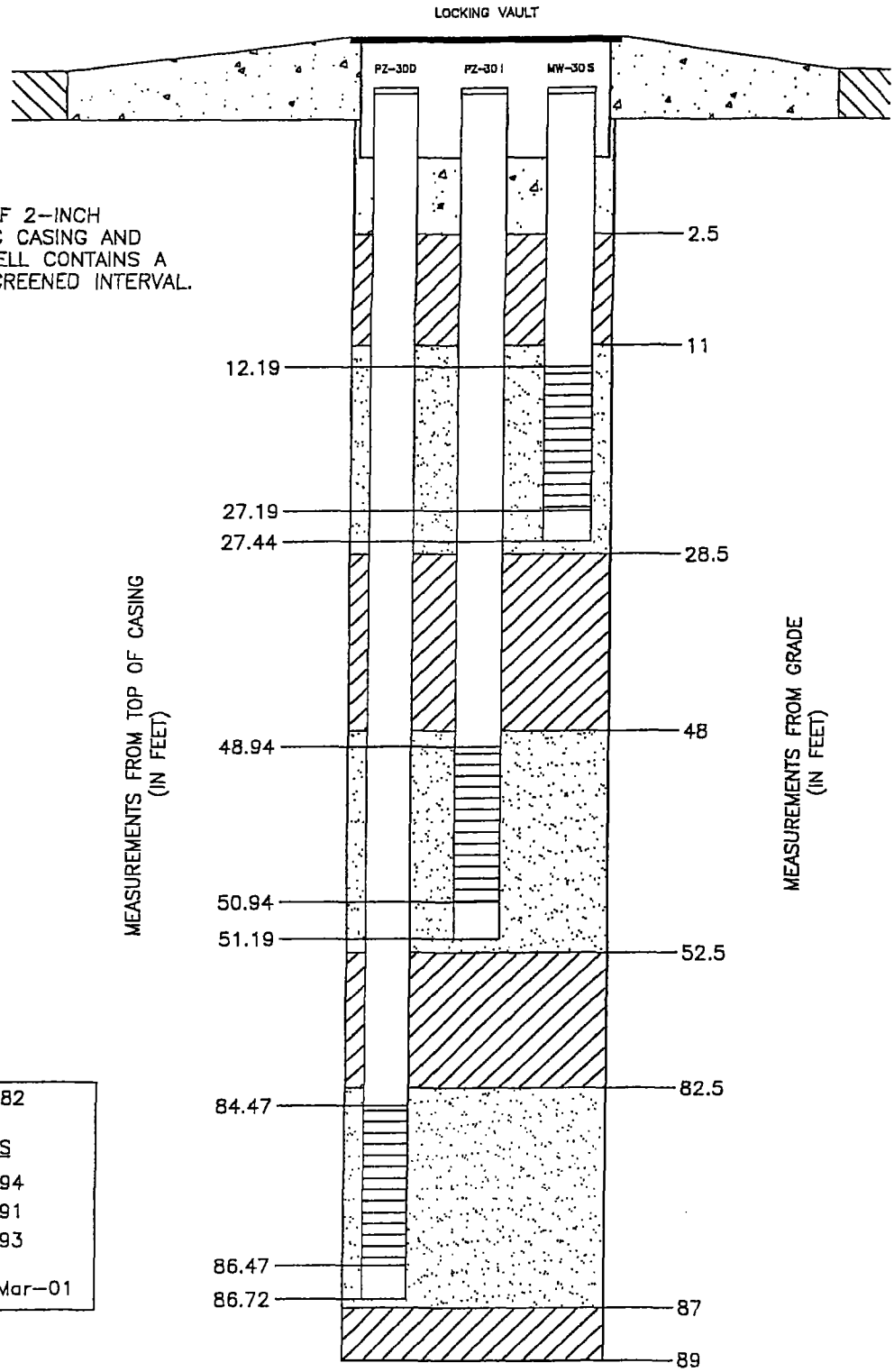
NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED	Prepared By: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water and Environmental Engineering Services Northpark Corporate Center 1210 W. County Road E, Suite 700 St. Paul, MN 55112 (651) 490-1406	DAYTON THERMAL PRODUCTS DAYTON, OHIO
			WELL NEST CONSTRUCTION NEST 29
			FILE: 3chdg13b.dwg DATE: AUGUST 2001 FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





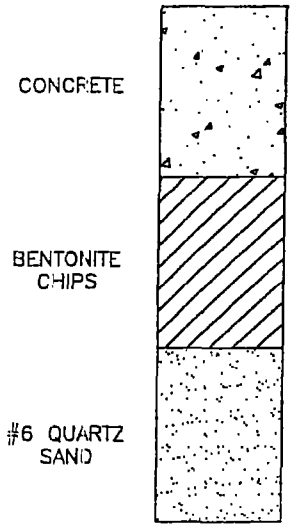
GRADE ELEVATION	746.82
TOP OF CASING ELEVATIONS	
SHALLOW	745.94
INTERMEDIATE	745.91
DEEP	745.93
COMPLETION DATE	22-Mar-01

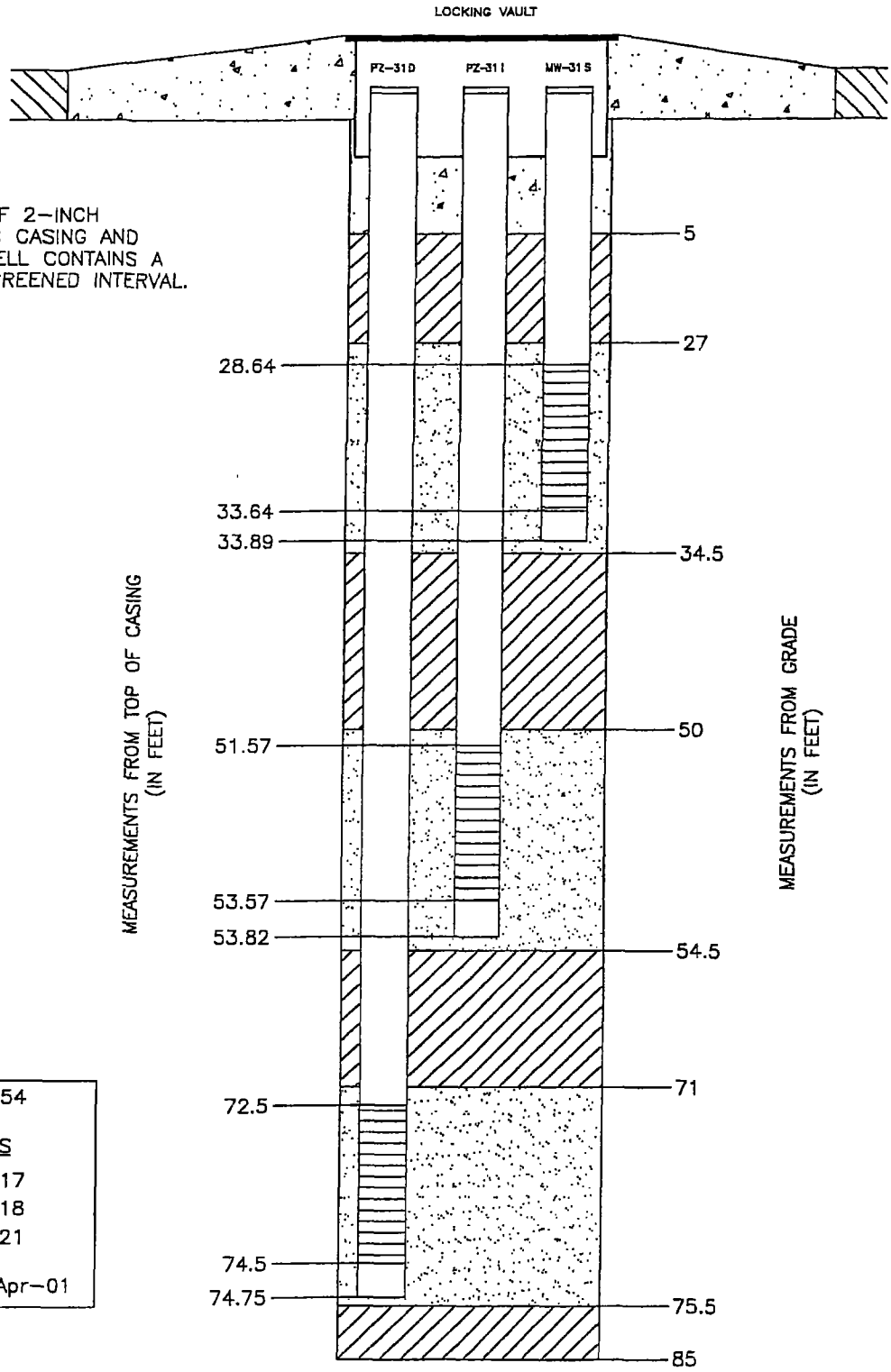
NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED	Prepared By: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water and Environmental Engineering Services Northpark Corporate Center 1210 W. County Road E, Suite 700 St. Paul, MN 55112 (651) 490-1405	DAYTON THERMAL PRODUCTS DAYTON, OHIO
			WELL NEST CONSTRUCTION NEST 30
			FILE: 3chdg13c.dwg DATE: AUGUST 2001 FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





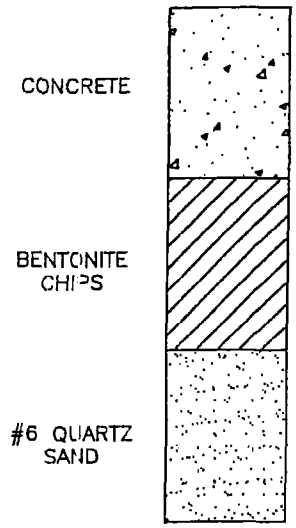
GRADE ELEVATION	749.54
TOP OF CASING ELEVATIONS	
SHALLOW	749.17
INTERMEDIATE	749.18
DEEP	749.21
COMPLETION DATE	03-Apr-01

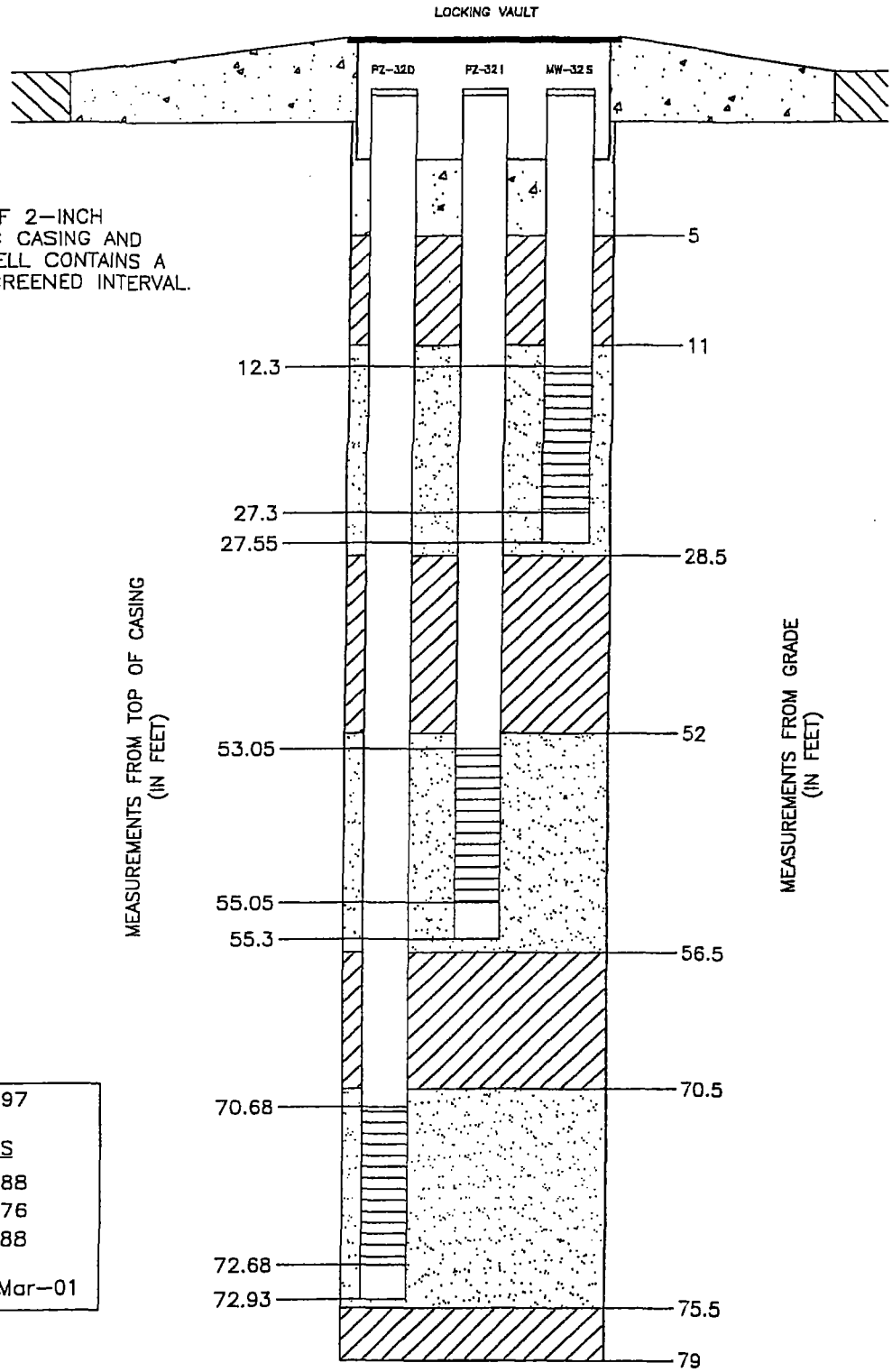
NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED	Prepared By: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water and Environmental Engineering Services Northpark Corporate Center 1210 W. County Road E, Suite 700 St. Paul, MN 55112 (651) 490-1405	DAYTON THERMAL PRODUCTS DAYTON, OHIO
			WELL NEST CONSTRUCTION NEST 31
			FILE: 3chdg13d.dwg DATE: AUGUST 2001 FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





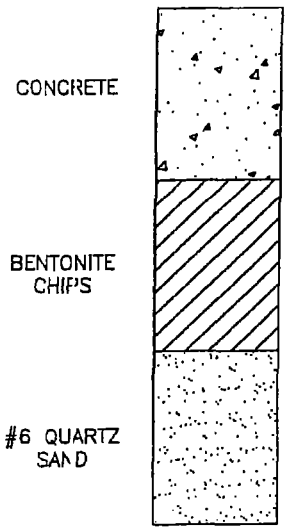
GRADE ELEVATION	745.97
TOP OF CASING ELEVATIONS	
SHALLOW	744.88
INTERMEDIATE	744.76
DEEP	744.88
COMPLETION DATE	15-Mar-01

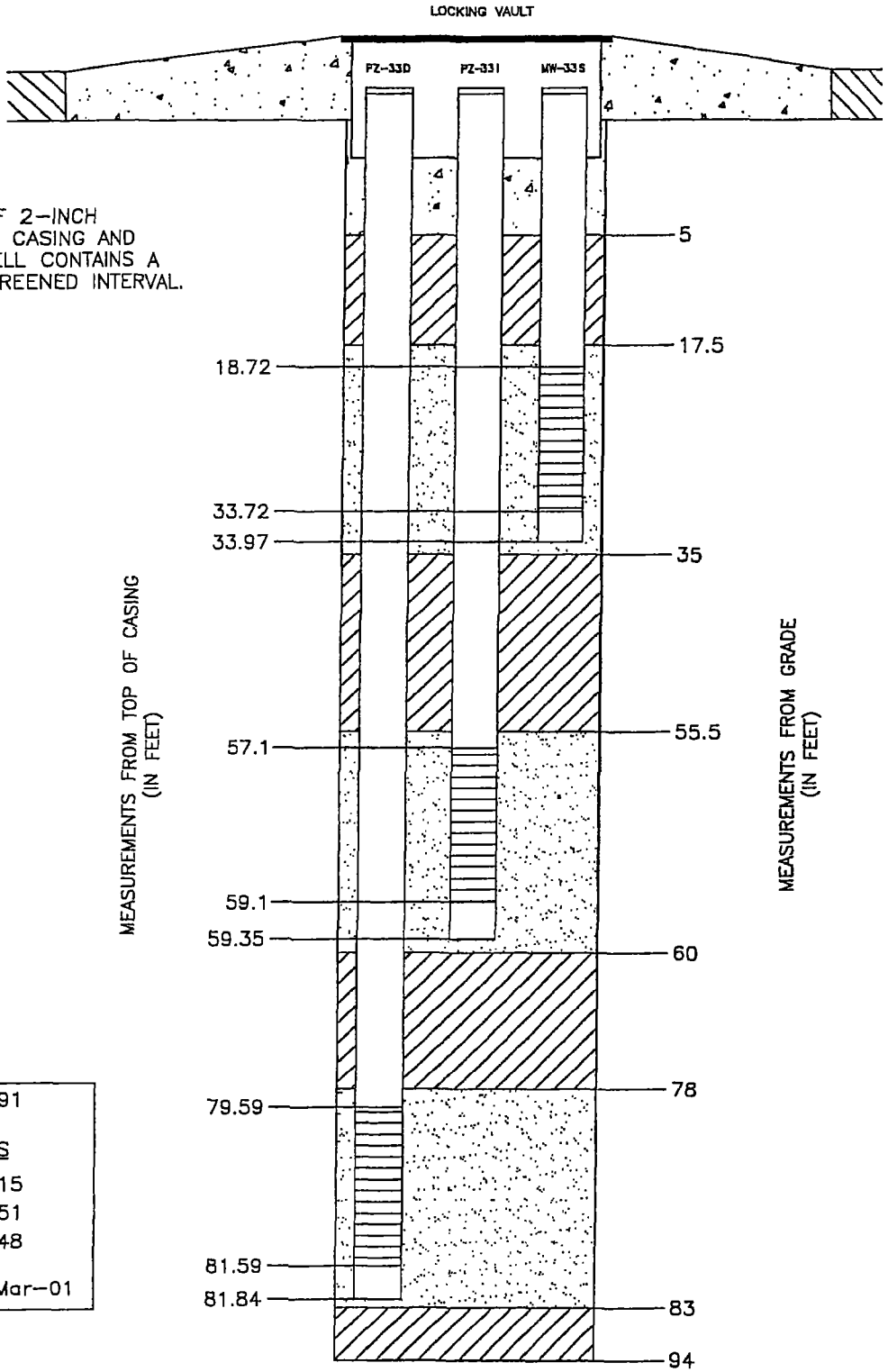
NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED	Prepared By: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water and Environmental Engineering Services Northpark Corporate Center 1210 W. County Road E, Suite 700 St. Paul, MN 55112 (651) 490-1405	DAYTON THERMAL PRODUCTS DAYTON, OHIO
			WELL NEST CONSTRUCTION NEST 32
			FILE: 3chdg13e.dwg DATE: AUGUST 2001 FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





GRADE ELEVATION	749.91
TOP OF CASING ELEVATIONS	
SHALLOW	749.15
INTERMEDIATE	749.51
DEEP	749.48
COMPLETION DATE	08-Mar-01

NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED

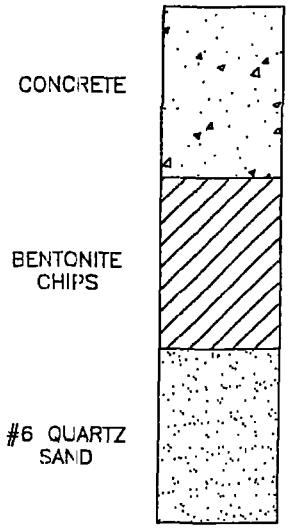
Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and Environmental Engineering Services
Northpark Corporate Center
1210 W. County Road E, Suite 700
St. Paul, MN 55112
(651) 490-1405

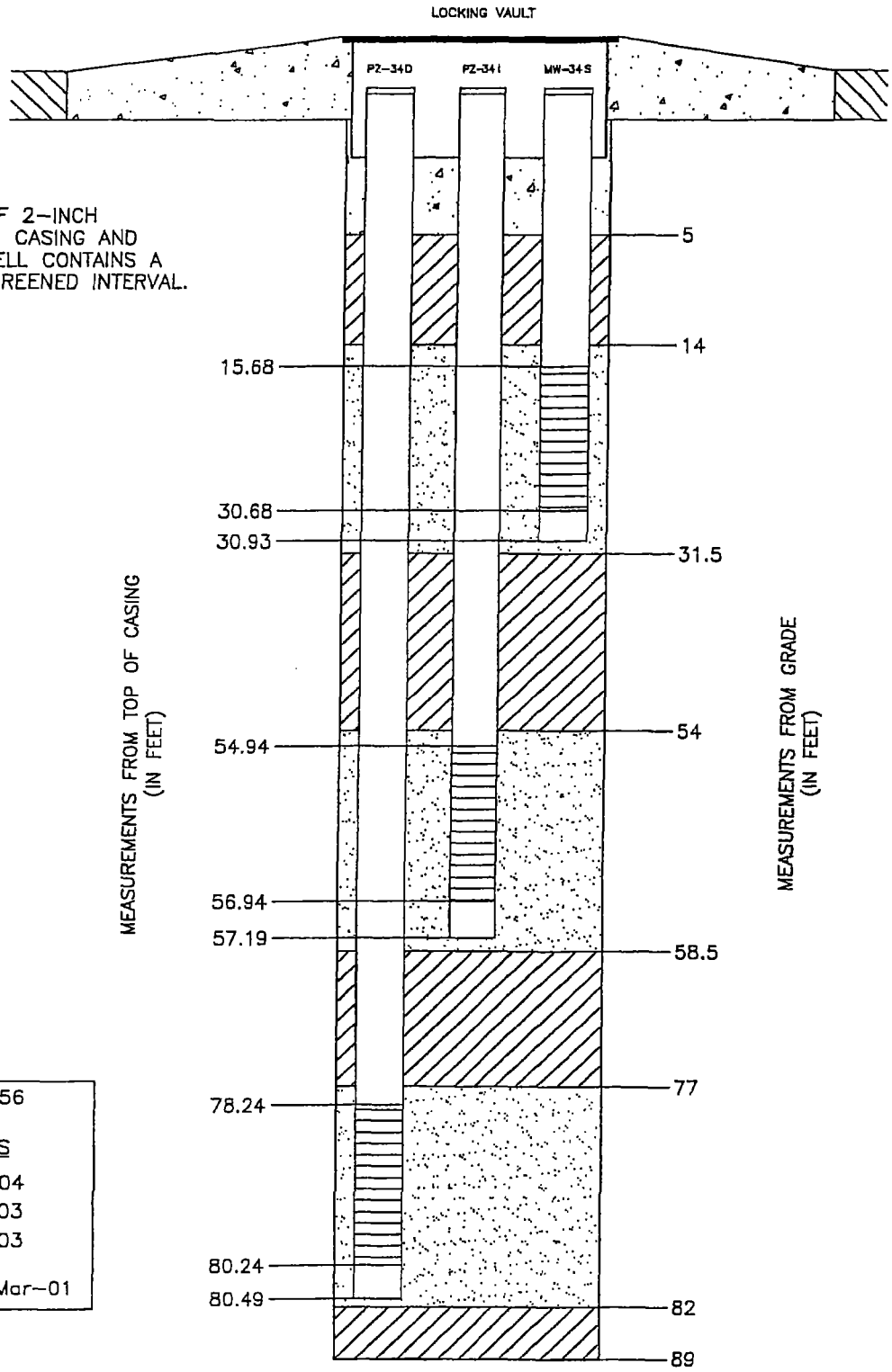
DAYTON THERMAL PRODUCTS
DAYTON, OHIO

WELL NEST CONSTRUCTION
NEST 33

FILE: 3chda13f.dwg | DATE: AUGUST 2001 | FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





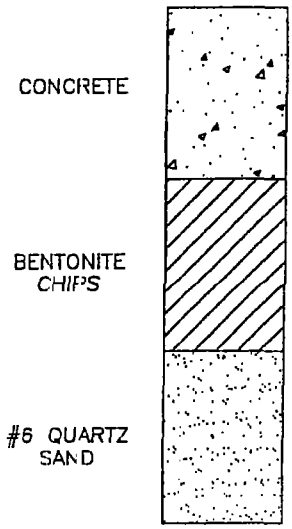
GRADE ELEVATION	749.56
TOP OF CASING ELEVATIONS	
SHALLOW	749.04
INTERMEDIATE	749.03
DEEP	749.03
COMPLETION DATE	07-Mar-01

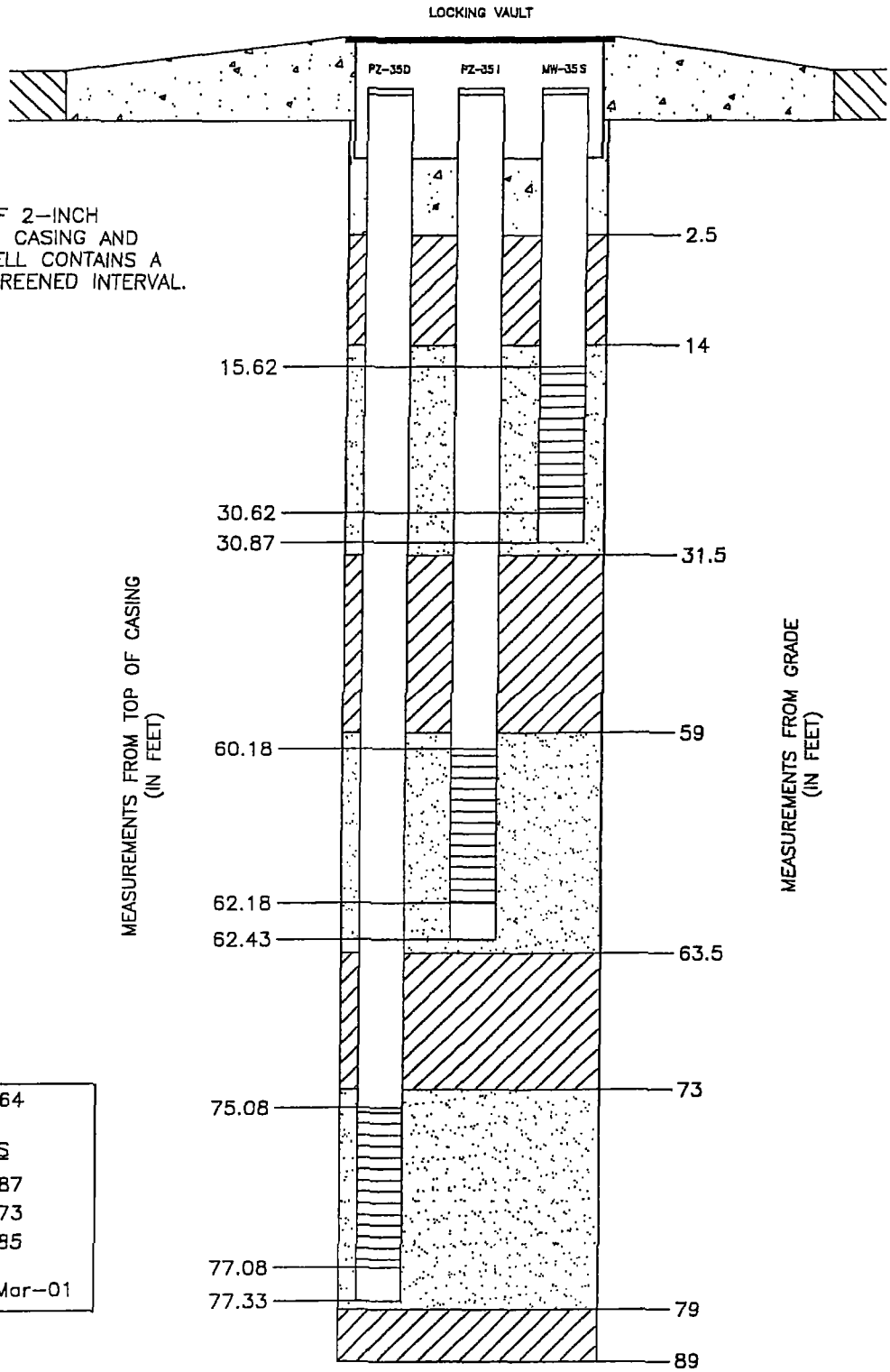
NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED	Prepared By: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water and Environmental Engineering Services Northpark Corporate Center 1210 W. County Road E, Suite 700 St. Paul, MN 55112 (651) 490-1405	DAYTON THERMAL PRODUCTS DAYTON, OHIO
			WELL NEST CONSTRUCTION NEST 34
			FILE: 3chda13a.dwg DATE: AUGUST 2001 FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





GRADE ELEVATION	749.64
TOP OF CASING ELEVATIONS	
SHALLOW	748.87
INTERMEDIATE	748.73
DEEP	748.85
COMPLETION DATE	21-Mar-01

NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED

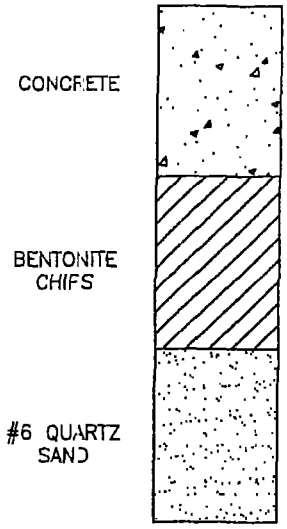
Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and Environmental Engineering Services
Northpark Corporate Center
1210 W. County Road E, Suite 700
St. Paul, MN 55112
(651) 490-1405

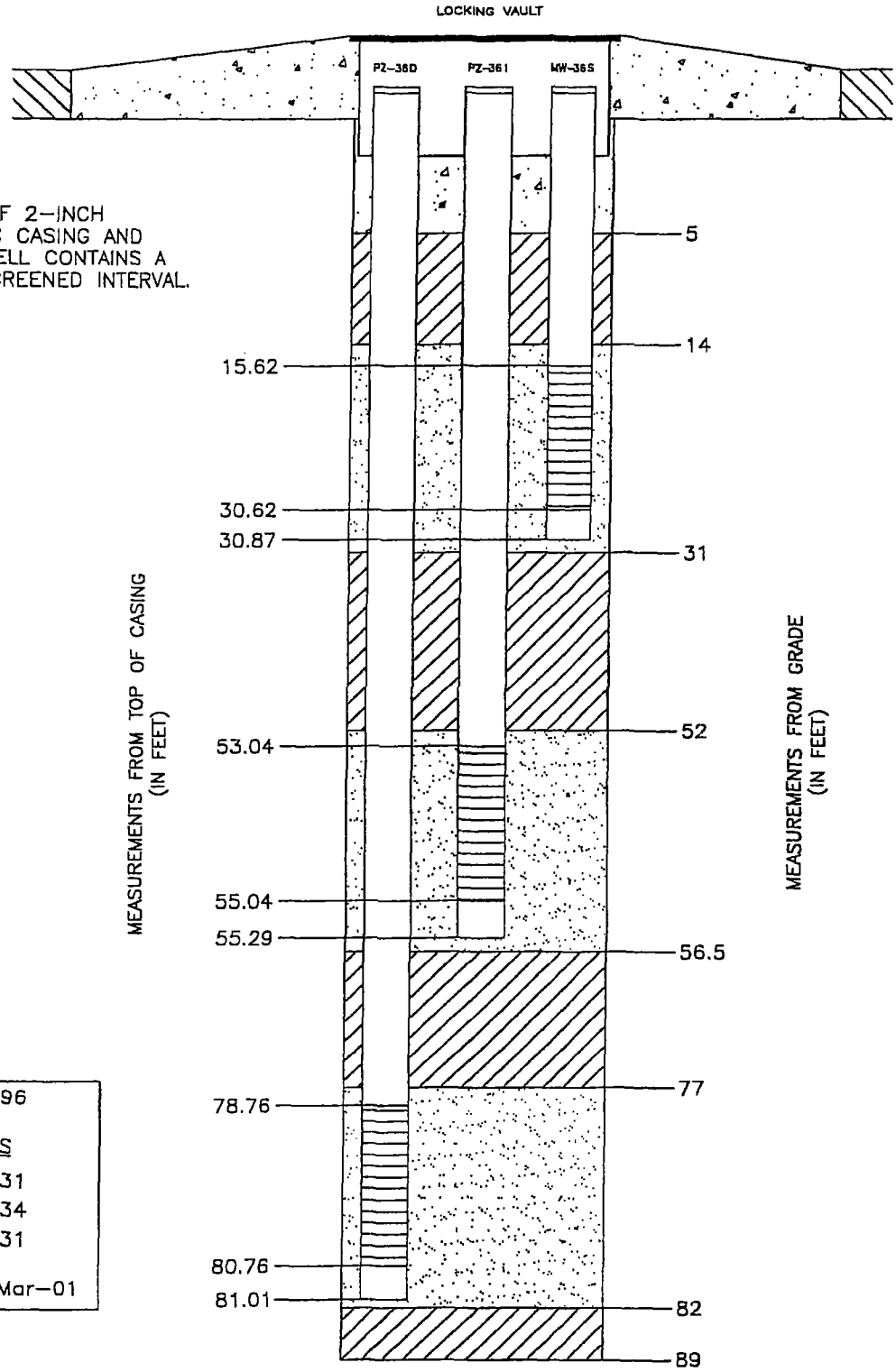
DAYTON THERMAL PRODUCTS
DAYTON, OHIO

WELL NEST CONSTRUCTION
NEST 35

FILE: 3chda13h.dwg | DATE: AUGUST 2001 | FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





GRADE ELEVATION	748.96
TOP OF CASING ELEVATIONS	
SHALLOW	748.31
INTERMEDIATE	748.34
DEEP	748.31
COMPLETION DATE	13-Mar-01

NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED

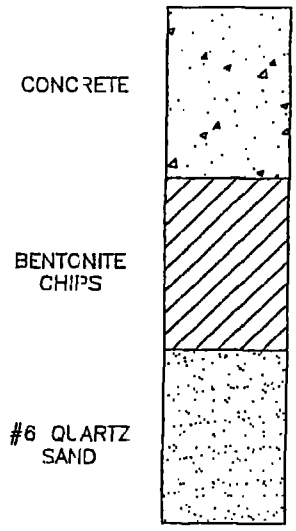
Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and Environmental Engineering Services
Northpark Corporate Center
1210 W. County Road E, Suite 700
St. Paul, MN 55112
(651) 490-1405

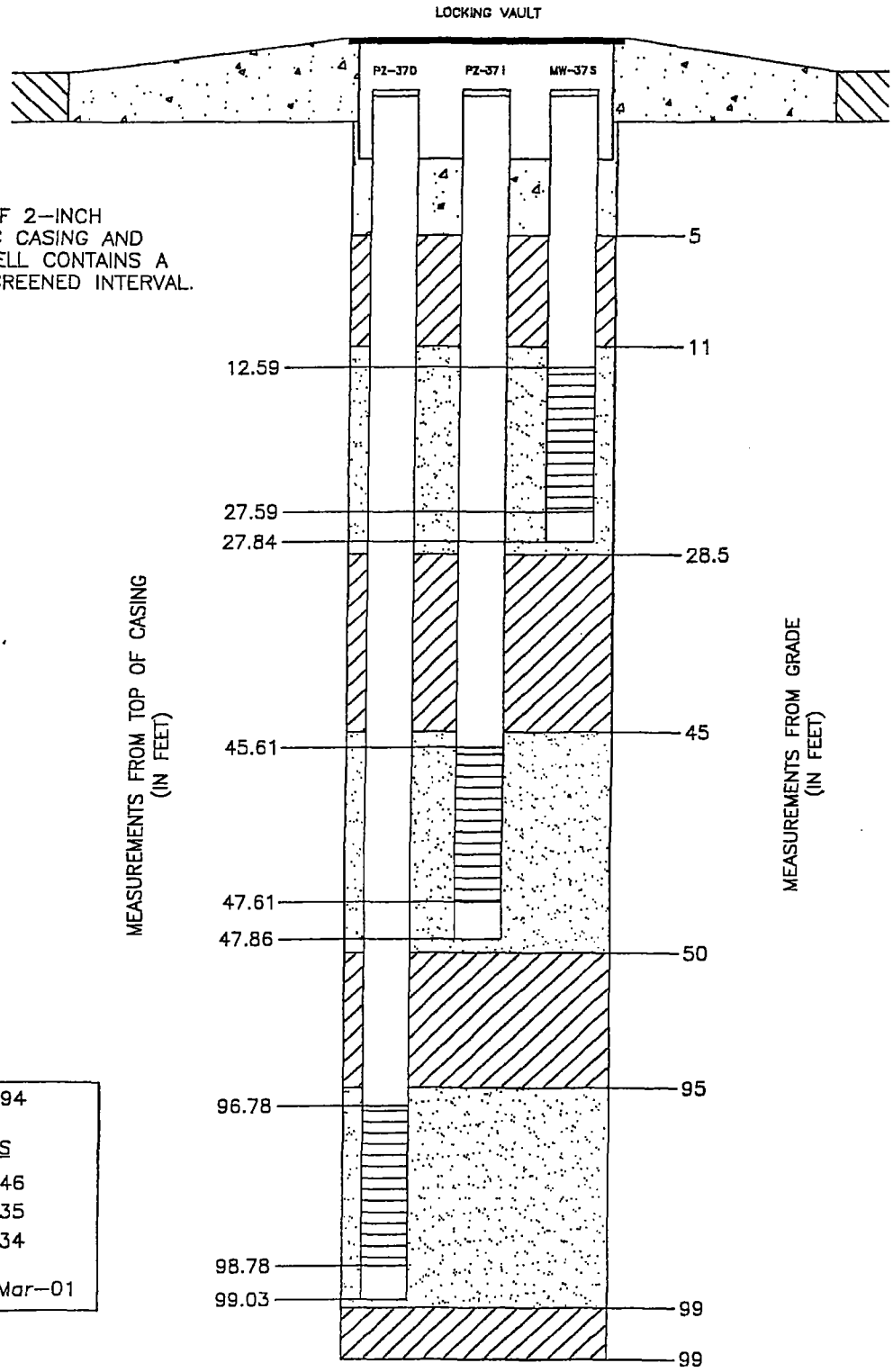
DAYTON THERMAL PRODUCTS
DAYTON, OHIO

WELL NEST CONSTRUCTION
NEST 36

FILE: 3chda13i.dwg | DATE: AUGUST 2001 | FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





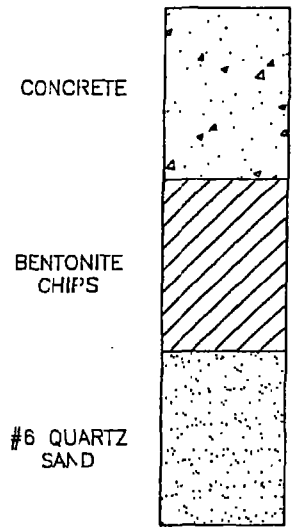
GRADE ELEVATION	745.94
TOP OF CASING ELEVATIONS	
SHALLOW	745.46
INTERMEDIATE	745.35
DEEP	745.34
COMPLETION DATE	19-Mar-01

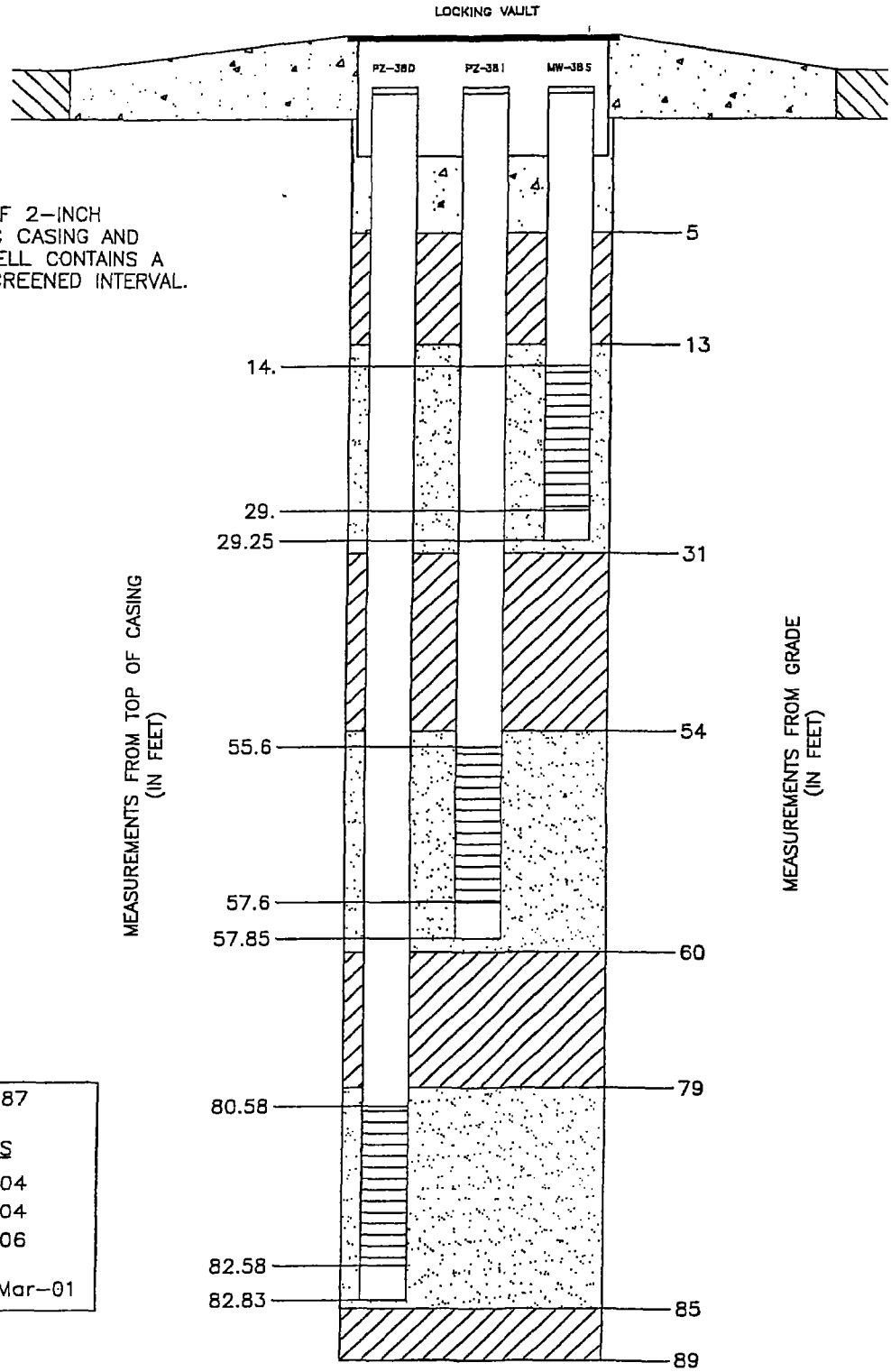
NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED	Prepared By: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water and Environmental Engineering Services Northpark Corporate Center 1210 W. County Road E, Suite 700 St. Paul, MN 55112 (651) 490-1405	DAYTON THERMAL PRODUCTS DAYTON, OHIO
			WELL NEST CONSTRUCTION NEST 37
			FILE: 3chdo13i.dwg DATE: AUGUST 2001 FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





GRADE ELEVATION	747.87
TOP OF CASING ELEVATIONS	
SHALLOW	747.04
INTERMEDIATE	747.04
DEEP	747.06
COMPLETION DATE	12-Mar-01

NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED

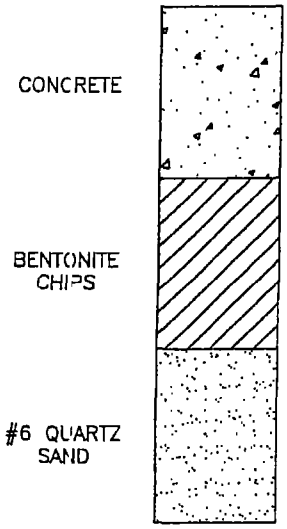
Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and Environmental Engineering Services
Northpark Corporate Center
1210 W. County Road E, Suite 700
St. Paul, MN 55112
(651) 490-1405

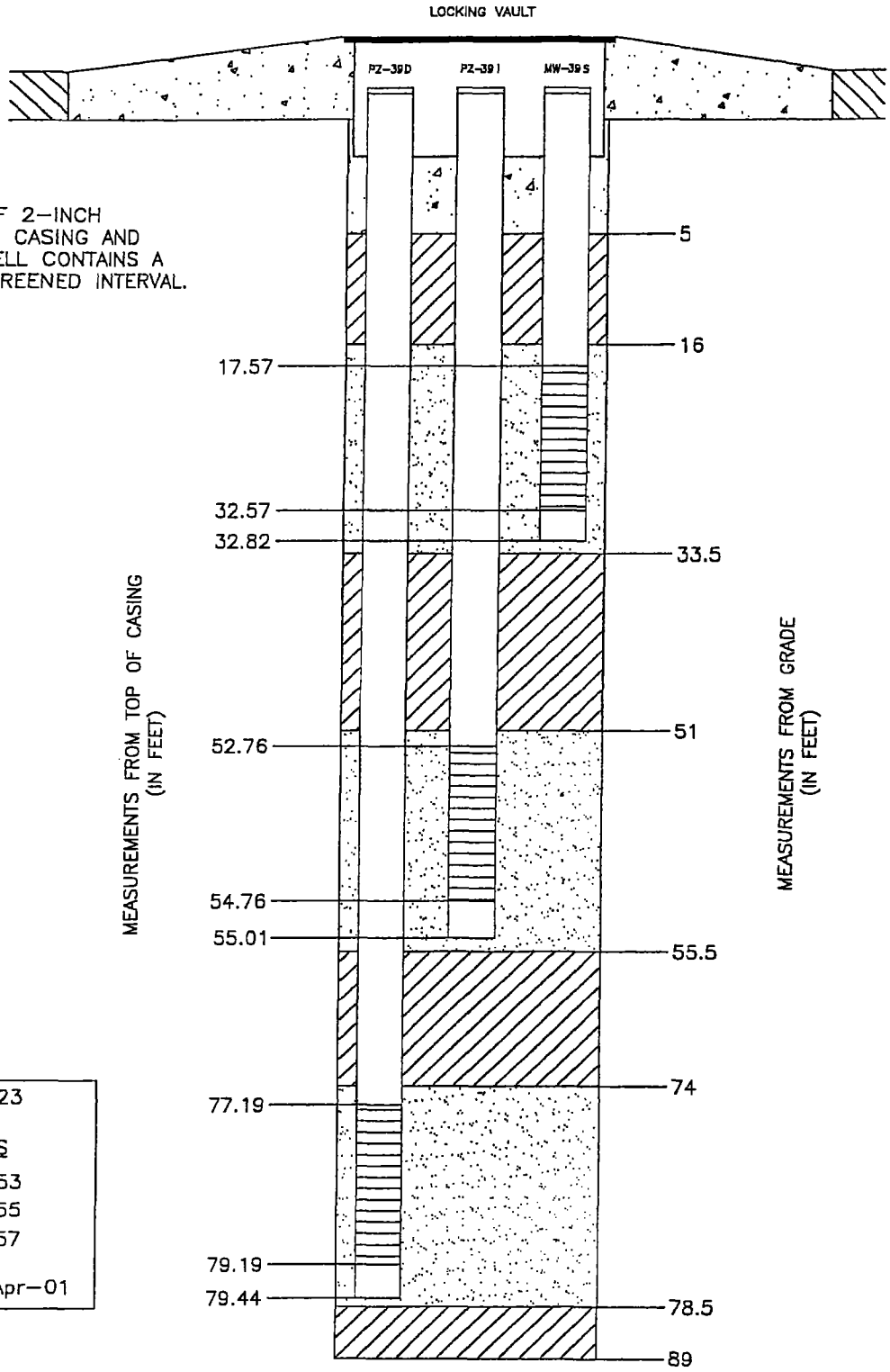
DAYTON THERMAL PRODUCTS
DAYTON, OHIO

WELL NEST CONSTRUCTION
NEST 38

FILE: 3chdg13k.dwg | DATE: AUGUST 2001 | FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





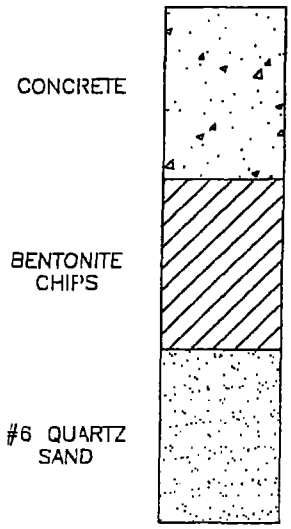
GRADE ELEVATION	751.23
TOP OF CASING ELEVATIONS	
SHALLOW	750.53
INTERMEDIATE	750.55
DEEP	750.57
COMPLETION DATE	04-Apr-01

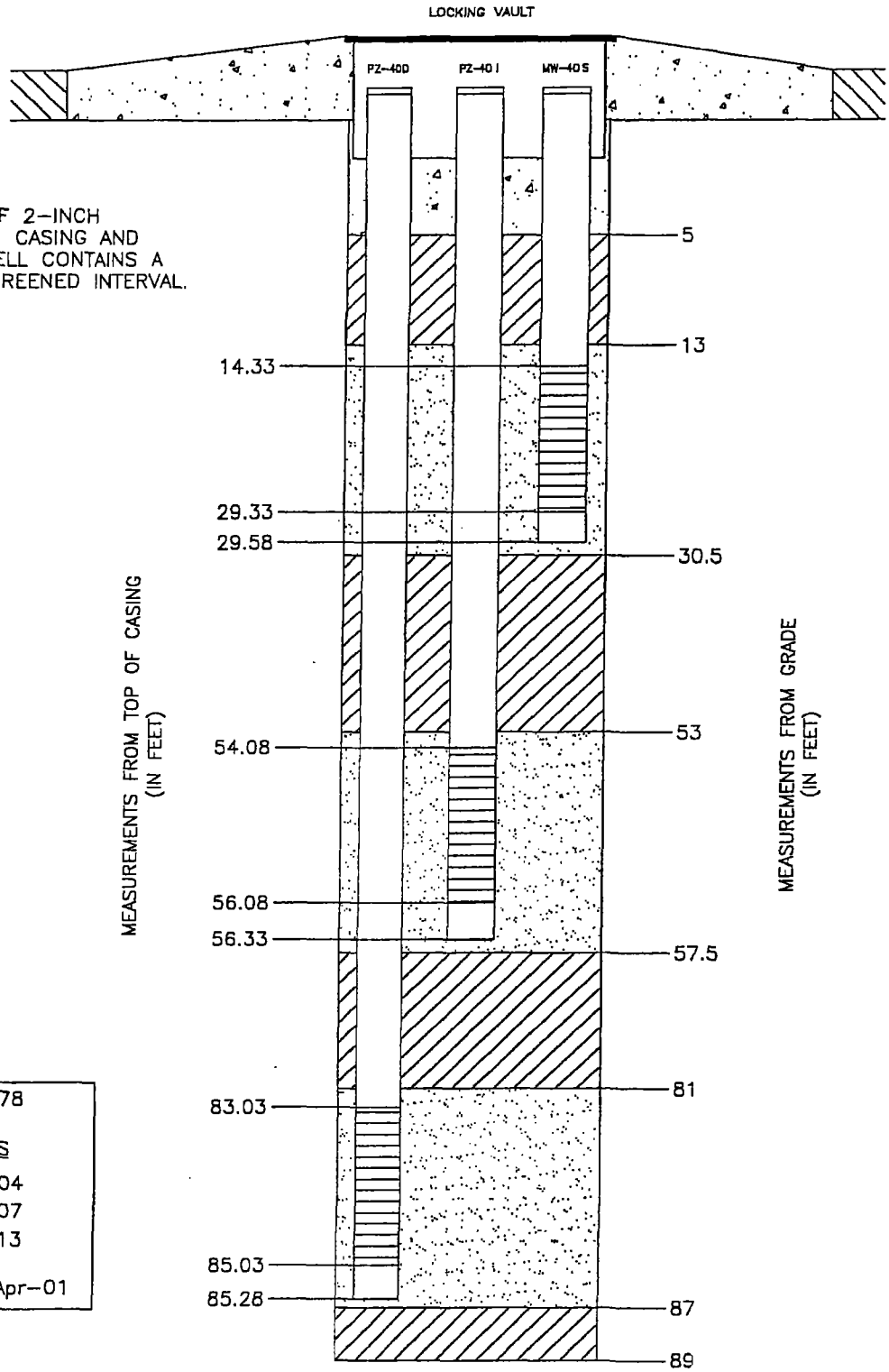
NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED	Prepared By: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water and Environmental Engineering Services Northpark Corporate Center 1210 W. County Road E, Suite 700 St. Paul, MN 55112 (651) 490-1406	DAYTON THERMAL PRODUCTS DAYTON, OHIO
			WELL NEST CONSTRUCTION NEST 39
			FILE: 3chdo13l.dwg DATE: AUGUST 2001 FIGURE:

WELLS ARE CONSTRUCTED OF 2-INCH DIAMETER SCHEDULE 40 PVC CASING AND 10-SLOT SCREENS. EACH WELL CONTAINS A LOW-FLOW PUMP IN THE SCREENED INTERVAL.





GRADE ELEVATION	747.78
TOP OF CASING ELEVATIONS	
SHALLOW	747.04
INTERMEDIATE	747.07
DEEP	747.13
COMPLETION DATE	05-Apr-01

NESTED WELL CONSTRUCTION DIAGRAM

NOT TO SCALE

DATE	REVISED	Prepared By: LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water and Environmental Engineering Services Northpark Corporate Center 1210 W. County Road E, Suite 700 St. Paul, MN 55112 (651) 490-1405	DAYTON THERMAL PRODUCTS DAYTON, OHIO
			WELL NEST CONSTRUCTION NEST 40
			FILE: 3chdo13m.dwg DATE: AUGUST 2001 FIGURE:

#51

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6740 Fax (614) 265-6767

977164

WELL LOCATION

County: MONTGOMERY Township: N/A

Owner/Builder (Circle one): DAIMER CHRYSLER CORP. THERMAL PRODUCTS (First / Last)

Address of Well Location: 1600 (Number) WEBSTER ST. (Street Name)

City: DAYTON Zip Code -4: 45404

Permit No.: FW-1 Section/Lot No. (Circle One or Both): 5

Location of Well in State Plane coordinates if available: Use of Well: EXTRACTION

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plane: ☐ NAD27 ☐ NAD83 Elevation Source _____

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other _____

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: _____ Long: _____

North

West S/A East

South

WELL TEST*

Pre-Pumping Static Level _____ ft. Date _____

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other _____

☐ Air ☐ Bailing ☐ Pumping* ☐ Other _____

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality _____

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type _____

Pump installed by _____

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm: BOUSER-MORNER INC.

Address: 4515 TAYLORSVILLE RD.

City, State, Zip: DAYTON, OH 45424

Signed: [signature] (B) Date: 2/16/04

ODH Registration Number: 1631

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☒ Other SONIC

BOREHOLE/CASING (measured from ground surface)

1 ☒ Borehole Diameter 11 inches Depth 89 ft.

Casing Diameter 6 in. Length 28 ft. Thickness SCH 40 in.

2 ☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground FLUSHMOUNT ft.

Type: 1 ☐ 2 ☐ Steel; 1 ☐ 2 ☐ Galv.; 1 ☒ 2 ☐ PVC; 1 ☐ 2 ☐ Other _____

Joints: 1 ☒ 2 ☐ Threaded; 1 ☐ 2 ☐ Welded; 1 ☐ 2 ☐ Solvent; 1 ☐ 2 ☐ Other _____

SCREEN

Diameter 6" Slot Size .30 Screen Length 60 ft.

Type SLOTTED Material PVC

Set Between 89 ft. and 29 ft.

GRAVEL PACK (Filter Pack)

Material/Size SILICA #3 Volume/Weight Used 18 CF/1800#

Method of Installation TREMIE THROUGH CASING

Depth: Placed FROM 89 ft. TO 24 ft.

GROUT

Material BENT. CHIPS Volume/Weight Used 2.0 CF/200#

Method of Installation POURED

Depth: Placed FROM 24 ft. TO 15 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
MANHOLE VAULT	0.0	8.0
BR SAND & GRAVEL	8.0	89
BOFL 89.0		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 1-7-04 Total Depth of Well 89 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6740 Fax (614) 265-6767

977165

WELL LOCATION

County MONTGOMERY Township N/A

Owner/Builder DAIMLER CHYRSLER CORP.
THERMAL PRODUCTS
First Last

Address of Well Location 1600 WEBSTER ST.
Number Street Name

City DAYTON Zip Code +4 45404

Permit No. FW-2 Section/Lot No. 5 (Circle One or Both)

Location of Well in State Plane coordinates, if available: Use of Well EXTRACTION

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plain ☐ NAD27 ☐ NAD83 Elevation Source _____

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other _____

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: _____ Long: _____

North

West

S/A

East

South

WELL TEST*

Pre-Pumping Static Level _____ ft. Date _____

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other _____

☐ Air ☐ Bailing ☐ Pumping* ☐ Other _____

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality _____

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type _____

Pump installed by _____

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm BOWSER-MORNER INC.

Address 4518 TAYLORSVILLE RD.

City, State, Zip DAYTON, OH 45424

Signed Sam Nighten (TO) Date 2/16/04

ODH Registration Number 1631

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☒ Other SONIC

BOREHOLE/CASING (measured from ground surface)

1 ☒ Borehole Diameter 11 inches Depth 82 ft.

Casing Diameter 6 in. Length 21 ft. Thickness 11/4 in.

2 ☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground FLUSH MOUNT ft.

Type: 1 ☐ 2 ☐ Steel; 1 ☐ 2 ☐ Galv.; 1 ☐ 2 ☐ PVC; 1 ☒ 2 ☐ Other STAINLESS STEEL

Joints: 1 ☒ 2 ☐ Threaded; 1 ☐ 2 ☐ Welded; 1 ☐ 2 ☐ Solvent; 1 ☐ 2 ☐ Other _____

SCREEN

Diameter 6" Slot Size .130 Screen Length 60 ft.

Type WIRE WRAP Material STAINLESS STEEL

Set Between 82 ft. and 22 ft.

GRAVEL PACK (Filter Pack)

Material/Size SILICA #3 Volume/Weight Used 18CF/1800#

Method of Installation TREMIE THROUGH CASING

Depth: Placed FROM 82 ft. TO 17 ft.

GROUT

Material BENT. CHIPS Volume/Weight Used 2.0CF/200#

Method of Installation POURED

Depth: Placed FROM 17 ft. TO 13 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
MANHOLE VAULT	0.0	8.0
BA SAND & GRAVEL	8	82
BOFB 820		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 1-8-04 Total Depth of Well 82 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

DNR 7808 93

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Division of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6740 Fax (614) 265-6767

977166

WELL LOCATION

County: MONTGOMERY Township: N/A

Owner/Buyer (Circle One): DAIMLER CHRYSLER CORP
First: THERMAL Last: PRODUCTS

Address of Well Location: 1600 (Number) WEBSTER ST. (Street Name)

City: DAYTON Zip Code +4: 45404

Permit No.: EW-3 Section/Lot No. (Circle One or Both): 5

Location of Well in State Plane coordinates, if available: Use of Well: EXTRACTION

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plane: ☒ NAD27 ☐ NAD83 Elevation Source _____

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other _____

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: _____ Long: _____

North

West

5/A

East

South

WELL TEST*

Pre-Pumping Static Level _____ ft. Date _____

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other _____

☐ Air ☐ Bailing ☐ Pumping* ☐ Other _____

Test Rate _____ gpm Duration of Test _____ hrs

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality _____

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type _____

Pump installed by _____

I hereby certify the information given is accurate and correct to the best of my knowledge

Drilling Firm: BOWSER-MORNER INC.

Address: 4518 TAYLORSVILLE RD.

City, State, Zip: DAYTON OH 45424

Signed: [signature] (B) Date: 2/16/04

ODH Registration Number: 1631

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☒ Other: SONIC

BOREHOLE/CASING (measured from ground surface)

1 ☒ Borehole Diameter: 11 inches Depth: 84 ft.

Casing Diameter: 6 in. Length: 23 ft. Thickness: 1/4 in.

2 ☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground: FLUSH MOUNT ft.

Type: 1 ☐ 2 ☐ Steel; 1 ☐ 2 ☐ Galv.; 1 ☐ 2 ☐ PVC; 1 ☒ 2 ☐ Other: STAINLESS STEEL

Joints: 1 ☒ 2 ☐ Threaded; 1 ☐ 2 ☐ Welded; 1 ☐ 2 ☐ Solvent; 1 ☐ 2 ☐ Other _____

SCREEN

Diameter: 6" Slot Size: .30 Screen Length: 60 ft.

Type: WIRE WRAP Material: STAINLESS STEEL

Set Between: 84 ft. and 24 ft.

GRAVEL PACK (Filter Pack)

Material/Size: SILICA #3 Volume/Weight Used: 18CF/1800#

Method of Installation: TREMIE THROUGH CASING

Depth: Placed FROM 84 ft. TO 19 ft.

GROUT

Material: BENT. CHIPS Volume/Weight Used: 20CF/200#

Method of Installation: POURED

Depth: Placed FROM 19 ft. TO 14 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED.

Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
MANHOLE VAULT	0.0	8
BR. SAND & GRAVEL	8	84
BOFB 84.0		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion: 1-9-04 Total Depth of Well: 84 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

DNR 7302.96

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

970659

WELL LOCATION

County MONTGOMERY Township N/A

Owner/Buyer (Circle One or Both) DAIMER CHRYSLER CORP. THERMAL PRODUCTS
First Last

Address of Well Location 1600 WEBSTER ST.
Number Street Name

City DAYTON Zip Code +4 45404

Permit No. EW-4 Section/Lot No. (Circle One or Both) 5

Location of Well in State Plane coordinates if available: Use of Well EXTRACTION

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plane: ☐ NAD27 ☐ NAD83 Elevation Source _____

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other _____

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: _____ Long: _____

North

S/A

West

East

South

WELL TEST*

Pre-Pumping Static Level _____ ft. Date _____

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other _____

☐ Air ☐ Bailing ☐ Pumping* ☐ Other _____

Test Rate _____ gpm Duration of Test _____ hrs

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality _____

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type _____

Pump installed by _____

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm BAUSER - MORNER INC.

Address 4518 TAYLORSVILLE RD.

City, State, Zip DAYTON, OH. 45424

Signed [signature] (JB) Date 12/2/03

ODH Registration Number 1631

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☑ Other SONIC

BOREHOLE/CASING (measured from ground surface)

1 ☑ Borehole Diameter 11 inches Depth 84 ft.

Casing Diameter 6 in. Length 24 ft. Thickness 1/4 in.

2 ☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground MANHOLE ft.

Type: 1 ☐ 2 ☐ Steel; 1 ☐ 2 ☐ Galv.; 1 ☐ 2 ☐ PVC; 1 ☑ 2 ☐ Other STAINLESS STEEL

Joints: 1 ☑ 2 ☐ Threaded; 1 ☐ 2 ☐ Welded; 1 ☐ 2 ☐ Solvent; 1 ☐ 2 ☐ Other _____

SCREEN

Diameter 6" Slot Size .30 Screen Length 60 ft.

Type WIRE WRAPPED Material STAINLESS STEEL

Set Between 84 ft. and 24 ft.

GRAVEL PACK (Filter Pack)

Material/Size SILICA #3 Volume/Weight Used 22cf/2200#

Method of Installation TREMIE THROUGH CASING

Depth: Placed FROM 84 ft. TO 21 ft.

GROUT

Material BENT. CHIPS Volume/Weight Used 20cf/200#

Method of Installation POURED

Depth: Placed FROM 21 ft. TO 11 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
MANHOLE VAULT	0.0	8.0
BR SAND & GRAVEL	8	84
BOFB 84.0		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 10/24/03 Total Depth of Well 84 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

C-N 7892 95

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

970660

WELL LOCATION

County MONTGOMERY Township N/A
DAIMLER CHRYLER CORP.

Owner/Builder (Circle One or Both) THERMAL (First) PRODUCTS (Last)

Address of Well Location 1600 (Number) WEBSTER ST. (Street Name)

City DAYTON Zip Code +4 45404

Permit No. EW-5 Section/Lot No. (Circle One or Both) 5

Location of Well in State Plane coordinates, if available: Use of Well EXTRACTION

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source _____

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other _____

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: _____ Long: _____

North

West

S/A

East

South

WELL TEST*

Pre-Pumping Static Level _____ ft. Date _____

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other _____

☐ Air ☐ Bailing ☐ Pumping* ☐ Other _____

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality _____

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type _____

Pump installed by _____

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm BOWSER-MORNER INC.

Address 4518 TAYLORSVILLE RD.

City, State, Zip DAYTON, OH. 45424

Signed [signature] (P3) Date 12/2/03

ODH Registration Number 1631

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☑ Other SONIC

BOREHOLE/CASING (measured from ground surface)

1 ☑ Borehole Diameter 11 inches Depth 84 ft.

Casing Diameter 6 in. Length 24 ft. Thickness SCH 40 in.

2 ☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground MANHOLE ft.

Type: 1 ☐ 2 ☐ Steel; 1 ☐ 2 ☐ Galv.; 1 ☑ 2 ☐ PVC; 1 ☐ 2 ☐ Other _____

Joints: 1 ☑ 2 ☐ Threaded; 1 ☐ 2 ☐ Welded; 1 ☐ 2 ☐ Solvent; 1 ☐ 2 ☐ Other _____

SCREEN

Diameter 6" Slot Size .30 Screen Length 60 ft.

Type SLOTTED Material PVC

Set Between 84 ft. and 24 ft.

GRAVEL PACK (Filter Pack)

Material/Size SILICA #3 Volume/Weight Used 22 CF/2200#

Method of Installation TREMIE THROUGH CASING

Depth: Placed FROM 84 ft. TO 22 ft.

GROUT

Material BENT. CHIPS Volume/Weight Used 2.0 CF/200#

Method of Installation POURED

Depth: Placed FROM 22 ft. TO 11 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
MANHOLE VAULT	0.0	8.0
BR SAND & GRAVEL	8	84
BOFB 84.0		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 10-24-03 Total Depth of Well 84 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

UNF 7802.96

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

964821

WELL LOCATION

County MONTGOMERY Township

Owner Name (Circle One or Both) DAIMLER CHRYSLER CORP. (First / Last)

Address of Well Location 1600 (Number) WEBSTER ST. (Street Name)

City DAYTON Zip Code +4 45404

Permit No. EW-6 Section/Lot No. (Circle One or Both) 5

Location of Well in State Plane coordinates, if available: Use of Well RECOVERY

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: _____ Long: _____

North

West

S/A

East

South

WELL TEST*

Pre-Pumping Static Level _____ ft. Date

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other

☐ Air ☐ Bailing ☐ Pumping* ☐ Other

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type

Pump installed by

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm BOWSER-MORNER INC.

Address 4518 TAYLORSVILLE RD.

City, State, Zip DAYTON, OH. 45424

Signed [signature] (TS) Date 7/14/03

ODH Registration Number

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☑ Other SONIC

BOREHOLE/CASING (measured from ground surface)

1 ☑ Borehole Diameter 11 inches Depth 80 ft.

Casing Diameter 6 in. Length 80 ft. Thickness SCH 40 in.

2 ☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground 0.0 ft.

Type: 1 ☐ 2 ☐ Steel; 1 ☐ 2 ☐ Galv.; 1 ☑ 2 ☐ PVC; 2 ☐ Other

Joints: 1 ☑ 2 ☐ Threaded; 1 ☐ 2 ☐ Welded; 1 ☐ 2 ☐ Solvent; 2 ☐ Other

SCREEN

Diameter 6" Slot Size .20 Screen Length 60 ft.

Type SLOTTED Material PVC

Set Between 80 ft. and 20 ft.

GRAVEL PACK (Filter Pack)

Material/Size #3 SILICA Volume/Weight Used 20CF/2000#

Method of Installation TREMIE THROUGH CASING

Depth: Placed FROM 80 ft. TO 18 ft.

GROUT

Material BENTONITE CHIPS Volume/Weight Used 10CF/1000#

Method of Installation POURED

Depth: Placed FROM 18 ft. TO 0.0 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
BR SANDY CLAY w/ SILT & GRAVEL	0.0	1.5
BR SAND & GRAVEL TR COBBLES	1.5	9
BR Silty SAND w/ GRAVEL & CLAY	9	12
BR SAND & GRAVEL TR COBBLES	12	16
BR Silty GRAVELLY SAND w/ CLAY	16	23
BR SAND & GRAVEL w/ COBBLES	23	80
(WET AT 26)		
BOFB 80.0		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 7/3/03 Total Depth of Well 80 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

DNR 7502 88

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

970661

WELL LOCATION

County MONTGOMERY Township N/A
DAIMLER CHRYSLER CORP.

Owner/Builder (Circle One or Both) THERMAL PRODUCTS
First Last

Address of Well Location 1600 WEBSTER ST.
Number Street Name

City DAYTON Zip Code +4 45404

Permit No. IW-1 Section/Lot No. (Circle One or Both) 5

Location of Well in State Plane coordinates, if available: Use of Well INJECTION

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source _____

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other _____

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: _____ Long: _____

North

West S/A East

South

WELL TEST*

Pre-Pumping Static Level _____ ft. Date _____

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other _____

☐ Air ☐ Bailing ☐ Pumping* ☐ Other _____

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality _____

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type _____

Pump installed by _____

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm BOWSER-MORNER INC.

Address 4518 TAYLORSVILLE RD

City, State, Zip DAYTON, OH. 45424

Signed [signature] (TB) Date 12/2/03

ODH Registration Number 1631

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☑ Other SONIC

BOREHOLE/CASING (measured from ground surface)

1 Borehole Diameter 11 inches Depth 84 ft.

Casing Diameter 6 in. Length 24 ft. Thickness SCH.40 in.

2 Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground MANHOLE ft.

Type: 1 ☐ 2 ☐ Steel; 1 ☐ 2 ☐ Galv.; 1 ☑ 2 ☐ PVC; 1 ☐ 2 ☐ Other _____

Joints: 1 ☑ 2 ☐ Threaded; 1 ☐ 2 ☐ Welded; 1 ☐ 2 ☐ Solvent; 1 ☐ 2 ☐ Other _____

SCREEN

Diameter 6" Slot Size .30 Screen Length 60 ft.

Type SLOTTED Material PVC

Set Between 84 ft. and 24 ft.

GRAVEL PACK (Filter Pack)

Material/Size SILICA #3 Volume/Weight Used 26.5cf/2650#

Method of Installation TREMIE THROUGH CASING

Depth: Placed FROM 84 ft. TO 22 ft.

GROUT

Material BENT. CHIPS Volume/Weight Used 4.0cf/400#

Method of Installation POURED

Depth: Placed FROM 22 ft. TO 15 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
MANHOLE VAULT	0.0	8.0
BR SAND & GRAVEL	8	84
BOFB 84.0		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 10/25/03 Total Depth of Well 84 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

DIR 7302.60

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

970658

WELL LOCATION

County MONTGOMERY Township N/A

Owner/Builder (Circle One or Both) DAIMLER CHRYSLER CORP. THERMAL PRODUCTS (First / Last)

Address of Well Location 1600 (Number) WEBSTER ST. (Street Name)

City DAYTON Zip Code +4 45404

Permit No. IW-2 Section/Lot No. (Circle One or Both) 5

Location of Well in State Plane coordinates, if available: Use of Well INJECTION

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plane: ☐ NAD27 ☐ NAD83 Elevation Source _____

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other _____

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: _____ Long: _____

North

West

S/A

East

South

WELL TEST*

Pre-Pumping Static Level _____ ft. Date _____

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other _____

☐ Air ☐ Bailing ☐ Pumping* ☐ Other _____

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

* Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality _____

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type _____

Pump installed by _____

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm BOWSER-MORNER INC

Address 4518 TAYLORSVILLE RD

City, State, Zip DAYTON, OH 45424

Signed [signature] (CPS) Date 12/2/03

ODH Registration Number 1631

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☑ Other SONIC

BOREHOLE/CASING (measured from ground surface)

1☑ Borehole Diameter 11 inches Depth 84 ft.

Casing Diameter 6 in. Length 24 ft. Thickness SCH. 40 in.

2☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground MANHOLE ft.

Type: 1☐ 2☐ Steel; 1☐ 2☐ Galv.; 1☑ 2☐ PVC; 1☐ 2☐ Other _____

Joints: 1☑ 2☐ Threaded; 1☐ 2☐ Welded; 1☐ 2☐ Solvent; 1☐ 2☐ Other _____

SCREEN

Diameter 6" Slot Size .30 Screen Length 60 ft.

Type SLOTTED Material PVC

Set Between 84 ft. and 24 ft.

GRAVEL PACK (Filter Pack)

Material/Size SILICA #3 Volume/Weight Used 22CF/2200#

Method of Installation TREMIE THROUGH CASING

Depth: Placed FROM 84 ft. TO 22 ft.

GROUT

Material BENT. CHIPS Volume/Weight Used 3.5CF/350#

Method of Installation POURED

Depth: Placed FROM 22 ft. TO 11 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
MANHOLE VAULT	0.0	8.0
BR. SAND & GRAVEL	8	84
BOFB 84.0		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 10/22/03 Total Depth of Well 84 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

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DR 7502.99

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

970657

WELL LOCATION

County MONTGOMERY Township N/A

Owner/Builder (Circle One or Both) DAIMLER CHRYSLER CORP. THERMAL PRODUCTS
First Last

Address of Well Location 1600 WEBSTER ST.
Number Street Name

City DAYTON Zip Code +4 45404

Permit No. IW-3 Section/Lot No. (Circle One or Both) 5

Location of Well in State Plane coordinates, if available: Use of Well INJECTION

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source _____

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other _____

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: _____ Long: _____

North

S/A

West

East

South

WELL TEST*

Pre-Pumping Static Level _____ ft. Date _____

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other _____

☐ Air ☐ Bailing ☐ Pumping* ☐ Other _____

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality _____

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type _____

Pump installed by _____

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm BOWSER-MORNER INC.

Address 4518 TAYLORSVILLE RD.

City, State, Zip DAYTON, OH 45424

Signed [signature] (T3) Date 12/2/03

ODH Registration Number 1631

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☑ Other SONIC

BOREHOLE/CASING (measured from ground surface)

1 ☑ Borehole Diameter 11 inches Depth 85 ft.

Casing Diameter 6 in. Length 25 ft. Thickness SCH. 40 in.

2 ☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground MANHOLE ft.

Type: 1 ☐ 2 ☐ Steel; 1 ☐ 2 ☐ Galv.; 1 ☑ 2 ☐ PVC; 1 ☐ 2 ☐ Other _____

Joints: 1 ☑ 2 ☐ Threaded; 1 ☐ 2 ☐ Welded; 1 ☐ 2 ☐ Solvent; 1 ☐ 2 ☐ Other _____

SCREEN

Diameter 6" Slot Size .30 Screen Length 60 ft.

Type SLOTTED Material PVC

Set Between 85 ft. and 25 ft.

GRAVEL PACK (Filter Pack)

Material/Size SILICA #3 Volume/Weight Used 25 CF/2550#

Method of Installation TREMIE THROUGH CASING

Depth: Placed FROM 85 ft. TO 23 ft.

GROUT

Material BENT. CHIPS Volume/Weight Used 2.5 CF/250#

Method of Installation POURED

Depth: Placed FROM 23 ft. TO 10 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
MANHOLE VAULT	0.0	8.0
BR. SAND & GRAVEL	8	85
BOTT. 85.0		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 10-17-03 Total Depth of Well 85 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

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DNR 7502 36

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

970662

WELL LOCATION

County MONTGOMERY Township N/A

DAIMLER CHRYSLER CORP.

Owner/Builder (Check One) THERMAL PRODUCTS
First Last

Address of Well Location 1600 WEBSTER ST.
Number Street Name

City DAYTON Zip Code +4 45404

Permit No. IW-4 Section/Lot No. (Circle One or Both) 5

Location of Well in State Plane coordinates, if available: Use of Well INJECTION

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plane: ☐ NAD27 ☐ NAD83 Elevation Source _____

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other _____

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: _____ Long: _____

North

West

S/A

East

South

WELL TEST*

Pre-Pumping Static Level _____ ft. Date _____

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other _____

☐ Air ☐ Bailing ☐ Pumping* ☐ Other _____

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality _____

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type _____

Pump installed by _____

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm BOWSER-MORNER INC.

Address 4518 TAYLORSVILLE RD.

City, State, Zip DAYTON, OH. 45424

Signed Jim Nightingale (TB) Date 12/2/03

ODH Registration Number 1631

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☑ Other SONIC

BOREHOLE/CASING (measured from ground surface)

1☑ Borehole Diameter 11 inches Depth 85 ft.

Casing Diameter 6 in. Length 25 ft. Thickness SCH. 40 in.

2☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground MANHOLE ft.

Type: 1☐ 2☐ Steel; 1☐ 2☐ Galv.; 1☑ 2☐ PVC; 1☐ 2☐ Other _____

Joints: 1☒ 2☐ Threaded; 1☐ 2☐ Welded; 1☐ 2☐ Solvent; 1☐ 2☐ Other _____

SCREEN

Diameter 6" Slot Size .30 Screen Length 60 ft.

Type SLOTTED Material PVC

Set Between 85 ft. and 25 ft.

GRAVEL PACK (Filter Pack)

Material/Size SILICA #3 Volume/Weight Used 22 CF/2200#

Method of Installation TREMIE THROUGH CASING

Depth: Placed FROM 85 ft. TO 23 ft.

GROUT

Material BENT. CHIPS Volume/Weight Used 2 CF/200#

Method of Installation POURED

Depth: Placed FROM 23 ft. TO 11 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
MANHOLE VAULT	0.0	8.0
BR SAND & GRAVEL	8.0	85
BOFB 85.0		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 10/26/03 Total Depth of Well 85 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

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DNR 7802.25

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

970656

WELL LOCATION

County MONTGOMERY Township N/A

DAIMLER CHRYSLER CORP.

Owner/Builder (Circle one or both) THERMAL PRODUCTS
First Last

Address of Well Location 1600 WEBSTER ST.
Number Street Name

City DAYTON Zip Code +4 45404

Permit No. I.W-5 Section/Lot No. (Circle One or Both) 5

Location of Well in State Plane coordinates if available: Use of Well INJECTION

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source _____

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other _____

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: _____ Long: _____

North

West

S/A

East

South

WELL TEST*

Pre-Pumping Static Level _____ ft. Date _____

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other _____

☐ Air ☐ Bailing ☐ Pumping* ☐ Other _____

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality _____

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type _____

Pump installed by _____

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm BOWSER - MORNER INC.

Address 4518 TAYLORSVILLE RD.

City, State, Zip DAYTON, OH. 45424

Signed [signature] (TD) Date 12/2/03

ODH Registration Number 1631

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☒ Other SONIC

BOREHOLE/CASING (measured from ground surface)

1☑ Borehole Diameter 11 inches Depth 85 ft.

Casing Diameter 6 in. Length 25 ft. Thickness SH.40 in.

2☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground MANHOLE ft.

Type: 1 ☐ 2 ☐ Steel; 1 ☐ 2 ☐ Galv.; 1 ☒ 2 ☐ PVC; 1 ☐ 2 ☐ Other _____

Joints: 1 ☒ 2 ☐ Threaded; 1 ☐ 2 ☐ Welded; 1 ☐ 2 ☐ Solvent; 1 ☐ 2 ☐ Other _____

SCREEN

Diameter 6" Slot Size .30 Screen Length 60 ft.

Type SLOTTED Material PVC

Set Between 85 ft. and 25 ft.

GRAVEL PACK (Filter Pack)

Material/Size SILICA #3 Volume/Weight Used 25CF/2500

Method of Installation TREMIE THROUGH CASING

Depth: Placed FROM 85 ft. TO 23 ft.

GROUT

Material BENT. CHIPS Volume/Weight Used 4.0CF/400#

Method of Installation POURED

Depth: Placed FROM 23 ft. TO 12 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
MANHOLE VAULT	0.0	8.0
BR. SAND & GRAVEL	8	85
BOTTOM 85.0		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 10-13-03 Total Depth of Well 85 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

DNR 7202.06

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

970655

WELL LOCATION

County MONTGOMERY Township N/A

Owner/Builder (Circle One or Both) DAIMLER CHRYSLER CORP. THERMAL PRODUCTS (First / Last)

Address of Well Location 1600 (Number) WEBSTER ST. (Street Name)

City DAYTON Zip Code +4 45404

Permit No. JE W-6 Section/Lot No. (Circle One or Both) 5

Location of Well in State Plane coordinates, if available: Use of Well INJECTION

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source _____

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other _____

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: _____ Long: _____

North

West

S/A

East

South

WELL TEST*

Pre-Pumping Static Level _____ ft. Date _____

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other _____

☐ Air ☐ Bailing ☐ Pumping* ☐ Other _____

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality _____

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type _____

Pump installed by _____

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm BOWSER-MORNER INC.

Address 4518 TAYLORSVILLE RD.

City, State, Zip DAYTON OH. 45424

Signed Jim Nutter (TB) Date 12/2/03

ODH Registration Number 1631

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☑ Other SONIC

BOREHOLE/CASING (measured from ground surface)

1☑ Borehole Diameter 11 inches Depth 85 ft.

Casing Diameter 6 in. Length 25 ft. Thickness SCH.40 in.

2☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground MANHOLE ft.

Type: 1 ☐ 2 ☐ Steel; 1 ☐ 2 ☐ Galv.; 1 ☑ 2 ☐ PVC; 1 ☐ 2 ☐ Other _____

Joints: 1 ☑ 2 ☐ Threaded; 1 ☐ 2 ☐ Welded; 1 ☐ 2 ☐ Solvent; 1 ☐ 2 ☐ Other _____

SCREEN

Diameter 6" Slot Size .30 Screen Length 60 ft.

Type SLOTTED Material PVC

Set Between 85 ft. and 25 ft.

GRAVEL PACK (Filter Pack)

Material/Size SILICA #3 Volume/Weight Used 22CF/2200#

Method of Installation TREMIE THROUGH CASING

Depth: Placed FROM 85 ft. TO 23 ft.

GROUT

Material BENT. CHIPS Volume/Weight Used 2.5CF/250#

Method of Installation POURED

Depth: Placed FROM 23 ft. TO 12 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
MANHOLE VAULT	0.0	8.0
BR. SAND & GRAVEL	8	85
BOFB 85.0		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 10-16-03 Total Depth of Well 85 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

TYPE OR USE PEN SELF TRANSCRIBING PRESS HARD

970654

WELL LOCATION

County MONTGOMERY Township N/A

Owner/Buyer (Check one) DAIMER CHRYSLER CORP. THERMAL PRODUCTS (First / Last)

Address of Well Location 1600 (Number) WEBSTER ST. (Street Name)

City DAYTON Zip Code +4 45404

Permit No. IW-7 Section/Lot No. (Circle One or Both) 5

Location of Well in State Plane coordinates, if available. Use of Well INJECTION

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source _____

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other _____

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: _____ Long: _____

North

S/A

West

East

South

WELL TEST*

Pre-Pumping Static Level _____ ft. Date _____

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other _____

☐ Air ☐ Bailing ☐ Pumping* ☐ Other _____

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality _____

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type _____

Pump installed by _____

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm BOWSER-MORNER INC.

Address 1515 TAYLORSVILLE RD.

City, State Zip DAYTON, OH. 45424

Signed [signature] (T3) Date 12/2/03

ODH Registration Number 1631

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☐ Augered ☐ Driven ☒ Other SONIC

BOREHOLE/CASING (measured from ground surface)

1☒ Borehole Diameter 11 inches Depth 85 ft.

Casing Diameter 6 in. Length 25 ft. Thickness SCH. 40 in.

2☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground MANHOLE ft.

Type: 1☐ 2☐ Steel; 1☐ 2☐ Galv.; 1☒ 2☐ PVC; 1☐ 2☐ Other _____

Joints: 1☒ 2☐ Threaded; 1☐ 2☐ Welded; 1☐ 2☐ Solvent; 1☐ 2☐ Other _____

SCREEN

Diameter 6" Slot Size .30 Screen Length 60 ft.

Type SLOTTED Material PVC

Set Between 85 ft. and 25 ft.

GRAVEL PACK (Filter Pack)

Material/Size SILICA #3 Volume/Weight Used 22.5 CF/2250#

Method of Installation TREMIE THROUGH CASING

Depth: Placed FROM 85 ft. TO 23 ft.

GROUT

Material BENT. CHIPS Volume/Weight Used 2.5 CF/250#

Method of Installation POURED

Depth: Placed FROM 23 ft. TO 11 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
MANHOLE VAULT	0.0	8.0
BR SAND & GRAVEL	8	85
BOFB 85.0		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 10-15-03 Total Depth of Well 85 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

EXTRACTION WELL CONSTRUCTION TABLE
DAYTON THERMAL PRODUCTS SITE
DAYTON, OHIO
(FIGURE 1)

	Units	EW-1	EW-2	EW-3	EW-4	EW-5	EW-6
Borehole							
Diameter	Inches	11	11	11	11	11	11
Depth	Feet	89	82	84	84	84	80
Casing							
Diameter	Inches	6	6	6	6	6	6
Material	NA	PVC	SS	SS	SS	PVC	PVC
Length	Feet	28	21	23	24	24	20
Interval BGS	Feet	1-29	1-22	1-24	0-24	0-24	0-20
Screen							
Diameter	Inches	6	6	6	6	6	6
Material	NA	PVC	SS WW	SS WW	SS WW	PVC	PVC
Slot Size	NA	0.30	0.30	0.30	0.30	0.30	0.30
Length	Feet	60	60	60	60	60	60
Interval BGS	Feet	29-89	22-82	24-84	24-84	24-84	20-80
Pump Placement							
Top of Pump BGS	Feet	55	55	55	55	55	55
Bottom of Pump BGS	Feet	60	60	60	60	60	60

NA- Not Applicable
BGS - Below Ground Surface
PVC- Poly-Vinyl Chloride Schedule 40
SS- Stainless Steel
WW- Wire Wrap Screen

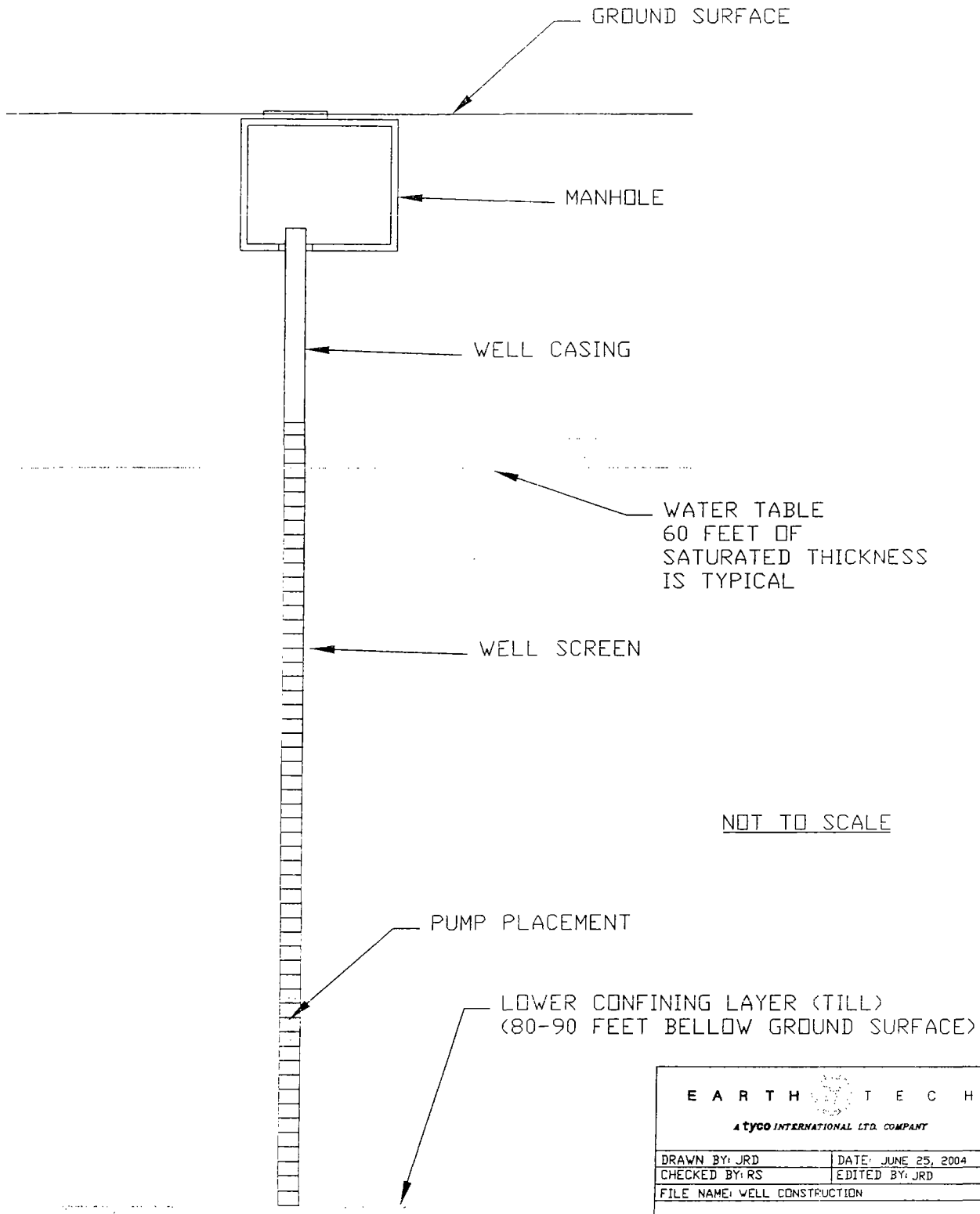
Note: *Wells were installed in manholes and the casing was cut off between 4-5 Feet BGS after instalation.*

INJECTION WELL CONSTRUCTION TABLE
DAYTON THERMAL PRODUCTS SITE
DAYTON, OHIO
(FIGURE 2)

	Units	IW-1	IW-2	IW-3	IW-4	IW-5	IW-6	IW-7
Borehole								
Diameter	Inches	11	11	11	11	11	11	11
Depth	Feet	84	84	85	85	85	85	85
Casing								
Diameter	Inches	6	6	6	6	6	6	6
Material	NA	PVC	PVC	PVC	PVC	PVC	PVC	PVC
Length	Feet	24	24	25	25	25	25	25
Interval BGS	Feet	0-24	0-24	0-25	0-25	0-25	0-25	0-25
Screen								
Diameter	Inches	6	6	6	6	6	6	6
Material	NA	PVC	PVC	PVC	PVC	PVC	PVC	PVC
Slot Size	NA	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Length	Feet	60	60	60	60	60	60	60
Interval BGS	Feet	24-84	24-84	25-85	25-85	25-85	25-85	25-85
Drop Pipe Screen								
Shallow Drop Pipe Screen Interval BGS	Feet	30-40	30-40	30-40	30-40	30-40	30-40	30-40
Medium Drop Pipe Screen Interval BGS	Feet	50-60	50-60	50-60	50-60	50-60	50-60	50-60
Deep Drop Pipe Screen Interval BGS	Feet	60-70	60-70	60-70	60-70	60-70	60-70	60-70

NA- Not Applicable
BGS - Below Ground Surface
PVC- Poly-Vinyl Chloride Schedule 40

Note: Wells were installed in manholes and the casing was cut off between 4-5 Feet BGS after instalation. Drop pipes are to ensure mixing across the 60 feet of staurated thickness of reinjected water and to minimize potential air entrainment.



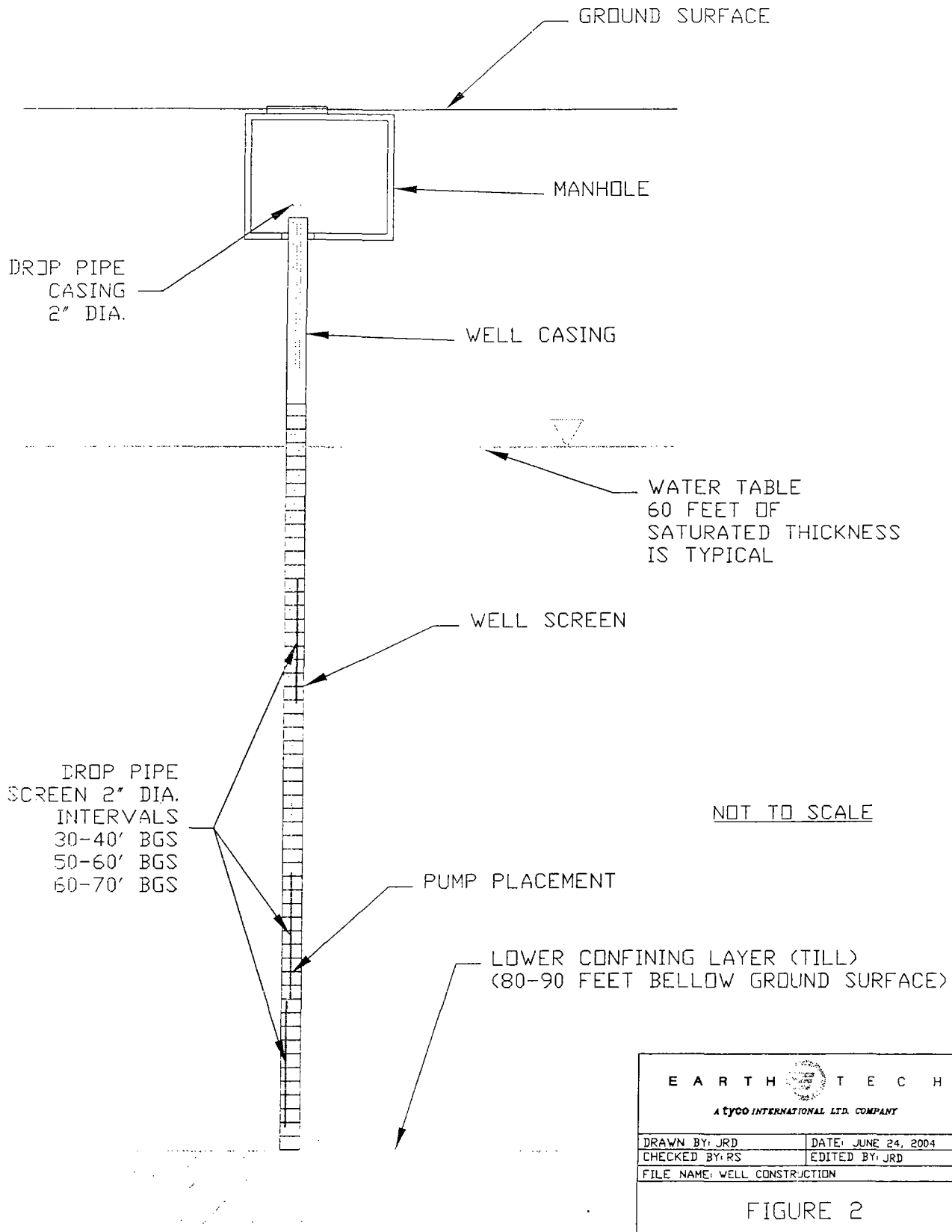
E A R T H T E C H

A tyco INTERNATIONAL LTD. COMPANY

DRAWN BY: JRD	DATE: JUNE 25, 2004
CHECKED BY: RS	EDITED BY: JRD
FILE NAME: WELL CONSTRUCTION	

FIGURE 1

TYPICAL EXTRACTION WELL DETAIL



EARTH TECH

A tyco INTERNATIONAL LTD. COMPANY

DRAWN BY: JRD	DATE: JUNE 24, 2004
CHECKED BY: RS	EDITED BY: JRD
FILE NAME: WELL CONSTRUCTION	

FIGURE 2

TYPICAL INJECTION WELL DETAIL

#52

MEMORANDUM

TO:	GARY STANCZUK, DAIMLERCHRYSLER
CC:	KEN VOGEL, LBG
FROM:	JASON SKRAMSTAD
DATE:	FEBRUARY 12, 2002
RE:	DAYTON THERMAL PRODUCTS SOIL INVESTIGATION OUTSIDE NORTH END OF BUILDING 40

On December 5, 2001, Leggette, Brashears & Graham (LBG) conducted a subsurface soil investigation outside the north end of Building 40 (Figure 1) to document that lead impacted soils previously detected in this area were completely excavated by plant personnel while resurfacing a portion of the driveway/parking area. The approximate extent of the excavated soil is indicated on Figure 2 and was reported to have extended to a depth of four feet. Eight soil borings (DP109 through DP116) were advanced by Environmental Quality Laboratories (EQL) utilizing a Geoprobe™ (Figure 2) drilling rig. LBG conducted field screening and soil sampling at each location.

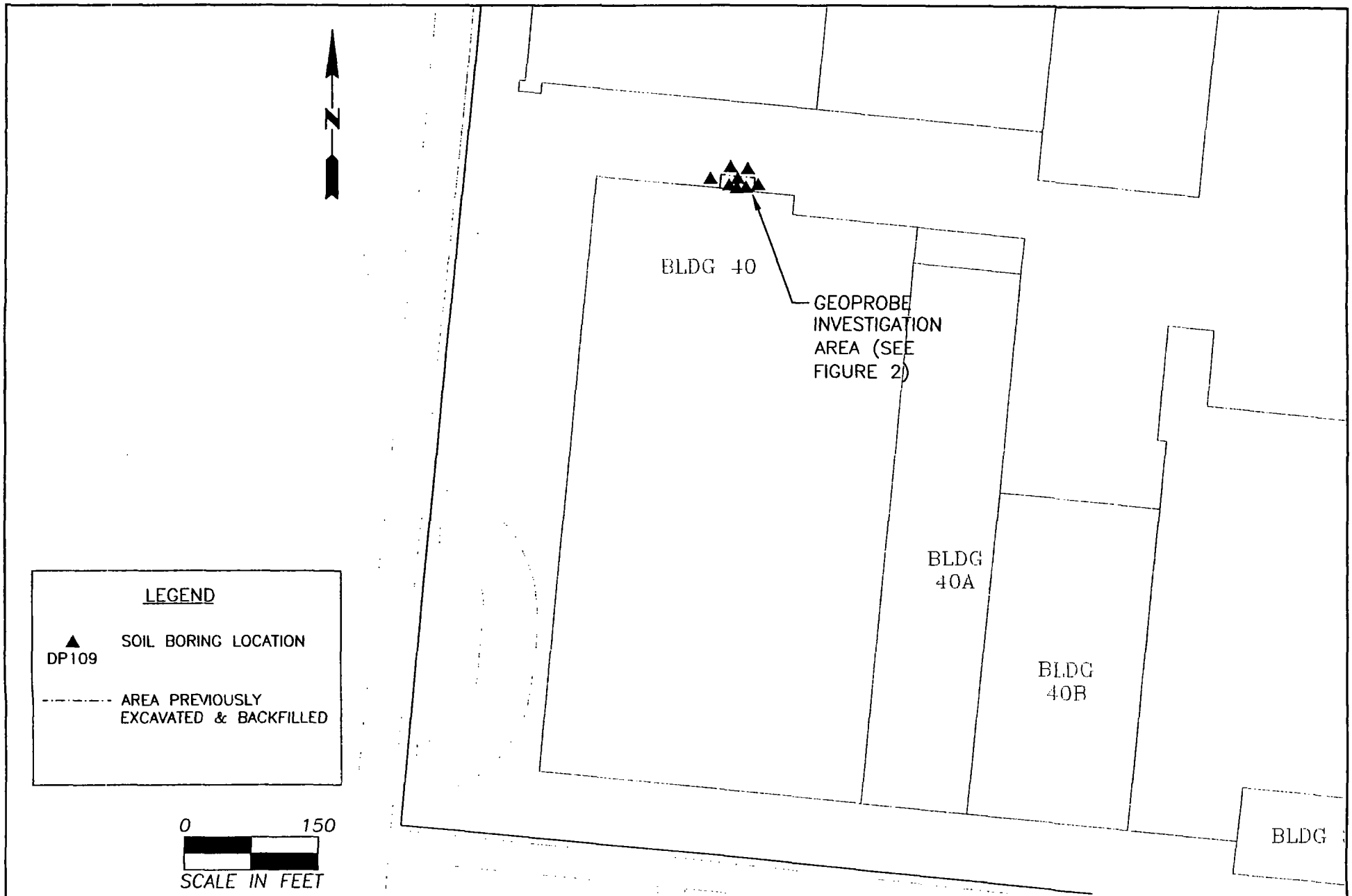
PROCEDURE

Using the Geoprobe™ direct push method, soil borings were advanced to a depth of eight feet at all locations except for DP109 which was completed to twelve feet. Each two-foot interval of retrieved soils was field screened and representative portions placed in laboratory jars and stored on ice for potential chemical analysis. Field screening of each soil boring consisted of documenting visual observations, generating geologic logs, and acquiring photoionization detector (PID) readings (Appendix A). Although samples were collected at each two-foot interval, only ten samples were selected for chemical analysis. The soil boring locations were selected so representative samples could be collected beyond the lateral extent of the excavated area, as well as below the backfill material. The sample locations were also selected to represent a variety of depths. The soil samples submitted to Lancaster Laboratories included DP-109(4-6), DP109(10-12), DP110(4-6), DP111(6-8), DP112(2-4), DP113(2-4), DP114(4-6), DP115(0-2), DP116(2-4), and DP116(6-8) (Appendix B).

These samples were analyzed for volatile organic compounds (VOC's), semivolatile organic compounds (SVOC's), polychlorobiphenyls (PCB's), 10 MI metals, pesticides, and herbicides.

RESULTS

PID field screening readings were all below 2.0 parts per million (ppm). Summary tables of the positive detections in soil for each of the groups listed above are included in Appendix C, Tables 1 through 5. Also listed in each table are the Residential and Industrial Generic Direct-Contact Soil Standards for each compound as outlined in the Ohio EPA Voluntary Action Program (VAP) Regulations (Ohio Administrative Code rule 3745-300-08). The compound concentrations were below established industrial limits for all samples. All sample concentrations were below established residential VAP limits except for arsenic at DP-109(4-6), DP-113(2-4), and DP-115(0-2) where the concentrations were 8.0 milligrams/kilograms (mg/kg), 14.6 mg/kg, and 7.2 mg/kg, respectively (Table 3). The residential VAP limit for arsenic is 6.9 mg/kg. The highest lead concentration reported was 272 mg/kg at DP115(0-2), which is below the residential VAP limit of 400 mg/kg.

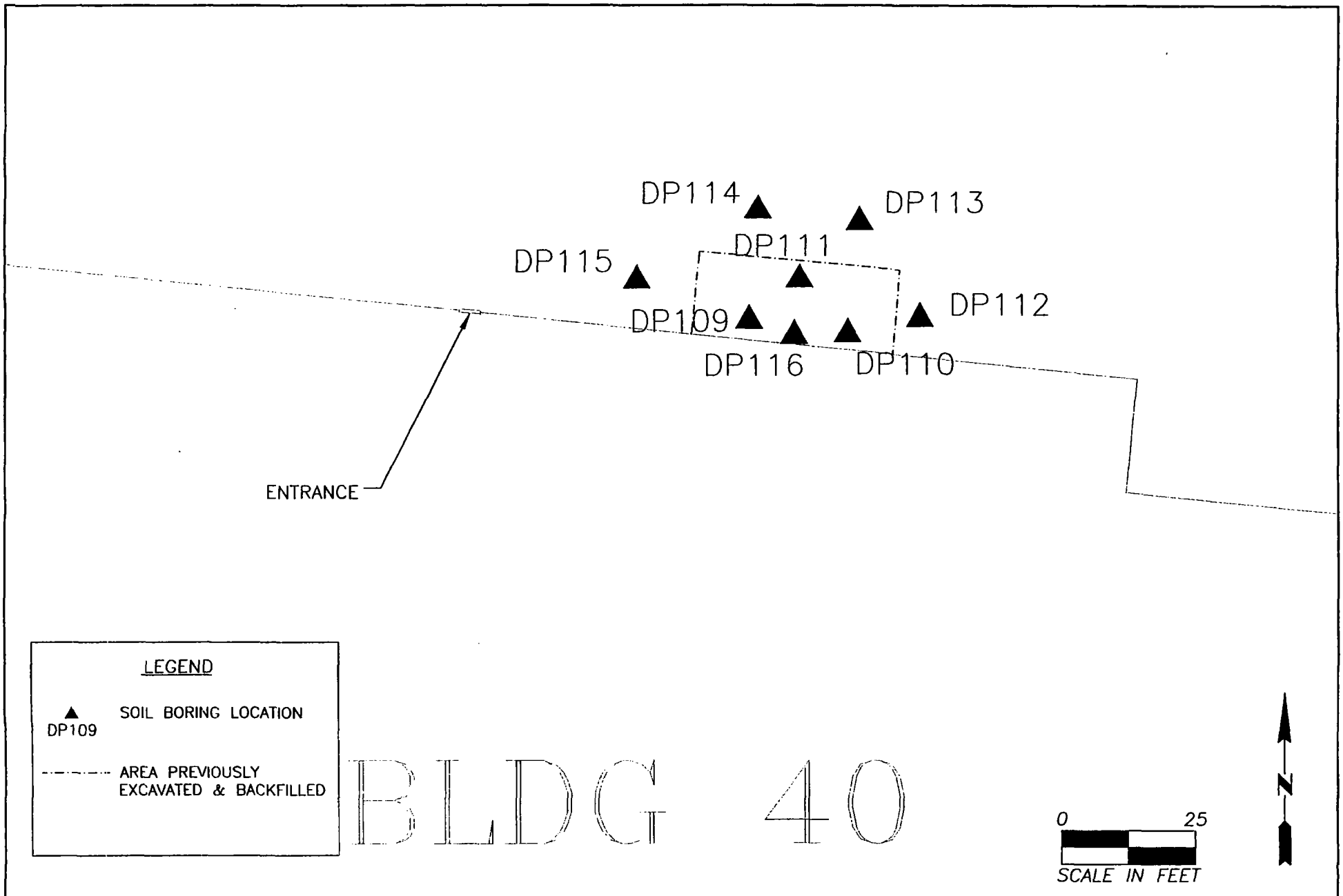


DATE	REVISED

Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and Environmental Engineering Services
Northpark Corporate Center
1210 W. County Road E, Suite 700
St. Paul, MN 55112
(651) 490-1405

DAYTON THERMAL PRODUCTS
DAYTON, OHIO
GEOPROBE INVESTIGATION AREA

FILE:	3chda15t.dwg	DATE:	JANUARY 2002	FIGURE:	1



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1210 W. County Road E, Suite 700
St. Paul, MN 55112
(651) 490-1405

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

GEOPROBE INVESTIGATION OUTSIDE BUILDING 40

FILE:	DATE:	FIGURE:
3chda15t.dwg	JANUARY 2002	2

APPENDIX A

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-109 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton OH 45414	SCREEN: NA DIAMETER: NA SLOT NO.
DATE COMPLETED: 6-Dec-01	SETTING: NA
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING: NA
DRILLING METHOD: Geoprobe - Direct Push SAMPLING METHOD: *Direct push, acetate liner, 2-inch X 4-foot*	CASING SETTING: NA
OBSERVER: Jason Skramstad REFERENCE POINT: Asphalt	SEAL TYPE: NA SETTING: NA
REFERENCE POINT ELEVATION: NA STICK-UP: NA	DEVELOPMENT: NA DURATION: NA
SURFACE COMPLETION: NA	WATER LEVEL: NA
REMARKS:	YIELD: NA

Abandoned with bentonite chips after soil sample collection.

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	0.5	Asphalt.	
0.5	2.0	Sand, coarse; gravel; brown.	
2.0	4.0	Clay; sand, coarse; reddish-brown.	
4.0	6.0	Same as above.	0
6.0	8.0	Sand, silty; clay; tan.	0
8.0	10.0	Sand, coarse; gravel; brown.	0
10.0	12.0	Same as above.	0
	12.0	EOB	
		Soil samples collected from 4 to 6 feet, and 10 to 12 feet.	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-110 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton OH 45414	SCREEN: NA DIAMETER: NA SLOT NO.
DATE COMPLETED: 6-Dec-01	SETTING: NA
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING: NA
DRILLING METHOD: Geoprobe - Direct Push SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	CASING SETTING: NA
OBSERVER: Jason Skramstad REFERENCE POINT: Asphalt	SEAL TYPE: NA SETTING: NA
REFERENCE POINT ELEVATION: NA STICK-UP: NA	DEVELOPMENT: NA DURATION: NA
SURFACE COMPLETION: NA	WATER LEVEL: NA
REMARKS:	YIELD: NA

Abandoned with bentonite chips after soil sample collection.

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	0.5	Asphalt.	
0.5	2.0	Sand, coarse; gravel; brown.	
2.0	4.0	Same as above.	
4.0	6.0	Clay; sand, coarse; reddish-brown.	0
6.0	7.0	Sand, silty; clay; tan.	0
7.0	8.0	Sand, coarse; gravel; brown.	0
	8.0	EOB	
		Soil sample collected from 4 to 6 feet.	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-111 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton OH 45414	SCREEN: NA DIAMETER: NA SLOT NO.
DATE COMPLETED: 6-Dec-01	SETTING: NA
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING: NA
DRILLING METHOD: Geoprobe - Direct Push	CASING
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING: NA
OBSERVER: Jason Skramstad	SEAL TYPE: NA
REFERENCE POINT: Asphalt	SETTING: NA
REFERENCE POINT ELEVATION: NA	DEVELOPMENT: NA
STICK-UP: NA	DURATION: NA
SURFACE COMPLETION: NA	WATER LEVEL: NA
REMARKS:	YIELD: NA

Abandoned with bentonite chips after soil sample collection.

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	0.5	Asphalt.	
0.5	2.0	Sand, coarse; gravel; brown.	
2.0	4.0	Same as above.	
4.0	5.0	Same as above.	0
5.0	6.0	Clay; sand, coarse; reddish-brown.	0
6.0	8.0	Sand, coarse; gravel; brown.	0
	8.0	EOB	
		Soil sample collected from 6 to 8 feet.	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-112 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton OH 45414	SCREEN: NA DIAMETER: NA SLOT NO.
DATE COMPLETED: 6-Dec-01	SETTING: NA
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING: NA
DRILLING METHOD: Geoprobe - Direct Push SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	CASING SETTING: NA
OBSERVER: Jason Skramstad REFERENCE POINT: Asphalt	SEAL TYPE: NA SETTING: NA
REFERENCE POINT ELEVATION: NA STICK-UP: NA	DEVELOPMENT: NA DURATION: NA
SURFACE COMPLETION: NA	WATER LEVEL: NA
REMARKS:	YIELD: NA

Abandoned with bentonite chips after soil sample collection.

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	0.5	Asphalt.	
0.5	2.0	Sand, coarse; gravel; brown.	0
2.0	4.0	Same as above.	0
4.0	6.0	Clay; sand, coarse; reddish-brown.	0
6.0	8.0	Sand, coarse; gravel; brown.	0
	8.0	EOB.	
		Soil sample collected from 2 to 4 feet.	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-113 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton OH 45414	SCREEN: NA DIAMETER: NA SLOT NO.
DATE COMPLETED: 6-Dec-01	SETTING: NA
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING: NA
DRILLING METHOD: Geoprobe - Direct Push SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	CASING SETTING: NA
OBSERVER: Jason Skramstad REFERENCE POINT: Asphalt	SEAL TYPE: NA SETTING: NA
REFERENCE POINT ELEVATION: NA STICK-UP: NA	DEVELOPMENT: NA DURATION: NA
SURFACE COMPLETION: NA	WATER LEVEL: NA
REMARKS:	YIELD: NA

Abandoned with bentonite chips after soil sample collection.

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	0.5	Asphalt.	
0.5	3.0	Sand, coarse; gravel; brown.	0
3.0	6.0	Clay; sand, coarse; reddish-brown.	0
6.0	8.0	Sand, coarse; gravel; brown.	0
	8.0	EOB.	0
		Soil sample collected from 2 to 4 feet.	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-114 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton OH 45414	SCREEN: NA DIAMETER: NA SLOT NO.
DATE COMPLETED: 6-Dec-01	SETTING: NA
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING: NA
DRILLING METHOD: Geoprobe - Direct Push SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	CASING SETTING: NA
OBSERVER: Jason Skramstad REFERENCE POINT: Asphalt	SEAL TYPE: NA SETTING: NA
REFERENCE POINT ELEVATION: NA STICK-UP: NA	DEVELOPMENT: NA DURATION: NA
SURFACE COMPLETION: NA	WATER LEVEL: NA
REMARKS:	YIELD: NA

Abandoned with bentonite chips after soil sample collection.

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	0.5	Asphalt.	
0.5	1.0	Sand, coarse; gravel; brown.	0
1.0	2.0	Clay; sand, coarse; reddish-brown.	0
2.0	4.0	Same as above.	0
4.0	5.0	Same as above.	0
5.0	6.0	Sand, silty; clay; tan.	0
6.0	7.0	Sand, coarse; gravel; brown.	0
7.0	7.5	Clay, silty, brown.	0
7.5	8.0	Sand, coarse; gravel; brown.	0
	8.0	EOB.	
		Soil sample collected from 4 to 6 feet.	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-115 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton OH 45414	SCREEN: NA DIAMETER: NA SLOT NO.
DATE COMPLETED: 6-Dec-01	SETTING: NA
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING: NA
DRILLING METHOD: Geoprobe - Direct Push	CASING
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING: NA
OBSERVER: Jason Skramstad	SEAL TYPE: NA
REFERENCE POINT: Asphalt	SETTING: NA
REFERENCE POINT ELEVATION: NA	DEVELOPMENT: NA
STICK-UP: NA	DURATION: NA
SURFACE COMPLETION: NA	WATER LEVEL: NA
REMARKS:	YIELD: NA

Abandoned with bentonite chips after soil sample collection.

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	0.5	Asphalt.	
0.5	1.0	Sand, coarse; gravel; brown.	0
1.0	2.0	Clay; sand, coarse; reddish-brown.	0
2.0	4.0	Same as above.	0
4.0	5.0	Same as above.	0
5.0	6.0	Clay, silty, brown.	0
6.0	8.0	Sand, coarse; gravel; brown.	0
	8.0	EOB.	
		Soil sample collected from 0 to 2 feet.	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-116 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton OH 45414	SCREEN: NA DIAMETER: NA SLOT NO.
DATE COMPLETED: 6-Dec-01	SETTING: NA
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING: NA
DRILLING METHOD: Geoprobe - Direct Push SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	CASING SETTING: NA
OBSERVER: Jason Skramstad REFERENCE POINT: Asphalt	SEAL TYPE: NA SETTING: NA
REFERENCE POINT ELEVATION: NA STICK-UP: NA	DEVELOPMENT: NA DURATION: NA
SURFACE COMPLETION: NA	WATER LEVEL: NA
REMARKS:	YIELD: NA

Abandoned with bentonite chips after soil sample collection.

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	0.5	Concrete.	
0.5	1.0	Sand, coarse; gravel; brown.	2
1.0	2.0	Clay; sand, coarse; reddish-brown.	0
2.0	4.0	Same as above.	0
4.0	6.0	Same as above.	0
6.0	6.5	Clay, silty, brown.	0
6.5	8.0	Sand, coarse; gravel; brown.	0
	8.0	EOB.	
		Soil samples collected from 2 to 4 feet, and 6 to 8 feet.	

APPENDIX B

DAIMLERCHRYSLER

CORPORATION **SAMPLING RECORD - SOIL**

Consultant:	DaimlerChrysler RFA Number:	Date:
Leggette, Brashears & Graham, Inc.	YGQP2001252	December 6, 2001

PROJECT LOCATION: Dayton Thermal Products
1600 Webster Street
Dayton, OH

SITE CODE: SC001

DAIMLERCHRYSLER PROJECT MANAGER: Gary Stanczuk

Inspector: Jason Skramstad
Laboratory: Lancaster
Sampler(s) Initials: JDS
Chain-of-Custody Number: 1845, 1846

Weather/Field Conditions Checklist (Record Major Changes)

Time (24 hour)	Temp. (Approx)	Weather (General)	Relative Humidity (Approx)	Wind (From) Velocity (Approx)	Wind (From) Direction (0-360)	Ground/Site Surface Conditions	MONITORING Instrument	MONITORING Model No.
900	45 deg. F	Rain	100%	30-35	East	Asphalt	Hnu	

Sample Number	Depth Range	Time	Type (Grab/Comp.)	Soil Description (color, grain size, etc.)	Sample Device	Container Size/Type	PID Reading
DP109	4 to 6	1020	Grab	Reddish-brown clay w/ coarse sand	spoon	2 - 4 oz. Glass 1-8 oz. Glass	0
DP109	10 to 12	1035	Grab	Brown coarse sand w/ gravel	spoon	2 - 4 oz. Glass 1-8 oz. Glass	0
DP110	4 to 6	1117	Grab	Reddish-brown clay w/ coarse sand	spoon	2 - 4 oz. Glass 1-8 oz. Glass	0
DP111	6 to 8	1229	Grab	Brown coarse sand w/ gravel	spoon	2 - 4 oz. Glass 1-8 oz. Glass	0
DP112	2 to 4	1428	Grab	Brown coarse sand w/ gravel	spoon	2 - 4 oz. Glass 1-8 oz. Glass	0
DP113	2 to 4	1455	Grab	Reddish-brown clay w/ coarse sand	spoon	2 - 4 oz. Glass 1-8 oz. Glass	0
DP114	4 to 6	1530	Grab	Reddish-brown clay w/ coarse sand from 4 to 5; tan silty sand w/ clay from 5 to 6	spoon	2 - 4 oz. Glass 1-8 oz. Glass	0
DP115	0 to 2	1630	Grab	0 to 0.5 asphalt; brown coarse sand w/ gravel from 0.5 to 1; reddish-brown clay w/ coarse sand and gravel from and 1 to 2	spoon	2 - 4 oz. Glass 1-8 oz. Glass	0
DP116	2 to 4	1700	Grab	Reddish-brown clay w/ coarse sand and gravel	spoon	2 - 4 oz. Glass 1-8 oz. Glass	0
DP116	6 to 8	1715	Grab	Brown silty clay from 6 to 6.5; brown coarse sand w/ gravel from 6.5 to 8	spoon	2 - 4 oz. Glass 1-8 oz. Glass	0

Sampling Record Number_____

Referenced on page _____ of Field Book Number_____

Rev.0

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MAP: TCE CROSS SECTION G-G, H-H, I-I & J-J, JULY 2001

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MAP: TCE CROSS SECTION A-A, B-B & C-C, JULY 2001

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MAP: TCE CROSS SECTION D-D, E-E & F-F, JULY 2001

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MAP: PCE ISOCONTOURS, NOVEMBER 2003

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MAP: JULY 2004 GROUNDWATER CONTOURS – SYSTEM OFF

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MAP: NOVEMBER 2003 GROUNDWATER CONTOURS – GEM CITY RUNNING

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MAP: NOVEMBER 2005 GROUNDWATER CONTOURS – SYSTEM RUNNING

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MAP: NOVEMBER 2005 GROUNDWATER CONTOURS – SYSTEM RUNNING

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MAP: SHALLOW TCE CONCENTRATIONS

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MAP: SHALLOW TCA CONCENTRATIONS

☐ **Other:**

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MAP: GROUNDWATER CONTOURS & FLOW PATH

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MAP: GROUNDWATER CONTOURS & PROPOSED WELLS, JULY 18,2007

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MAP: BOUNDARY SHALLOW TCE CONCENTRATIONS W/ GROUNDWATER CONTOURS AND FLOW

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MAP: GROUNDWATER CONTOURS W/ POTENTIAL SOURCE AREA

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#67

LEGGETTE, BRASHEARS & GRAHAM, INC.

PROFESSIONAL GROUND-WATER AND
ENVIRONMENTAL ENGINEERING SERVICES

NORTHPARK CORPORATE CENTER
1210 WEST COUNTY ROAD B
SUITE 700
ST. PAUL, MN 55112
612-490-2403
FAX 612-490-1006

September 4, 1998

Mr. Gary Stanczuk CIMS 482-0C-51
Chrysler Corporation
Chrysler Technology Center
800 Chrysler Drive
Auburn Hills, Michigan 48326-2757

Re: *Building 40B SVE System Start-up*
Dayton Thermal Products
Dayton, Ohio

Dear Gary:

The installation of the SVE system was completed with the arrival in Dayton of the SVE system building on Wednesday, August 12, 1998. The mechanical contractors completed the system connection on Thursday, August 13 and system start-up test began on Friday, August 14. The activated carbon arrived on Monday, August 17 and was installed after the blower discharge. This letter details system start-up and the results of the initial two weeks of operation.

On August 14, when the system was initially started only the shallow wells were open. Blower performance was evaluated and an initial round of readings with the organic vapor monitor (OVM) were recorded from each of the shallow wells. The blower was within operating limits. Well SVE-3S exhibited the highest reading. OVM readings were also elevated in SVE-4S, SVE-5S, and SVE-6S, as anticipated. These results are summarized in Table 1. Initially, the highest air flow and vacuum was observed at wells SVE-11S, SVE-9S, and SVE-8S due to their proximity to the blower. The vacuum and flow rates summarized in Table 1 were recorded after throttling back the valves for these wells in an attempt to balance flow and vacuum from all wells. Table 2 summarizes the system operating parameters.

Air samples were collected in Summa canisters from all shallow wells on August 15 and analyzed for the presence of VOCs. These results are summarized in table 3 and the total VOC concentrations are presented on figure 2. The only compounds detected were the five chlorinated

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solvents listed in table 3 (1,1-Dichloroethane [1,1-DCA], cis-1,2-Dichloroethene [cis-1,2-DCE], 1,1,1-Trichloroethane [TCA], Trichloroethene [TCE], and Tetrachloroethene [PCE]). TCE and PCE were the most prevalent compounds. Wells SVE-5S and SVE-3S exhibited the highest concentration of total VOCs with levels of 1,500 ug/L and 1,308 ug/L, respectively. Both of these wells are within the footprint for the silicate line construction.

On August 16 operating parameters of the deep wells were recorded. These values are summarized in table 1. The highest OVM readings were exhibited at SVE-4D, SVE-5D and SVE-6D which is consistent with the results of monitoring the shallow wells. Additionally, the highest air flow and vacuum was also observed at wells SVE-11D, SVE-9D, and SVE-8D. The vacuum and flow rates summarized in table 1 were recorded after throttling back the valves for these wells in an attempt to balance flow and vacuum from all wells.

On Monday, August 17, the carbon arrived and was connected to the effluent of the blower to insure that emissions are below regulatory levels. The wells nearest to the silicate line footprint, which are also the wells with the highest observed OVM reading, were left open (SVE-3S, SVE-4S/D, SVE-5S/D, SVE-6S/D and SVE-8S/D).

Weekly monitoring of the SVE system has been initiated. The monitoring activities include collecting OVM readings, vacuum, flow rates, and air temperatures from the operating wells and at locations throughout the system. These results are summarized in tables 1 and 2. Inadvertently, during routine monitoring, SVE-3S was closed, but was re-opened on September 1. Figures 3 and 4 are plots of OVM readings versus time for the shallow and deep operating wells, respectively. The OVM readings show an expected slight decrease from the initial levels, but appear to be stabilizing. Based on the initial air analysis from the combined system effluent (DTP-4) values, and an average flow rate of 506 cfm, the system has recovered approximately 362 pounds of total VOCs in 19 days of operation. The capacity of the activated carbon is approximately 800 pounds of VOCs. Therefore, it is anticipated that the carbon will need to be changed out the week of September 21. SVE-5S/D and SVE-6S/D are removing the most mass

To determine the best course of action to take during the silicate line construction a detailed construction schedule is required from Carlo Construction. After receipt of the schedule, a

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conversation with plant personnel, Carlo, yourself, and LBG should occur to maximize performance of the system prior to soil being excavated.

If you have any question regarding this letter or attached data, please do not hesitate to call me at (651) 490-1405 ext. 218

Sincerely,

LEGGETTE, BRASHEARS & GRAHAM, INC.

Kristin S. Yahnke
Environmental Engineer

Kenneth D. Vogel, PG, CHMM
Associate

Reviewed by:

J. Kevin Powers
Vice President

KSY:kw

Attachments
- Table 1 SVE Well Data
- Table 2 SVE System Status
- Table 3 Building 40B SVE System Summary of Air Analysis
- Table 4 VOC Mass Recovered Since System Start-Up

- Figure 1 Site Map
- Figure 2 Air Concentration of Total VOCs from Shallow SVE Wells
- Figure 3 OVM Readings Vs. Time - Shallow Wells
- Figure 4 OVM Readings Vs Time - Deep Wells

cc: Mr Joe Whitlock, Chrysler

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DAYTON THERMAL PRODUCTS
DAYTON, OHIO

SVE SYSTEM DATA

WELL	DATE	STATUS	OVM (ppm)	VACUUM (IN H2O)	FLOW (FPM)	FLOW (CFM)
SVE-01S	14-Aug-98	OPEN	73.6	7.5	1250	27
SVE-01S	15-Aug-98	OPEN	96.1	9.0	1400	31
SVE-01S	16-Aug-98	CLOSED	—	—	—	—
SVE-01S	16-Aug-98	CLOSED	—	—	—	—
SVE-01S	17-Aug-98	CLOSED	—	—	—	—
SVE-01S	22-Aug-98	CLOSED	—	—	—	—
SVE-01S	25-Aug-98	CLOSED	—	—	—	—
SVE-01S	2-Sep-98	CLOSED	—	—	—	—
SVE-02S	14-Aug-98	OPEN	40.8	5.2	2390	52
SVE-02S	15-Aug-98	OPEN	13.1	6.0	2525	55
SVE-02S	16-Aug-98	CLOSED	—	—	—	—
SVE-02S	16-Aug-98	CLOSED	—	—	—	—
SVE-02S	17-Aug-98	CLOSED	—	—	—	—
SVE-02S	22-Aug-98	CLOSED	—	—	—	—
SVE-02S	25-Aug-98	CLOSED	—	—	—	—
SVE-02S	2-Sep-98	CLOSED	—	—	—	—
SVE-03S	14-Aug-98	OPEN	>2000	5.8	2300	55
SVE-03S	15-Aug-98	OPEN	138	5.6	2540	56
SVE-03S	15-Aug-98	CLOSED		—	—	—
SVE-03S	15-Aug-98	OPEN	88	10.0	3850	84
SVE-03S	17-Aug-98	OPEN	45.6	5.9	1350	29
SVE-03S	22-Aug-98	CLOSED	—	—	—	—
SVE-03S	25-Aug-98	CLOSED	—	—	—	—
SVE-03S	2-Sep-98	CLOSED	—	—	—	—
SVE-04S	14-Aug-98	OPEN	64	6.1	1750	38
SVE-04S	15-Aug-98	OPEN	35.3	5.3	1800	39
SVE-04S	16-Aug-98	CLOSED	—	—	—	—
SVE-04S	16-Aug-98	OPEN	51.4	8.2	2400	52
SVE-04S	17-Aug-98	OPEN	63.9	5.0	1450	32
SVE-04S	22-Aug-98	OPEN	49.5	5.0	1523	33
SVE-04S	25-Aug-98	OPEN	61.4	9.2	2400	52
SVE-04S	2-Sep-98	OPEN	50.2	5.0	1509	33
SVE-05S	14-Aug-98	OPEN	165	6.3	1610	35
SVE-05S	15-Aug-98	OPEN	202.8	6.3	1800	39
SVE-05S	16-Aug-98	CLOSED	—	—	—	—
SVE-05S	16-Aug-98	OPEN	170.5	10.0	2560	56
SVE-05S	17-Aug-98	OPEN	130.3	5.2	1470	32
SVE-05S	22-Aug-98	OPEN	80.6	5.5	1526	33
SVE-05S	25-Aug-98	OPEN	170.5	10.0	2550	56
SVE-05S	25-Aug-98	OPEN	80.4	5.5	1526	33
SVE-05S	2-Sep-98	OPEN	104.1	5.5	1551	34
SVE-06S	14-Aug-98	OPEN	106.7	6.1	1270	28
SVE-06S	15-Aug-98	OPEN	153.8	7.5	1650	36
SVE-06S	16-Aug-98	CLOSED	—	—	—	—
SVE-06S	16-Aug-98	OPEN	127.7	10.0	2430	53
SVE-06S	17-Aug-98	OPEN	71.5	6.3	1640	36
SVE-06S	22-Aug-98	OPEN	101.4	5.5	1723	38
SVE-06S	25-Aug-98	OPEN	127.7	10.0	2430	53
SVE-06S	2-Sep-98	OPEN	154.3	8.6	922	20
SVE-07S	14-Aug-98	OPEN	73	3.8	1470	32
SVE-07S	15-Aug-98	OPEN	35.3	3.8	1630	35
SVE-07S	15-Aug-98	CLOSED	—	—	—	—
SVE-07S	15-Aug-98	CLOSED	—	—	—	—

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

SVE SYSTEM DATA

WELL	DATE	STATUS	OVM (ppm)	VACUUM (in H2O)	FLOW (FPM)	FLOW (CFM)
SVE-07S	17-Aug-98	CLOSED	---	---	---	---
SVE-07S	22-Aug-98	CLOSED	---	---	---	---
SVE-07S	25-Aug-98	CLOSED	---	---	---	---
SVE-07S	2-Sep-98	CLOSED	---	---	---	---
SVE-08S	14-Aug-98	OPEN	20.9	5.2	1850	40
SVE-08S	15-Aug-98	OPEN	95.7	8.6	1780	39
SVE-08S	16-Aug-98	CLOSED	---	---	---	---
SVE-08S	18-Aug-98	OPEN	21.5	9.0	3600	83
SVE-08S	17-Aug-98	OPEN	50.4	3.5	1325	29
SVE-08S	22-Aug-98	OPEN	97.4	3.5	1724	38
SVE-08S	25-Aug-98	OPEN	21.2	5.0	3800	83
SVE-08S	2-Sep-98	OPEN	319'	5.5	1683	37
SVE-09S	14-Aug-98	OPEN	173	8.4	1200	23
SVE-09S	15-Aug-98	OPEN	92.2	10.5	1330	29
SVE-09S	16-Aug-98	CLOSED	---	---	---	---
SVE-09S	18-Aug-98	CLOSED	---	---	---	---
SVE-09S	17-Aug-98	CLOSED	---	---	---	---
SVE-09S	22-Aug-98	CLOSED	---	---	---	---
SVE-09S	25-Aug-98	CLOSED	---	---	---	---
SVE-09S	2-Sep-98	CLOSED	---	---	---	---
SVE-10S	14-Aug-98	OPEN	42.4	8.4	1260	27
SVE-10S	15-Aug-98	OPEN	84.5	9.3	1580	34
SVE-10S	16-Aug-98	CLOSED	---	---	---	---
SVE-10S	18-Aug-98	OPEN	8.5	9.6	3600	63
SVE-10S	17-Aug-98	CLOSED	---	---	---	---
SVE-10S	22-Aug-98	CLOSED	---	---	---	---
SVE-10S	25-Aug-98	CLOSED	---	---	---	---
SVE-10S	2-Sep-98	CLOSED	---	---	---	---
SVE-11S	14-Aug-98	OPEN	1.3	17.0	1700	37
SVE-11S	15-Aug-98	OPEN	72.2	18.0	1750	38
SVE-11S	16-Aug-98	CLOSED	---	---	---	---
SVE-11S	18-Aug-98	CLOSED	---	---	---	---
SVE-11S	17-Aug-98	CLOSED	---	---	---	---
SVE-11S	22-Aug-98	CLOSED	---	---	---	---
SVE-11S	25-Aug-98	CLOSED	---	---	---	---
SVE-11S	2-Sep-98	CLOSED	---	---	---	---
SVE-12S	14-Aug-98	OPEN	582	6.2	440	10
SVE-12S	15-Aug-98	OPEN	48.1	6.0	410	9
SVE-12S	16-Aug-98	CLOSED	---	---	---	---
SVE-12S	18-Aug-98	CLOSED	---	---	---	---
SVE-12S	17-Aug-98	CLOSED	---	---	---	---
SVE-12S	22-Aug-98	CLOSED	---	---	---	---
SVE-12S	25-Aug-98	CLOSED	---	---	---	---
SVE-12S	2-Sep-98	CLOSED	---	---	---	---
SVE-01D	14-Aug-98	CLOSED	---	---	---	---
SVE-01D	15-Aug-98	CLOSED	---	---	---	---
SVE-01D	16-Aug-98	OPEN	92.1	2.7	1720	38
SVE-01D	18-Aug-98	CLOSED	---	---	---	---
SVE-01D	17-Aug-98	CLOSED	---	---	---	---
SVE-01D	22-Aug-98	CLOSED	---	---	---	---
SVE-01D	25-Aug-98	CLOSED	---	---	---	---
SVE-01D	2-Sep-98	CLOSED	---	---	---	---
SVE-02D	14-Aug-98	CLOSED	---	---	---	---

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

SVE SYSTEM DATA

WELL	DATE	STATUS	OVM (ppm)	VACUUM (in H2O)	FLOW (FPM)	FLOW (CFM)
SVE-02D	15-Aug-98	CLOSED	—	—	—	—
SVE-02D	16-Aug-98	OPEN	'19.2	2.0	'370	30
SVE-02D	16-Aug-98	CLOSED	—	—	—	—
SVE-02D	17-Aug-98	CLOSED	—	—	—	—
SVE-02D	22-Aug-98	CLOSED	—	—	—	—
SVE-02D	25-Aug-98	CLOSED	—	—	—	—
SVE-02D	2-Sep-98	CLOSED	—	—	—	—
SVE-03D	'4-Aug-98	CLOSED	—	—	—	—
SVE-03D	'5-Aug-98	CLOSED	—	—	—	—
SVE-03D	'6-Aug-98	OPEN	100.5	2.1	1700	37
SVE-03D	16-Aug-98	CLOSED	—	—	—	—
SVE-03D	17-Aug-98	CLOSED	—	—	—	—
SVE-03D	22-Aug-98	CLOSED	—	—	—	—
SVE-03D	25-Aug-98	CLOSED	—	—	—	—
SVE-03D	2-Sep-98	CLOSED	—	—	—	—
SVE-04D	14-Aug-98	CLOSED	—	—	—	—
SVE-04D	15-Aug-98	CLOSED	—	—	—	—
SVE-04D	16-Aug-98	OPEN	220.5	2.4	OBSTRUCTED	—
SVE-04D	16-Aug-98	CLOSED	—	—	—	—
SVE-04D	17-Aug-98	OPEN	37.9	4.4	3000	55
SVE-04D	22-Aug-98	OPEN	42.3	5.0	2955	55
SVE-04D	25-Aug-98	OPEN	39.6	4	156	3
SVE-04D	2-Sep-98	OPEN	30.8	5	5'0	11
SVE-05D	14-Aug-98	CLOSED	—	—	—	—
SVE-05D	'5-Aug-98	CLOSED	—	—	—	—
SVE-05D	'6-Aug-98	OPEN	>2000	'.6	1760	39
SVE-05D	16-Aug-98	CLOSED	—	—	—	—
SVE-05D	17-Aug-98	OPEN	60.4	4.6	3340	73
SVE-05D	22-Aug-98	OPEN	67	5.0	450	'0
SVE-05D	25-Aug-98	OPEN	72.2	4.5	3349	73
SVE-05D	2-Sep-98	OPEN	35.3	5	414	9
SVE-06D	14-Aug-98	CLOSED	—	—	—	—
SVE-06D	15-Aug-98	CLOSED	—	—	—	—
SVE-06D	16-Aug-98	OPEN	'25.8	2.6	OBSTRUCTED	—
SVE-06D	16-Aug-98	CLOSED	—	—	—	—
SVE-06D	17-Aug-98	OPEN	37.1	5.8	2700	50
SVE-06D	22-Aug-98	OPEN	111.3	4.5	2931	54
SVE-06D	25-Aug-98	OPEN	132.1	4	2277	50
SVE-06D	2-Sep-98	OPEN	103.1	6	2710	59
SVE-07D	14-Aug-98	CLOSED	—	—	—	—
SVE-07D	'5-Aug-98	CLOSED	—	—	—	—
SVE-07D	'6-Aug-98	OPEN	122.9	2.2	1840	40
SVE-07D	'6-Aug-98	CLOSED	—	—	—	—
SVE-07D	17-Aug-98	CLOSED	—	—	—	—
SVE-07D	22-Aug-98	CLOSED	—	—	—	—
SVE-07D	25-Aug-98	CLOSED	—	—	—	—
SVE-07D	2-Sep-98	CLOSED	—	—	—	—
SVE-08D	14-Aug-98	CLOSED	—	—	—	—
SVE-08D	15-Aug-98	CLOSED	—	—	—	—
SVE-08D	16-Aug-98	OPEN	55.2	3.6	3290	72
SVE-08D	16-Aug-98	OPEN	93	3.0	3800	83
SVE-08D	17-Aug-98	OPEN	99.7	3.5	'150	25
SVE-08D	22-Aug-98	OPEN	91.1	3.5	'021	22

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

SVE SYSTEM DATA

WELL	DATE	STATUS	OVM (ppm)	VACUUM (in H2O)	FLOW (FPM)	FLOW (CFM)
SVE-08D	25-Aug-98	OPEN	93	80	3800	63
SVE-08D	2-Sep-98	OPEN	135.2*	85	827	18
SVE-09D	14-Aug-98	CLOSED	--	--	--	--
SVE-09D	15-Aug-98	CLOSED	--	--	--	--
SVE-09D	16-Aug-98	OPEN	36.3	5.4	1780	35
SVE-09D	16-Aug-98	CLOSED	--	--	--	--
SVE-09D	17-Aug-98	CLOSED	--	--	--	--
SVE-09D	22-Aug-98	CLOSED	--	--	--	--
SVE-09D	25-Aug-98	CLOSED	--	--	--	--
SVE-09D	2-Sep-98	CLOSED	--	--	--	--
SVE-10D	14-Aug-98	CLOSED	--	--	--	--
SVE-10D	15-Aug-98	CLOSED	--	--	--	--
SVE-10D	16-Aug-98	OPEN	32.2	3.3	1770	39
SVE-10D	16-Aug-98	CLOSED	--	--	--	--
SVE-10D	17-Aug-98	CLOSED	--	--	--	--
SVE-10D	22-Aug-98	CLOSED	--	--	--	--
SVE-10D	25-Aug-98	CLOSED	--	--	--	--
SVE-10D	2-Sep-98	CLOSED	--	--	--	--
SVE-11D	14-Aug-98	CLOSED	--	--	--	--
SVE-11D	15-Aug-98	CLOSED	--	--	--	--
SVE-11D	16-Aug-98	OPEN	15.2	1.00	4800	107
SVE-11D	16-Aug-98	CLOSED	--	--	--	--
SVE-11D	17-Aug-98	CLOSED	--	--	--	--
SVE-11D	22-Aug-98	CLOSED	--	--	--	--
SVE-11D	25-Aug-98	CLOSED	--	--	--	--
SVE-11D	2-Sep-98	CLOSED	--	--	--	--
SVE-12D	14-Aug-98	CLOSED	--	--	--	--
SVE-12D	15-Aug-98	CLOSED	--	--	--	--
SVE-12D	16-Aug-98	OPEN	60.9	2.1	850	19
SVE-12D	16-Aug-98	CLOSED	--	--	--	--
SVE-12D	17-Aug-98	CLOSED	--	--	--	--
SVE-12D	22-Aug-98	CLOSED	--	--	--	--
SVE-12D	25-Aug-98	CLOSED	--	--	--	--
SVE-12D	2-Sep-98	CLOSED	--	--	--	--

SVE: Soil vapor extraction
OVM: Organic vapor monitor
ppm: Parts per million
in H2O: Inches of water
FPM: Feet per minute
CFM: Cubic feet per minute
S: Shallow
D: Deep

TABLE 2
DAYTON THERMAL PRODUCTS
DAYTON, OHIO

SVE SYSTEM STATUS
SVE WELLS

	SYSTEM ON/OFF TIME ON	VFD LEVEL (Hz)	VACUUM LEVEL PRIOR TO AIR/WATER SEPARATOR (in H2O) (V 1)	VACUUM LEVEL AT AIR/WATER SEPARATOR (in H2O) (V 2)	VACUUM LEVEL PRIOR TO FILTER (in H2O) (V 3)	TEMPERATURE PRIOR TO HEAT EXCHANGER (F) (T 1)	PRESSURE PRIOR TO PRIMARY CARBON VESSEL (in H2O) (P 1)	OVM PRIOR TO PRIMARY CARBON VESSEL (ppm) (S 4)	FLOW PRIOR TO PRIMARY CARBON VESSEL (F 1) (fpm)
/98	ON	60	25	20	26	120	1	110	7000
/98	STARTED 13:53	80	30	32	45.5	142	2	387	6800
/98	ON	60	26.5	28	43	142	1	59	7000
/98	ON	80	32.5	36	46	150	1	86.6	6750
/98	ON	60	23	22.5	35	172	37	60	0000
/98	ON	MAX	26	28	38	166	38	10,000	5800
/98	STARTED 11:10	MAX	26.5	28	39	108	36	77.9	5800
/98	ON	MAX	26	28	36	160	30	527	5800

TABLE 2
DAYTON THERMAL PRODUCTS
DAYTON, OHIO

SVE SYSTEM STATUS
SVE WELLS

DATE	FLOW PRIOR TO PRIMARY CARBON VESSEL (F 1) (in H2O)	FLOW PRIOR TO PRIMARY CARBON VESSEL (F 1) (cfm)	PRESSURE PRIOR TO SECONDARY CARBON VESSEL (P 2) (in H2O)	OVM PRIOR TO SECONDARY CARBON VESSEL (S 5) (ppm)	OVM FOLLOWING T1 SECONDARY CARBON VESSEL (S 6) (ppm)
8/14/98		611			
8/15/98	2.5	594			
8/16/98	3.1	611			
8/16/98	2.9	589			
8/17/98	2.2	506		17	2.0
8/22/98	2.2	506	17	61.5	4.5
8/25/98	2.1	506	16.5	111	4.4
9/2/98	2	508	16	317	1.3

Notes:
Hz. hertz
V1, S1, V2, S2, V3, T1, etc: indicate the points located on SVE system at which readings in that column are recorded.
fmp. feet per minute
cfm: cubic feet per minute
in H2O: inches water
ppm: parts per million

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

BUILDING 40B SVE SYSTEM SUMMARY OF AIR ANALYSIS

UNITS ARE IN MICROGRAMS PER LITER (ug/L)

SAMPLE LOCATION	DATE	1,1-DICHLORO-ETHANE	cis-1,2-DICHLORO-ETHENE	1,1,1-TRI-CHLORO-ETHANE	TRI-CHLORO-ETHENE	TETRA-CHLORO-ETHENE	TOTAL VOCS PER WELL
DTP-S4	17-Aug-98	19	38	23	160	180	420
SVE-1S	15-Aug-98	8.6	28	35	200	24	296
SVE-2S	15-Aug-98	3.3	1.3	2.5	9.4	16	33
SVE-3S	15-Aug-98	44	130	24	170	940	1308
SVE-4S	15-Aug-98	21	46	60	380	32	540
SVE-5S	15-Aug-98	50	150	130	610	380	1600
SVE-6S	15-Aug-98	27	91	79	530	210	987
SVE-7S	15-Aug-98	40	80	72	280	180	652
SVE-8S	15-Aug-98	13	72	48	150	92	332
SVE-9S	15-Aug-98	2.3	31	5.5	52	<1.0	91
SVE-10S	15-Aug-98	2.5	13	4.4	95	16	131
SVE-11S	15-Aug-98	<1.0	1.0	<1.0	19	<1.0	20
SVE-12S	15-Aug-98	2.5	3.9	7.0	13	4.7	31

UNITS ARE IN PARTS PER MILLION PER VOLUME (PPMV)

SAMPLE LOCATION	DATE	1,1-DICHLORO-ETHANE	cis-1,2-DICHLORO-ETHENE	1,1,1-TRI-CHLORO-ETHANE	TRI-CHLORO-ETHENE	TETRA-CHLORO-ETHENE	TOTAL VOCS PER WELL
DTP-S4	17-Aug-98	4.4	8.9	3.9	27	24	68
SVE-1S	15-Aug-98	2.0	6.5	5.9	34	3.0	52
SVE-2S	15-Aug-98	0.8	0.4	0.4	1.6	2.2	5
SVE-3S	15-Aug-98	10	30	4	29	130	203
SVE-4S	15-Aug-98	4.8	11	10	65	4.5	95
SVE-5S	15-Aug-98	12	32	22	140	49	255
SVE-6S	15-Aug-98	6.2	21	13	99	29	168
SVE-7S	15-Aug-98	9.2	14	12	43	24	107
SVE-8S	15-Aug-98	3.0	17	0.8	28	12	58
SVE-9S	15-Aug-98	0.5	7.2	0.9	8.9	<0.01	18
SVE-10S	15-Aug-98	0.6	3.0	0.7	16	0.2	21
SVE-11S	15-Aug-98	<0.01	0.2	<0.01	3.2	<0.01	3
SVE-12S	15-Aug-98	0.3	0.9	1.2	2.2	0.6	6

TABLE 4

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

MASS RECOVERED SINCE SYSTEM START-UP
AUGUST 15, 1998 THROUGH SEPTEMBER 2, 1998

Sample Location	Date	Average Flow Rate (cfm)	Days Of System Operation	1,1-DICHLOROETHANE		cis-1,2-DICHLOROETHENE		1,1,1-TRICHLOROETHANE		TRICHLOROETHENE	
				Concentration (ug/L)	Pounds Recovered	Concentration (ug/L)	Pounds Recovered	Concentration (ug/L)	Pounds Recovered	Concentration (ug/L)	Pounds Recovered
DTP S1	15-Aug-98	508	19	19	16.40	38	32.79	23	19.85	160	138.07
SVE 1S	15-Aug-98	29	1	8.6	0.02	26	0.07	35	0.09	200	0.52
SVE-2S	15-Aug-98	54	1	3.5	0.02	1.5	0.01	2.5	0.01	8.4	0.05
SVE-3S	15-Aug-98	29	8	44	0.97	130	2.71	24	0.50	170	3.54
SVE-4S	15-Aug-98	30	19	21	1.40	45	3.00	60	3.99	380	25.27
SVE-4D*	15-Aug-98	44	17	21	1.42	46	3.11	60	4.06	380	25.69
SVE-5S	15-Aug-98	30	19	50	3.28	150	9.85	130	8.54	810	53.18
SVE-5D*	15-Aug-98	52	17	50	3.97	150	11.90	130	10.31	810	64.27
SVE-6S	15-Aug-98	42	19	27	1.96	91	6.58	79	5.70	500	41.84
SVE-6D*	15-Aug-98	28	17	27	2.38	91	8.01	79	6.96	560	51.00
SVE-7S	15-Aug-98	31	1	40	0.12	60	0.18	72	0.22	280	0.85
SVE-8S	15-Aug-98	52	19	13	1.15	72	6.38	4.8	0.42	150	13.30
SVE-8D*	15-Aug-98	43	17	13	0.86	72	4.76	4.8	0.32	160	9.91
SVE-9S	15-Aug-98	28	1	2.3	0.01	31	0.08	5.5	0.01	52	0.13
SVE-10S	15-Aug-98	48	1	2.5	0.01	13	0.06	4.4	0.02	55	0.41
SVE-11S	15-Aug-98	38	1	<1.0	0.00	1.0	0.00	<1.0	0.00	19	0.00
SVE-12S	15-Aug-98	10	1	2.6	0.00	3.9	0.00	7.0	0.01	13	0.01

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MEMORANDUM

TO: GARY STANCZUK, DAIMLERCHRYSLER

CC: KEN VOGEL AND KRISTIN YAHNKE, LBG

FROM: LYNDSEY ALM LA

DATE: JUNE 4, 2001

RE: DAYTON THERMAL PRODUCTS
BUILDING 50 PILOT TESTING RESULTS

DAIMLERCHRYSLER DOCUMENT CONTROL NO. SC001 06272001.008

Six 1.5-inch diameter, PVC wells were installed by AlTech utilizing a Geoprobe™ on April 4-5, 2001. Well locations are indicated on figure 1. As-built well construction diagrams are included as figures 2, 3 and 4. LBG conducted SVE pilot tests at these wells during the period April 10 through April 15, 2001.

PROCEDURE

The pilot testing consisted of conducting a Geologic Formation Curve Test at each location and then operating the equipment at the highest achievable flow rate for 24-hours to evacuate approximately one-pore volume for a well with a 100-feet radius of influence (ROI). Wellhead vacuum, flow, and photoionization detector (PID) levels were monitored at approximately 20-minutes, 40-minutes, 1-hours, 2-hours, 4-hours, 6-hours, 8-hours, 12-hours, and 24-hours after start-up.

Two regenerative vacuum blowers were used to conduct the pilot testing. At SVE-13S/D and SVE-15S/D, a Dayton Thermal Products (DTP) supplied 2-hp, 3-phase, 460 volt Rotron DR505 was used. A Gast, 1-hp, 1-phase, 230 volt R4110N-50 was rented from Catalytic Combustion Company and used at SVE-14S/D. The performance curves for these blowers are included as Attachment 1. Air flow rate was measured utilizing a Preso Venturi 200-38 element. At each well, appropriately ranged magnahelic gauges were selected to monitor wellhead vacuum and differential pressure from the venturi. Vacuum measured at the wellhead ranged from 8.2 to 22 inches of water and also corresponded to the blower used. Geologic Curve data are included as Attachment 2. The results of the 24-hour constant flow tests are included as Attachment 3. A photograph of a typical pilot testing setup is shown in figure 5.

PID levels were measured using an Organic Vapor Monitor (OVM) which was calibrated daily. An HNU was used to confirm PID levels from select samples. At each well, an exhaust sample was collected in a Summa canister after approximately 24 hours of operation and sent to Lancaster Laboratories to be analyzed for volatile organic compounds (VOCs) using EPA Method TO14A with a library search.

RESULTS

The geologic formation curve test results from Building 50 are similar to those from Building 40B. As illustrated in figure 6, SVE-1S/D (Bldg. 40B) formation curve data follows the same general trend as all of the wells tested in the Building 50 area. Individual geologic formation curve data and graphs for SVE-13S/D, SVE-14S/D and SVE-15S/D are included in Attachment 1.

During the 24-hour SVE wellhead monitoring test, flow rates and vacuum remained steady over time. SVE-14S/D experienced both a lower wellhead vacuum and air flow rate because the smaller blower was used at that location. Figure 7 shows that although there was some initial fluctuation, wellhead vacuums were consistent within a narrow range for each well. Air flow rates during the 24-hour test period are displayed in figure 8. Since two tests were often conducted simultaneously, some data is truncated after initial readings were taken because only one venturi element was available for use.

PID levels are shown in figure 9. Wells SVE-14S/D and SVE-15S/D had sustained or increasing levels throughout the test duration. The highest PID levels were seen at SVE-15D and SVE-15S, 93.0 ppm and 74.7 ppm, respectively. These wells are located in the vicinity of a former above ground storage tank area. The increasing PID readings at SVE 14S/D indicate that the wells may not be placed directly in a source area, but that vapors from impacted soil migrated to SVE 14S/D after a period of operation. Negligible PID levels were present in SVE-13S/D. The PID analysis of soil vapors was confirmed by analytical results.

Exhaust concentrations are summarized in table 2 in combination with an estimate of mass removed during the pilot test by each soil vapor extraction point. SVE-15D had the highest concentrations of VOCs and removed 5.4 pounds of VOCs during the 24-hour pilot test. A total of 13.9 pounds of primarily Tetrachloroethene (PCE), Trichloroethene (TCE), cis-1,2-dichloroethene, and 1,1, 1-Trichloroethane were removed from the subsurface during the pilot testing period. Although SVE-13S/D had low levels of VOCs, numerous compounds were present in exhaust samples from each well. Table 3 lists the chemicals detected, but not included in the exhaust

analytical and mass removal table (table 2). The low concentrations documented by the laboratory analysis concur with the lack of PID quantification. Attachment 4 includes analytical results.

Table 4 indicates potential emission rates calculated using pilot test analytical data. Operational flow rate was estimated at 500 standard cubic feet per minute (scfm) for the entire system based on actual Building 40B SVE system O&M data. An example mass removal calculation is included in Attachment 5.

The pilot test results indicate that soil vapor extraction is a feasible and effective method for removing contamination from the vadose zone beneath Building 50. Preliminary examination of historic soil analytical data in combination with previous and current pilot test data suggests that an additional 10 well nests (shallow and deep) would be necessary to remove accessible contamination. The proposed well locations are illustrated on figure 10. The wells are designed with a 50-foot radius of influence; the outer line on figure 10 represents a 100-foot radius around the wells where the wells may also have some influence. Based on a first-order decay rate calculated from Building 40B, the data suggest that, in 6 months of operation, a 12-well system has the potential to remove 2,268 pounds of VOCs. The system would require a CATOX system with a Freon resistant catalyst and a guard bed, as the system will exceed an emission rate of 10 lbs/day.

TABLES

TABLE 1
DAYTON THERMAL PRODUCTS
DAYTON, OHIO

BUILDING 50 PILOT TEST SUMMARY

WELL	TEST START DATE	TEST DURATION (hours)	AVERAGE		MAXIMUM PID READING (ppm)
			OPERATING FLOW RATE (scfm)	OPERATING WELLHEAD VACUUM (inches water)	
SVE-13S	12-Apr-01	23	95.0	17.0	1.0
SVE-13D	13-Apr-01	22	101.3	16.3	1.5
SVE-14S	11-Apr-01	24	57.6	8.2	59.1
SVE-14D	12-Apr-01	20	58.7	8.2	73.4
SVE-15S	11-Apr-01	23	104.6	15.3	74.7
SVE-15D	10-Apr-01	24	95.0	21.8	93.0

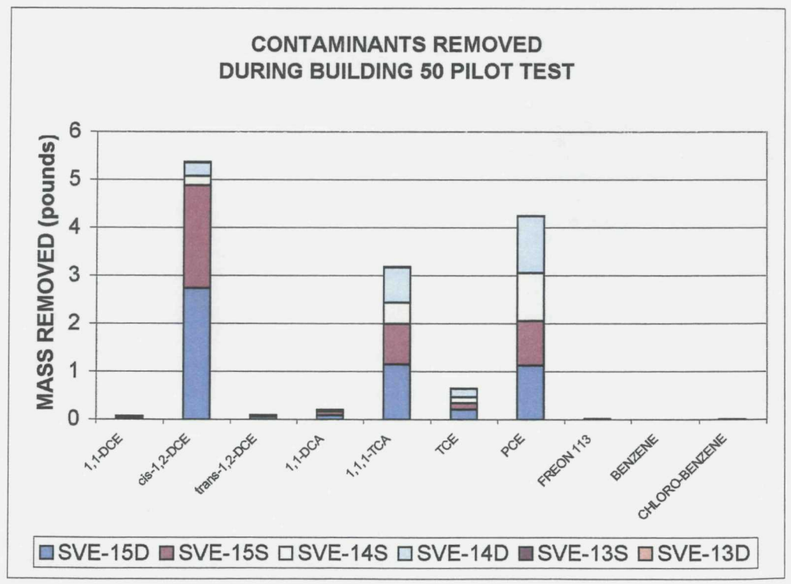
Notes:
scfm = standard cubic feet per minute
PID= photoionization detector
ppm= parts per million

TABLE 2
DAYTON THERMAL PRODUCTS
DAYTON, OHIO

BUILDING 50 PILOT TEST
EXHAUST ANALYTICAL RESULTS AND MASS REMOVAL CALCULATIONS

WELL	DATE	AVERAGE FLOW RATE (scfm)	HOURS OF OPERATION	1,1-DCE		cis-1,2-DCE		trans-1,2-DCE		1,1-DCA		1,1,1-TCA		TCE		PCE		FREON 113		BENZENE		CHLORO-BENZENE		TOTAL VOCS	
				CONC. (µg/L)	MASS REMOVED (pounds)	CONC. (µg/L)	MASS REMOVED (pounds)	CONC. (µg/L)	MASS REMOVED (pounds)	CONC. (µg/L)	MASS REMOVED (pounds)	CONC. (µg/L)	MASS REMOVED (pounds)	CONC. (µg/L)	MASS REMOVED (pounds)	CONC. (µg/L)	MASS REMOVED (pounds)	CONC. (µg/L)	MASS REMOVED (pounds)	CONC. (µg/L)	MASS REMOVED (pounds)	CONC. (µg/L)	MASS REMOVED (pounds)	CONC. (µg/L)	MASS REMOVED DURING PILOT TEST (pounds)
SVE-15D	04/10/2001	95	24	2.9	0.025	318.6	2.731	5.6	0.048	9.88	0.085	133.2	1.142	24.6	0.211	131.1	1.124	0.62	0.005	0.29	0.002	0.900	0.008	628	5.4
SVE-15S	04/11/2001	105	23	2.26	0.020	237.9	2.142	4.4	0.040	9.47	0.085	94.3	0.849	13.7	0.129	103.5	0.932	0.59	0.005	0.22	0.002	0.200	0.002	467	4.2
SVE-14S	04/11/2001	60	24	2.06	0.011	36.3	0.194	0.7	0.004	2.76	0.015	83.2	0.445	24	0.123	186.3	0.998	0.52	0.003	nd	nd	0.100	0.001	336	1.8
SVE-14D	04/12/2001	59	20	3.06	0.013	64.5	0.283	1.2	0.005	4.53	0.020	138.7	0.731	34.4	0.181	269.1	1.183	0.94	0.004	nd	nd	1.300	0.006	518	2.4
SVE-13S	04/12/2001	95	23	0.03	0.000	0.6	0.005	0.0161	0.000	0.07	0.001	0.9	0.008	0.4	0.003	0.6	0.005	0.10	0.001	0.003	0.000	0.002	0.000	3	0.0
SVE-13D	04/13/2001	101	22	0.04	0.000	1.7	0.014	0.028	0.000	0.17	0.001	1.2	0.011	0.5	0.004	0.5	0.004	0.10	0.001	0.001	0.000	0.020	0.000	4	0.0
TOTAL REMOVAL DURING PILOT TEST (pounds)					0.070		5.370		0.097		0.207		3.186		0.651		4.245		0.019		0.004		0.016	1955	13.9

Notes:
scfm= standard cubic feet per minute
µg/L= micrograms per liter
CONC. = concentration
DCE= dichloroethene
DCA= dichloroethane
TCA= trichloroethane
TCE= trichloroethene
PCE= tetrachloroethene
VOCs= volatile organic compounds



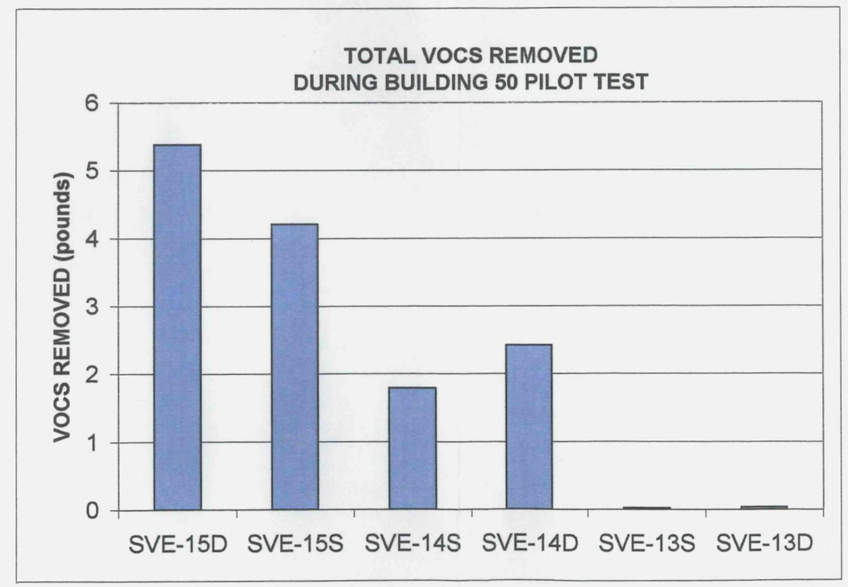


TABLE 3
DAYTON THERMAL PRODUCTS
DAYTON, OHIO

BUILDING 50 PILOT TEST
COMPOUNDS DETECTED IN ADDITION TO THOSE LISTED IN TABLE 2

WELL	ADDITIONAL COMPOUNDS DETECTED
SVE-13S	dichlorofluoromethane; acetone; toluene; 1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene; 1,4-dichlorobenzene; 2-butanone; 4-ethyltoluene; chloroform; ethylbenzene; m/p-xylene; o-xylene; styrene; trichlorofluoromethane; unknown compounds.
SVE-13D	propene; dichlorodifluoromethane; chlorodifluoromethane; vinyl chloride; trichlorofluoromethane; pentane; acetone; carbon disulfide; toluene; 1,2 dibromoethane; ethylbenzene; m/p-xylene; o-xylene; styrene; 1,2,4-trimethylbenzene; 1,4-dichlorobenzene; chloroform; tert-butyl alcohol; unknown compounds
SVE-14S	tert-butyl alcohol
SVE-14D	tert-butyl alcohol; m/p-xylene
SVE-15S	tert-butyl alcohol
SVE-15D	tert-butyl alcohol

FIGURES

TABLE 4
DAYTON THERMAL PRODUCTS PLANT
DAYTON, OHIO

ESTIMATED EMISSION RATES

WELL	ESTIMATED DESIGN FLOW RATE (scfm)	1,1-DCE		cis-1,2-DCE		trans-1,2-DCE		1,1-DCA		1,1,1-TCA		TCE		PCE		FREON 113		OVERALL REMOVAL RATE (pounds/day)
		CONC. (µg/L)	REMOVAL RATE (pounds/day)	CONC. (µg/L)	REMOVAL RATE (pounds/day)	CONC. (µg/L)	REMOVAL RATE (pounds/day)	CONC. (µg/L)	REMOVAL RATE (pounds/day)	CONC. (µg/L)	REMOVAL RATE (pounds/day)	CONC. (µg/L)	REMOVAL RATE (pounds/day)	CONC. (µg/L)	REMOVAL RATE (pounds/day)	CONC. (µg/L)	REMOVAL RATE (pounds/day)	
SVE-15D	500	2.90	0.1303	318.6	14.3117	5.60	0.2516	9.88	0.444	133.2	5.983	24.6	1.105	131.1	5.889	0.62	0.028	**28.143**
SVE-15S	500	2.26	0.1015	237.9	10.6866	4.40	0.1977	9.47	0.425	94.3	4.236	13.7	0.615	103.5	4.649	0.59	0.027	**20.938**
SVE-14S	500	2.06	0.0925	36.3	1.6306	0.70	0.0314	2.76	0.124	83.2	3.737	24.0	1.078	186.3	8.369	0.52	0.023	**15.086**
SVE-14D	500	3.06	0.1375	64.5	2.8974	1.20	0.0539	4.53	0.203	138.7	6.230	34.4	1.545	269.1	12.088	0.94	0.042	**23.198**

Notes:
CONC.= concentration
µg/L= micrograms per liter
scfm= standard cubic feet per minute
DCE= dichloroethene
DCA= dichloroethane
TCA= trichloroethane
TCE= trichloroethene
PCE= tetrachloroethene
VOCs= volatile organic compounds

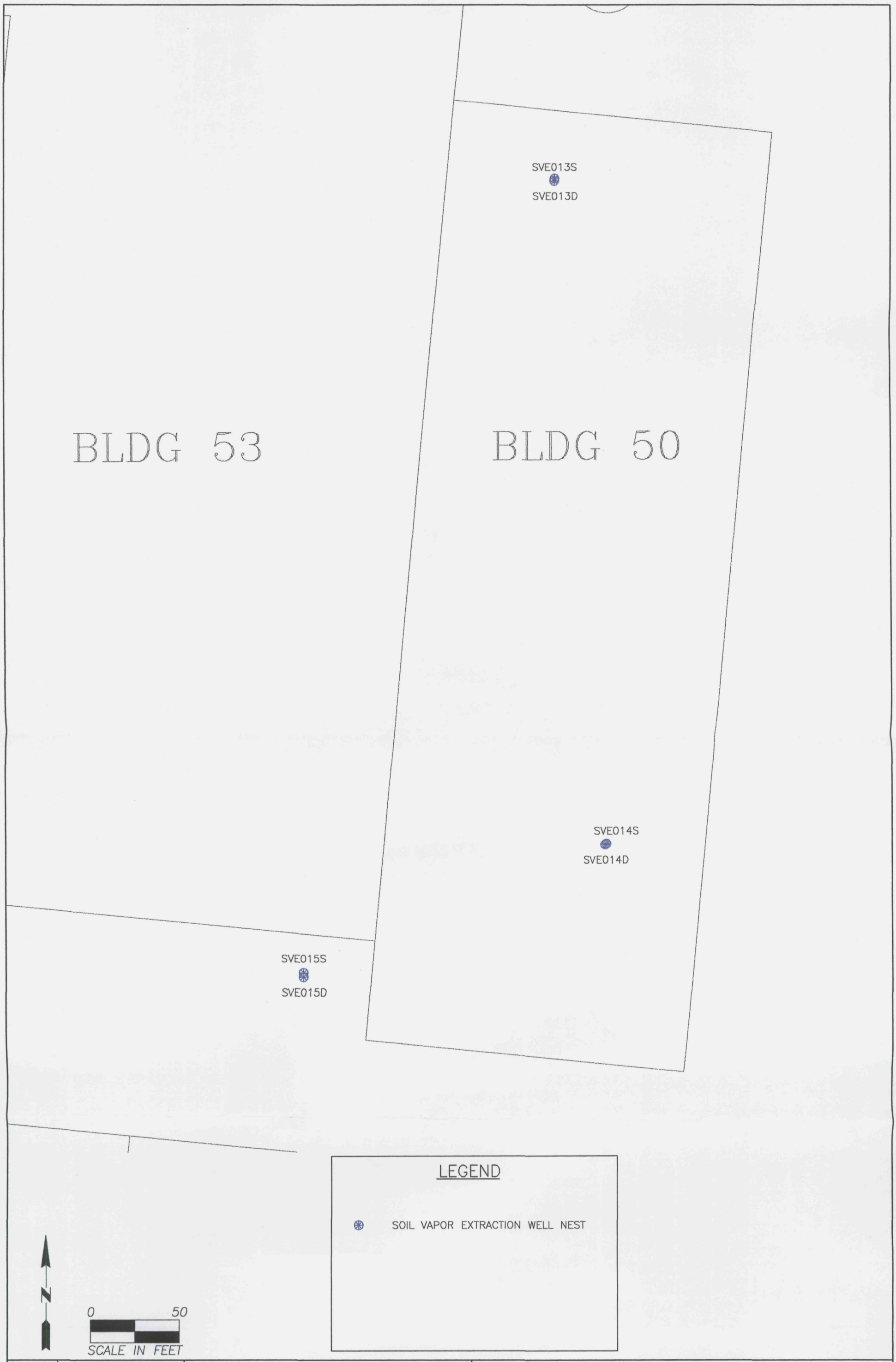
DATE	REVISED

Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and
Environmental Engineering Services
Northpark Corporate Center
1210 W. County Road E, Suite 700
St. Paul, MN 55112
(651) 490-1405

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

BUILDING 50 PILOT TESTING LOCATIONS

FILE:	3chda12j.dwg	DATE:	APRIL 2001	FIGURE:	1



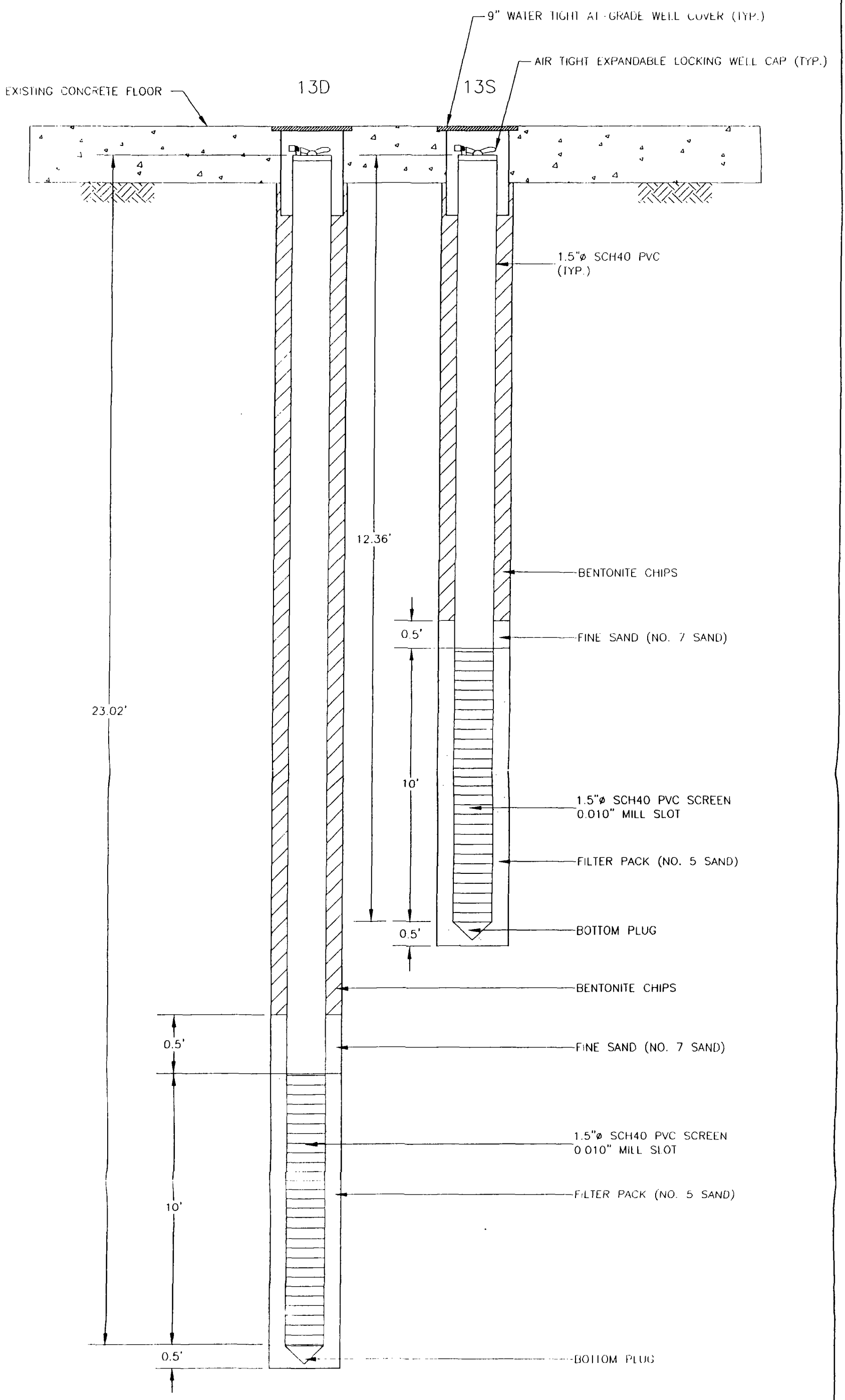
DATE	REVISED

Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and
Environmental Engineering Services
Northpark Corporate Center
1210 W. County Road E, Suite 700
St. Paul, MN 55112
(651) 490-1405

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

BUILDING 50 PILOT TESTING LOCATIONS

FILE: 3chda12j.dwg *DATE:* APRIL 2001 *FIGURE:* 1



NOT TO SCALE

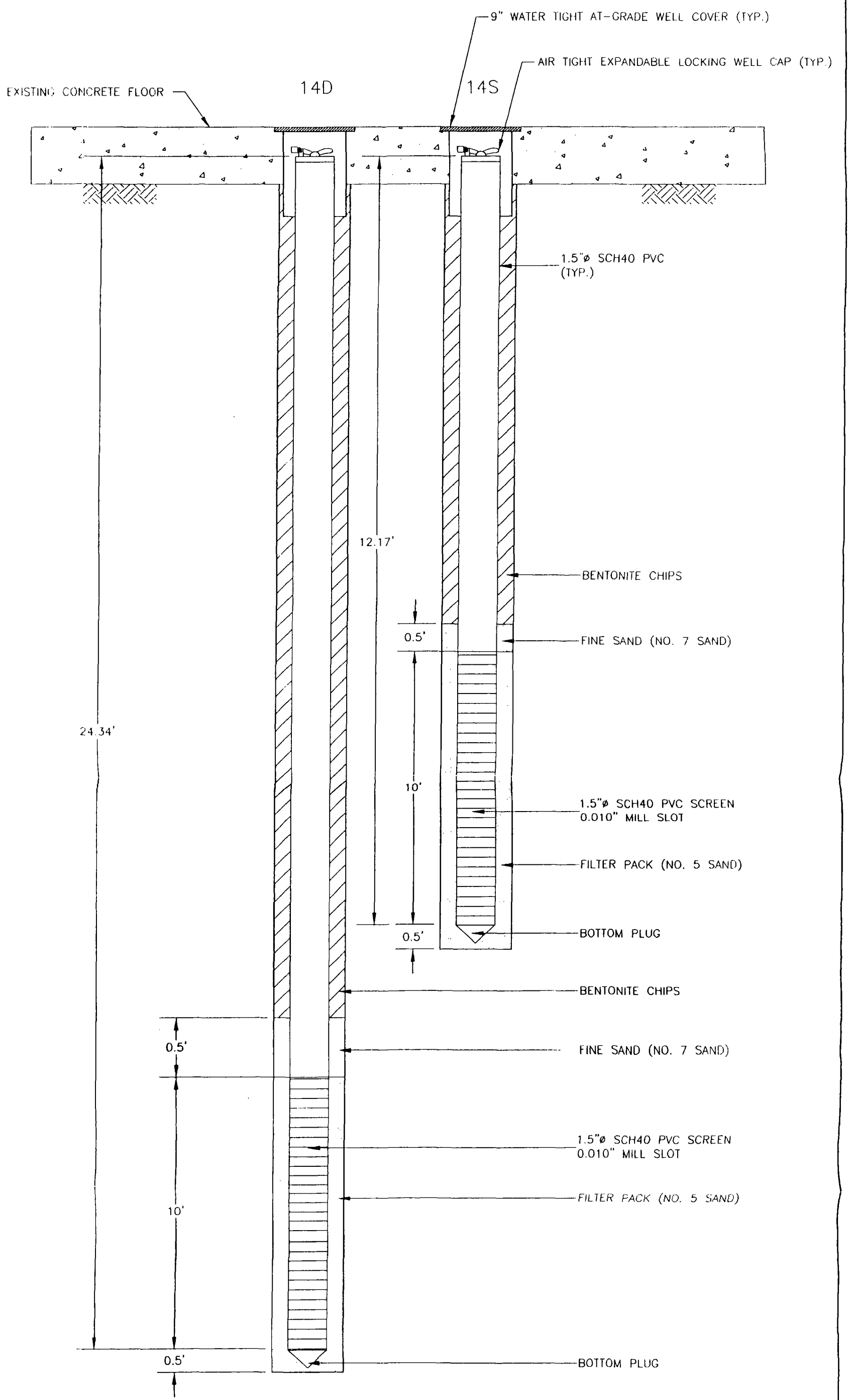
DATE	REVISED

Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and Environmental Services
Northpark Corporate Center
1210 W. County Road E, Suite 700
St. Paul, MN 55112
(651) 490-1405

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

SVE WELL NEST 13, INSTALLED 05 APR 2001
BUILDING 50

FILE: 3chda12e.dwg	DATE: APRIL 2001	FIGURE: 2



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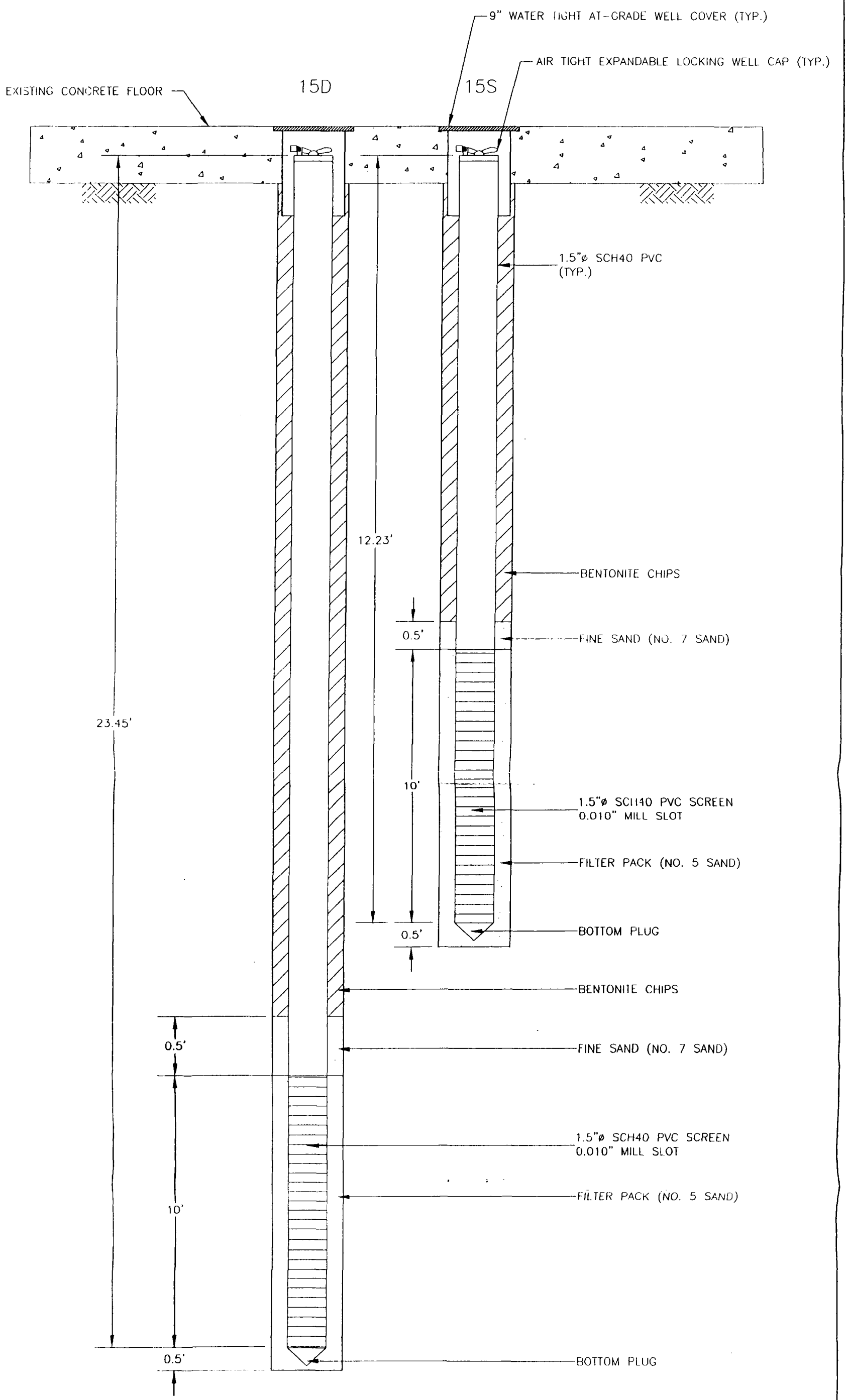
DATE	REVISED	Prepared By:	DAYTON THERMAL PRODUCTS DAYTON, OHIO		
		LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water and Environmental Services Northpark Corporate Center 1210 W. County Road E, Suite 700 St. Paul, MN 55112 (651) 490-1405	SVE WELL NEST 14, INSTALLED 05 APR 2001 BUILDING 50		
			FILE: 3chda12f.dwg	DATE: APRIL 2001	FIGURE: 3



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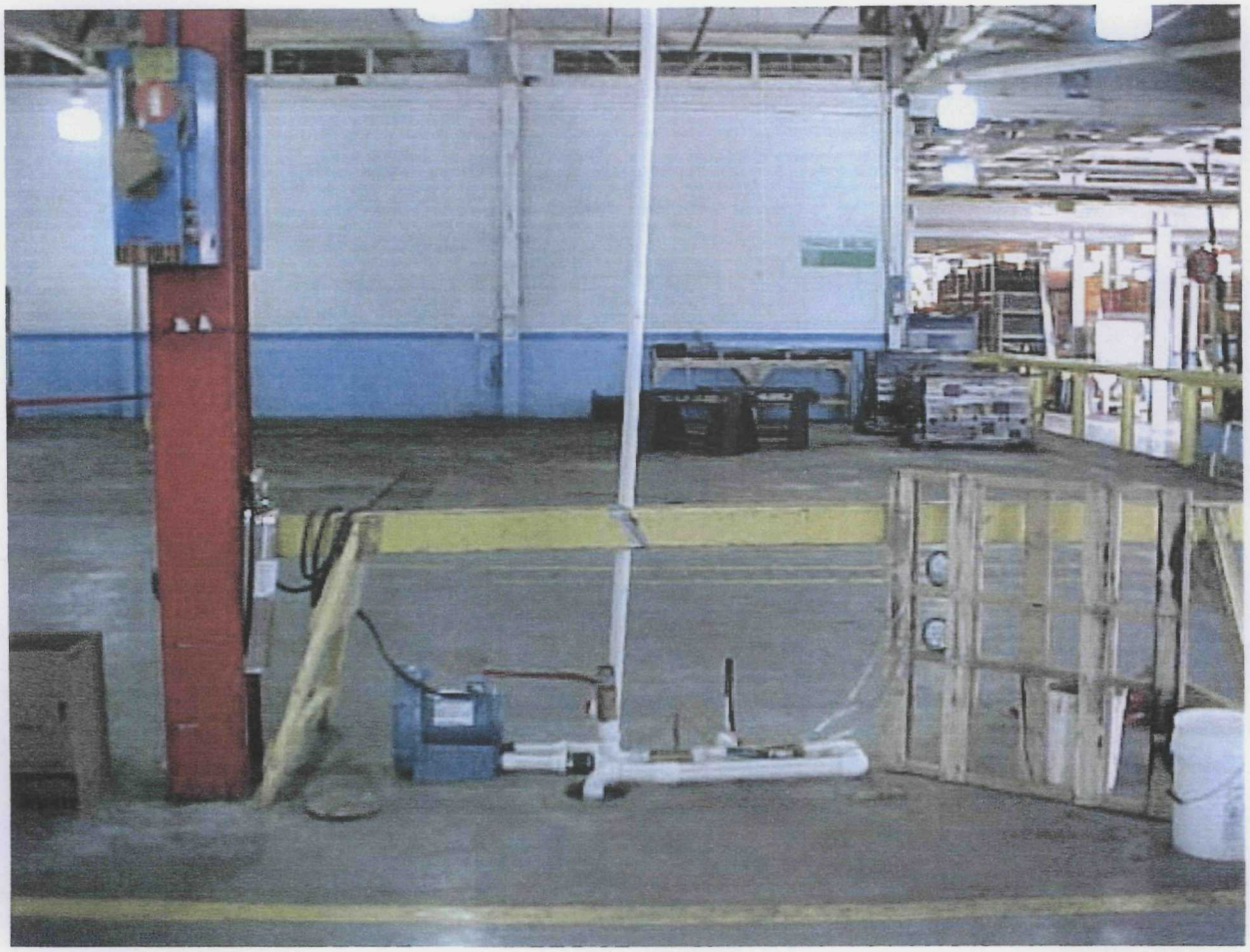
DATE	REVISED

Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and Environmental Services
Northpark Corporate Center
1210 W. County Road E, Suite 700
St. Paul, MN 55112
(651) 490-1405

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

SVE WELL NEST 15, INSTALLED 05 APR 2001
BUILDING 50

FILE: 3chda12g.dwg	DATE: APRIL 2001	FIGURE: 4



DATE	REVISED	Prepared By:	DaimlerChrysler Dayton Thermal Products Dayton, Ohio			
		LEGGETTE, BRASHEARS & GRAHAM, INC. Professional Ground-Water and Environmental Engineering Services Northpark Corporate Center 1210 W. County Road E, Suite 700 St. Paul, MN 55112 (651) 490-1405	Typical Pilot Testing Setup SVE-13S			
			FILE: Figure5.dwg	DATE: May, 2001	FIGURE: 5	