

STATE OF MICHIGAN



JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

RONALD O. SKOOG, Director
Region III Headquarters
Box 30028, Lansing, Michigan 48909
517-322-1300

NATURAL RESOURCES COMMISSION

THOMAS J. ANDERSON
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HILARY F. SNELL
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January 4, 1984

Mr. Reginald Sobczynski
Manufacturing Facilities
Research & Development
Central Office
Chevrolet Motor Division, GMC
30007 VanDyke Avenue
Warren, Michigan 48090

Re: Linden Road Landfill
Genesee County

Dear Mr. Sobczynski:

Attached are the results of groundwater samples collected in September and October, 1983. As per our telephone conversation of January 3, 1984, you will be forwarding your results of the same samples. I was informed that samples will be collected this week. I stated my presence was not necessary this time and I will probably split samples with you during the final sampling quarter.

Please forward your sample results as they become available.

If there are any questions or comments, please do not hesitate to contact me.

Sincerely,

Lansing Compliance District

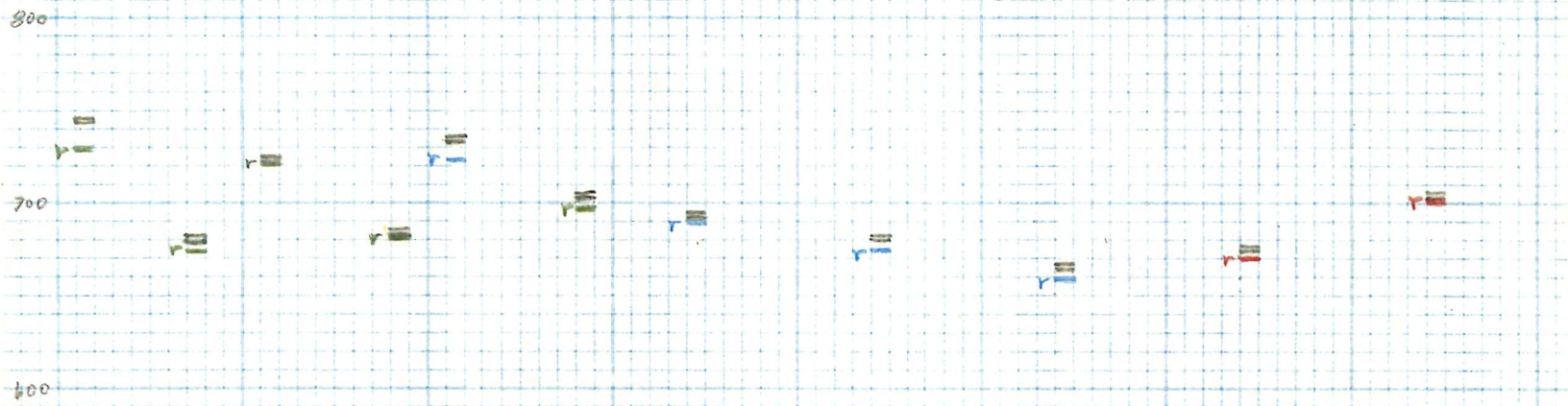
A handwritten signature in cursive script that reads "Daniel O. Cummins".

Daniel O. Cummins, Geologist
Groundwater Quality Division
517-322-1300

DOC:s1

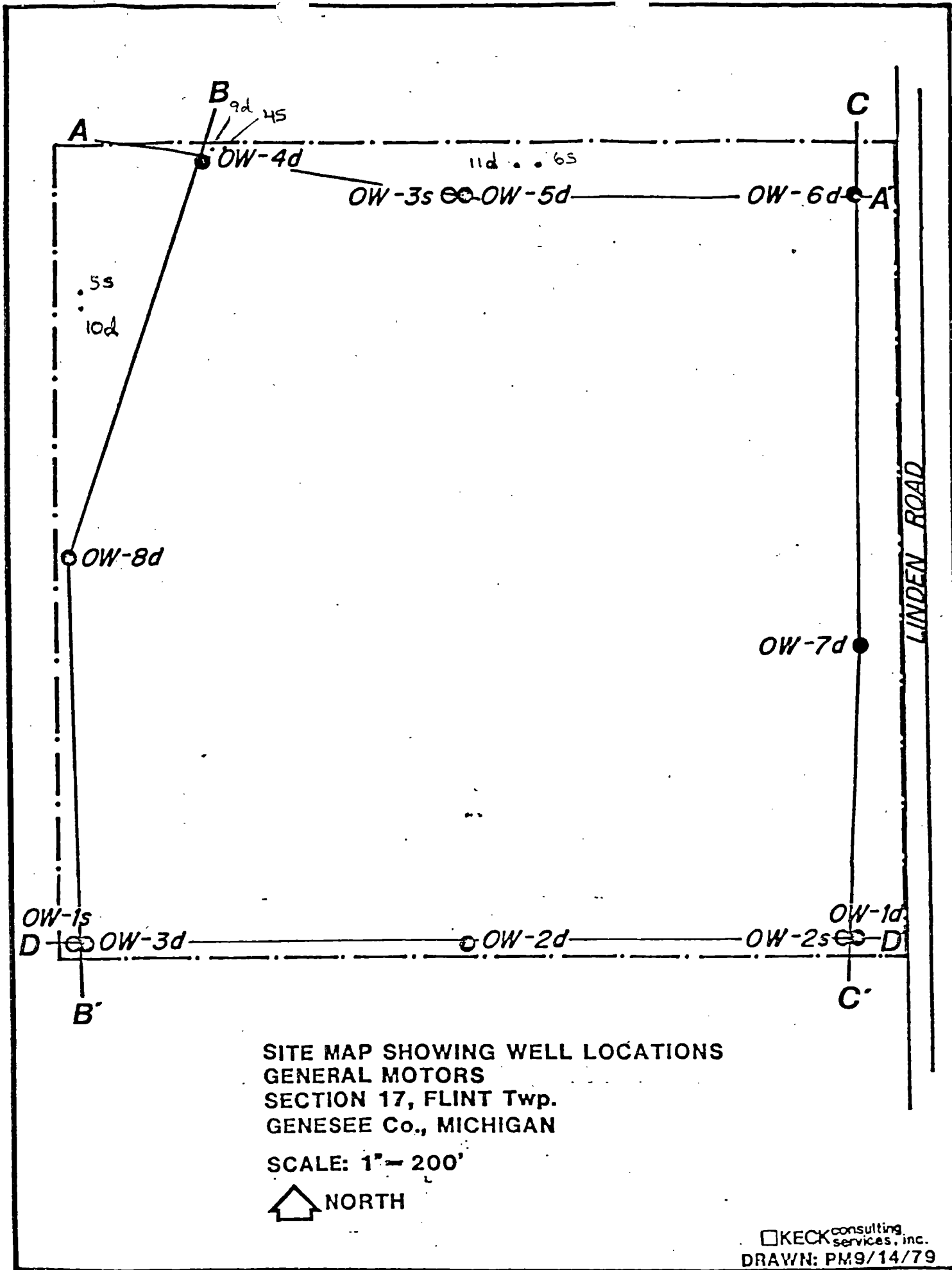
Attachments

1	2	3	4	5	6	7	8
S	D	S	D	S	D	S	D
745.48	679.71	722.62	682.99	733.3	702.31	692.64 - 694.64	680.1 - 682.1
to	to	to	to	to	to	to	to
747.48	681.71	724.62	684.99	735.3	704.31	665.99 - 667.49	674.28 - 676.28
							703.16 - 705.16



■ - Northern screened intervals
■ - middle refusal level in boreholes
■ - Southern refusal level in boreholes

Linden Rd. Landfill, Flint Twp.



SITE MAP SHOWING WELL LOCATIONS
 GENERAL MOTORS
 SECTION 17, FLINT Twp.
 GENESEE Co., MICHIGAN

SCALE: 1" = 200'



KECK consulting services, inc.
 DRAWN: PM9/14/79

TEST	8- 3-1984 1D	8- 3-1984 1S	8- 2-1984 10D	8- 2-1984 11D
PH ()	9.90000	8.01000	10.24000	10.15000
TSS (PPM)	41.00000	664.00000	1371.00000	128.00000
DIL (PPM)	(5.00000)	(5.00000)	-	(5.00000)
PHEN (PPB)	(4.00000)	(4.00000)	(4.00000)	6.00000
PCB (PPB)	(.27000)	.26000	(.19000)	(.10000)
NO3 (PPM)	.22000	2.58000	1.30000	(.10000)
CL (PPM)	4.00000	6.10000	4.00000	6.10000
CN (PPB)	(20.00000)	(20.00000)	(20.00000)	(20.00000)
F (PPM)	1.40000	.25000	2.15000	1.62000
SO4 (PPM)	2.80000	370.00000	219.00000	16.50000
AS (PPM)	(.01000)	(.01000)	(.01000)	(.01000)
BA (PPM)	(.05000)	(.05000)	(.05000)	(.05000)
CD (PPM)	(.01000)	(.01000)	(.01000)	(.01000)
CA (PPM)	88.00000	180.00000	92.00000	97.00000
CR (PPM)	(.05000)	(.05000)	(.05000)	(.05000)
CU (PPM)	.03000	.02000	.03000	.02000
FE (PPM)	.06000	.05000	.03000	.10000
PB (PPM)	(.00500)	(.00500)	(.00500)	.00600
MG (PPM)	9.02000	87.30000	.32000	5.28000
HG (PPB)	(.40000)	(.40000)	(.40000)	(.40000)
NI (PPM)	(.04000)	(.04000)	(.04000)	(.04000)
SE (PPM)	(.01000)	(.01000)	(.01000)	(.01000)
AG (PPM)	(.01000)	(.01000)	(.01000)	(.01000)
NA (PPM)	46.00000	26.00000	32.00000	52.00000
ZN (PPM)	1.10000	1.00000	.10000	.09000

◆◆◆ MP4596 ◆◆◆

FLINT MFG.

TEST

	8- 3-1984 2D	8- 3-1984 2S	8- 3-1984 3D	8- 2-1984 3S
PH ()	9.76000	8.26000	9.52000	-
TSS (PPM)	52.00000	20.00000	49.00000	-
DIL (PPM) (	5.00000)	(5.00000)	(5.00000)	-
PHEN (PPB) (	4.00000)	(4.00000)	27.50000	-
PCB (PPB)	.10000	(.10000)	.12000	-
NO3 (PPM)	3.40000	4.00000	2.21000	-
CL (PPM)	7.10000	7.10000	1.00000	-
CN (PPB) (	20.00000)	(20.00000)	(20.00000)	-
F (PPM)	1.40000	.59000	1.00000	-
SD4 (PPM)	21.10000	45.50000	21.80000	-
AS (PPM) (	.01000)	(.01000)	(.01000)	(.01000)
BA (PPM) (	.05000)	.08300	.09800	.16700
CD (PPM) (	.01000)	(.01000)	(.01000)	(.01000)
CA (PPM)	88.00000	110.00000	90.00000	210.00000
CR (PPM) (	.05000)	(.05000)	(.05000)	(.05000)
CU (PPM)	.03000	.03000	.04000	.04000
FE (PPM)	.04000	.05000	.06000	.07000
PB (PPM) (	.00500)	(.00500)	(.00500)	(.00500)
MG (PPM)	16.90000	50.20000	45.50000	41.40000
HG (PPB) (	.40000)	(.40000)	(.40000)	.40000
NI (PPM) (	.04000)	(.04000)	(.04000)	(.04000)
SE (PPM) (	.01000)	(.01000)	(.01000)	(.01000)
AG (PPM) (	.01000)	(.01000)	(.01000)	(.01000)
NA (PPM)	64.00000	18.00000	42.00000	26.00000
ZN (PPM)	.07000	.30000	.16000	1.40000

TEST	8- 2-1984 4D	8- 2-1984 5D	8- 2-1984 6D	8- 2-1984 6S
PH ()	9.98000	9.61000	9.37000	7.30000
TSS (PPM)	24.00000	78.00000	36.00000	87.00000
OIL (PPM) (	5.00000)	(5.00000)	(5.00000)	-
PHEN (PPB) (	4.00000)	(4.00000)	(4.00000)	20.00000
PCB (PPB) (	.10000)	.13000	(.10000)	-
NO3 (PPM)	.50000	3.00000	(.10000)	.75000
CL (PPM)	2.00000	8.10000	18.20000	9.10000
CN (PPB) (	20.00000)	(20.00000)	(20.00000)	(20.00000)
F (PPM)	1.84000	1.60000	1.02000	(.20000)
SD4 (PPM)	1.20000	29.00000	30.90000	59.00000
AS (PPM) (	.01000)	(.01000)	(.01000)	(.01000)
BA (PPM) (	.05000)	.05300	(.05000)	.25800
CD (PPM) (	.01000)	(.01000)	(.01000)	(.01000)
CA (PPM)	92.00000	110.00000	100.00000	370.00000
CR (PPM) (	.05000)	(.05000)	(.05000)	(.05000)
CU (PPM)	.04000	.03000	.02000	.03000
FE (PPM)	.03000	.07000	.03000	.10000
PB (PPM) (	.00500)	.01000	(.00500)	(.00500)
MG (PPM)	1.16000	10.60000	34.10000	66.70000
H6 (PPB) (	.40000)	(.40000)	(.40000)	.40000
NI (PPM) (	.04000)	(.04000)	(.04000)	(.04000)
SE (PPM) (	.01000)	(.01000)	(.01000)	(.01000)
AG (PPM) (	.01000)	(.01000)	(.01000)	(.01000)
NA (PPM)	44.00000	58.00000	46.00000	72.00000
ZN (PPM)	.22000	2.00000	.04000	5.40000

◆◆◆ MP4596 ◆◆◆

FLINT MFG.

TEST	8- 3-1984 7D	8- 3-1984 8D	8- 2-1984 9D
PH ()	9.69000	9.63000	8.65000
TSS (PPM)	27.00000	914.00000	959.00000
DIL (PPM) ()	5.00000	-	(5.00000)
PHEN (PPB) ()	4.00000	4.00000	(4.00000)
PCB (PPB) ()	.10000	-	(.11000)
NO3 (PPM)	1.00000	1.23000	1.11000
CL (PPM)	3.00000	3.00000	4.00000
CN (PPB) ()	20.00000	(20.00000)	(20.00000)
F (PPM)	1.50000	1.15000	.93000
SO4 (PPM)	17.00000	64.00000	122.00000
AS (PPM) ()	.01000	(.01000)	(.01000)
BA (PPM)	.05700	.07500	.11800
CD (PPM) ()	.01000	.01000	(.01000)
CA (PPM)	110.00000	95.00000	110.00000
CR (PPM) ()	.05000	(.05000)	(.05000)
CU (PPM)	.02000	.03000	.02000
FE (PPM)	.04000	.09000	.10000
PB (PPM) ()	.00500	(.00500)	.00600
MG (PPM)	19.60000	12.10000	11.40000
H5 (PPB) ()	.40000	(.40000)	(.40000)
NI (PPM) ()	.04000	(.04000)	(.04000)
SE (PPM) ()	.01000	(.01000)	(.01000)
AG (PPM) ()	.01000	(.01000)	(.01000)
NA (PPM)	44.00000	50.00000	32.00000
ZN (PPM)	.05000	.19000	.09000

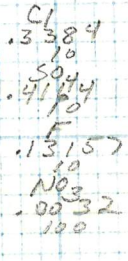
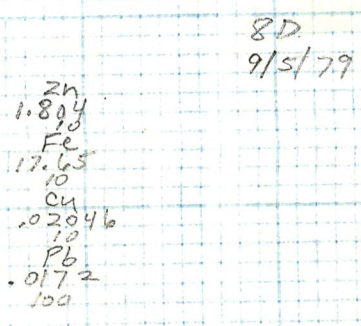
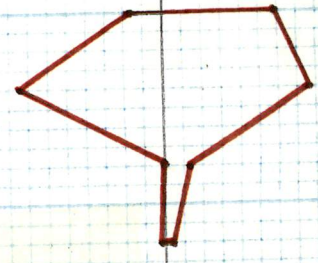
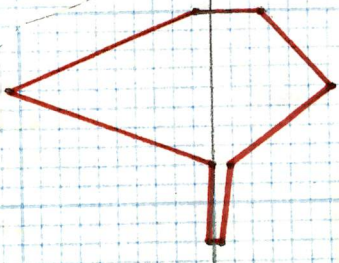
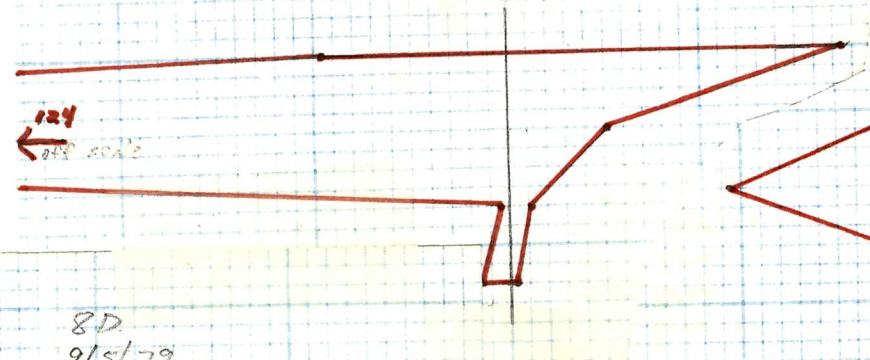
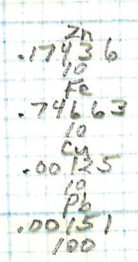
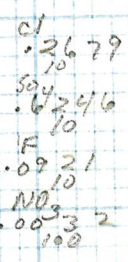
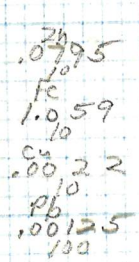
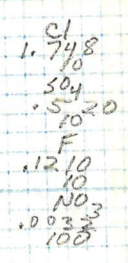
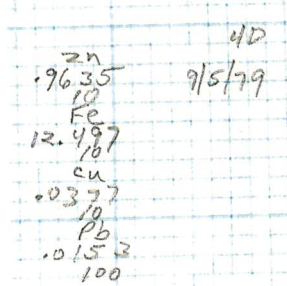
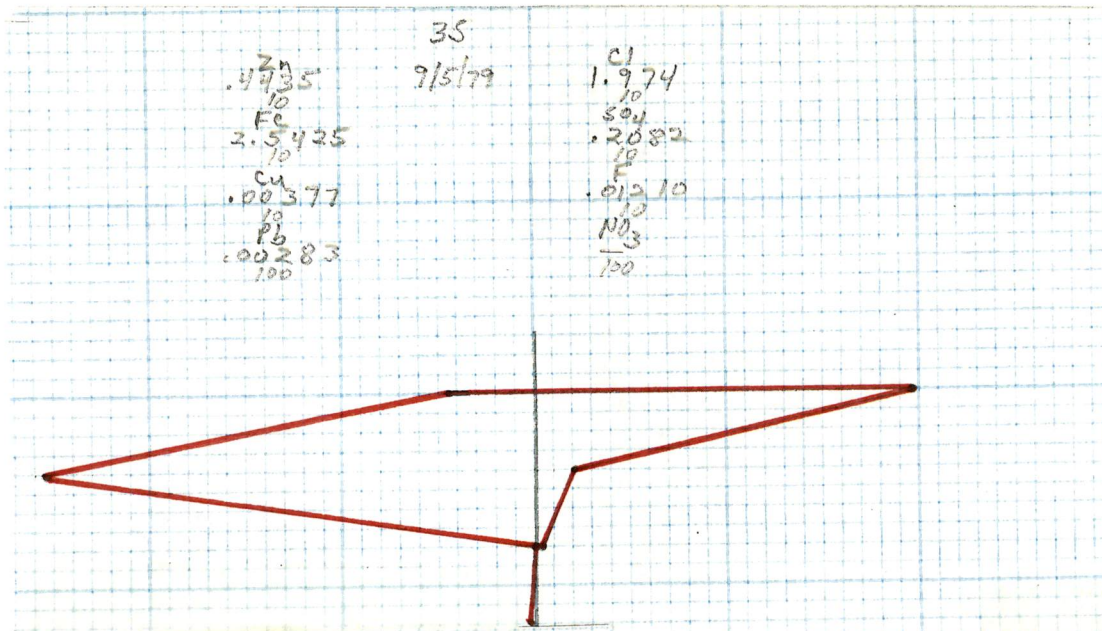
PPM = MG/L FOR WATER - MG/KG FOR SLUDGE
 PPB = UG/L FOR WATER - UG/KG FOR SLUDGE
 NOT DETECTED = ()

ANALYSIS BY

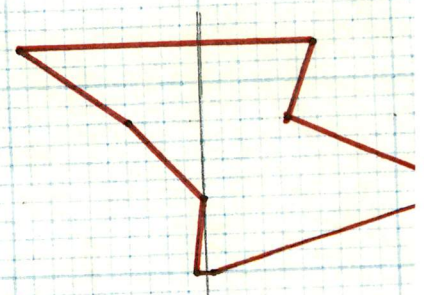
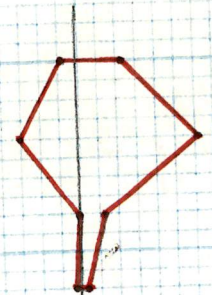
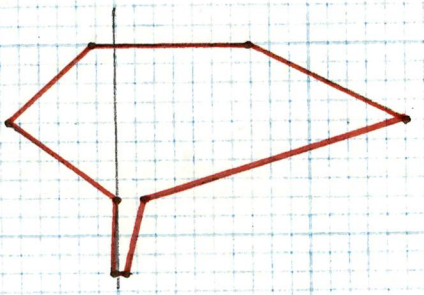
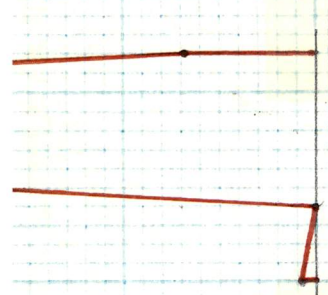
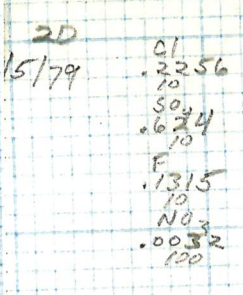
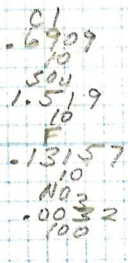
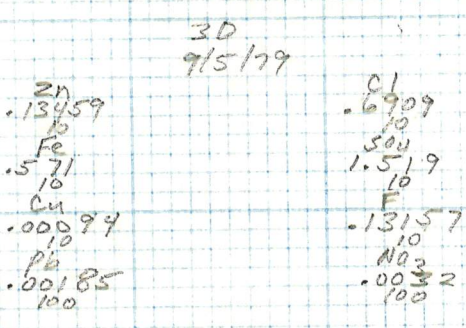
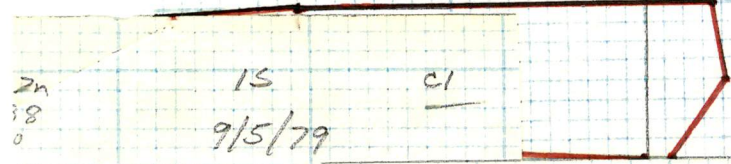
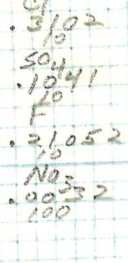
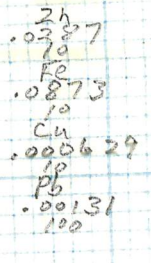
S ANDERSON-*SA* L CAMILLERI----- J CHEH-*rc*----- C KOKKO-*ck*----- A OLESZKO-*AO*-----

M SULEK----- J. ROELANDT, SUPERVISOR

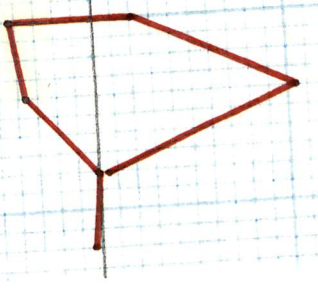
N-Nitrosodiphenylamine B 497 RTECS



Linden Road
Linden Road Landfill
9/5/79



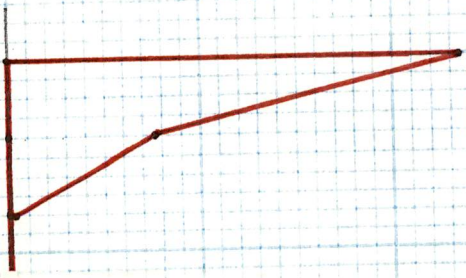
1D
1979



Zn
 .00183
 Fe
 .00107
 Cu
 .000629
 Pb
 .000048
 100

7/29/82

Cl
 2.354
 SO₄
 .7703
 F
 .01473
 NO₃
 100



4D
 7/29/82

Zn
 .00195
 Fe
 .00107
 Cu
 .000629
 Pb
 .000337
 100

Cl
 .282
 SO₄
 .06246
 F
 .1287
 NO₃
 100

5D
 7/29/82

Cl
 .0987
 SO₄
 .1561
 F
 .11052
 NO₃
 100

Zn
 .000305

6D
 7/29/82

Cl
 .6345
 100



8D
 7/29/82

Zn
 .001835
 Fe
 .001074
 Cu
 .00094
 Pb
 .000048
 100

Cl
 .0705
 SO₄
 .2390
 F
 .073682
 NO₃
 100

Linden
 Road
 Landfill
 7/29/82

↑
 N



3D
 7/29/82

Zn
 .000305
 Fe
 .00107
 Cu
 .00062
 Pb
 .000048
 100

Cl
 .1269
 SO₄
 .4372
 F
 .0631
 NO₃
 100

2D
 7/29/82

Zn
 .00128
 Fe
 .0010
 Cu
 .00062
 Pb
 .000048
 100

Cl
 .6486
 SO₄
 .2873
 F
 .0336
 NO₃
 100

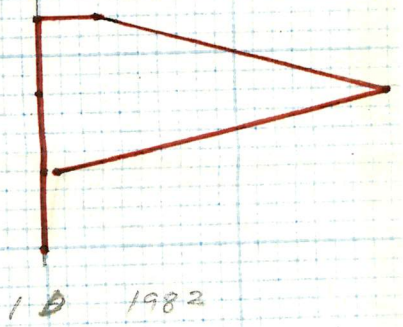


Zn
 .00305

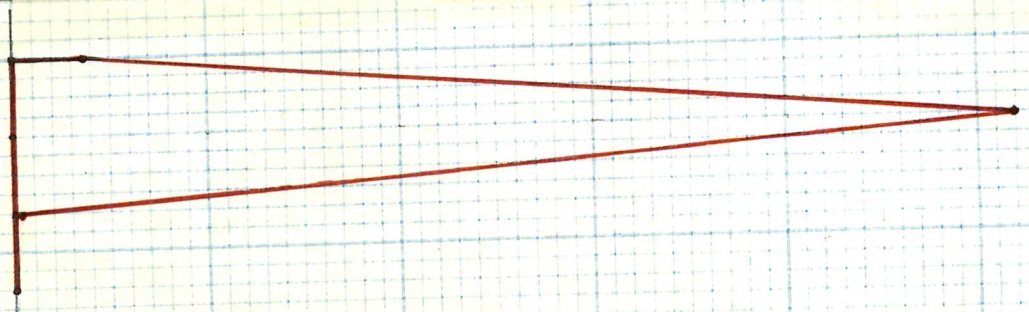
1D
 7/29/82

Cl
 .282
 SO₄
 .7697
 F
 .06578
 NO₃
 100

Fe
 .0025
 Cu
 .0006296
 Pb
 .000076
 100



1D 1982



1S 1982



2S