

ALLIED SPECIALTY CHEMICAL SITE
NYDEC SITE #9-15-003-B

TONAWANDA, NEW YORK
APPENDICES A, B, AND C

JANUARY 1990

Prepared for:
ALLIED-SIGNAL INCORPORATED

Prepared by:
Roy F. Weston, Inc.
Weston Way
West Chester, Pennsylvania 19380

ALLIED SPECIALTY CHEMICAL SITE
NYDEC SITE #9-15-003-B
TONAWANDA, NEW YORK

APPENDIX A

SOIL BORING AND WELL CONSTRUCTION LOGS

January 1990

Prepared for:

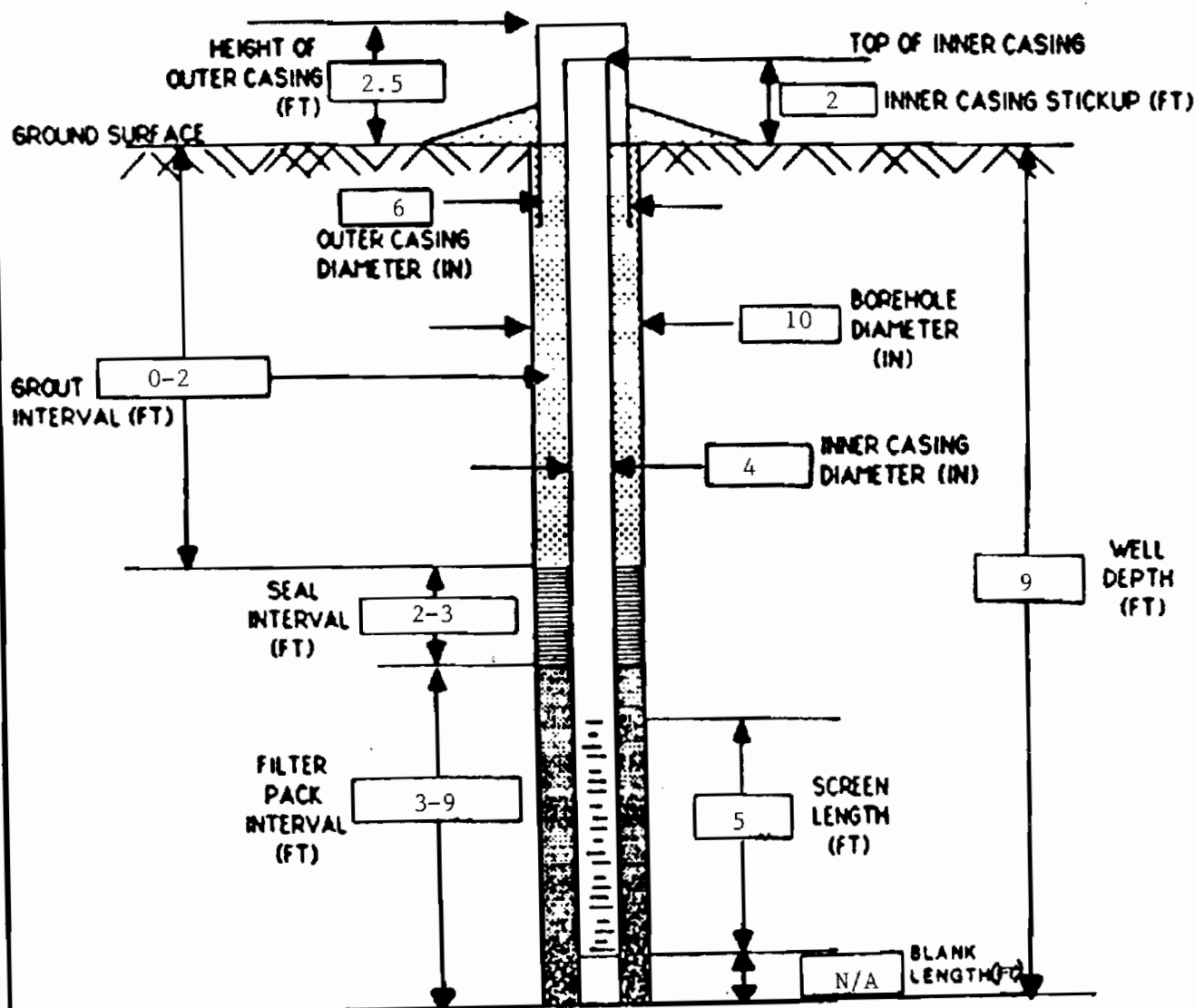
ALLIED-SIGNAL INCORPORATED

Prepared by:

Roy F. Weston, Inc.
Weston Way
West Chester, Pennsylvania 19380

WELL COMPLETION INFORMATION
(Screened Well)

PROJECT ID Allied/MW-01 FACILITY ID _____
LOCATION ID Tonawanda, NY INSTALLATION DATE 9/29/88
DRILLING COMPANY Empire Soils DRILLING METHOD Auger
SCREENED INTERVAL (FT) 4-9 OUTER CASING LENGTH (FT) 5
SCREEN SLOT SIZE 0.010 OUTER CASING MATERIAL Steel
INNER CASING MATERIAL PVC FILTER PACK MATERIAL #4 Sand
GROUT MIXTURE 1 bag: 6 gal: 3 lbs. SEAL MATERIAL Bentonite pellets
COMMENTS _____



WELL LOG

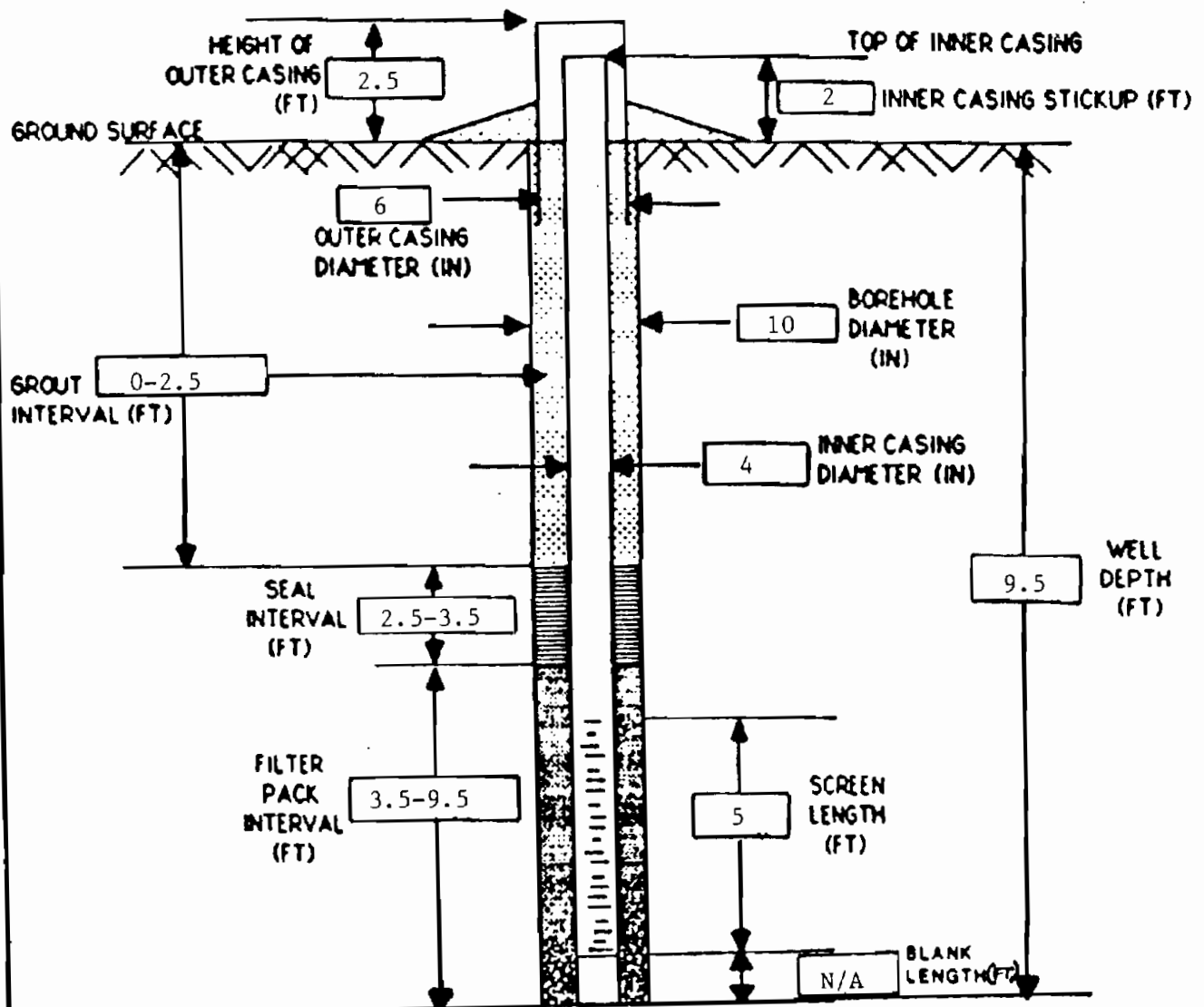
Page ____ of ____

Well No. MW-01 Client Allied Chemical Job No. _____ Log By S. Strautman

Lithology and Well Construction	Depth	Sample No.	Interval	Recovery	Blow Counts	Description	Remarks
4" PVC	0						
	1						
	2	0-4				Fill, reddish brown, sandy moist	No split spoons from 0-4'
	3						
	4						
	5	4-6	1.0	5-7 12-3		Fill, black ash, sand, wet	
	6						
	7	6-8	0.7			Fill, black ash, sand, wet @ 7.5' clay, red-brown, plastic, massive	
	8						
	9	8-10	1.2	2-5 5-12		Clay, red-brown, plastic massive	
	10						

WELL COMPLETION INFORMATION (Screened Well)

PROJECT ID <u>Allied/MW-02</u>	FACILITY ID _____
LOCATION ID <u>Tonawanda, NY</u>	INSTALLATION DATE <u>9/29/88</u>
DRILLING COMPANY <u>Empire soils</u>	DRILLING METHOD _____
SCREENED INTERVAL (FT) <u>4.5 - 9.5</u>	OUTER CASING LENGTH (FT) <u>5</u>
SCREEN SLOT SIZE <u>0.010</u>	OUTER CASING MATERIAL <u>Steel</u>
INNER CASING MATERIAL <u>PVC</u>	FILTER PACK MATERIAL <u>#4 Sand</u>
GROUT MIXTURE <u>1: 6 gal: 3 lbs</u>	SEAL MATERIAL <u>bentonite pellets</u>
COMMENTS _____	



WELL LOG

Page ____ of ____

Well No. MW-02/ Client Allied Job No. _____ Log By S. Strautman
SB-02

Lithology and Well Construction	Depth	Sample No.	Interval	Recovery	Blow Counts	Description	Remarks
4" PVC	0					Fill, gravel, sand, clay, debris	
	1	01	0-2	0.3	8-12 13-15		
	2					Fill, clay, ash debris	
	3	02	2-4	0.2	6-5 5-3		
	4					Fill, gray clay, debris, moist	
	5	03	4-6	0.4	9-8 5-7		
	6					Fill, gray clay, debris, damp	
	7	04	6-8	1.6	4-5 4-5		
	8					Fill, gray clay, debris, damp to wet	
	9	05	8-10	2.0	1-2 4-3		
	10					Clay, dark brown to black, damp	
	11	06	10-12	2.0	2-2 5-5		
	12					Clay, gray; yellow mottling, slightly plastic @ bottom 2"	
	13	07	12-14	2.0	7-4 11-13		
	14					Clay, sandy, reddish brown; dry	
						Clay, red stiff, some sand dry	

WELL COMPLETION INFORMATION (Screened Well)

PROJECT ID Allied/MW-03 FACILITY ID _____

LOCATION ID Tonawanda, NY INSTALLATION DATE 9/29/88

DRILLING COMPANY Empire Soils DRILLING METHOD Auger

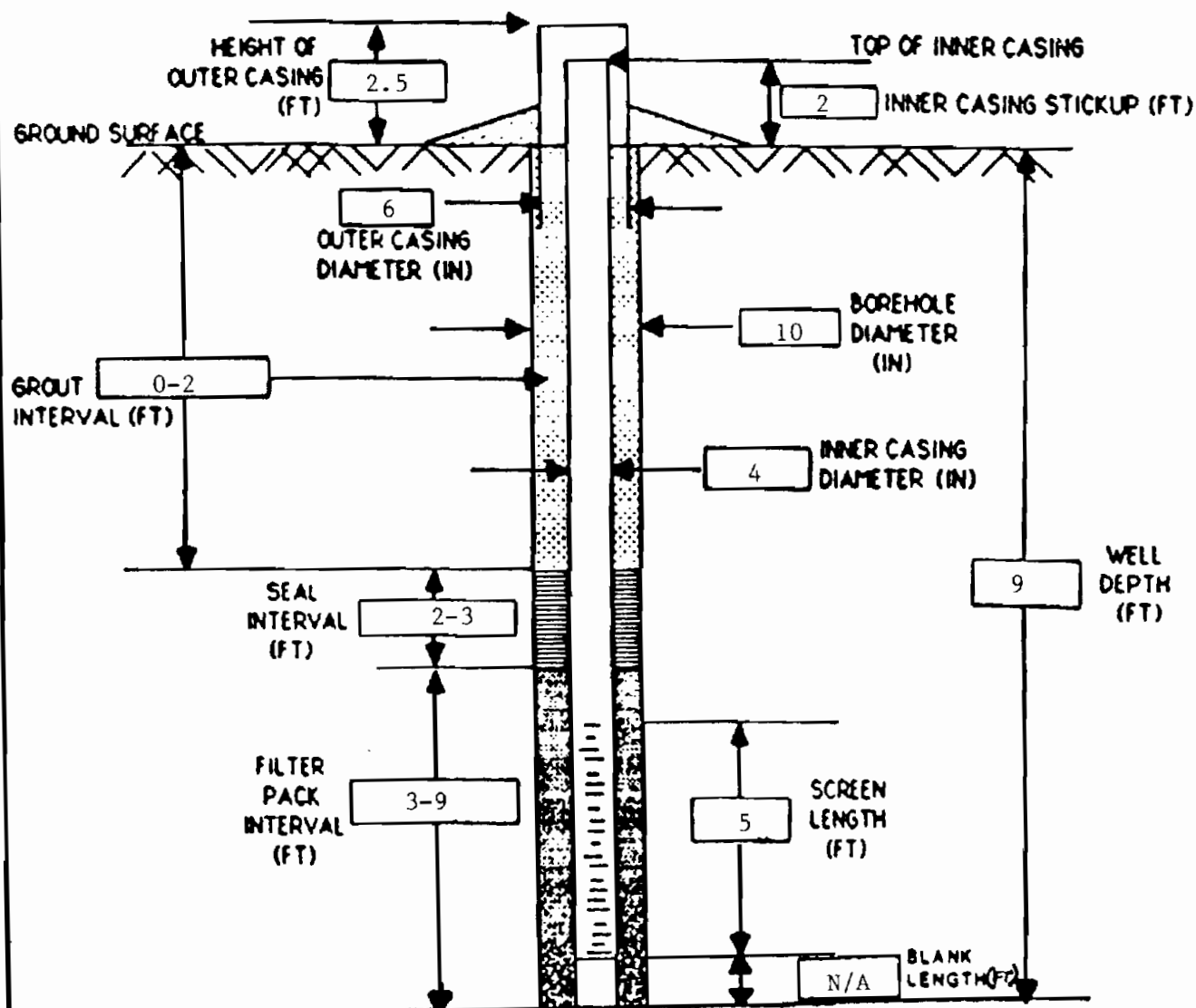
SCREENED INTERVAL (FT) 4-9 OUTER CASING LENGTH (FT) 5

SCREEN SLOT SIZE 0.010 OUTER CASING MATERIAL Steel

INNER CASING MATERIAL PVC FILTER PACK MATERIAL #4 Sand

GROUT MIXTURE 1: 6 gal: 3 lbs. SEAL MATERIAL bentonite pellets

COMMENTS _____



WELL LOG

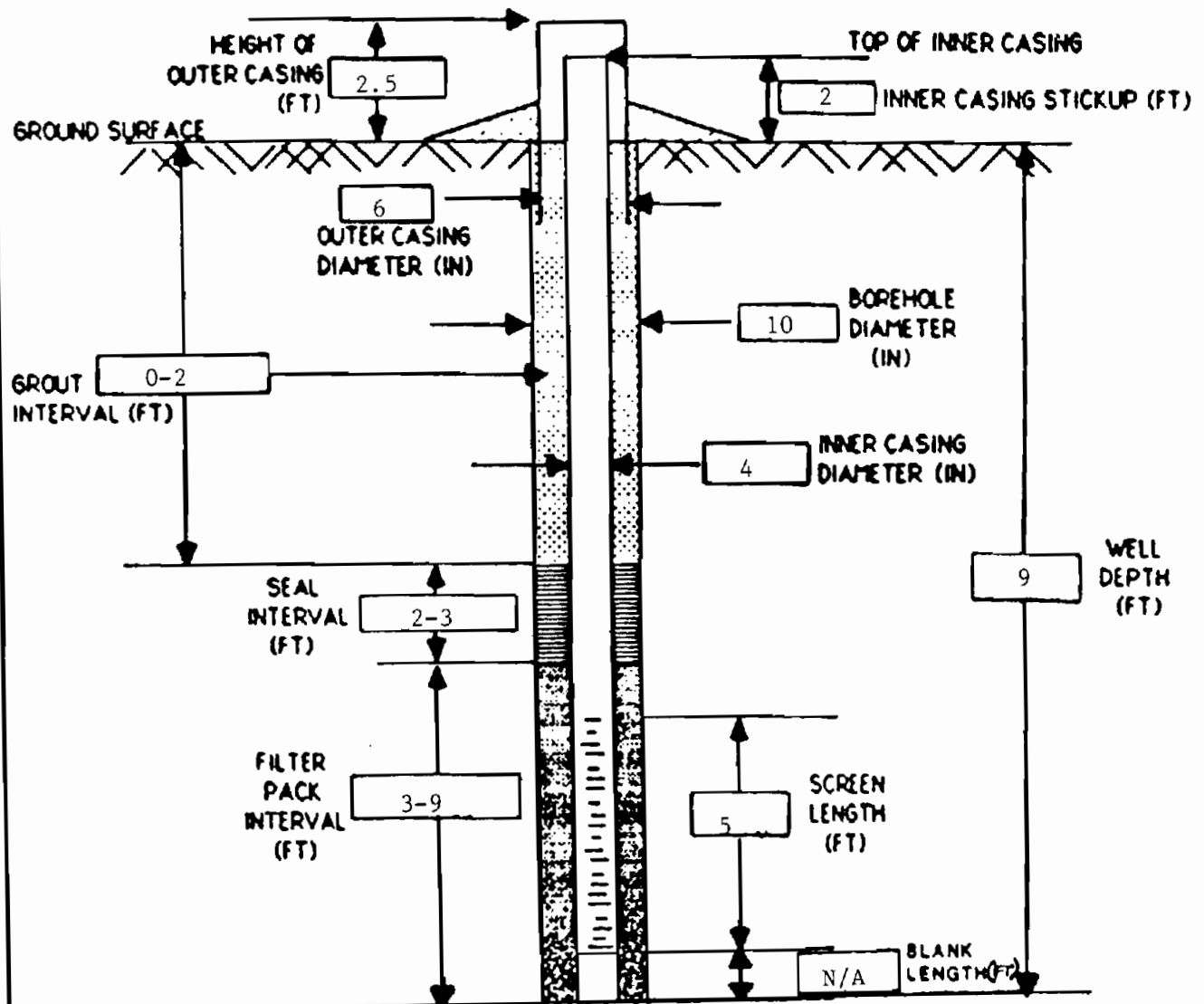
Page ____ of ____

Well No. MW-03 Client Allied Chemical Job No. _____ Log By S. Strautman

Lithology and Well Construction	Depth	Sample No.	Interval	Recovery	Blow Counts	Description	Remarks
4" PVC	0						
	1						
	2		0-4	-	-	Fill; brown sand, gravel dry	No split spoon samples
	3						
	4						
	5		4-6'	0.3	2-3 2-3	4-5: Fill; brown sand, gravel, dry 5-6: Fill, reddish brown clay tar-like black streaks, very moist, plastic, organic debris	
	6						
	7		6-8'	0.9	3-3 4-4	Fill, gray clay: yellow silty mottling; little coarse sand, very moist; plastic; organic debris	
	8						
	9		8-10'	1.1	2-3 5-7	Clay, gray, with yellow silty mottling; little coarse sand; very moist; plastic; @ 10' reddish brown clay; little coarse sand, gray silty mottling	
	10						

WELL COMPLETION INFORMATION
(Screened Well)

PROJECT ID Allied/MW-04 FACILITY ID _____
 LOCATION ID Tonawanda, NY INSTALLATION DATE 9/30/88
 DRILLING COMPANY Empire Soils DRILLING METHOD Auger
 SCREENED INTERVAL (FT) 4-9 OUTER CASING LENGTH (FT) 5
 SCREEN SLOT SIZE 0.010 OUTER CASING MATERIAL steel
 INNER CASING MATERIAL PVC FILTER PACK MATERIAL #4 Sand
 GROUT MIXTURE 1: 6 gal: 3 lbs. SEAL MATERIAL bentonite pellets
 COMMENTS _____



WELL LOG

Page ____ of ____

Well No. MW-04 Client Allied Chemical Job No. _____ Log By S. Strautman

Lithology and Well Construction	Depth	Sample No.	Interval	Recovery	Blow Counts	Description	Remarks
4" PVC	0						
	1						
	2		0-4	N/A	N/A	Fill, brown sand and gravel dry	No splitspoon samples
	3						
	4						
	5		4-6	2-2 2-2	-	Clay, reddish brown	
	6						
	7		6-8	3-3 3-4		Clay, reddish brown	
	8						
	9		8-10	6-8 8-12		Clay, reddish brown	
	10						
	11		10-12	13-20 25-33		Clay, reddish brown	
	12						

WELL LOG

Page _____ of _____

Well No. SB-01 Client Allied Chemical Job No. _____ Log By S. Strautman

Lithology and Well Construction	Depth	Sample No.	Interval	Recovery	Blow Counts	Description	Remarks
	0						
	1	01	0-2	0.4	7-7 8-7	Fill; dark brown to gray, fine to coarse sand and gravel	
	2						
	3	02	2-4	0-4	0.2	3-1 1-2	Same as above, some red-brown clay, with sand slightly plastic
	4						
	5	03	4-6	0.4	4-5 2-1	Fill, debris; sand, silt, gray-brown clay; moist at bottom of hole	
	6						
	7	04	6-8	0.4	4-3 11-12"	Clay, dark brown reddish clay wet, foul smelling	
	8						
	9	05	8-10	1.3	1/12" 2-3	Sandy clay, black coal-like coarse sand size pieces; bottom 2" dark gray, green fill, wood pieces.	
	10						
	11	06	10-12	1.0	1-2 6-10	Fill; clay, trace silt, dark-brown-reddish; wood, plant material, moist, slightly plastic	
	12						
	13	07	12-14	1.3	8-15 25-33	Clay, reddish-brown; calcium carbonate streaks	
	14						
	15	08	14-16	1.2	8-14 22-28	Same as above	
	16						

WELL LOG

Page ____ of ____

Well No. SB-03 Client Allied Chemical Job No. _____ Log By S. Strautman

Lithology and Well Construction	Depth	Sample No.	Interval	Recovery	Blow Counts	Description	Remarks
0							
1	01	0-2	0.2	8-20 20-12		Fill, gravel, sand; dark brown-gray; dry	
2							
3	02	2-4	0.2	8-9 10-9		same as above	
4							
5	03	4-6	0.2	7-6 4-3		Same as above	Hit water @ 4'
6							
7	04	6-8	1.0	2-1 1-1		Clay, fill; black tar like smell, wet	
8							
9	05	8-10	2.0	- - 3 3		Clay, fill; wood debris tar like smell, black-dark brown some coarse sand, wet	
10							
11	06	10-12	2.0	2-3 5-8		Clay, black fill, tar-like; grades into a gray clay, yellow-orange mottling; @ 11.5' sharp contact into red stiff clay (glaciolacustrine)	
12							
13	07	12-14	2.0	8-1 17-22		Clay, red, stiff; gray sandy mottling; desiccation cracks; iron oxide nodules	
14							
15	08		2.0	8-1 28-28		Same as above	
16							

WELL LOG

Page ____ of ____

Well No. SB-04 Client Allied Chemical Job No. _____ Log By S. Strautman

Lithology and Well Construction	Depth	Sample No.	Interval	Recovery	Blow Counts	Description	Remarks
	0						
	1	01	0-2	0.4	12-18 12-9	Fill; gravel, sand, dry	
	2						
	3	02	2-4	0.2	12-7 7-6	Fill; gravel, sand, dry	
	4						
	5	03	4-6	0.1	4-5 4-7	Fill; gravel, sand, wet	
	6						
	7	04	6-8	1.4	7-10 43-50	Pellets, dark green, wet black oil-like sheen	
	8						
	9	05	8-10	1.7	5-7 12-11	Black sludge-like material wet, oily sheen	
	10						
	11	06	10-12	0.4	13-8 8-7	Black sludge-like material. Some clay	
	12						
	13	07	12-14	0.7	7-15 20-24	Clay, gray, yellow mottling; sharp contact to stiff reddish clay	
	14						
	15	08	14-16	0.3	25-23 21-20	Clay reddish-brown	
	16						

WELL DEVELOPMENT/PURGING FIELD NOTES

11-1-88

0830 On-site - check equipment, view site, beginning setting up for well development - S. Strummen; J. Spratt

1200 Setting up development on downgradient well
Well # MW-04 since upgradient MW-01, oily smelling with sheen on surface, Tank K. (Dec) agreesMW-04 Depth to water TD
5.75' 11.81'

Marked measuring pt. on well

$$\begin{array}{r} 11.81 \\ - 5.75 \\ \hline \end{array}$$

$$6.06 \text{ ft water} \times 0.66 \text{ gal/linear ft} = 3.99 \text{ gal/lin.}$$

	Temp	Conductivity	pH	
Begin	25.5	14.5 1850 μmhos	5.0(?)	clearly
1st Vol	12.0	1500 μmhos	6.9	cloudy

1330 Stop bailing to let well recover

1340 Depth to water -

10.6'

1345

10.53'

1353

10.47'

1.5 Vol

11.0

1750 μmhos

6.9

cloudy

Dry

13.0

1600 μmhos

7.1

cloudy

1420 Bailer down well - try fishing out bailer

1500

Mobilize and setup @ MW-03

MW-03 Depth to Water TD
7.4 11.37 cloudy

$$11.37 - 7.4 = 3.97 \times 0.66 = 2.62 \text{ gal/volume}$$

	Temp	Conduc.	pH	
1525				
Begin	13.0	700	6.4	clear
1 Volume	13.0	700	6.4	cloudy

1535 10.72
10.62 - 0.1 x 0.66 = 10 min = 0.0066 gpr

	Temp	Conduc.	pH	
1540	12.0	700	7.2 (7.1)	cloudy

1600 Mobilize and set up @ MW-02 - Begin purging
DTW TD
9.07 11.78

$$11.78 - 9.07 = 2.71 \times 0.66 = 1.79 \text{ gal/volume}$$

	Temp	Conduc.	pH	
Begin	13°C	1200	7.4	cloudy
1 Vol	13°C	1200	6.9	cloudy
MW 02 Vol	12°C	1100	6.9	cloudy

1645 Mobilize to MW-01 - Begin purging
DTW TD
6.66 11.55

$$11.55 - 6.66 = 4.89 \times 0.66 = 3.23 \text{ gal/vol}$$

1700	13°C	2300	6.9	black
	13°C	2400	6.2	black
1730	13%	2306	6.9	black

1800 Decanning and cleaning up site
1840 Off-site ✓

S. Stauden
11-2-88

11/30/88

J Spratt
J DeMolas0800 Arrive on Site Sign in &
begin search for Drums/Nitric
Acid1000 Purchase Drums & set-up lab
to make Nitric Acid for DECO

1100 Return to site & drop off equip

1145 Leave for lunch

1230 Return from lunch

1250 Meet JACK Krajewski, from NYDEC
& he will watch us purge wells1440 Begin to take water levels
DTW/TOC/PVC

MW-01	MW-04	MW-03	MW-02	
6.80	5.76'	7.55	9.94	DTW
11.55	11.81	11.37	11.78	TD

4.75	6.05	3.82	1.84	water column
$\times 0.66$	$\times 0.66$	$\times 0.66$	$\times 0.66$	
3.14	3.99	2.52	1.21	gallons
~ 3.25	4	2.5	1.25	

4 bails / gallon

13 bails

$\times 3$	$\times 3$
39	48

30

30

19

* 12/1/88

9

bails

Removed

1550 Bailer line breaks & bailer
is stuck in well.

ALLIED SPECIALTY CHEMICAL SITE
NYDEC SITE #9-15-003-B
TONAWANDA, NEW YORK

APPENDIX B

SLUG TEST DATA

June 1989

Prepared for:
ALLIED-SIGNAL INCORPORATED

Prepared by:
Roy F. Weston, Inc.
Weston Way
West Chester, Pennsylvania 19380

ALLIED TONAWANDA WELL - SLUG TEST

(DIMENSIONS IN FEET)

CASING DIAMETER= .332

WELL SLIMNESS FACTOR= 12.07729

EFFECTIVE WELL DIAMETER= .828

SCREEN LENGTH= 5

H= 5

D= 5

<MORE>

ALLIED TONAWANDA WELL 1 SLUG TEST

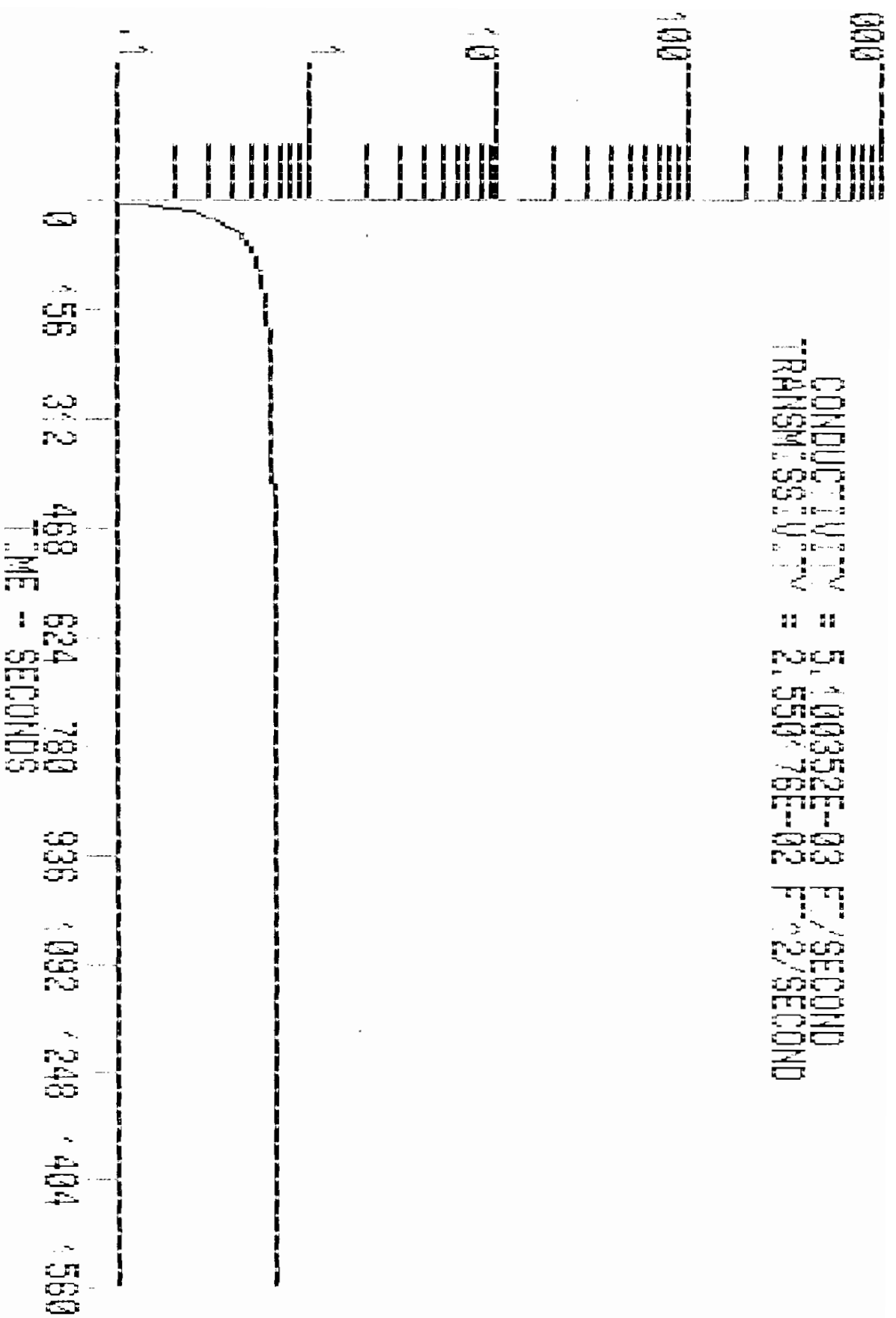
No.	DTW READINGS (FT)	ELAPSED TIME (SECONDS)
1	0.01	1.50
2	0.04	2.50
3	0.08	3.50
4	0.09	4.50
5	0.09	5.00
6	0.10	7.00
7	0.12	9.00
8	0.14	9.00
9	0.15	10.00
10	0.17	11.00
11	0.18	13.00
12	0.20	14.00
13	0.23	15.00
14	0.23	17.00
15	0.25	19.00
16	0.29	25.00
17	0.33	29.00
18	0.36	35.00

ALLIED TONAWANDA WELL 1 SLUG TEST

No.	DTW READINGS (FT)	ELAPSED TIME (SECONDS)
19	0.39	40.00
20	0.42	45.00
21	0.44	50.00
22	0.45	55.00
23	0.47	60.00
24	0.49	65.00
25	0.51	70.00
26	0.53	95.00
27	0.55	95.00
28	0.56	105.00
29	0.58	115.00
30	0.59	150.00
31	0.60	210.00
32	0.64	330.00
33	0.66	490.00
34	0.67	1200.00
35	0.50	1560.00

IS THE ENTERED DATA CORRECT?(Y OR N)

CONDUCTIVITY = 5.100352E-03 F/SECOND
 TRANSMISSIVITY = 2.550476E-02 F/2/SECOND



ALLIED TONAWANDA WELL - SLUG TEST

ALLIED TONAWANDA WELL 2 SLUG TEST

COMENSIONS IN FT)

CASING DIAMETER= .332

WELL SLIMNESS FACTOR= 12.07729

EFFECTIVE WELL DIAMETER= .828

SCREEN LENGTH= 5

D= 5

H= 5

4MORE

ALLIED TONAWANDA WELL 2 SLUG TEST

No.	DTW READINGS (FT)	ELAPSED TIME (SECONDS)
1	0.01	1.00
2	0.15	1.50
3	0.17	2.00
4	0.22	2.00
5	0.23	4.00
6	0.25	5.00
7	0.25	5.00
8	0.28	7.00
9	0.30	9.00
10	0.31	10.00
11	0.32	11.00
12	0.34	12.00
13	0.36	13.00
14	0.37	15.00
15	0.39	16.00
16	0.41	18.00
17	0.42	20.00
18	0.47	25.00

4MORE

ALLIED TONAWANDA WELL 2 SLUG TEST

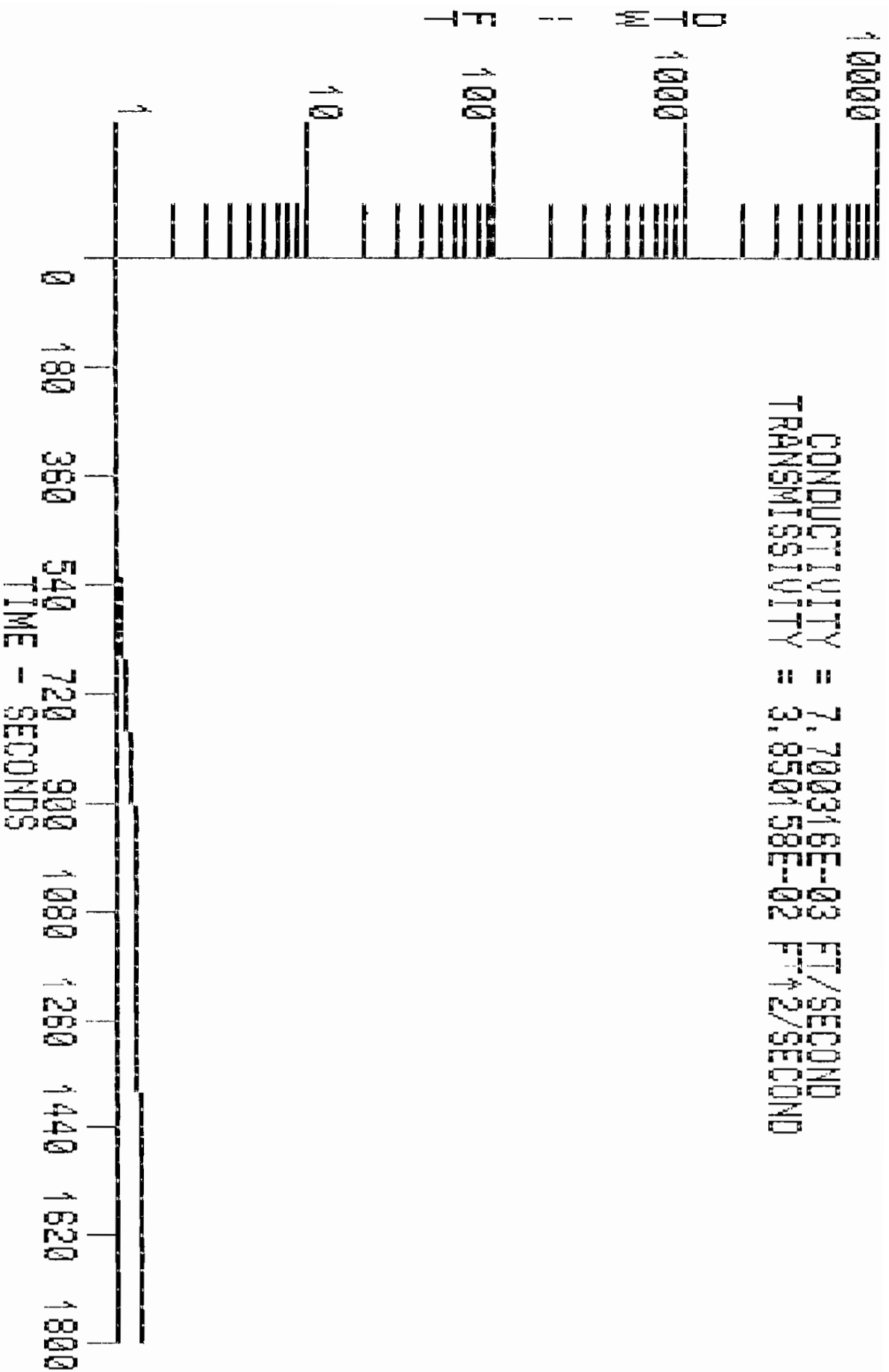
No.	DTW READINGS (FT)	ELAPSED TIME (SECONDS)
19	0.53	30.00
20	0.56	40.00
21	0.60	45.00
22	0.61	55.00
23	0.63	60.00
24	0.64	65.00
25	0.66	80.00
26	0.67	85.00
27	0.69	95.00
28	0.71	105.00
29	0.72	120.00
30	0.73	180.00
31	0.82	210.00
32	0.83	240.00
33	0.86	270.00
34	0.90	300.00
35	0.93	360.00
36	0.94	390.00

ALLIED TONAWANDA WELL 2 SLUG TEST

No.	DTW READINGS (FT)	ELAPSED TIME (SECONDS)
37	0.96	420.00
38	0.99	450.00
39	1.01	480.00
40	1.02	510.00
41	1.04	540.00
42	1.05	570.00
43	1.06	600.00
44	1.10	720.00
45	1.20	840.00
46	1.23	960.00
47	1.26	1080.00
48	1.29	1200.00
49	1.30	1220.00
50	1.31	1440.00
51	1.32	1560.00
52	1.34	1800.00

IS THE ENTERED DATA CORRECT?(Y OR N)

CONDUCTIVITY = 7.700316E-03 FT/SECOND
 TRANSMISSIVITY = 3.850158E-02 FT²/SECOND



ALLIED TONAWANDA WELL 2 SLUG TEST

ALLIED TONAWANDA WELL 3 SLUG TEST

(DIMENSIONS IN FT)

CASING DIAMETER= .332

WELL SLIMNESS FACTOR= 12.07729

EFFECTIVE WELL DIAMETER= .828

SCREEN LENGTH= 5

H= 5

D= 5

<MORE>

ALLIED TONAWANDA WELL 3 SLUG TEST

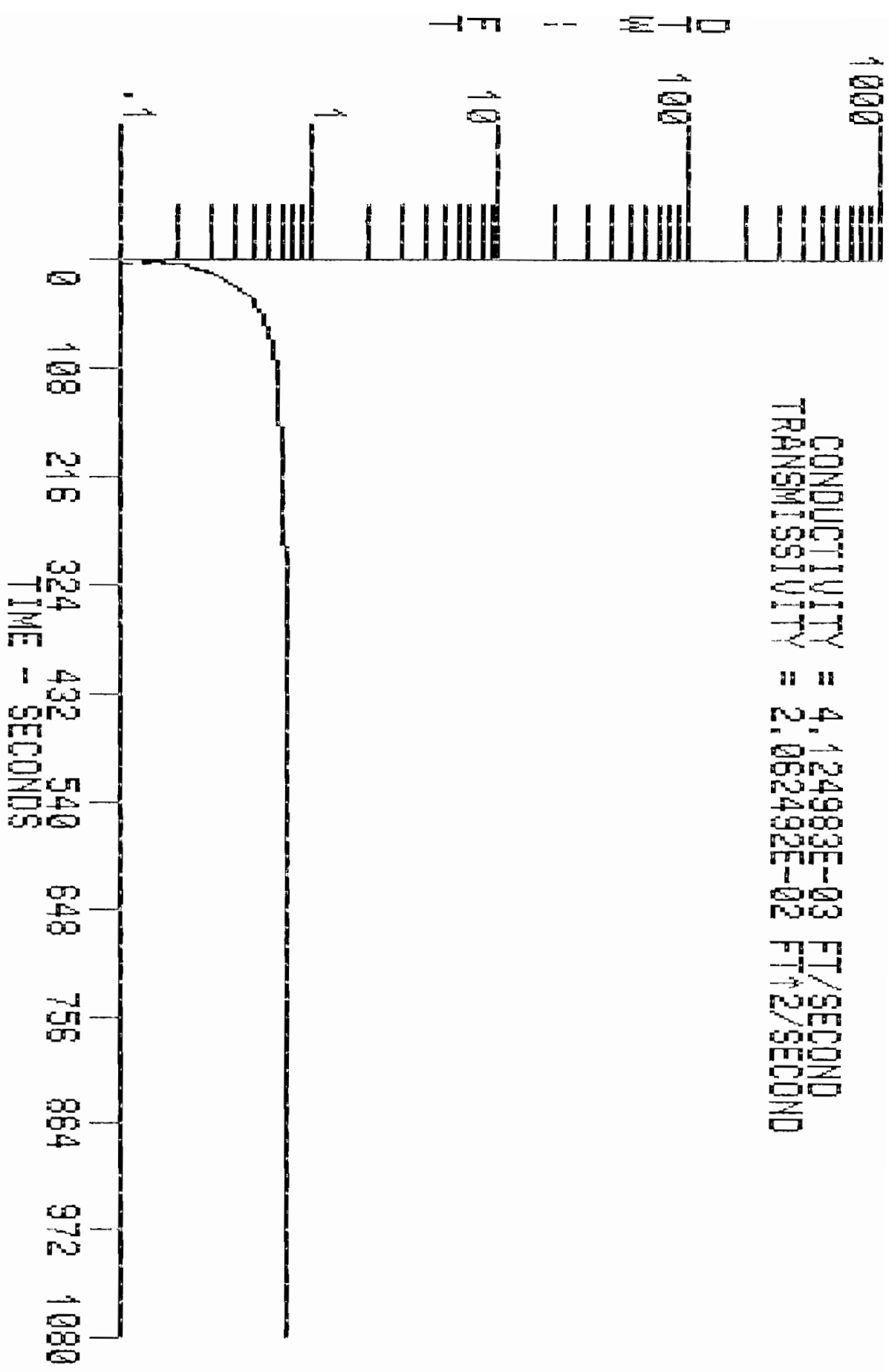
No.	DTW READINGS (FT)	ELAPSED TIME (SECONDS)
1	0.01	1.50
2	0.12	2.00
3	0.14	2.50
4	0.15	3.50
5	0.17	4.00
6	0.18	5.00
7	0.20	6.00
8	0.22	8.00
9	0.24	9.00
10	0.25	10.00
11	0.26	12.00
12	0.28	13.00
13	0.29	14.00
14	0.31	16.00
15	0.33	18.00
16	0.34	19.00
17	0.39	25.00
18	0.42	30.00

ALLIED TONAWANDA WELL 3 SLUG TEST

No.	DTW READINGS (FT)	ELAPSED TIME (SECONDS)
19	0.45	35.00
20	0.50	40.00
21	0.52	45.00
22	0.54	50.00
23	0.55	55.00
24	0.56	60.00
25	0.58	65.00
26	0.60	70.00
27	0.61	75.00
28	0.62	85.00
29	0.64	95.00
30	0.66	105.00
31	0.69	150.00
32	0.71	180.00
33	0.72	270.00
34	0.74	300.00
35	0.76	450.00
36	0.77	1090.00

IS THE ENTERED DATA CORRECT?(Y OR N)

CONDUCTIVITY = 4.124983E-03 FT/SECOND
TRANSMISSIVITY = 2.062492E-02 FT^2/SECOND



ALLIED TONAWANDA WELL 3 SLUG TEST

ALLIED SPECIALTY CHEMICAL SITE
NYDEC SITE #9-15-003-B
TONAWANDA, NEW YORK

APPENDIX C

GEOTECHNICAL DATA

June 1989

Prepared For:
ALLIED-SIGNAL INCORPORATED

Prepared By:
Roy F. Weston, Inc.
Weston Way
West Chester, Pennsylvania 19380

PROJECT : Allied Chemical W.O. # :1273-11-01
LOCATION: Tonawanda BORING # :MW01
ETL ID #: 1188-001 CLASSIFICATION:CL-ML
DESCRIPTION:silty clayey sands contaminated
w/ fuel oils/solvents

MOISTURE CONTENT

Test Date: 26-Oct-88

Wt. of Sample (g) : 28.8
Wt. of Water (g) : 12.9
Moisture Content (%) : 44.9
Plastic Limit (%) : 25.8

GRAIN SIZE ANALYSIS (MECHANICAL)

Test Date: 28-Oct-88

Wt. of Sample (g) : 200.0

Sieve #	Diameter (mm)	% Passed
# 4	4.75	95.7
# 10	2.00	83.3
# 20	0.850	72.5
# 50	0.300	63.7
# 100	0.150	58.7
# 200	0.075	50.2
PAN	0.000	

GRAIN SIZE ANALYSIS (HYDROMETER)

Test Date: 01-Nov-88

Wt. of Sample (g) : 60.0

Diameter (mm)	% Finer
0.0277	46.5
0.0196	44.5
0.0150	38.5
0.0110	34.5
0.0082	31.5
0.0142	26.5
0.0018	23.7
0.0027	19.4
0.0022	17.2
0.0014	15.2
0.0013	12.2
0.0013	12.2
0.0009	9.4

GRAIN SIZE DISTRIBUTION

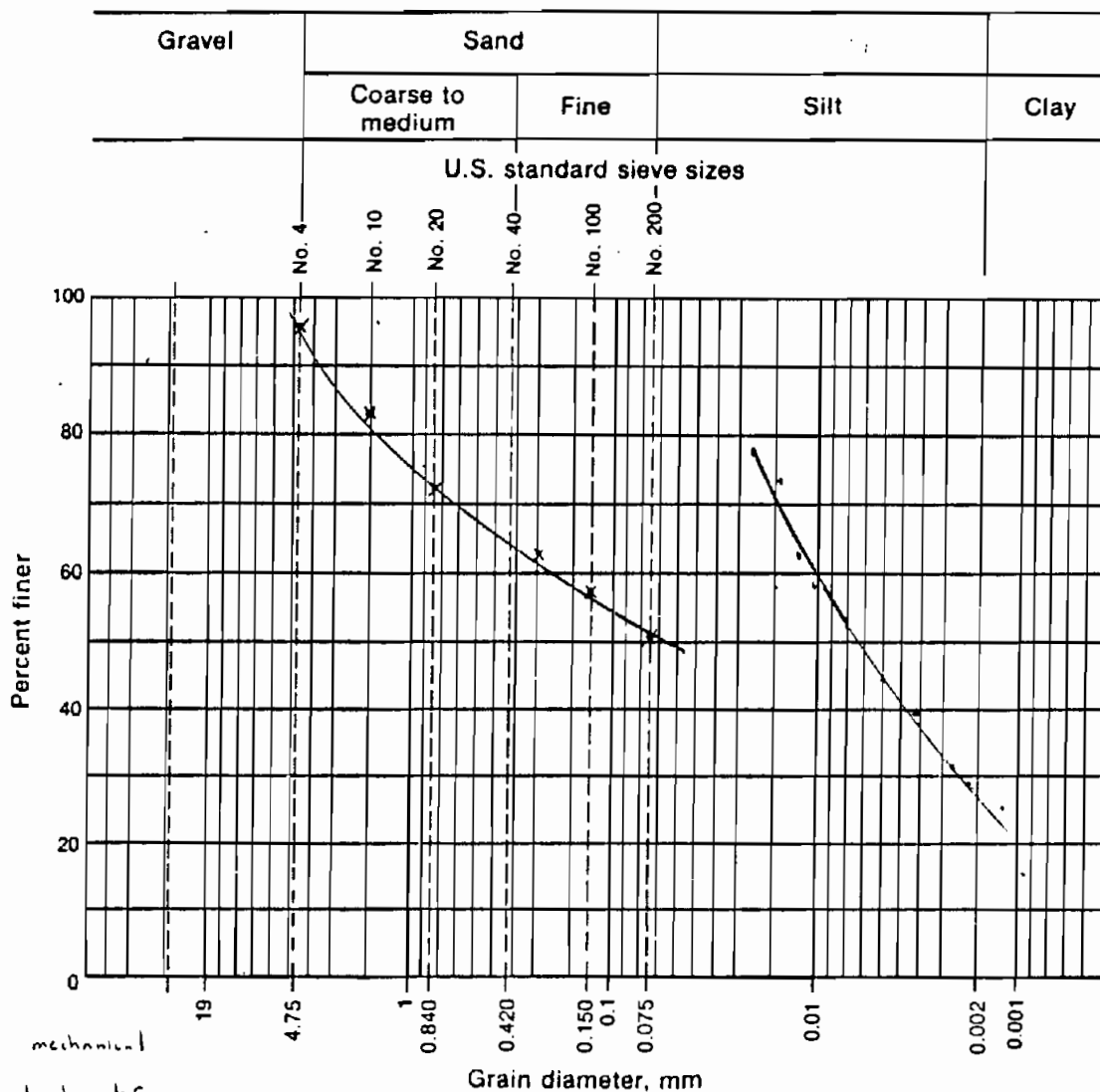
Data Sheet 6

Project Tonawanda Job. No. _____

Location of Project MW01 Boring No. _____ Sample No. 1188-001

Description of Soil silty, sandy, clayey soil
contaminated w/ fuel oil/solvents Depth of Sample _____

Tested By. JSS Date of Testing 28 Oct 1985



Visual soil description gray silty sandy clayey contaminated w/
fuel oil & solvents containing gravel & sticks

Soil classification:

System _____

PROJECT : Allied Chemical W.O. # :1273-11-01
LOCATION: Tonawanda BORING # :MW02
ETL ID #: 1188-002 CLASSIFICATION:CL-ML
DESCRIPTION:silty clayey sands contaminated
w/ fuel oils/solvents

MOISTURE CONTENT

=====

Test Date: 26-Oct-88

Wt. of Sample (g) : 46.9
Wt. of Water (g) : 13.3
Moisture Content (%) : 28.5

GRAIN SIZE ANALYSIS (MECHANICAL)

=====

Test Date: 31-Oct-88

Wt. of Sample (g) : 100.0

Sieve #	Diameter (mm)	% Passed
---------	------------------	----------

# 4	4.75	99.1
# 10	2.00	92.9
# 20	0.850	87.4
# 50	0.300	80.8
# 100	0.150	76.8
# 200	0.075	76.7
PAN	0.000	

GRAIN SIZE ANALYSIS (HYDROMETER)

=====

Test Date: 01-Nov-88

Wt. of Sample (g) : 50.0

Diameter (mm)	% Finer
------------------	---------

0.0276	85.6
0.0200	81.5
0.0143	77.5
0.0103	73.4
0.0077	67.3
0.0056	62.2
0.0040	54.7
0.0027	46.6
0.0021	42.5
0.0014	28.1
0.0013	28.1
0.0013	28.1
0.0009	25.1

GRAIN SIZE DISTRIBUTION

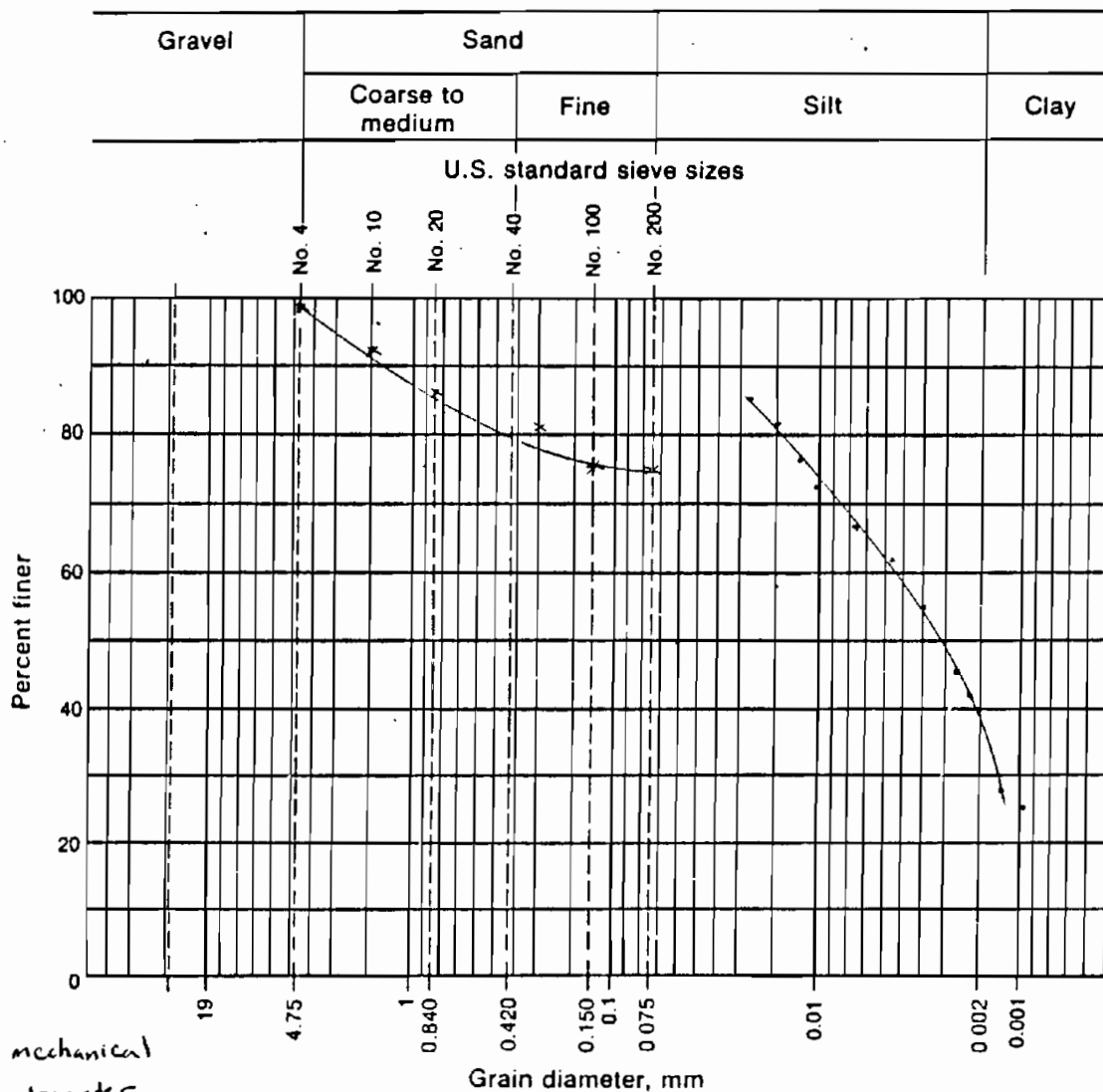
Data Sheet 6

Project Tonawanda Job. No. _____

Location of Project _____ Boring No. NW02 Sample No. 1188-002

Description of Soil Silty, sandy, clayey soil
contaminated w/ fuel oil/solvents Depth of Sample _____

Tested By. _____ Date of Testing 10/26 - 11/2 1988



Visual soil description gray sand silt clay contaminated w/ fuel oil / solvent

Soil classification:

System _____

PROJECT : Allied Chemical W.O. # :1273-11-01
LOCATION: Tonawanda BORING # :MW03
ETL ID #: 1188-003 CLASSIFICATION:CL-ML
DESCRIPTION:silty clayey sands contaminated
 w/ fuel oils/solvents

MOISTURE CONTENT

=====

Test Date: 26-Oct-88

Wt. of Sample (g) : 43.9
Wt. of Water (g) : 14.3
Moisture Content (%) : 32.5
Plastic Limit (%) : 22.2

GRAIN SIZE ANALYSIS (MECHANICAL)

=====

Test Date: 28-Oct-88

Wt. of Sample (g) : 199.9

Sieve #	Diameter (mm)	% Passed
# 4	4.75	87.0
# 10	2.00	83.5
# 20	0.850	80.5
# 50	0.300	76.9
# 100	0.150	74.5
# 200	0.075	72.4
PAN	0.000	

GRAIN SIZE ANALYSIS (HYDROMETER)

=====

Test Date: 01-Nov-88

Wt. of Sample (g) : 60.0

Diameter (mm)	% Finer
0.0253	86.5
0.0184	81.5
0.0134	76.4
0.0099	69.7
0.0075	63.0
0.0055	56.2
0.0039	49.5
0.0027	42.8
0.0021	37.7
0.0014	31.0
0.0013	29.3
0.0013	29.3
0.0009	25.9

GRAIN SIZE DISTRIBUTION

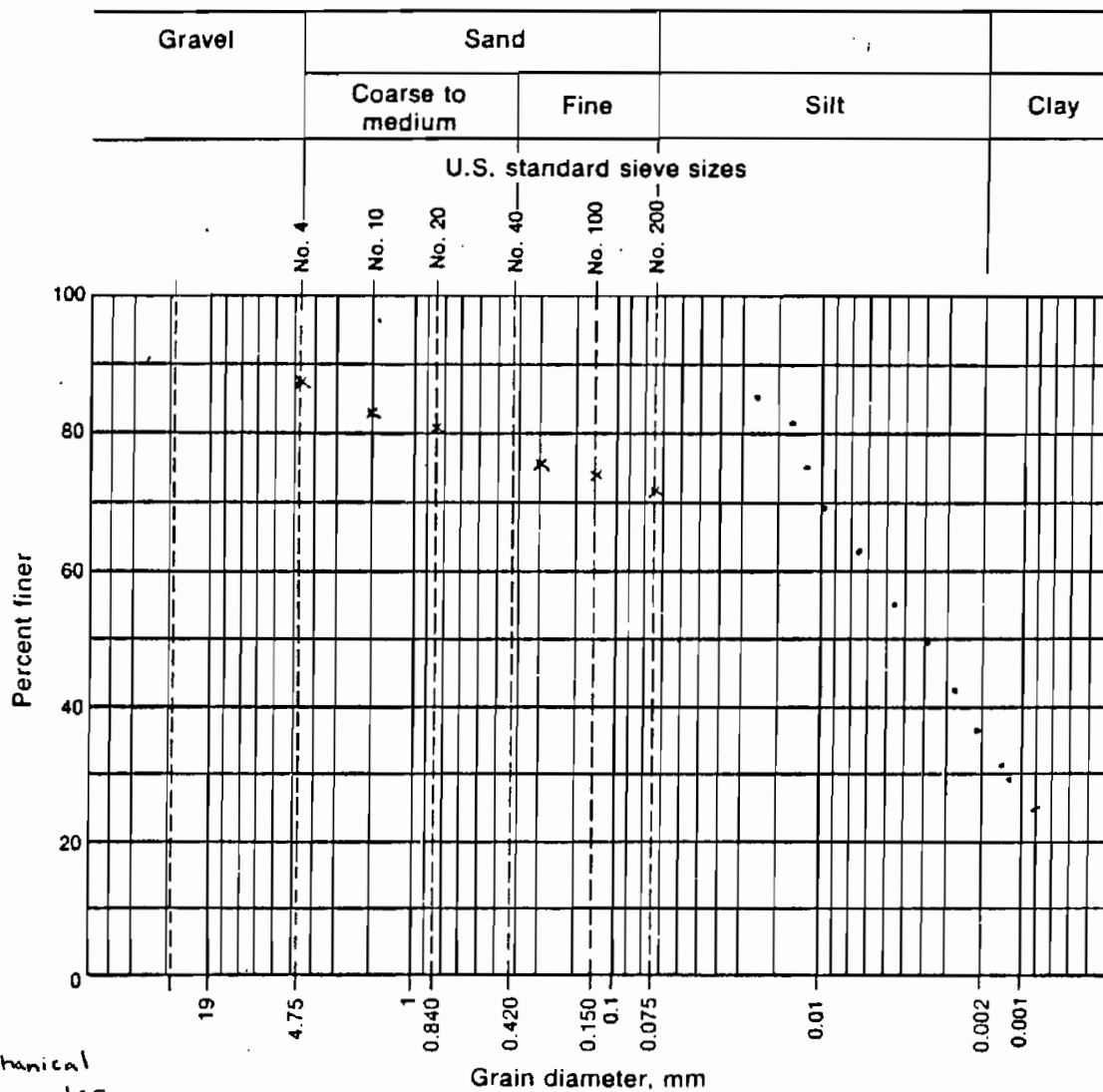
Data Sheet 6

Project Tonawanda Job No. _____

Location of Project _____ Boring No. MW03 Sample No. 1188-003

Description of Soil silty sandy clayey soil contaminated w/ fuel oil / solvents Depth of Sample _____

Tested By. JS Date of Testing 29 Oct 1988



Visual soil description grey silty sand

Soil classification:

System _____

PROJECT : Allied Chemical W.O. # :1273-11-01
LOCATION: Tonawanda BORING # :MW04
ETL ID #: 1188-004 CLASSIFICATION:CL-ML
DESCRIPTION:silty clayey sands contaminated
w/ fuel oils/solvents

MOISTURE CONTENT

Test Date: 26-Oct-88

Wt. of Sample (g) : 40.6
Wt. of Water (g) : 11.3
Moisture Content (%) : 28.0
Plastic Limit (%) : 16.3

GRAIN SIZE ANALYSIS (MECHANICAL)

Test Date: 31-Oct-88

Wt. of Sample (g) : 200.0

Sieve #	Diameter (mm)	% Passed
# 4	4.75	92.2
# 10	2.00	81.1
# 20	0.850	76.4
# 50	0.300	70.4
# 100	0.150	62.9
# 200	0.075	50.8
PAN	0.000	

GRAIN SIZE ANALYSIS (HYDROMETER)

Test Date: 01-Nov-88

Wt. of Sample (g) : 60.0

Diameter (mm)	% Finer
0.0271	75.4
0.0200	70.4
0.0146	65.3
0.0106	58.6
0.0080	53.5
0.0058	46.8
0.0041	40.2
0.0028	35.2
0.0022	30.1
0.0014	24.7
0.0013	23.1
0.0013	23.1
0.0009	20.0

GRAIN SIZE DISTRIBUTION

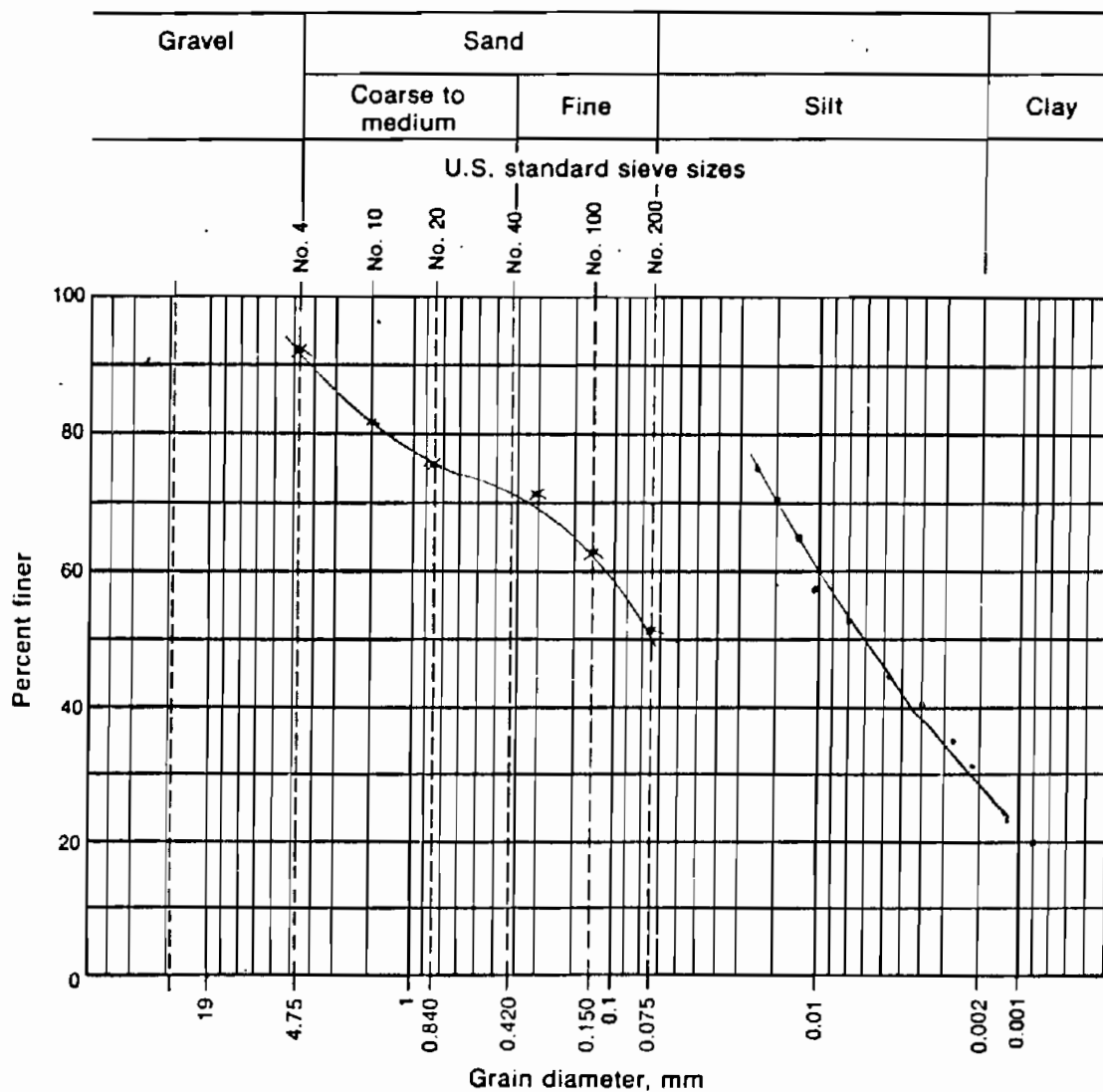
Data Sheet 6

Project Tonawanda Job No. _____

Location of Project _____ Boring No. MW04 Sample No. 1183-004

Description of Soil silty sandy clayey soil contaminated w/ fuel oil/solvents Depth of Sample _____

Tested By. JTS Date of Testing 31 Oct 1988



Visual soil description silty sandy clayey soil contaminated w/ fuel oil/solvents

Soil classification:

System

