



**McLaren[®]
Hart**

ENVIRONMENTAL ENGINEERING CORPORATION

March 24, 1997

Mr. Joseph Jones
Project Manager
New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
50 Wolf Road
Albany, New York 12233-7010

RE: Photocircuits Corporation, Glen Cove, New York

Dear Mr. Jones:

Enclosed please find eight (8) copies of the final Remedial Investigation/Interim Remedial Measure Work Plan for the above-referenced site. Revisions have been made to this document in accordance with comments received from the New York State Department of Environmental Conservation (NYSDEC) in correspondence to James Kerr of Photocircuits Corporation dated March 11, 1997. Please contact me at (908) 647-8111 if you have any questions.

Sincerely,

Charles B. Schneider, P.G.
Senior Geoscientist

cc: L.Stans, Photocircuits Corp.
J. Kerr, Photocircuits Corp.
M. Pennington, Morgan, Lewis & Bockius
A. Barber, McLaren/Hart

**INORGANIC (METALS)
COMPLETE SDG FILE (CSF) INVENTORY SHEET**

LABORATORY NAME:	Lionville Laboratory, Inc.
CITY/STATE:	Lionville, PA
CASE/SDG NO.:	BA001-0122
CLIENT NAME:	Nysdec
WORK ORDER NO.:	01667-601-001-959-00
METHOD BASED ON:	SW846/ CLP ILMO3.0/ CLP ILMO4.0/ MCAA WW (200 series)

All documents in the Client's copy of the complete SDG file must be legible, clearly labeled, paginated, single -sided original documents; or of sufficient copy quality to be reproducible to fourth generation copies. (Purge file documents, e.g., original-copy chain-of-custody, etc. assembled per specific contract request only.)

RECRA No.: 02011829		Page Nos.		Check (initials)		
		From	To	Lab	Data	Client
0	Inventory Sheet (Do not number)	2		NA		
1	Cover Page (Lab Chron)	1	2	Aem	en	
2	Table of Contents	3	3	Aem	en	
3	Shipping, Receiving, and Custody Records • Lab Chain of Custody/Work Request • Client Custody Reports/Packing Lists • Airbills	4	7	Aem	en	
4	Case Narrative	8	12	Aem	en	
5	Inorganic Analysis Data Package (divider sheet)	13	13	Aem	en	
6	Cover Page with Lab Manager Signature	14	14	Aem	en	
7	Inorganic Analysis Data Sheet (Form I-IN)	15	26	Aem	en	
8	Initial & Continuing Calibration Verification (Form IIA-IN)	27	28	Aem	en	
9	CRDL Standards for AA and ICP (Form IIB-IN)	29	29	Aem	en	
10	Blanks (Form III-IN)	30	31	Aem	en	
11	ICP Interference Check Sample (Form IV-IN)	32	32	Aem	en	
12	Spike Sample Recovery (Form VA-IN)	33	33	Aem	en	
13	Post Digest Spike Sample Recovery (Form VB-IN)	-	-	NA	-	
14	Duplicates (Form VI-IN)	34	34	Aem	en	
15	Laboratory Control Sample (Form VII-IN)	35	35	Aem	en	
16	Standard Addition Results (Form VIII-IN)	-	-	NA	-	
17	ICP Serial Dilutions (Form IX-IN)	36	36	Aem	en	
18	Instrument Detection Limits (Form X-IN)	37	37	Aem	en	

RECRA No.: 02011829		Page Nos.		Check (initials)		
		From	To	Lab	Data	Client
19	ICP Interelement Correction (Form XIA-IN & XIB-IN)	38	39	Qem	su	
20	ICP Linear Ranges (Form XII-IN)	40	40	Qem	su	
21	Preparation Log (Form XIII-IN)	41	41	Qem	su	
22	Analysis Run Log (Form XIV-IN)	42	43	Qem	su	
23	ICP Raw Data	44	87	Qem	su	
24	Furnace Raw Data	-	-	NA	-	
25	Mercury Raw Data	-	-	NA	-	
26	Cyanide Raw Data	-	-	NA	-	
27	Preparation Logs Raw Data, in order: ICP, AA, Mercury, Cyanide-Distillation	88	89	Qem	su	
28	Percent Solids Determination Log	-	-	NA	-	
29	Analysis Logbook Pages	90	90	Qem	su	
30	Standards Preparation Records, in order ICP, AA, Mercury, Cyanide	91	91	Qem	su	
31	Other/Miscellaneous	92	92			
	End of Package Page	93	93			

COMMENTS:

Checked by: Andrea Markovicz Chemist 1/29/02
 (Laboratory) Signature Printed Name/Title Date
 Checked by: Susan Meuser SUSAN MEUSER / DATA 1/31/02
 (Data Reporting) Signature Printed Name/Title Date
 Checked by: _____
 (Client) Signature Printed Name/Title Date

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
NYSDEC

DATE RECEIVED: 01/23/02

LVL LOT # :0201L829

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
RA001-0122-A1MW-8A						
IRON, TOTAL	002	W	02L0027	01/21/02	01/23/02	01/24/02
IRON, TOTAL	002 REP	W	02L0027	01/21/02	01/23/02	01/24/02
IRON, TOTAL	002 MS	W	02L0027	01/21/02	01/23/02	01/24/02
MANGANESE, TOTAL	002	W	02L0027	01/21/02	01/23/02	01/24/02
MANGANESE, TOTAL	002 REP	W	02L0027	01/21/02	01/23/02	01/24/02
MANGANESE, TOTAL	002 MS	W	02L0027	01/21/02	01/23/02	01/24/02
RA001-0122-A1MW-8B						
IRON, TOTAL	003	W	02L0027	01/21/02	01/23/02	01/24/02
MANGANESE, TOTAL	003	W	02L0027	01/21/02	01/23/02	01/24/02
RA001-0122-A1MW-9B						
IRON, TOTAL	004	W	02L0027	01/21/02	01/23/02	01/24/02
MANGANESE, TOTAL	004	W	02L0027	01/21/02	01/23/02	01/24/02
RA001-0122-A1MW-9A						
IRON, TOTAL	005	W	02L0027	01/21/02	01/23/02	01/24/02
MANGANESE, TOTAL	005	W	02L0027	01/21/02	01/23/02	01/24/02
RA001-0122-A1MW-10A						
IRON, TOTAL	006	W	02L0027	01/21/02	01/23/02	01/24/02
MANGANESE, TOTAL	006	W	02L0027	01/21/02	01/23/02	01/24/02
RA001-0122-A1MW-10B						
IRON, TOTAL	007	W	02L0027	01/21/02	01/23/02	01/24/02
MANGANESE, TOTAL	007	W	02L0027	01/21/02	01/23/02	01/24/02
RA001-0122-A1MW-11A						
IRON, TOTAL	008	W	02L0027	01/22/02	01/23/02	01/24/02

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
NYSDEC

DATE RECEIVED: 01/23/02

LVL LOT # :0201L829

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MANGANESE, TOTAL	008	W	02L0027	01/22/02	01/23/02	01/24/02
RA001-0122-A1MW-11B						
IRON, TOTAL	009	W	02L0027	01/22/02	01/23/02	01/24/02
MANGANESE, TOTAL	009	W	02L0027	01/22/02	01/23/02	01/24/02
RA001-0122-MW-4						
IRON, TOTAL	010	W	02L0027	01/22/02	01/23/02	01/24/02
MANGANESE, TOTAL	010	W	02L0027	01/22/02	01/23/02	01/24/02
RA001-0122-MW-3						
IRON, TOTAL	011	W	02L0027	01/22/02	01/23/02	01/24/02
MANGANESE, TOTAL	011	W	02L0027	01/22/02	01/23/02	01/24/02
RA001-0122-MW-7						
IRON, TOTAL	012	W	02L0027	01/22/02	01/23/02	01/24/02
MANGANESE, TOTAL	012	W	02L0027	01/22/02	01/23/02	01/24/02
RA001-0122-MW-1						
IRON, SOLUBLE	013	W	02L0027	01/22/02	01/23/02	01/24/02
MANGANESE, SOLUBLE	013	W	02L0027	01/22/02	01/23/02	01/24/02

LAB QC:

IRON LABORATORY	LC1 BS	W	02L0027	N/A	01/23/02	01/24/02
IRON, TOTAL	MB1	W	02L0027	N/A	01/23/02	01/24/02
MANGANESE LABORATORY	LC1 BS	W	02L0027	N/A	01/23/02	01/24/02
MANGANESE, TOTAL	MB1	W	02L0027	N/A	01/23/02	01/24/02

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Chain of Custody

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

EF, AB, G, H

C.I.I D

Client <u>NYSDEC</u>		Est. Final Proj. Sampling Date		Project # <u>01667-601-001-9999-00</u>		Project Contact/Phone # <u>JS</u>		Lionville Laboratory Project Manager		QC <u>CLP</u> Del <u>CLP</u> TAT <u>30 days</u>		Date Rec'd <u>1-23-02</u> Date Due <u>2-22-02</u>	
Refrigerator #		#Type Container		Volume		Preservatives		ANALYSES REQUESTED		ORGANIC		Lionville Laboratory Use Only	
Liquid		Solid		Liquid		Solid		VOA		BNA		Pest/PCB	
Liquid		Solid		Liquid		Solid		Herb		Metal		Metal	
001	TRIP B/ANK #1	RA001-0122-	MS	MSD	Matrix QC Chosen (✓)	Date Collected	Time Collected	Matrix					
002	ALMW-8A		✓	✓	W	1-21-02	835AM						
003	8B						945AM						
004	9B						1100AM						
005	9A						1130AM						
006	10A						1245PM						
007	10B						1:30PM						
008	11A					1-22-02	940						
009	11B						915						
010	MW-4						1040						

Special Instructions:

MW-1
Lab ID - 013
Filter and acidity requested LVI to
perform (1-23-02 @ 1200)
performed

DATE/REVISIONS:

1-24-02, Add " RA001-0122-" To client IDS

MW-1
 Lab ID - 013 NYSDEC requested LVI to
 filter and acidity sample (1-23-02 @ 1200)
 performed 5

05

Relinquished by	Received by	Date	Time
FedEx	Carl Vary	1-23-02	1000

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time

Samples were: _____ or _____
 1) Shipped _____ or _____
 Hand Delivered _____
 Airbill # 366
66106

2) Ambient or Chilled
 3) Received in Good Condition Y or N
 4) Samples Properly Preserved Y or N
 5) Received Within Holding Times Y or N

1) Present on Outer Package Y or N
 2) Unbroken on Outer Package Y or N
 3) Present on Sample Y or N
 4) Unbroken on Sample Y or N
 COC Record Preser Upon Sample Rec't Y or N
 Cooler 5°
 Temp. _____ °C

Discrepancies Between Samples Labels and COC Record? Y or N
 NOTES: 8312 39221412

REWRITTEN

Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS



Client <u>NYSDDEC</u>		Refrigerator # <u>1</u>	Liquid <u>39L</u>		3	C	D
Est. Final Proj. Sampling Date _____		#Type Container	Solid		1PL		1PL
Project # _____		Volume	Liquid <u>40</u>		1L		1L
Project Contact/Phone # _____		Preservatives	Solid				
Lionville Laboratory Project Manager _____		ANALYSES REQUESTED					
QC _____ Del _____ TAT _____		ORGANIC	VOA	BNA	PCB	Herb	
Date Rec'd _____ Date Due _____							
MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓)	MS	MSD	Lionville Laboratory Use Only	
S - Soil	011	MW-3	✓			MNT0	MFE50
SE - Sediment	012	L-7	✓			✓	
SO - Solid	013	L-1	✓			✓	
SL - Sludge							
W - Water							
O - Oil							
A - Air							
DS - Drum							
DL - Drum							
Liquids							
EP/TCLP							
Leachate							
WI - Wipe							
X - Other							
F - Fish							

Special Instructions:

DATE/REVISIONS:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Relinquished by FEDER Received by Carl Harg Date 1-23-02 Time 1000

Relinquished by _____ Received by _____ Date _____ Time _____

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

Lionville Laboratory Use Only

Samples were:

1) Shipped _____ or _____

Hand Delivered _____

Airbill # _____

2) Ambient or Chilled _____

3) Received in Good Condition Y or N

4) Samples Properly Preserved Y or N

5) Received Within Holding Times Y or N

6) Unbroken on Sample Y or N

7) Unbroken on Package Y or N

8) Present on Sample Y or N

9) Present on Outer Package Y or N

10) Present on Outer Package Y or N

11) Present on Outer Package Y or N

12) Present on Outer Package Y or N

13) Present on Outer Package Y or N

14) Present on Outer Package Y or N

15) Present on Outer Package Y or N

16) Present on Outer Package Y or N

17) Present on Outer Package Y or N

18) Present on Outer Package Y or N

19) Present on Outer Package Y or N

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21) Present on Outer Package Y or N

22) Present on Outer Package Y or N

23) Present on Outer Package Y or N

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25) Present on Outer Package Y or N

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27) Present on Outer Package Y or N

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33) Present on Outer Package Y or N

34) Present on Outer Package Y or N

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37) Present on Outer Package Y or N

38) Present on Outer Package Y or N

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41) Present on Outer Package Y or N

42) Present on Outer Package Y or N

43) Present on Outer Package Y or N

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91) Present on Outer Package Y or N

92) Present on Outer Package Y or N

93) Present on Outer Package Y or N

94) Present on Outer Package Y or N

95) Present on Outer Package Y or N

96) Present on Outer Package Y or N

97) Present on Outer Package Y or N

98) Present on Outer Package Y or N

99) Present on Outer Package Y or N

100) Present on Outer Package Y or N

6e871a20

CLIENT:

2747N

Page of _____

LF = Locked Refrigerator.

[illegible]

Case Narrative



Analytical Report

Client : NYSDEC
LVL# : 0201L829
ELAP#:10752

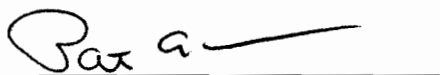
W.O.# : 01667-601-001-9999-00
Date Received: 01-23-02

CLP/ILM04.0 METALS

1. This narrative covers the analyses of 12 samples.
2. The samples were prepared and analyzed in accordance with CLP/ILM04.0 protocol.
3. ICVs, CCVs, and LCSs stock standards were purchased from Inorganic Ventures and High Purity.
4. All analyses were performed within the required holding times.
5. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
6. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within control limits.
7. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits.
8. All preparation/method blanks were below reporting limits. Refer to form 3.
9. All ICP Interference Check Samples (ICSA and ICSAB) were within control limits. Refer to form 4.
10. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to form 7.
11. The serial dilution percent difference for 1 analyte was outside CLP control limits. Refer to form 9.
12. All matrix spike (MS) recoveries were within the 75-125% control limits. Refer to form 5A.
13. All duplicate analyses were within the method criteria. Refer to form 6.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of **93** pages. **09**

14. All sample IDs were changed to accommodate the EPA naming convention which allows a maximum of 6 characters on all CLP Forms. Refer to the comments section of form 1 for the original ID.
15. Recoveries on the Laboratory Summary Report and CLP forms will vary depending on the number of significant figures used in the recovery calculation.



Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

alm/m01-829

01-31-02

Date

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Recra Lot#:

02011829

Leaching Procedure: 1310 1311 1312 Other: _____

CLP Metals ☒ Digestion and ☒ Analysis Methods: ILM03.0 ILM04.0

Metals Digestion Methods: 3005A 3010A 3015 3020A 3050B 3051 200.7 SS17
Other: _____

Metals Analysis Methods

	SW846	EPA	STD MTD	EPA OSWR	USATHAMA
Aluminum	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Antimony	<u>6010B</u> <u>7041</u> ⁵	<u>200.7</u> <u>204.2</u>			<u>99</u>
Arsenic	<u>6010B</u> <u>7060A</u> ⁵	<u>200.7</u> <u>206.2</u>	<u>3113B</u>		<u>99</u>
Barium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Beryllium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Bismuth	<u>6010B</u> ¹	<u>200.7</u> ¹		<u>1620</u>	<u>99</u>
Boron	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Cadmium	<u>6010B</u> <u>7131A</u> ⁵	<u>200.7</u> <u>213.2</u>			<u>99</u>
Calcium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Chromium	<u>6010B</u> <u>7191</u> ⁵	<u>200.7</u> <u>218.2</u>			<u>SS17</u>
Cobalt	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Copper	<u>6010B</u> <u>7211</u> ⁵	<u>200.7</u> <u>220.2</u>			<u>99</u>
Iron	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Lead	<u>6010B</u> <u>7421</u> ⁵	<u>200.7</u> <u>239.2</u>	<u>3113B</u>		<u>99</u>
Lithium	<u>6010B</u> <u>7430</u> ⁴	<u>200.7</u>		<u>1620</u>	<u>99</u>
Magnesium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Manganese	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Mercury	<u>7470A</u> ³ <u>7471A</u> ³	<u>245.1</u> ² <u>245.5</u> ²			<u>99</u>
Molybdenum	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Nickel	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Potassium	<u>6010B</u> <u>7610</u> ⁴	<u>200.7</u> <u>258.1</u> ⁴			<u>99</u>
Rare Earths	<u>6010B</u> ¹	<u>200.7</u> ¹		<u>1620</u>	<u>99</u>
Selenium	<u>6010B</u> <u>7740</u> ⁵	<u>200.7</u> <u>270.2</u>	<u>3113B</u>		<u>99</u>
Silicon	<u>6010B</u> ¹	<u>200.7</u>		<u>1620</u>	<u>99</u>
Silica	<u>6010B</u>	<u>200.7</u>		<u>1620</u>	<u>99</u>
Silver	<u>6010B</u> <u>7761</u> ⁵	<u>200.7</u> <u>272.2</u>			<u>99</u>
Sodium	<u>6010B</u> <u>7770</u> ⁴	<u>200.7</u> <u>273.1</u> ⁴			<u>99</u>
Strontium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Thallium	<u>6010B</u> <u>7841</u> ⁵	<u>200.7</u> <u>279.2</u> <u>200.9</u>			<u>99</u>
Tin	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Titanium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Uranium	<u>6010B</u> ¹	<u>200.7</u> ¹		<u>1620</u>	<u>99</u>
Vanadium	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Zinc	<u>6010B</u>	<u>200.7</u>			<u>99</u>
Zirconium	<u>6010B</u> ¹	<u>200.7</u> ¹		<u>1620</u>	<u>99</u>

Other: _____

Method: _____

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

- U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.
- B = Indicates that the parameter was between the Instrument Detection Limit (IDL) and the Contract Required Detection Limit (CRDL)

Q QUALIFIERS

- E = The reported value is estimated because of the presence of interference.
- M = Duplicate injection precision not met.
- N = Spiked sample recovery not within control limits.
- S = The reported value was determined by the Method of Standard Additions (MSA).
- W = Post Digestion spike for Furnace AA analysis is out of control limits (85 -115 %), while sample absorbance is less than 50% of spike absorbance.
- * = Duplicate analysis not within control limits.
- + = Correlation coefficient for the MSA is less than 0.995.

ABBREVIATIONS

- PB = Method or Preparation Blank.
- S = Matrix Spike.
- T = Matrix Spike Duplicate.
- R or D = Sample Replicate

ANALYTICAL METAL METHODS

1. Not included in the method element list.
2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).
3. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).
4. Flame AA.
5. Graphite Furnace AA.

Inorganic Analysis Data Package

U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: LIONVILLE LABORATORY_____ Contract: 1667-601_____
Lab Code: LVLI_____ Case No.: RA001 SAS No.: _____ SDG No.: 0122_____
OW No.: ILM04.0

EPA Sample No.	Lab Sample ID
A1MW0A	0201L829-006
A1MW0B	0201L829-007
A1MW1A	0201L829-008
A1MW1B	0201L829-009
A1MW8A	0201L829-002
A1MW8AD	0201L829-002D
A1MW8AS	0201L829-002S
A1MW8B	0201L829-003
A1MW9A	0201L829-005
A1MW9B	0201L829-004
MW1	0201L829-013
MW3	0201L829-011
MW4	0201L829-010
MW7	0201L829-012

Were ICP interelement corrections applied ? Yes/No YES
Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before application of background corrections ? Yes/No NO_

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the manager's designee, as verified by the following signature.

Signature: Pat A

Name: PATRICIA E Feldman

Date: 01-31-02

Title: DATA Mgt Unit Leader

COVER PAGE - IN

ILM04.0

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

A1MWOA

ab Name: LIONVILLE LABORATORY Contract: 1667-601

ab Code: LVLI Case No.: RA001 SAS No.: _____ SDG No.: 0122

atrix (soil/water): WATER

Lab Sample ID: 0201L829-006

evel (low/med): LOW

Date Received: 01/23/02

Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

[illegible]

Color Before: _____ Clarity Before: _____ Texture: _____

olor After: _____ Clarity After: _____ Artifacts: _____

omments:

RA001-0122-A1MW-10A

1

INORGANIC ANALYSES DATA SHEET

A1MW1B

Solids: 0.0

[illegible]

Comments:

RA001-0122-A1MW-11B

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

A1MW8A

ab Name: LIONVILLE LABORATORY_____ Contract: 1667-601_____

ab Code: LVLI Case No.: RA001 SAS No.: SDG No.: 0122

matrix (soil/water): WATER

Lab Sample ID: 0201L829-002

level (low/med): LOW

Date Received: 01/23/02

Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

[illegible][illegible]

Color After: _____ Clarity After: _____ Artifacts: _____

omments:

RA001-0122-A1MW-8A

1

INORGANIC ANALYSES DATA SHEET

A1MW8B

1
INORGANIC ANALYSES DATA SHEET

A1MW9A

Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

[illegible]

comments:

RA001-0122-A1MW-9A

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

A1MW9B

ab Name: LIONVILLE LABORATORY_____ Contract: 1667-601_____

Lab Code: LVLI__ Case No.: RA001_ SAS No.: _____ SDG No.: 0122__

Matrix (soil/water): WATER Lab Sample ID: 0201L829-004

Level (low/med): LOW__ Date Received: 01/23/02

Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

[illegible]

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

omments:

RA001-0122-A1MW-9B

FORM I - IN

ILM04.0

1
INORGANIC ANALYSES DATA SHEET

MW 1

1

INORGANIC ANALYSES DATA SHEET

MW3

1
INORGANIC ANALYSES DATA SHEET

MW4

Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

[illegible]

omments:

RA001-0122-MW-4 _____

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

ab Name: LIONVILLE_LABORATORY_____ Contract: 1667-601____

ab Code: LVLI_____ Case No.: RA001_ SAS No.: _____ SDG No.: 0122____

nitial Calibration Source: IV_____

ontinuing Calibration Source: IV_____

Concentration Units: ug/L

[illegible]

1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2B
CRDL STANDARD FOR AA AND ICP

Concentration Units: ug/L

ontrol Limits: no limits have been established by EPA at this time

3
BLANKS

ab Name: LIONVILLE_LABORATORY_____ Contract: 1667-601____

ab Code: LVLI_____ Case No.: RA001_ SAS No.: _____ SDG No.: 0122____

reparation Blank Matrix (soil/water): WATER

reparation Blank Concentration Units (ug/L or mg/kg): UG/L_____

[illegible]

3 BLANKS

[illegible]

EPA SAMPLE NO.

A1MW8AS

ab Name: LIONVILLE LABORATORY

Contract: 1667-601

ab Code: LVLI

Case No.: RA001_

SAS No.:

SDG No.: 0122

matrix (soil/water): WATER

Level (low/med): LOW

Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

[illegible]

omments:

RA001-0122-A1MW-8A

6
DUPLICATES

EPA SAMPLE NO.

A1MW8AD

Lab Name: LIONVILLE LABORATORY_____ Contract: 1667-601_____

Lab Code: LVLI_____ Case No.: RA001_____ SAS No.: _____ SDG No.: 0122_____

Matrix (soil/water): WATER Level (low/med): LOW

Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

[illegible]

LABORATORY CONTROL SAMPLE

[illegible]

9
ICP SERIAL DILUTION

A1MW8AL

Matrix (soil/water): WATER Level (low/med): LOW

[illegible]

urnace AA ID Number : _____

[illegible]

omments:

ab Name: LIONVILLE_LABORATORY_____ Contract: 1667-601____
ab Code: LVLI_____ Case No.: RA001_ SAS No.: _____ SDG No.: 0122____
CP ID Number: IC3_____ Date: 02/18/00

[illegible]

omments:

12
ICP LINEAR RANGES (QUARTERLY)

CP ID Number: IC3_____ Date: 01/17/02

[illegible]

40

13
PREPARATION LOG

[illegible]

U.S. EPA - CLP

14
ANALYSIS RUN LOG

Lab Name: LIONVILLE LABORATORY_____

Contract: 1667-601_____

Lab Code: LVLI_____ Case No.: RA001_____

SAS No.: _____ SDG No.: 0122_____

Instrument ID Number: IC3_____

Method: P_____

Start Date: 01/24/02

End Date: 01/24/02

EPA Sample No.	D/F	Time	% R	Analytes																									
				F E	M N																								
30	1.00	1349		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
31	1.00	1351		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ICV	1.00	1355		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ICB	1.00	1358		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CRI	1.00	1401		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ICSA	1.00	1403		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ICSAB	1.00	1406		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CCV	1.00	1409		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CCB	1.00	1413		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PBW127	1.00	1415		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
LCSW127	1.00	1418		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A1MW8A	1.00	1422		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A1MW8AL	5.00	1425		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A1MW8AD	1.00	1428		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A1MW8AS	1.00	1431		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A1MW8B	1.00	1434		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A1MW9B	1.00	1438		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A1MW9A	1.00	1441		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A1MW0A	1.00	1445		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CCV	1.00	1449		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CCB	1.00	1452		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A1MW0B	1.00	1455		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A1MW1A	1.00	1458		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
A1MW1B	1.00	1502		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW4	1.00	1505		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW3	1.00	1509		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW7	1.00	1512		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW1	1.00	1515		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CCV	1.00	1520		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CCB	1.00	1523		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CRI	1.00	1526		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
ICSA	1.00	1528		X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

14
ANALYSIS RUN LOG

End Date: 01/24/02

43

Raw Data

Metals By ICP

Method: NYS Standard: SO
 Run Time: 01/24/02 13:49:16

lem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
vge	.0687	.0013	.0087	-.0033	.0000	-.0040
Dev	.0064	.0023	.0031	.0090	.0000	.0020
RSD	9.363	173.2	35.25	270.6	.0000	50.00
1	.0640	.0040	.0080	.0060	.0000	-.0020
2	.0660	.0000	.0060	-.0120	.0000	-.0060
3	.0760	.0000	.0120	-.0040	.0000	-.0040

Metreved
Updated
PMP
01-24-02

NYSDEC
 CLP

PS0124C
 02L0027-MB1
 -LC1
 0201L829-002,R.5
 ↓
 -013

PMP
01-24-02

ethod: NYS Standard: Sl
un Time: 01/24/02 13:51:43

Elem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Avge	4.943	1.262	30.75	26.62	1.880	7.205
SDev	.027	.007	.10	.08	.002	.023
%RSD	.5464	.5714	.3396	.2857	.1064	.3193
#1	4.970	1.268	30.87	26.69	1.882	7.228
#2	4.916	1.264	30.67	26.54	1.878	7.204
#3	4.942	1.254	30.70	26.61	1.880	7.182

Method: NYS

Sample Name: ICV

Operator: PMP

Run Time: 01/24/02 13:55:07

Comment:

Mode: CONC Corr. Factor: 1



Elem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	3776.	382.9	3820.	18910.	573.9	1915.
SDev	51.	1.6	33.	169.	5.6	23.
SRSD	1.339	.4119	.8532	.8955	.9766	1.178
t1	3762.	382.9	3828.	18860.	574.5	1910.
t2	3832.	384.4	3848.	19100.	579.3	1939.
t3	3733.	381.3	3784.	18770.	568.1	1895.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	3750.	375.0	3750.	18750.	562.5	1875.
Range	10.00	10.00	10.00	10.00	10.00	10.00

Method: NYS Sample Name: ICB Operator: PMP
 Run Time: 01/24/02 13:58:48
 Comment:
 Code: CONC Corr. Factor: 1



Elem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	1.443	3.712	-.2169	8.765	1.596	3.700
SDev	10.18	2.757	1.3013	12.08	.000	.801
%RSD	705.8	74.27	600.0	137.8	.0022	21.63
#1	10.88	2.120	-1.518	-5.009	1.596	2.776
#2	2.805	6.895	1.084	13.77	1.596	4.162
#3	-9.352	2.120	-.2169	17.53	1.596	4.164
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	100.0	10.00	100.0	5000.	15.00	50.00
Low	-100.0	-10.00	-100.0	-5000.	-15.00	-50.00

Method: NYS

Sample Name: CRI

Operator: PMP

Run Time: 01/24/02 14:01:15

Comment:

Mode: CONC Corr. Factor: 1

✓

Elem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	218.8	22.21	208.9	995.5	25.00	105.9
SD	9.4	2.43	2.1	15.6	.92	3.2
RSD	4.296	10.94	1.001	1.571	3.686	3.027
t1	224.1	19.56	207.3	983.0	25.53	104.0
t2	224.3	22.74	211.2	1013.	25.53	109.6
t3	207.9	24.34	208.0	990.5	23.94	104.0
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	200.0	20.00	200.0	1000.	30.00	100.0
Range	50.00	50.00	50.00	50.00	50.00	50.00

Method: NYS

Sample Name: ISA

Operator: PMP

Run Time: 01/24/02 14:03:42

Comment:

Code: CONC Corr. Factor: 1

✓

Elem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	482600.	8.478	176900.	476300.	-5.957	17.03
SD	4096.	5.510	1176.	3391.	.088	5.53
%RSD	.8488	65.00	.6649	.7120	1.474	32.44
#1	485900.	5.297	177800.	479200.	-6.032	13.54
#2	484000.	14.84	177300.	477300.	-5.980	23.41
#3	478000.	5.296	175500.	472600.	-5.861	14.15
Errors	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK
Value	500000.		200000.	500000.		
Range	20.00		20.00	20.00		

Method: NYS

Sample Name: ISB

Operator: PMP

Run Time: 01/24/02 14:06:09

Comment:

Mode: CONC Corr. Factor: 1



Elem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	484300.	456.5	177000.	477100.	445.7	473.5
SDev	3002.	1.8	652.	2173.	1.6	8.8
%RSD	.6199	.4039	.3684	.4554	.3478	1.853

#1	485500.	455.4	177100.	477600.	447.3	480.0
#2	486500.	455.4	177600.	479100.	445.7	477.1
#3	480900.	458.6	176300.	474800.	444.2	463.5

Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500000.	500.0	200000.	500000.	500.0	500.0
Range	20.00	20.00	20.00	20.00	20.00	20.00

Method: NYS

Sample Name: CCV

Operator: PMP

Run Time: 01/24/02 14:09:50

Comment:

Mode: CONC Corr. Factor: 1



Item	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Average	5036.	513.0	5064.	25260.	762.8	2555.
StDev	16.	4.2	11.	167.	3.2	28.
SRSD	.3260	.8245	.2159	.6618	.4194	1.083
F1	5030.	516.2	5062.	25350.	759.6	2539.
F2	5023.	508.2	5055.	25070.	766.0	2587.
F3	5054.	514.6	5076.	25360.	762.8	2540.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	500.0	5000.	25000.	750.0	2500.
Range	10.00	10.00	10.00	10.00	10.00	10.00

Analysis Report	Blank Sample	01/24/02 02:15:53 PM	page 1
Method: NYS	Sample Name: CCB	Operator: PMP	
Run Time: 01/24/02 14:13:30			
Comment:			
Mode: CONC	Corr. Factor: 1		

	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	8.231	6.363	.4338	20.04	1.064	5.087
SD	14.26	2.430	1.127	12.08	.922	2.119
RSD	173.3	38.19	259.8	60.27	86.61	41.66
F1	23.10	6.894	-.2169	25.04	-.0000	5.550
F2	6.926	8.485	1.735	28.80	1.596	6.937
F3	-5.334	3.712	-.2169	6.261	1.596	2.775
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	100.0	10.00	100.0	5000.	15.00	50.00
Low	-100.0	-10.00	-100.0	-5000.	-15.00	-50.00

Analysis Report

01/24/02 02:18:20 PM

page 1

Method: NYS Sample Name: 02L0027-MB1 Operator: PMP
 Run Time: 01/24/02 14:15:57
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Al3082	Cr2677	Fe2599 ✓	Mg2790	Mn2576 ✓	V-2924
Units	ppb	ppb	ppb ✓	ppb	ppb ✓	ppb
Avg	29.78	2.121	1.735	38.82	.5311	2.312
SD	12.37	1.592	.651	2.17	.9213	2.120
%RSD	41.55	75.08	37.50	5.587	173.5	91.72
#1	19.01	.5278	2.386	40.07	-.0005	4.163
#2	27.02	2.122	1.735	36.31	-.0012	-.0015
#3	43.30	3.712	1.084	40.07	1.595	2.774
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	100.0	10.00	100.0	5000.	15.00	50.00
Low	-100.0	-10.00	-100.0	-5000.	-15.00	-50.00

Analysis Report

01/24/02 02:20:47 PM

page 1

Method: NYS Sample Name: 02L0027-LC1 Operator: PMP
 Run Time: 01/24/02 14:18:23
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	5109.	504.0	5072.	25420.	754.8	2521.
SD	23.	9.3	20.	211.	1.6	24.
SRSD	.4580	1.849	.3990	.8313	.2107	.9698
t1	5127.	514.6	5094.	25610.	756.4	2529.
t2	5083.	500.2	5054.	25190.	753.2	2541.
t3	5118.	497.1	5067.	25440.	754.8	2494.
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	6000.	600.0	6000.	30000.	900.0	3000.
Low	4000.	400.0	4000.	20000.	600.0	2000.

Analysis Report

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Method: NYS Sample Name: 0201L829-002 Operator: PMP
 In Time: 01/24/02 14:22:04
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Al3082	Cr2677	Fe2599 ✓	Mg2790	Mn2576 ✓	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	233.8	10.08	407.3	2989.	55.80	4.030
SD	7.0	.00	3.6	32.	.00	1.389
RSD	3.015	.0091	.8798	1.074	.0018	34.46
H1	225.7	10.08	409.7	3019.	55.79	2.640
H2	237.8	10.08	403.2	2993.	55.80	4.030
H3	237.9	10.08	409.0	2955.	55.80	5.418
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1000000.	100000.	500000.	500000.	100000.	50000.
Low	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

Method: NYS Sample Name: 0201L829-002L Operator: PMP
In Time: 01/24/02 14:25:27
Comment:
Mode: CONC Corr. Factor: 1

Elem	Al3082	Cr2677	Fe2599 ✓	Mg2790	Mn2576 ✓	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	54.11	2.651	82.63	576.0	13.29	3.212
SD	2.32	3.312	2.71	24.2	1.84	2.889
SRSD	4.289	124.9	3.278	4.193	13.87	89.97
#1	55.52	3.710	81.77	558.5	14.35	5.525
#2	51.43	5.303	80.47	566.0	11.16	4.137
#3	55.38	-1.061	85.67	603.6	14.35	-0.0270
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1000000.	100000.	500000.	500000.	100000.	50000.
Low	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

Method: NYS Sample Name: 0201L829-002R Operator: PMP
 Run Time: 01/24/02 14:28:30
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb ✓	ppb	ppb ✓	ppb
Avg	191.9	7.957	400.8	3007.	55.80	3.106
SD	6.2	4.595	5.1	50.	.00	.801
%RSD	3.216	57.75	1.261	1.664	.0018	25.78
#1	185.2	5.303	406.4	3049.	55.79	4.031
#2	197.3	13.26	399.3	3019.	55.79	2.642
#3	193.2	5.304	396.7	2951.	55.80	2.646
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1000000.	100000.	500000.	500000.	100000.	50000.
Low	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

Method: NYS Sample Name: 0201L829-002S Operator: PMP
 Run Time: 01/24/02 14:31:34
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Al3082	Cr2677	Fe2599 ✓	Mg2790	Mn2576 ✓	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	2195.	188.6	1270.	25200.	496.8	442.6
SDev	18.	2.4	8.	224.	2.4	3.2
%RSD	.8357	1.290	.6487	.8880	.4897	.7234
#1	2214.	186.5	1279.	25450.	499.0	446.3
#2	2178.	188.1	1263.	25010.	494.2	440.8
#3	2194.	191.2	1269.	25150.	497.4	440.8
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1000000.	100000.	500000.	500000.	100000.	50000.
Low	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

Method: NYS Sample Name: 0201L829-003 Operator: PMP
 Run Time: 01/24/02 14:34:56
 Comment:
 Code: CONC Corr. Factor: 1

Elem	Al3082	Cr2677	Fe2599 ✓	Mg2790	Mn2576 ✓	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avge	55.38	2.122	58.13	4056.	24.37	-1.0630
SDev	21.51	6.365	4.18	23.	.92	2.7734
%RSD	38.84	299.9	7.197	.5557	3.780	4401.
#1	63.49	2.122	56.39	4078.	23.83	-1.0629
#2	71.66	8.487	62.90	4033.	23.84	2.710
#3	31.00	-4.243	55.09	4056.	25.43	-2.836
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1000000.	100000.	500000.	500000.	100000.	50000.
Low	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

Analysis Report

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Method: NYS Sample Name: 0201L829-004

Operator: PMP

Run Time: 01/24/02 14:38:18

Comment:

Mode: CONC Corr. Factor: 1

Elem	Al3082	Cr2677	Fe2599 ✓	Mg2790	Mn2576 ✓	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	43.32	.5281	26.46	2149.	11.12	3.670
SD	6.97	2.756	.65	14.	.00	2.119
SRSD	16.09	521.8	2.459	.6619	.0017	57.75
F1	51.37	-2.654	25.81	2132.	11.12	1.357
F2	39.28	2.120	26.46	2159.	11.12	4.132
F3	39.31	2.119	27.11	2155.	11.12	5.520
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1000000.	100000.	500000.	500000.	100000.	50000.
Low	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

Method: NYS Sample Name: 0201L829-005 Operator: PMP
Run Time: 01/24/02 14:41:39
Comment:
Code: CONC Corr. Factor: 1

Elem	Al3082	Cr2677	Fe2599 ✓	Mg2790	Mn2576 ✓	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	87.87	4.243	119.3	3868.	80.77	2.700
SDev	4.09	1.838	2.0	29.	.92	2.777
%RSD	4.652	43.32	1.666	.7585	1.142	102.8
#1	91.99	5.302	117.6	3849.	81.30	5.477
#2	87.80	5.306	121.5	3853.	81.30	-1.0765
#3	83.82	2.120	118.9	3902.	79.70	2.701
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1000000.	100000.	500000.	500000.	100000.	50000.
Low	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

alysis Report

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page 1

thod: NYS Sample Name: 0201L829-006 Operator: PMP
 n Time: 01/24/02 14:45:01
 mment:
 de: CONC Corr. Factor: 1

lem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
nits	ppb	ppb	ppb ✓	ppb	ppb ✓	ppb
vge	1040.	5.304	39.04	5101.	516.4	2.241
Dev	15.	1.593	2.29	30.	1.8	2.890
RSD	1.405	30.04	5.853	.5952	.3569	129.0
1	1024.	5.305	41.43	5096.	518.5	1.316
2	1052.	6.897	36.87	5134.	515.3	-.0725
3	1044.	3.710	38.82	5074.	515.3	5.481
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
high	1000000.	100000.	500000.	500000.	100000.	50000.
low	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

Method: NYS Sample Name: CCV
Run Time: 01/24/02 14:49:19
Comment:
Mode: CONC Corr. Factor: 1

Operator: PMP

✓

Elem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	5077.	508.2	5064.	25480.	758.5	2514.
SD	27.	2.8	21.	77.	1.8	13.
%RSD	.5373	.5438	.4088	.3011	.2425	.5012
#1	5086.	506.6	5074.	25520.	759.6	2512.
#2	5046.	506.6	5040.	25400.	756.4	2528.
#3	5098.	511.4	5077.	25540.	759.6	2503.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	500.0	5000.	25000.	750.0	2500.
Range	10.00	10.00	10.00	10.00	10.00	10.00

Analysis Report Blank Sample 01/24/02 02:55:22 PM page 1
 Method: NYS Sample Name: CCB Operator: PMP
 Run Time: 01/24/02 14:52:59
 Comment:
 Mode: CONC Corr. Factor: 1



Item	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	14.93	1.590	.4338	15.03	1.064	2.775
StdDev	18.61	2.431	.6507	5.74	.921	1.388
SRSD	124.6	152.9	150.0	38.19	86.60	50.00
F1	35.22	2.120	-.2169	13.77	1.596	4.164
F2	-1.316	-1.062	.4338	10.02	-.0000	1.388
F3	10.88	3.712	1.084	21.29	1.596	2.775
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	100.0	10.00	100.0	5000.	15.00	50.00
Low	-100.0	-10.00	-100.0	-5000.	-15.00	-50.00

Analysis Report

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Method: NYS Sample Name: 0201L829-007 Operator: PMP
 Run Time: 01/24/02 14:55:25
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Al3082	Cr2677	Fe2599 ✓	Mg2790	Mn2576 ✓	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	35.13	2.122	5.205	1638.	559.6	.4411
SD	6.98	1.594	2.285	2.	4.0	4.462
%RSD	19.87	75.12	43.90	.1324	.7176	1012.
#1	31.21	.5269	7.591	1637.	555.3	5.531
#2	31.00	2.124	3.036	1640.	563.3	-2.797
#3	43.19	3.715	4.988	1637.	560.1	-1.410
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1000000.	100000.	500000.	500000.	100000.	50000.
Low	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

Method: NYS Sample Name: 0201L829-008 Operator: PMP
 Run Time: 01/24/02 14:58:57
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Al3082	Cr2677	Fe2599 ✓	Mg2790	Mn2576 ✓	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	168.9	44.57	557.6	4025.	15.34	3.508
SD	7.0	1.84	1.0	12.	.92	2.890
%RSD	4.125	4.127	.1782	.3001	6.008	82.40
#1	177.0	46.69	558.7	4033.	14.28	1.193
#2	165.0	43.50	556.7	4011.	15.88	6.747
#3	164.9	43.50	557.4	4030.	15.88	2.583
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1000000.	100000.	500000.	500000.	100000.	50000.
Low	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

Method: NYS Sample Name: 0201L829-009 Operator: PMP
 Run Time: 01/24/02 15:02:19
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	67.56	2.122	28.85 ✓	4335.	239.8 ✓	.8659
SD	7.04	.001	2.29	8.	1.8	1.603
%RSD	10.42	.0490	7.922	.1804	.7684	185.2
#1	59.44	2.122	29.06	4341.	240.9	-.0596
#2	71.66	2.120	26.46	4338.	237.7	2.717
#3	71.59	2.122	31.01	4326.	240.9	-.0599
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1000000.	100000.	500000.	500000.	100000.	50000.
Low	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

alysis Report

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page 1

Method: NYS Sample Name: 0201L829-010 Operator: PMP
 Run Time: 01/24/02 15:05:41
 Comment:
 Mode: CONC Corr. Factor: 1

Item	Al3082	Cr2677	Fe2599 ✓	Mg2790	Mn2576 ✓	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Average	155.5	4.771	235.1	7849.	32.79	5.864
StdDev	12.4	.919	2.5	21.	1.84	.801
IRSD	7.953	19.26	1.048	.2636	5.619	13.65
1	169.0	5.302	233.4	7827.	31.72	5.402
2	144.7	5.301	237.9	7850.	31.72	6.789
3	152.8	3.710	234.0	7869.	34.92	5.402
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1000000.	100000.	500000.	500000.	100000.	50000.
Low	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

alysis Report

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page 1

thod: NYS Sample Name: 0201L829-011 Operator: PMP
 n Time: 01/24/02 15:09:04
 mment:
 de: CONC Corr. Factor: 1

lem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	109.6	12.73	154.4	6483.	3.029	5.434
Dev	6.2	2.43	3.7	39.	.001	1.388
RSD	5.681	19.09	2.396	.6050	.0366	25.54
1	116.3	13.26	153.3	6438.	3.031	6.823
2	108.2	14.85	158.5	6509.	3.029	5.432
3	104.1	10.08	151.4	6501.	3.029	4.047
rrors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
igh	1000000.	100000.	500000.	500000.	100000.	50000.
ow	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

alysis Report

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thod: NYS Sample Name: 0201L829-012 Operator: PMP
 n Time: 01/24/02 15:12:27
 mment:
 de: CONC Corr. Factor: 1

lem	Al3082	Cr2677	Fe2599 ✓	Mg2790	Mn2576 ✓	V-2924
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	583.6	.5282	22.34	3833.	1303.	3.650
Dev	4.6	2.756	2.29	15.	2.	1.602
RSD	.7949	521.8	10.23	.3961	.1415	43.89
1	586.3	-1.063	19.95	3842.	1302.	2.726
2	586.3	-1.063	24.51	3842.	1302.	2.725
3	578.3	3.710	22.56	3815.	1305.	5.500
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1000000.	100000.	500000.	500000.	100000.	50000.
Low	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

Analysis Report

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Method: NYS Sample Name: 0201L829-013 Operator: PMP
 Run Time: 01/24/02 15:15:49
 Comment:
 Mode: CONC Corr. Factor: 1

Elem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	21.68	4.773	12.36	5649.	12.62	2.704
SD	16.94	.917	2.09	16.	.00	2.776
%RSD	78.12	19.22	16.92	.2899	.0052	102.6
#1	35.26	5.302	14.75	5637.	12.62	5.480
#2	2.702	3.714	11.50	5641.	12.62	-.0716
#3	27.08	5.304	10.84	5667.	12.62	2.704
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	1000000.	100000.	500000.	500000.	100000.	50000.
Low	-75.60	-16.20	-15.90	-72.90	-3.000	-12.90

thod: NYS

Sample Name: CCV

Operator: PMP

n Time: 01/24/02 15:20:07

mmment:

de: CONC Corr. Factor: 1

lem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	5104.	506.6	5091.	25560.	760.6	2510.
Dev	23.	5.7	18.	92.	.9	22.
RSD	.4479	1.130	.3582	.3607	.1214	.8817
1	5119.	511.4	5092.	25650.	761.2	2521.
2	5077.	500.3	5072.	25460.	759.6	2484.
3	5115.	508.2	5109.	25570.	761.2	2525.
rrors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
alue	5000.	500.0	5000.	25000.	750.0	2500.
ange	10.00	10.00	10.00	10.00	10.00	10.00

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thod: NYS

Sample Name: CCB

Operator: PMP

n Time: 01/24/02 15:23:48

mmment:

de: CONC Corr. Factor: 1



lem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	24.38	2.120	-1.084	1.252	1.596	2.776
Dev	8.39	1.593	.994	13.19	.001	2.405
RSD	34.43	75.13	91.65	1054.	.0514	86.63
1	27.12	2.120	-.2169	2.504	1.596	4.164
2	14.96	.5278	-.8675	-12.52	1.597	4.165
3	31.07	3.714	-2.169	13.77	1.595	-.0009
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	100.0	10.00	100.0	5000.	15.00	50.00
Low	-100.0	-10.00	-100.0	-5000.	-15.00	-50.00

alysis Report

QC Standard

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thod: NYS

Sample Name: CRI

Operator: PMP

n Time: 01/24/02 15:26:14

mment:

de: CONC Corr. Factor: 1



lem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	225.5	23.28	208.6	1046.	31.38	103.6
Dev	10.2	1.84	4.6	31.	.92	.8
RSD	4.531	7.894	2.183	2.926	2.934	.7719

1	216.0	21.15	203.4	1024.	31.91	102.7
2	236.3	24.34	210.6	1081.	31.91	104.0
3	224.1	24.34	211.9	1032.	30.32	104.0

rrors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
alue	200.0	20.00	200.0	1000.	30.00	100.0
ange	50.00	50.00	50.00	50.00	50.00	50.00

Method: NYS Sample Name: ISA

Operator: PMP

Run Time: 01/24/02 15:28:41

Comment:

Mode: CONC Corr. Factor: 1



Element	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Value	494600.	8.477	178900.	486700.	-4.687	18.27
Dev	4646.	5.513	834.	3405.	.111	3.59
RSD	.9393	65.04	.4660	.6996	2.361	19.63

1	489300.	14.84	178000.	482800.	-4.559	19.00
2	497700.	5.292	179200.	488400.	-4.758	21.44
3	496900.	5.296	179700.	488900.	-4.744	14.38

Errors	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK
Value	500000.		200000.	500000.		
Range	20.00		20.00	20.00		

alysis Report

QC Standard

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thod: NYS

Sample Name: ISB

Operator: PMP

n Time: 01/24/02 15:31:08

mment:

de: CONC Corr. Factor: 1



lem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
nits	ppb	ppb	ppb	ppb	ppb	ppb
vge	495800.	457.6	179500.	487700.	450.2	477.9
Dev	1917.	.9	429.	1672.	1.6	3.8
RSD	.3866	.2012	.2392	.3429	.3647	.7867

1	498000.	457.0	179900.	489600.	448.6	476.4
2	494400.	458.6	179500.	487000.	451.8	475.1
3	495100.	457.0	179100.	486400.	450.2	482.2

rrors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
alue	500000.	500.0	200000.	500000.	500.0	500.0
ange	20.00	20.00	20.00	20.00	20.00	20.00

Analysis Report

QC Standard

01/24/02 03:37:11 PM

page 1

Method: NYS

Sample Name: CCV

Operator: PMP

Run Time: 01/24/02 15:34:48

Comment:

Mode: CONC Corr. Factor: 1

✓

Elem	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	5131.	513.0	5135.	25740.	767.5	2527.
SD	28.	2.8	32.	241.	1.6	17.
RSD	.5549	.5392	.6249	.9373	.2075	.6910
#1	5164.	511.4	5170.	25960.	769.1	2546.
#2	5114.	516.2	5128.	25760.	767.5	2511.
#3	5115.	511.4	5107.	25480.	766.0	2525.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	5000.	500.0	5000.	25000.	750.0	2500.
Range	10.00	10.00	10.00	10.00	10.00	10.00

Analysis Report	Blank Sample	01/24/02 03:40:52 PM	page 1
Method: NYS	Sample Name: CCB	Operator: PMP	
Run Time: 01/24/02 15:38:29			
Comment:			
Mode: CONC	Corr. Factor: 1		

Item	Al3082	Cr2677	Fe2599	Mg2790	Mn2576	V-2924
Units	ppb	ppb	ppb	ppb	ppb	ppb
Avg	13.61	3.711	.2169	10.02	1.064	4.163
SD	6.13	2.756	1.988	6.51	.922	2.403
RSD	45.06	74.26	916.5	64.95	86.60	57.73
F1	6.926	5.301	2.386	17.53	1.597	6.938
F2	14.93	5.304	-1.518	6.261	.0000	2.775
F3	18.98	.5287	-.2169	6.261	1.596	2.776
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	100.0	10.00	100.0	5000.	15.00	50.00
Low	-100.0	-10.00	-100.0	-5000.	-15.00	-50.00

STATUS INFORMATION **

Version: 115.0
Date Created: 07/31/91 08:49 Date Last Updated: 01/24/02 01:46

Number of elements: 6 Number of lines: 6

Number of lines calibrated: 0
Number of lines standardized: 6 01/24/02 01:51 - 01/24/02 01:51

Data collection mode: Spectrum Shifter <4 positions>

Approx. time for analysis 2.0 mins.

Protection status: Un-protected

METHOD INFORMATION **

Sample Introduction Device: Normal
Calibration Mode: Concentration

Default Setup:

Number of Repeats : 3	Auto-store Analysis Data? Yes
Flush Time (sec) : 60.0	Auto-store Stdzn Data? Yes
Auto-Increment Sample Names? No	Store Individual Repeats? Yes
	Auto-print Analysis Data? Yes
	Auto-print Stdzn Report : None
	Condensed Print Format? No

Default File Names:

Analysis Data File : PS0124C	Autosampler Table : PS0122A
Calibration Data File : PS0124C	Sample Limits Table : LRIDL
Calibration Stds Table : PS0124C	Blank Limits Table : MBIDL
	QC Check Table : CCV

TERNAL STANDARDS INFORMATION **

Elem Symbol	Wavelength	Pre-integration	Integration	Used?
Time		0	5.0	Yes

Ratio Constant/Intensity Multiplication Factor: .1

Elem Symbol	Wavelength	Pre-integration	Integration	Used?
Time		0	5.0	No

Ratio Constant/Intensity Multiplication Factor: 1

Elem Symbol	Wavelength	Pre-integration	Integration	Used?
Time		0	5.0	No

Ratio Constant/Intensity Multiplication Factor: 1

Elem Symbol	Wavelength	Pre-integration	Integration	Used?
Time		0	5.0	No

Ratio Constant/Intensity Multiplication Factor: 1

Elem Symbol	Wavelength	Pre-integration	Integration	Used?
Time		0	5.0	No

Ratio Constant/Intensity Multiplication Factor: 1

Elem Symbol	Wavelength	Pre-integration	Integration	Used?
Time		0	5.0	No

Ratio Constant/Intensity Multiplication Factor: 1

Elem Symbol	Wavelength	Pre-integration	Integration	Used?
Time		0	5.0	No

Ratio Constant/Intensity Multiplication Factor: 1

INPUT INFORMATION **

Input Mode: Concentration
Override Print Limits? Yes
Override Significant Figures? No
Apply Background Correction? Yes
Apply Blank Subtraction? No
Limits Table: LRIDL Check? Yes
Correction Factor: 1

Report to:

Screen Avgs
Printer Avgs, Stats, Reps, Errs, Units

PLASMA INFORMATION **

Gas Flow Rates

torch gas flow : High Flow
Auxiliary gas flow: Medium (1.0 L/min)

Peristaltic Pump Parameters

Flush Pump Rate (RPM): 100
Relaxation time (sec): 0
Pump Tubing type : Tygon-Orange

Plasma Parameters

	Group #1	Group #2	Group #3	Group #4	Special Group
	-----	-----	-----	-----	-----
Approximate RF Power (W):	1150	1350	950	1750	1150
Analysis Pump Rate (RPM):	100	100	100	100	100
Nebulizer Pressure (PSI):	30	30	30	30	30

ement:	Al	Cr	Fe	Mg	Mn
avelength:	308.215/2	267.716	259.940	279.079	257.610
ement Name:	Al3082	Cr2677	Fe2599	Mg2790	Mn2576
ne Switch Conc:	0	0	0	0	0
ak SS Offset:	0	0	0	0	0
ming Group No.:	1	1	1	1	1
int Limit Low:	0	0	0	0	0
int Limit High:	0	0	0	0	0
gnificant Figrs:	4	4	4	4	4
int Units:	ppb	ppb	ppb	ppb	ppb
G Low SS Offset:	NONE	-15	-15	-15	NONE
G High SS Offset:	15	NONE	NONE	NONE	15
G Element Name:	--n/a--	--n/a--	--n/a--	--n/a--	--n/a--
G Factor:	--n/a--	--n/a--	--n/a--	--n/a--	--n/a--

dz. Method:	2pt Uncalib	2pt Uncalib	2pt Uncalib	2pt Uncalib	2pt Uncalib
d #1 (High) Name:	S1	S1	S1	S1	S1
Conc/Sig:	10000	1000	10000	50000	1500
d #2 (Low) Name:	S0	S0	S0	S0	S0
Conc/Sig:	0	0	0	0	0
d #3 Name:	--n/a--	--n/a--	--n/a--	--n/a--	--n/a--
Conc:	--n/a--	--n/a--	--n/a--	--n/a--	--n/a--
d #4 Name:	--n/a--	--n/a--	--n/a--	--n/a--	--n/a--
Conc:	--n/a--	--n/a--	--n/a--	--n/a--	--n/a--
d #5 Name:	--n/a--	--n/a--	--n/a--	--n/a--	--n/a--
Conc:	--n/a--	--n/a--	--n/a--	--n/a--	--n/a--

- intercept:	-139.136	-1.06114	-2.81953	6.26096	0
lope:	2026.25	795.857	325.33	1878.29	797.973

ate Standardized:	01/24/02	01/24/02	01/24/02	01/24/02	01/24/02
ime Standardized:	13:51	13:51	13:51	13:51	13:51

ffset (A0):	0	0	0	0	0
ain (A1):	1	1	1	1	1
rvature (A2):	0	0	0	0	0
xponent (n):	1	1	1	1	1

ax. Inflection:	NONE	NONE	NONE	NONE	NONE
-----------------	------	------	------	------	------

ate of Fit:	NO FIT	NO FIT	NO FIT	NO FIT	NO FIT
ime of Fit:					

se IECs:	YES	YES	NO	NO	YES
umber of IECs:	1	1	0	0	4

fecting Element:	V-2924	V-2924	--n/a--	--n/a--	Fe2599
factor:	-.02482	.000662	--n/a--	--n/a--	-.00004
factor:	0	0	--n/a--	--n/a--	0
e?:	YES	YES	--n/a--	--n/a--	YES

fecting Element:	--n/a--	--n/a--	--n/a--	--n/a--	Al3082
factor:	--n/a--	--n/a--	--n/a--	--n/a--	.000012
factor:	--n/a--	--n/a--	--n/a--	--n/a--	0
e?:	--n/a--	--n/a--	--n/a--	--n/a--	YES

fecting Element:	--n/a--	--n/a--	--n/a--	--n/a--	V-2924
factor:	--n/a--	--n/a--	--n/a--	--n/a--	-.00016
factor:	--n/a--	--n/a--	--n/a--	--n/a--	0
e?:	--n/a--	--n/a--	--n/a--	--n/a--	YES

fecting Element:	--n/a--	--n/a--	--n/a--	--n/a--	Mg2790
factor:	--n/a--	--n/a--	--n/a--	--n/a--	.000026
factor:	--n/a--	--n/a--	--n/a--	--n/a--	0
e?:	--n/a--	--n/a--	--n/a--	--n/a--	YES

ement: V
velength: 292.402

ement Name: V-2924
ne Switch Conc: 0
ak SS Offset: 0

ming Group No.: 1

int Limit Low: 0
int Limit High: 0

gnificant Figrs: 4
int Units: ppb

IG Low SS Offset: NONE
IG High SS Offset: 29
IG Element Name: --n/a--
IG Factor: --n/a--

dz. Method: 2pt Uncalib
d #1 (High) Name: S1
Conc/Sig: 5000
d #2 (Low) Name: S0
Conc/Sig: 0
d #3 Name: --n/a--
Conc: --n/a--
d #4 Name: --n/a--
Conc: --n/a--
d #5 Name: --n/a--
Conc: --n/a--

- intercept: 2.77626
lope: 694.064

ate Standardized: 01/24/02
ime Standardized: 13:51

ffset (A0): 0
ain (A1): 1
urvature (A2): 0
xponent (n): 1

ax. Inflection: NONE

ate of Fit: NO FIT
ime of Fit:

se IECs: YES
umber of IECs: 3

thod: NYS

Element Information 01/24/02 03:45:09 PM

page 7

fecting Element: Fe2599
factor: .000235
factor: 0
e?: YES

fecting Element: Cr2677
factor: .000327
factor: 0
e?: YES

fecting Element: Mg2790
factor: .000012
factor: 0
e?: YES

Digestion Log

SAMPLE DIGESTION RECORD

Digestion Batch #: 02L0027
 Date/Time Initiated: 1/23/02 1930
 Date/Time Completed: 1/23/02 2330
 Analyst(s): TLB
 Matrix: Soil Water Other: _____
 Instr. Type: AA ICP
 Parameters: Fe, Mn

SOP: L-SPI-3020 Rev. 00
 Method: SW 3005A DW 200.7 (1994)
 (circle) 3010A 200.9
 3015 3113B
 3020A
 7060A (As/Se) MCAWW 200.7 (1982)
 7760A (Ag) 200 (AA)
 206.2 (As/Se)
 3050B
 3051 SM 3030C (NC)

Digested / Undigested (circle one)

Balance #: NIA

Balance Cal Verif: Y NA

Hot Plate Temp: 93°

CLP ILMO3.0
ILMO4.0

Other _____

NYSDEC

COC Batch #	Spike Vol(s) (mL)	Initial Wt/Vol (g/mL)	Final Vol (mL)	pH <	Type: To/So/ TC	Texture	Color/Appearance	Artifact	Turb
0201L829-002		100	100	<2	TOT	NIA	CLEAR	NIA	NIA
002R									
002S	1.0								
003									
004									
005									
006									
007									
008									
009									
010									
011									
012									
013					SOL				
02L0027-M					TOT				
-LC1	1.0								
TLB 1/23/02									

Spiking IDs:

MS #: 6100-02-01

-02

-03

6072-48-13

LCS #: 6072-37-01

-02

-03

-04

Reagent IDs:

HNO₃

HCL

H₂O₂

1:1 HNO₃

1:1 HCL

File ID#:

IC002701
IC002702

LIMS Transfer:

(Y) N UNRECORDED

Data Review By/Date:

ROMP, 01/24/02

corporated

Metals Analysis by ICP

Logbook #: 8817

Analyst: RMP

Document ID: IC3

OP/Rev. # ME-200.7 00

Peak Profile: -0.002814

Spectral Shift: Units: 279 @ Time: 8:30

~~Freezer~~
~~01-24-02~~

Standard	ID	Prep Date	Exp Date
CAL	8818-025-01	01/24/02	Prepared
CV/CCV	1-02	1	Daily

Reviewed by/Date

Page # 026 B

ME-200.7-A-0801

750

(page A= ME-0002.1-6000.4-A)

90

Lionville Laboratory Incorporated

Daily ICP Standard Solution Preparation Log

Logbook #: 8818

Note: The Daily Standards prepared in this logbook expire every 24 hours.

Acid Lot# Nitric (HNO₃): 441022

Hydrochloric (HCl): 2612V37008

Standard Name or Receipt ID	Prep Date	Initial Volume (include units)	Final Volume	Matrix (Reagent used)	Analyst	Parent Expiration Date
8818-025-01 STD1	11/24/02	1 mL	100 mL	2.5 mL conc. HNO ₃ 5.0 mL conc. HCl	PDP	11-02 1 06-02
		1 mL				
		1 mL				
		1 mL				
6072-048-06 STD2		1 mL	100 mL	2.5 mL conc. HNO ₃ 5.0 mL conc. HCl		
		1 mL				
		1 mL				
		1 mL				
8818-025-02 CCV		2 mL	200 mL	5.0 mL conc. HNO ₃ 10.0 mL conc. HCl		09-02 1
		2 mL				
		2 mL				
		2 mL				
ISA	6072-047-10	10 mL	100 mL	2.5 mL conc. HNO ₃ 5.0 mL conc. HCl		10-02
ISB	6072-047-10 -044-16 -046-15 -16	10 mL	100 mL	2.5 mL conc. HNO ₃ 5.0 mL conc. HCl		10-02 03-02 08-02 1
		1 mL				
CRI	consists of 4 mL of the CCV solution See CCV for STD IDs	4 mL	100 mL	2.5 mL conc. HNO ₃ 5.0 mL conc. HCl	1	09-02

Comments: Multi-point calibration consists of 1 mL, 0.5 mL, and 0.25 mL of STD1 and STD2.

MISCELLANEOUS

End of Package


```

*****
* User name:   jgjones (363)           Queue:  CO-NW-GEN7/CN=CO-NW-DER-LJ40*
* File name:   Server: CO-NW-DER-LJ4000N-PS9      *
* Directory:   *
* Description: 0201L829v.pdf           *
*              March 13, 2002           10:12am      *
*****
*
*              j              j
*
*              jj  ggg      jj  ooo  nnnn   eee   ssss
*              j  g   g      j  o   o n   n e   e s
*              j  g   g      j  o   o n   n eeeee  sss
*              j  g   g      j  o   o n   n e       s
*              j  gggg      j  ooo  n   n   eeee ssss
*      j      j      g  j      j
*      jjj  gggg  jjj
*
*****
*
*              L      SSS  TTTT
*              L      S   S   T
*              L      S      T   ::
*              L      SSS   T   ::
*              L      S      T
*              L      S   S   T   ::
*              LLLL  SSS   T   ::
*
*
*****

```

GC/MS VOLATILES. COMPLETE SDG FILE (SDG) INVENTORY SHEET

LABORATORY NAME:	<u>Lionville Laboratory, Inc.</u>
CITY/STATE:	<u>Lionville, PA</u>
CASE/SDG NO.:	<u>0201L829</u>
CLIENT NAME:	<u>NYS DEC</u>
WORK ORDER NO.:	<u>011607-601-001-9999-00</u>
METHOD BASED ON:	<u>EPA SOW OLM01.8 (SOW 3/90) / SW8240 / SW8260 / NYSDEC ASP</u> OLM04.0 Pa 2/13/02

All documents in the Client's copy of the complete SDG file must be legible, clearly labeled, paginated, single-sided original documents; or of sufficient copy quality to be reproducible to fourth generation copies. (Purge file documents, e.g., original-copy chain-of-custody, etc. assembled per specific contract request only.)

CLIENT: SDG No.:		Page Nos		Check (initials/date)	
		From	To	Lab	Client
1	Cover Page (Lab Chron)	01	=	<u>[Signature]</u>	
2	Table of Contents (Document Inventory Sheet)	02	=	<u>2/13/02</u>	
3	Case Narrative	03	07		
4	Shipping, Receiving, and Custody Records	08	10		
	o Lab Chain of Custody/Work Request				
	o Client Custody Reports/Packing Lists				
	o Airbills				
5	Volatiles Sample QC/Data Summary	11	33		
	o Data Summary (LIMS Summary Report)				
	o System Monitoring Compound Summary (Form II VOA)				
	o MS/MSD Duplicate Summary (Form III VOA)				
	o Method Blank Summary (Form IV VOA)				
	o GC/MS Instrument Performance Check (BFB) (Form V VOA)				
	o Internal Standard Area and RT Summary (Form VIII VOA)				
6	Sample Data, for each Sample:	34	177		
	o Target Compound Results - Organic Analysis Data Sheet (Form I VOA)				
	o Tentatively Identified Compounds (TIC) (Form I VOA-TIC)				
	o Reconstructed total ion chromatograms (RIC)/Quantitation Reports				
	o Raw spectra and background-subtracted mass spectra of target compounds identified				
	o Mass spectra of all reported TICs with three best library matches				
7	Calibration Standard Data	178	229		
	Initial Calibration Data (Form VI VOA)				
	o RICs and Quan Reports for all Standards				
	Continuing Calibration Data (Form VII VOA)				

CLIENT:		Page Nos		Check (initials/date)	
SDG No.:		From	To	Lab	Client
	Continuing Calibration Data (Form VII VOA)			2/12/02 ✓	
	o Internal Standard Area and RT Summary (Form VIII VOA)			2/12/02 ✓	
	o RICs and Quan Reports for all Standards			2/12/02 ✓	
8	Raw QC Data: Tune, Blank and Matrix Spike Data	230	277		
	GC/MS Instrument Performance Check (BFB)			2/12/02 ✓	
	o Bar Graph			2/12/02 ✓	
	o Mass Listing			2/12/02 ✓	
	o Reconstructed total ion chromatograms (RIC)			2/12/02 ✓	
	Method Blank Data			2/12/02 ✓	
	o Target Compound Results (Form I VOA)			2/12/02 ✓	
	o Tentatively Identified Compounds (TIC) (Form I VOA-TIC)			2/12/02 ✓	
	o Reconstructed total ion chromatograms (RIC)/ Quantitation Reports			2/12/02 ✓	
	o Raw spectra and background-subtracted mass spectra of target compounds identified			2/12/02 ✓	
	o Mass spectra of all reported TICs with three best library matches			2/12/02 ✓	
	Blank Spike/Blank Spike Duplicate			2/12/02 ✓	
	o TCL Results (Form I VOA)			2/12/02 ✓	
	o RIC/Quant Report			2/12/02 ✓	
	Matrix Spike/Matrix Spike Duplicate			2/12/02 ✓	
	o TCL Results (Form I VOA)			2/12/02 ✓	
	o RIC/Quant Report			2/12/02 ✓	
9	Analysis Run Logs	278	285	2/12/02 ✓	
10	Standards Preparation Records	286	293	2/12/02 ✓	
	o Surrogate and Target Analyte Spike Solutions			2/12/02 ✓	
	o Analysis Standards			2/12/02 ✓	
11	Preparation Logs	294	297	2/12/02 ✓	
	o Screening Records (Logs, Chromatograms)			2/12/02 ✓	
	o % Moisture and/or % Solids Records			2/12/02 ✓	
12	Other/Miscellaneous	298	300		
	o MDL / IDL Table (circle one)				

COMMENTS: _____

Checked by:
(Laboratory)

Signature

Printed Name/Title

Date

Checked by:
(Client)

Signature

Printed Name/Title

Date

Lionville Laboratory, Inc.
VOA ANALYTICAL DATA PACKAGE FOR
NYSDEC

DATE RECEIVED: 01/23/02

LVL LOT # :0201L829

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
RA001-0122-TB#1	001	W	02LVH024	01/21/02	N/A	01/30/02
RA001-0122-A1MW-8A	002	W	02LVH020	01/21/02	N/A	01/25/02
RA001-0122-A1MW-8A	002 MS	W	02LVH020	01/21/02	N/A	01/25/02
RA001-0122-A1MW-8A	002 MSD	W	02LVH020	01/21/02	N/A	01/25/02
RA001-0122-A1MW-8B	003	W	02LVH020	01/21/02	N/A	01/25/02
RA001-0122-A1MW-9B	004	W	02LVH020	01/21/02	N/A	01/25/02
RA001-0122-A1MW-9A	005	W	02LVH020	01/21/02	N/A	01/25/02
RA001-0122-A1MW-10A	006	W	02LVH020	01/21/02	N/A	01/25/02
RA001-0122-A1MW-10A	006 D1	W	02LVH022	01/21/02	N/A	01/28/02
RA001-0122-A1MW-10B	007	W	02LVH024	01/21/02	N/A	01/30/02
RA001-0122-A1MW-11A	008	W	02LVH020	01/22/02	N/A	01/25/02
RA001-0122-A1MW-11B	009	W	02LVH020	01/22/02	N/A	01/25/02
RA001-0122-MW-4	010	W	02LVH020	01/22/02	N/A	01/25/02
RA001-0122-MW-3	011	W	02LVH020	01/22/02	N/A	01/25/02
RA001-0122-MW-7	012	W	02LVH020	01/22/02	N/A	01/25/02
RA001-0122-MW-1	013	W	02LVH020	01/22/02	N/A	01/25/02

LAB QC:

VBLKIN	MB1	W	02LVH024	N/A	N/A	01/30/02
VBLKIO	MB1	W	02LVH020	N/A	N/A	01/25/02
VBLKIO	MB1 BS	W	02LVH020	N/A	N/A	01/25/02
VBLKIJ	MB1	W	02LVH022	N/A	N/A	01/28/02
VBLKIJ	MB1 BS	W	02LVH022	N/A	N/A	01/28/02

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GC/MS Volatiles

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Case Narrative



Client: NYSDEC
LVL #: 0201L829
ELAP #: 10752

W.O.#: 01667-601-001-9999-00
Date Received: 01-23-2002

GC/MS VOLATILE

Thirteen (13) water samples were collected on 01-21,22-2002.

The samples and their associated QC samples were analyzed according to criteria set forth in NYSDEC ASP (Rev.10-95) for TCL Volatile target compounds on 01-25,28,30-2002.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
2. The required holding time for analysis was met.
3. Non-target compounds were detected in the samples.
4. Sample RA001-0122-AIMW-10A required a 2-fold dilution due to high levels of target compounds.
5. One (1) of sixty-three (63) surrogate recoveries was outside EPA QC limits. The analysis of associated matrix spike sample fulfills the reanalysis requirement of sample RA001-0122-AIMW-8A MSD.
6. All matrix spike recoveries were within EPA QC limits.
7. All blank spike recoveries were within EPA QC limits.
8. The method blanks contained the common laboratory contaminant Methylene Chloride at levels less than 2x the CRQL.
9. Internal standard area and retention time criteria were met.
10. The analyses were performed with the method enhancement of a 40°C heated purge to standardize the purge temperature and improve overall purging efficiency.
11. Manual integrations are performed according to OP L-QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").
12. I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


J. Michael Taylor
President
Lionville Laboratory Incorporated

02-13-02
Date

som\group\data\voa\nysdec-0201-829.doc

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 3 0 0 pages.

GLOSSARY OF VOA DATA

ABBREVIATIONS

BS	=	Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
BSD	=	Indicates blank spike duplicate.
MS	=	Indicates matrix spike.
MSD	=	Indicates matrix spike duplicate.
DL	=	Suffix added to sample number to indicate that results are from a diluted analysis.
NA	=	Not Applicable.
DF	=	Dilution Factor.
NR	=	Not Required.
SP, Z	=	Indicates Spiked Compound.

GLOSSARY OF VOA DATA

DATA QUALIFIERS

- U = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
- J = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
- E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- D = Identifies all compounds identified in an analysis at a secondary dilution factor.
- I = Interference.
- NQ = Result qualitatively confirmed but not able to quantify.
- N = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- X = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
- Y = Additional qualifiers used as required are explained in the case narrative.

TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following "flags" are used to indicate the technical reasons for quan modifications:

- MP** - **Missed Peak:** manually added peak not found by automatic quan program.
- PA** - **Peak Assignment:** quan report was changed to reflect correct peak assignment.
- RI** - **Routine Integration:** routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the dichlorobenzene isomers on the VOA packed column and benzo(b)fluoranthene/benzo(k)fluoranthene which are poorly resolved on the BNA column.
- SP** - **Split Peak:** the automatic integration improperly split the peak; a manual integration was performed to get the correct area.
- CB** - **Coelution/Background:** peak was manually integrated to eliminate contribution from coeluting compounds, background signal, or other interference.
- PI** - **Proper Integration:** a peak with poor or inconsistent integration (e.g., excessive tail) was properly integrated manually.

Shipping, Receiving, and Custody Record

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

02011829

EF, AB, GH

CIS D



Client <u>NYSDEC</u>		Refrigerator # <u>1</u>		Liquid <u>29L</u>		Solid <u>19L</u>		Liquid <u>19L</u>		Solid <u>19L</u>	
Es. Final Proj. Sampling Date <u>01667-601-001-9999-00</u>		#/Type Container		Liquid <u>40</u>		Solid <u>40</u>		Liquid <u>1L</u>		Solid <u>1L</u>	
Project # <u>01667-601-001-9999-00</u>		Volume		Liquid <u>40</u>		Solid <u>40</u>		Liquid <u>1L</u>		Solid <u>1L</u>	
Project Contact/Phone # <u>55</u>		Preservatives		<u>HCL</u>		<u>HCL</u>		<u>HCL</u>		<u>HCL</u>	
Lionville Laboratory Project Manager		ANALYSES REQUESTED		VOA		BNA		Pest/PCB		Herb	
Or <u>CLP</u> Del <u>CLP</u> TAT <u>30 days</u>		ORGANIC		Metal		INORG		Diss		MET.	
Date Rec'd <u>1-23-02</u> Date Due <u>2-22-02</u>		Matrix Chosen (✓)		Matrix Collected		Time Collected		Lionville Laboratory Use Only			
MATRIX CODES:		MS		MSD							
S - Soil		✓		✓		835AM		X		X	
SE - Sediment						945AM		X		X	
SL - Sludge						1100AM		X		X	
W - Water						1130AM		X		X	
O - Oil						1245PM		X		X	
A - Air						1:30PM		X		X	
DS - Drum						940		X		X	
Solids						915		X		X	
DL - Drum						1040		X		X	
L - Liquids											
L - EP/TC/LP											
Leachate											
W1 - Wipe											
X - Other											
F - Fish											

Special Instructions:

MW-1

Lab ID - 013 NYSDEC requested LVI to

Filter and acidity sample (1-23-02 @ 1200) performed

DATE/REVISIONS:

1-24-02 1. Add "RA001-0122." TO CLIENT LDI'S

Relinquished by	Received by	Date	Time
Feokx	Calb	1-23-02	1000

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N	5) Received Within Holding Times	Cooler Temp. °C
(N)	(N)	5°

Lionville Laboratory Use Only

Samples were: 1) Shipped or Hand Delivered

Airbill # 366

2) Ambient or Chilled

3) Received in Good Condition or N

4) Samples Properly Preserved

5) Received Within Holding Times

6) Samples Properly Preserved

7) Received in Good Condition or N

8) Samples Properly Preserved

9) Received Within Holding Times

10) Samples Properly Preserved

11) Received in Good Condition or N

12) Samples Properly Preserved

Custody Transfer Record/Lab Work Request Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

[illegible]

Social Instructions:

DATE/REVISIONS:

Lionville Laboratory Use Only

Samples were:

1) Shipped — or

Hand Delivered _____

Airbill # _____

2

2) Ambient or/Chilled

7) Ammonium chloride

3) Received in Google

Condition **Y** or **N**

4) Samples

Properly Preserved

Y or

5) Received Within

Holding Times

Y or

5

Tamper Resistant Seal was:

Present on Outpatient Package Y or N

~~SECRET~~

2) Unspoken on Out

☒ **Package Y or N**

(b) Present on Samp

Y or N

1) Inbroken on

Sample Y or N

sample 1011

COC Record Preser

Upon Sample Rec't

Y or h

Cooler

Temp. ____ °C



SOIL BORING LOG

Page 1 of 1

		PROJECT NAME: Photocircuits		PROJECT NO.: 12080		Boring No: 31-SB-1			
		PROJECT LOCATION: 31 Seacliff Avenue, Glen Cove Long Island				LOCATION SKETCH 			
COMPLETION DATE: 4/20/98		TOTAL DEPTH OF BOREHOLE: 8 Feet		MONITORING DEVICE: OVM (PID)				GEOLOGIST / OFFICE: J. Gagnon/Warren	
DRILLING CONTRACTOR / DRILLER: McLaren/ Hart/ J. Lute		DRILLING EQUIPMENT: Geoprobe		DRILLING METHOD / BIT: Hollow Stem Push Rod					
SAMPLING METHOD: Acetate-Lined Macrocore		DEPTH TO GROUNDWATER: 8 Feet		GROUND SURFACE ELEVATION: NA				WELL INSTALLED? No	
MEMO: Boring located									

DEPTH (Feet)	RECOVERY (Feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION Color, Texture, Moisture, Etc.	SAMPLES
0			Ground Surface: Asphalt	0
1	3.0	0.7	Asphalt fall in, Black/ dark brown fine SAND with coarse material	1
2			Medium brown fine SAND with coarse material, pebbles trace cobble	2
3			Coarse damp fine SAND	3
4			Silty SAND with little black clay and cobble	4
5	3.0	3.7	Wet, very coarse black SAND with pebbles and cobble	5
6				6
7				7
8				8
9			End of boring at 8' b.g.	9
10				10
11				11
12				12
13				13
14				14
15				15
16				16
17				17
18				18
19				19
20				20
21				21
22				22
23				23
24				24

SOIL BORING LOG

Page 1 of 1

	PROJECT NAME: Photocircuits		PROJECT NO.: 12080		Boring No: 31-SB-2 LOCATION SKETCH 
	PROJECT LOCATION: 31 Seacliff Avenue, Glen Cove Long Island				
	COMPLETION DATE: 4/20/98	TOTAL DEPTH OF BOREHOLE: 8 Feet	MONITORING DEVICE: OVM (PID)	GEOLOGIST / OFFICE: J. Gagnon/Warren	
	DRILLING CONTRACTOR / DRILLER: McLaren/ Hart/ J. Lute	DRILLING EQUIPMENT: Geoprobe	DRILLING METHOD / BIT: Hollow Stem Push Rod		
	SAMPLING METHOD: Acetate-Lined Macrocore	DEPTH TO GROUNDWATER 8 Feet	GROUND SURFACE ELEVATION: NA	WELL INSTALLED? No	
MEMO: Boring located					

DEPTH (Feet)	RECOVERY (Feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION Color, Texture, Moisture, Etc.	SAMPLES
0			Ground Surface: Asphalt	0
1	2.0	24.7	Light brown fine SAND with some coarse material and pebbles 2" lens of white quartz rock	1
2			Black very coarse SAND with pebbles	2
3				3
4				4
5	3.0	18.9	Wet, coarse material small pebbles very little sand	5
6			Black very coarse sand with pebbles and cobble mixed throughout	6
7				7
8				8
9			End of boring at 8' b.g.	9
10				10
11				11
12				12
13				13
14				14
15				15
16				16
17				17
18				18
19				19
20				20
21				21
22				22
23				23
24				24

SOIL BORING LOG

Page 1 of 1

	PROJECT NAME: Photocircuits		PROJECT NO.: 12080		Boring No: 31-SB-3
	PROJECT LOCATION: 31 Seacliff Avenue, Glen Cove Long Island				LOCATION SKETCH 
	COMPLETION DATE: 4/20/98	TOTAL DEPTH OF BOREHOLE: 12 Feet	MONITORING DEVICE: OVM (PID)	GEOLOGIST / OFFICE: J. Gagnon/Warren	
	DRILLING CONTRACTOR / DRILLER: McLaren/ Hart/ J. Lute	DRILLING EQUIPMENT: Geoprobe	DRILLING METHOD / BIT: Hollow Stem Push Rod		
SAMPLING METHOD: Acetate-Lined Macrocore		DEPTH TO GROUNDWATER: 8 Feet	GROUND SURFACE ELEVATION: NA	WELL INSTALLED? No	
MEMO: Boring located					

DEPTH (Feet)	RECOVERY (Feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION Color, Texture, Moisture, Etc.	SAMPLES
0			Ground Surface: Asphalt	0
1	3.0	11.7	Asphalt and white coarse SAND mixed with cobble	1
2			Black Silty SAND and CLAY, pebbles	2
3			Damp fine light brown tan SAND with trace clay	3
4				4
5	3.5	13	Fine to coarse light brown SAND, trace gravel damp	5
6				6
7				7
8				8
9	4.0	0	Wet, very coarse to fine light brown tan SAND with pebbles, gravel	9
10				10
11				11
12				12
13			End of boring at 12' b.g.	13
14				14
15				15
16				16
17				17
18				18
19				19
20				20
21				21
22				22
23				23
24				24

SOIL BORING LOG

Page 1 of 1

		PROJECT NAME: Photocircuits		PROJECT NO.: 12080		Boring No: 31-SB-4			
		PROJECT LOCATION: 31 Seacliff Avenue, Glen Cove Long Island				LOCATION SKETCH 			
COMPLETION DATE: 4/20/98		TOTAL DEPTH OF BOREHOLE: 12 Feet		MONITORING DEVICE: OVM (PID)				GEOLOGIST / OFFICE: J. Gagnon/Warren	
DRILLING CONTRACTOR / DRILLER: McLaren/ Hart/ J. Lute		DRILLING EQUIPMENT: Geoprobe		DRILLING METHOD / BIT: Hollow Stem Push Rod					
SAMPLING METHOD: Acetate-Lined Macrocore		DEPTH TO GROUNDWATER: 8 Feet		GROUND SURFACE ELEVATION: NA				WELL INSTALLED? No	
MEMO: Boring located									

DEPTH (Feet)	RECOVERY (Feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION Color, Texture, Moisture, Etc.	SAMPLES
0			Ground Surface: Asphalt	
1	2.0	14.3	Very dark brown silty SAND, moist	
2			Very dark brown silty SAND with pebbles and cobble, moist	
3			Fine to coarse light brown/ tan SAND with pebbles and other coarse material	
4				
5	4.0	11.1	Very firm gray/ tan SANDY CLAY little coarse material	
6			Red/ medium brown silty SAND, little clay	
7				
8				
9	2.0	11.1	Wet, COBBLE Red to medium brown fine silty SAND some pebbles and cobble	
10			Medium brown coarse to fine SAND with cobble and pebbles	
11				
12				
13			End of boring at 12' b.g.	
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

SOIL BORING LOG

Page 1 of 1

		PROJECT NAME: Photocircuits		PROJECT NO.: 12080		Boring No: 31-SB-5			
		PROJECT LOCATION: 31 Seacliff Avenue, Glen Cove Long Island				LOCATION SKETCH 			
COMPLETION DATE: 4/20/98		TOTAL DEPTH OF BOREHOLE: 12 Feet		MONITORING DEVICE: OVM (PID)				GEOLOGIST / OFFICE: J. Gagnon/Warren	
DRILLING CONTRACTOR / DRILLER: McLaren/ Hart/ J. Lute		DRILLING EQUIPMENT: Geoprobe		DRILLING METHOD / BIT: Hollow Stem Push Rod					
SAMPLING METHOD: Acetate-Lined Macrocore		DEPTH TO GROUNDWATER: 8 Feet		GROUND SURFACE ELEVATION: NA				WELL INSTALLED? No	
MEMO: Boring located									

DEPTH (Feet)	RECOVERY (Feet)	OVM (PPM)	SURMEISTER SYSTEM SOIL DESCRIPTION Color, Texture, Moisture, Etc.	SAMPLES
0			Ground Surface: Asphalt	0
1	3.0	12.4	Red to light brown SAND with cobble	1
2				2
3			Tan to light brown silty SAND with cobble and pebbles	3
4				4
5	3.0	18.3	Very coarse SAND with coarse materials	5
6				6
7			Red to brown on outside- inside light grey firm CLAY and SAND	7
8				8
9			End of boring at 8' b.g.	9
10				10
11				11
12				12
13				13
14				14
15				15
16				16
17				17
18				18
19				19
20				20
21				21
22				22
23				23
24				24

SOIL BORING LOG

Page 1 of 1

		PROJECT NAME: Photocircuits	PROJECT NO.: 12080	Boring No: 31-SB-6
		PROJECT LOCATION: 31 Seacliff Avenue, Glen Cove Long Island		LOCATION SKETCH 
COMPLETION DATE: 4/20/98	TOTAL DEPTH OF BOREHOLE: 12 Feet	MONITORING DEVICE: OVM (PID)	GEOLOGIST / OFFICE: J. Gagnon/Warren	
DRILLING CONTRACTOR / DRILLER: McLaren/ Hart/ J. Lute	DRILLING EQUIPMENT: Geoprobe	DRILLING METHOD / BIT: Hollow Stem Push Rod		
SAMPLING METHOD: Acetate-Lined Macrocore	DEPTH TO GROUNDWATER: 8 Feet	GROUND SURFACE ELEVATION: NA	WELL INSTALLED? No	
MEMO: Boring located				

DEPTH (Feet)	RECOVERY (Feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION Color, Texture, Moisture, Etc.	SAMPLES
0			Ground Surface: Asphalt	0
1	2.5	0	Dark Brown SILT with cobbles and pebbles.	1
2				2
3				3
4				4
5	3.0	0	Dark Brown SILT with cobbles and pebbles. Coarse SAND (like beach sand) with coarse materials.	5
6				6
7				7
8				8
9			Coarse SAND (like beach sand) with coarse materials, wet	9
10				10
11				11
12				12
13			End of boring at 12' b.g.	13
14				14
15				15
16				16
17				17
18				18
19				19
20				20
21				21
22				22
23				23
24				24

SOIL BORING LOG

Page 1 of 1

		PROJECT NAME: Photocircuits		PROJECT NO.: 12080		Boring No: 31-SB-7			
		PROJECT LOCATION: 31 Seacliff Avenue, Glen Cove Long Island				LOCATION SKETCH 			
COMPLETION DATE: 4/20/98		TOTAL DEPTH OF BOREHOLE: 8 Feet		MONITORING DEVICE: OVM (PID)				GEOLOGIST / OFFICE: J. Gagnon/Warren	
DRILLING CONTRACTOR / DRILLER: McLaren/ Hart/ J. Lute		DRILLING EQUIPMENT: Geoprobe		DRILLING METHOD / BIT: Hollow Stem Push Rod					
SAMPLING METHOD: Acetate-Lined Macrocore		DEPTH TO GROUNDWATER: 6 Feet		GROUND SURFACE ELEVATION: NA				WELL INSTALLED? No	
MEMO: Boring located									

DEPTH (Feet)	RECOVERY (Feet)	OVM (PPM)	BURMEISTER SYSTEM SOIL DESCRIPTION Color, Texture, Moisture, Etc.	SAMPLES
0			Ground Surface: Asphalt	0
1	3.0	2.1	Black silty SAND and CLAY with pebbles	1
2				2
3			Damp, coarse SAND with coarse materials	3
4				4
5	4.0	0	USE AS A GEOTECHNICAL SAMPLE	5
6				6
7				7
8				8
9			End of boring at 8' b.g.	9
10				10
11				11
12				12
13				13
14				14
15				15
16				16
17				17
18				18
19				19
20				20
21				21
22				22
23				23
24				24



ENVIRONMENTAL SPECIALISTS

Central Jersey Industrial Park
Chimney Rock Road, Bldg. 9W
Bound Brook, NJ 08805
Telephone: (908) 722-4266
Toll Free: (800) 242-6648
FAX: (732) 356-1009

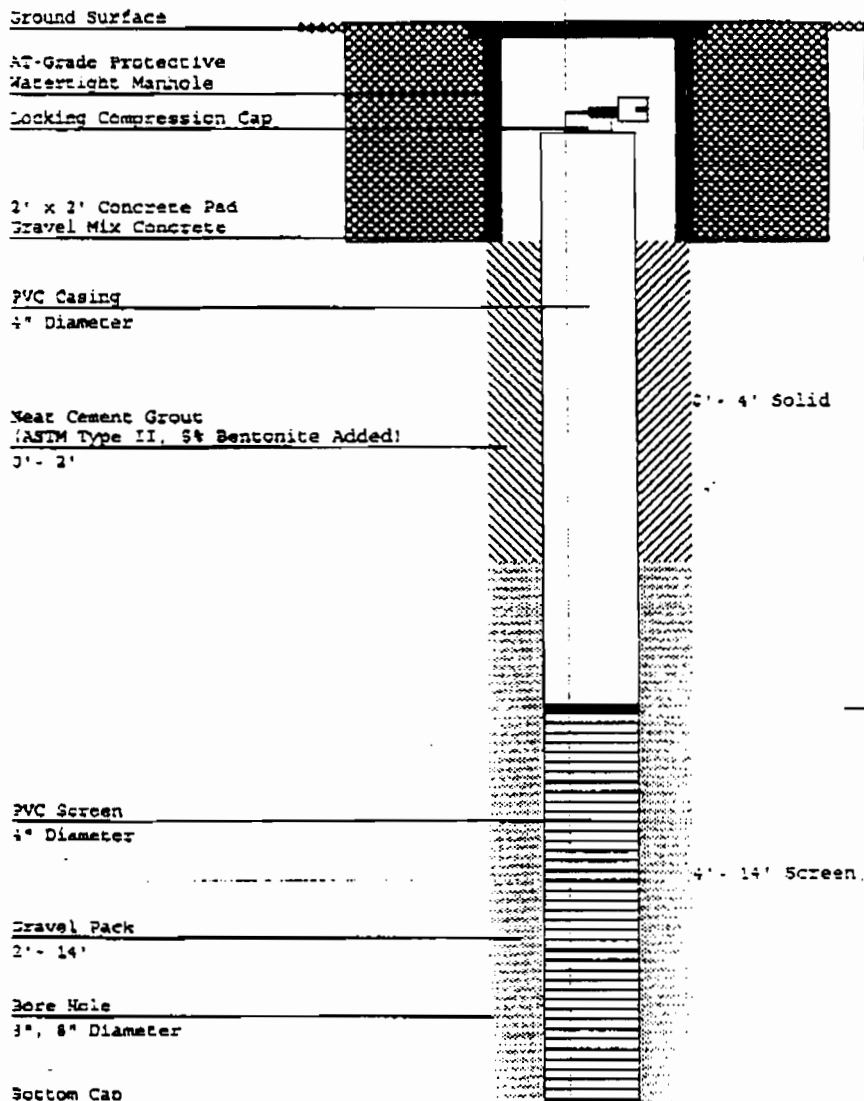
WELL LOG

WELL: MW8 DATE DRILLED: 04/22/1998 COORD #1: PERMIT #1:
COORD #2: PERMIT #2:
SITE: Photocircuits Corp, 31 Sea Cliff Avenue, Glen Cove, NY
OWNER: Photocircuits Corp, 31 Sea Cliff Avenue, Glen Cove, NY
COUNTY:
XSTREET:
USE: Monitor
INNER CASING: PVC OUTER CASING: SCREEN TYPE 1: PVC
DIAMETER: 4" DIAMETER: SCREEN TYPE 2:
LENGTH: 4" DIAMETER: 4"
LENGTH 1: 10'
LENGTH 2:
SET WELL: 14' GAL PER MIN: 3-5 LENGTH 2:
GRAVEL PK SZ: Morie #2 STAT H2O LVL: 9' SLOT SIZE: .020
DRILLER: Carmine DeCorso DEVELOPMENT METHOD: Pump CASING SEAL: Portland
SURFACE COMPLETION: M DEVELOPMENT TIME: 3/4 Hour OPEN HOLE:

DEPTH BELOW SURFACE
FROM - TO

REMARKS / SOILS IDENTIFICATION

0' - 1' Asphalt & road stone.
1' - 14' Brown & tan m/f sand trace m/f
grave trace silt.



Appendix B

To be submitted separately

Appendix C

Geotechnical Testing Results

UNDISTURBED SAMPLE LOG

Boring No.:

Job No.: 1434-0014-03

Sample No. & Depth: 45A-GW-1 12'-16'

Project: McLAREN HART
(GLEN COVE, NY)

Recovery: 44"

Date Tested: 4/23/98

Sample Method: GEOPROBE

Tested By: LL

Date of Sample: 4/8/98

Checked By: DA

Testing Notes: SEE BELOW

~ BURMISTER ~
Soil Classification

Tube	Sample	Depth	Length (inches)	Soil Classification
48				
46				
44				
42				
40	7"			Tan c-f SAND, tr. Silt, tr. to little m-f Gravel
38				
36	3"			OK gray, br c-f SAND, tr. Silt, some c-f Gravel
34				
32				
30				
28				
26				
24				
22	24"			Tan c-m-f SAND, tr. Silt, some m-f Gravel
20				K, GSD, GS, TOC, etc. (10"-33")
18				
16				
14				
12				
10				
8				
6				
4	10"			Tan m-f SAND, tr. Silt, tr. f Gravel
2				

Remarks: SAVED BOT. 9"

UNDISTURBED SAMPLE LOG

Boring No.:

Job No.: 1434-0014-03

Sample No. & Depth: 45A-GW-4 Depth?

Project: MCLAREN HART
(GLEN COVE, NY)

Recovery: 45"

Date Tested: 4/24/98

Sample Method: GEOPROBE

Tested By: LL

Date of Sample: 4/10/98

Checked By: DA

Testing Notes: SEE BELOW

~ BURMISTER ~
Soil Classification

Depth Length (inches)

Tube	Sample	
48		
46		
44		
42		
40		
38	13"	lt. tan c-f SAND, tr. silt, little to some m-f Gravel
36		
34		
32		
30	5"	dk orange tan c-m-f SAND, tr. silt, tr. f Gravel
28		
26		
24		
22		
20		
18	22"	lt. tan bec. tan br c-f SAND, tr. silt, some m-f Gravel
16		K, GSD, Gs, TOC, etc. (6" - 26")
14		
12		
10		color change
8		1/8" thick dk gray m-f SAND layer
6		
4		
2	5"	gray tan c-f SAND, tr. silt, some c-f Gravel

Remarks: SAVED 11 1/2" OF TOP 13"

UNDISTURBED SAMPLE LOG

Boring No.:

Job No.: 1434-0014-03

Sample No. & Depth: 454-32 8'-12'

Project: MCLAREN HART
(GLEN COVE, NY)

Recovery: 42"

Date Tested: 4/24/98

Sample Method: GEOPROBE

Tested By: LL

Date of Sample: 4/9/98

Checked By: DA

Testing Notes: SEE BELOW

~ BURMISTER ~

Depth Length (inches)

Soil Classification

Tube	Sample	
48		
46		
44		
42		
40	6"	Tan orange m-f SAND, tr. silt, tr. m-f Gravel
38		
36		
34		
32		
30		
28		
26	22"	Tan br. c-f SAND, tr. silt, some m-f Gravel
24		K, GSD, Gs, TOC, & etc (15"-35")
22		
20		
18		
16		
14		
12	5"	Tan gray m-f SAND, tr. silt, tr. f Gravel
10		
8		
6	0"	Lt. gray br. c-f SAND, little silt, little m-f Gravel w/ concrete frags.
4		
2		

Remarks: a. JAR SAMPLE SAVED OF PORTION FROM 0"-0"
b. CONTENTS OF TUBE LOOSE 0"-42"

UNDISTURBED SAMPLE LOG

Boring No.:

Job No.: 1434-0014-03

Sample No. & Depth: 45A-GW-3 8'-12'

Project: McLAREN HART
(GLEN COVE, N.Y.)

Recovery: 44"

Date Tested: 4/24/98

Sample Method: GEOPROBE

Tested By: LL

Date of Sample: 4/10/98

Checked By: DA

Testing Notes: SEE BELOW

~ BURMISTER ~
Soil Classification

Depth Length (inches)

Tube	Sample	
48		
46		
44		
42		
40		
38		
36		
34		
32		
30		
28		
26	35"	Tan br. c-m-f SAND, tr. silt, little m-f Gravel
24		K, GSD, Gs, TOC, & etc (14"-32")
22		
20		
18		
16		
14		
12		
10		
8		
6	9"	lt. gray br. c-m-f SAND, tr+silt, little f Gravel, occasional
4		concrete frags.
2		

Remarks: @ BOTTOM 9" LOOSE

⑤ SAVED TOP 9" (33"-42")

UNDISTURBED SAMPLE LOG

Boring No.:

Job No.: 1434-0014-03

Sample No. & Depth: 31-SB-0 4'-8'

Project: McLAREN HART
(GLEN COVE, NY)

Recovery: 38"

Date Tested: 4/27/98

Sample Method: GEOPROBE

Tested By: LL

Date of Sample: 4/20/98

Checked By: DS

Testing Notes: SEE BELOW

~ BURMISTER ~

Depth Length (inches)

Soil Classification

Tube	Sample	
48		
46		
44		
42		
40		
38	3"	olive gray m-f SAND, little silt
36		
34	8"	dr tan br, olive micaceous c-f SAND, little clayey silt, some
32		c-f Gravel (Gravel = Mica Schist)
30		
28		
26		
24		
22		
20		
18	27"	Tan, gray br. c-m-f SAND, little silt, some c-f Gravel
16		K, GSD, GS, TOC, & (2"-25")
14		
12		
10		
8		
6		
4		
2		

Remarks: JAR SAMPLE SAVED OF PORTION FROM 27"-35"

UNDISTURBED SAMPLE LOG

Boring No.:

Job No.: 1434-0014-03

Sample No. & Depth: 31-SB-1 0'-4'

Project: McLAREN HART
(GLEN COVE, NY)

Recovery: 28"

Date Tested: 4/27/98

Sample Method: GEOPROBE

Tested By: LL

Date of Sample: 4/20/98

Checked By: DA

Testing Notes: SEE BELOW

~ BURMISTER ~

Depth Length (inches)

Soil Classification

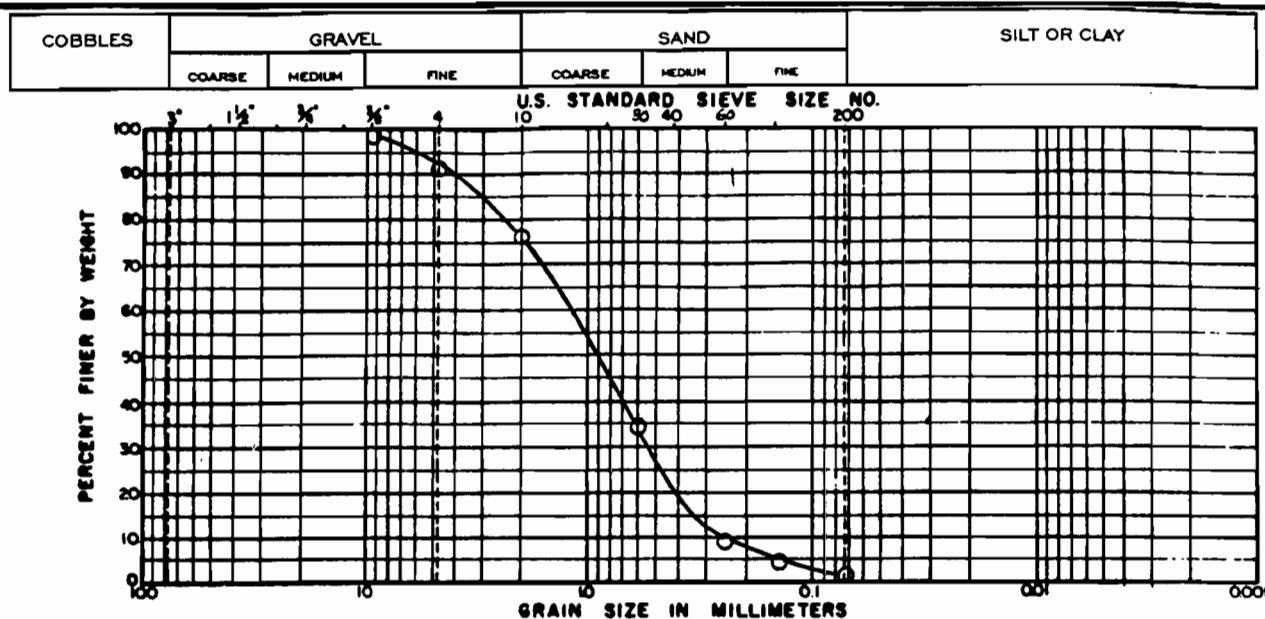
Tube	Sample	
48		
46		
44		
42		
40		
38		
36		
34		
32		
30		
28		
26		
24	8 1/2"	Blk c-f SAND, little silt, some c-f Gravel, occasional asphalt; cinder frags
22		
20		
18		
16		
14		
12	16 1/2"	Tan br. bec. gray br. c-m-f SAND, yr. silt, some m-f Gravel K, GSD, GS, TOC, & d (4" - 10 1/2")
10		
8		
6		color change
4		
2	3"	Blk. m-f sand, some organic clayey silt, some c-f Gravel, occasional roots; organic matter.

Remarks:

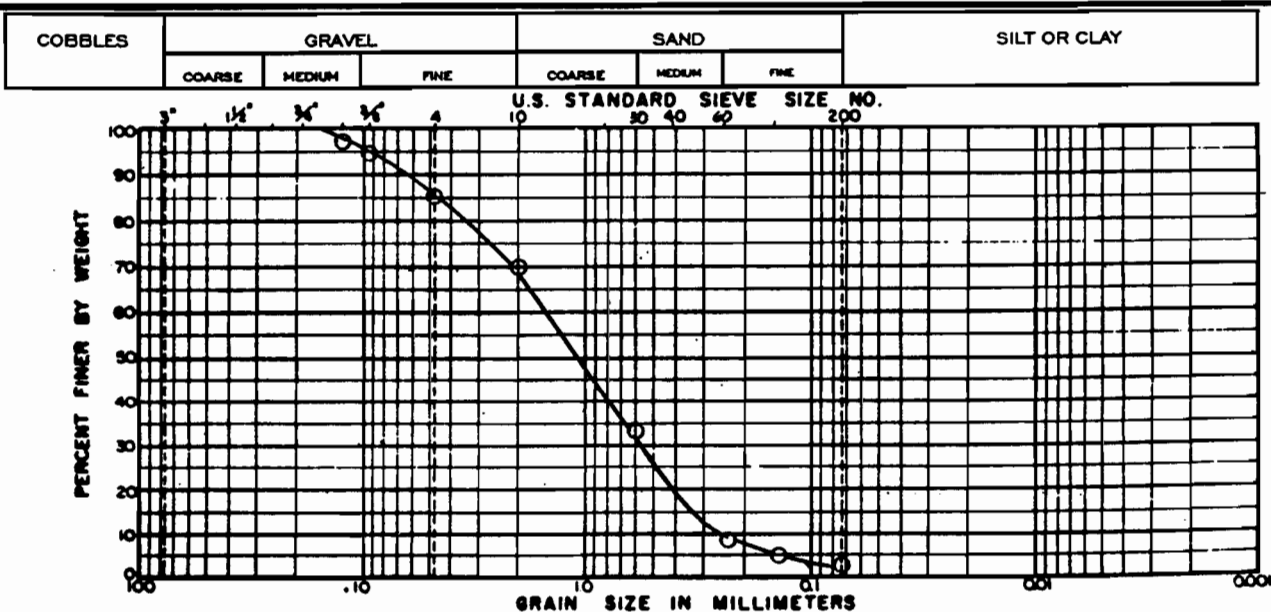
Ⓐ TOP 8 1/2" LOOSE

Ⓑ JAR SAMPLE SAVED OF BOT. 3"

GRAIN - SIZE DISTRIBUTION



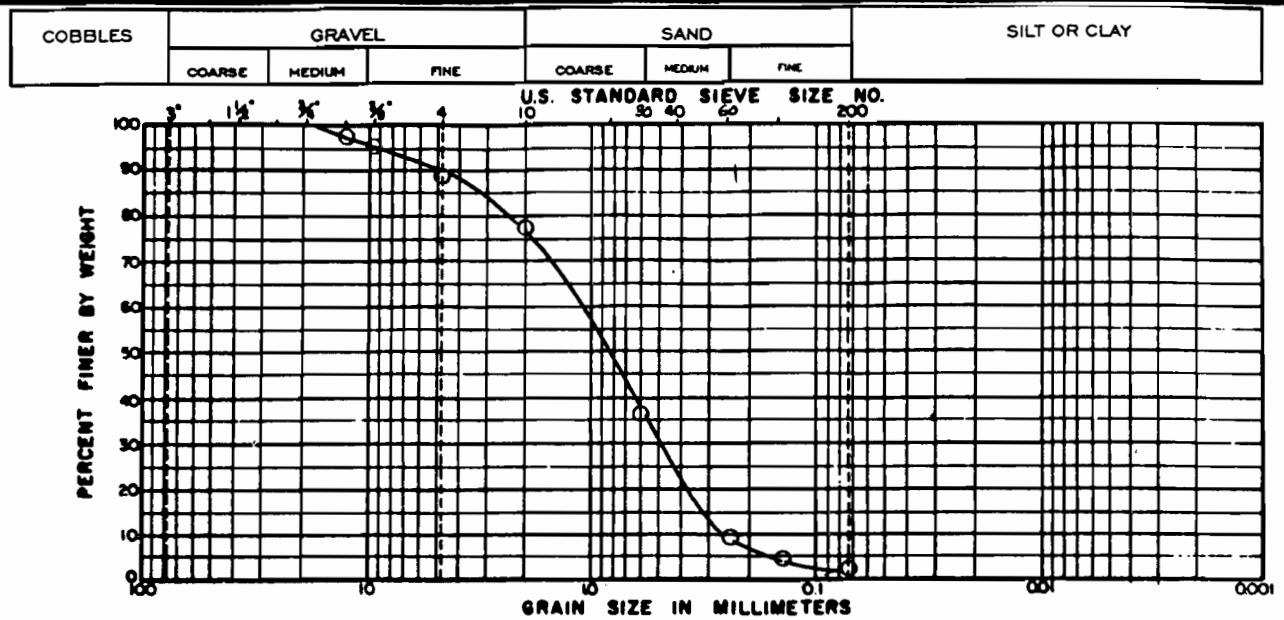
BORING	SAMPLE	DEPTH	SYMBOL	CLASSIFICATION	MC	LL	PL
45A-6W-1		12'-16'		Tan c ⁺ -f SAND, tr. silt, some m-f + Gravel	4.8	~	~



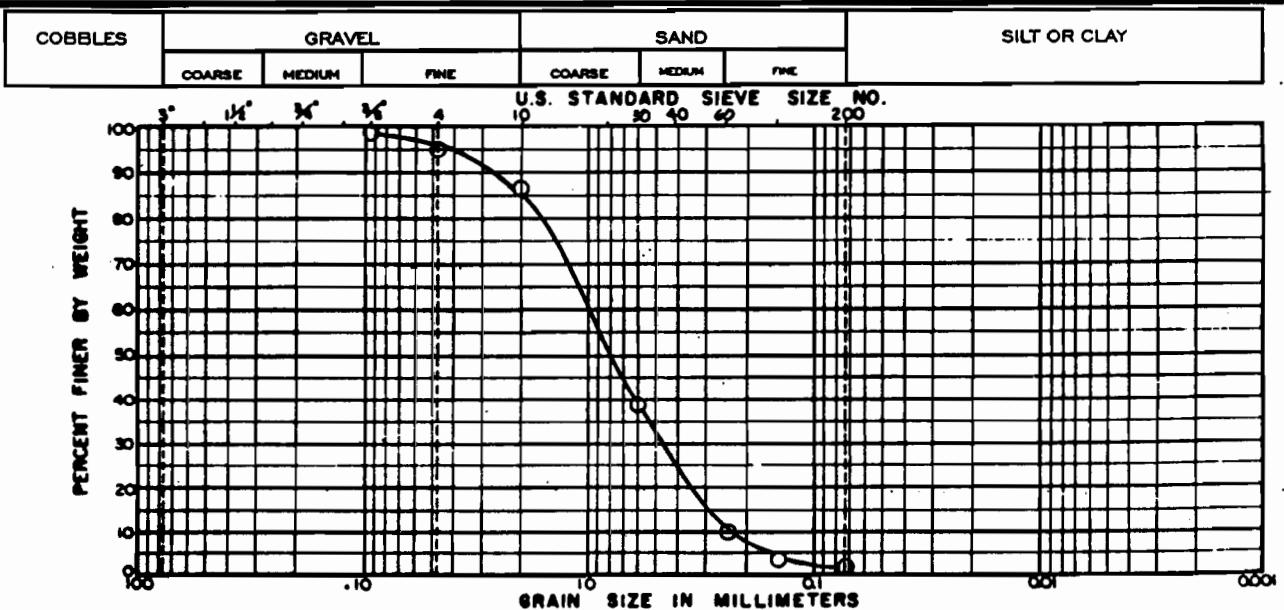
BORING	SAMPLE	DEPTH	SYMBOL	CLASSIFICATION	MC	LL	PL
45A-6W-4		?		Lt. tan c ⁺ -f SAND, tr. silt, some m-f + Gravel	5.6	~	~

PROJ. NO. 1434-0014-03 ~

GRAIN - SIZE DISTRIBUTION



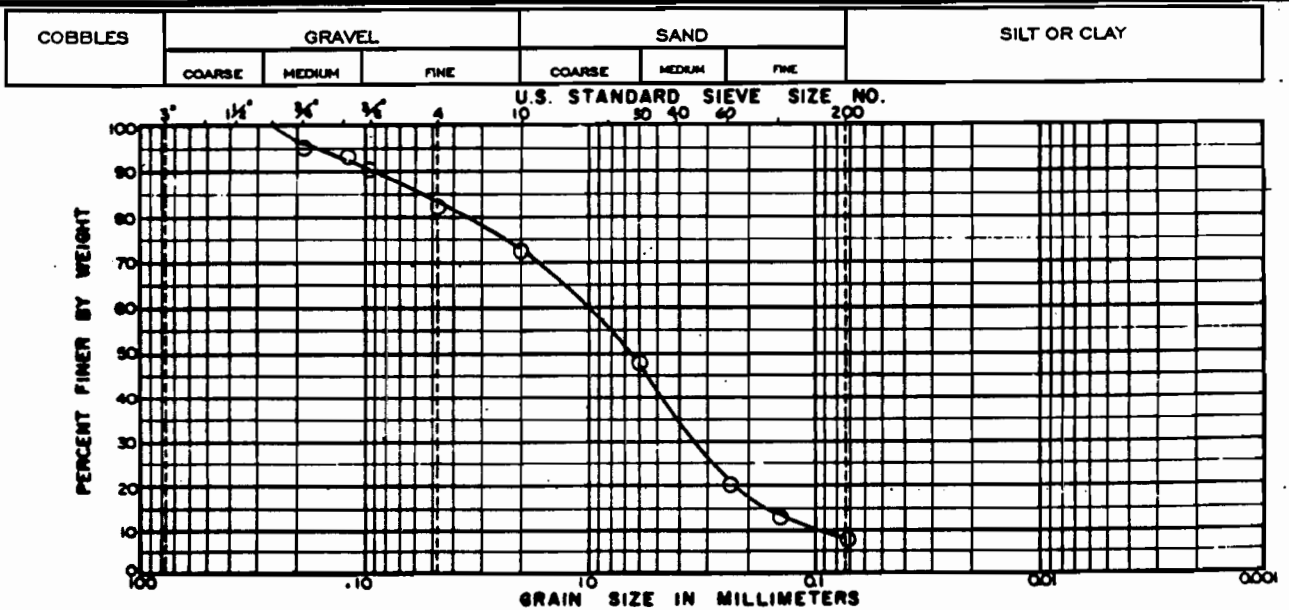
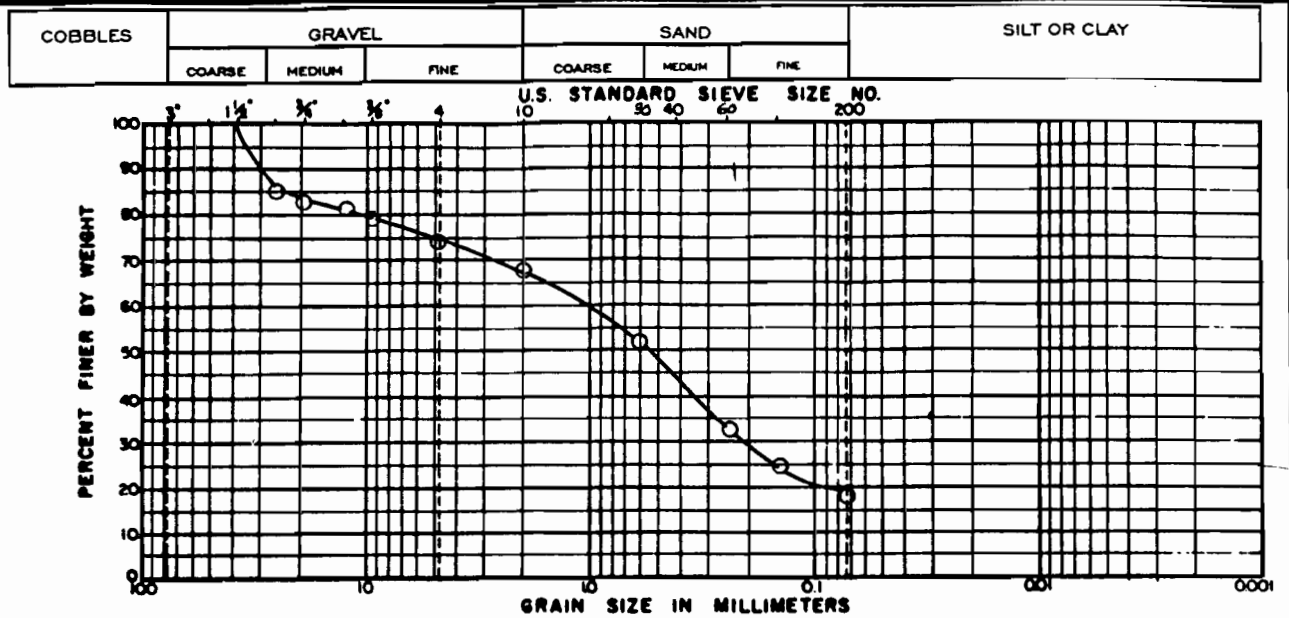
BORING	SAMPLE	DEPTH	SYMBOL	CLASSIFICATION	MC	LL	PL
45A-	32	8'-12'		Tan br. c*-f SAND, tr. silt, some m-f+gravel	1.2	~	~



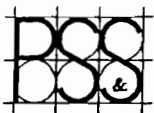
BORING	SAMPLE	DEPTH	SYMBOL	CLASSIFICATION	MC	LL	PL
45A-GW-	3	8'-12'		Tan br. c*-f SAND, tr. silt, little m-f+gravel	2.0	~	~

PROJ. NO. ~ 1434-0014-03 ~

GRAIN - SIZE DISTRIBUTION



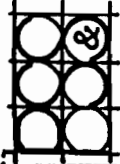
PROJ. NO. 1434-0014-03 ~



TOTAL ORGANIC CARBON
(ASTM D 2974) LOSS ON IGNITION METHOD

TEST RESULTS

SAMPLE NO.	% ORGANIC MATTER
45A-6W-1	0.30
45A-6W-3	0.19
45A-6W-4	0.22
45A-32	0.19
31-SB-1	0.65
31-SB-6	0.45



PAULUS
SOKOLOWSKI
and SARTOR, INC.
CONSULTING ENGINEERS

JOB.

NO. 1434-0014-03
PROJECT ENGINEER
LL/CLIENT TESTED BY LL
GLEN COVE, N.Y.

DATE 5/5/98

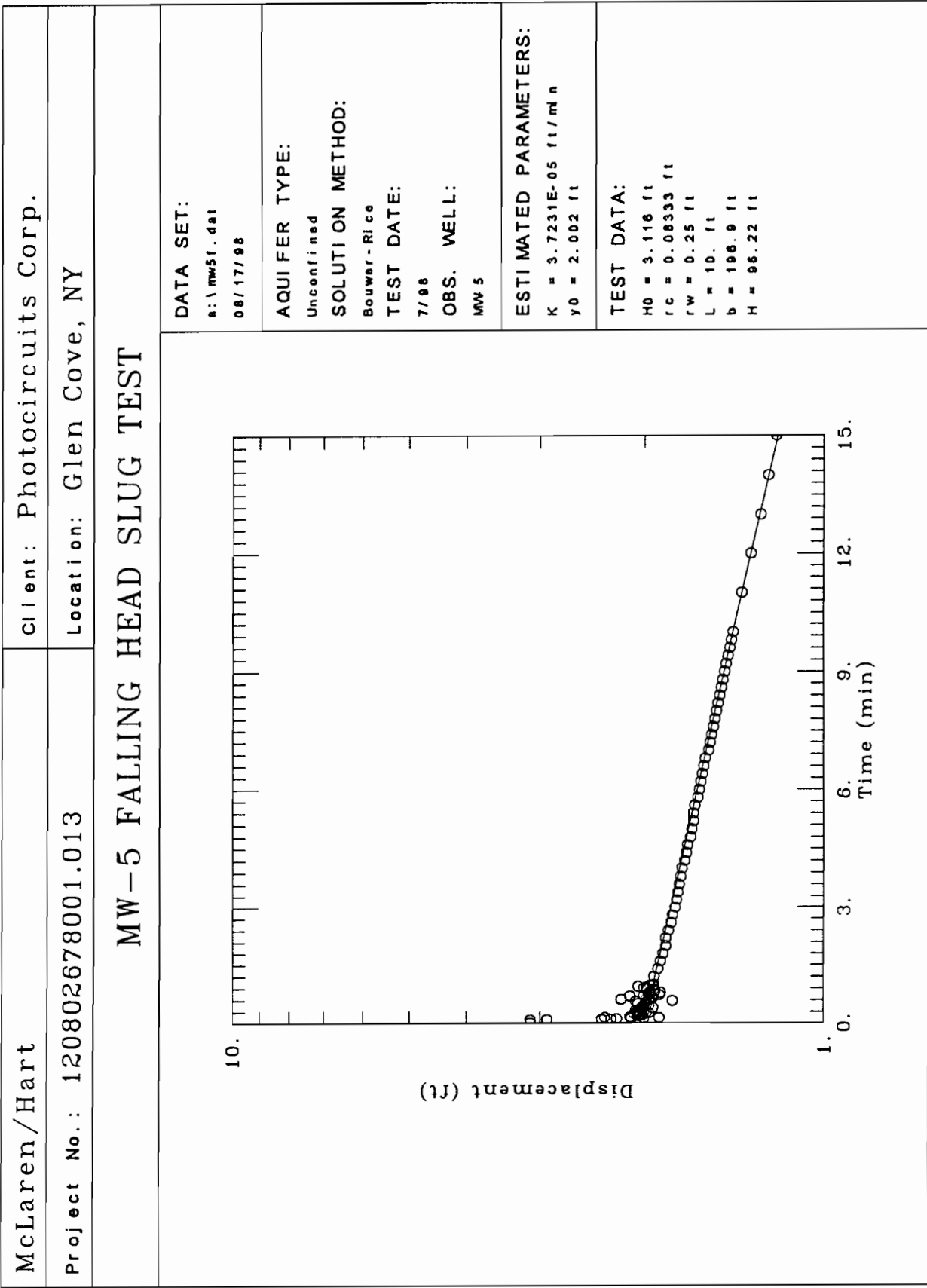
SAMPLE #	DENSITY SAMPLE	RECONSTD K SAMPLE	DENSITY SAMPLE	RECONSTD K SAMPLE					
31-SB-6	28	31-SB-6	31-SB-1	31-SB-1					
TARE #		TUBE	29	TUBE					
WGT. TARE WET SOIL	919.2	1040.6	777.8	1073.3					
WGT. TARE DRY SOIL	855.3	990.3	717.0	1016.5					
WGT. WATER	63.9	50.3	60.8	56.8					
WGT. TARE	110.0	425.2	110.0	431.2					
WGT. DRY SOIL	745.3	565.1	607.0	585.3					
MOIST. CONT. %	8.6	8.9	10.0	9.7					
WGT. TARE WET SOIL	919.2	1040.6	777.8	1073.3					
WGT. TARE	110.0	425.2	110.0	431.2					
WGT. WET SOIL (grams)	809.2	615.4	667.8	642.1					
HEIGHT (in)	9.92	2.63	8.75	2.93					
ϕ (in)	1.69	2.875	1.69	2.875					
VOLUME (ft ³)	0.0129	0.0098	0.0114	0.0110					
γ_t (pcf)	138.3	138.5	129.2	128.7					
M.C. %	8.6	8.9	10.0	9.7					
γ_d (pcf)	127.3	127.2	117.4	117.3					
G _s	2.70	2.70	2.69	2.69					
e _o	0.323	0.325	0.430	0.431					
S _o	71.9%	73.9%	62.6%	60.5%					
n	0.244	0.245	0.301	0.301					
K (cm/sec)	-	3.8×10^{-4}	-	8.4×10^{-4}					

~ MOIST. CONT. ~

~ DENSITY ~

Appendix D

Slug Test Raw Data And Calculations



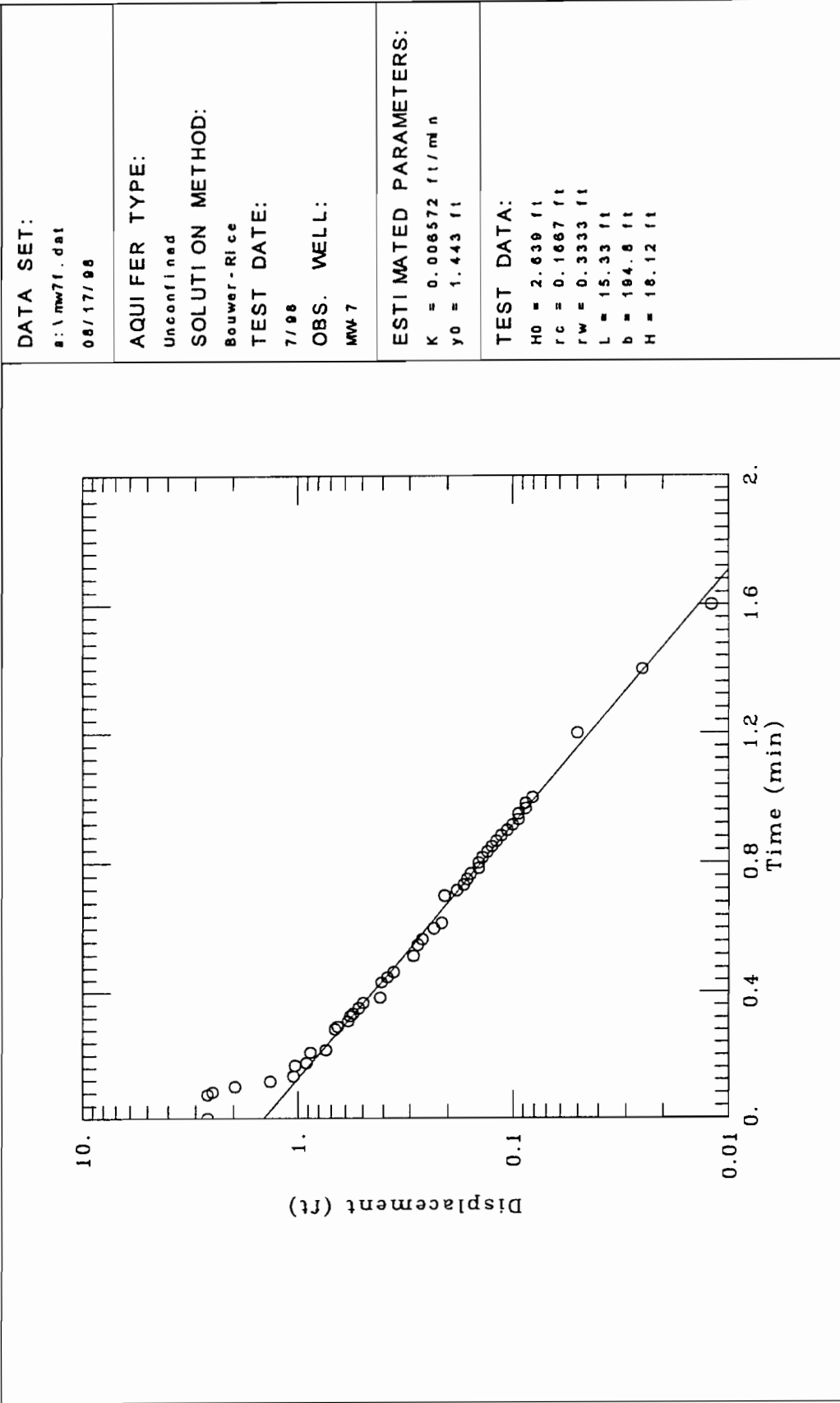
0.0833	3.116	1
0.0916	2.918	1
0.1	2.36	1
0.1083	2.275	1
0.1166	2.228	1
0.125	2.105	1
0.1333	2.002	1
0.1416	1.888	1
0.15	2.332	1
0.1583	2.105	1
0.1666	2.115	1
0.175	2.049	1
0.1833	2.039	1
0.1916	2.039	1
0.2	2.058	1
0.2083	2.011	1
0.2166	2.039	1
0.225	2.058	1
0.2333	2.077	1
0.2416	2.03	1
0.25	2.077	1
0.2583	2.058	1
0.2666	1.964	1
0.275	2.049	1
0.2833	1.983	1
0.2916	2.039	1
0.3	2.058	1
0.3083	2.002	1
0.3166	2.039	1
0.325	2.03	1
0.3333	2.068	1
0.35	2.02	1
0.3666	2.011	1
0.3833	2.03	1
0.4	1.935	1
0.4166	2.02	1
0.4333	2.011	1
0.45	2.002	1
0.4666	1.964	1
0.4833	1.983	1
0.5	2.049	1
0.5166	1.992	1
0.5333	1.992	1
0.55	1.983	1
0.5666	2.068	1
0.5833	1.794	1
0.6	1.964	1
0.6166	2.19	1
0.6333	1.983	1
0.65	1.964	1
0.6666	1.935	1

0.6833	1.945	1
0.7	2.115	1
0.7166	2.002	1
0.7333	1.888	1
0.75	1.954	1
0.7666	1.954	1
0.7833	1.964	1
0.8	1.879	1
0.8166	1.954	1
0.8333	1.917	1
0.85	1.917	1
0.8666	1.983	1
0.8833	1.926	1
0.9	1.983	1
0.9166	2.002	1
0.9333	1.983	1
0.95	2.049	1
0.9666	1.935	1
0.9833	1.954	1
1	1.926	1
1.2	1.926	1
1.4	1.898	1
1.6	1.879	1
1.8	1.86	1
2	1.841	1
2.2	1.841	1
2.4	1.822	1
2.6	1.803	1
2.8	1.794	1
3	1.775	1
3.2	1.765	1
3.4	1.756	1
3.6	1.747	1
3.8	1.737	1
4	1.728	1
4.2	1.709	1
4.4	1.699	1
4.6	1.69	1
4.8	1.671	1
5	1.662	1
5.2	1.652	1
5.4	1.652	1
5.6	1.643	1
5.8	1.624	1
6	1.614	1
6.2	1.605	1
6.4	1.595	1
6.6	1.586	1
6.8	1.577	1
7	1.558	1
7.2	1.548	1

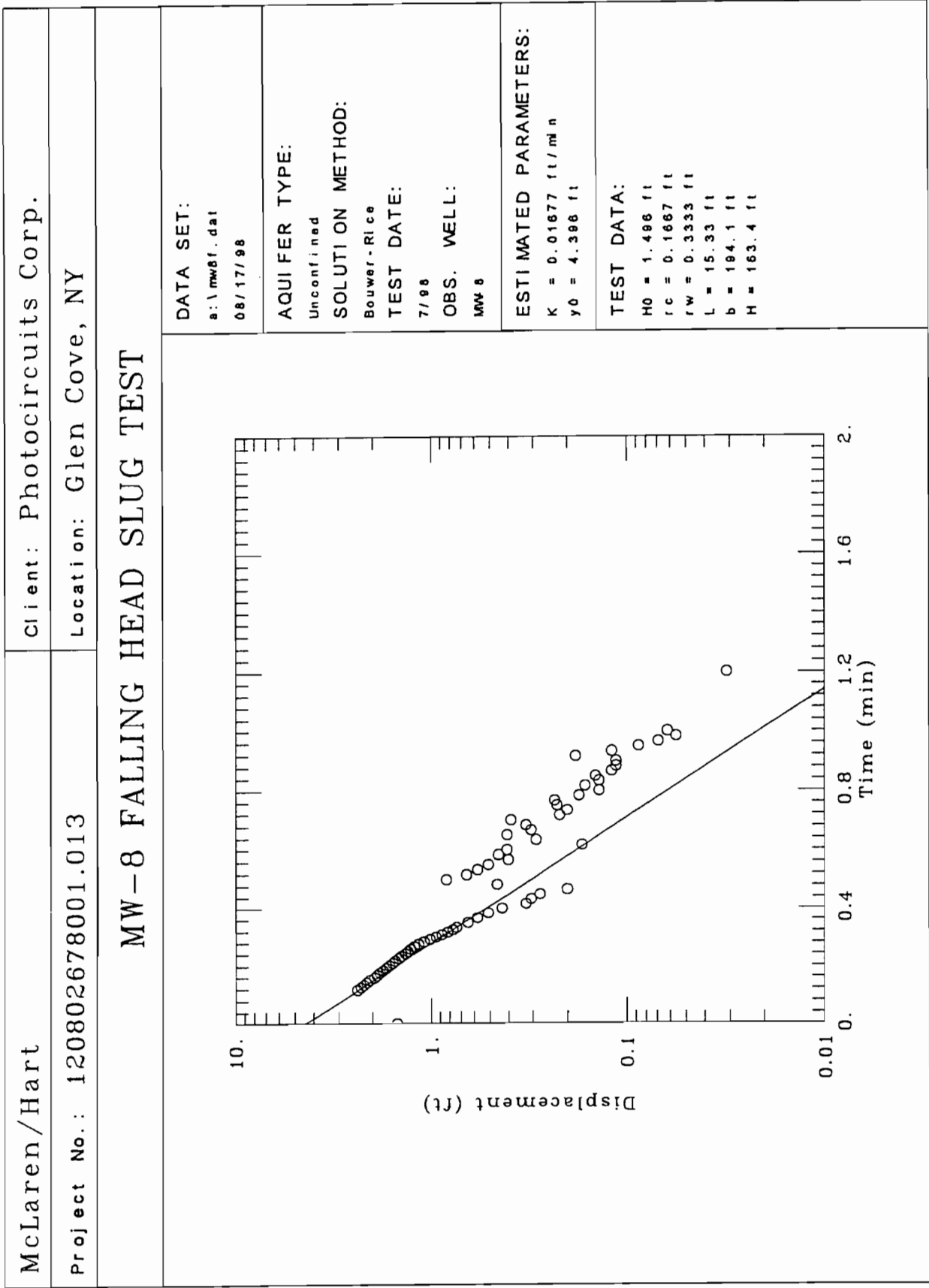
7.4	1.539	1
7.6	1.529	1
7.8	1.52	1
8	1.51	1
8.2	1.501	1
8.4	1.492	1
8.6	1.482	1
8.8	1.473	1
9	1.463	1
9.2	1.454	1
9.4	1.444	1
9.6	1.435	1
9.8	1.425	1
10	1.416	1
11	1.369	1
12	1.322	1
13	1.274	1
14	1.237	1
15	1.199	1

McLaren/Hart	Client: Photocircuits Corp.
Project No.: 120802678001.013	Location: Glen Cove, NY

MW-7 FALLING HEAD SLUG TEST

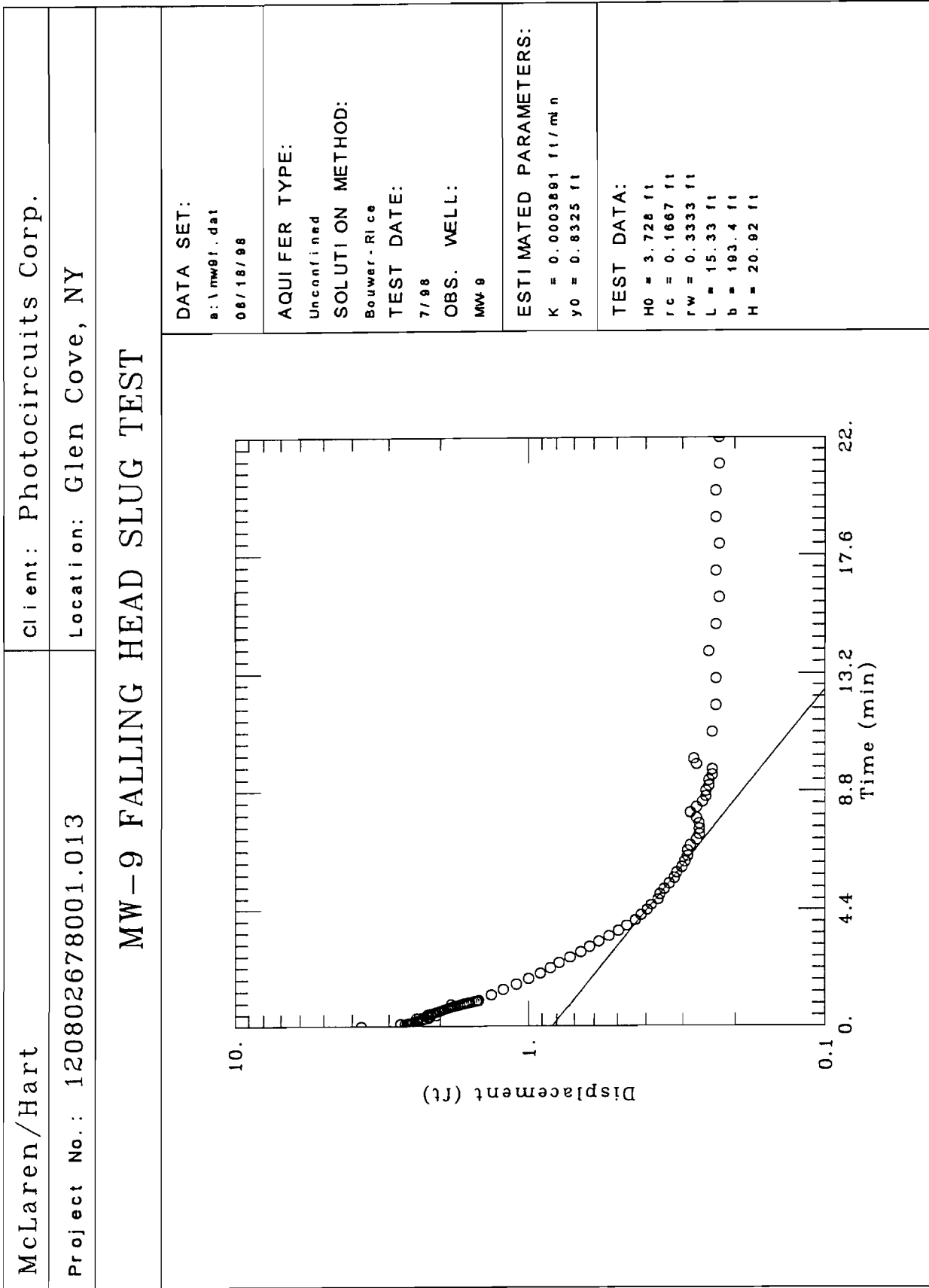


0.075	2.639	1
0.0833	2.501	1
0.1	1.967	1
0.1166	1.344	1
0.1333	1.049	1
0.1666	1.03	1
0.175	0.911	1
0.2083	0.873	1
0.2166	0.741	1
0.2833	0.672	1
0.2916	0.653	1
0.3083	0.584	1
0.325	0.571	1
0.3333	0.553	1
0.35	0.521	1
0.3666	0.496	1
0.3833	0.414	1
0.4333	0.408	1
0.45	0.383	1
0.4666	0.358	1
0.5166	0.289	1
0.55	0.276	1
0.5666	0.263	1
0.6	0.232	1
0.6166	0.213	1
0.7	0.207	1
0.7166	0.182	1
0.7333	0.169	1
0.75	0.163	1
0.7666	0.157	1
0.7833	0.144	1
0.8	0.144	1
0.8166	0.138	1
0.8333	0.131	1
0.85	0.125	1
0.8666	0.119	1
0.8833	0.113	1
0.9	0.106	1
0.9166	0.1	1
0.9333	0.094	1
0.95	0.094	1
0.9666	0.087	1
0.9833	0.087	1
1	0.081	1
1.2	0.05	1
1.4	0.025	1
1.6	0.012	1
1.8	0	1



0.1166	2.394	1
0.125	2.3	1
0.1333	2.218	1
0.1416	2.143	1
0.15	2.067	1
0.1583	1.954	1
0.1666	1.898	1
0.175	1.835	1
0.1833	1.766	1
0.1916	1.703	1
0.2	1.64	1
0.2083	1.577	1
0.2166	1.533	1
0.225	1.47	1
0.2333	1.42	1
0.2416	1.357	1
0.25	1.319	1
0.2583	1.275	1
0.2666	1.219	1
0.275	1.162	1
0.2833	1.087	1
0.2916	1.011	1
0.3	0.942	1
0.3083	0.879	1
0.3166	0.823	1
0.325	0.773	1
0.3333	0.741	1
0.35	0.647	1
0.3666	0.578	1
0.3833	0.509	1
0.4	0.433	1
0.4166	0.326	1
0.4333	0.307	1
0.45	0.276	1
0.4666	0.201	1
0.4833	0.458	1
0.5	0.835	1
0.5166	0.659	1
0.5333	0.578	1
0.55	0.509	1
0.5666	0.402	1
0.5833	0.452	1
0.6	0.408	1
0.6166	0.169	1
0.6333	0.289	1
0.65	0.408	1
0.6666	0.307	1
0.6833	0.326	1
0.7	0.389	1
0.7166	0.219	1
0.7333	0.201	1

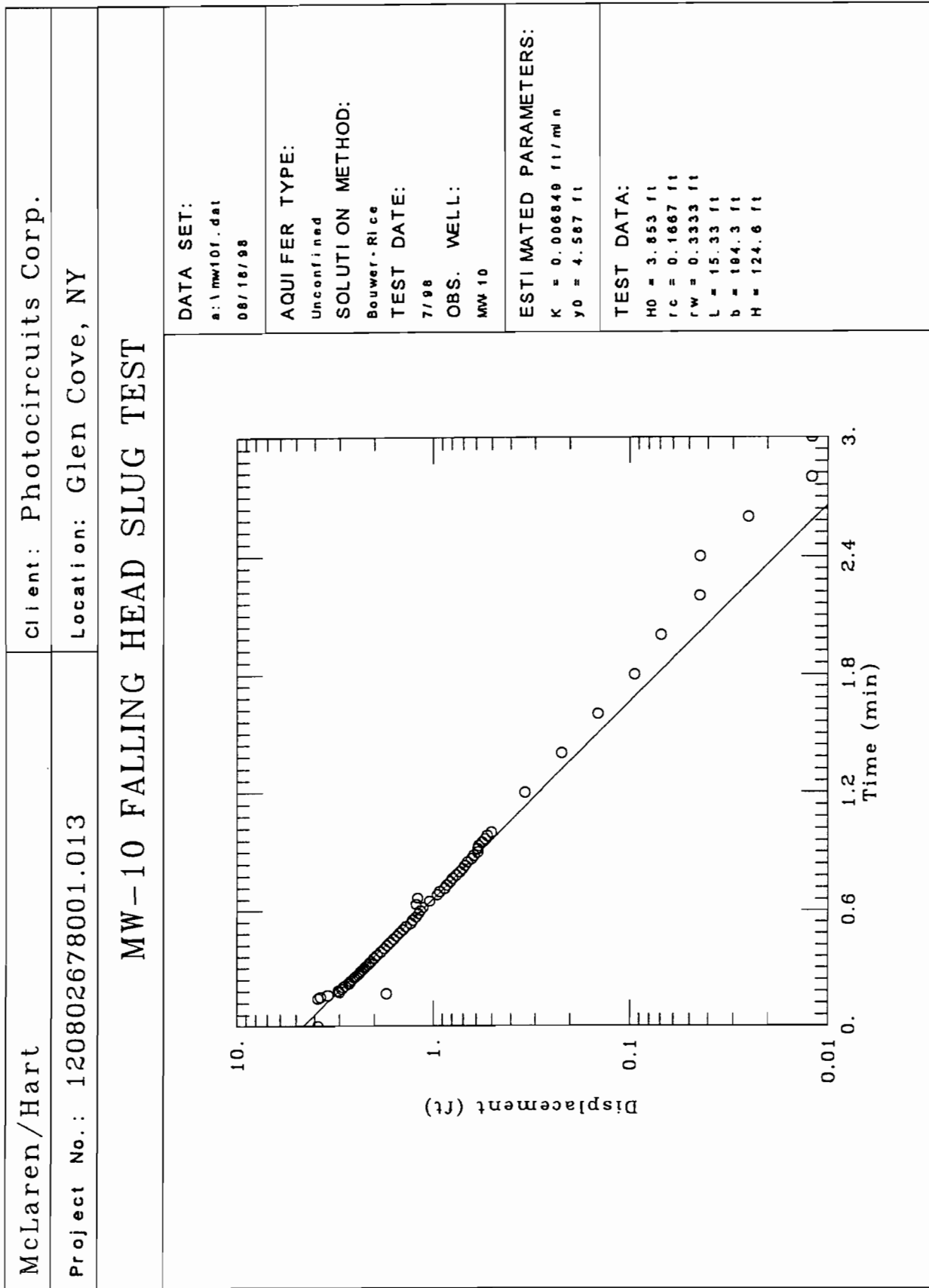
0.75	0.226	1
0.7666	0.232	1
0.7833	0.175	1
0.8	0.138	1
0.8166	0.163	1
0.8333	0.138	1
0.85	0.144	1
0.8666	0.119	1
0.8833	0.113	1
0.9	0.113	1
0.9166	0.182	1
0.9333	0.119	1
0.95	0.087	1
0.9666	0.069	1
0.9833	0.056	1
1	0.062	1
1.2	0.031	1



0.1	2.728	1
0.1083	2.627	1
0.1166	2.59	1
0.125	2.565	1
0.1333	2.546	1
0.1416	2.514	1
0.15	2.502	1
0.1583	2.489	1
0.1666	2.47	1
0.175	2.439	1
0.1833	2.439	1
0.1916	2.414	1
0.2	2.401	1
0.2083	2.395	1
0.2166	2.389	1
0.225	2.357	1
0.2333	2.344	1
0.2416	2.319	1
0.25	2.307	1
0.2583	2.307	1
0.2666	2.294	1
0.275	2.282	1
0.2833	2.269	1
0.2916	2.42	1
0.3	2.238	1
0.3083	2.407	1
0.3166	2.363	1
0.325	2.181	1
0.3333	2.187	1
0.35	2.175	1
0.3666	2.206	1
0.3833	2.187	1
0.4	2.156	1
0.4166	2.068	1
0.4333	2.225	1
0.45	2.187	1
0.4666	2.2	1
0.4833	2.15	1
0.5	2.124	1
0.5166	2.106	1
0.5333	2.08	1
0.55	2.062	1
0.5666	2.036	1
0.5833	2.011	1
0.6	1.999	1
0.6166	1.974	1
0.6333	1.955	1
0.65	1.936	1
0.6666	1.917	1
0.6833	1.892	1
0.7	1.873	1

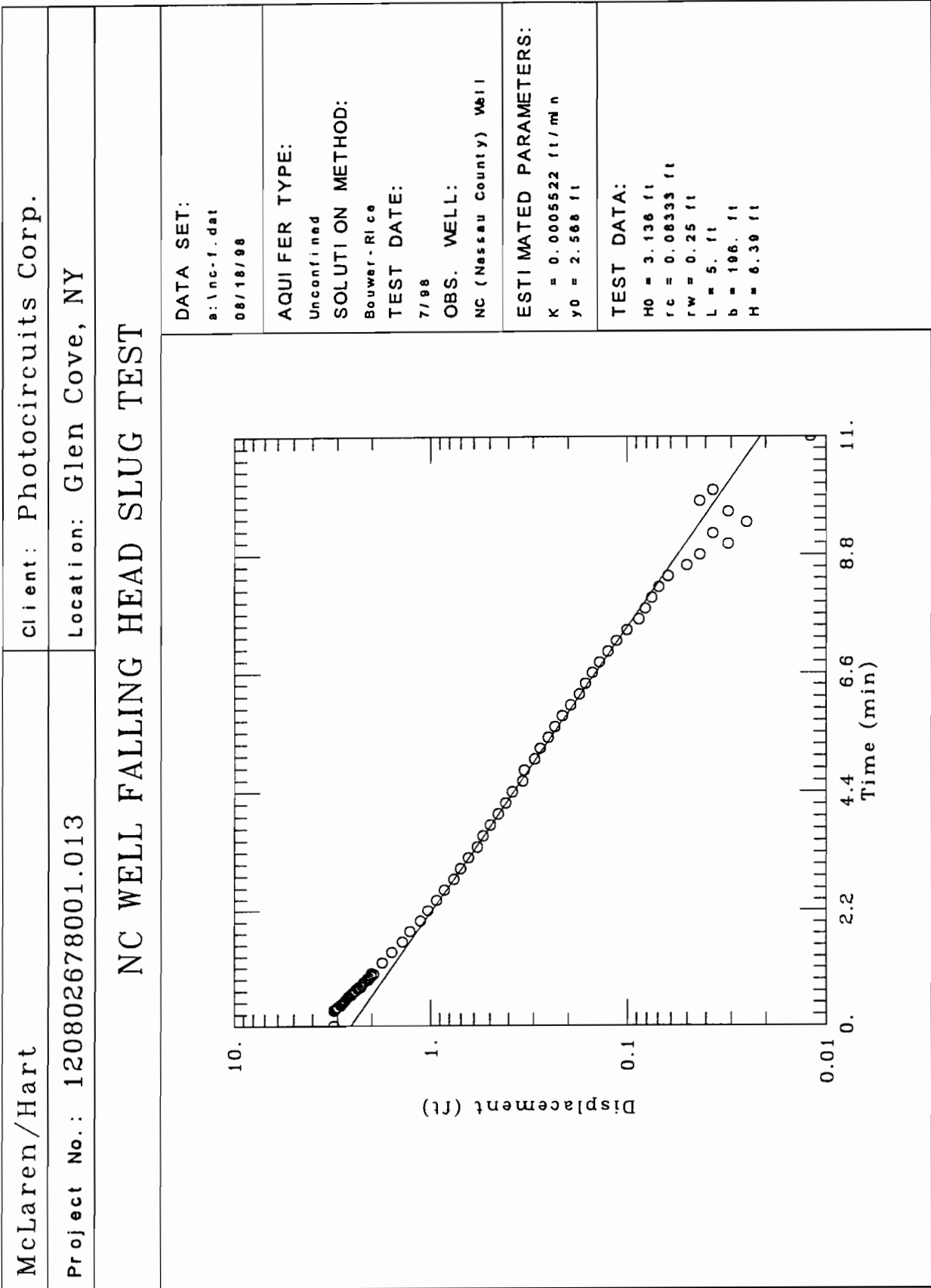
0.7166	1.854	1
0.7333	1.842	1
0.75	1.823	1
0.7666	1.798	1
0.7833	1.772	1
0.8	1.741	1
0.8166	1.716	1
0.8333	1.835	1
0.85	1.684	1
0.8666	1.659	1
0.8833	1.634	1
0.9	1.609	1
0.9166	1.584	1
0.9333	1.559	1
0.95	1.534	1
0.9666	1.508	1
0.9833	1.49	1
1	1.477	1
1.2	1.339	1
1.4	1.219	1
1.6	1.1	1
1.8	0.999	1
2	0.911	1
2.2	0.842	1
2.4	0.786	1
2.6	0.723	1
2.8	0.666	1
3	0.622	1
3.2	0.578	1
3.4	0.534	1
3.6	0.496	1
3.8	0.465	1
4	0.434	1
4.2	0.415	1
4.4	0.396	1
4.6	0.383	1
4.8	0.364	1
5	0.358	1
5.2	0.346	1
5.4	0.333	1
5.6	0.32	1
5.8	0.314	1
6	0.302	1
6.2	0.295	1
6.4	0.289	1
6.6	0.289	1
6.8	0.283	1
7	0.27	1
7.2	0.264	1
7.4	0.264	1
7.6	0.264	1

7.8	0.27	1
8	0.283	1
8.2	0.27	1
8.4	0.258	1
8.6	0.251	1
8.8	0.251	1
9	0.245	1
9.2	0.245	1
9.4	0.239	1
9.6	0.239	1
9.8	0.27	1
10	0.276	1
11	0.239	1
12	0.232	1
13	0.232	1
14	0.245	1
15	0.232	1
16	0.226	1
17	0.232	1
18	0.226	1
19	0.232	1
20	0.232	1
21	0.226	1
22	0.226	1



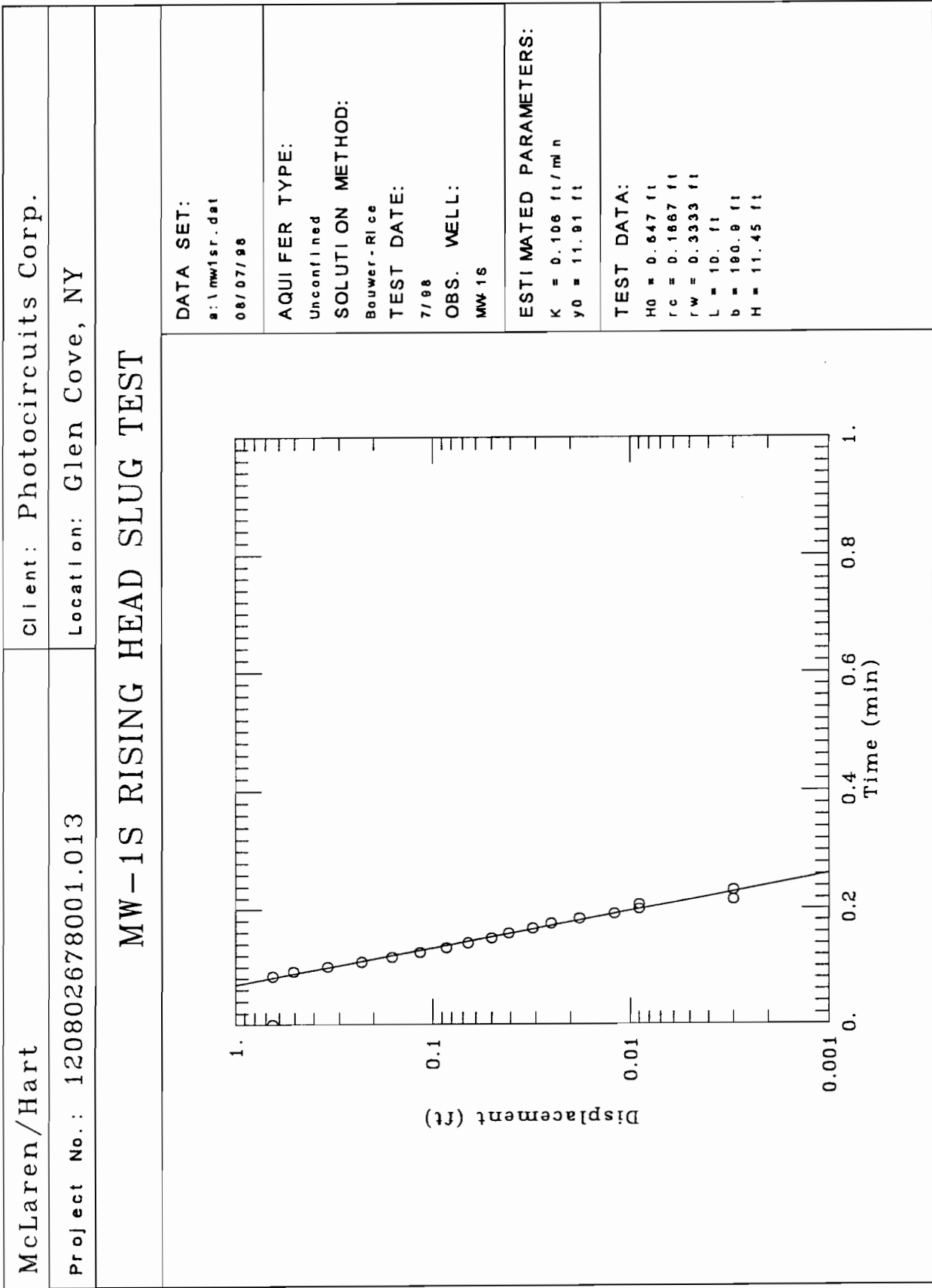
0.1416	3.853	1
0.15	3.74	1
0.1583	3.445	1
0.1666	1.735	1
0.175	3.005	1
0.1833	3.049	1
0.1916	2.923	1
0.2	2.885	1
0.2083	2.81	1
0.2166	2.69	1
0.225	2.69	1
0.2333	2.634	1
0.2416	2.583	1
0.25	2.521	1
0.2583	2.477	1
0.2666	2.42	1
0.275	2.376	1
0.2833	2.338	1
0.2916	2.288	1
0.3	2.244	1
0.3083	2.206	1
0.3166	2.156	1
0.325	2.124	1
0.3333	2.08	1
0.35	2.005	1
0.3666	1.936	1
0.3833	1.854	1
0.4	1.779	1
0.4166	1.722	1
0.4333	1.659	1
0.45	1.596	1
0.4666	1.54	1
0.4833	1.483	1
0.5	1.427	1
0.5166	1.376	1
0.5333	1.301	1
0.55	1.269	1
0.5666	1.225	1
0.5833	1.188	1
0.6	1.163	1
0.6166	1.125	1
0.6333	1.219	1
0.65	1.043	1
0.6666	1.2	1
0.6833	0.949	1
0.7	0.924	1
0.7166	0.873	1
0.7333	0.848	1
0.75	0.817	1
0.7666	0.792	1
0.7833	0.76	1

0.8	0.729	1
0.8166	0.704	1
0.8333	0.685	1
0.85	0.666	1
0.8666	0.634	1
0.8833	0.616	1
0.9	0.59	1
0.9166	0.59	1
0.9333	0.584	1
0.95	0.559	1
0.9666	0.54	1
0.9833	0.528	1
1	0.502	1
1.2	0.339	1
1.4	0.22	1
1.6	0.144	1
1.8	0.094	1
2	0.069	1
2.2	0.044	1
2.4	0.044	1
2.6	0.025	1
2.8	0.012	1
3	0.012	1

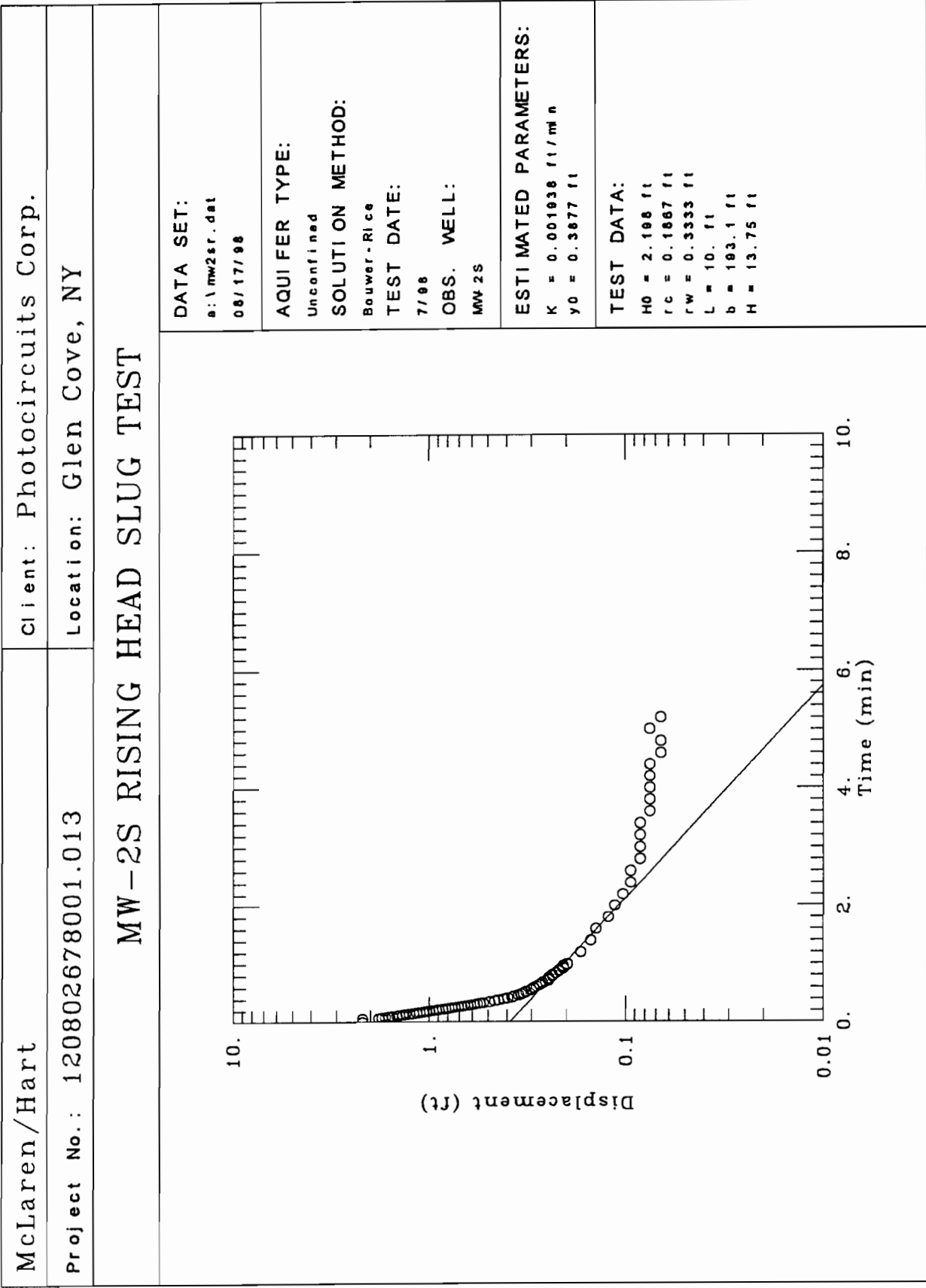


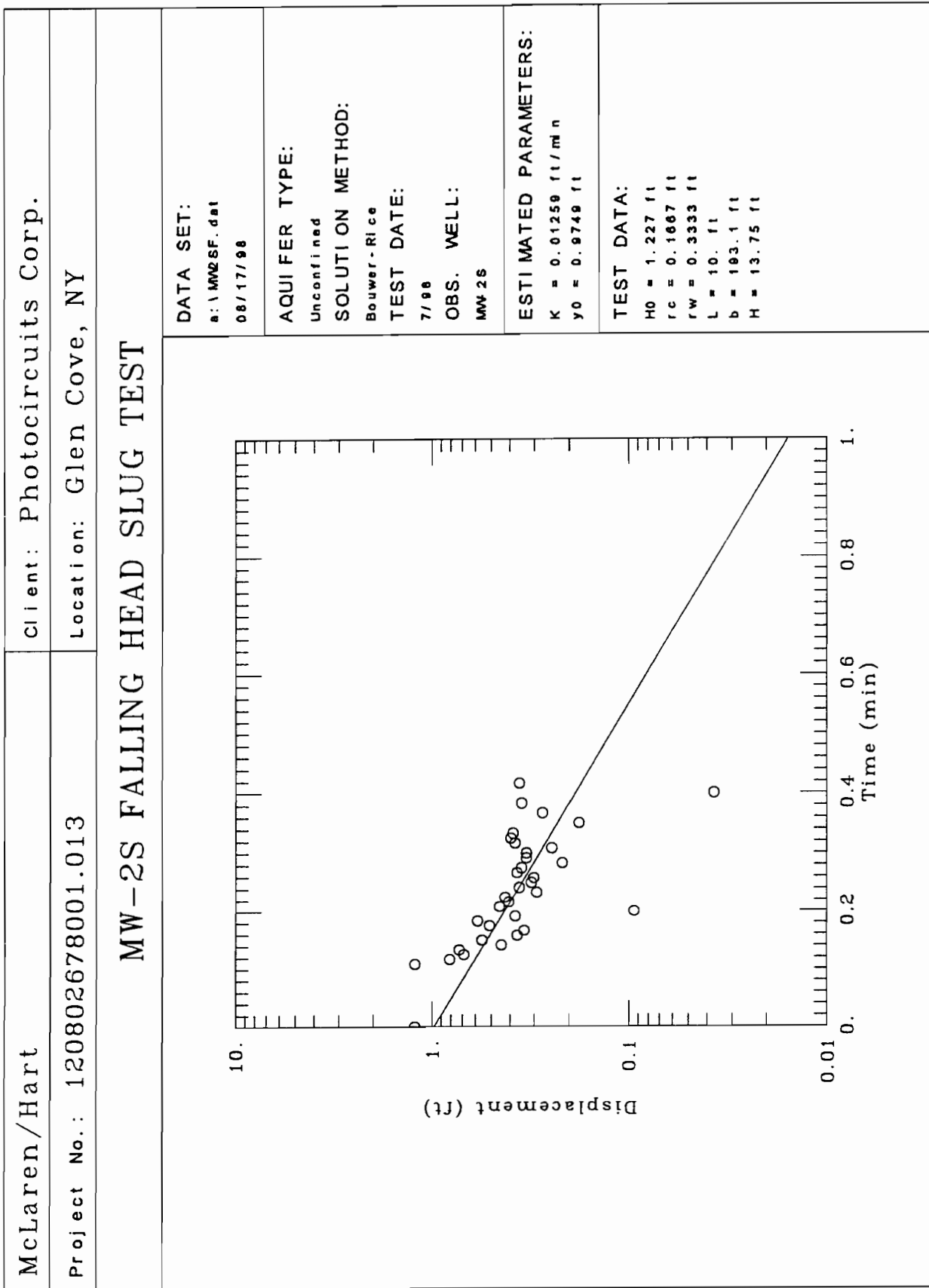
0.2833	3.136	1
0.2916	3.13	1
0.3	3.13	1
0.3083	3.092	1
0.3166	3.073	1
0.325	3.061	1
0.3333	3.042	1
0.35	3.017	1
0.3666	2.979	1
0.3833	2.891	1
0.4	2.897	1
0.4166	2.86	1
0.4333	2.809	1
0.45	2.79	1
0.4666	2.765	1
0.4833	2.734	1
0.5	2.721	1
0.5166	2.684	1
0.5333	2.658	1
0.55	2.633	1
0.5666	2.633	1
0.5833	2.539	1
0.6	2.533	1
0.6166	2.526	1
0.6333	2.508	1
0.65	2.451	1
0.6666	2.42	1
0.6833	2.426	1
0.7	2.363	1
0.7166	2.363	1
0.7333	2.281	1
0.75	2.313	1
0.7666	2.25	1
0.7833	2.244	1
0.8	2.231	1
0.8166	2.2	1
0.8333	2.206	1
0.85	2.149	1
0.8666	2.086	1
0.8833	2.099	1
0.9	2.112	1
0.9166	2.08	1
0.9333	2.011	1
0.95	2.017	1
0.9666	2.017	1
0.9833	1.961	1
1	2.011	1
1.2	1.772	1
1.4	1.583	1
1.6	1.395	1
1.8	1.275	1

2	1.125	1
2.2	1.03	1
2.4	0.93	1
2.6	0.848	1
2.8	0.76	1
3	0.703	1
3.2	0.641	1
3.4	0.578	1
3.6	0.54	1
3.8	0.496	1
4	0.452	1
4.2	0.414	1
4.4	0.383	1
4.6	0.339	1
4.8	0.333	1
5	0.295	1
5.2	0.276	1
5.4	0.251	1
5.6	0.232	1
5.8	0.213	1
6	0.194	1
6.2	0.175	1
6.4	0.163	1
6.6	0.15	1
6.8	0.138	1
7	0.125	1
7.2	0.113	1
7.4	0.1	1
7.6	0.087	1
7.8	0.081	1
8	0.075	1
8.2	0.069	1
8.4	0.062	1
8.6	0.05	1
8.8	0.043	1
9	0.031	1
9.2	0.037	1
9.4	0.025	1
9.6	0.031	1
9.8	0.043	1
10	0.037	1
11	0.012	1

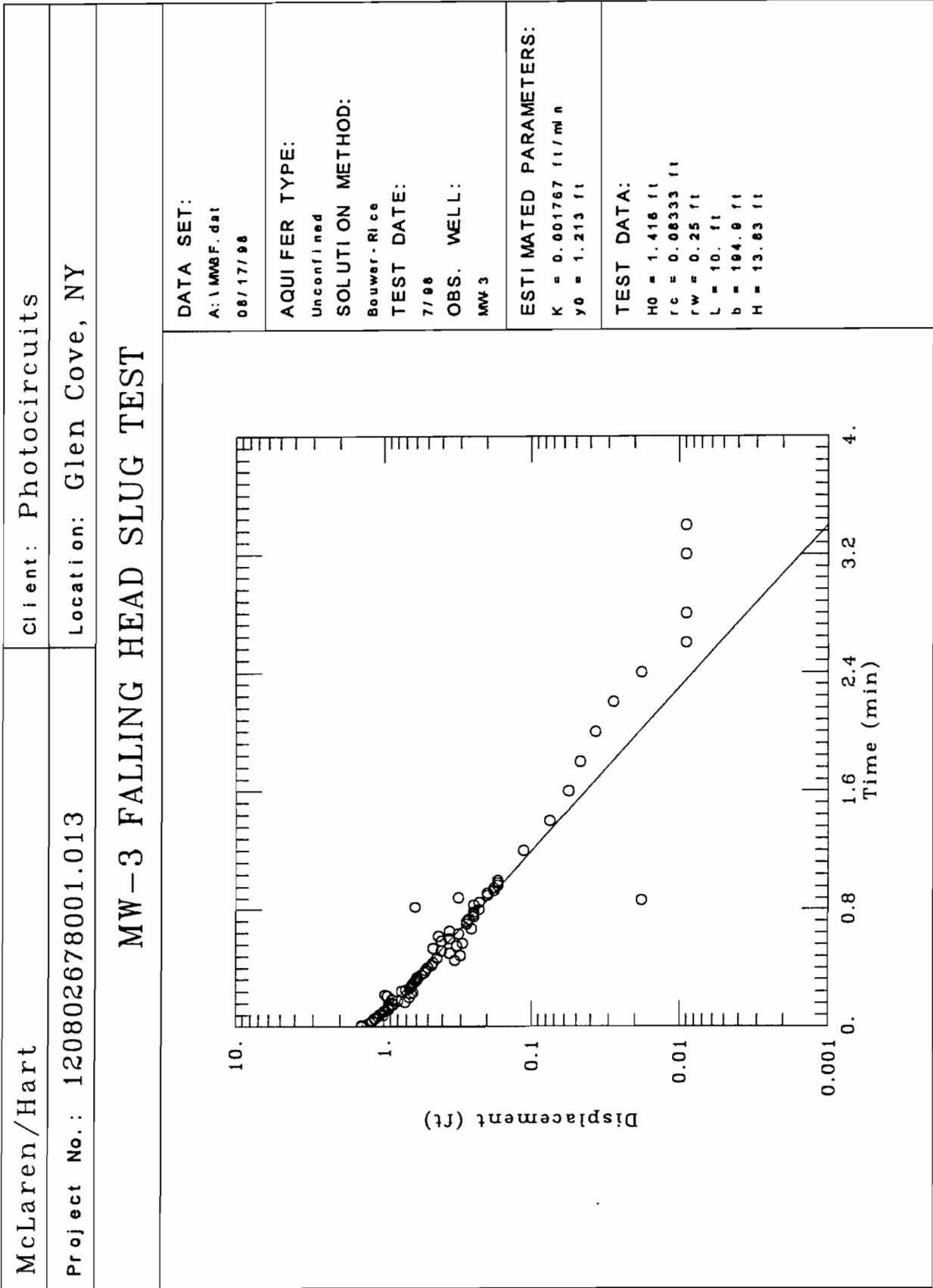


0.0833	0.647	1
0.0916	0.508	1
0.1	0.341	1
0.1083	0.23	1
0.1166	0.161	1
0.125	0.116	1
0.1333	0.085	1
0.1416	0.066	1
0.15	0.05	1
0.1583	0.041	1
0.1666	0.031	1
0.175	0.025	1
0.1833	0.018	1
0.1916	0.012	1
0.2	0.009	1
0.2083	0.009	1
0.2166	0.003	1
0.225	0	1
0.2333	0.003	1
0.2416	0	1





0.1083	1.227	1
0.1166	0.811	1
0.1333	0.726	1
0.15	0.556	1
0.175	0.509	1
0.2083	0.453	1
0.2166	0.405	1
0.2416	0.358	1
0.25	0.311	1
0.2583	0.302	1
0.2833	0.217	1
0.2916	0.33	1
0.3	0.33	1
0.3083	0.245	1
0.3166	0.377	1
0.325	0.396	1
0.3333	0.386	1
0.3666	0.273	1
0.3833	0.349	1

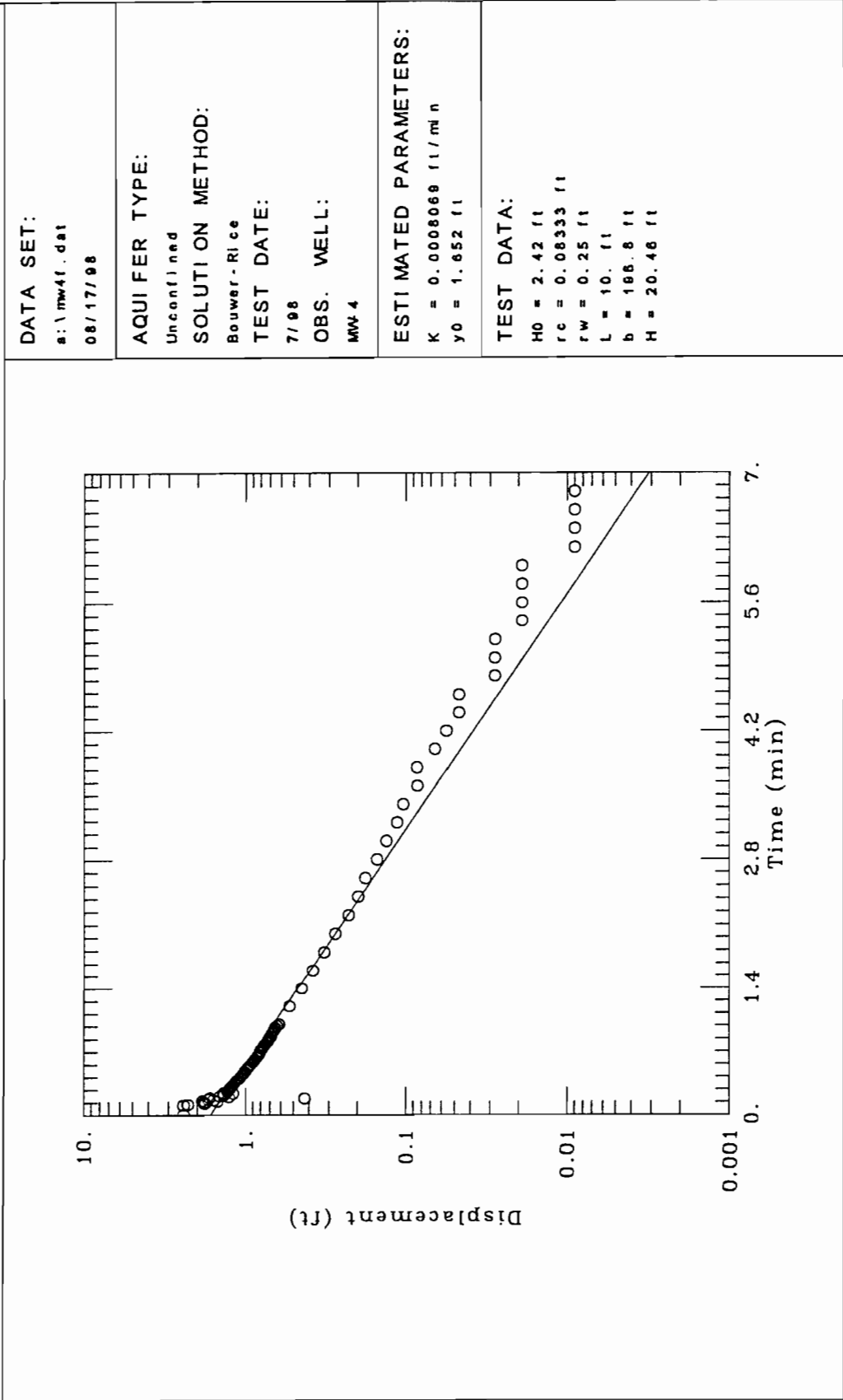


0.0083	1.416	1
0.0166	1.283	1
0.025	1.227	1
0.0333	1.198	1
0.0416	1.189	1
0.05	1.151	1
0.0583	1.151	1
0.0666	1.095	1
0.075	1.01	1
0.0833	1.066	1
0.0916	1.028	1
0.1	1	1
0.1083	0.991	1
0.1166	0.925	1
0.125	0.934	1
0.1333	0.925	1
0.1416	0.925	1
0.15	0.859	1
0.1583	0.877	1
0.1666	0.717	1
0.175	0.802	1
0.1833	0.877	1
0.2	0.67	1
0.2083	0.943	1
0.2166	0.981	1
0.225	0.651	1
0.2333	0.632	1
0.2416	0.755	1
0.25	0.707	1
0.2583	0.67	1
0.2666	0.66	1
0.275	0.651	1
0.2833	0.641	1
0.2916	0.632	1
0.3	0.622	1
0.3083	0.604	1
0.3166	0.594	1
0.325	0.585	1
0.3333	0.594	1
0.35	0.556	1
0.3666	0.528	1
0.3833	0.519	1
0.4	0.5	1
0.4166	0.471	1
0.4333	0.462	1
0.45	0.33	1
0.4666	0.434	1
0.4833	0.302	1
0.5	0.358	1
0.5166	0.405	1
0.5333	0.462	1

0.55	0.32	1
0.5666	0.292	1
0.5833	0.405	1
0.6	0.358	1
0.6166	0.424	1
0.6333	0.311	1
0.65	0.358	1
0.6666	0.254	1
0.7	0.273	1
0.7166	0.273	1
0.7333	0.264	1
0.75	0.245	1
0.7666	0.245	1
0.7833	0.245	1
0.8	0.226	1
0.8166	0.613	1
0.8333	0.245	1
0.85	0.226	1
0.8666	0.018	1
0.8833	0.311	1
0.9	0.198	1
0.9166	0.198	1
0.9333	0.179	1
0.95	0.179	1
0.9666	0.169	1
0.9833	0.169	1
1	0.169	1
1.2	0.113	1
1.4	0.075	1
1.6	0.056	1
1.8	0.047	1
2	0.037	1
2.2	0.028	1
2.4	0.018	1
2.6	0.009	1
2.8	0.009	1
3	0	1
3.2	0.009	1
3.4	0.009	1
3.6	0	1

McLaren/Hart	client: Photocircuits Corp.
Project No.: 120802678001.013	Location: Glen Cove, NY

MW-4 FALLING HEAD SLUG TEST

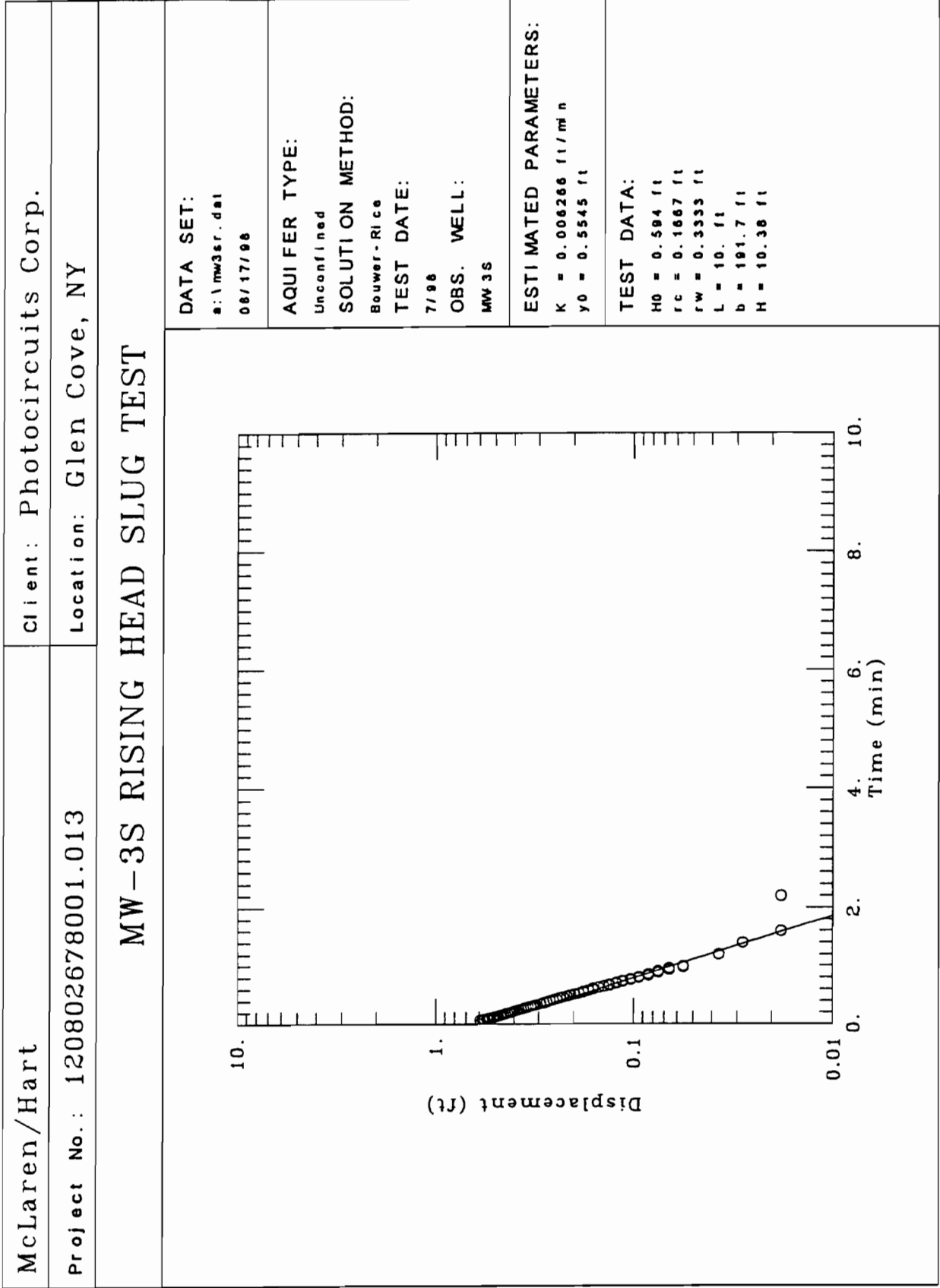


0.1083	2.42	1
0.1166	2.278	1
0.125	1.796	1
0.1333	1.768	1
0.1416	1.815	1
0.15	1.494	1
0.1583	1.853	1
0.1666	1.579	1
0.175	1.702	1
0.1833	0.425	1
0.1916	1.664	1
0.2	1.267	1
0.2083	1.437	1
0.2166	1.361	1
0.225	1.361	1
0.2333	1.371	1
0.2416	1.191	1
0.25	1.361	1
0.2583	1.286	1
0.2666	1.295	1
0.275	1.276	1
0.2833	1.267	1
0.2916	1.257	1
0.3	1.238	1
0.3083	1.229	1
0.3166	1.219	1
0.325	1.2	1
0.3333	1.191	1
0.35	1.172	1
0.3666	1.153	1
0.3833	1.134	1
0.4	1.096	1
0.4166	1.077	1
0.4333	1.059	1
0.45	1.04	1
0.4666	1.021	1
0.4833	1.011	1
0.5	0.983	1
0.5166	0.973	1
0.5333	0.955	1
0.55	0.936	1
0.5666	0.917	1
0.5833	0.898	1
0.6	0.879	1
0.6166	0.869	1
0.6333	0.851	1
0.65	0.841	1
0.6666	0.822	1
0.6833	0.813	1
0.7	0.813	1
0.7166	0.803	1

0.7333	0.784	1
0.75	0.775	1
0.7666	0.765	1
0.7833	0.747	1
0.8	0.737	1
0.8166	0.718	1
0.8333	0.718	1
0.85	0.709	1
0.8666	0.69	1
0.8833	0.69	1
0.9	0.68	1
0.9166	0.671	1
0.9333	0.661	1
0.95	0.652	1
0.9666	0.652	1
0.9833	0.633	1
1	0.614	1
1.2	0.529	1
1.4	0.444	1
1.6	0.378	1
1.8	0.321	1
2	0.274	1
2.2	0.227	1
2.4	0.198	1
2.6	0.179	1
2.8	0.151	1
3	0.132	1
3.2	0.113	1
3.4	0.104	1
3.6	0.085	1
3.8	0.085	1
4	0.066	1
4.2	0.056	1
4.4	0.047	1
4.6	0.047	1
4.8	0.028	1
5	0.028	1
5.2	0.028	1
5.4	0.019	1
5.6	0.019	1
5.8	0.019	1
6	0.019	1
6.2	0.009	1
6.4	0.009	1
6.6	0.009	1
6.8	0.009	1
7	0	1
7.2	0	1

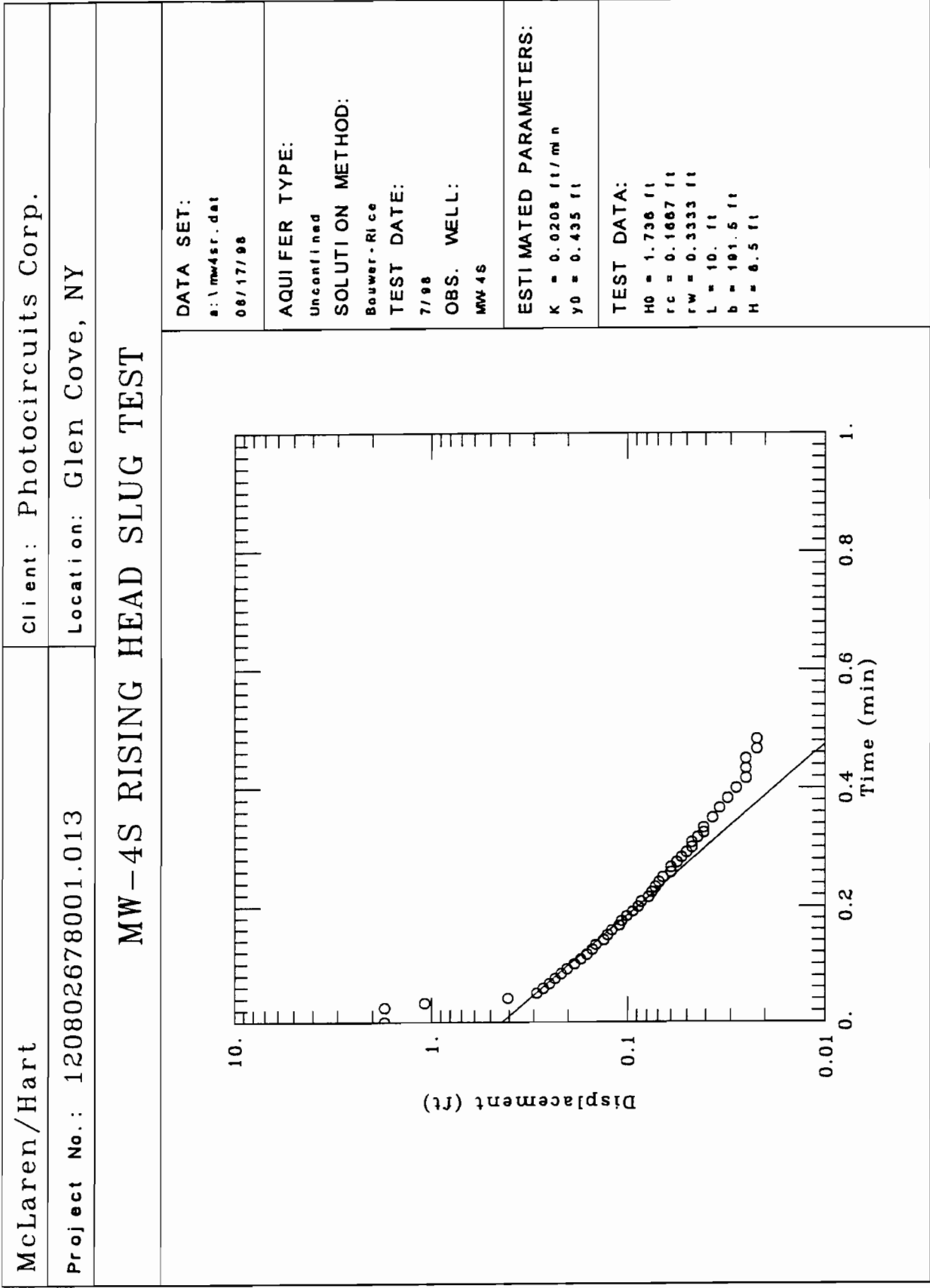
0.0583	2.198	1
0.0666	1.811	1
0.075	1.745	1
0.0833	1.67	1
0.0916	1.604	1
0.1	1.538	1
0.1083	1.453	1
0.1166	1.415	1
0.125	1.358	1
0.1333	1.311	1
0.1416	1.255	1
0.15	1.198	1
0.1583	1.151	1
0.1666	1.113	1
0.175	1.066	1
0.1833	1.028	1
0.1916	0.99	1
0.2	0.953	1
0.2083	0.915	1
0.2166	0.887	1
0.225	0.849	1
0.2333	0.82	1
0.2416	0.792	1
0.25	0.764	1
0.2583	0.736	1
0.2666	0.707	1
0.275	0.679	1
0.2833	0.66	1
0.2916	0.632	1
0.3	0.613	1
0.3083	0.585	1
0.3166	0.566	1
0.325	0.547	1
0.3333	0.528	1
0.35	0.49	1
0.3666	0.462	1
0.3833	0.443	1
0.4	0.415	1
0.4166	0.396	1
0.4333	0.377	1
0.45	0.368	1
0.4666	0.349	1
0.4833	0.339	1
0.5	0.33	1
0.5166	0.32	1
0.5333	0.32	1
0.55	0.301	1
0.5666	0.301	1
0.5833	0.292	1
0.6	0.292	1
0.6166	0.283	1

0.6333	0.273	1
0.65	0.273	1
0.6666	0.264	1
0.6833	0.264	1
0.7	0.254	1
0.7166	0.245	1
0.7333	0.245	1
0.75	0.245	1
0.7666	0.245	1
0.7833	0.235	1
0.8	0.235	1
0.8166	0.235	1
0.8333	0.226	1
0.85	0.226	1
0.8666	0.217	1
0.8833	0.217	1
0.9	0.217	1
0.9166	0.207	1
0.9333	0.207	1
0.95	0.207	1
0.9666	0.207	1
0.9833	0.198	1
1	0.198	1
1.2	0.169	1
1.4	0.15	1
1.6	0.141	1
1.8	0.122	1
2	0.113	1
2.2	0.103	1
2.4	0.094	1
2.6	0.094	1
2.8	0.084	1
3	0.084	1
3.2	0.084	1
3.4	0.084	1
3.6	0.075	1
3.8	0.075	1
4	0.075	1
4.2	0.075	1
4.4	0.075	1
4.6	0.066	1
4.8	0.066	1
5	0.075	1
5.2	0.066	1

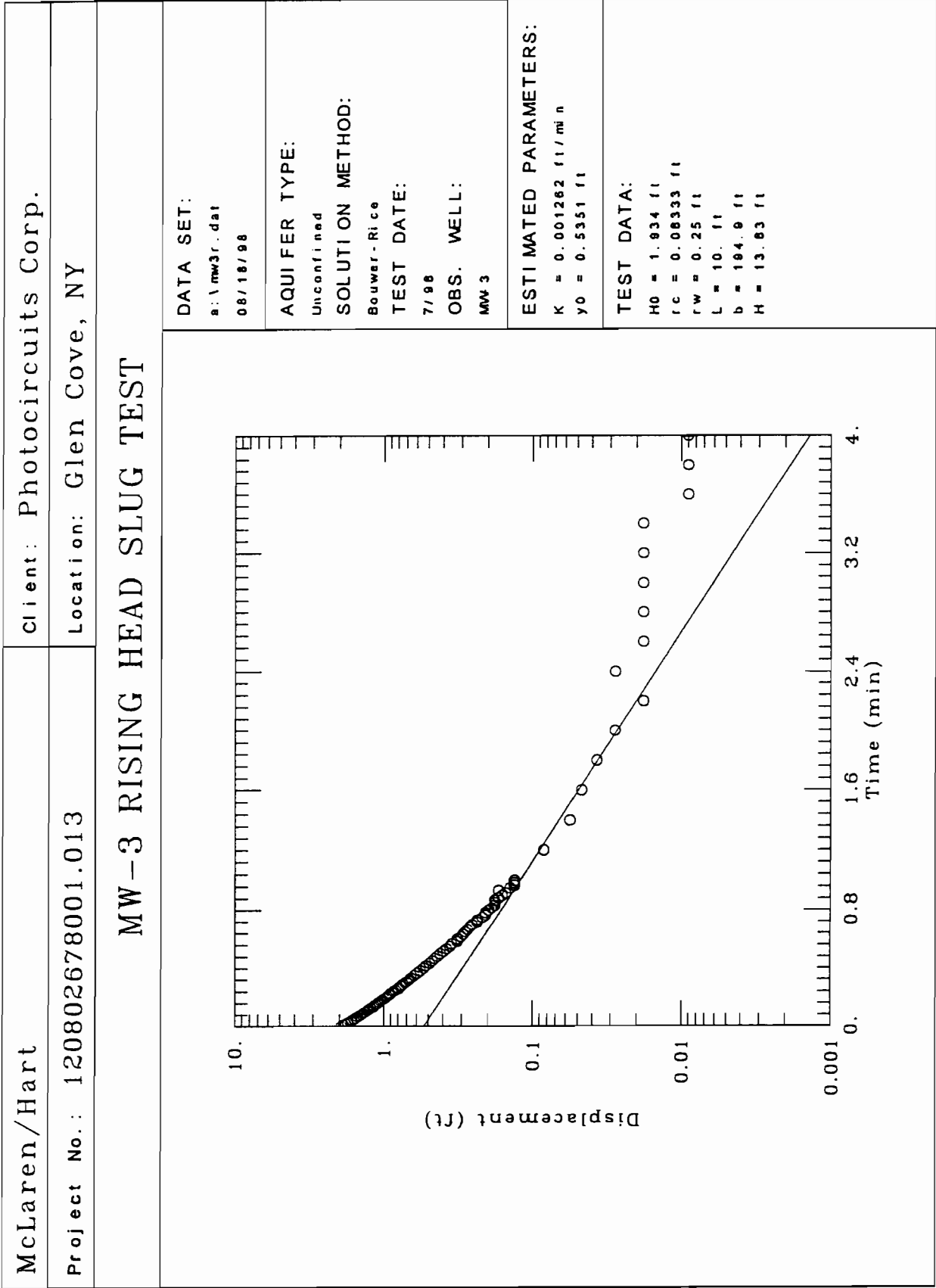


0.0666	0.594	1
0.075	0.575	1
0.0833	0.565	1
0.0916	0.547	1
0.1	0.537	1
0.1083	0.528	1
0.1166	0.509	1
0.125	0.499	1
0.1333	0.49	1
0.1416	0.481	1
0.15	0.471	1
0.1583	0.462	1
0.1666	0.452	1
0.175	0.443	1
0.1833	0.443	1
0.1916	0.433	1
0.2	0.415	1
0.2083	0.415	1
0.2166	0.405	1
0.225	0.396	1
0.2333	0.396	1
0.2416	0.386	1
0.25	0.377	1
0.2583	0.367	1
0.2666	0.358	1
0.275	0.358	1
0.2833	0.349	1
0.2916	0.339	1
0.3	0.339	1
0.3083	0.33	1
0.3166	0.32	1
0.325	0.311	1
0.3333	0.311	1
0.35	0.292	1
0.3666	0.282	1
0.3833	0.273	1
0.4	0.264	1
0.4166	0.254	1
0.4333	0.245	1
0.45	0.235	1
0.4666	0.226	1
0.4833	0.216	1
0.5	0.207	1
0.5166	0.198	1
0.5333	0.188	1
0.55	0.179	1
0.5666	0.179	1
0.5833	0.169	1
0.6	0.16	1
0.6166	0.16	1
0.6333	0.15	1

0.65	0.141	1
0.6666	0.132	1
0.6833	0.132	1
0.7	0.122	1
0.7166	0.122	1
0.7333	0.113	1
0.75	0.113	1
0.7666	0.103	1
0.7833	0.103	1
0.8	0.094	1
0.8166	0.094	1
0.8333	0.084	1
0.85	0.084	1
0.8666	0.084	1
0.8833	0.075	1
0.9	0.075	1
0.9166	0.075	1
0.9333	0.066	1
0.95	0.066	1
0.9666	0.066	1
0.9833	0.056	1
1	0.056	1
1.2	0.037	1
1.4	0.028	1
1.6	0.018	1
1.8	0.009	1
2	0.009	1
2.2	0.018	1
2.4	0.009	1
2.6	0.009	1

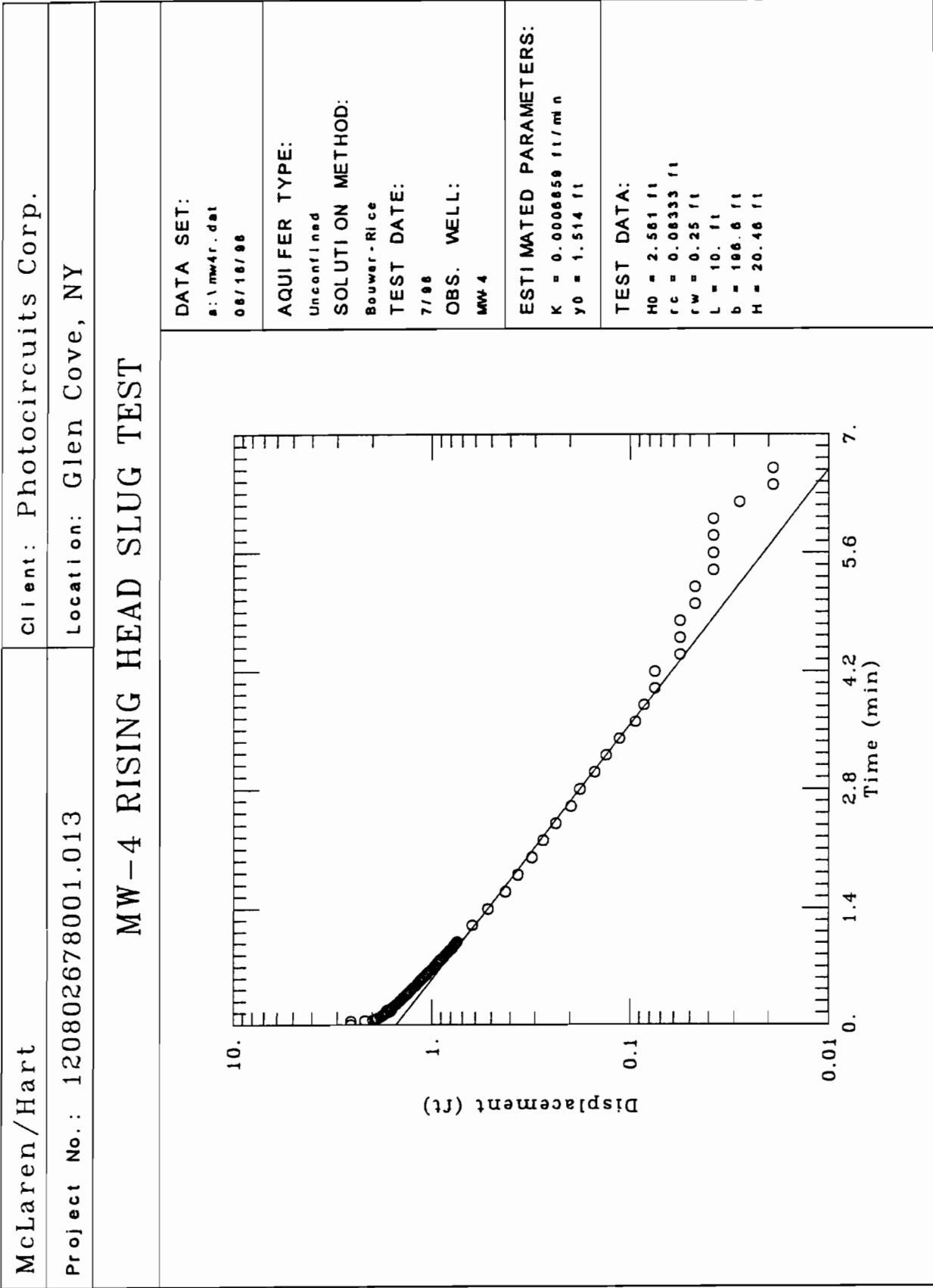


0.025	1.736	1
0.0333	1.083	1
0.0416	0.407	1
0.05	0.29	1
0.0583	0.268	1
0.0666	0.249	1
0.075	0.233	1
0.0833	0.217	1
0.0916	0.202	1
0.1	0.186	1
0.1083	0.173	1
0.1166	0.161	1
0.125	0.151	1
0.1333	0.145	1
0.1416	0.132	1
0.15	0.126	1
0.1583	0.12	1
0.1666	0.11	1
0.175	0.107	1
0.1833	0.101	1
0.1916	0.094	1
0.2	0.088	1
0.2083	0.085	1
0.2166	0.078	1
0.225	0.075	1
0.2333	0.072	1
0.2416	0.069	1
0.25	0.066	1
0.2583	0.06	1
0.2666	0.06	1
0.275	0.056	1
0.2833	0.053	1
0.2916	0.05	1
0.3	0.047	1
0.3083	0.047	1
0.3166	0.044	1
0.325	0.041	1
0.3333	0.041	1
0.35	0.037	1
0.3666	0.034	1
0.3833	0.031	1
0.4	0.028	1
0.4166	0.025	1
0.4333	0.025	1
0.45	0.025	1
0.4666	0.022	1
0.4833	0.022	1



0	1.934	1
0.0083	1.859	1
0.0166	1.802	1
0.025	1.745	1
0.0333	1.66	1
0.0416	1.642	1
0.05	1.585	1
0.0583	1.538	1
0.0666	1.5	1
0.075	1.453	1
0.0833	1.415	1
0.0916	1.377	1
0.1	1.33	1
0.1083	1.292	1
0.1166	1.264	1
0.125	1.226	1
0.1333	1.179	1
0.1416	1.16	1
0.15	1.132	1
0.1583	1.104	1
0.1666	1.075	1
0.175	1.047	1
0.1833	1.019	1
0.1916	0.99	1
0.2	0.962	1
0.2083	0.943	1
0.2166	0.915	1
0.225	0.906	1
0.2333	0.877	1
0.2416	0.858	1
0.25	0.83	1
0.2583	0.792	1
0.2666	0.792	1
0.275	0.764	1
0.2833	0.755	1
0.2916	0.736	1
0.3	0.717	1
0.3083	0.698	1
0.3166	0.679	1
0.325	0.67	1
0.3333	0.651	1
0.35	0.622	1
0.3666	0.594	1
0.3833	0.566	1
0.4	0.537	1
0.4166	0.519	1
0.4333	0.49	1
0.45	0.471	1
0.4666	0.453	1
0.4833	0.434	1
0.5	0.415	1

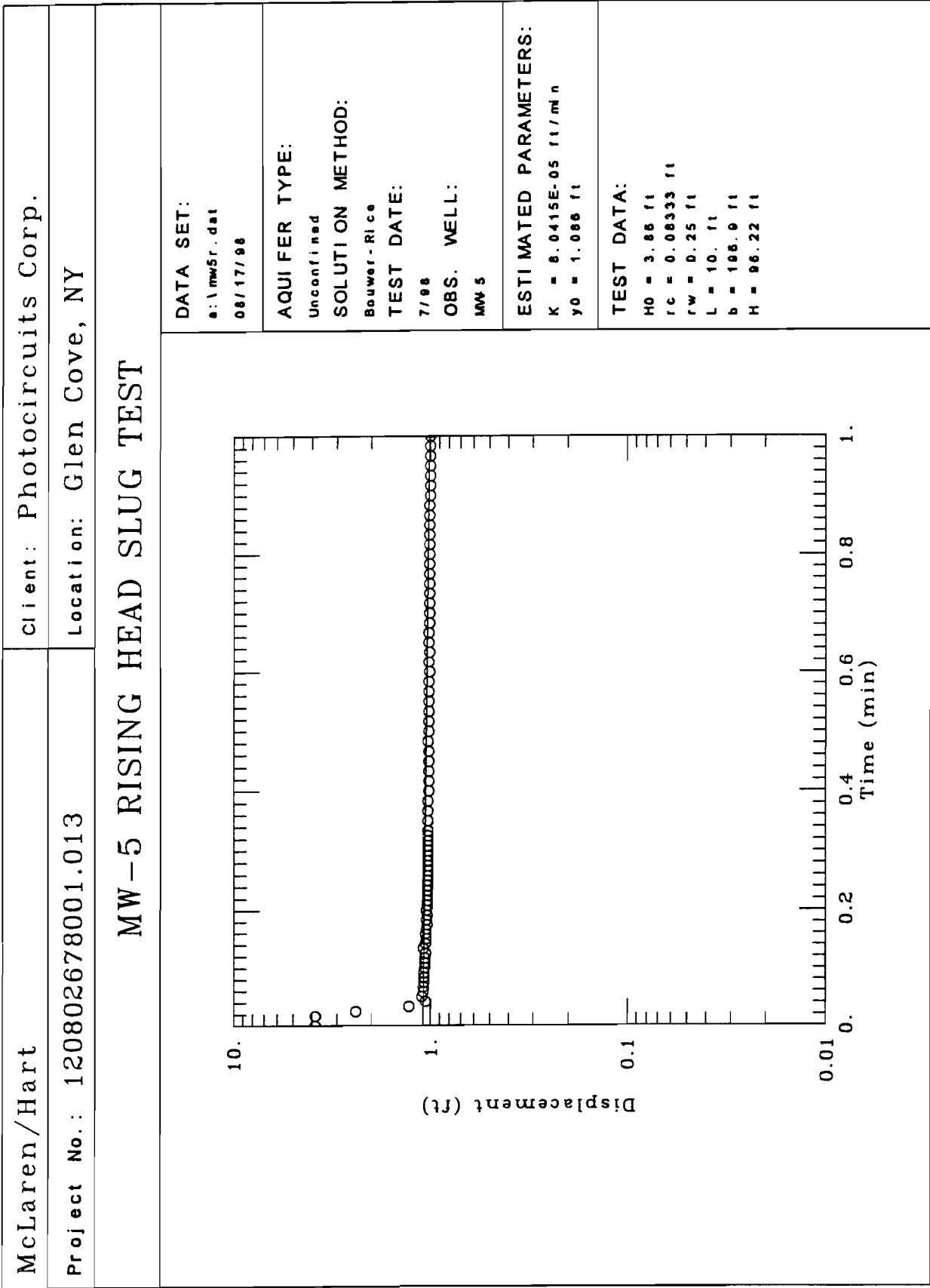
0.5166	0.396	1
0.5333	0.377	1
0.55	0.358	1
0.5666	0.349	1
0.5833	0.32	1
0.6	0.32	1
0.6166	0.302	1
0.6333	0.292	1
0.65	0.283	1
0.6666	0.273	1
0.6833	0.264	1
0.7	0.254	1
0.7166	0.235	1
0.7333	0.235	1
0.75	0.217	1
0.7666	0.207	1
0.7833	0.207	1
0.8	0.198	1
0.8166	0.188	1
0.8333	0.179	1
0.85	0.179	1
0.8666	0.179	1
0.8833	0.169	1
0.9	0.16	1
0.9166	0.151	1
0.9333	0.169	1
0.95	0.141	1
0.9666	0.132	1
0.9833	0.132	1
1	0.132	1
1.2	0.084	1
1.4	0.056	1
1.6	0.047	1
1.8	0.037	1
2	0.028	1
2.2	0.018	1
2.4	0.028	1
2.6	0.018	1
2.8	0.018	1
3	0.018	1
3.2	0.018	1
3.4	0.018	1
3.6	0.009	1
3.8	0.009	1
4	0.009	1



0.0416	2.561	1
0.05	2.173	1
0.0583	1.975	1
0.0666	1.918	1
0.075	1.871	1
0.0833	1.871	1
0.0916	1.824	1
0.1	1.795	1
0.1083	1.786	1
0.1166	1.748	1
0.125	1.758	1
0.1333	1.72	1
0.1416	1.72	1
0.15	1.654	1
0.1583	1.692	1
0.1666	1.606	1
0.175	1.692	1
0.1833	1.588	1
0.1916	1.625	1
0.2	1.588	1
0.2083	1.578	1
0.2166	1.569	1
0.225	1.55	1
0.2333	1.54	1
0.2416	1.521	1
0.25	1.503	1
0.2583	1.493	1
0.2666	1.484	1
0.275	1.465	1
0.2833	1.455	1
0.2916	1.446	1
0.3	1.436	1
0.3083	1.417	1
0.3166	1.408	1
0.325	1.389	1
0.3333	1.389	1
0.35	1.361	1
0.3666	1.332	1
0.3833	1.314	1
0.4	1.295	1
0.4166	1.276	1
0.4333	1.257	1
0.45	1.238	1
0.4666	1.21	1
0.4833	1.191	1
0.5	1.181	1
0.5166	1.162	1
0.5333	1.143	1
0.55	1.125	1
0.5666	1.106	1
0.5833	1.087	1

0.6	1.068	1
0.6166	1.058	1
0.6333	1.039	1
0.65	1.021	1
0.6666	1.002	1
0.6833	0.983	1
0.7	0.973	1
0.7166	0.964	1
0.7333	0.945	1
0.75	0.935	1
0.7666	0.917	1
0.7833	0.907	1
0.8	0.888	1
0.8166	0.869	1
0.8333	0.86	1
0.85	0.85	1
0.8666	0.832	1
0.8833	0.822	1
0.9	0.813	1
0.9166	0.794	1
0.9333	0.784	1
0.95	0.775	1
0.9666	0.765	1
0.9833	0.756	1
1	0.746	1
1.2	0.624	1
1.4	0.52	1
1.6	0.425	1
1.8	0.368	1
2	0.312	1
2.2	0.274	1
2.4	0.236	1
2.6	0.198	1
2.8	0.179	1
3	0.151	1
3.2	0.132	1
3.4	0.113	1
3.6	0.094	1
3.8	0.085	1
4	0.075	1
4.2	0.075	1
4.4	0.056	1
4.6	0.056	1
4.8	0.056	1
5	0.047	1
5.2	0.047	1
5.4	0.038	1
5.6	0.038	1
5.8	0.038	1
6	0.038	1
6.2	0.028	1

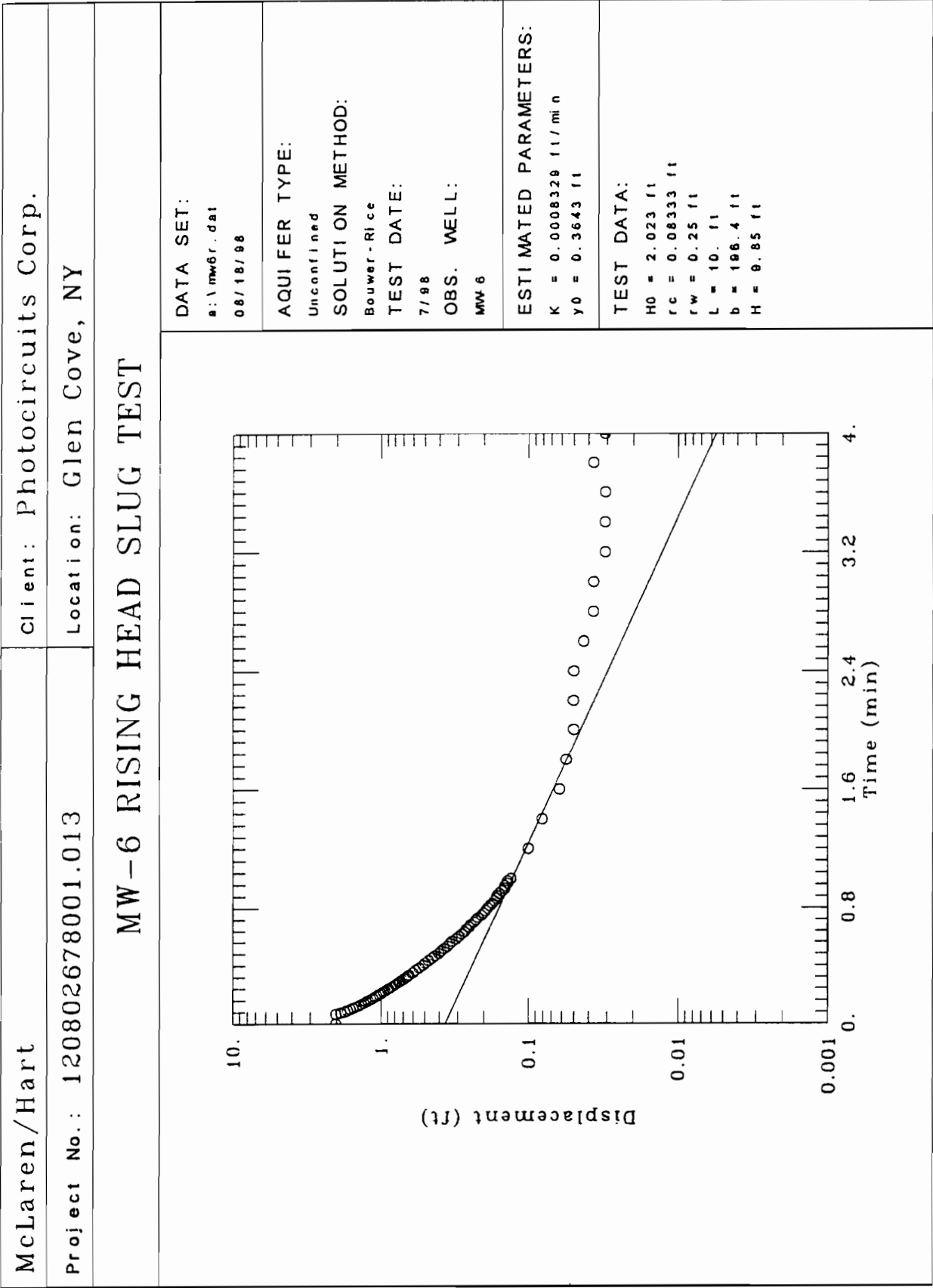
6.4	0.019	1
6.6	0.019	1



0.0166	3.86	1
0.025	2.406	1
0.0333	1.283	1
0.0416	1.057	1
0.05	1.104	1
0.0583	1.085	1
0.0666	1.085	1
0.075	1.076	1
0.0833	1.076	1
0.0916	1.076	1
0.1	1.066	1
0.1083	1.066	1
0.1166	1.066	1
0.125	1.057	1
0.1333	1.085	1
0.1416	1.057	1
0.15	1.047	1
0.1583	1.057	1
0.1666	1.047	1
0.175	1.038	1
0.1833	1.047	1
0.1916	1.038	1
0.2	1.047	1
0.2083	1.038	1
0.2166	1.038	1
0.225	1.038	1
0.2333	1.038	1
0.2416	1.038	1
0.25	1.038	1
0.2583	1.029	1
0.2666	1.029	1
0.275	1.029	1
0.2833	1.029	1
0.2916	1.029	1
0.3	1.029	1
0.3083	1.029	1
0.3166	1.029	1
0.325	1.029	1
0.3333	1.029	1
0.35	1.029	1
0.3666	1.029	1
0.3833	1.029	1
0.4	1.019	1
0.4166	1.019	1
0.4333	1.019	1
0.45	1.019	1
0.4666	1.019	1
0.4833	1.029	1
0.5	1.019	1
0.5166	1.019	1
0.5333	1.019	1

0.55	1.019	1
0.5666	1.019	1
0.5833	1.019	1
0.6	1.01	1
0.6166	1.019	1
0.6333	1.01	1
0.65	1.019	1
0.6666	1.019	1
0.6833	1.01	1
0.7	1.01	1
0.7166	1.01	1
0.7333	1.01	1
0.75	1.01	1
0.7666	1.01	1
0.7833	1.01	1
0.8	1.01	1
0.8166	1.01	1
0.8333	1.01	1
0.85	1.01	1
0.8666	1.01	1
0.8833	1.01	1
0.9	1	1
0.9166	1	1
0.9333	1	1
0.95	1	1
0.9666	1	1
0.9833	1	1
1	1	1
1.2	1	1
1.4	0.991	1
1.6	0.991	1
1.8	0.981	1
2	0.981	1
2.2	0.972	1
2.4	0.972	1
2.6	0.972	1
2.8	0.962	1
3	0.953	1
3.2	0.953	1
3.4	0.953	1
3.6	0.953	1
3.8	0.944	1
4	0.944	1
4.2	0.944	1
4.4	0.934	1
4.6	0.934	1
4.8	0.925	1
5	0.925	1
5.2	0.925	1
5.4	0.925	1
5.6	0.915	1

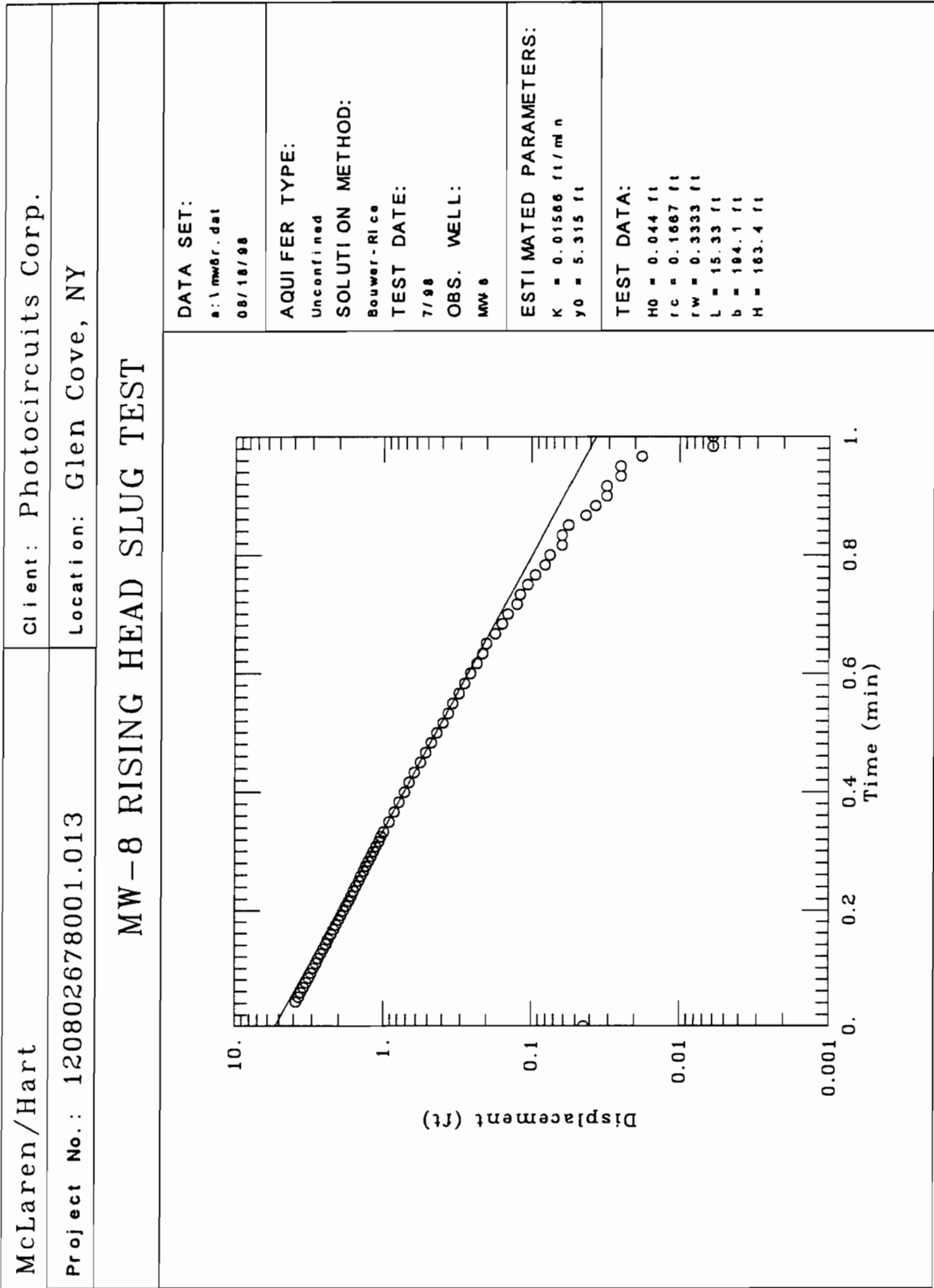
5.8	0.915	1
6	0.906	1
6.2	0.906	1
6.4	0.896	1
6.6	0.906	1
6.8	0.906	1
7	0.896	1
7.2	0.896	1
7.4	0.887	1
7.6	0.887	1
7.8	0.887	1
8	0.887	1



0.0666	2.023	1
0.075	1.879	1
0.0833	1.759	1
0.0916	1.684	1
0.1	1.608	1
0.1083	1.533	1
0.1166	1.47	1
0.125	1.407	1
0.1333	1.357	1
0.1416	1.307	1
0.15	1.263	1
0.1583	1.219	1
0.1666	1.168	1
0.175	1.131	1
0.1833	1.093	1
0.1916	1.062	1
0.2	1.024	1
0.2083	0.992	1
0.2166	0.961	1
0.225	0.936	1
0.2333	0.905	1
0.2416	0.879	1
0.25	0.848	1
0.2583	0.823	1
0.2666	0.798	1
0.275	0.779	1
0.2833	0.754	1
0.2916	0.735	1
0.3	0.71	1
0.3083	0.691	1
0.3166	0.672	1
0.325	0.653	1
0.3333	0.641	1
0.35	0.603	1
0.3666	0.578	1
0.3833	0.546	1
0.4	0.515	1
0.4166	0.496	1
0.4333	0.471	1
0.45	0.446	1
0.4666	0.427	1
0.4833	0.402	1
0.5	0.389	1
0.5166	0.37	1
0.5333	0.351	1
0.55	0.339	1
0.5666	0.326	1
0.5833	0.307	1
0.6	0.295	1
0.6166	0.282	1
0.6333	0.27	1

0.65	0.263	1
0.6666	0.251	1
0.6833	0.245	1
0.7	0.232	1
0.7166	0.226	1
0.7333	0.219	1
0.75	0.207	1
0.7666	0.201	1
0.7833	0.194	1
0.8	0.188	1
0.8166	0.182	1
0.8333	0.175	1
0.85	0.169	1
0.8666	0.163	1
0.8833	0.163	1
0.9	0.157	1
0.9166	0.15	1
0.9333	0.144	1
0.95	0.144	1
0.9666	0.138	1
0.9833	0.138	1
1	0.131	1
1.2	0.1	1
1.4	0.081	1
1.6	0.062	1
1.8	0.056	1
2	0.05	1
2.2	0.05	1
2.4	0.05	1
2.6	0.043	1
2.8	0.037	1
3	0.037	1
3.2	0.031	1
3.4	0.031	1
3.6	0.031	1
3.8	0.037	1
4	0.031	1
4.2	0.037	1
4.4	0.037	1
4.6	0.037	1
4.8	0.031	1
5	0.031	1
5.2	0.031	1
5.4	0.031	1
5.6	0.031	1
5.8	0.031	1
6	0.031	1
6.2	0.025	1
6.4	0.031	1
6.6	0.031	1
6.8	0.031	1

7	0.031	1
7.2	0.025	1
7.4	0.018	1
7.6	0.018	1
7.8	0.012	1

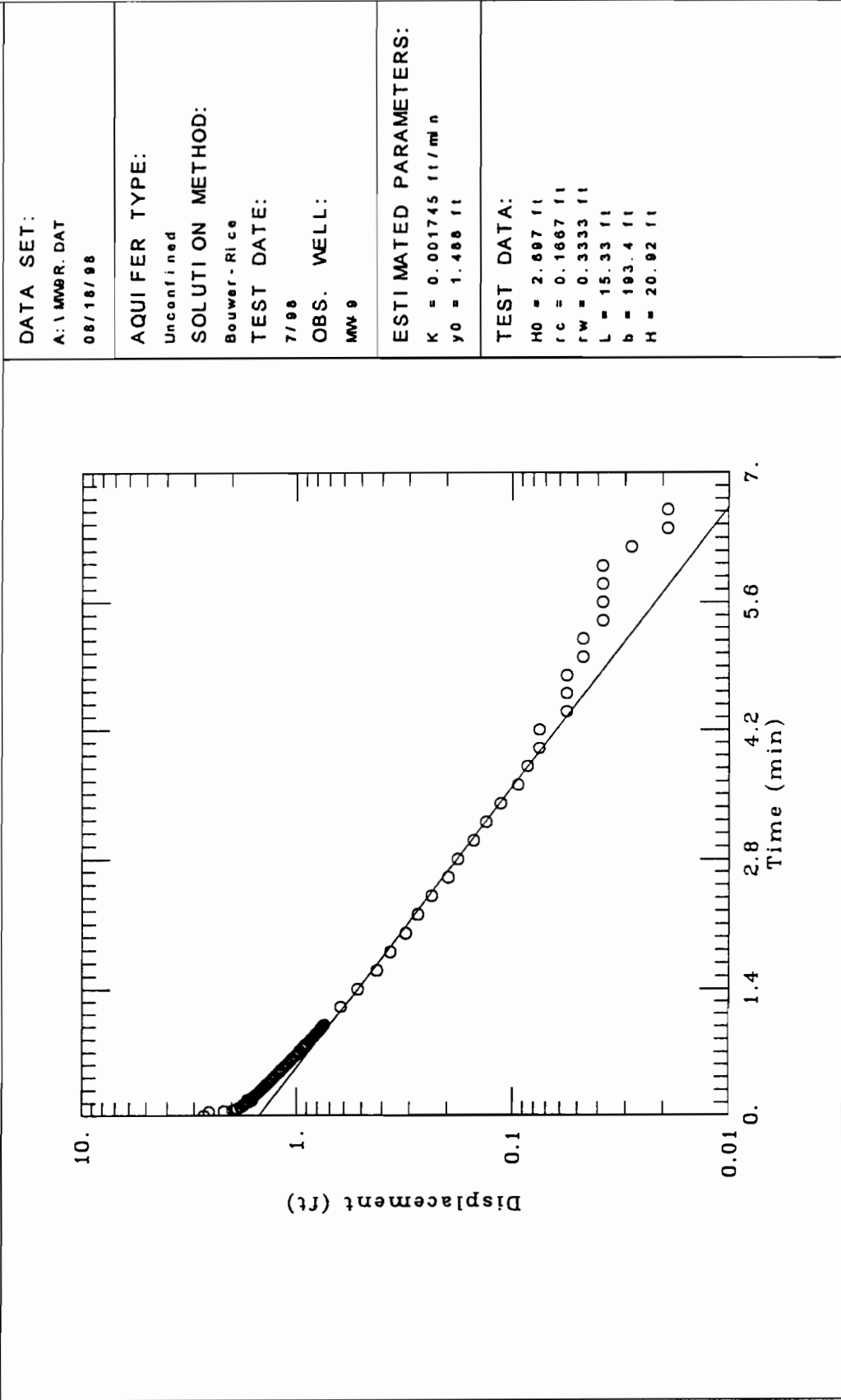


0.0416	3.846	1
0.05	3.676	1
0.0583	3.563	1
0.0666	3.406	1
0.075	3.274	1
0.0833	3.148	1
0.0916	3.035	1
0.1	2.928	1
0.1083	2.803	1
0.1166	2.715	1
0.125	2.608	1
0.1333	2.514	1
0.1416	2.413	1
0.15	2.338	1
0.1583	2.237	1
0.1666	2.155	1
0.175	2.08	1
0.1833	1.998	1
0.1916	1.923	1
0.2	1.854	1
0.2083	1.784	1
0.2166	1.709	1
0.225	1.646	1
0.2333	1.59	1
0.2416	1.527	1
0.25	1.464	1
0.2583	1.414	1
0.2666	1.357	1
0.275	1.307	1
0.2833	1.257	1
0.2916	1.206	1
0.3	1.162	1
0.3083	1.118	1
0.3166	1.068	1
0.325	1.037	1
0.3333	0.993	1
0.35	0.911	1
0.3666	0.842	1
0.3833	0.779	1
0.4	0.716	1
0.4166	0.666	1
0.4333	0.615	1
0.45	0.559	1
0.4666	0.515	1
0.4833	0.471	1
0.5	0.433	1
0.5166	0.395	1
0.5333	0.364	1
0.55	0.339	1
0.5666	0.307	1
0.5833	0.282	1

0.6	0.257	1
0.6166	0.232	1
0.6333	0.213	1
0.65	0.201	1
0.6666	0.175	1
0.6833	0.157	1
0.7	0.144	1
0.7166	0.125	1
0.7333	0.119	1
0.75	0.106	1
0.7666	0.094	1
0.7833	0.081	1
0.8	0.075	1
0.8166	0.062	1
0.8333	0.062	1
0.85	0.056	1
0.8666	0.043	1
0.8833	0.037	1
0.9	0.031	1
0.9166	0.031	1
0.9333	0.025	1
0.95	0.025	1
0.9666	0.018	1
0.9833	0.006	1
1	0.006	1

McLaren/Hart	client: Photocircuits Corp.
Project No.: 120802678001.013	Location: Glen Cove, NY

MW-9 RISING HEAD SLUG TEST

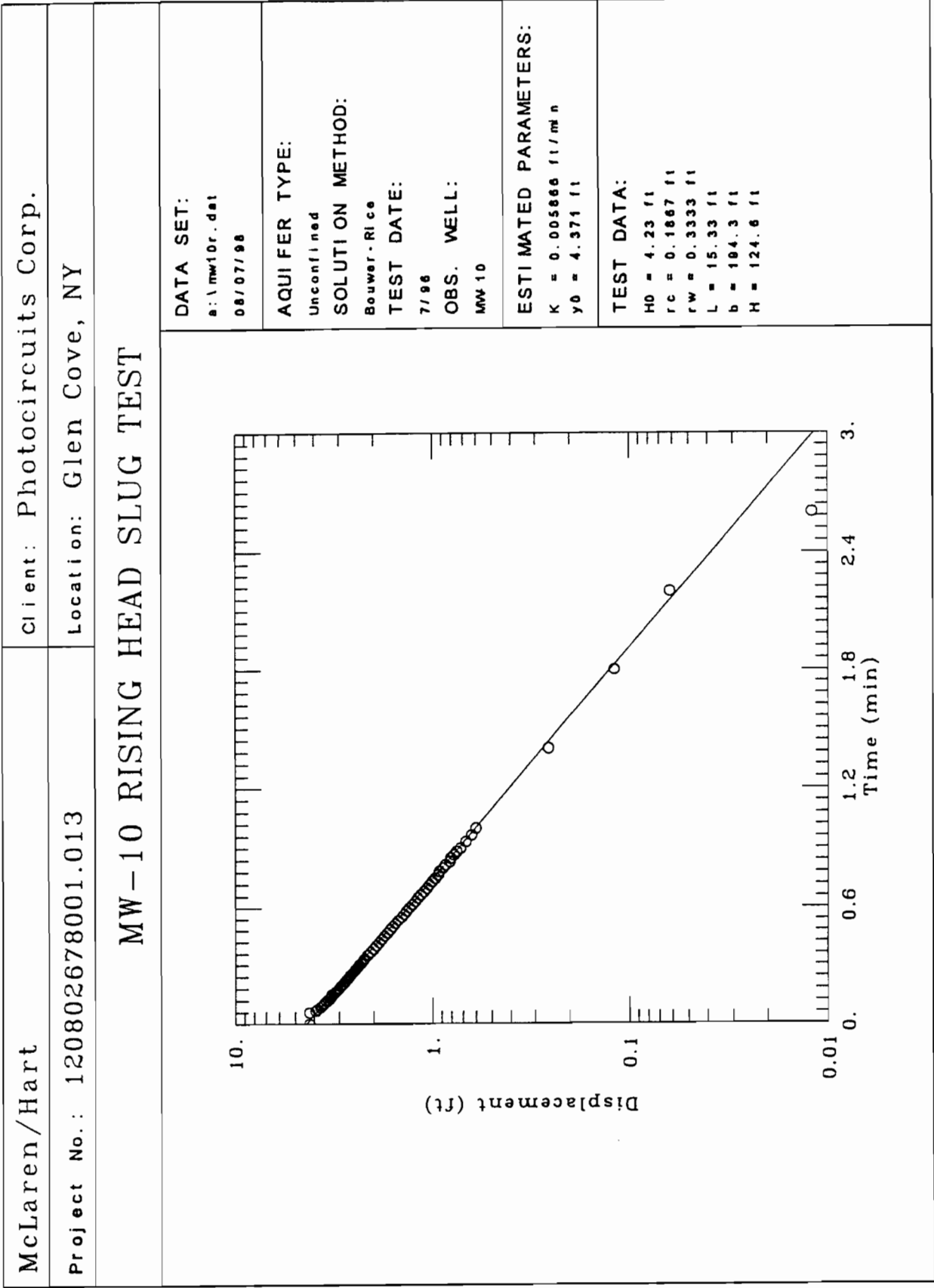


DATA SET: A: \MW9R.DAT 08/18/98	AQUIFER TYPE: Unconfined
SOLUTION METHOD: Bouwer-Rice	TEST DATE: 7/98
OBS. WELL: MW 9	ESTIMATED PARAMETERS: K = 0.001745 ft / min y0 = 1.488 ft
TEST DATA: H0 = 2.697 ft rc = 0.1667 ft rw = 0.3333 ft L = 15.33 ft b = 193.4 ft H = 20.92 ft	

0.0583	2.697	1
0.0666	2.653	1
0.075	2.628	1
0.0833	2.602	1
0.0916	2.59	1
0.1	2.571	1
0.1083	2.552	1
0.1166	2.533	1
0.125	2.521	1
0.1333	2.502	1
0.1416	2.489	1
0.15	2.471	1
0.1583	2.458	1
0.1666	2.445	1
0.175	2.427	1
0.1833	2.414	1
0.1916	2.401	1
0.2	2.389	1
0.2083	2.376	1
0.2166	2.364	1
0.225	2.345	1
0.2333	2.339	1
0.2416	2.32	1
0.25	2.307	1
0.2583	2.295	1
0.2666	2.282	1
0.275	2.269	1
0.2833	2.263	1
0.2916	2.244	1
0.3	2.232	1
0.3083	2.225	1
0.3166	2.207	1
0.325	2.2	1
0.3333	2.188	1
0.35	2.163	1
0.3666	2.137	1
0.3833	2.119	1
0.4	2.093	1
0.4166	2.075	1
0.4333	2.056	1
0.45	2.031	1
0.4666	2.005	1
0.4833	1.993	1
0.5	1.974	1
0.5166	1.949	1
0.5333	1.93	1
0.55	1.911	1
0.5666	1.892	1
0.5833	1.873	1
0.6	1.855	1
0.6166	1.836	1

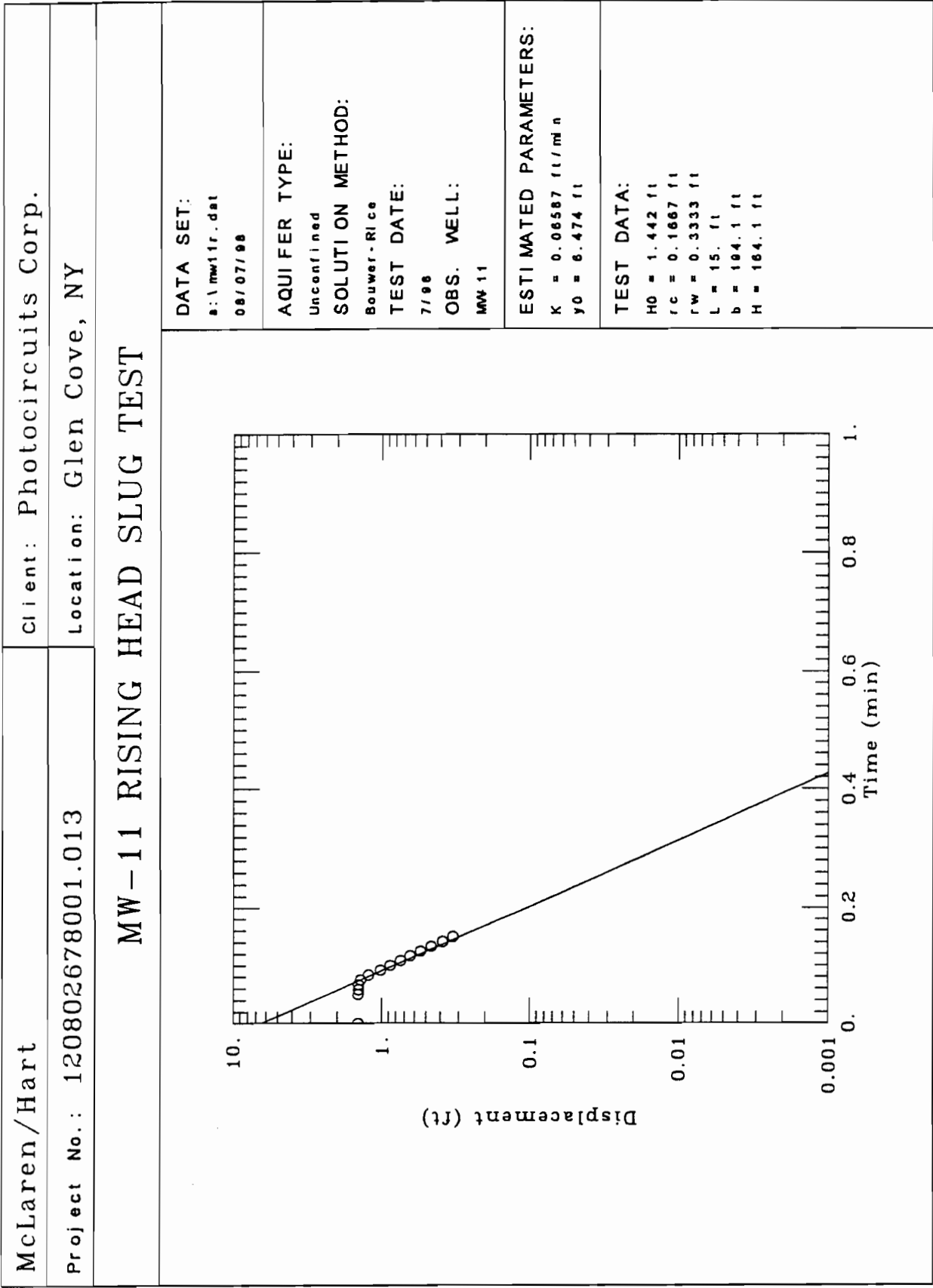
0.6333	1.817	1
0.65	1.798	1
0.6666	1.779	1
0.6833	1.767	1
0.7	1.748	1
0.7166	1.729	1
0.7333	1.71	1
0.75	1.697	1
0.7666	1.679	1
0.7833	1.66	1
0.8	1.641	1
0.8166	1.635	1
0.8333	1.616	1
0.85	1.597	1
0.8666	1.584	1
0.8833	1.565	1
0.9	1.553	1
0.9166	1.54	1
0.9333	1.521	1
0.95	1.509	1
0.9666	1.496	1
0.9833	1.484	1
1	1.465	1
1.2	1.295	1
1.4	1.151	1
1.6	1.025	1
1.8	0.918	1
2	0.817	1
2.2	0.736	1
2.4	0.667	1
2.6	0.597	1
2.8	0.541	1
3	0.484	1
3.2	0.434	1
3.4	0.396	1
3.6	0.352	1
3.8	0.302	1
4	0.258	1
4.2	0.227	1
4.4	0.201	1
4.6	0.189	1
4.8	0.176	1
5	0.157	1
5.2	0.126	1
5.4	0.113	1
5.6	0.107	1
5.8	0.101	1
6	0.088	1
6.2	0.082	1
6.4	0.082	1
6.6	0.069	1

6.8	0.069	1
7	0.063	1
7.2	0.057	1
7.4	0.063	1
7.6	0.063	1
7.8	0.057	1
8	0.051	1
8.2	0.051	1
8.4	0.044	1
8.6	0.044	1
8.8	0.038	1
9	0.038	1
9.2	0.038	1
9.4	0.038	1
9.6	0.038	1
9.8	0.038	1
10	0.032	1
11	0.025	1
12	0.025	1
13	0.019	1
14	-0.006	1

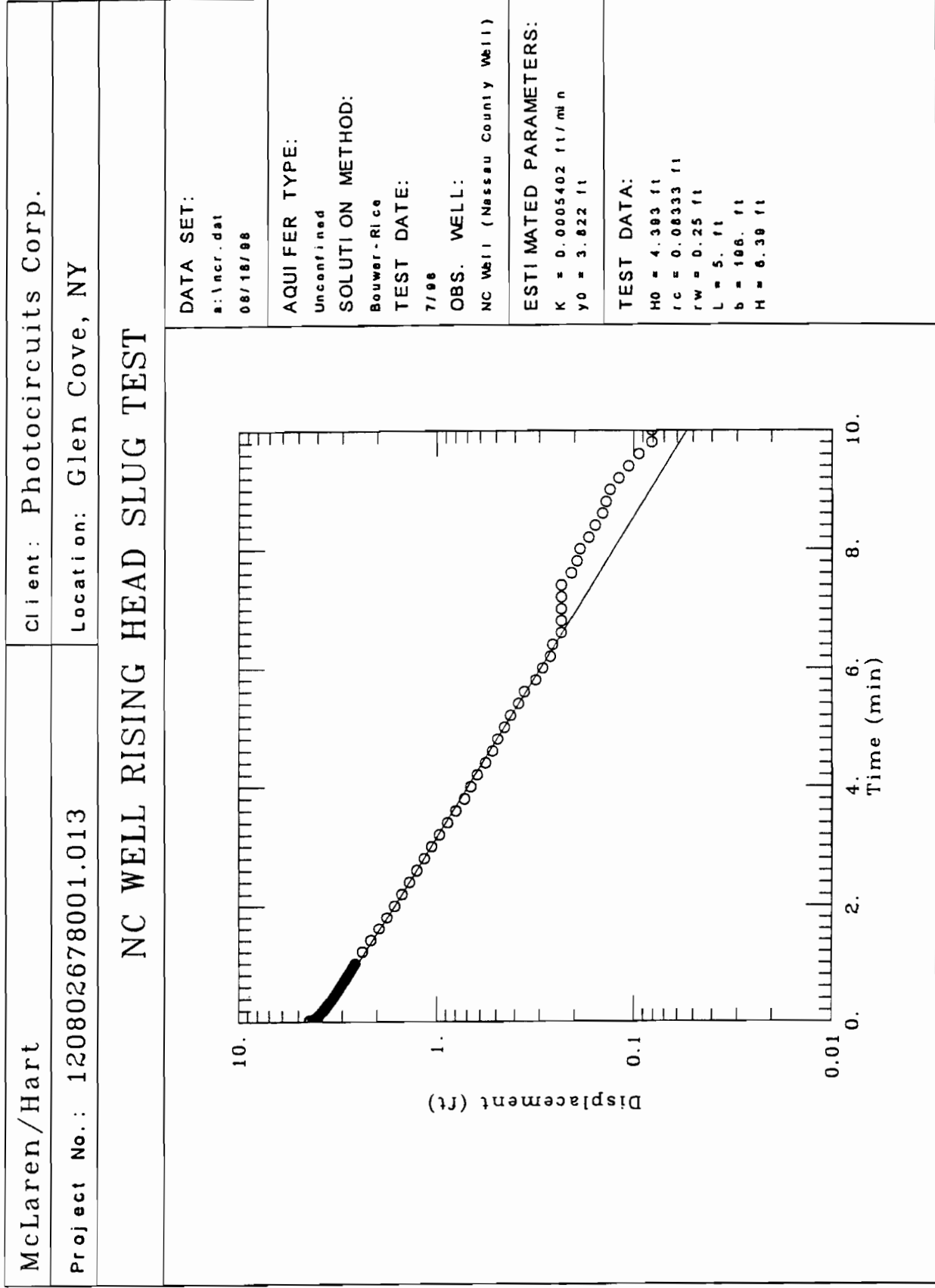


0.0583	4.23	1
0.0666	3.922	1
0.075	3.847	1
0.0833	3.715	1
0.0916	3.658	1
0.1	3.589	1
0.1083	3.539	1
0.1166	3.463	1
0.125	3.388	1
0.1333	3.325	1
0.1416	3.275	1
0.15	3.262	1
0.1583	3.168	1
0.1666	3.105	1
0.175	3.048	1
0.1833	2.986	1
0.1916	2.942	1
0.2	2.891	1
0.2083	2.841	1
0.2166	2.791	1
0.225	2.747	1
0.2333	2.703	1
0.2416	2.659	1
0.25	2.621	1
0.2583	2.571	1
0.2666	2.527	1
0.275	2.489	1
0.2833	2.445	1
0.2916	2.407	1
0.3	2.37	1
0.3083	2.326	1
0.3166	2.288	1
0.325	2.25	1
0.3333	2.225	1
0.35	2.15	1
0.3666	2.074	1
0.3833	1.999	1
0.4	1.936	1
0.4166	1.873	1
0.4333	1.816	1
0.45	1.76	1
0.4666	1.703	1
0.4833	1.647	1
0.5	1.596	1
0.5166	1.546	1
0.5333	1.496	1
0.55	1.439	1
0.5666	1.395	1
0.5833	1.357	1
0.6	1.313	1
0.6166	1.263	1

0.6333	1.225	1
0.65	1.188	1
0.6666	1.15	1
0.6833	1.106	1
0.7	1.068	1
0.7166	1.037	1
0.7333	1.005	1
0.75	0.968	1
0.7666	0.936	1
0.7833	0.924	1
0.8	0.886	1
0.8166	0.861	1
0.8333	0.817	1
0.85	0.81	1
0.8666	0.779	1
0.8833	0.754	1
0.9	0.722	1
0.9166	0.71	1
0.9333	0.678	1
0.95	0.653	1
0.9666	0.634	1
0.9833	0.622	1
1	0.603	1
1.2	0.396	1
1.4	0.257	1
1.6	0.176	1
1.8	0.119	1
2	0.081	1
2.2	0.062	1
2.4	0.025	1
2.6	0.012	1
2.8	0	1
3	0	1



0.05	1.442	1
0.0583	1.433	1
0.0666	1.433	1
0.075	1.386	1
0.0833	1.225	1
0.0916	1.018	1
0.1	0.876	1
0.1083	0.744	1
0.1166	0.641	1
0.125	0.546	1
0.1333	0.462	1
0.1416	0.386	1
0.15	0.33	1
0.1583	0.282	1
0.1666	0.235	1
0.175	0.198	1
0.1833	0.16	1
0.1916	0.132	1
0.2	0.113	1
0.2083	0.094	1
0.2166	0.084	1
0.225	0.066	1
0.2333	0.056	1
0.2416	0.047	1
0.25	0.037	1
0.2583	0.037	1
0.2666	0.028	1
0.275	0.018	1
0.2833	0.018	1
0.2916	0.018	1
0.3	0.009	1
0.3083	0.009	1
0.3166	0.009	1
0.325	0	1



0.0333	4.393	1
0.0416	4.33	1
0.05	4.211	1
0.0583	4.148	1
0.0666	4.11	1
0.075	4.079	1
0.0833	4.047	1
0.0916	4.016	1
0.1	3.985	1
0.1083	3.959	1
0.1166	3.934	1
0.125	3.909	1
0.1333	3.89	1
0.1416	3.871	1
0.15	3.846	1
0.1583	3.827	1
0.1666	3.809	1
0.175	3.79	1
0.1833	3.771	1
0.1916	3.752	1
0.2	3.733	1
0.2083	3.714	1
0.2166	3.702	1
0.225	3.683	1
0.2333	3.664	1
0.2416	3.645	1
0.25	3.633	1
0.2583	3.614	1
0.2666	3.601	1
0.275	3.582	1
0.2833	3.57	1
0.2916	3.551	1
0.3	3.551	1
0.3083	3.526	1
0.3166	3.507	1
0.325	3.494	1
0.3333	3.482	1
0.35	3.45	1
0.3666	3.419	1
0.3833	3.394	1
0.4	3.369	1
0.4166	3.343	1
0.4333	3.318	1
0.45	3.287	1
0.4666	3.262	1
0.4833	3.237	1
0.5	3.211	1
0.5166	3.186	1
0.5333	3.167	1
0.55	3.142	1
0.5666	3.117	1

0.5833	3.098	1
0.6	3.073	1
0.6166	3.048	1
0.6333	3.029	1
0.65	3.004	1
0.6666	2.985	1
0.6833	2.966	1
0.7	2.941	1
0.7166	2.922	1
0.7333	2.897	1
0.75	2.878	1
0.7666	2.853	1
0.7833	2.841	1
0.8	2.815	1
0.8166	2.797	1
0.8333	2.778	1
0.85	2.753	1
0.8666	2.734	1
0.8833	2.715	1
0.9	2.696	1
0.9166	2.683	1
0.9333	2.658	1
0.95	2.646	1
0.9666	2.621	1
0.9833	2.608	1
1	2.589	1
1.2	2.376	1
1.4	2.156	1
1.6	1.961	1
1.8	1.785	1
2	1.634	1
2.2	1.502	1
2.4	1.376	1
2.6	1.263	1
2.8	1.156	1
3	1.062	1
3.2	0.968	1
3.4	0.88	1
3.6	0.798	1
3.8	0.722	1
4	0.672	1
4.2	0.622	1
4.4	0.565	1
4.6	0.521	1
4.8	0.49	1
5	0.452	1
5.2	0.421	1
5.4	0.383	1
5.6	0.358	1
5.8	0.314	1
6	0.289	1

6.2	0.264	1
6.4	0.257	1
6.6	0.232	1
6.8	0.232	1
7	0.232	1
7.2	0.232	1
7.4	0.232	1
7.6	0.207	1
7.8	0.194	1
8	0.188	1
8.2	0.169	1
8.4	0.157	1
8.6	0.144	1
8.8	0.138	1
9	0.132	1
9.2	0.119	1
9.4	0.106	1
9.6	0.094	1
9.8	0.081	1
10	0.081	1