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CHRYSLER CORPORATION
DAYTON THERMAL PRODUCTS PLANT
SOIL-VAPOR EXTRACTION SYSTEM BUILDING 40B
O&M MANUAL
DAYTON, OHIO

Prepared For
Chrysler Corporation
August, 1998

LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and Environmental Engineering Services
1210 West County Road E, Suite 700
St. Paul, Minnesota 55112

SITE CONTACT LIST

SITE CONTACT LIST

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Fax: (937) 228-9482

S & D/ORBIT - MECHANICAL
Bob Stickelmier
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Dayton, Ohio 45407
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Fax: (937) 277-3951

SYSTEM DESCRIPTION

MONITORING PROCEDURES
& FIELD DATA SHEETS

ROUTINE MONITORING

Weekly: (Use New Piece of Tubing Each Week for PID Monitoring, Monitor Clean {S6} to Dirty {S1, then SVE Wells})

- Check System Faults
- Inspect Unit for Any Signs of Tampering
- Monitor and Record Vacuum Level Prior to Air/Water Separator (V1)
- Monitor and Record Vacuum Level at Air/Water Separator (V2)
- Monitor Air/Water Separator Fluid Level; Drain if Necessary
- Monitor and Record Vacuum Level d Prior to Filter (V3)
- Monitor and Record Temperature Prior to Heat Exchanger (T1)
- Monitor and Record Pressure Prior to Primary Carbon Vessel (P1)
- Monitor and Record PID Level Prior to Primary Carbon Vessel (S4)
- Monitor and Record Flow Prior to Primary Carbon Vessel (F1)
- Monitor and Record Pressure Prior to Secondary Carbon Vessel (P2)
- Monitor and Record PID Level Prior to Secondary Carbon Vessel (S5)
- Monitor and Record PID Level Following Secondary Carbon Vessel (S6)
- Inspect SVE Wells for Any Signs of Tampering
- Inspect SVE Lines for Evidence of Damage
- Monitor and Record Vacuum at Each Operating SVE Well Location
- Monitor and Record Flow Rate at Each Operating SVE Well Location
- Monitor and Record PID Levels at Each Operating SVE Well Location
- Fax Field Data Sheet to LBG Attention Kristin at (651) 490-1006
- Store Original Field Data Sheet in Folder Located Inside Treatment System Enclosure

Potentially could be asked to monitor PID levels at the following locations, will require a peristaltic pump and tedlar bag.

- Monitor and Record PID Level Prior to Air/Water Separator (S1)
- Monitor and Record PID Level at Air/Water Separator (S2)
- Monitor and Record PID Level Prior to Filter (S3)

Monthly: (Use new tubing for each sample collected)

- Perform Weekly Check List
- Collect Air Sample After Blower
- Collect Air Sample After Secondary Carbon
- Fax Copy of Chain of Custody to LBG Attention Kristin at (651) 490-1006

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

SVE WELL FIELD DATA SHEET

NAME:
DATE/TIME:

SVE WELLS

WELL NUMBER	STATUS (open/closed)	FLOW* (feet per min.)	VACUUM (in H2O)	PID (ppm)	SAMPLED (yes/no)
SVE-1S					
SVE-2S					
SVE-3S					
SVE-4S					
SVE-5S					
SVE-6S					
SVE-7S					
SVE-8S					
SVE-9S					
SVE-10S					
SVE-11S					
SVE-12S					
SVE-1D					
SVE-2D					
SVE-3D					
SVE-4D					
SVE-5D					
SVE-6D					
SVE-7D					
SVE-8D					
SVE-9D					
SVE-10D					
SVE-11D					
SVE-12D					

*To obtain cfm from 2-inch diameter wells multiply fpm by 0.0218
OVM CALIBRATION: YES / NO

REMARKS:

A:\
SVEFORM

FAX RESULTS TO:
KRISTIN YAHNKE @ LBG: 651-49

DAYTON THERMAL PRODUCTS
DAYTON, OHIO

SVE SYSTEM DATA SHEET

NAME:

DATE:

LOCATION	VALUE	UNITS
System Status		
VFD Level		HZ
Vacuum Level Prior to Air/Water Separator **(V1)**		Inches WC
PID Level Prior to Air/Water Separator **(S1*)**		ppm
Vacuum Level at Air/Water Separator **(V2)**		Inches WC
PID Level at Air/Water Separator **(S2*)**		ppm
Vacuum Level d Prior to Filter **(V3)**		Inches WC
PID Level Prior to Filter **(S3*)**		ppm
Temperature Prior to Heat Exchanger **(T1)**		Degree Fahrenheit
Pressure Prior to Primary Carbon Vessel **(P1)**		Inches WC
PID Level Prior to Primary Carbon Vessel **(S4)**		ppm
Flow Prior to Primary Carbon Vessel **(F1)**		fpm
Flow Prior to Primary Carbon Vessel **(F1)**		Differential Pressure Inches WC
Flow Prior to Primary Carbon Vessel **(F1**)**		cfm
Pressure Prior to Secondary Carbon Vessel **(P2)**		Inches WC
PID Level Prior to Secondary Carbon Vessel **(S5)**		ppm
PID Level Following Secondary Carbon Vessel **(S6)**		ppm

*Collect only if requested, will require perastaltic pump and tedlar bag.

**To obtain cfm from 4-inch diameter wells multiply fpm by 0.0873

REMARKS:

A:\
SVEFORM

FAX RESULTS TO:
KRISTIN YAHNKE @ LBG: 651-490-1006

AIR SAMPLING PROC.
& EXAMPLE COC

PRECISION ENVIRONMENTAL
Field Monitoring and Testing Services

CHAIN OF CUSTODY RECORD

Record Number: # of #

Client Name: Chrysler Corporation	Project Title: Dayton Thermal Products
Address: 1600 Webster Street	Project Number: 3CHRY4 / DAYTON
City, State Zip: Dayton, OH 45404	Contact: Kristin Yahnke

Item No.	Sample No.	Sample Description	Matrix	Date Collected	Containers
1	Sample ID	Serial # : PID=	Air	Date	1
2					
3					
4					
5					
6					
7					
8					
9					
10					

Samples Collected by: Sampler Initial	Delivered by: —	Date Delivered: —

Destination:	Send Original Report To: Kristin Yahnke LBG 1210 West County Road E St. Paul, MN 55112 (P) 651-490-1405 (F) 651-490-1006 NA	Send Copy Report To: NA
Contact:		
Date Due:		
Analysis Cost:		

Analysis	Units	1	2	3	4	5	6	7	8	9	10
VOCs - TO12	µg/L	X									

Item No.	Relinquished by	Received by	Date	Airbill or Manifest No.
*List all on Airbill	Sampler's Signature			*Fill In No.**

White- Samples Yellow - Field Data Pink - Data Processing Gold - Client

Form Completed by: Sampler Initial	Date Completed: Date	Present on Site: Yes or No

INSTRUCTIONS FOR CANISTER SAMPLING

PLACE CANISTER ORIFICE PROXIMAL TO THE SAMPLING AREA, THEN OPEN VALVE. THESE CANISTERS ARE UNDER PARTIAL VACUUM, YOU WILL BE ABLE TO HEAR THE SAMPLE STREAMING INTO THE CANISTER. AFTER SAMPLING, CLOSE VALVE. IDENTIFY SAMPLE USING ATTACHED TAG.

Fax Copy of Chain of Custody to LBG @ (651) 490-1006

PRECISION ENVIRONMENTAL SAMPLE I.D.

CLIENT 3CHRY4/DAYTON - LBG

TIME COLLECTED TIME

DATE COLLECTED DATE

☐ TOTAL ☐ FILTERED

PRESERVATIVE: ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH

OTHER

COLLECTED BY SAMPLER'S INITIAL

Key to sample I.D.:

Wells → Well No. Example SVE-1S

Treatment System Sample Port → DTP Sample Port Example S-1 would be DTP-S-1

CCC PRODUCT INFO

5.20 MULTI-FUNCTION OUTPUT TERMINALS (Term. MA, MB & MC; M1 & M2)

n040 : Contact Output (external terminals MA, MB & MC)
n041 : Contact Output (external terminals M1 & M2)

A Form-C contact, or a N.O. contact, can be programmed to change states during any of the conditions indicated in Table 5-3.

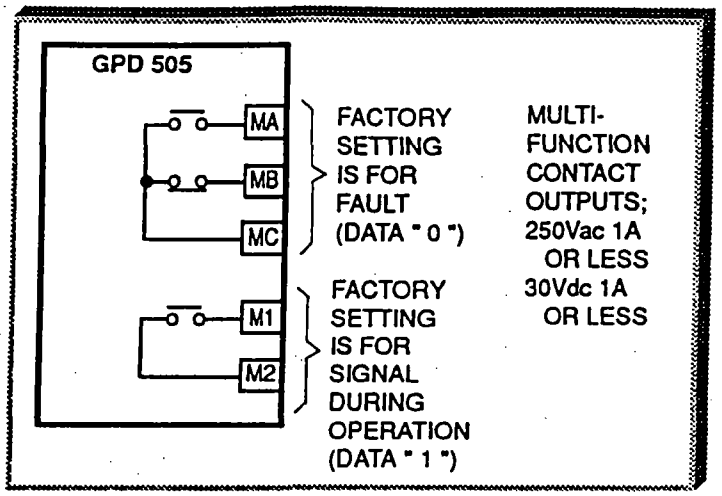


Table 5-3. Multi-function Output Terminals

Set Value	Description: Condition	Description: Signal Level
0	Fault	Closed = GPD 505 fault has occurred (except CPF0, CPF1)
1	During operation	Closed = GPD 505 is operating
2	Speed at set frequency	Closed = Frequency Reference = output frequency **See description on next page**
3	Speed coincidence	Closed = Speed at set frequency and output frequency = ***n073*** **See description on next page**
4	Frequency detection - low	Closed = Output frequency ≤ ***n073***. **See description on next page**
5	Frequency detection - high	Closed = Output frequency ≥ ***n073***. **See description on next page**
6	Overtorque detection (N.O. contact)	Closed = Overtorque detected
7	Overtorque detection (N.C. contact)	Open = Overtorque detected
8	During coast to stop	Closed = GPD 505 output base block is active; motor is coasting
9	Frequency or Run reference mode	Open = Frequency or Run Command by ext. input; Closed = Frequency or Run Command by Digital Operator
10	Operation ready	Closed = GPD 505 is ready for operation (not faulted)
11	Timer function	**See paragraph 5.19F**
12	Auto-restart	Closed = During auto-restart operation
13	OL warning	Closed = 150% current for 48 sec. (OL1) or 80% time (OL2)
14	Frequency reference missing	Closed = Frequency reference is missing. **See paragraph 5.13**
15	Serial communication	Closed = Command from serial communication
16	PID feedback loss	Closed = Feedback value < detection level (***n093***) for longer than detection delay time (***n094***)
17	OH1 warning	Closed = Heatsink temperature ≥ 90°C (194°F)

n073 **:** Speed Coincidence Frequency / Frequency Detection Level

Factory setting: *0.0* Hz
Range: 0.0 to 400.0 Hz

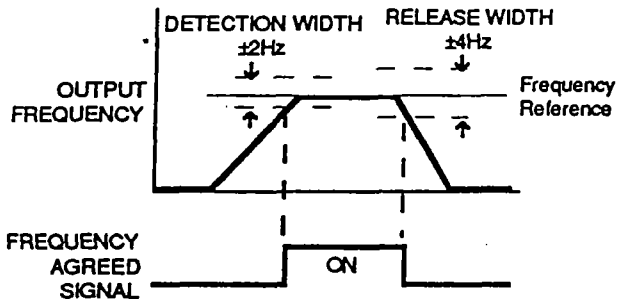
Speed coincidence is used to control an output contact at terminals MA or MB (with respect to terminal MC), or terminals M1 & M2, when selected by ***n040*** and ***n041***.

n040 or ***n041***

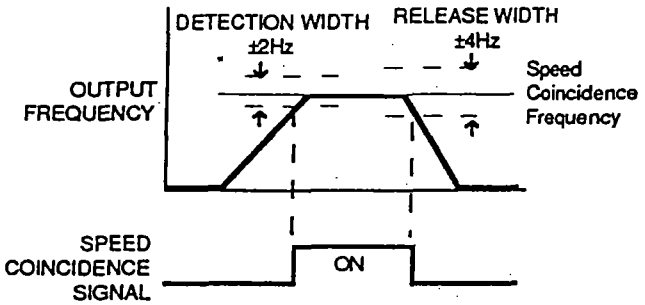
Data *2*, *3*, *4* or *5*

The output contact will close, dependent upon the data programmed into ***n040*** or ***no41***. See the appropriate figure below for operation.

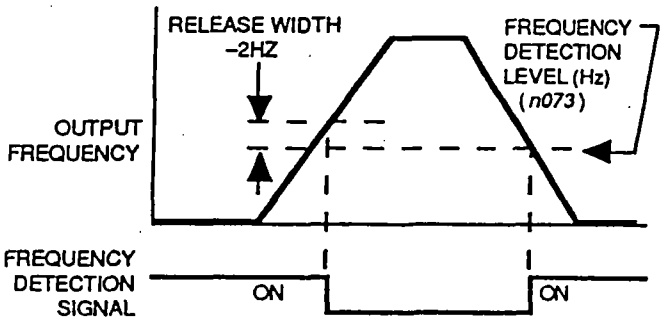
A. Speed at Set Frequency (setting: *n040* or *n041* = " 2 ")



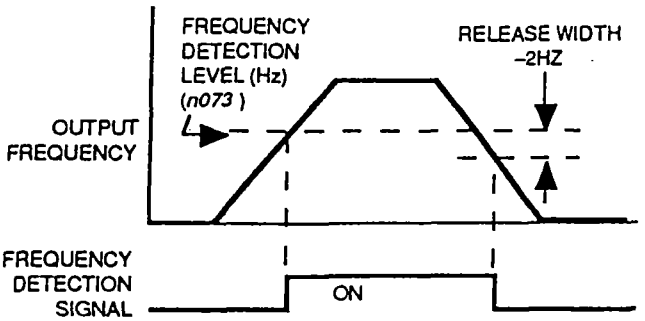
B. Speed Coincidence (setting: *n040* or *n041* = " 3 ")



C. Frequency Detection – Low (setting: *n040* or *n041* = " 4 ")



D. Frequency Detection – High (setting: *n040* or *n041* = " 5 ")



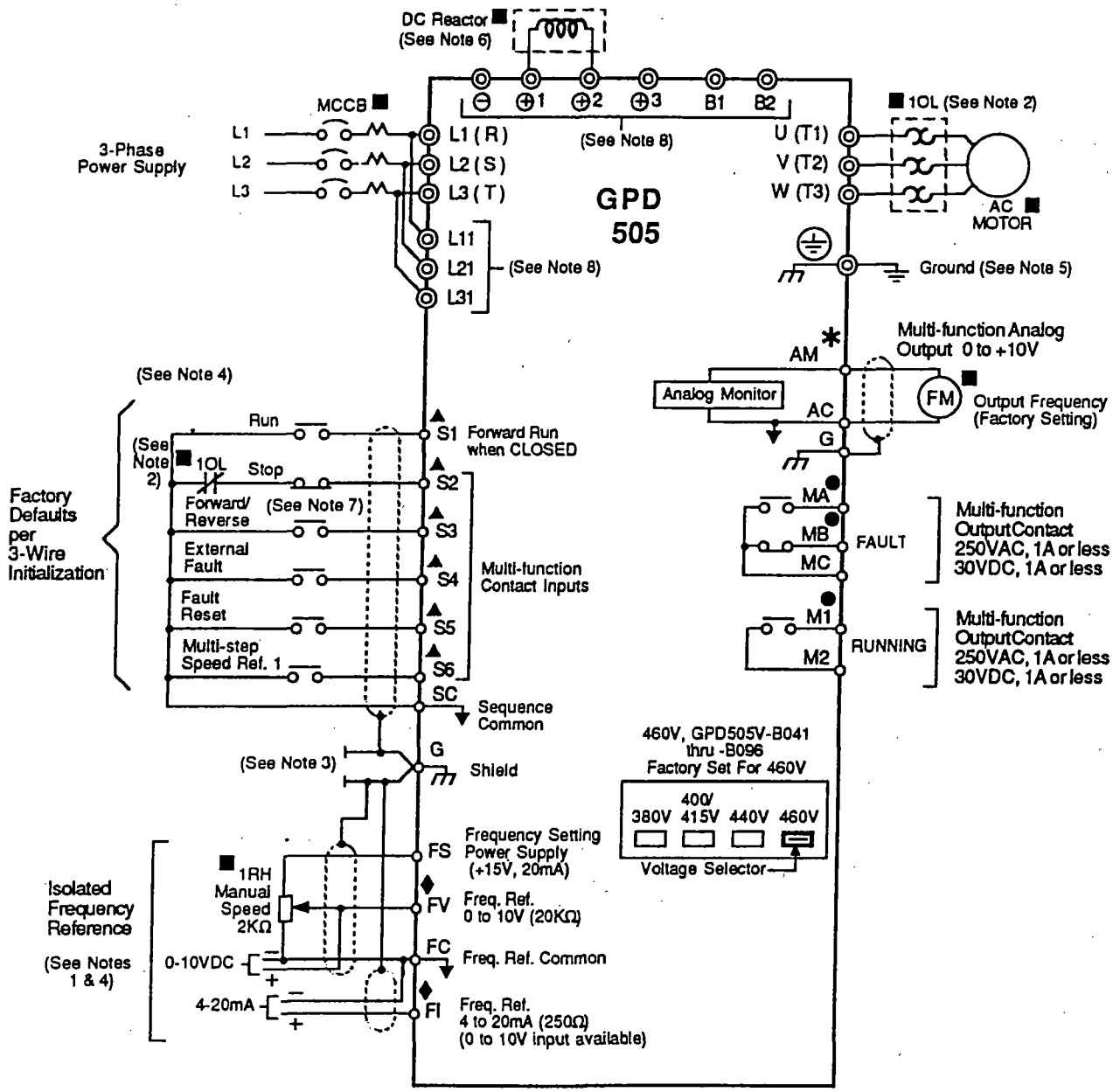


Figure 1-4. 230V or 460V Interconnections - 3-Wire Control (n001 = 9) (with parameters n035 = 1, n036 = --, n037 = 2, n038 = 4, and n039 = 9)

5.4 AUTO-RESTART

A. *n056* : Number of Auto-Restart Attempts

Factory setting: *0*
Range: 0 - 10

When a fault occurs during operation, the GPD 505 can be programmed for an auto-restart operation to automatically reset the fault. Auto-restart operation will use the number of reset attempts set in this parameter, up to the maximum of 10. When set to " 0 ", no auto-restarts will be attempted.

- The following faults can be automatically reset:

oC:	Overcurrent	GF:	Ground fault
ou:	Overvoltage (OV)	Uu1:	Undervoltage (Power UV)

- The following conditions WILL NOT initiate auto-restart:
  1. oL, EF_ , PUF or CPF_ fault.
  2. When OC or UV occurs during deceleration.
  3. When ***n051*** is programmed to stop during momentary power failure (data = " 0 "). (See paragraph 5.17, **MOMENTARY POWER LOSS RIDE-THRU.**)

- The number of restart attempts available will be reset to the ***n056*** setting when:
  1. 10 minutes has elapsed without a fault occurring.
  2. The **RESET** key, or external Fault Reset push button, is pressed.
  3. Power is removed from the Drive.

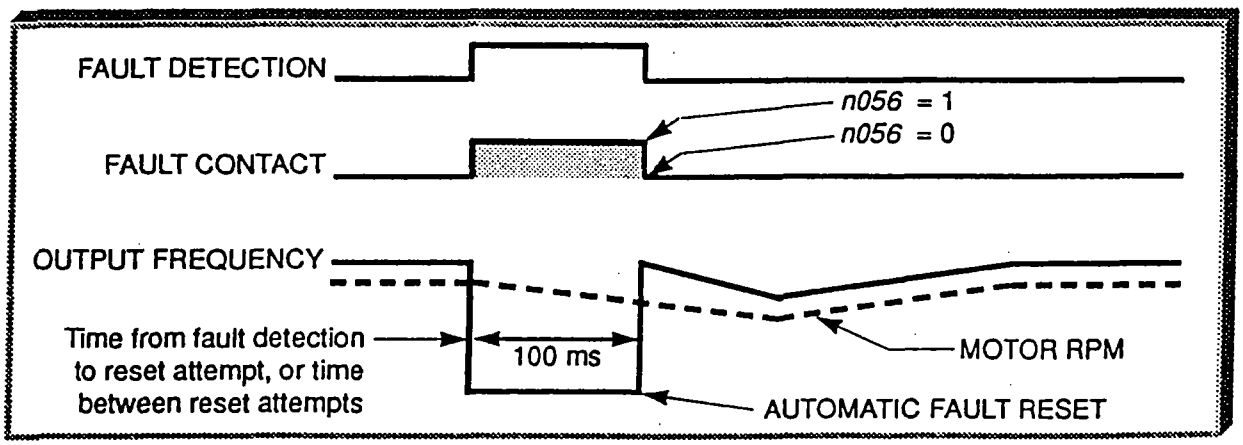
B. *n057* : Fault Contact Status During Auto-Restart

Factory setting: *0*
Range: 0, 1

This digit controls how the fault contact responds to a GPD 505 fault during the auto-restart operation.

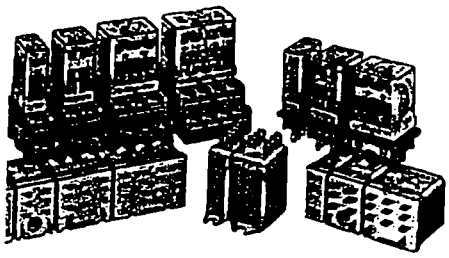
0 = Fault contact will not actuate during auto-restart attempts

1 = Fault contact actuates during auto-restart attempts



Auto-Restart Operation Timing

General Purpose "Midget" Relays
10A Contact Rating
1, 2, 3, & 4 Form C Contact



UL Recognized
Files No. E67770
E59804
E64245

CSA Certified
File No.LR35144

TÜV
File No. BL951113332319

CE

Features

- Compact "Midget" size package saves space
- Large switching capacity, (10A)
- Choice of blade or PCB style terminals
- Relay options include indicator light, check button, and top mounting bracket
- DIN rail, surface, panel and PCB type sockets available for a wide range of mounting applications

RH Series Part List

Termination	Contact Configuration	Basic Part No.	Basic Part No. w/ Indicator Light	Check Button	Indicator Light & Check Button	Top Bracket
B (Blade)	SPDT	RH1B-U	RH1B-L—	—	—	RH1B-UT
	DPDT	RH2B-U	RH2B-UL	RH2B-UC	RH2B-ULC	RH2B-UT
	3PDT	RH3B-U	RH3B-UL	RH3B-UC	RH3B-ULC	RH3B-UT
	4PDT	RH4B-U	RH4B-UL	RH4B-UC	RH4B-ULC	RH4B-UT
V2 (PCB 0.078" (2mm) wide)	SPDT	RH1V2-U	—	—	—	—
	DPDT	RH2V2-U	RH2V2-UL	RH2V2-UC	RH2V2-ULC	—
	3PDT	RH3V2-U	RH3V2-UL	RH3V2-UC	RH3V2-ULC	—
	4PDT	RH4V2-U	RH4V2-UL	RH4V2-UC	RH4V2-ULC	—

Coil Ratings

Rated Voltage		Rated Current ±15% @20°C; 60Hz				Rated Current ±15% @20°C; 50Hz				Coil Resistance ±15% @ 20°C			
		SPDT	DPDT	3PDT	4PDT	SPDT	DPDT	3PDT	4PDT	SPDT	DPDT	3PDT	4PDT
AC	6V	150mA	200mA	280mA	330mA	170mA	238mA	330mA	387mA	18.8Ω	9.4Ω	6.0Ω	5.4Ω
	12V	75mA	100mA	140mA	165mA	86mA	113mA	165mA	196mA	76.8Ω	39.3Ω	25.3Ω	21.2Ω
	24V	37mA	50mA	70mA	83mA	42mA	59.7mA	81mA	98mA	300Ω	153Ω	103Ω	84.5Ω
	120V*	7.5mA	11mA	14.2mA	16.5mA	8.6mA	12.9mA	16.4mA	19.5mA	7680Ω	4170Ω	2770Ω	2220Ω
	240V**	3.2mA	5.5mA	7.1mA	8.3mA	3.7mA	6.5mA	8.2mA	9.8mA	31200Ω	15210Ω	12100Ω	9120Ω
DC	—	SPDT		DPDT		3PDT		4PDT		SPDT	DPDT	3PDT	4PDT
	6V	128mA		150mA		240mA		250mA		47Ω	40Ω	25Ω	24Ω
	12V	64mA		75mA		120mA		125mA		188Ω	160Ω	100Ω	96Ω
	24V	32mA		36.9mA		60mA		62mA		750Ω	650Ω	400Ω	388Ω
	48V	18mA		18.5mA		30mA		31mA		2660Ω	2600Ω	1600Ω	1550Ω
	110V***	8mA		9.1mA		12.8mA		15mA		13800Ω	12100Ω	8600Ω	7340Ω

*** For RH2 relays = AC110/120V AC**
**** For RH2 relays = 220/240V AC**
*****For RH2 relays = 100/110V DC**

Ordering Information

Ordering standard voltages results in quickest delivery. Allow extra delivery time for non-standard voltages.

Basic Part No. Coil Voltage:
RH2B-U AC110/120V

Operational Characteristics

Maximum continuous applied voltage (AC/DC) @ 20°C	110% of rated voltage
Minimum operating voltage (AC/DC) @ 20°C	80% of rated voltage
Drop-out voltage (AC)	30% or more of the rated voltage
Drop-out voltage (DC)	10% or more of the rated voltage

Contact Ratings

UL Ratings		
Motor Load	SPDT, DPDT	3PDT
120V AC	1/6HP	1/6 HP
240V AC	1/3 HP	1/3 HP

Note: Contact ratings continued on following page.

Contact Ratings

Voltage	Rating	Resistive				Inductive			
		SPDT	DPDT	3PDT	4PDT	SPDT	DPDT	3PDT	4PDT
28V DC	UL	10A	10A	10A	10A	7.5A	—	—	7.5A
30V DC	UL	10A	10A	10A	—	7A	7A	—	—
	CSA				10A		7.5A		
	Nominal							7.5A	7.5A
110V DC	Nominal	0.5A	0.5A	0.5A	0.5A	0.3A	0.3A	0.3A	0.3A
120V AC	UL	10A	10A	10A	10A	7.5A	—	—	7.5A
	CSA						7.5A		
	Nominal					7A		7.5A	
240V AC	UL	10A	10A		7.5A	7A	7A	*	5A
	CSA							7A	
	Nominal	7A	7.5A	7.5A	4.5A	5A	5A	5A	

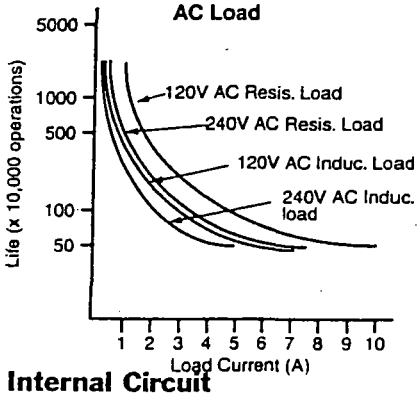
*Note: 6.5A/pole, 20A total.
Note: Inductive load cos ø = 0.3, L/R = 7 msec

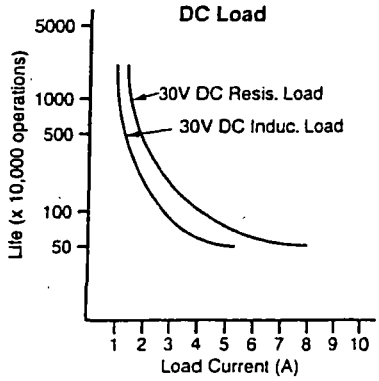
Sockets

Relay	Sockets: DIN Rail Mount, Standard	DIN Rail Mount, Fingersafe	Surface Mount	Panel Mount	PCB Mount	Spring (Optional)
RH1B	SH1B-05	SH1B-05C	—	SH1B-51	SH1B-62	SY2S-02F1 SFA-101 SFA-202 SY4S-51F1 SFA-301 SFA-302
RH2B	SH2B-05	SH2B-05C	SH2B-02	SH2B-51	SH2B-62	SY4S-02F1 SFA-101 SFA-202 SY4S-51F1
RH3B	SH3B-05	SH3B-05C	—	SH3B-51	SH3B-62	SH3B-05F1 SFA-101, -202 SY4S-51F1
RH4B	SH4B-05	SH4B-05C		SH4B-51	SH4B-62	SH4B-02F1 SFA-101, -202 SY4S-51F1

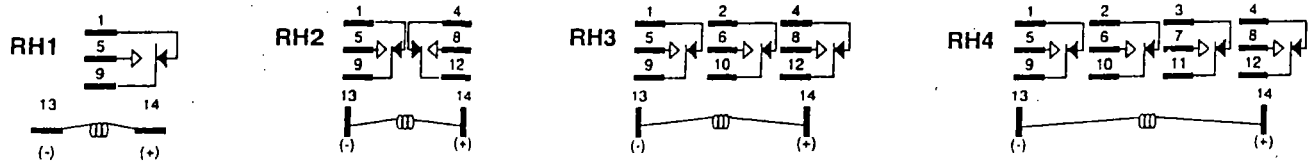
Note: See section F for details on sockets. All DIN rail mount sockets shown above can be mounted using DIN Rail BNDN-1000.

Electrical Life Curves





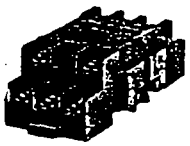
Internal Circuit

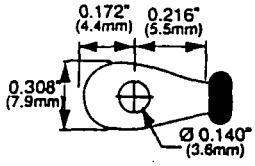


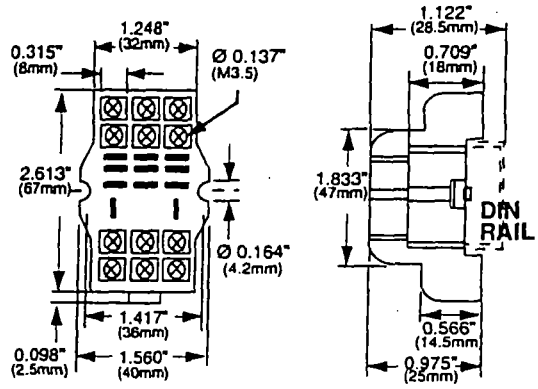
Specifications

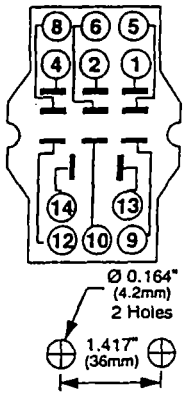
Contact Material	Silver cadmium oxide (AgCdO)
Contact Res.	50mΩ max. (Initial value)
Minimum Applicable Load	24V DC/30mA, 5V DC/100mA (reference value)
Operating Time	SPDT(RH1), DPDT (RH2): 20ms max. 3PDT (RH3), 4PDT (RH4): 25ms max.
Release Time	SPDT(RH1), DPDT (RH2): 20ms max. 3PDT (RH3), 4PDT (RH4): 25ms max.
Power Consumption	SPDT (RH1): DC: 0.8W AC: 1.1VA (50Hz), 1VA (60Hz) DPDT (RH2): DC: 0.9W AC: 1.4VA (50Hz), 1.2VA (60Hz) 3PDT (RH3): DC: 1.5W AC: 2VA (50Hz), 1.7VA (60Hz) 4PDT (RH4): DC: 1.5W AC: 2.5VA (50Hz), 2VA (60Hz)
Insulation Resistance	100MΩ min (measured with a 500V DC megger)
Dielectric Strength	SPDT (RH1) Betw. live and dead parts: 2000V AC, 1 minute; Betw. contact circuit and operating coil: 2000V AC, 1 minute; Between contacts of the same pole: 1000V AC, 1 minute
	DPDT (RH2), 3PDT (RH3), 4PDT (RH4) Betw. live and dead parts: 2000V AC, 1 minute; Betw. contact circuit and operating coil: 2000V AC, 1 minute; Between contact circuits: 2000V AC, 1 minute; Between contacts of the same pole: 1000V AC, 1 minute
Freq. Response	1800 operations/hr
Temperature Rise	Coil: 85°C max. Contact: 65°C max.
Vibration Resistance	0 to 6G (55Hz max.)
Shock Resistance	SPDT/DPDT: 200N (approx. 20G) 3PDT/4PDT: 100N (approx. 10G)
Life Expectancy	Electrical: over 500,000 operations at 120V AC, 10A; (over 200,000 operations at 120V AC, 10A for SPDT (RH1), 3PDT (RH3), 4PDT (RH4). Mechanical: 50,000,000 operations
Operating Temp.	-30° to +70°C
Weight	SPDT: 24g, DPDT: 37g (approx.) 3PDT: 50g, 4PDT: 74g (approx.)

Terminal Arrangements (Top View)



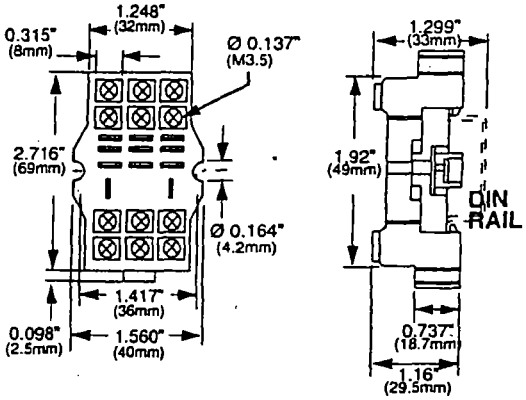


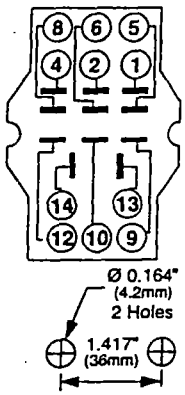




SH3B-05

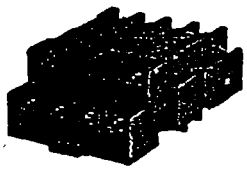
Style: Blade, Snap-mount/surface mount
Terminal: M3.5 screws w/ captive wire clamp
Wire Size: Max. up to 2-#12AWG
Electrical Rating: 300V, 10A
Compatible Relay: RH3B, RH2LB (Latching relay)
Hold-Down Spring: SH3B-05F1
Hold-Down Clip: SFA-101, SFA-202

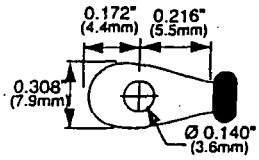


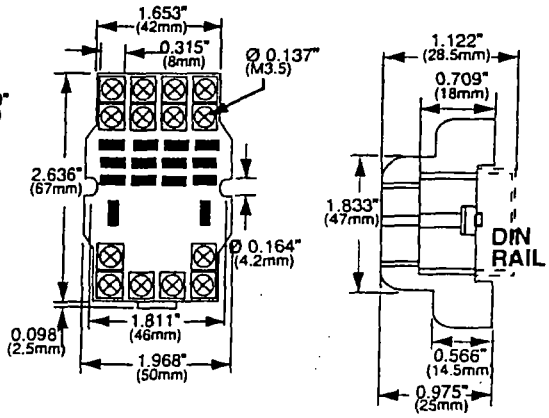


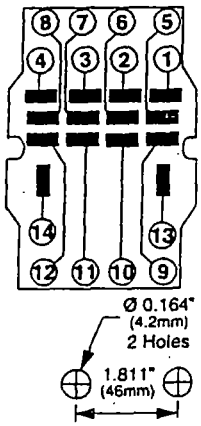
SH3B-05C Fingersafe

Style: Blade, Snap-mount/surface mount
Terminal: M3.5 screws w/ captive wire clamp, finger-safe
Wire Size: Max. up to 2-#12AWG
Electrical Rating: 300V, 10A
Compatible Relay: RH3B, RH2LB (Latching relay)
Hold-Down Spring: SH3B-05F1
Hold-Down Clip: SFA-101, SFA-202



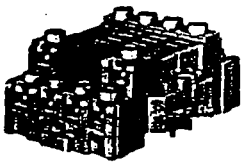


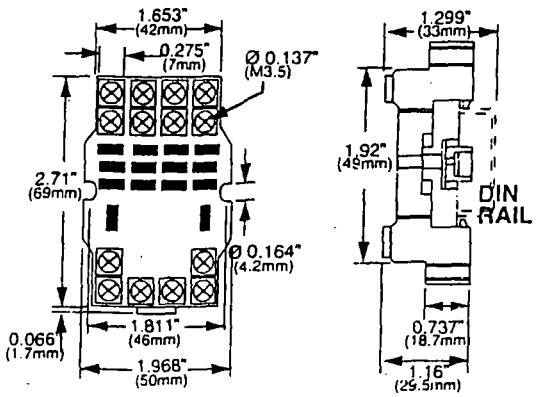


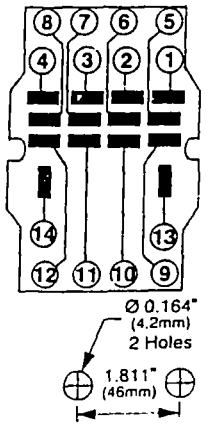


SH4B-05

Style: Blade, Snap-mount/surface mount
Terminal: M3.5 screws w/ captive wire clamp
Wire Size: Max. up to 2-#12AWG
Electrical Rating: 300V, 10A
Compatible Relay: RH4B
Hold-Down Spring: SH4B-02F1
Hold-Down Clip: SFA-101, SFA-202



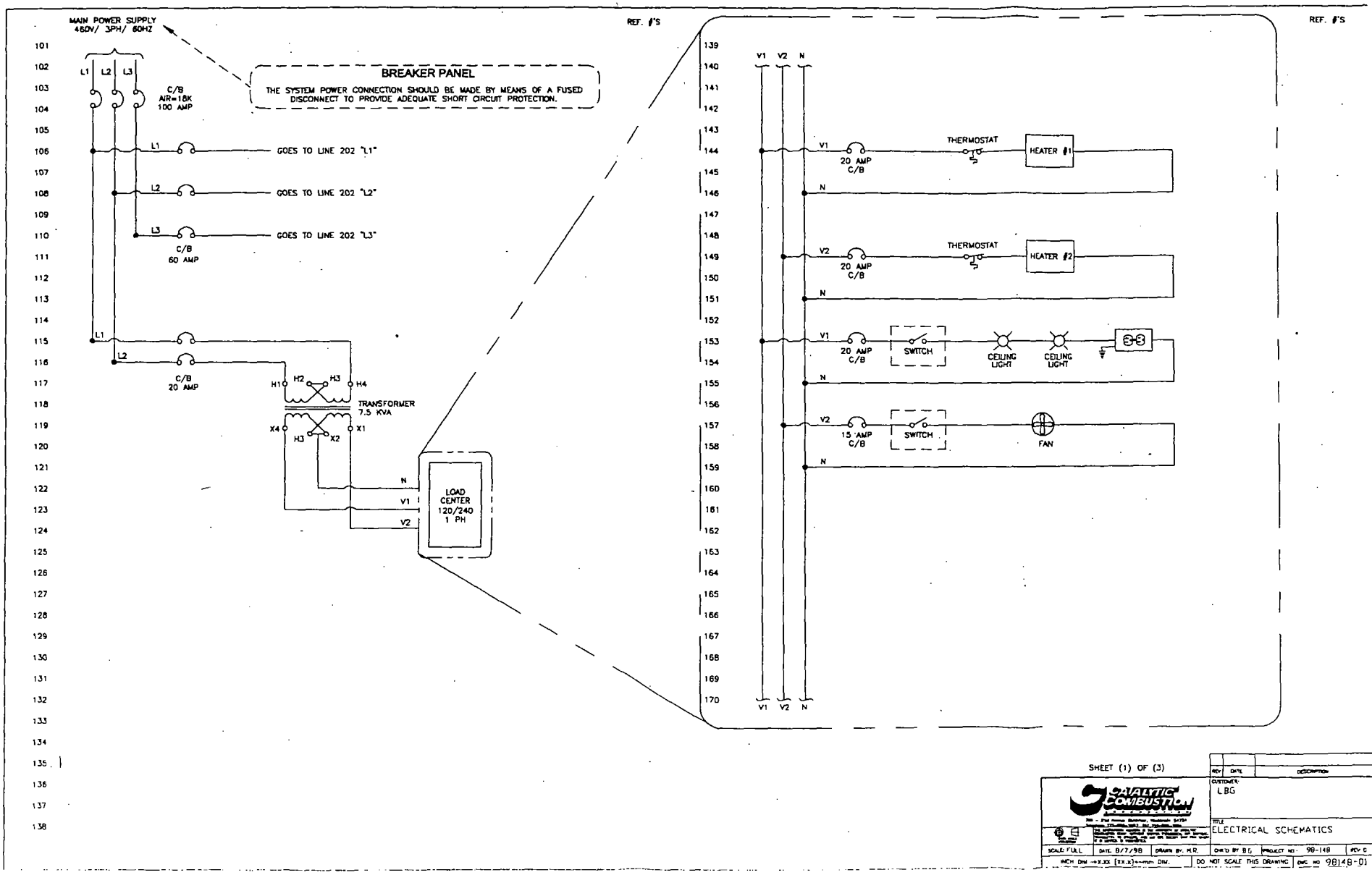




SH4B-05C Fingersafe

Style: Blade, Snap-mount/surface mount
Terminal: M3.5 screws w/ captive wire clamp, finger-safe
Wire Size: Max. up to 2-#12AWG
Electrical Rating: 300V, 10A
Compatible Relay: RH4B
Hold-Down Spring: SH4B-02F1
Hold-Down Clip: SFA-101, SFA-202

F



SHEET (1) OF (3)

REV	DATE	DESCRIPTION

CATALYTIC COMBUSTION

CUSTOMER: LBG

TITLE: ELECTRICAL SCHEMATICS

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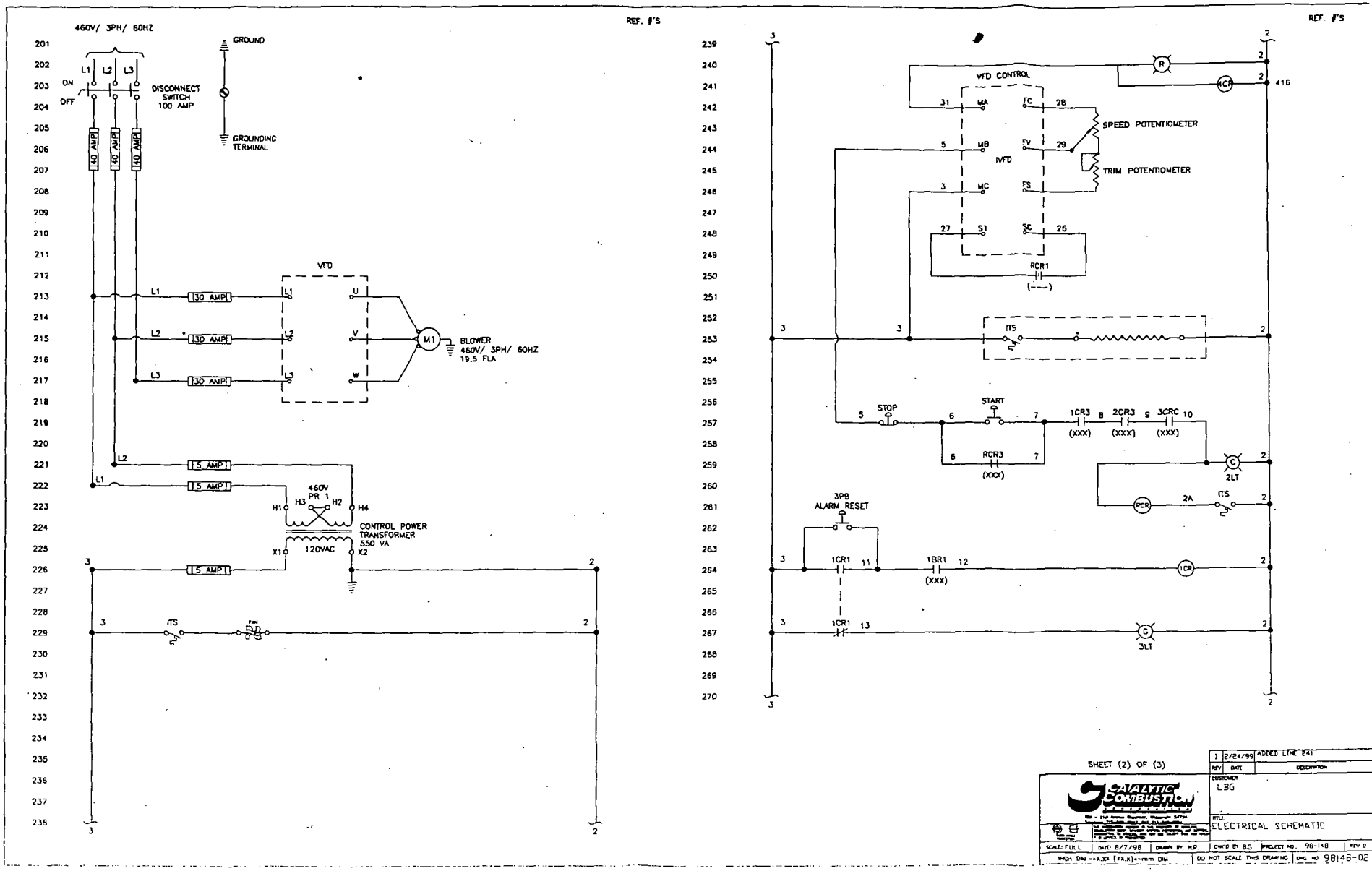
INCH DIM =X.XX [XX.X]=mm DIM.		DO NOT SCALE THIS DRAWING		DWG NO: 98148-01	


REF. #'S
460V/ 3PH/ 60HZ
GROUND
L1 L2 L3
ON
OFF
DISCONNECT SWITCH 100 AMP
GROUNDING TERMINAL
140 AMP
VFD
30 AMP
M1
BLOWER 460V/ 3PH/ 60HZ 19.5 FLA
15 AMP
460V PR 1
H1 H3 H2 H4
CONTROL POWER TRANSFORMER 550 VA
120VAC
X1 X2
ITS
VFD CONTROL
MA MB MC S1 FC FV FS SC
SPEED POTENTIOMETER
TRIM POTENTIOMETER
RCR1
STOP
START
1CR3 2CR3 3CRC
RCR3
2LT
3PB ALARM RESET
1CR1 1BR1
1CR
3LT
416
SHEET (2) OF (3)
CATALYTIC COMBUSTION
REV DATE DESCRIPTION
1 2/24/99 ADDED LINE 241
CUSTOMER LBG
TITLE ELECTRICAL SCHEMATIC
SCALE: FULL DATE: 8/7/98 DRAWN BY: MCR CHK'D BY: BG PROJECT NO. 98-148 REV 0
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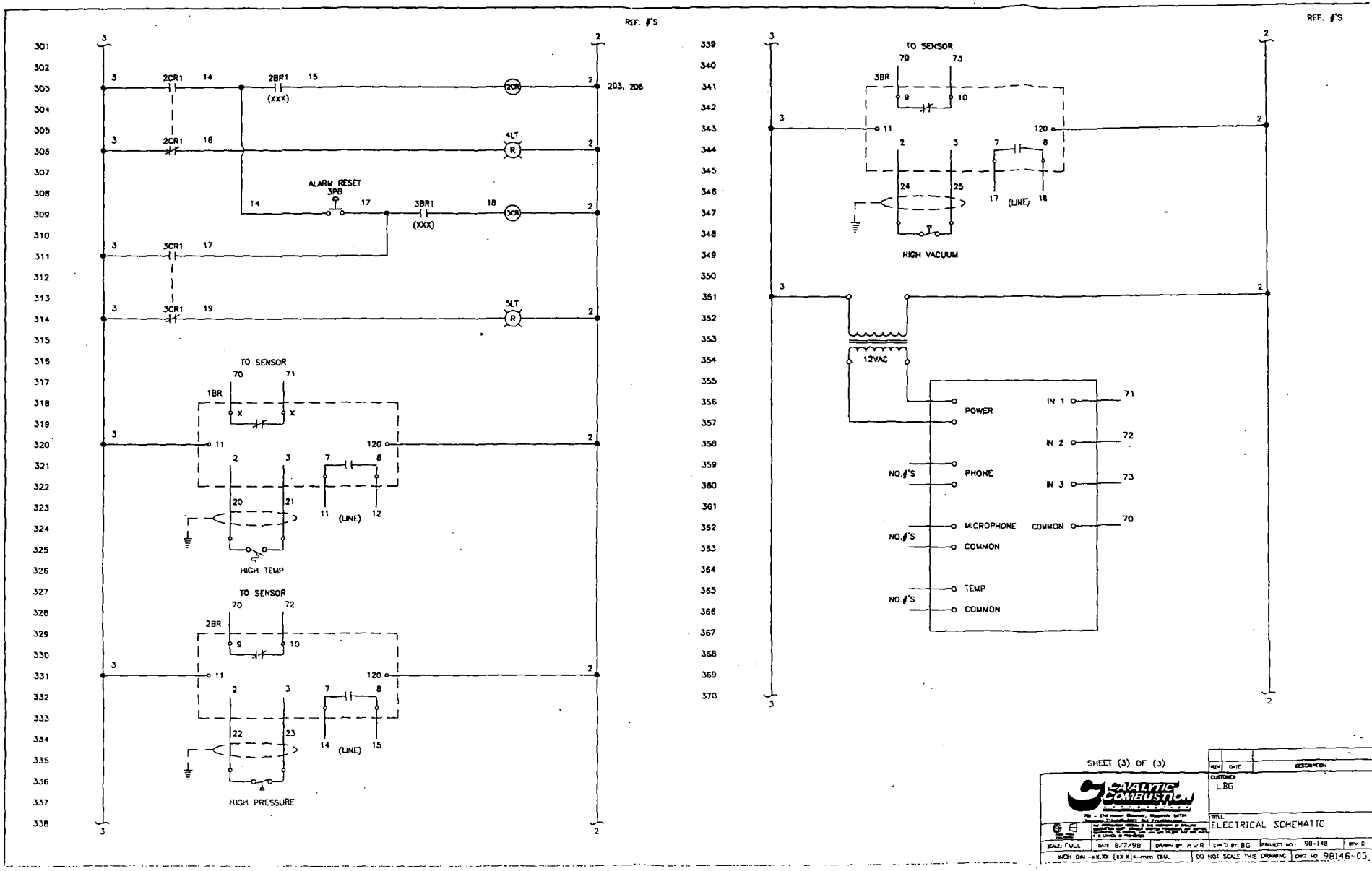
REF. #'S
2CR1
2BR1
(XXX)
2CR
203, 206
4LT
ALARM RESET
3PB
3BR1
3CR
3CR1
5LT
TO SENSOR
1BR
(LINE)
HIGH TEMP
2BR
HIGH PRESSURE
3BR
HIGH VACUUM
12VAC
POWER
PHONE
MICROPHONE
COMMON
TEMP
NO.#'S
IN 1
IN 2
IN 3
SHEET (3) OF (3)
CATALYTIC COMBUSTION
CUSTOMER
L.BG
TITLE
ELECTRICAL SCHEMATIC
SCALE: FULL
DATE 8/7/98
DRAWN BY. M.W.R
CHK'D BY. BG
PROJECT NO. 98-148
REV 0
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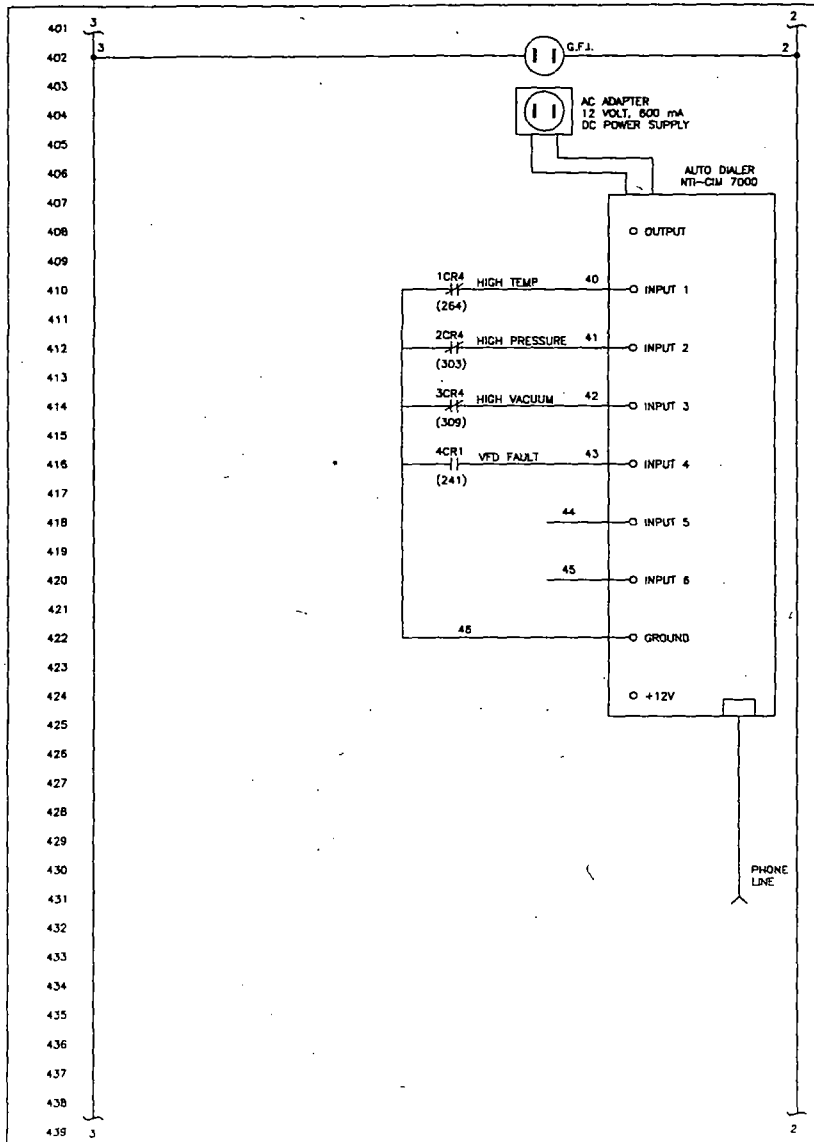
DWG NO 98146-03



REV	DATE	DESCRIPTION
1	2/24/99	ADDITION TO JOB 98-148 (8/7/98)

ANALYTIC COMBUSTION

CUSTOMER: LBG

TITLE: ELECTRICAL SCHEMATIC

SCALE: NONE | DATE: 2/24/99 | DRAWN BY: M.R. | CHK'D BY: BG | PROJECT NO: 99052 | REV 0

INCH DIM → X.XX [XX.X]←mm. DIM. | DO NOT SCALE THIS DRAWING | DWG NO 99052301

CETCO CARBON
INFORMATION

CARBON CHANGE OUT

- Meet and Arrange Entrance for CETCO Personnel At Site
- Shut Down System
- Provide Necessary Assistance During Carbon Change Out
- Prepare Manifest Material and Fax Copy to LBG Attention Kristin at (651) 490-1006
- Inspect CETCO Truck Prior to Leaving Premises for Hazardous Waste Placards
- Re-Start System
- Perform Weekly Check List
- Send Copy of Manifest to: LBG - Attention Kristin
  1210 West County Road E, Suite 700
  St. Paul, MN 55112

AQUATEC V-SERIES
Modular Vapor Adsorbers

CETCO Industrial Services Group offers a complete line of modular vapor phase adsorbers. The **Aquatec V-Series** is designed as a low cost, vapor adsorber that is portable and can be easily put into service. The **Aquatec V-Series** adsorbers are designed for a maximum pressure of 15 psi and a vacuum of 10" water column and are available in sizes designed to hold from 500 to 2000 lbs of carbon.

Model #	GAC ft³/lbs	Recommended Max. Flow Rate	Estimated Weight (Empty/Shipping)
V1M	36/1000	675 cfm	1125/2125
V1.5M	54/1500	750 cfm	1250/2750
V2M	72/2000	750 cfm	1250/3250

Important Features

- Durable carbon steel construction.
- Lifting lugs and forklift guides to facilitate moving.
- Upper and lower open-air plenum area designed for maximum carbon utilization.
- Designed for either upflow or downflow.
- Fitting for CETCO Carbon Saturation Indicator or effluent sample port.
- 6" thr'd influent/effluent connections.
- Condensate drain plug.
- Low profile design.
- 16" drum type manway for easy access.
- Rust-inhibitive epoxy primer and acrylic polyurethane top coat exterior.
- Can be filled with any of CETCO's virgin or reactivated granular or extruded carbons.
- Dished top and bottom heads allow higher operating pressures and light vacuum.
- Shipped with carbon & ready for service.
- All models available for lease

For More Information and Pricing

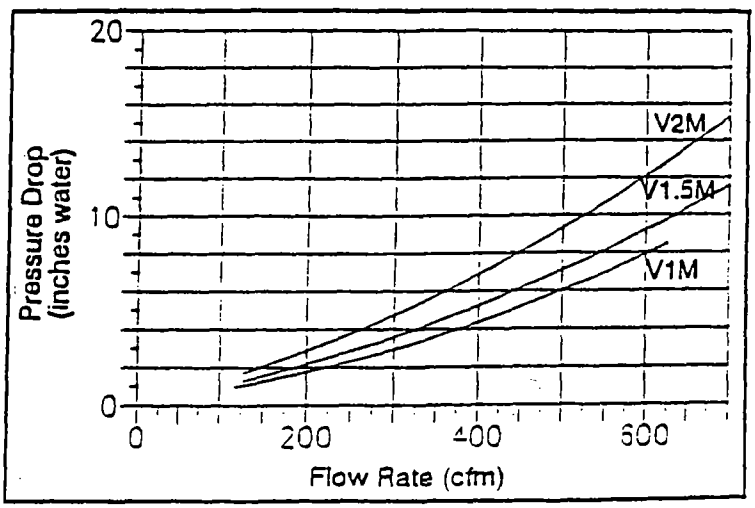
Call

1-800-527-9948

and Talk to One of Our

Knowledgeable Technical

Support Personnel

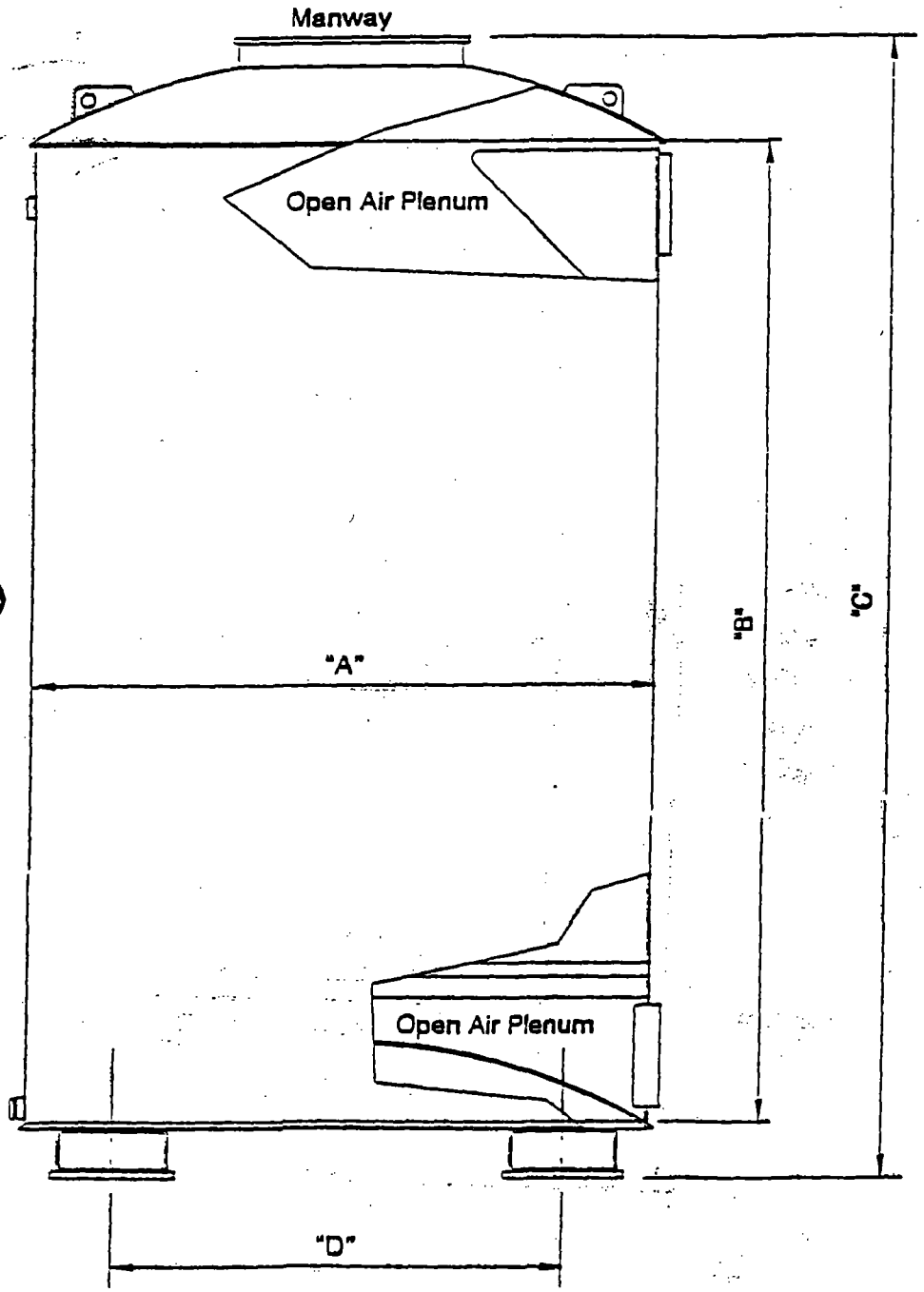


Carbon volume and weight based on Bituminous Carbon @ 30 lbs/ft³.
Estimated pressure drop based on virgin 4x10 carbon.
Design and specifications subject to change without notice.

1350 West Shure Drive • Arlington Heights, IL 60004 • (800) 527-9948 • (708) 392-5800 • Fax (708) 506-6150

Product Information Bulletin (Aquatec V-Series)

Bulletin No.: V2 2/96



Available Options:

- CETCO Carbon Saturation Indicators
- FDA Approved & Industrial Use Plasite Linings
- Custom Linings
- Custom Colors
- Stainless Steel Construction
- Camloc Quick Connects
- Isolation Butterfly Valves
- Flanged Inlet/Outlets
- PRVs
- Higher operating pressures or vacuums
- Skid Mounted SVE Systems
- Call for Your Custom Configuration

CETCO
Industrial Services Group
1-800-527-9948

Drawing not to scale.
Design and specifications subject to change without notice.

MODEL #	Diameter "A"	Can Hgt. "B"	Inlet/Outlet "C"	Forklift Guides "D"	Overall Hgt. "E"
V1M	45½"	72"	6" fpt	33"	84±"
V1.5M	48"	84"	6" fpt	33"	95±"
V2M	48"	84"	6" fpt	33"	95±"

AIR PERMIT

REGIONAL AIR POLLUTION CONTROL AGENCY
Serving Clark, Darke, Greene, Miami, Montgomery & Preble Counties
451 W. Third Street, P.O. Box 972, Dayton, Ohio 45422-1280
Phone: (937) 225-4435 Fax: (937) 225-3486
Visit our Home Page at: http://www.rapca.org

JUL 31 1998

July 27, 1998

Ms. Kimberly Blomker
Leggette, Brashears & Graham, Inc.
1210 West County Road E, Suite 700
Saint Paul, MN 55112

Re: PTI exemption for SVE system at Chrysler Dayton Thermal Systems (Facility ID 0857040734)

Dear Ms. Blomker:

On July 23, 1998, you submitted a Permit to Install (PTI) exemption request for a soil vapor extraction (SVE) system at Chrysler Dayton Thermal Systems. Within the PTI exemption request, you indicate that actual emissions of volatile organic compounds (VOC) are less than 10 pounds per day after controls, a granular activated carbon bed. In addition, the letter indicated that the operation of the SVE system would be temporary, between 6 and 12 months.

Pursuant to Ohio Administrative Code (OAC) rule 3745-15-05(D), the SVE proposed in your July 23, 1998 letter is a "de minimis" air contaminant source; and therefore, does not require a PTI. In accordance with the aforementioned rule, the operator of the SVE is required to maintain records that adequately demonstrate that actual emissions of any regulated pollutant do not exceed 10 pounds per day (or 1 ton per year of any hazardous air pollutant).

In accordance with OAC rule 3745-15-05(E), all the following information, if applicable, shall be adequate to demonstrate that actual emissions do not exceed 10 pounds per day (or 1 ton per year HAP):

1. A narrative description of how the emissions from the SVE were determined and maintained at or below the daily exemption level, and for emissions of HAP at or below the annual exemption level;

2. A description of the air pollution control equipment used on the SVE and a statement that the source is not capable of operating without the pollution control equipment functioning;

3. A copy of any report of the results of any emission test that was conducted

following Ohio EPA approved methods;

4. A description of all production constraints required for the SVE to comply with the exemption level;

5. Records of actual operations that demonstrate that the daily and annual emissions from the SVE were maintained at or below the exemption level by the by the use of necessary production constraints of pollution control equipment;

6. A list of similar emissions units at Chrysler Dayton Thermal Products, and a statement for each source of the annual potential emissions;

7. A summation of the total emissions from each exempt or similar emissions unit, a summation of stated potential emissions from all emissions units identified in (6.), and a certification under oath that the applicable exemption levels were compliant.

Thank you for your cooperation with these matters. If you have any questions or concerns, please feel free to contact me at (937)225-5923.

Sincerely,

James S. Pellegrino Jr.

James S. Pellegrino Jr.
Air Pollution Control Specialist
Abatement Unit

c: Joe Whitlock, Chrysler
file

saved: h:\jim\svesys\chrysler.wpd

LEGGETTE, BRASHEARS & GRAHAM, INC.

PROFESSIONAL GROUND-WATER AND
ENVIRONMENTAL ENGINEERING SERVICES

NORTHPARK CORPORATE CENTER
1210 WEST COUNTY ROAD E
SUITE 700
ST. PAUL, MN 55112
612-490-1405
FAX 612-490-1006

July 23, 1998

Mr. Timothy A. Wilson, Permit Supervisor
Combined Health District
Ohio Environmental Protection Agency
451 West Third St. P.O. Box 972
Dayton, OH 45422

Re: **Permit to Install Exemption**
Dayton Thermal Products Plant
Dayton, Ohio

Dear Mr. Wilson:

On behalf of Chrysler Corporation, Leggette, Brashears & Graham, Inc. (LBG) has prepared the enclosed documentation to request a Permit to Install Exemption. The attached documents refer to the operation of a short-term remediation project located within building 40B at the Dayton Thermal Products Plant located at 1600 Webster Street in Dayton, Ohio.

LBG intends to install and operate a temporary soil vapor extraction (SVE) system prior to planned future soil excavation related to the installation of plant-related manufacturing equipment. Soil-vapor extraction involves the physical removal of volatile organic compounds (VOCs) from impacted subsurface soils due to an applied vacuum on an extraction well, which volatilizes the compounds of concern.

Twelve shallow and twelve deep SVE wells have been installed within the plant. The wells will be operated cyclicly with only the deep or shallow manifold in operation at any given time. The wells will operate at approximately 55 standard cubic feet per minute (scfm) each, for a total system flow of 660 scfm. Vapor phase granular activated carbon will be used to control and reduce air emissions from the SVE system to less than 10 pounds of VOCs per day. The SVE system will be in operation for a period of 6 to 12 months.

Based on information included with this application, and rule 3745-31-02 of the Administrative Code, Permit to Install Exemptions/Permanent Exemptions (A)(1)(nn), which states:

> "(nn).Cleanup activities associated with the removal or remedial action conducted entirely on site, where such remedial action is selected and carried out in compliance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) section 121 (E) and where such action meets all applicable air pollution emission limits and policies."

And the Discretionary Exemptions (A)(2)(g), which states:

"(g).The director may, at his discretion and in writing, exempt any treatability studies or on-site response actions (cleanup operations) that meet all applicable air emission limits and policies from the requirement to obtain a Permit to Install. Anyone requesting this exemption must provide the director with sufficient information to make this decision."

LBG requests that this temporary remediation project be granted a Permit to Install Exemption. Enclosed with this application, please find the following attachments:

1. Emissions Activity Category Form Process Operation
2. Process Flow Diagram
3. Site maps of Dayton Thermal Products Plant and building 40B
4. Uncontrolled Air Emission Rate Calculations (assuming no declining emissions)
5. Pilot Test Analytical Results (3/20/98)
6. Specifications for vapor phase granular activated carbon vessels for emission controls

Please note that air emission calculations and subsequent summary on the Emissions Activity Category Form Process Operation sheet, are calculated based on ***no declining concentrations and uncontrolled emissions*** which result in a worst case scenario. SVE VOC emission concentrations typically do not remain constant over an extended period of time. The emission concentrations follow a first order decay rate, resulting in decreasing emissions over the duration of the project. LBG intends to operate the SVE system using vapor phase granular activated carbon, as an emission control device to achieve permissible VOC levels as required by Ohio Environmental Protection Agency.

We appreciate your consideration of this request. Should you have any questions or if you require additional information, please contact me at (612) 490-1405.

Sincerely,

LEGGETTE, BRASHEARS & GRAHAM, INC.

K. Blomker

Kimberly Blomker
Environmental Engineer II

KRB
Attachments
cc: Mr. Gary Stanczuk, Chrysler

Attachment 1
Emissions Activity Category Form
Process Operation

FOR OHIO EPA USE ONLY
DATE APPLICATION RECEIVED: _____
FACILITY ID: _____

EMISSIONS ACTIVITY CATEGORY FORM
PROCESS OPERATION

OEPA EMISSIONS UNIT ID _____ (if established)

[Note: If there is more than one end product for this process, copy and complete this pag for each additional product (see instructions).]

1. End product of this process: Soil Remediation Project, N/A

2. Hourly production rates (indicate appropriate units):

   Average production: <0.42 lb/hr Total VOCs (controlled)
   Maximum production: 1.46 lb/hr Total VOCs (uncontrolled)

3. Projected maximum annual production (indicate appropriate units): 12,775 lb/yr Total (uncontrol

4. Actual annual production (indicate appropriate units): < 1 ton/yr Total VOCs (controlled)

5. Type of operation:

   ☒ continuous

   ☐ batch; if batch indicate:
   minimum cycle time _____ minutes
   minimum time between cycles _____ minutes

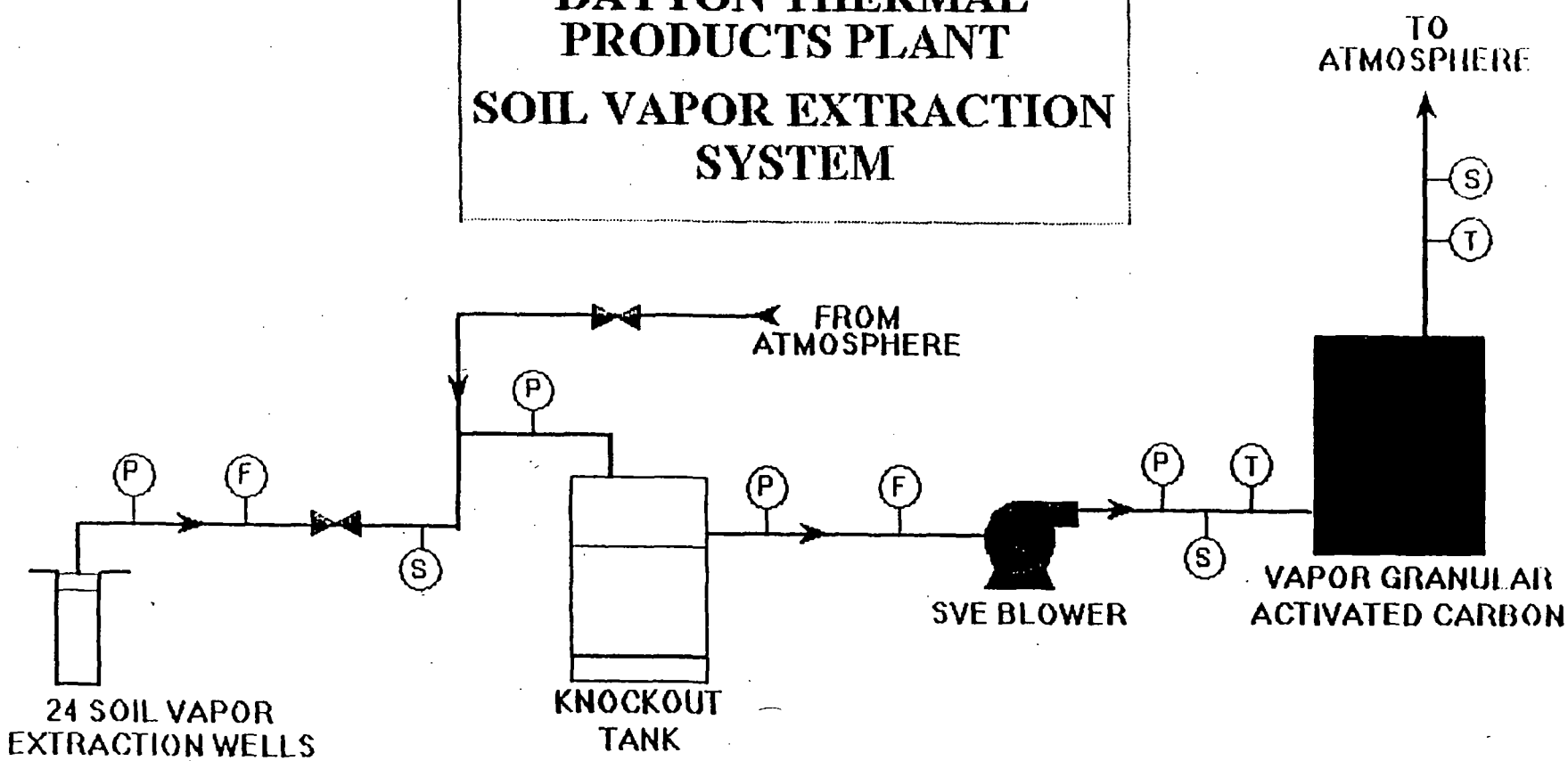
6. Materials used in process at maximum hourly production rate:

Material	Physical State at Standard Conditions	Principle Use	*Uncontrolled Amount (lbs/hr)
1,1-Dichloroethene	Vapor	Compound Removed	0.205
1,1-Dichloroethane	Vapor	Compound Removed	0.047
cis-1,2-Dichloroethene	Vapor	Compound Removed	0.114
1,1,1-Trichloroethane	Vapor	Compound Removed	0.124
Trichloroethene	Vapor	Compound Removed	0.866
Tetrachloroethene	Vapor	Compound Removed	0.106

Attachment 2
Process Flow Diagram

DAYTON THERMAL PRODUCTS PLANT

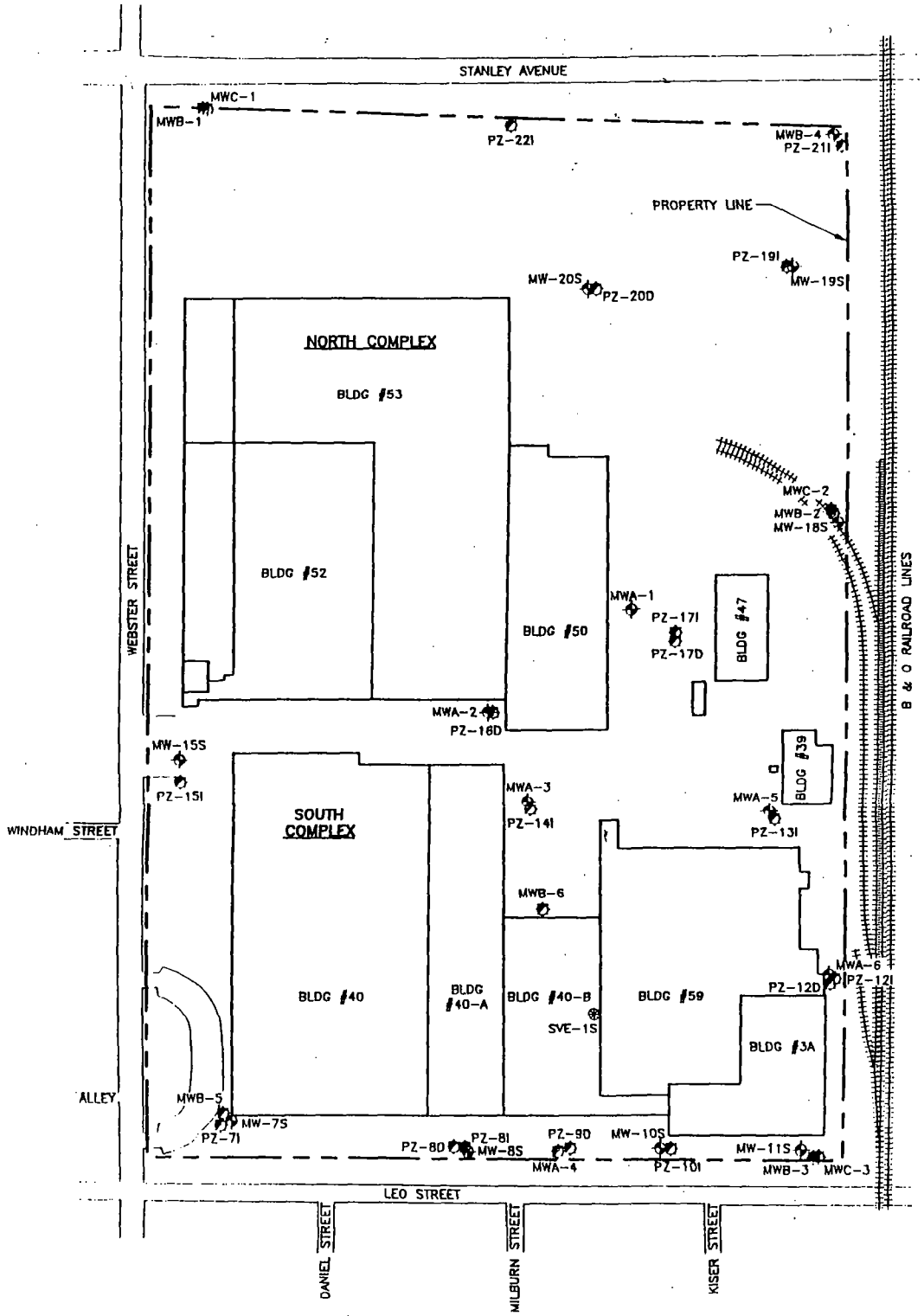
SOIL VAPOR EXTRACTION SYSTEM



LEGEND

P	PRESSURE GAUGE	S	SAMPLE PORT		VALVE
F	FLOW METER	T	THERMOMETER	→	AIR FLOW DIRECTION

Attachment 3
Site Maps



SOURCE: CLEAN TECH, INC.

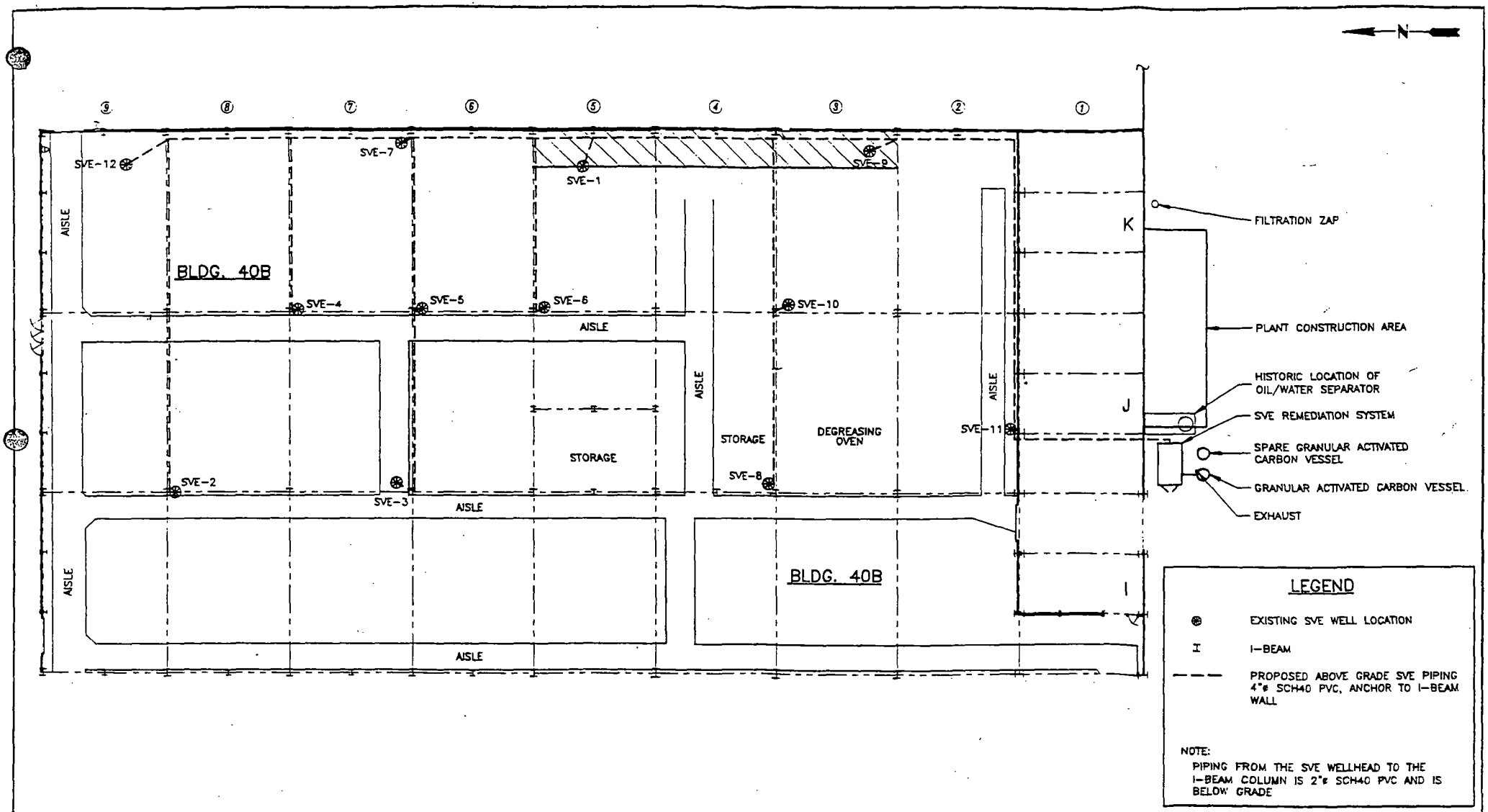
DATE	REVISED
1/98	MW & PZ SURVEY

Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and Environmental Services
Northpark Corporate Center
1210 W. County Road E, Suite 700
St. Paul, MN 55112
(612) 490-1405

DAYTON THERMAL PRODUCTS PLANT
DAYTON, OHIO

SITE MAP

FILE: 3CHDA04P.DWG | DATE: JULY 1998 | FIGURE:



DATE	REVISED

Prepared By:
LEGGETTE, BRASHEARS & GRAHAM, INC.
Professional Ground-Water and Environmental Services
Northpark Corporate Center
1210 W. County Road E, Suite 700
St. Paul, MN 55112
(612) 490-1405

DAYTON THERMAL PRODUCTS PLANT
DAYTON, OHIO

LOCATION OF SVE SYSTEM & WELLS IN BUILDING 40B

FILE: 3CHDAC[illegible].DWG | DATE: JULY 1991 | FIGURE:

Attachment 4
Uncontrolled Air Emission Rate Calculations
(assuming no declining emissions)

DAYTON THERMAL PRODUCTS PLANT
DAYTON, OHIO

UNCONTROLLED AIR EMISSION RATES
(assuming no declining emissions)

Compound	Worst Case SVE Pilot Test Emission Rate (ug/L)*	Design Flow Rate per Well (scfm)	Total System Design Flow Rate (scfm)	Calculated Uncontrolled Emission Rate per Well (lb/hr)	Calculated Uncontrolled Emission Rate per Well (lb/day)	Calculated Uncontrolled System Emission Rate (lb/hr)	Calculated Uncontrolled System Emission Rate (lb/day)
1,1-Dichloroethene	83	55	660	0.017	0.411	0.205	4.926
1,1-Dichloroethane	19	55	660	0.004	0.094	0.047	1.128
cis-1,2-Dichloroethene	46	55	660	0.009	0.228	0.114	2.730
1,1,1-Trichloroethane	50	55	660	0.010	0.247	0.124	2.967
Trichloroethene	350	55	660	0.072	1.731	0.866	20.772
Tetrachloroethene	43	55	660	0.009	0.213	0.106	2.552
Total VOCs	**591**	**55**	**660**	**0.122**	**2.923**	**1.461**	**35.076**

ug/L: microgram per liter
scfm: standard cubic feet per minute
lb/hr: pounds per hour
lb/day: pounds per day

*Worst case emission rates determined from sve pilot test results on shallow and deep sve wells (attachment 5). Emission calculations are based on 12 wells operating at any given time, and do not consider declining emissions which typically follow a first order decay rate.

Attachment 5
Pilot Test Analytical Results (3/20/98)

PRECISION ENVIRONMENTAL

Field Monitoring and Testing Services

[illegible] Main Street
Minneapolis, Minnesota 55[illegible]
(612) 730-9787 • FAX (612) [illegible]

Report Date: 23-Mar-98

Analytical Report No: 98-034

Client Name: Leggette Brashears & Graham, Inc.
Address: 1210 W County Road E
City, State, Zip: St. Paul, Minnesota 55112

Project Name: Dayton Thermal Products Plant
Sample collection/analysis date: 3/18/98 - 3/19/98

Sample I.D.:	SVE-1S	SVE-1S	SVE-1D	SVE-1D
Matrix:	Air	Air	Air	Air
Detection Limit / Units	1.0 ug/L	0.01 PPMv	1.0 ug/L	0.01 PPMv
Analytes: 8260 + MDH 465Q				
(F12) Dichlorodifluoromethane	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND
(F21) Dichlorofluoromethane	ND	ND	ND	ND
(F11) Trichlorofluoromethane	ND	ND	ND	ND
Ethyl Ether	ND	ND	ND	ND
1,1-Dichloroethene	70	16	83	19
(F13) Trichlorotrifluoroethane	ND	ND	ND	ND
Acetone	ND	ND	ND	ND
Allyl Chloride	ND	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND
trans-1,2-Dichloroethene	ND	ND	ND	ND
Methyl tert-butyl ether	ND	ND	ND	ND
1,1-Dichloroethane	15	3.4	19	4.3
2,2-Dichloropropane	ND	ND	ND	ND
cis-1,2-Dichloroethene	46	11	38	8.8
Methyl Ethyl Ketone	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND
Tetrahydrofuran	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND
1,1,1-Trichloroethane	50	8.4	40	6.7
1,1-Dichloropropene	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND
Trichloroethene	350	50	250	43
1,2-Dichloropropane	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND
Methyl Isobutyl Ketone	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
trans-1,3-Dichloropropene	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND
Tetrachloroethene	29	3.9	43	5.8
1,3-Dichloropropane	ND	ND	ND	ND

PRECISION ENVIRONMENTAL

Field Monitoring and Testing Services

[illegible] Main Street
Minneapolis, Minnesota 55[illegible]
(612) 7[illegible]-9787 • FAX (612) 7[illegible]

Report Date: 23-Mar-98

Analytical Report No: 98-034

Client Name: Leggette Brashears & Graham, Inc.
Address: 1210 W County Road E
City, State, Zip: St. Paul, Minnesota 55112

Project Name: Dayton Thermal Products Plant
Sample collection/analysis date: 3/18/98 - 3/19/98

Sample I.D.:	SVE-1S	SVE-1S	SVE-1D	SVE-1D
Matrix:	Air	Air	Air	Air
Detection Limit / Units	1.0 µg/L	0.01 PPMv	1.0 µg/L	0.01 PPMv
Analytes: 8260 + MDH 465D				
Dibromochloromethane	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND
Styrene	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND
Isopropylbenzene	ND	ND	ND	ND
Bromobenzene	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND
n-Propylbenzene	ND	ND	ND	ND
2-Chlorotoluene	ND	ND	ND	ND
1,3,5-Trimethylbenzene	ND	ND	ND	ND
4-Chlorotoluene	ND	ND	ND	ND
tert-Butylbenzene	ND	ND	ND	ND
1,2,4-Trimethylbenzene	ND	ND	ND	ND
sec-Butylbenzene	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND
p-Isopropyltoluene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND
n-Butylbenzene	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	ND	ND
Hexachlorobutadiene	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND
1,2,3-Trichlorobenzene	ND	ND	ND	ND

Analysis by GC PID/FID/ELCD (EPA method 18) modified TO-14 for 8260 analytes.
ND = not detected

Approved by:

Bruce J. Nassar
Analytical Services

Reviewed by:

Richard R. Dahl
Analytical Chemist

Attachment 6
Specifications for granular activated carbon vessels

AQUATEC V-SERIES
Modular Vapor Adsorbers

CETCO Industrial Services Group offers a complete line of modular vapor phase adsorbers. The **Aquatec V-Series** is designed as a low cost, vapor adsorber that is portable and can be easily put into service. The **Aquatec V-Series** adsorbers are designed for a maximum pressure of 15 psi and a vacuum of 10" water column and are available in sizes designed to hold from 500 to 2000 lbs of carbon.

Model #	GAC ft³/lbs	Recommended Max. Flow Rate	Estimated Weight (Empty/Shipping)
V1M	36/1000	675 cfm	1125/2125
V1.5M	54/1500	750 cfm	1250/2750
V2M	72/2000	750 cfm	1250/3250

Important Features

- Durable carbon steel construction.
- Lifting lugs and forklift guides to facilitate moving.
- Upper and lower open-air plenum area designed for maximum carbon utilization.
- Designed for either upflow or downflow.
- Fitting for CETCO Carbon Saturation Indicator or effluent sample port.
- 6" thr'd influent/effluent connections.
- Condensate drain plug.
- Low profile design.
- 16" drum type manway for easy access.
- Rust-inhibitive epoxy primer and acrylic polyurethane top coat exterior.
- Can be filled with any of CETCO's virgin or reactivated granular or extruded carbons.
- Dished top and bottom heads allow higher operating pressures and light vacuum.
- Shipped with carbon & ready for service.
- All models available for lease

For More Information and Pricing

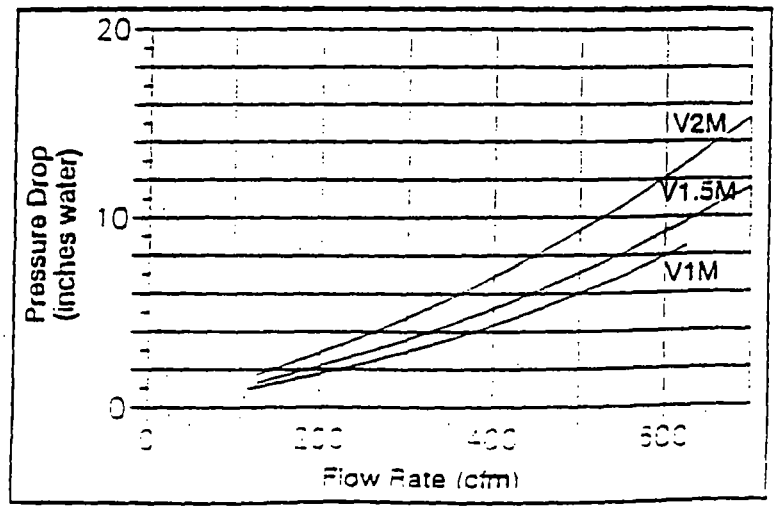
Call

1-800-527-9948

and Talk to One of Our

Knowledgeable Technical

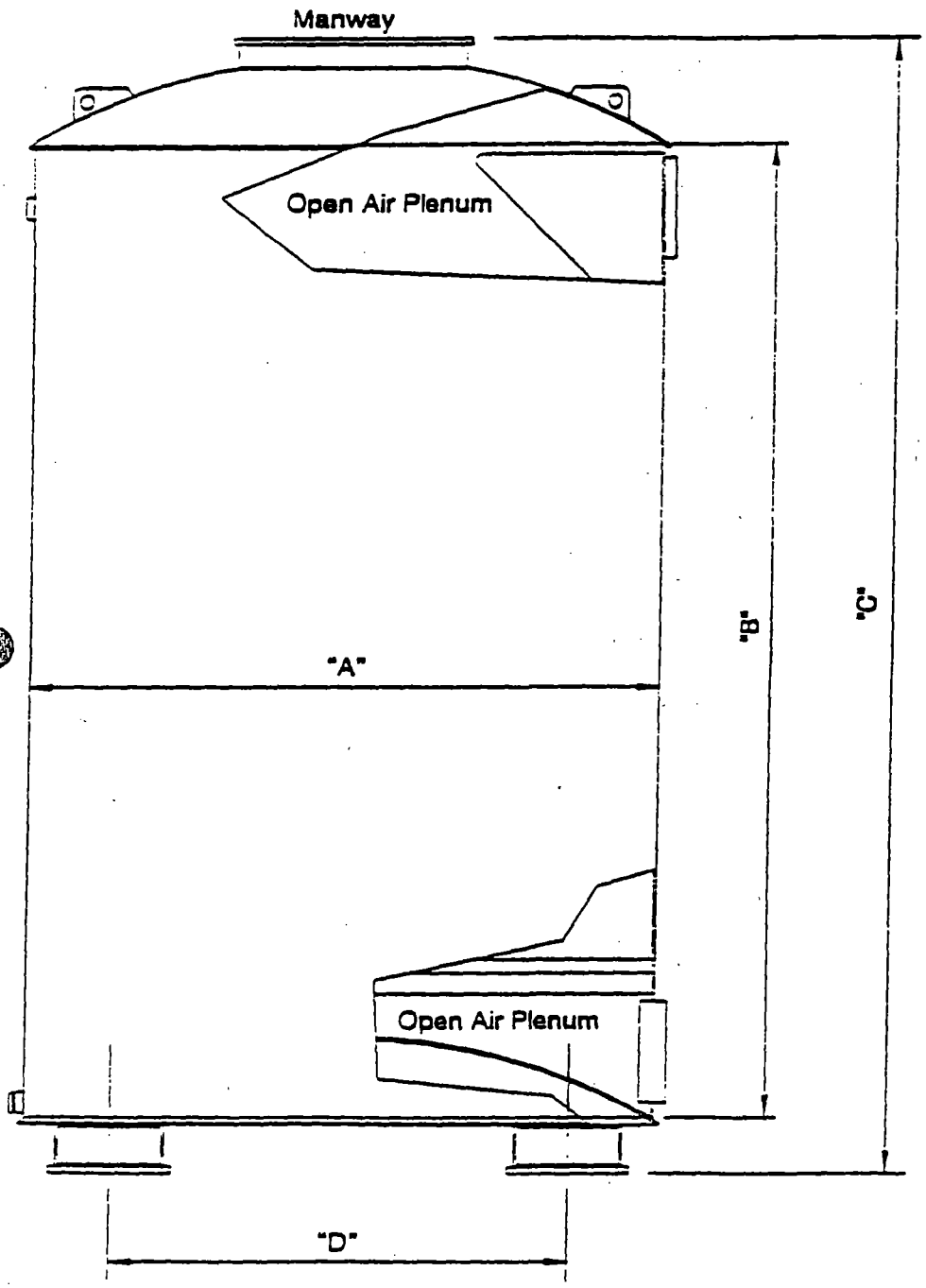
Support Personnel



Carbon volume and weight based on Bituminous Carbon @ 30 lbs/ft³.
Estimated pressure drop based on virgin 4x10 carbon.
Design and specifications subject to change without notice

1350 West Shure Drive • Arlington Heights, IL 60004 • (800) 527-9948 • (708) 392-5300 • Fax (708) 506-6150

Product Information Bulletin (Aquatec V-Series)



Available Options:

- CETCO Carbon Saturation Indicators
- FDA Approved & Industrial Use Plasite Linings
- Custom Linings
- Custom Colors
- Stainless Steel Construction
- Camloc Quick Connects
- Isolation Butterfly Valves
- Flanged Inlet/Outlets
- PRVs
- Higher operating pressures or vacuums
- Skid Mounted SVE Systems
- Call for Your Custom Configuration

CETCO
Industrial Services Group
1-800-527-9948

Drawing not to scale.
Design and specifications subject to change without notice.

MODEL #	Diameter "A"	Can Hgt. "B"	Inlet/Outlet "C"	Forklift Guides "D"	Overall Hgt. "E"
V1M	45½"	72"	6" fpt	33"	84±"
V1.5M	48"	84"	6" fpt	33"	95±"
V2M	48"	84"	6" fpt	33"	95±"

MISC.

Electrical Data
Project #99-216 LBG

Electrical/Control System Verificati

Please insert these two control setting in section 4 in the two manuals you already have. Thank you.

Date: 9/23/99
Project #: 99-216
Project Name: LBG- Dayton
Performed By: R. Corcoran

Test (In Ho
Startup (S
Service

Voltage and Current Data

Main Service (voltage/phase/frequency): 480/3/60

Main Service Voltage (measured

L1-L2:	488	G-L1:	285
L1-L3:	489	G-L2:	281
L2-L3:	488	G-L3:	280

Main Service Current (measured

L1:	17.3
L2:	17.6
L3:	15.5

Motor Data

Motor ID	Combustion Air Blower	Process Air Blower		
HP	1	5		
Frame	143TCZ	184T		
RPM	3450	3450		
Hz	60	60		
Service Factor	1.25	1.15		
Power Factor	79	92		
Voltage				
N-Plate	208/480	208/480		
Actual	480	480		
Current (FLA)				
N-Plate	1.8	7.6		
Actual	1.2	7.2		
Fuse/CB	Fuse	Fuse		
Type	LP-CC	LPJ		
Size	5	12SP		
OL Setting	2.5	6		

System Alarms

Alarm Name	Shutdown Y/N	Setup/Note
Inlet High Temp	Y	
Low Gas Pressure	Y	
High Gas Pressure	Y	
Gas Mod Valve Closed	Y	
CAT High Temp Limit	Y	
CAT Center Temp High	Y	
Flame Safeguard Trip	Y	
Switch not in Auto Mode	Y	
External Disable Contact	Y	
Scubber Not Running	Y	
CAT Low Temp	Y	
Combustion Air OL	Y	
Process Blower OL	Y	
Process Airflow Low	Y	
Process High Press	Y	
Gas Valve Proving Fail	Y	
No Combustion Airflow	Y	
CAT Diff. Pressure	Y	
Burner Time Out	Y	

HOA Switch Check

Function	Light?	Hand Mode	Auto Mode Response
Combustion Air	Y	Functional	Functional
Process Air	Y	Functional	Functional

Configuration Record Sheet Model DC3 S/N				Process Controller		LBG- DAYTON 99-216	
Group Prompt	**Function Prompt**	**Value or Selection**	**Factory Setting**	**Group Prompt**	**Function Prompt**	**Value or Selection**	**Factory Setting**
TUNING	PROP BD	1.00	--	ALGORTHM	CONT ALG		PID A
	or				TIMER		DISABL
	GAIN		1.0000		PERIOD		0.01
	or		-328 /2498		START		KEY
	GAINVALn		--		L DISP		TI REM
	RATE MIN		-328 /2498		INP ALG1		NONE
	RSET MIN		1.00		MATH K		--
	or		-328 /2498		CALC HI		--
	RSET RPM		--		CALC LO		--
	MAN RSET		0		ALG1 INA		--
	PROPBD2		--		ALG1 INB		--
	or				ALG1 INC		--
	GAIN 2		1.000		PCO SEL		DISABL
	RATE2MIN		0.00		PCT CO		0.200
	RSET2MIN		1.00		ATM PRES		760.0
	or						
	RSET2RPM		--	OUT ALG	OUT ALG		CURRNT
	CYC SEC		20		4-20 RNG		100PCT
	or				OUT2 ALG		CURRNT
	CYC SX3		20		RLYSTATE		10F2ON
	CYC2 SEC		20		RLY TYPE		MECHAN
	or						
	CYC2 SX3		20	INPUT 1	IN1 TYPE	K TC H	0-10mV
	SECURITY		0		XMITTER1		LINEAR
	LOCKOUT		CALIB		IN1 HI	2400	1000
	AUTOMAN		ENABLE		IN1 LO		0
	SP SEL		ENABLE		RATIO 1		1.00
	RUN HOLD		ENABLE		BIAS IN1		0
					FILTER 1	1	0
SP RAMP	SP RAMP		DISABL		BURNOUT1	UP	NONE
	TIME MIN		3		EMMISIV1		0.00
	FINAL SP		1000				
	SP RATE		DISABL	INPUT 2	IN2 TYPE	Disable	0-10mV
	EU/HR UP		0		XMITTER2		LINEAR
	EU/HR DN		0		IN2 HI		1000
	SP PROG		DISABL		IN2 LO		0
	FUZZY		DISABL		RATIO 2		1.00
	ACCUTUNE		DISABL		BIAS IN2		0
					FILTER 2		0
ACCUTUNE	AT ERROR		NONE		BURNOUT2		NONE
					EMMISIV2		0.00
CONTROL	PV SOURC		INP 1				
	PID SETS		1 ONLY	COM	ComSTATE		DISABL
	SW VALUE		0.00		ComADDR		0
	LSP'S		1 ONLY		SHEDTIME		0
	RSP SRC		NONE		PARITY		ODD
	AUTOBIAS		DISABL		BAUD		300
	SP TRACK		NONE		DUPLEX		HALF
	PWR MODE	A SP	MANUAL		TX DELAY		1
	PWR OUT		LAST		SHEDMODE		LAST
	SP HiLIM	1400	1000		SHEDSP		TO LSP
	SP LoLIM		0		UNITS		PERCNT
	ACTION		REVRSE		CSP RATIO		1.0
	PCT/M UP		0		CSP BIAS		0
	PCT/M/ DN		0		LOOPBACK		DISABL
	OUTHiLIM		100				
	OUTLoLIM		0.0	ALARMS	A1S1 VAL	1050	90
	I Hi LIM		100.0		A1S2 VAL		10
	1 Lo LIM		0.0		A2S1 VAL		95
	DROPOFF		0		A2S2 VAL		5
	DEADBAND		1.0		A1S1 TYPE	Inp 1	NONE
	OUT HYST		0.5		A1S2 TYPE		NONE
	FAILMODE		NO LAT		A2S1 TYPE		NONE
	FAILSAFE		0.0		A2S2 TYPE		NONE
	MAN OUT		--		A1S1 HL		HIGH
	AUTO OUT		--		A1S1 EV		--
	PBorGAIN	PB PCT	GAIN		A1S2 HL		LOW
	MINorRPM	RPM	MIN		A1S2 EV		--
					A2S1 HL		HIGH
OPTIONS	AUXOUT		DISABL		A2S1 EV		--
	4mA VAL		0.0		A2S2 HL		LOW
	20mA VAL		0		A2S2 EV		--
	DIG IN 1	To 2 SP	NONE		AL HYST	0.1	0.1
	DIG 1 COM		DISABL		ALM OUT1		NO LAT
	DIG IN 2		NONE		BLOCK		DISABL
	DIG2 COM		DISABL				
SP1 - 0 SP2 - 1100				DISPLAY	DECIMAL		XXXX
					TEMPUNIT	°F	NONE
					PWR FREQ		60 Hz
					RATIO 2		DISABL
					LANGUAGE		ENGLIS

Configuration Record Sheet Model DC3 S/N				Burner Controller		LBG- DAYTON 99-216	
Group Prompt	**Function Prompt**	**Value or Selection**	**Factory Setting**	**Group Prompt**	**Function Prompt**	**Value or Selection**	**Factory Setting**
TUNING	PROP BD		–	ALGORTHM	CONT ALG		PID A
	or				TIMER		DISABL
	GAIN	2.086	1.0000		PERIOD		0.01
	or		-328 /2498		START		KEY
	GAINVALn		–		L DISP		TI REM
	RATE MIN		-328 /2498		INP ALG1		NONE
	RSET MIN		1.00		MATH K		–
	or		-328 /2498		CALC HI		–
	RSET RPM		–		CALC LO		–
	MAN RSET		0		ALG1 INA		–
	PROPBD2		–		ALG1 INB		–
	or				ALG1 INC		–
	GAIN 2		1.000		PCO SEL		DISABL
	RATE2MIN		0.00		PCT CO		0.200
	RSET2MIN		1.00		ATM PRES		760.0
	or						
	RSET2RPM		–	OUT ALG	OUT ALG		CURRNT
	CYC SEC		20		4-20 RNG		100PCT
	or				OUT2 ALG		CURRNT
	CYC SX3		20		RLYSTATE		10F2ON
	CYC2 SEC		20		RLY TYPE		MECHAN
	or						
	CYC2 SX3		20	INPUT 1	IN1 TYPE	K TC H	0-10mV
	SECURITY		0		XMITTER1		LINEAR
	LOCKOUT		CALIB		IN1 HI	2400	1000
	AUTOMAN		ENABLE		IN1 LO		0
	SP SEL		ENABLE		RATIO 1		1.00
	RUN HOLD		ENABLE		BIAS IN1		0
					FILTER 1		0
SP RAMP	SP RAMP		DISABL		BURNOUT1	UP	NONE
	TIME MIN		3		EMMISIV1		0.00
	FINAL SP		1000				
	SP RATE		DISABL	INPUT 2	IN2 TYPE	K TC H	0-10mV
	EU/HR UP		0		XMITTER2		LINEAR
	EU/HR DN		0		IN2 HI	2400	1000
	SP PROG		DISABL		IN2 LO		0
	FUZZY		DISABL		RATIO 2		1.00
	ACCUTUNE		DISABL		BIAS IN2		0
					FILTER 2		0
ACCUTUNE	AT ERROR		NONE		BURNOUT2	UP	NONE
					EMMISIV2		0.00
CONTROL	PV SOURC		INP 1				
	PID SETS		1 ONLY	COM	ComSTATE		DISABL
	SW VALUE		0.00		ComADDR		0
	LSP'S	TWO	1 ONLY		SHEDTIME		0
	RSP SRC		NONE		PARITY		ODD
	AUTOBIAS		DISABL		BAUD		300
	SP TRACK		NONE		DUPLEX		HALF
	PWR MODE		MANUAL		TX DELAY		1
	PWR OUT		LAST		SHEDMODE		LAST
	SP HiLIM		1000		SHEDSP		TO LSP
	SP LoLIM		0		UNITS		PERCNT
	ACTION		REVRSE		CSP RATIO		1.0
	PCT/M UP	7	0		CSP BIAS		0
	PCT/M/ DN	30	0		LOOPBACK		DISABL
	OUTHiLIM		100				
	OUTLoLIM		0.0	ALARMS	A1S1 VAL	950	90
	I Hi LIM		100.0		A1S2 VAL		10
	1 Lo LIM		0.0		A2S1 VAL	675	95
	DROPOFF		0		A2S2 VAL		5
	DEADBAND		1.0		A1S1 TYPE	PV	NONE
	OUT HYST		0.5		A1S2 TYPE		NONE
	FAILMODE		NO LAT		A2S1 TYPE	PV	NONE
	FAILSAFE		0.0		A2S2 TYPE		NONE
	MAN OUT		–		A1S1 HL		HIGH
	AUTO OUT		–		A1S1 EV		–
	PBorGAIN		GAIN		A1S2 HL		LOW
	MINorRPM		MIN		A1S2 EV		–
					A2S1 HL		HIGH
OPTIONS	AUXOUT		DISABL		A2S1 EV		–
	4mA VAL		0.0		A2S2 HL		LOW
	20mA VAL		0		A2S2 EV		–
	DIG IN 1		NONE		AL HYST	0.1	0.1
	DIG 1 COM		DISABL		ALM OUT1		NO LAT
	DIG IN 2		NONE		BLOCK		DISABL
	DIG2 COM		DISABL				
				DISPLAY	DECIMAL		XXXX
					TEMPUNIT	°F	NONE
					PWR FREQ		60 Hz
					RATIO 2		DISABL
					LANGUAGE		ENGLIS

Electrical Checklist

- [x] Verify user Interface function keys.
- [x] User interface indicator lights correct.
- [x] ESTOP tested.
- [x] All alarms tripped and response verified.
- [x] Create multiple faults - verify first out response.
- [x] Controller record sheets completed.
- [x] Pictures Logged.
- [x] "As Built" or "Field Modified" schematics completed.
- [x] Schematics included in enclosure pocket.
- [x] Labels applied (UL, High Voltage, PLC Warning, CCC Standard)
- [x] Meters verified (hour meters and cycle counters).

Electrical Data
Project #99-216 LBG

Electrical/Control System Verification

Date: 9/23/99
Project #: 99-216
Project Name: LBG- Dayton
Performed By: R. Corcoran

Test (In House): X
Startup (Site):
Service Call:

Voltage and Current Data

Main Service (voltage/phase/frequency): 480/3/60

Main Service Voltage (measured

L1-L2: 488
L1-L3: 489
L2-L3: 488

G-L1: 285
G-L2: 281
G-L3: 280

Main Service Current (measured

L1: 17.3
L2: 17.6
L3: 15.5

Motor Data				
Motor ID	Combustion Air Blower	Process Air Blower		
HP	1	5		
Frame	143TCZ	184T		
RPM	3450	3450		
Hz	60	60		
Service Factor	1.25	1.15		
Power Factor	79	92		
Voltage				
N-Plate	208/480	208/480		
Actual	480	480		
Current (FLA)				
N-Plate	1.8	7.6		
Actual	1.2	7.2		
Fuse/CB	Fuse	Fuse		
Type	LP-CC	LPJ		
Size	5	12SP		
OL Setting	2.5	6		

System Alarms

Alarm Name	Shutdown Y/N	Setup/Note
Inlet High Temp	Y	
Low Gas Pressure	Y	
High Gas Pressure	Y	
Gas Mod Valve Closed	Y	
CAT High Temp Limit	Y	
CAT Center Temp High	Y	
Flame Safeguard Trip	Y	
Switch not in Auto Mode	Y	
External Disable Contact	Y	
Scubber Not Running	Y	
CAT Low Temp	Y	
Combustion Air OL	Y	
Process Blower OL	Y	
Process Airflow Low	Y	
Process High Press	Y	
Gas Valve Proving Fail	Y	
No Combustion Airflow	Y	
CAT Diff. Pressure	Y	
Burner Time Out	Y	

HOA Switch Check

Function	Light?	Hand Mode	Auto Mode Response
Combustion Air	Y	Functional	Functional
Process Air	Y	Functional	Functional

Configuration Record Sheet Model DC3 S/N				Process Controller		LBG- DAYTON 99-216	
Group Prompt	**Function Prompt**	**Value or Selection**	**Factory Setting**	**Group Prompt**	**Function Prompt**	**Value or Selection**	**Factory Setting**
TUNING	PROP BD	1.00	--	ALGORTHM	CONT ALG		PID A
	or				TIMER		DISABL
	GAIN		1.0000		PERIOD		0.01
	or		-328 /2498		START		KEY
	GAINVALn		--		L DISP		TI REM
	RATE MIN		-328 /2498		INP ALG1		NONE
	RSET MIN		1.00		MATH K		--
	or		-328 /2498		CALC HI		--
	RSET RPM		--		CALC LO		--
	MAN RSET		0		ALG1 INA		--
	PROPBD2		--		ALG1 INB		--
	or				ALG1 INC		--
	GAIN 2		1.000		PCO SEL		DISABL
	RATE2MIN		0.00		PCT CO		0.200
	RSET2MIN		1.00		ATM PRES		760.0
	or						
	RSET2RPM		--	OUT ALG	OUT ALG		CURRNT
	CYC SEC		20		4-20 RNG		100PCT
	or				OUT2 ALG		CURRNT
	CYC SX3		20		RLYSTATE		10F2ON
	CYC2 SEC		20		RLY TYPE		MECHAN
	or						
	CYC2 SX3		20	INPUT 1	IN1 TYPE	K TC H	0-10mV
	SECURITY		0		XMITTER1		LINEAR
	LOCKOUT		CALIB		IN1 HI	2400	1000
	AUTOMAN		ENABLE		IN1 LO		0
	SP SEL		ENABLE		RATIO 1		1.00
	RUN HOLD		ENABLE		BIAS IN1		0
					FILTER 1	1	0
SP RAMP	SP RAMP		DISABL		BURNOUT1	UP	NONE
	TIME MIN		3		EMMISIV1		0.00
	FINAL SP		1000				
	SP RATE		DISABL	INPUT 2	IN2 TYPE	Disable	0-10mV
	EU/HR UP		0		XMITTER2		LINEAR
	EU/HR DN		0		IN2 HI		1000
	SP PROG		DISABL		IN2 LO		0
	FUZZY		DISABL		RATIO 2		1.00
	ACCUTUNE		DISABL		BIAS IN2		0
					FILTER 2		0
ACCUTUNE	AT ERROR		NONE		BURNOUT2		NONE
					EMMISIV2		0.00
CONTROL	PV SOURC		INP 1				
	PID SETS		1 ONLY	COM	ComSTATE		DISABL
	SW VALUE		0.00		ComADDR		0
	LSP'S		1 ONLY		SHEDTIME		0
	RSP SRC		NONE		PARITY		ODD
	AUTOBIAS		DISABL		BAUD		300
	SP TRACK		NONE		DUPLEX		HALF
	PWR MODE	A SP	MANUAL		TX DELAY		1
	PWR OUT		LAST		SHEDMODE		LAST
	SP HiLIM	1400	1000		SHEDSP		TO LSP
	SP LoLIM		0		UNITS		PERCNT
	ACTION		REVRSE		CSP RATIO		1.0
	PCT/M UP		0		CSP BIAS		0
	PCT/M/ DN		0		LOOPBACK		DISABL
	OUTHiLIM		100				
	OUTLoLIM		0.0	ALARMS	A1S1 VAL	1050	90
	I Hi LIM		100.0		A1S2 VAL		10
	1 Lo LIM		0.0		A2S1 VAL		95
	DROPOFF		0		A2S2 VAL		5
	DEADBAND		1.0		A1S1 TYPE	Inp 1	NONE
	OUT HYST		0.5		A1S2 TYPE		NONE
	FAILMODE		NO LAT		A2S1 TYPE		NONE
	FAILSAFE		0.0		A2S2 TYPE		NONE
	MAN OUT		--		A1S1 HL		HIGH
	AUTO OUT		--		A1S1 EV		--
	PBorGAIN	PB PCT	GAIN		A1S2 HL		LOW
	MINorRPM	RPM	MIN		A1S2 EV		--
					A2S1 HL		HIGH
OPTIONS	AUXOUT		DISABL		A2S1 EV		--
	4mA VAL		0.0		A2S2 HL		LOW
	20mA VAL		0		A2S2 EV		--
	DIG IN 1	To 2 SP	NONE		AL HYST	0.1	0.1
	DIG 1 COM		DISABL		ALM OUT1		NO LAT
	DIG IN 2		NONE		BLOCK		DISABL
	DIG2 COM		DISABL				
SP1 - 0 SP2 - 1100				DISPLAY	DECIMAL		XXXX
					TEMPUNIT	°F	NONE
					PWR FREQ		60 Hz
					RATIO 2		DISABL
					LANGUAGE		ENGLIS

Configuration Record Sheet Model DC3 S/N				Burner Controller		LBG- DAYTON 99-216	
Group Prompt	**Function Prompt**	**Value or Selection**	**Factory Setting**	**Group Prompt**	**Function Prompt**	**Value or Selection**	**Factory Setting**
TUNING	PROP BD		--	ALGORTHM	CONT ALG		PID A
	or				TIMER		DISABL
	GAIN	2.086	1.0000		PERIOD		0.01
	or		-328 /2498		START		KEY
	GAINVALn		--		L DISP		TI REM
	RATE MIN		-328 /2498		INP ALG1		NONE
	RSET MIN		1.00		MATH K		--
	or		-328 /2498		CALC HI		--
	RSET RPM		--		CALC LO		--
	MAN RSET		0		ALG1 INA		--
	PROPBD2		--		ALG1 INB		--
	or				ALG1 INC		--
	GAIN 2		1.000		PCO SEL		DISABL
	RATE2MIN		0.00		PCT CO		0.200
	RSET2MIN		1.00		ATM PRES		760.0
	or						
	RSET2RPM		--	OUT ALG	OUT ALG		CURRNT
	CYC SEC		20		4-20 RNG		100PCT
	or				OUT2 ALG		CURRNT
	CYC SX3		20		RLYSTATE		10F2ON
	CYC2 SEC		20		RLY TYPE		MECHAN
	or						
	CYC2 SX3		20	INPUT 1	IN1 TYPE	K TC H	0-10mV
	SECURITY		0		XMITTER1		LINEAR
	LOCKOUT		CALIB		IN1 HI	2400	1000
	AUTOMAN		ENABLE		IN1 LO		0
	SP SEL		ENABLE		RATIO 1		1.00
	RUN HOLD		ENABLE		BIAS IN1		0
					FILTER 1		0
SP RAMP	SP RAMP		DISABL		BURNOUT1	UP	NONE
	TIME MIN		3		EMMISIV1		0.00
	FINAL SP		1000				
	SP RATE		DISABL	INPUT 2	IN2 TYPE	K TC H	0-10mV
	EU/HR UP		0		XMITTER2		LINEAR
	EU/HR DN		0		IN2 HI	2400	1000
	SP PROG		DISABL		IN2 LO		0
	FUZZY		DISABL		RATIO 2		1.00
	ACCUTUNE		DISABL		BIAS IN2		0
					FILTER 2		0
ACCUTUNE	AT ERROR		NONE		BURNOUT2	UP	NONE
					EMMISIV2		0.00
CONTROL	PV SOURC		INP 1				
	PID SETS		1 ONLY	COM	ComSTATE		DISABL
	SW VALUE		0.00		ComADDR		0
	LSP'S	TWO	1 ONLY		SHEDTIME		0
	RSP SRC		NONE		PARITY		ODD
	AUTOBIAS		DISABL		BAUD		300
	SP TRACK		NONE		DUPLEX		HALF
	PWR MODE		MANUAL		TX DELAY		1
	PWR OUT		LAST		SHEDMODE		LAST
	SP HiLIM		1000		SHEDSP		TO LSP
	SP LoLIM		0		UNITS		PERCNT
	ACTION		REVRSE		CSP RATIO		1.0
	PCT/M UP	7	0		CSP BIAS		0
	PCT/M/ DN	30	0		LOOPBACK		DISABL
	OUTHiLIM		100				
	OUTLoLIM		0.0	ALARMS	A1S1 VAL	950	90
	I Hi LIM		100.0		A1S2 VAL		10
	I Lo LIM		0.0		A2S1 VAL	675	95
	DROPOFF		0		A2S2 VAL		5
	DEADBAND		1.0		A1S1 TYPE	PV	NONE
	OUT HYST		0.5		A1S2 TYPE		NONE
	FAILMODE		NO LAT		A2S1 TYPE	PV	NONE
	FAILSAFE		0.0		A2S2 TYPE		NONE
	MAN OUT		--		A1S1 HL		HIGH
	AUTO OUT		--		A1S1 EV		--
	PBorGAIN		GAIN		A1S2 HL		LOW
	MINorRPM		MIN		A1S2 EV		--
					A2S1 HL		HIGH
OPTIONS	AUXOUT		DISABL		A2S1 EV		--
	4mA VAL		0.0		A2S2 HL		LOW
	20mA VAL		0		A2S2 EV		--
	DIG IN 1		NONE		AL HYST	0.1	0.1
	DIG 1 COM		DISABL		ALM OUT1		NO LAT
	DIG IN 2		NONE		BLOCK		DISABL
	DIG2 COM		DISABL				
				DISPLAY	DECIMAL		XXXX
					TEMPUNIT	°F	NONE
					PWR FREQ		60 Hz
					RATIO 2		DISABL
					LANGUAGE		ENGLIS

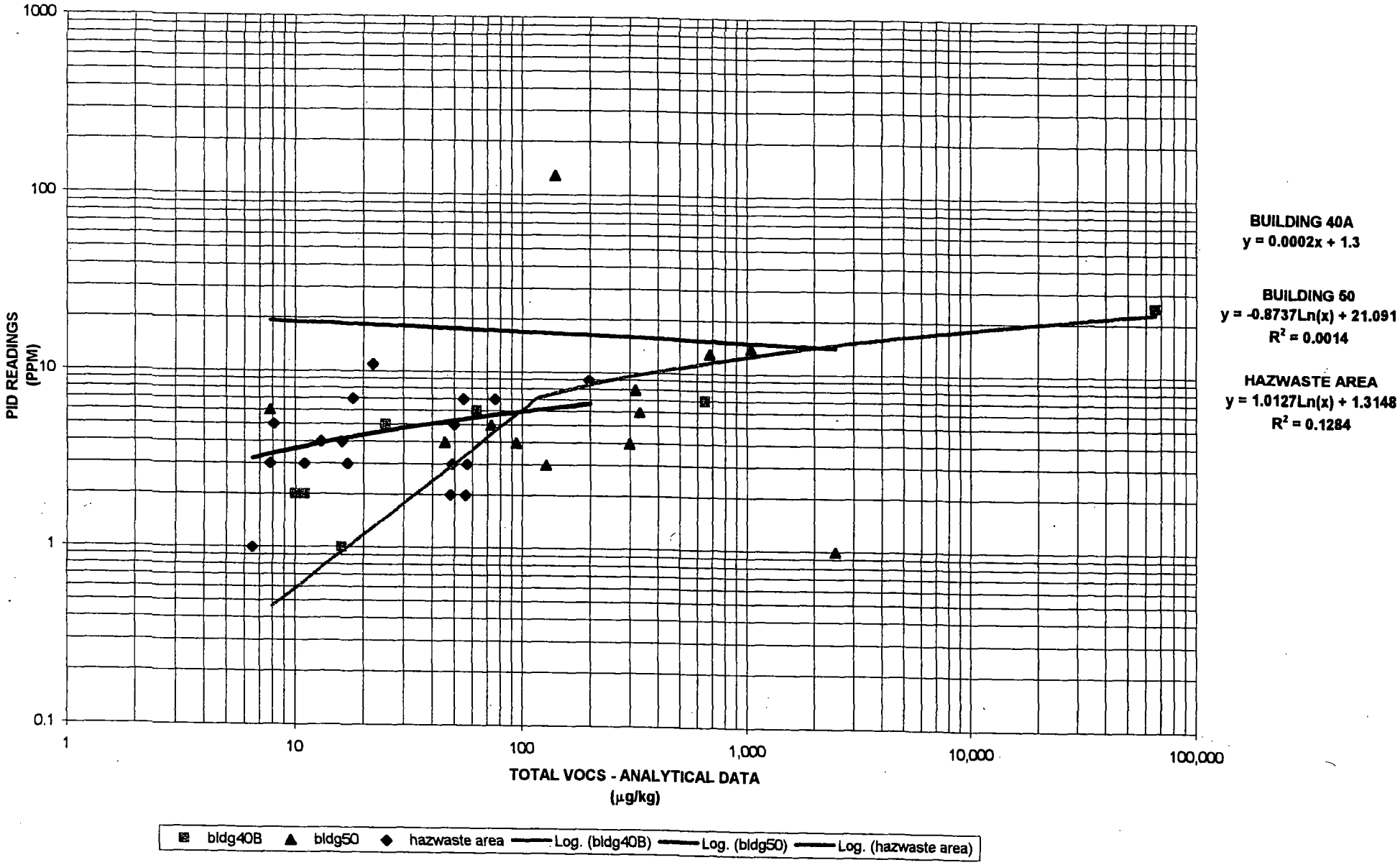
Electrical Checklist

- [x] Verify user Interface function keys.
- [x] User interface indicator lights correct.
- [x] ESTOP tested.
- [x] All alarms tripped and response verified.
- [x] Create multiple faults - verify first out response.
- [x] Controller record sheets completed.
- [x] Pictures Logged.
- [x] "As Built" or "Field Modified" schematics completed.
- [x] Schematics included in enclosure pocket.
- [x] Labels applied (UL, High Voltage, PLC Warning, CCC Standard)
- [x] Meters verified (hour meters and cycle counters).

FIGURE 12

DAYTON THERMAL PRODUCTS PLANT
DAYTON, OHIO

COMPARISON OF ANALYTICAL SOIL DATA TO PID READINGS
SOIL BORINGS TB-1 THROUGH TB-20



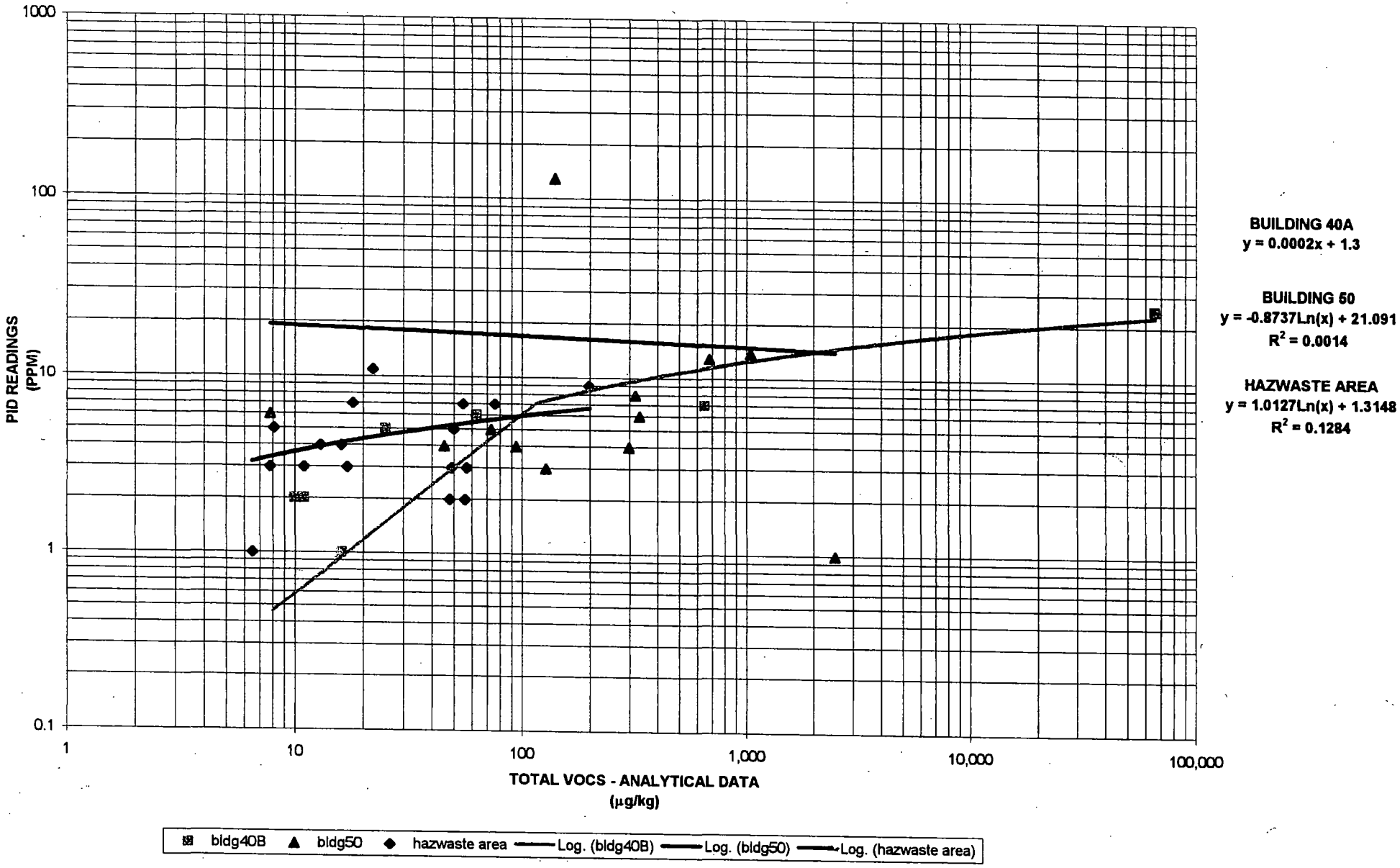
S:\TECH\3CHRY\DAYTON\ENGINEER\CALCULATEPID\compare
10/27/2000

LEGGETTE, BRASHEARS & GRAHAM, INC.

FIGURE 12

DAYTON THERMAL PRODUCTS PLANT
DAYTON, OHIO

COMPARISON OF ANALYTICAL SOIL DATA TO PID READINGS
SOIL BORINGS TB-1 THROUGH TB-20



S:\TECH\3CHRY\DAYTON\ENGINEER\CALCULATEPID.xls\compare
10/26/00

LEGGETTE, BRASHEARS & GRAHAM, INC.

DAIMLERCHRYSLER — Chain-of-Custody

1193 B

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17601
Phone Number: (717) 656-2300
Fax Number: (717) 656-2681

Project Name: Dayton Thermal Products
Site Location: Dayton, OH
Site Code: SC 001
RFA Number: See attached Sheets
DaimlerChrysler PM: Gary Stanczuk

Consultant: Leggette, Brashears & Graham, Inc.
Address: 1210 W. County Rd E
Saint Paul, MN 55112
Consultant PM: Ken Vogel
Phone: 651 490-1405 Fax: 651 490 1006

Turn-around Time Request: (circle)
24 calendar hrs.
48 calendar hrs.
7 calendar days
14 calendar days

Data Package Deliverables: (circle)
DaimlerChrysler Level 1
DaimlerChrysler Level 2
CLP

Matrix Codes
S - Soil
SW - Surface Water
GW - Groundwater
A - Air
Sed. - Sediment
O - Other (specify) _____

Are aqueous samples field filtered for metals? Yes No

Field Sample Identification	Date Collected	Time Collected	Grab (G) or Composite (C)	Matrix Code	Total # of Containers	VOCs/TO-14A/Summa/None								Remarks
SVE-EFF	Complete	Complete	G	A	1	X								Canister # fill-in

Sampler(s)
fill in name(s)

Cooler ID # N/A

Samples Relinquished under Airbill No. fill in the bill

Temperature (corrected) ___ C

Relinquished by:	Date:	Time:	Received by:	Date:	Time:	Custody Seal Intact?
Sampler's Signature	fill-in	fill in				Yes No
Relinquished by:	Date:	Time:	Received for Laboratory by:	Date:	Time:	Custody Seal Intact?
						Yes No

Is RFA sampling complete? Yes No

DaimlerChrysler Corporation 800 Chrysler Drive, CIMS 482-00-51, Auburn Hills, Michigan 48326-2757

Distribution: White copy: Data package Yellow: Retained by laboratory Pink: Retained by sampler

Revision No. 3
Created: July 9, 1999

nriztin

Request for Analysis

CURRENT STATUS

RFA Number:	**YGQP2000260**
Current Step:	Step 3A. Reconciliation
Action Due from:	Laboratory
Awaiting Action since:	12/15/2000 02:40 PM EST

This number will change for each sample collection LBG will fax down RFA.

PROJECT INFORMATION

Charge Unit:	SC001
Site Name & Event:	Dayton Thermal, SVE System Restart, December 2000
Site Address:	1600 Webster Street, P.O. Box 1205
City:	Dayton
State:	OH
Zip:	45401
Lead Regulatory Agency:	Ohio EPA
Project Type:	Remediation
Anticipated Start Date:	12/13/2000
Anticipated Completion Date:	12/13/2000

Comments:
This sampling events involves collecting one air sample, using a Summa Canister, during the restart of the SVE System at the site.

PROJECT MANAGEMENT CONTACTS

DaimlerChrysler Project Manager:	Gary Stanczuk
E-mail address:	gms9@DaimlerChrysler.com
Address:	CIMS 482-00-51, 800 Chrysler Drive
City:	Auburn Hills
State:	MI
Zip:	48326-2757
Project Manager Phone:	248-576-7365
Project Manager Pager:	
Project Manager FAX:	248-576-7369

Engineering Firm Proj Mgr:	Ken Vogel
E-mail address:	kvogel@lbgmn.com
Engineering Firm Name:	Leggette Brashears & Graham
Address:	1210 West County Rd. E, Ste 700
City:	St. Paul
State:	MN
Zip:	55112
Project Manager Phone:	(651) 490-1405, ext. 202
Project Manager Pager:	Cell: (612) 810-9980
Project Manager FAX:	(651) 490-1006

Laboratory Proj Mgr:	Gwen Birchall
E-mail address:	gabirchall@lancasterlabs.com
Laboratory Name:	Lancaster
Laboratory VCN:	79030
Address:	2425 New Holland Pike, PO Box 12425
City:	Lancaster
State:	PA
Zip:	17605-2425
Project Manager Phone:	717-656-2300
Project Manager Pager:	
Project Manager FAX:	717-656-6766

DATA DELIVERABLES & REQUIREMENTS

Deliverables Type: Level 1 - 14 days
Preservation: Prepreserved
Ship Bottles To:

Comfort Inn
Attn: Kristin Yahnke (hotel guest)
7125 Miller Lane
Dayton, OH 45414
(937) 890-9995
Summa Canister needs to arrive 12/12/00 so sampling can begin the next morning, 12/13/00 AM.

Ship Data To:

LBG- St. Paul, Ken Vogel

List special regulatory requirements or detection limits needed:

none

Special Instructions:

Summa Canister needs to arrive 12/12/00 so sampling can begin the next morning, 12/13/00 AM. Use Part Number 993650229 (CLP TAL Metals for billing of the air sample by TO-14/14-day TAT). A library search is also requested on this air sample.

PARAMETERS & ANALYTICAL METHODS REQUESTED

Save & Calculate

Analytical Parameter by Method (p/n) (TAT)	Aq Samp	Solid Samp	MS/MSD Sets	Trip Blnk	Fld Blnk	Fld Dup (s)	Fld Dup (aq)	Total	Recd Lab	Recd Eng
CLP TAL Metals by OLM03.2 (w/ revisions) (99-365-0229) (14 Days)	1	0	0	0	0	0	0	1	0	0
VOC TIC's by 5030B/5035/8260B (99-365-0074) (14 Days)	1	0	0	0	0	0	0	1	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0

Sub-Contractor Information

(lab use only)
Any analyses need to be subcontracted?
Has subcontracted lab been audited?
Subcontract Parameters?

Subcontracting Lab Name:
Contact Name:
Contact Phone #:

Address:
City:
State:
Zip:

SubContractor Approved By:
SubContractor Approved On:

Additional Requests and Instructions:

APPROVALS & VERIFICATION

Step 1. RFA Created by Engineering Firm

Date Created:	12/06/2000 03:13 PM
Project Manager:	Ken Vogel
Date Completed:	12/07/2000 08:06 AM
Step 1 Completed By:	David Strand
RFA Number:	**YGQP2000260**

Comments:
Created by NLN, 12/6/00.

Step 2. RFA Approved by DaimlerChrysler

Date In:	12/07/2000 08:06 AM
Project Manager:	Gary Stanczuk
Project Mgr. Approval:	Michael J Curry
Date Proj. Mgr. Approved:	12/15/2000 09:33 AM EST
Manager Approval:	Michael J Curry
Date Manager Approved:	12/15/2000 09:33 AM EST
Date Out:	12/15/2000 09:33 AM EST

Comments:

Step 3. RFA Accepted by Laboratory, Bottles Shipped

Date In:	12/15/2000 09:33 AM EST
Project Manager:	Gwen Birchall
Date Out:	12/15/2000 02:40 PM EST
Step 3 Completed By:	Gwen Birchall

Comments:
SUMMA shipped for 12/12/00 delivery by Kathy K.

☞ **Step 3A. Chain of Custody Reconciliation**

Date In:	12/15/2000 02:40 PM EST
Project Manager:	Gwen Birchall
Date Out:	
Step 3A Completed By:	

Comments:
Samples received on 12/14/00.

Step 4. Release Issued by DaimlerChrysler

Date In:
Project Manager:
Release Detail Created On:
Level 2 Approval Required?: *<== Click here to determine if level 2 approval is required. (must be ran on server)*
PM Approval:
Date PM Approved:
Level 1 Approval:
Date Level 1 Approved:
Level 2 Approval:
Date Level 2 Approved:

Comments:

Step 5. Results Issued by Laboratory
Date In:
Project Manager:
Date Out:
Step 5 Completed By:
RFA Evaluated On:
Comments:

Step 6. Results Verified by Engineering Firm
Date In:
Project Manager:
Date Out:
Step 6 Verified By:
Comments:

Step 7. Invoice Created by Laboratory
Date In:
Project Manager:
Date Out:
Step 7 Completed By:
Lab Invoice Number:
Lab Invoice Date:
Comments:

Step 8. Invoice Approved by DaimlerChrysler
Date In:
Project Manager:
Director Approval Required? No
Date Out:
Project Mgr. Approval By:
Project Mgr. Approved On:
Manager Approval By:
Manager Approved On:
Director Approval By:
Director Approved On:
Comments:

Step 9. Set Up for Payment by DaimlerChrysler
Date In:
DaimlerChrysler PM:
Date Out:
Step 9 Authorized By:
Comments:

Step 10. RFA Closed by DaimlerChrysler
Date In:
Project Manager:
Date Out:
Step 10 Completed By:

DOCUMENT HISTORY

Document History:

Step 3. RFA Acceptance, step completed by Gwen Birchall (12/15/2000 02:40 PM)
Step 2. RFA Approval, step completed by Michael J Curry (12/15/2000 09:33 AM)
Step 1. RFA Creation, step completed by David Strand (12/07/2000 08:06 AM)
Document Composed by David Strand (12/06/2000 03:13 PM)

Comment Hisory:

Step 3. RFA Acceptance:
Step 2. RFA Approval:
Step 1. RFA Creation: Created by NLN, 12/6/00.

DOCUMENT INFORMATION

Date Created: 12/06/2000 03:13 PM **Created By:** David Strand	**Last Edited:** 01/04/2001 01:57:56 PM **Edited By:** Gwen Birchall

Vision Environmental, Inc.
8585 PGA Drive, Suite 101, Walled Lake, MI 48390, Phone (248)926-1199, Fax (248)926-5586

DATE: 28-Apr-98 NUMBER OF PAGES: 10 (Including Cover Sheet)

TO: Chuck Moeser

COMPANY: Chrysler SE&E

FAX NO.: (248) 576-7928 PHONE NO.:

FROM: Tony Percha

MESSAGE: Chuck:

See page #7, Subpart (nn) of the attached regarding Permit to Install exemptions for on-site remediation projects in Ohio.

Regards,

Tony

PLEASE NOTE: The information contained in this facsimile message is intended only for the personal and confidential use of the designated recipient(s) named above. If you have received this communication in error, please notify us by telephone at (248) 926-1199, followed by return of the original message to the address specified above.

3745-31-03 Permit to install exemptions.

(A) A permit to install as required by rule 3745-31-02 of the Administrative Code must be obtained for the installation or modification of A NEW AIR CONTAMINANT SOURCE UNLESS EXEMPTED FROM THE REQUIREMENTS:

(1) ~~A new air contaminant source other than:~~ PERMANENT EXEMPTIONS

(a) ~~Fuel fired boilers, furnaces, preheaters or water heaters less than one million British thermal units per hour except units burning hazardous waste fuels or waste oil~~ FOSSIL FUEL-FIRED BOILERS, PREHEATERS, AIR HEATERS, WATER HEATERS, OR HEATERS USED FOR OTHER HEAT EXCHANGE MEDIA LESS THAN TEN MILLION BRITISH THERMAL UNITS PER HOUR BURNING ONLY NATURAL GAS, DISTILLATE OIL (WITH LESS THAN OR EQUAL TO 0.5 PER CENT BY WEIGHT SULFUR), OR LIQUID PETROLEUM GAS.

(b) FOSSIL OR WOOD FUEL-FIRED BOILERS, PREHEATERS, AIR HEATERS, OR WATER HEATERS LESS THAN ONE MILLION BRITISH THERMAL UNITS PER HOUR EXCEPT UNITS BURNING WASTE FUELS OR WASTE OIL.

(c) FOSSIL FUEL-FIRED FURNACES OR DRYERS LESS THAN TEN MILLION BRITISH THERMAL UNITS PER HOUR AND BURNING ONLY NATURAL GAS, DISTILLATE OIL (WITH LESS THAN OR EQUAL TO 0.5 PER CENT BY WEIGHT SULFUR), OR LIQUID PETROLEUM GAS AND THE ONLY EMISSIONS ARE FROM THE PRODUCTS OF COMBUSTION FROM FUEL AND WATER VAPORS AND WHERE NO MELTING OR REFINING OCCURS NOR WHERE ANY BURNING OF ANY MATERIAL OCCURS.

~~(b)~~ (d) Tumblers used for the cleaning or deburring of metal products without abrasive blasting.

~~(c)~~ (e) Equipment used exclusively for the packaging of lubricants or greases, AND WATER-BORNE ADHESIVES, COATINGS OR BINDERS.

~~(d)~~ (f) Equipment used exclusively for the mixing and blending of materials at ambient temperature to make ~~water based~~ WATER-BORNE adhesives, COATINGS OR BINDERS.

(g) BAKERY OVENS THAT BAKE:

(i) CHEMICALLY LEAVENED PRODUCTS; OR

(ii) YEAST DOUGH PRODUCTS AND THAT ARE NOT LOCATED AT A COMMERCIAL BAKERY; OR

(iii) BISCUITS, CRACKERS, COOKIES AND OTHER SIMILAR NONLEAVENED PRODUCTS; OR

(iv) YEAST DOUGH, BREAD, BUNS AND ROLLS AT A BAKERY HAVING A TOTAL MAXIMUM YEAST DOUGH, BREAD, BUNS AND ROLLS PRODUCTION RATE OF LESS THAN OR EQUAL TO ONE THOUSAND POUNDS PER HOUR.

~~(e)~~ (h) ~~Bakery ovens, mixers~~ MIXERS and blenders and deep fat fryers (except deep fat fryers used to produce potato chips) where the products are edible and intended for human consumption.

~~(f)~~ (i) Laboratory equipment AND LABORATORY FUME HOODS exclusively for chemical or physical analyses and bench scale laboratory equipment.

~~(g)~~ (j) Photographic process equipment by which an image reproduced upon material sensitized to radiant energy.

~~(h)~~ (k) Equipment used for compression and injection molding of plastics (with the exception where the equipment requires an outside source of heat that either liquifies the plastic or causes sublimation of previous solid plastic material or the equipment requires the use of organic compounds as mold release agents).

~~(i) Storage tanks for water, aqueous solutions, and inorganic liquids (at standard temperature and pressure) except concentrated acids stored in tanks of greater than seven thousand five hundred gallons.~~

(l) STORAGE TANKS FOR:

(i) INORGANIC LIQUIDS INCLUDING WATER (AT STANDARD TEMPERATURE AND PRESSURE) EXCEPT AS DESCRIBED IN PARAGRAPH (V) OF THIS SECTION;

(ii) PRESSURIZED STORAGE FOR INORGANIC

COMPOUNDS OR PROPANE, BUTANE, ISOBUTANE, AND LIQUID PETROLEUM GASES;

(iii) LIQUIDS WITH A CAPACITY OF LESS THAN SEVEN HUNDRED GALLONS;

(iv) LIQUIDS WITH A CAPACITY OF LESS THAN OR EQUAL TO TEN THOUSAND GALLONS EQUIPPED WITH SUBMERGED FILL AND WHICH STORE ORGANIC LIQUIDS OR MIXTURES CONTAINING ORGANIC LIQUIDS (EXCLUDING PESTICIDES) WITH EACH ORGANIC LIQUID COMPONENT'S VAPOR PRESSURE OF LESS THAN OR EQUAL TO 1.5 POUNDS PER SQUARE INCH ABSOLUTE AT SEVENTY DEGREES FAHRENHEIT;

(v) ACIDS (AS DEFINED IN THE MOST RECENT EDITION OF THE CHEMICAL RUBBER COMPANY (CRC) HANDBOOK OF CHEMISTRY AND PHYSICS) STORED IN TANKS LESS THAN OR EQUAL TO SEVEN THOUSAND FIVE HUNDRED GALLONS CAPACITY.

~~(j)~~ (m) Presses used for the curing of plastic products (with the exception of presses where external heat is introduced which either liquifies or causes sublimation of ~~previous~~ PREVIOUSLY solid plastic material).

~~(k)~~ (n) Presses used exclusively for extruding clay.

~~(l)~~ (o) Storage tanks, storage silos, and other farm equipment located on a farm and utilized exclusively for the production of food or grain on the premises.

~~(m) Temporary source which, as so ordered by the director at his discretion, is to be operated for the purpose of testing air contaminant pollution emissions so that a suitable control technology can be ascertained.~~

~~(n)~~ (p) The relocation of any portable ~~or mobile facility~~ SOURCE in the state of Ohio which meets EITHER OF the following criteria:

(i) THE COMPANY HAD DEMONSTRATED THE FOLLOWING:

~~(i)~~ (a) The source is equipped with the

best available control technology for such source; and

~~(ii)~~ (b) The source is operating pursuant to a currently effective permit to operate; and

~~(iii)~~ (c) The applicant has provided proper notice of intent to relocate the source to the director within a minimum of thirty days prior to the scheduled relocation; and

~~(iv)~~ (d) In the director's judgment, the proposed site is acceptable under rule 3745-15-07 of the Administrative Code.

(ii) THE DIRECTOR HAS ISSUED A SITE APPROVAL FOR THE NEW LOCATION PURSUANT TO RULE 3745-31-05 OF THE ADMINISTRATIVE CODE.

~~(o)~~ (q) A drycleaning facility constructed between January 1, 1974 and December 31, 1981 in which the annual amounts of fabric drycleaned with perchloroethylene is less than sixty thousand pounds and is not located in Butler, Clermont, Cuyahoga, Franklin, Greene, Hamilton, Lake, Lorain, Lucas, Mahoning, Medina, Montgomery, Portage, Stark, Summit, Trumbull, Warren and Wood counties.

~~(p)~~ (r) Noncontinuous solvent recycling OR RECLAIMING units with less than twenty gallons capacity.

~~(q)~~ (s) Nonheat-set or sheet-fed presses with ~~maxium~~ AN ORGANIC COMPOUND potential TO EMIT ~~organic compounds emissions~~ of less than three tons per year.

~~(r)~~ (t) An incinerator designed and used to dispose of residential wastes and having a capacity for serving no more than five households.

~~(s)~~ (u) Equipment used for spraying or applying insecticides, pesticides and herbicides except at facilities producing these substances or mixtures for sale or distribution.

~~(t) Storage of organic or inorganic materials in tanks of less than five hundred gallons capacity.~~

~~(u)~~ (v) Combustors used exclusively for the purpose of research and development of more efficient combustion of coal or more effective prevention of air pollutant emissions from coal combustion, less than ten million British thermal units per hour and an annual average capacity factor of not more than twenty per cent.

(w) SOLVENT COLD CLEANERS THAT MEET THE PROVISIONS OF PARAGRAPH (O) OF RULE 3745-21-09 OF THE ADMINISTRATIVE CODE AND HAVE A LIQUID SURFACE AREA LESS THAN OR EQUAL TO TEN SQUARE FEET OR A RESERVOIR OPENING OF LESS THAN SIX INCHES IN DIAMETER.

(x) INK-JET PRINTERS.

(y) GRINDING AND MACHINING OPERATIONS, ABRASIVE BLASTING, PNEUMATIC CONVEYING, AND WOOD WORKING OPERATIONS CONTROLLED WITH A FABRIC FILTER, SCRUBBER OR MIST COLLECTOR DESIGNED TO EMIT NO MORE THAN 0.03 GRAINS PER DRY STANDARD CUBIC FOOT OF EXHAUST GAS WITH LESS THAN FOUR THOUSAND ACFM VOLUME AND VENTING INSIDE A BUILDING.

(z) GRINDING, MACHINING, AND SANDING OPERATIONS, ABRASIVE CLEANING OPERATIONS (DRY OR WET), PNEUMATIC CONVEYING AND WOODWORKING OPERATIONS THAT HAVE NO VISIBLE EMISSIONS AND VENT TO THE INSIDE OF A BUILDING.

(aa) PARTS WASHERS AND RINSE TANKS USING DETERGENT CLEANERS.

(bb) ALUMINUM DIE-CASTING MACHINES.

(cc) AIR CONTAMINANT SOURCES AT NONPRODUCTION RESEARCH AND DEVELOPMENT OPERATIONS WITH A POTENTIAL TO EMIT FROM ANY SOURCE OF LESS THAN ONE TON PER YEAR OF ANY CRITERIA POLLUTANT PER SOURCE.

(dd) VEGETABLE OIL STORAGE TANKS AND PUMPS AND VALVES USED IN VEGETABLE OIL PROCESSING OPERATIONS.

(ee) GASOLINE DISPENSING FACILITIES, AS DEFINED IN PARAGRAPH (H) OF RULE 3745-21-01 OF THE ADMINISTRATIVE CODE, OR OTHER MOTOR FUEL DISPENSING FACILITIES THAT ARE EQUIPPED WITH STAGE I VAPOR CONTROL AND ARE NOT LOCATED IN ASHTABULA, BUTLER, CLARK, CLERMONT, CLINTON, COLUMBIANA, CUYAHOGA, DELAWARE, FRANKLIN, GEAUGA, GREENE, HAMILTON, JEFFERSON, LAKE, LICKING, LORAIN, LUCAS, MAHONING, MEDINA, MIAMI, MONTGOMERY, PORTAGE, PREBLE, STARK, SUMMIT, TRUMBULL, WARREN, WASHINGTON, OR WOOD COUNTIES.

(ff) GASOLINE DISPENSING FACILITIES, AS DEFINED IN PARAGRAPH (H) OF RULE 3745-21-01 OF THE ADMINISTRATIVE CODE, OR OTHER MOTOR FUEL DISPENSING FACILITIES THAT HAVE AN INDIVIDUAL MAXIMUM ANNUAL THROUGHPUT OF LESS THAN SIX THOUSAND GALLONS PER YEAR.

(gg) AIR SEPARATION PLANTS.

(hh) ALL MAINTENANCE WELDING.

(ii) ARC WELDING WHERE EMISSIONS OF PARTICULATE MATTER ARE VENTED TO A CONTROL DEVICE LOCATED AND VENTED INSIDE THE BUILDING.

(jj) PASSIVE METHANE VENTING SYSTEMS FROM NON-HAZARDOUS WASTE LANDFILLS.

(kk) COATING APPLICATORS WITH PROPERLY DESIGNED AND OPERATED PARTICULATE CONTROL DEVICES AND VENTING SYSTEMS THAT EMPLOY LESS THAN FIVE GALLONS OF ONLY AIR-DRIED COATING MATERIAL IN ANY ONE DAY PROVIDED THAT THE APPLICATORS ARE:

(i) NOT LOCATED IN A NONATTAINMENT AREA FOR OZONE,

(ii) NOT SUBJECT TO LIMITS SPECIFIED IN OR SPECIFICALLY EXEMPTED FROM RULE 3745-21-09 OF THE ADMINISTRATIVE CODE,

(iii) NOT SUBJECT TO FEDERAL STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES; AND

(iv) NOT LOCATED AT A FACILITY WITH ACTUAL

EMISSIONS OF TWENTY-FIVE OR MORE TONS OF VOLATILE ORGANIC MATERIALS PER YEAR AND ARE NOT SUBJECT TO A STANDARD UNDER TITLE III OF THE CLEAN AIR ACT.

(ll) REFRIGERANT RECLAIMING AND RECYCLING MACHINES LOCATED AT MOTOR VEHICLE REPAIR FACILITIES.

(mm) NOTWITHSTANDING THE ABOVE EXEMPTIONS, ANY SOURCE REGULATED UNDER THE NATIONAL EMISSION STANDARDS FOR HAZARDOUS POLLUTANTS AND/OR THE NEW SOURCE PERFORMANCE STANDARDS SHALL APPLY FOR AND OBTAIN A PERMIT TO INSTALL PRIOR TO CONSTRUCTION OF THE NEW SOURCE.

Joe →

(nn) CLEANUP ACTIVITIES ASSOCIATED WITH THE REMOVAL OR REMEDIAL ACTION CONDUCTED ENTIRELY ON SITE, WHERE SUCH REMEDIAL ACTION IS SELECTED AND CARRIED OUT IN COMPLIANCE WITH THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) SECTION 121 (E) AND WHERE SUCH ACTION MEETS ALL APPLICABLE AIR POLLUTION EMISSION LIMITS AND POLICIES.

(2) DISCRETIONARY EXEMPTIONS

~~(2)~~ (a) The director may, at his discretion, exempt the installation of an air contaminant source or any other source associated with the clean-up of a spill or a leaking underground storage tank from the requirements to obtain a permit to install.

~~(3)~~ (b) The director may, at his discretion, exempt the installation of an air contaminant source from the requirements to obtain a permit to install to deal with an emergency situation involving immediate threats to human health, property or the environment.

~~(4)~~ (c) The director may, at his discretion, exempt the installation of an air contaminant source from the requirements to obtain a permit to install for the emergency replacement of storage tanks associated with a leaking underground storage tank for a period not to exceed six months.

~~(5)~~ (d) The director may, at his discretion and in

writing, exempt the installation or modification of an air contaminant source from the requirements to obtain a permit to install for a period of up to six months for purposes of research and development of more effective prevention or control of air pollutant emissions or of more efficient combustion of coal.

(e) A TEMPORARY SOURCE WHICH, AS SO ORDERED BY THE DIRECTOR AT HIS DISCRETION, IS TO BE OPERATED FOR THE PURPOSE OF TESTING AIR CONTAMINANT POLLUTION EMISSIONS SO THAT A SUITABLE CONTROL TECHNOLOGY CAN BE ASCERTAINED AND WILL NOT OPERATE FOR MORE THAN TWO CALENDAR YEARS.

(f) THE DIRECTOR MAY, AT HIS DISCRETION AND IN WRITING, EXEMPT THE TEMPORARY MODIFICATION OF AN AIR CONTAMINANT SOURCE FROM THE REQUIREMENTS TO OBTAIN A PERMIT TO INSTALL FOR A PERIOD OF UP TO SIXTY DAYS FOR THE PURPOSE OF EVALUATING NEW PRODUCTION FEASIBILITY AND/OR AIR QUALITY IMPACTS FROM THE TEMPORARY MODIFICATION. SUCH REQUESTS FOR THIS EXEMPTION SHALL BE MADE IN WRITING AND SHALL PROVIDE A DETAILED DESCRIPTION OF THE PROPOSED TEMPORARY MODIFICATION TO THE SOURCE, THE TIME PERIOD OVER WHICH THE MODIFICATION WILL OCCUR, ANY CHANGES IN AIR EMISSIONS FROM THE SOURCE AS A RESULT OF THE TEMPORARY MODIFICATION, AND THE AMBIENT IMPACT OF THE EMISSIONS FROM THE SOURCE AS A RESULT OF THE TEMPORARY MODIFICATION. THE DIRECTOR MAY REQUIRE THAT PERFORMANCE TESTS BE CONDUCTED DURING THE PERIOD OF THE TEMPORARY MODIFICATION.

(g) THE DIRECTOR MAY, AT HIS DISCRETION AND IN WRITING, EXEMPT ANY TREATABILITY STUDIES OR ON-SITE RESPONSE ACTIONS (CLEANUP OPERATIONS) THAT MEET ALL APPLICABLE AIR EMISSION LIMITS AND POLICIES FROM THE REQUIREMENT TO OBTAIN A PERMIT TO INSTALL. ANYONE REQUESTING THIS EXEMPTION MUST PROVIDE THE DIRECTOR WITH SUFFICIENT INFORMATION TO MAKE THIS DECISION.

(B) No permit to install or plan approval, whichever is applicable, is required for the modification of a disposal system if:

(1) After modification, the disposal system will be a type that could have been installed without a permit to install or a plan approval; or

(2) The result of the modification on environmental quality is so slight that the director has, by rule, exempted the modification from the requirements of rule 3745-31-02 of the Administrative Code.

(C) This rule shall not exempt any person from compliance with any other applicable law.

Replaces: _____

Effective: _____

Certification: _____
Donald R. Schregardus, Director
Ohio Environmental Protection Agency

_____
Date

Promulgated under: R.C. Chapter 119
Rule amplifies: R.C. 3704.03, 3734.02, 3745.05, 6111.03
Prior effective date: 1/1/74, 8/15/82. 9/18/87, 8/14/89

EPA Region 5 Records Ctr.
349888

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- ☑ **Documents Placed in Proper Order**
- ☑ **Final Spot Check Before Packaging**
- ☑ **Job is Packaged Properly**

This section was completed by: Amy

Q.C. Specialist BO

Job Number 612

Box Number 3

Section(s) 1 (1-1027)

Seasons Greetings

Notice to Clients

Lancaster Laboratories will be closed* on the following dates:

Thursday, December 25, 2003

Thursday, January 1, 2004

* If necessary, special sample deliveries may be scheduled through your Client Services Representative.

The staff of Lancaster Laboratories wishes you a Happy Holiday Season.

2804.04

Water Well Log and Drilling Report
Ohio Department of Natural Resources
Division of Water
Phone: 614-265-6740
email: cleve.brown@dnr.state.oh.us
Water Home: http://www.dnr.state.oh.us/water

WELL LOG AND DRILLING REPORT

Well Log Number: 824642

Conduct Another Search

ORIGINAL OWNER AND LOCATION

Original Owner Name: *PERMA-FIX* **Lot Number:**
County: *MONTGOMERY* **Township:** *DAYTON* **Section Number:**
Address: *LEO STREET*
City: **State:** *OH* **Zip Code:**
Location Number: **Location Map Year:** **Location Area:**
Latitude: **Longitude:**

CONSTRUCTION DETAILS

Borehole Diameter: **Total Depth:** *65 ft.* **Depth to Bedrock:**
Casing Diameter: *2 in.* **Casing Thickness:** **Casing Length:** *25 ft.*
Well Use: *MONITOR* **Screen Length:** **Date of Completion:** *10/5/95*
Aquifer Type: *SAND AND GRAVEL* **Driller's Name:** *BOWSER-MORNER,DAYTON*

WELL TEST DETAILS

Static Water Level: **Test Rate:**
Drawdown: **Test Duration:**

Associated Reports
LOCATION MAP

COMMENTS:

WELL LOG

Formations	From	To
GRY SAND & GRAVEL	0	1
BRN SILTY CLAY	1	8
GRY SAND & GRAVEL	8	65

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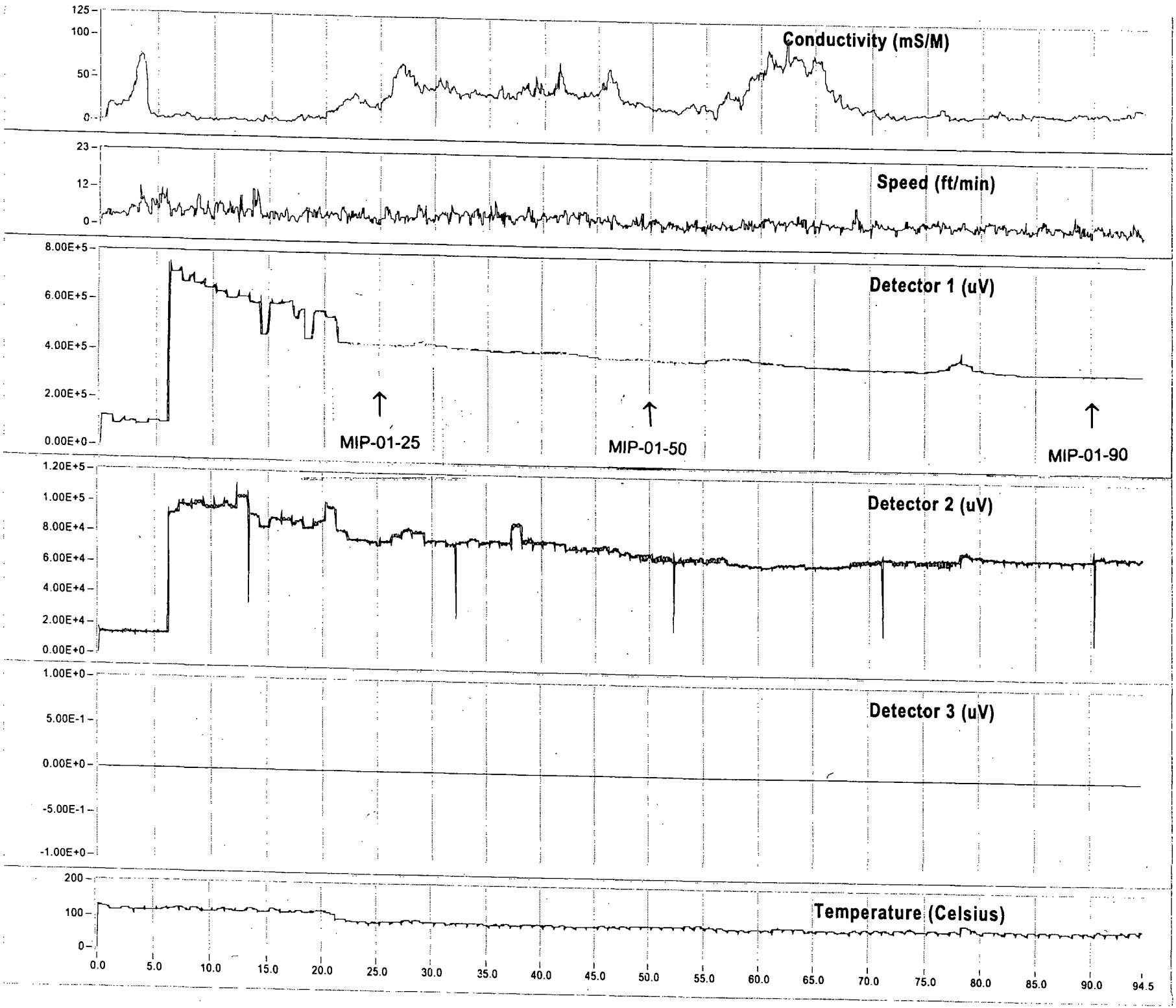

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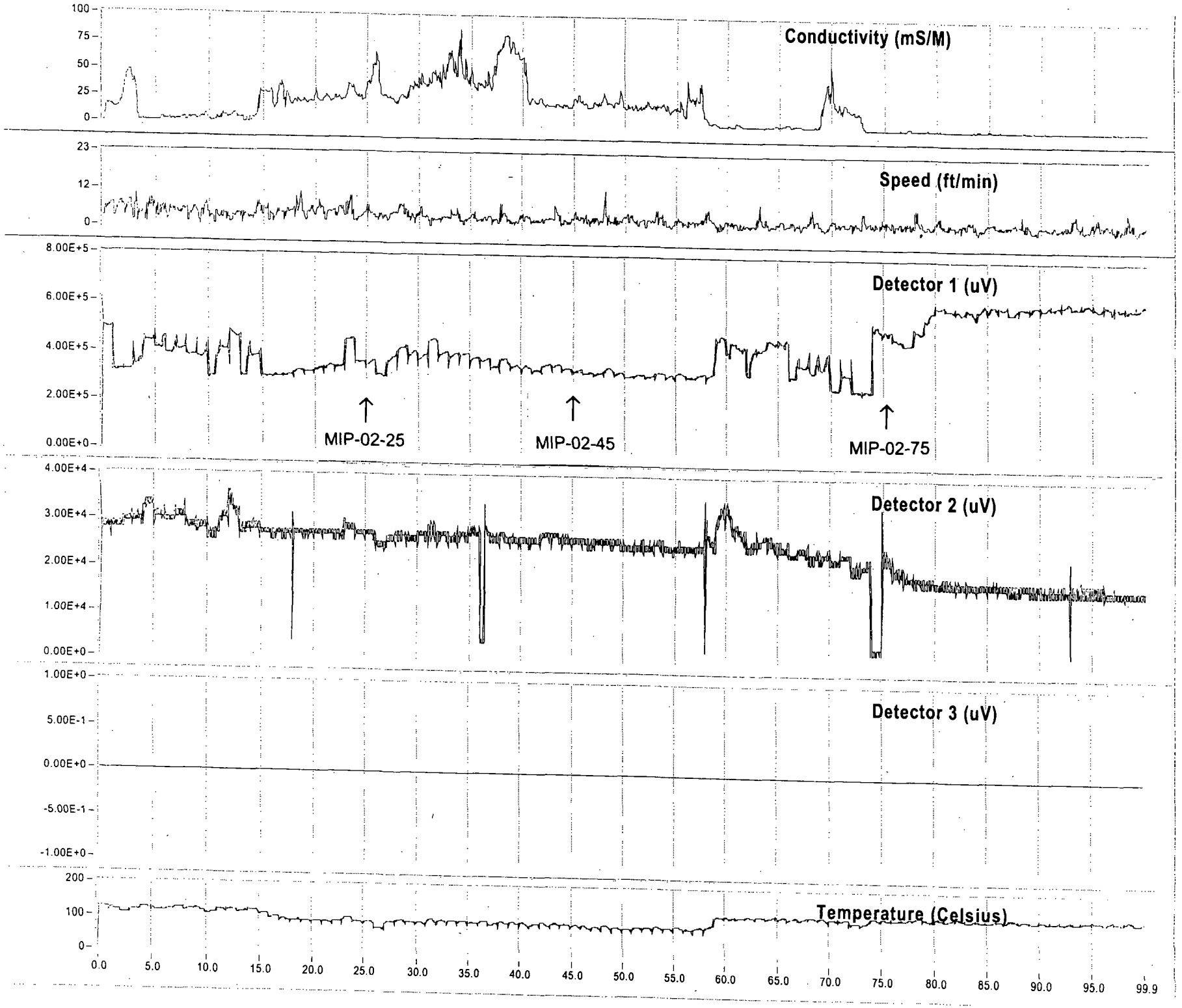

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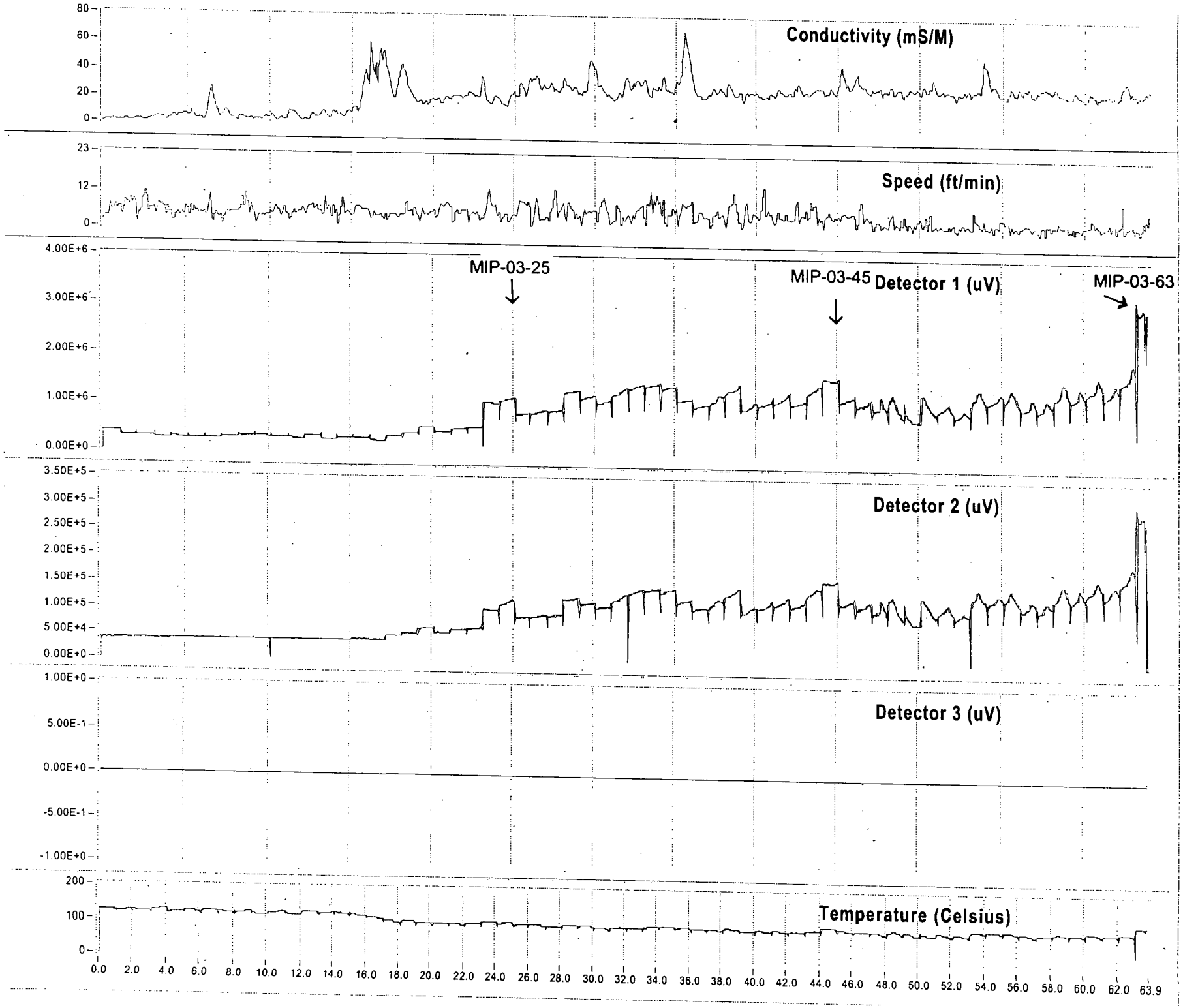

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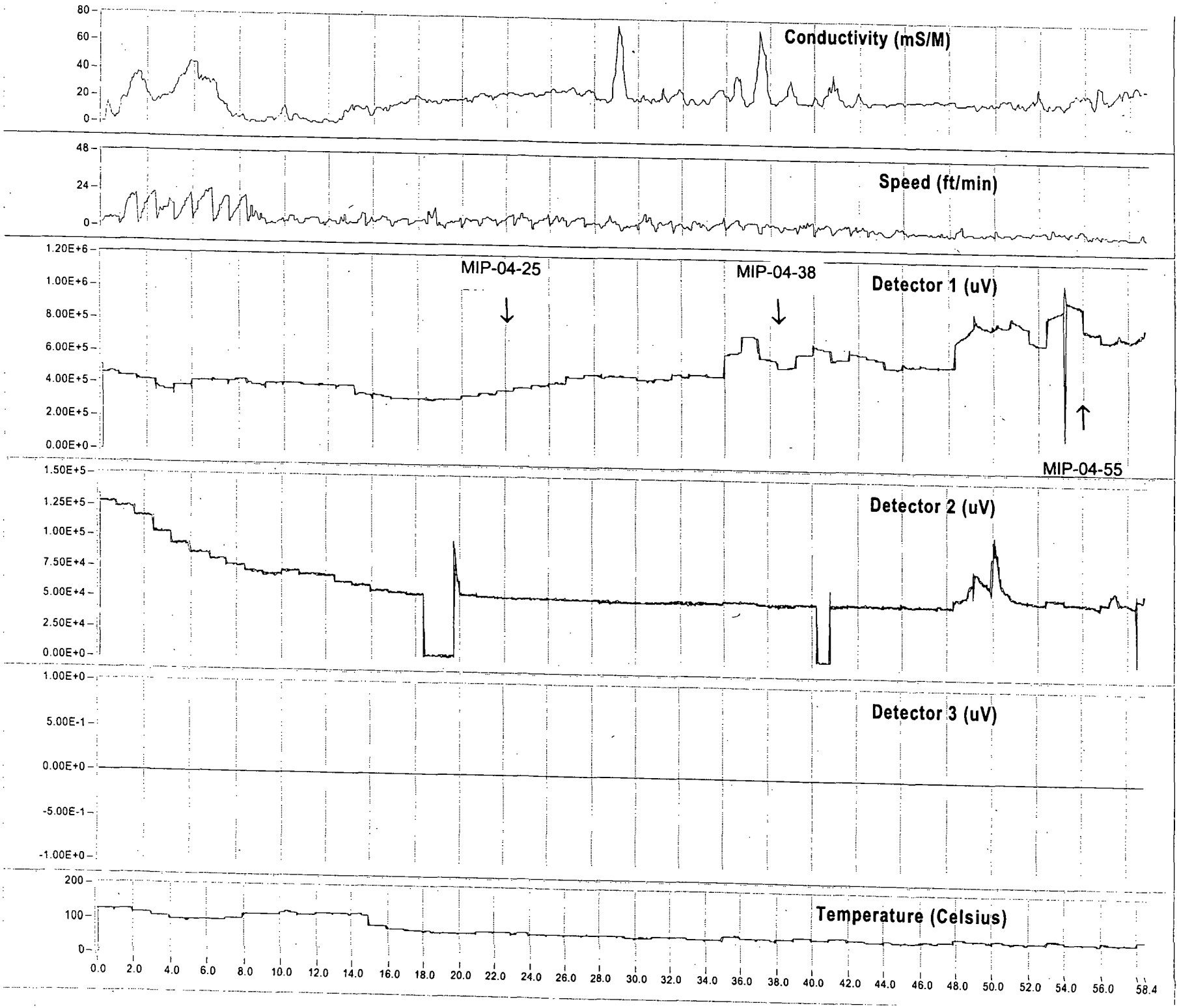

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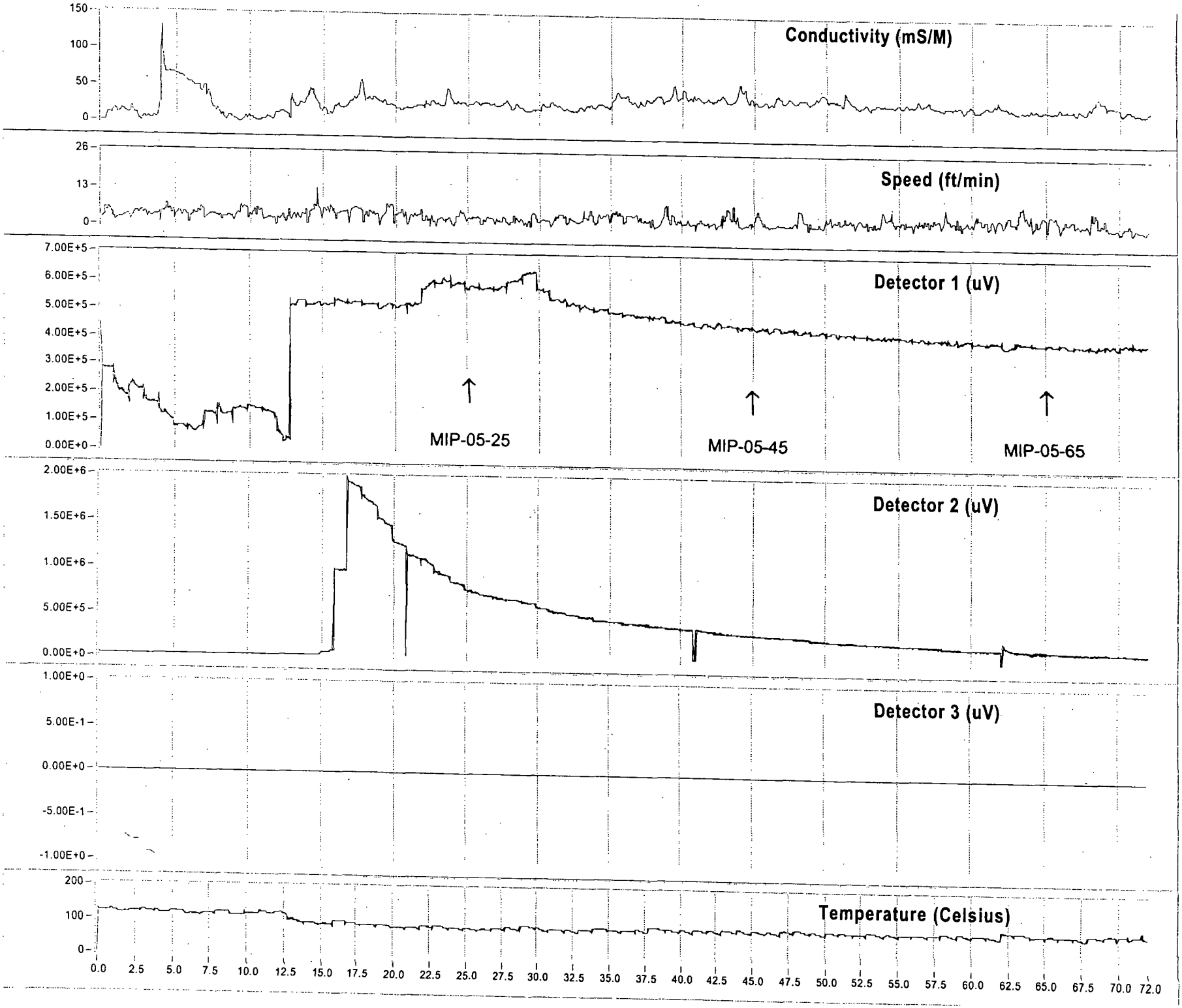

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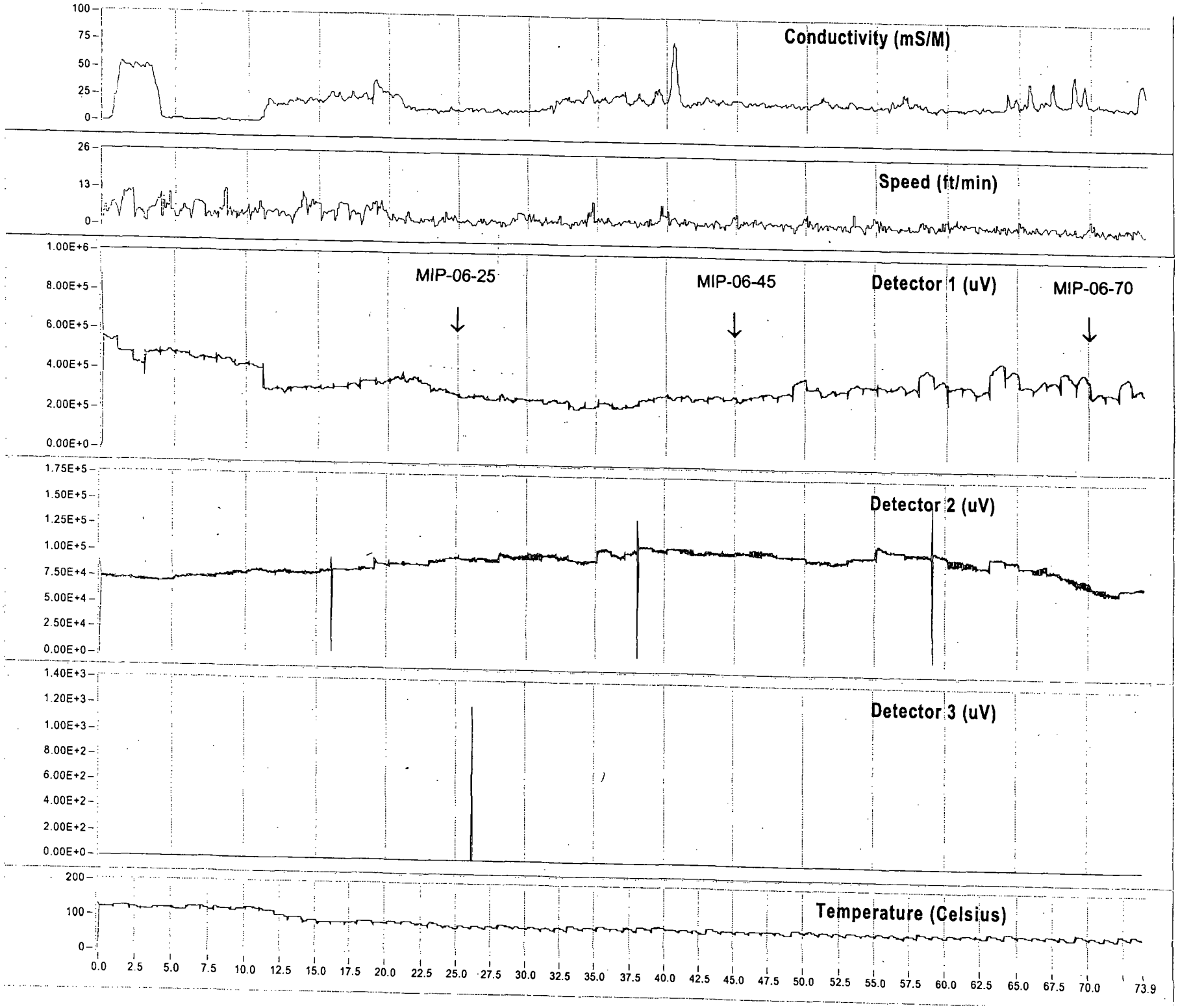

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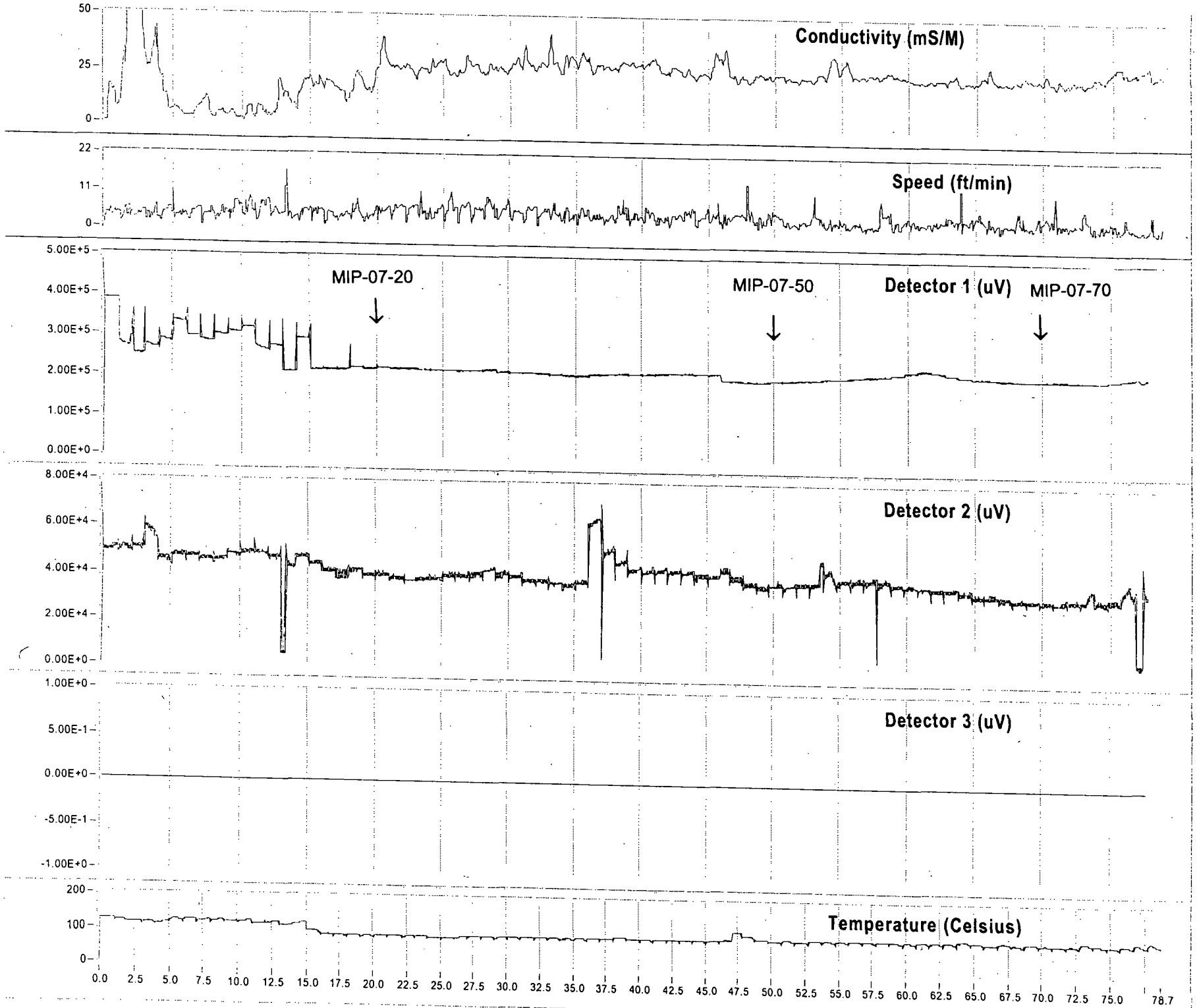

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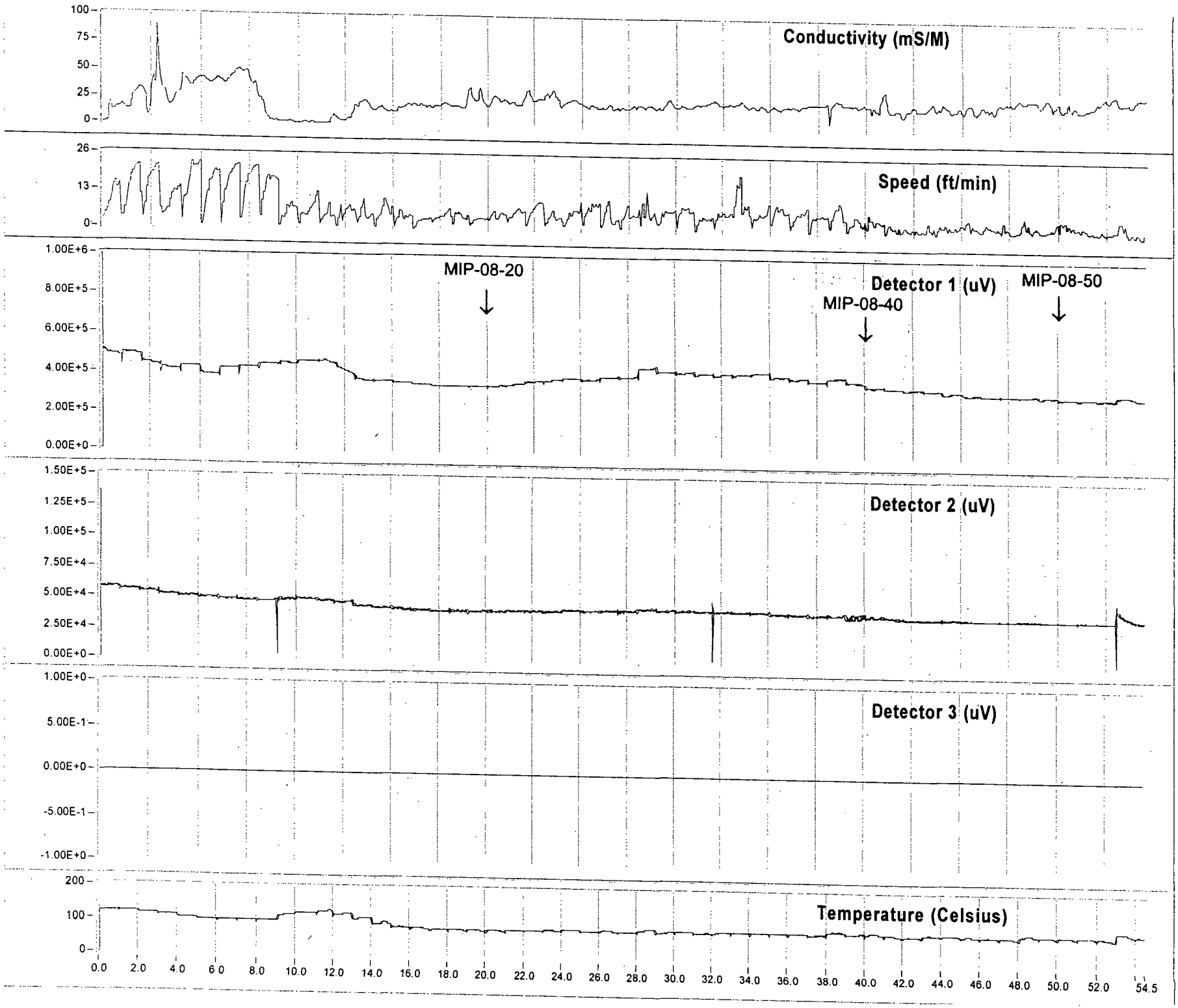

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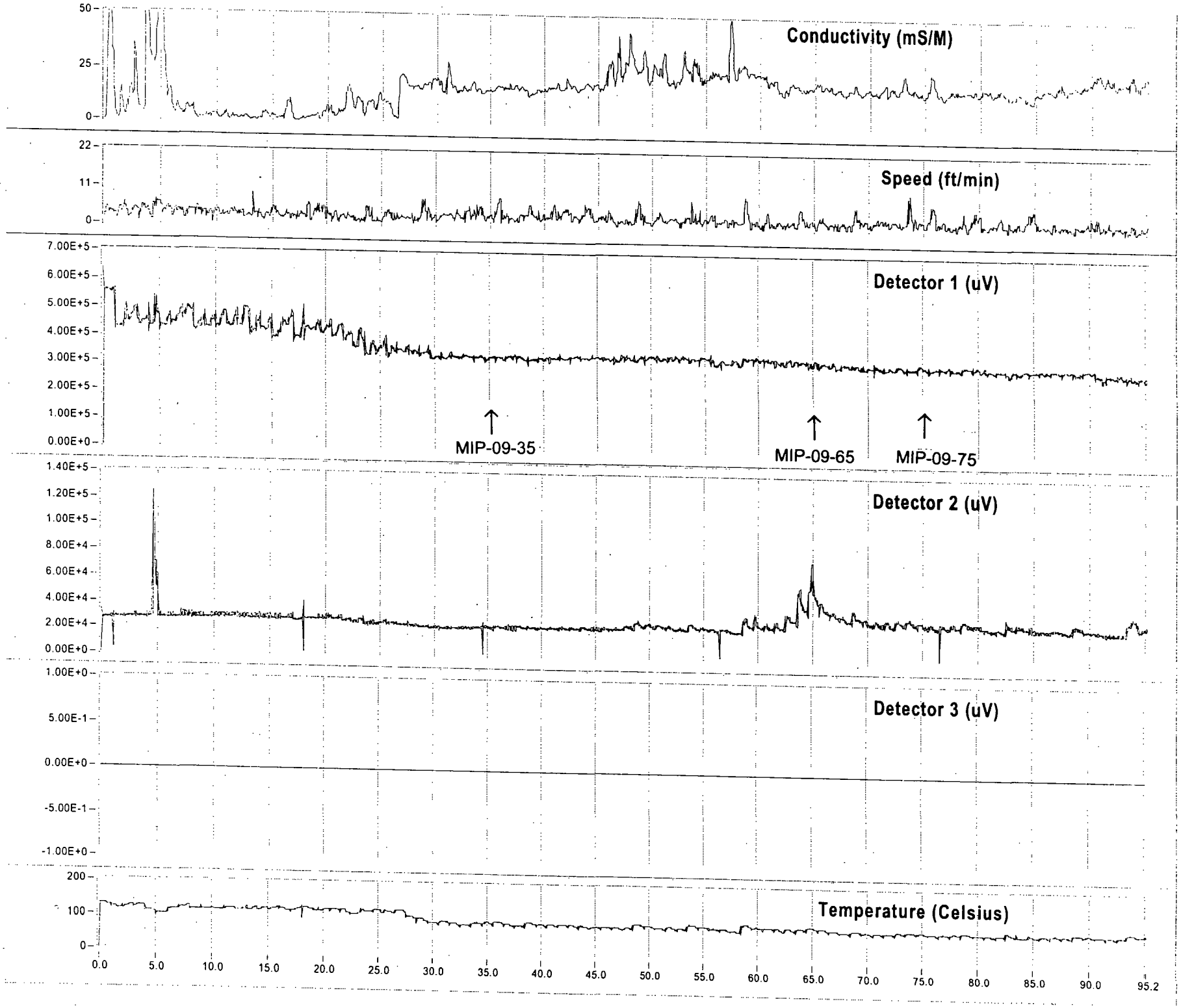

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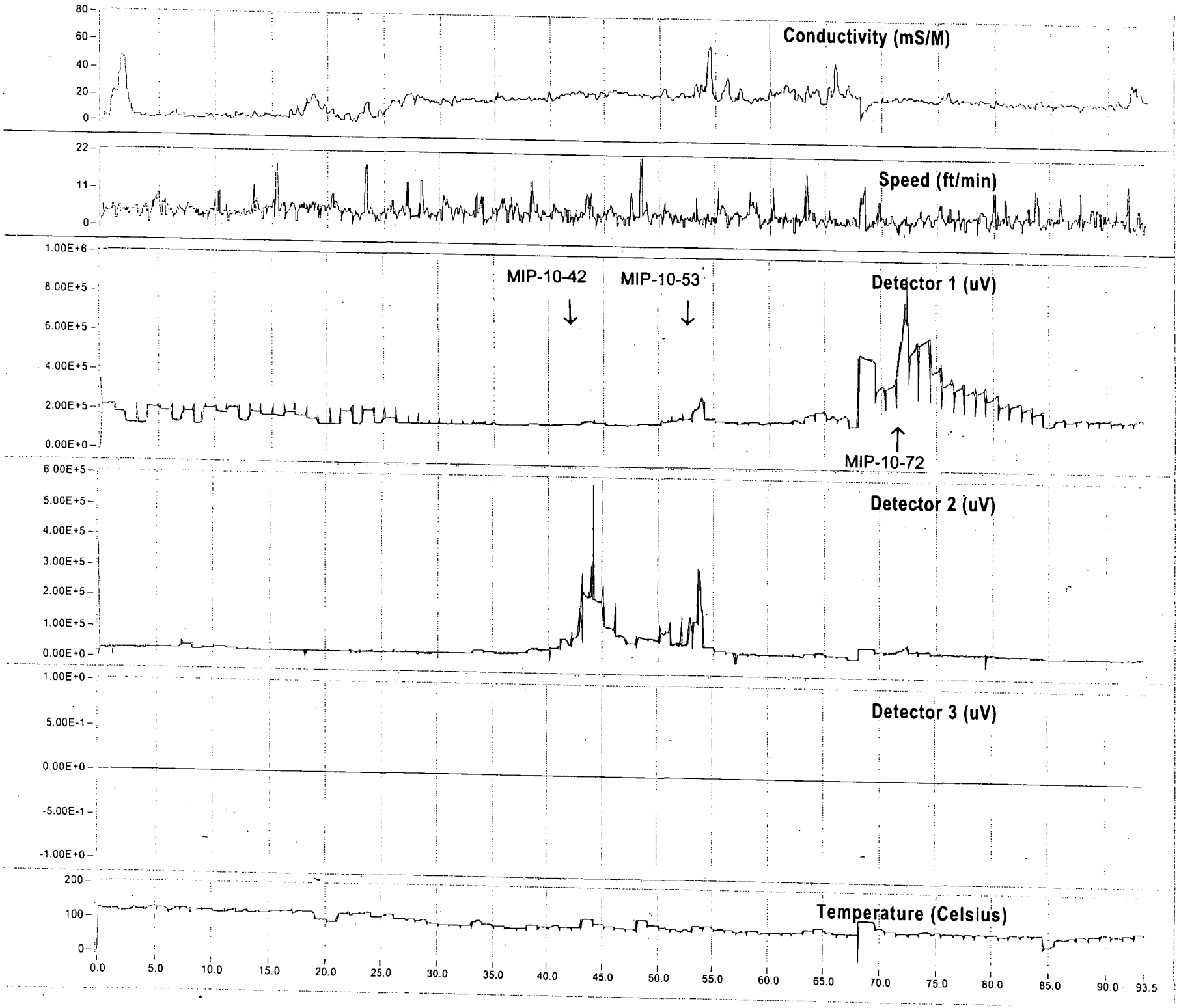

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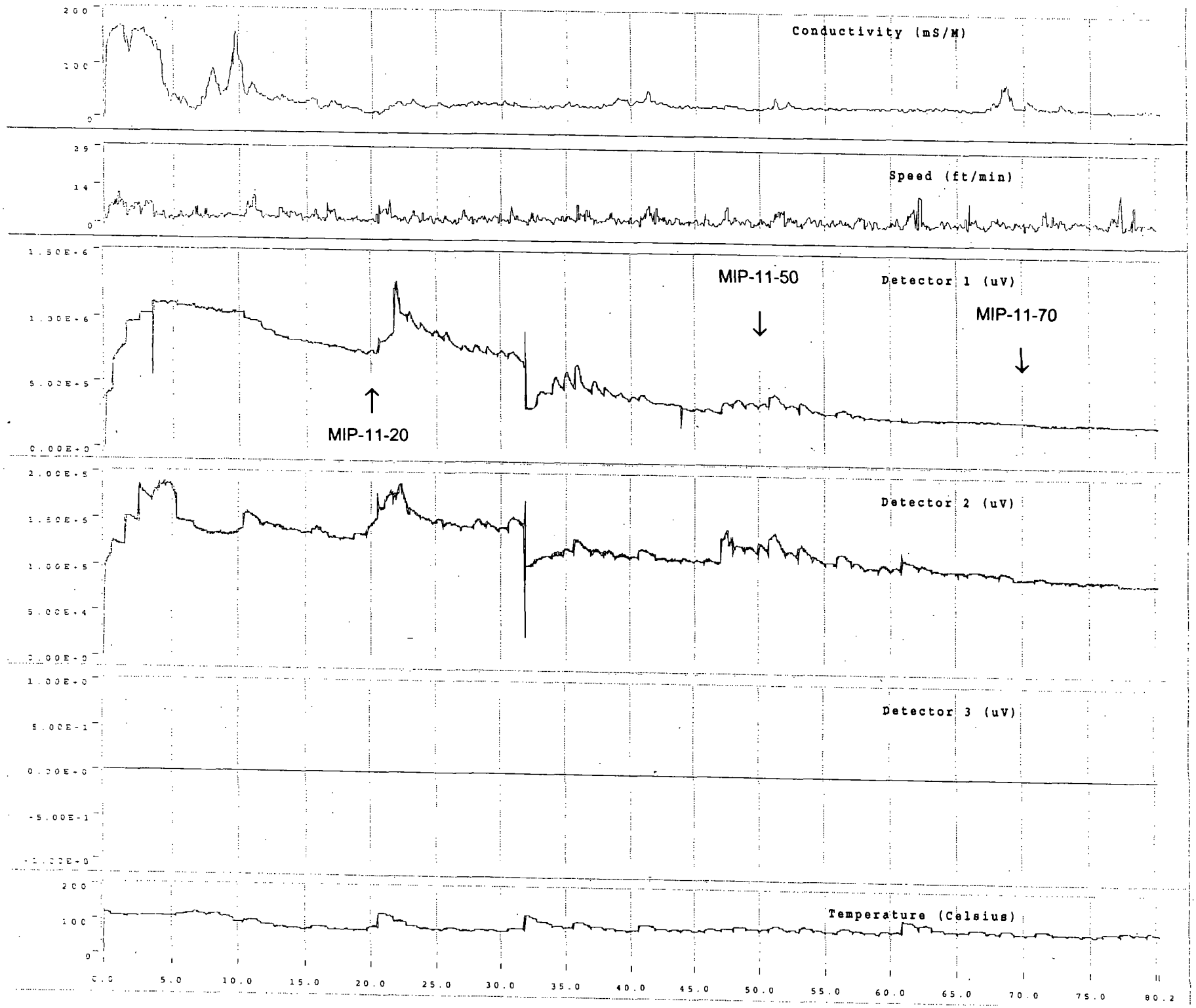

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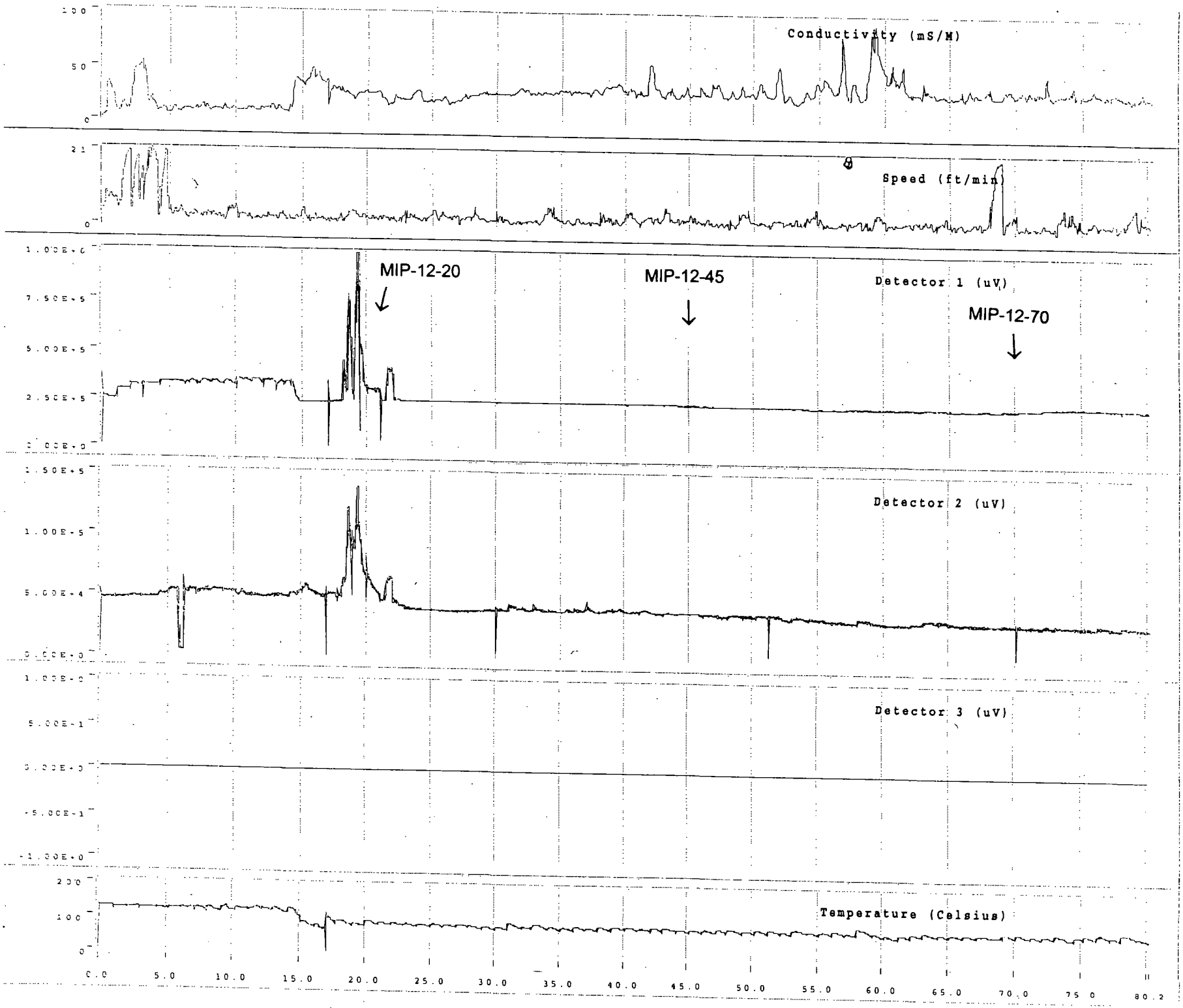

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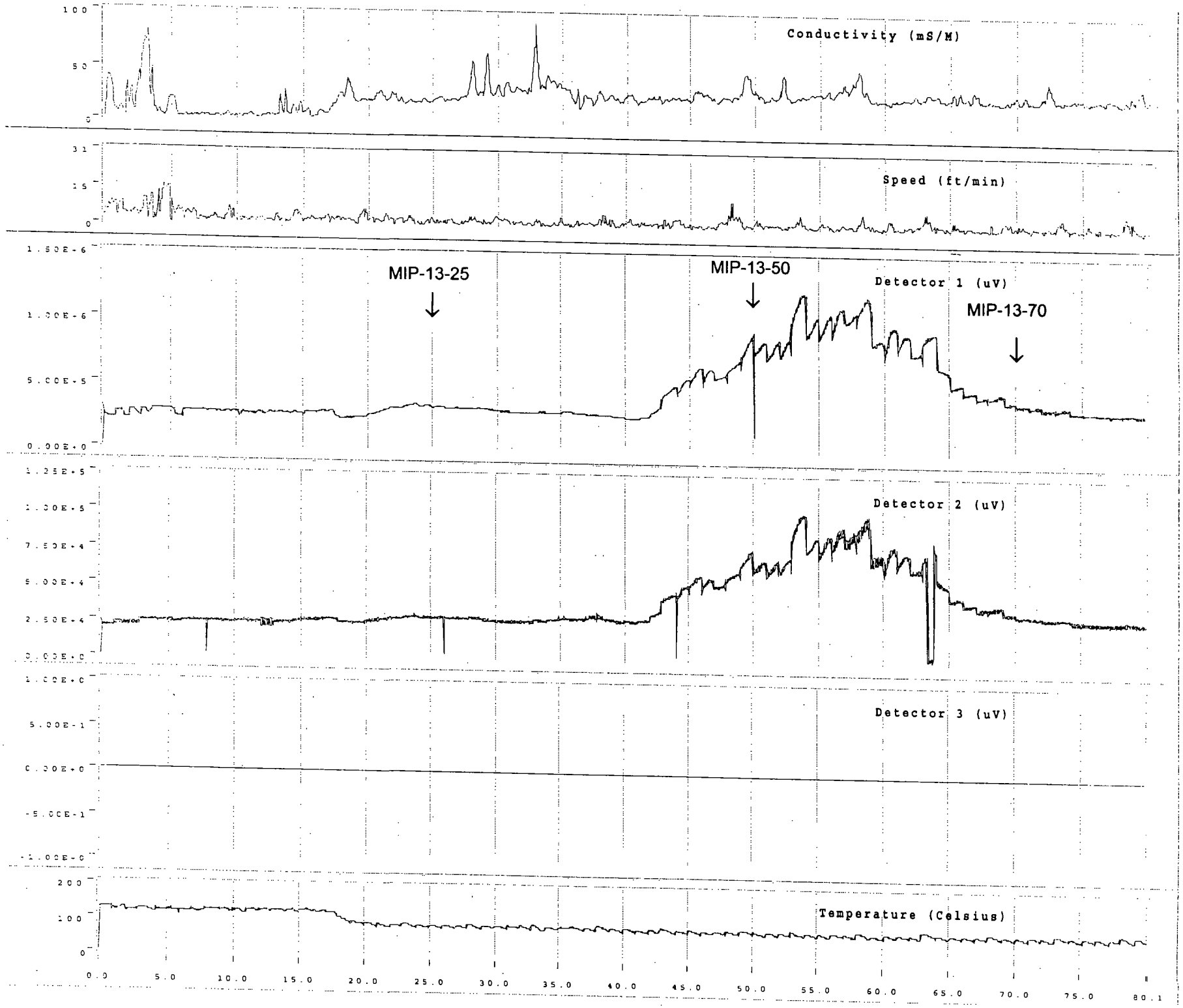

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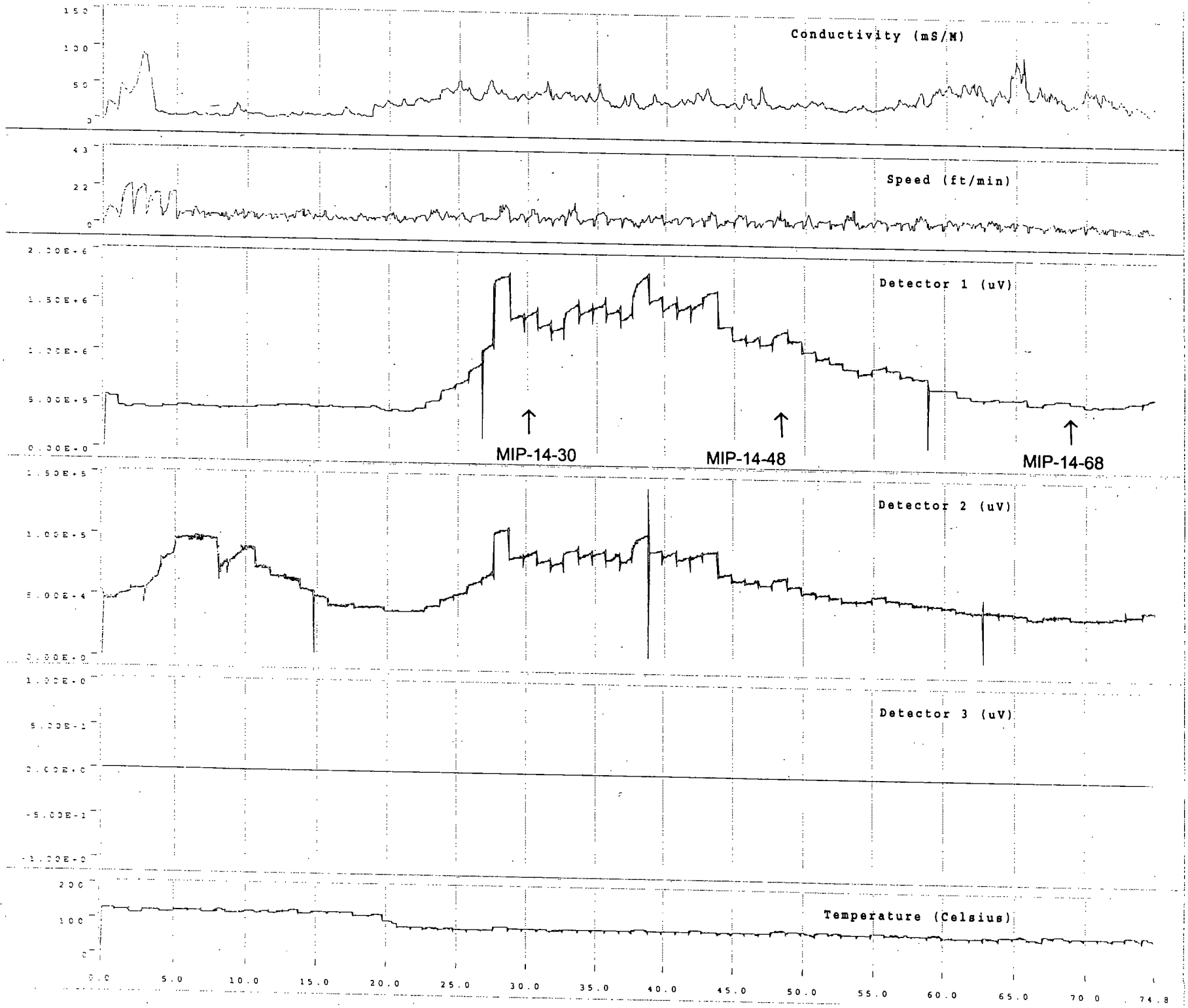

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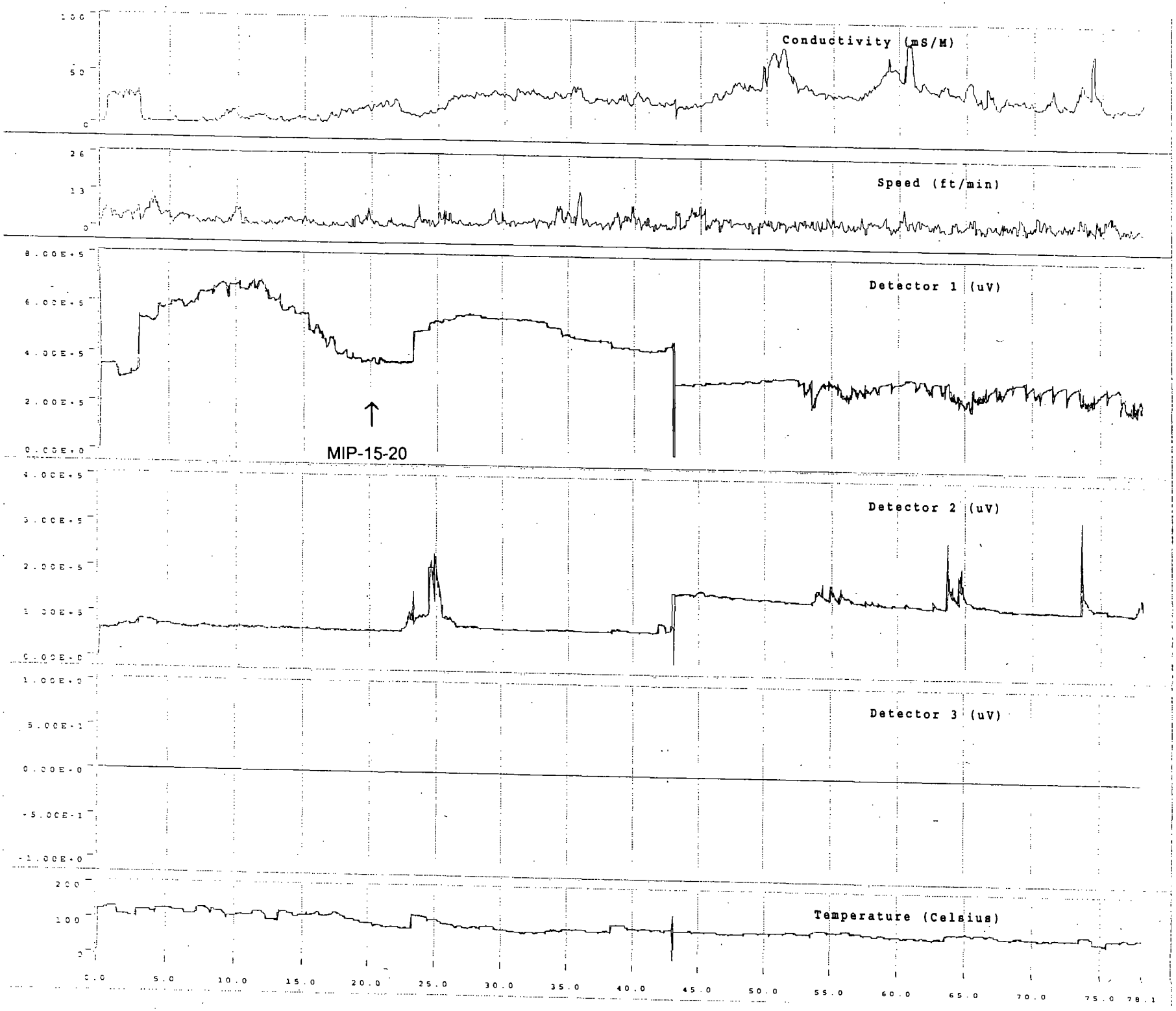

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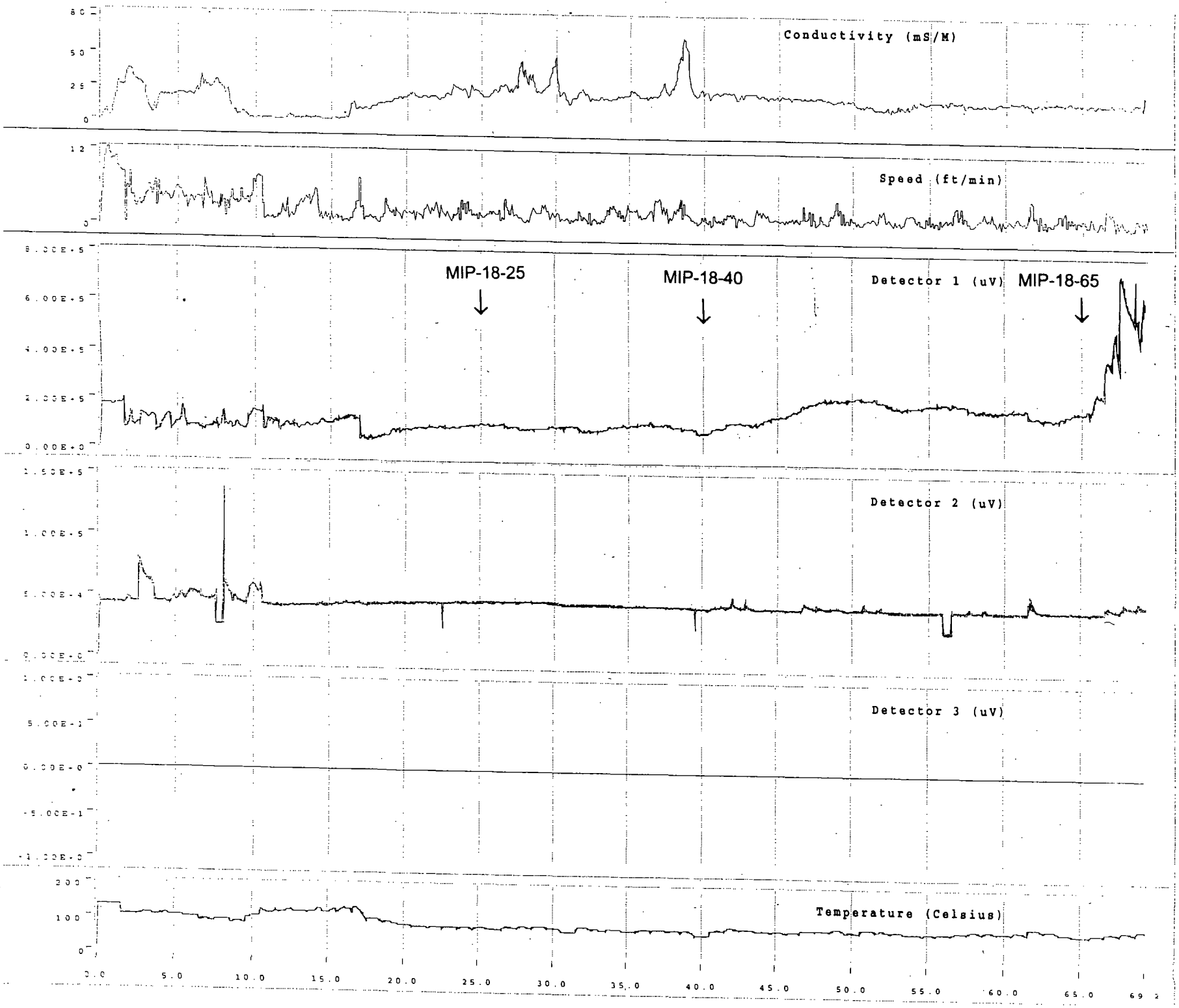

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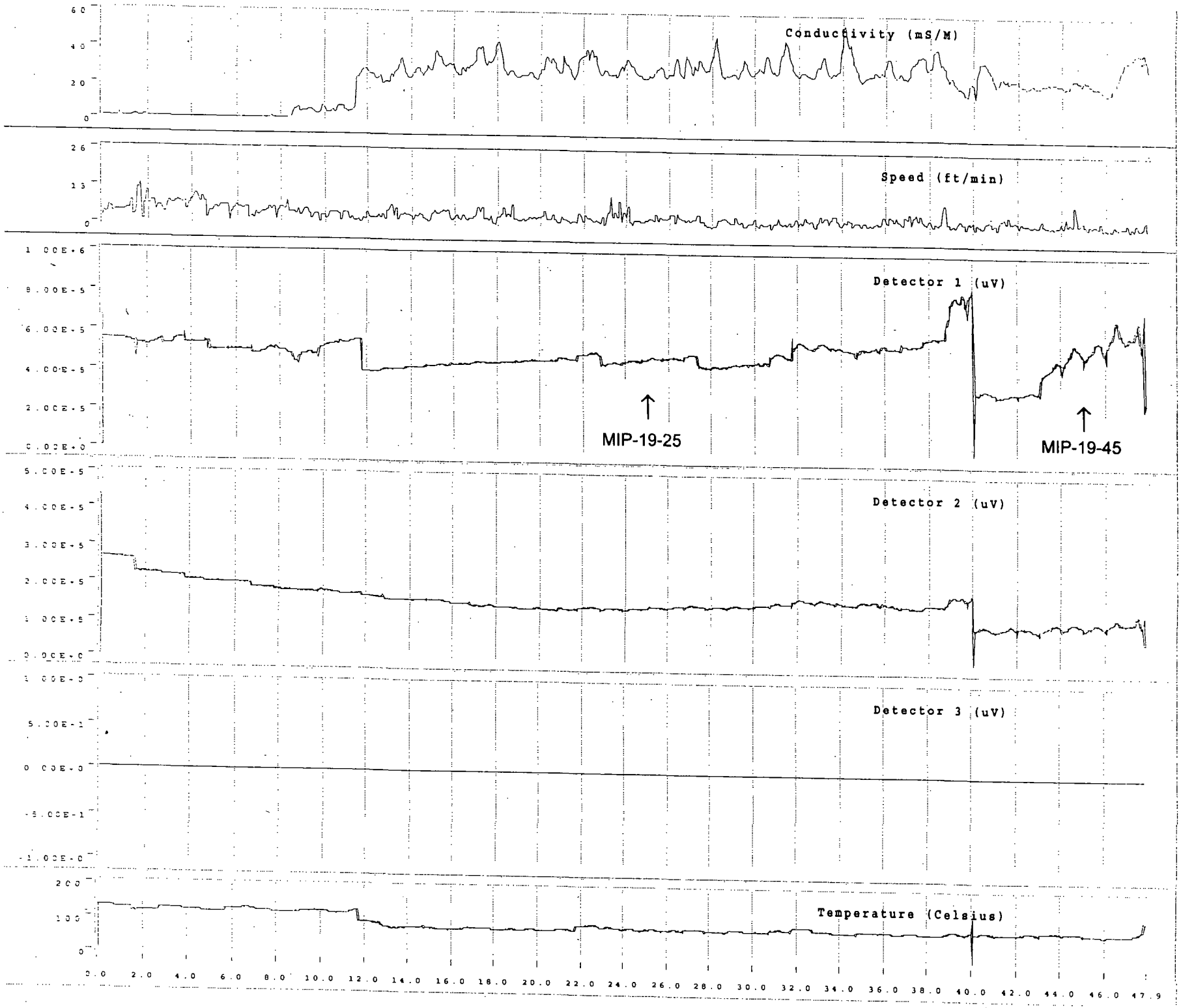

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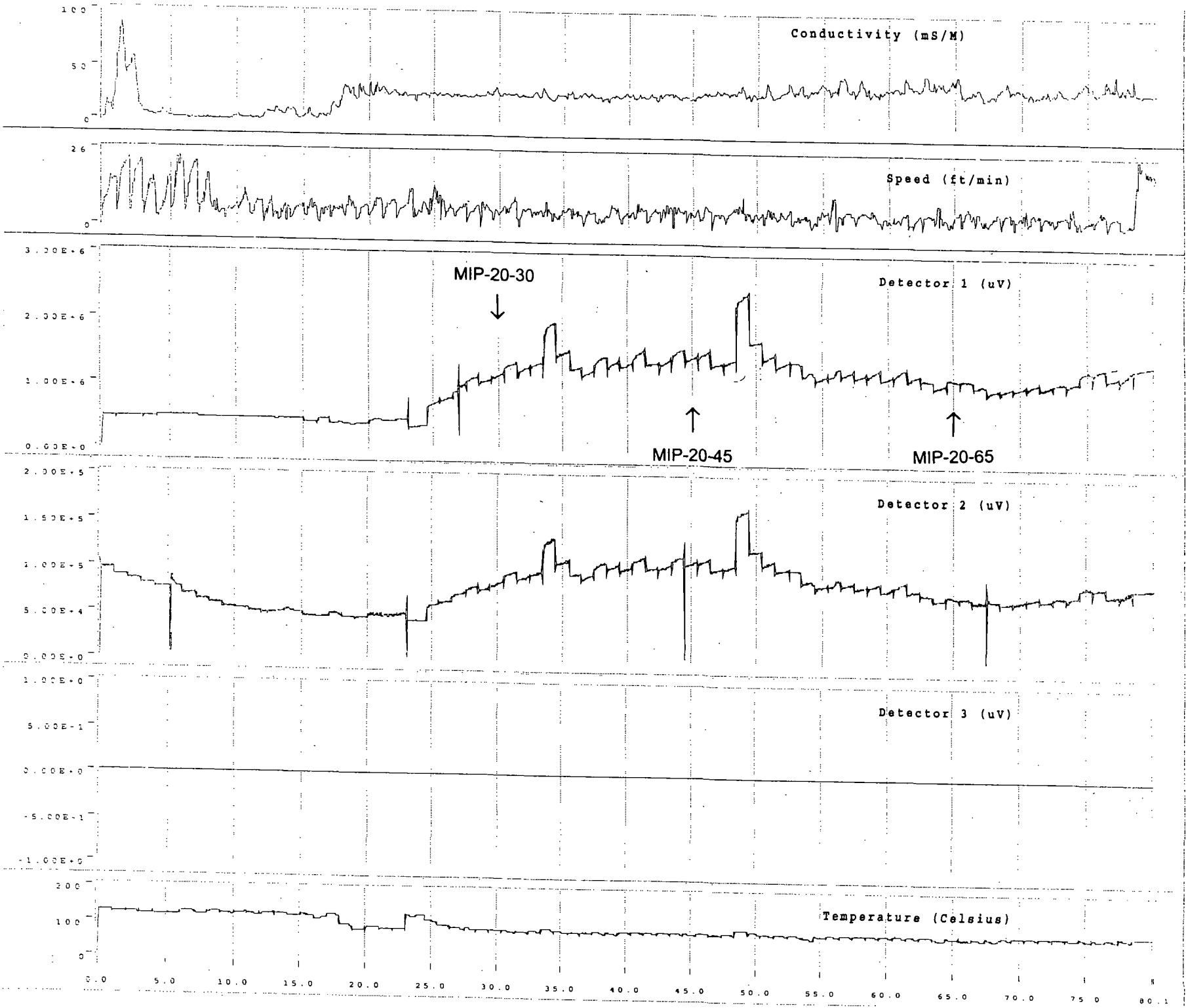

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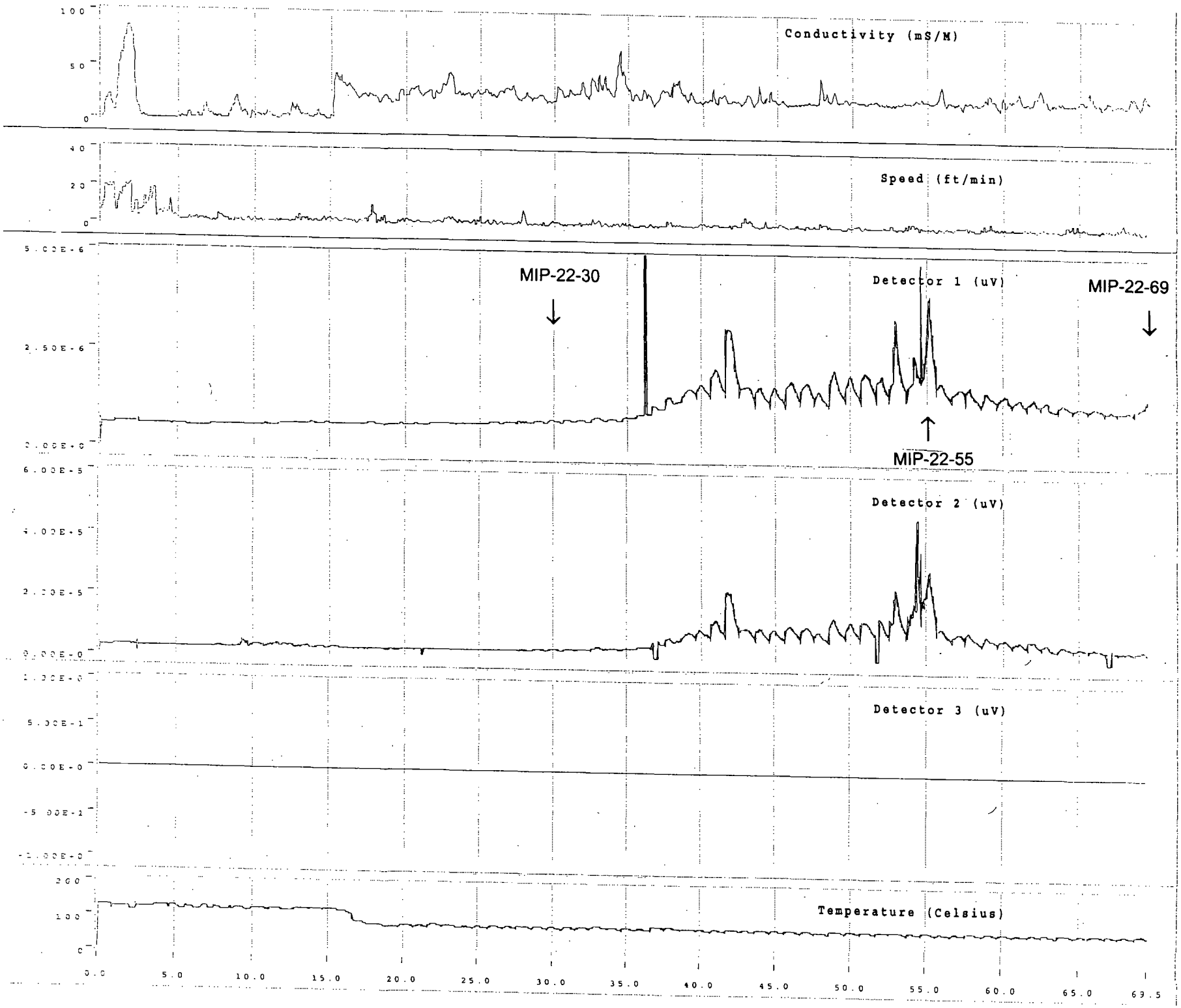

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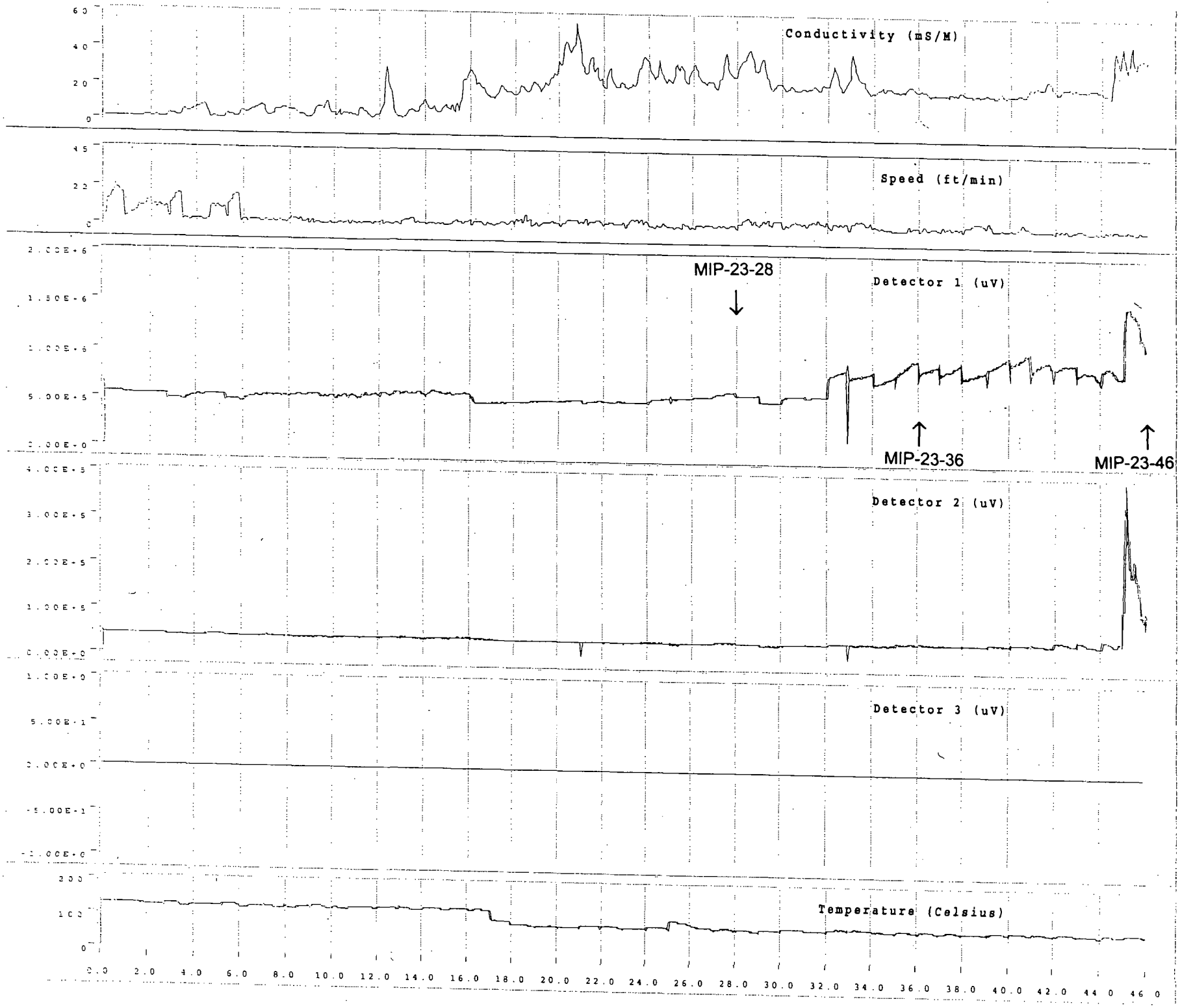

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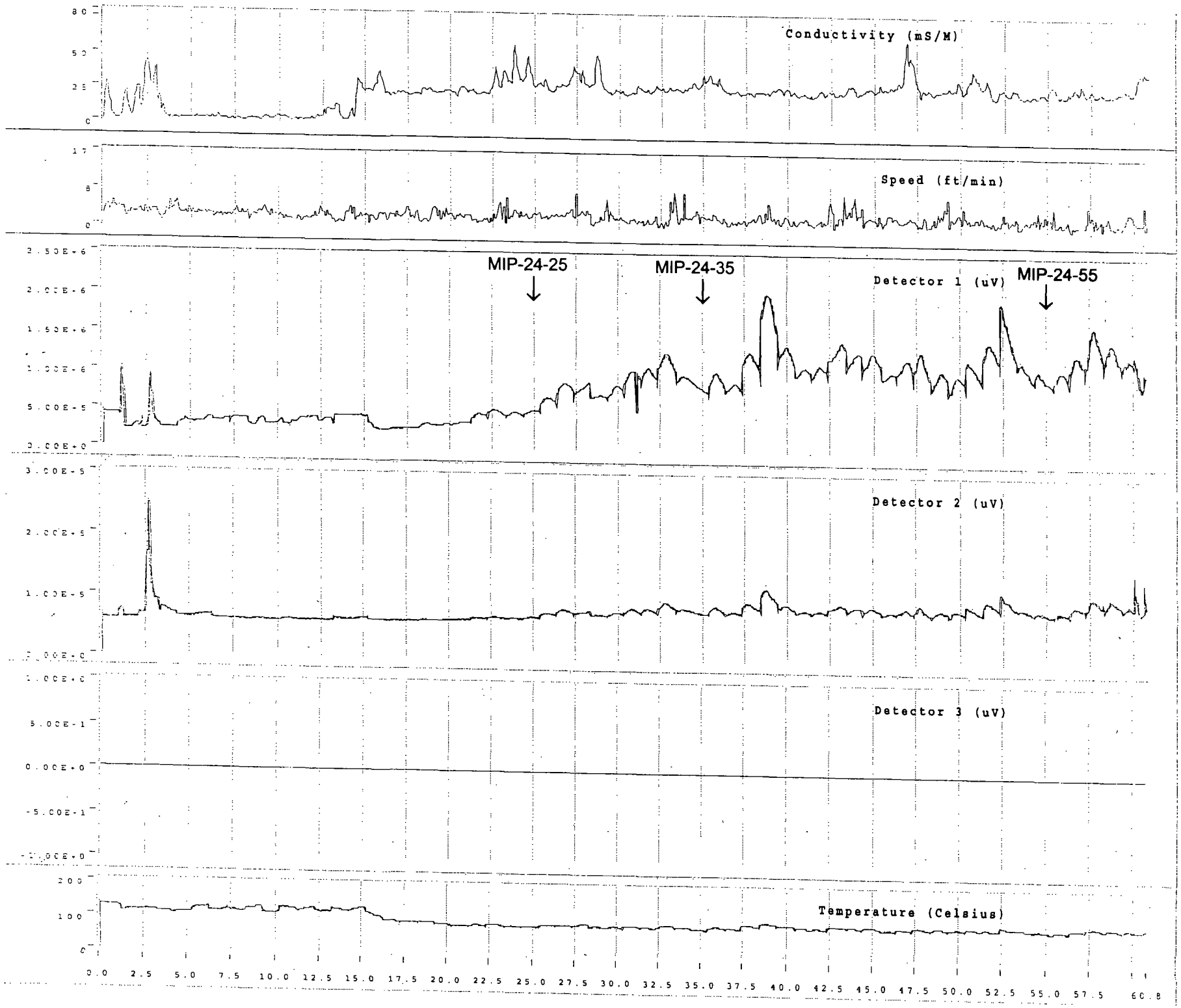

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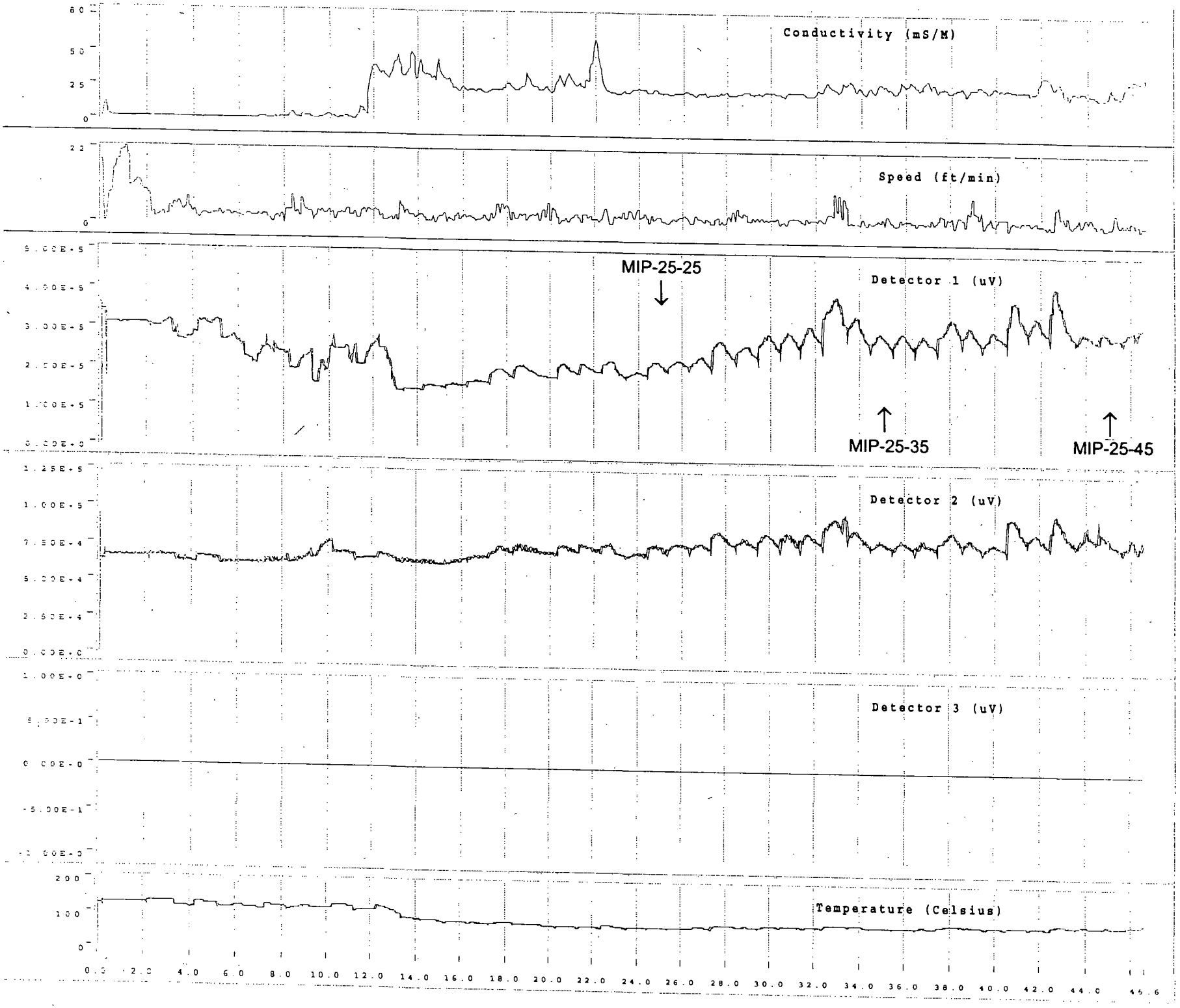

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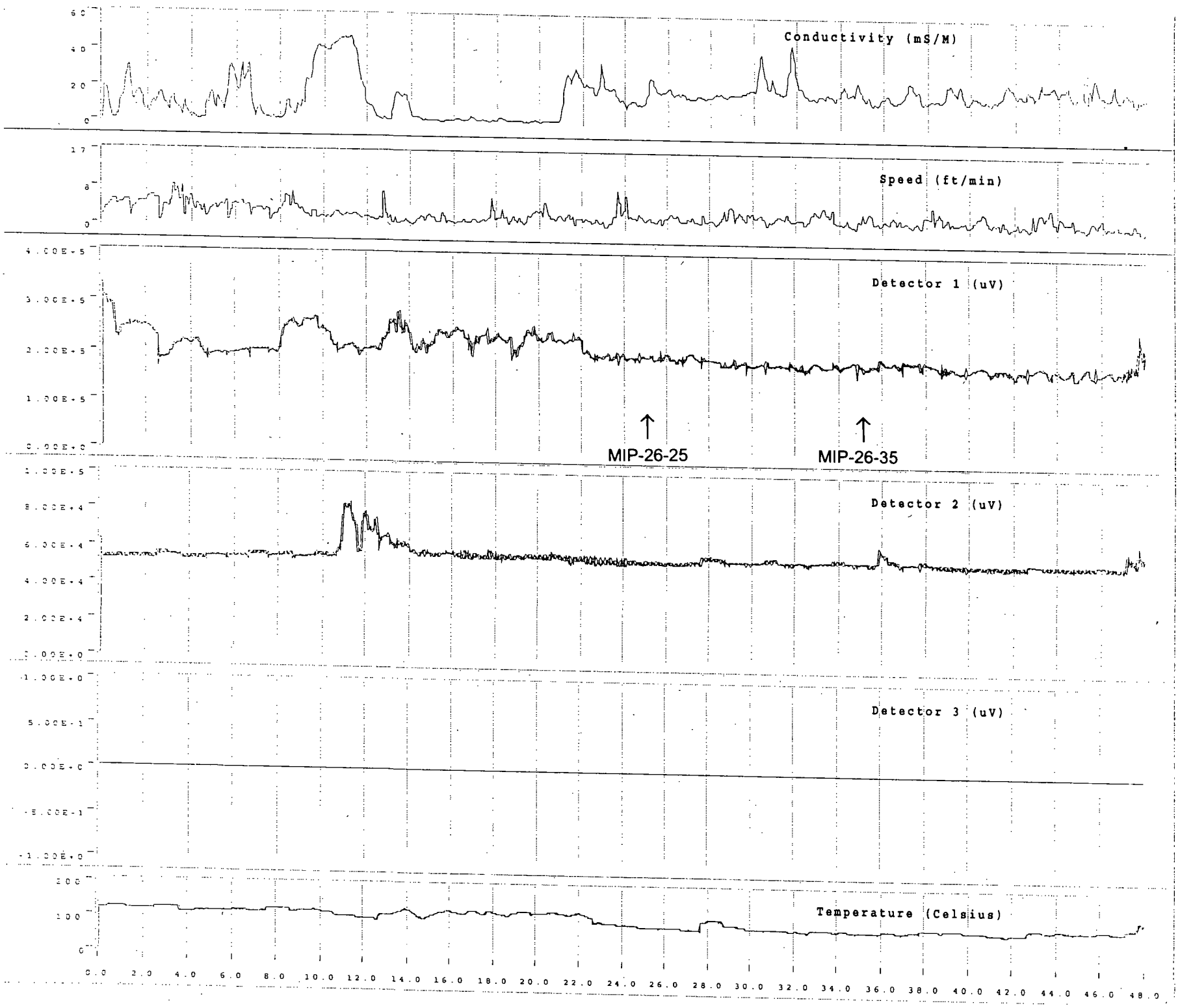

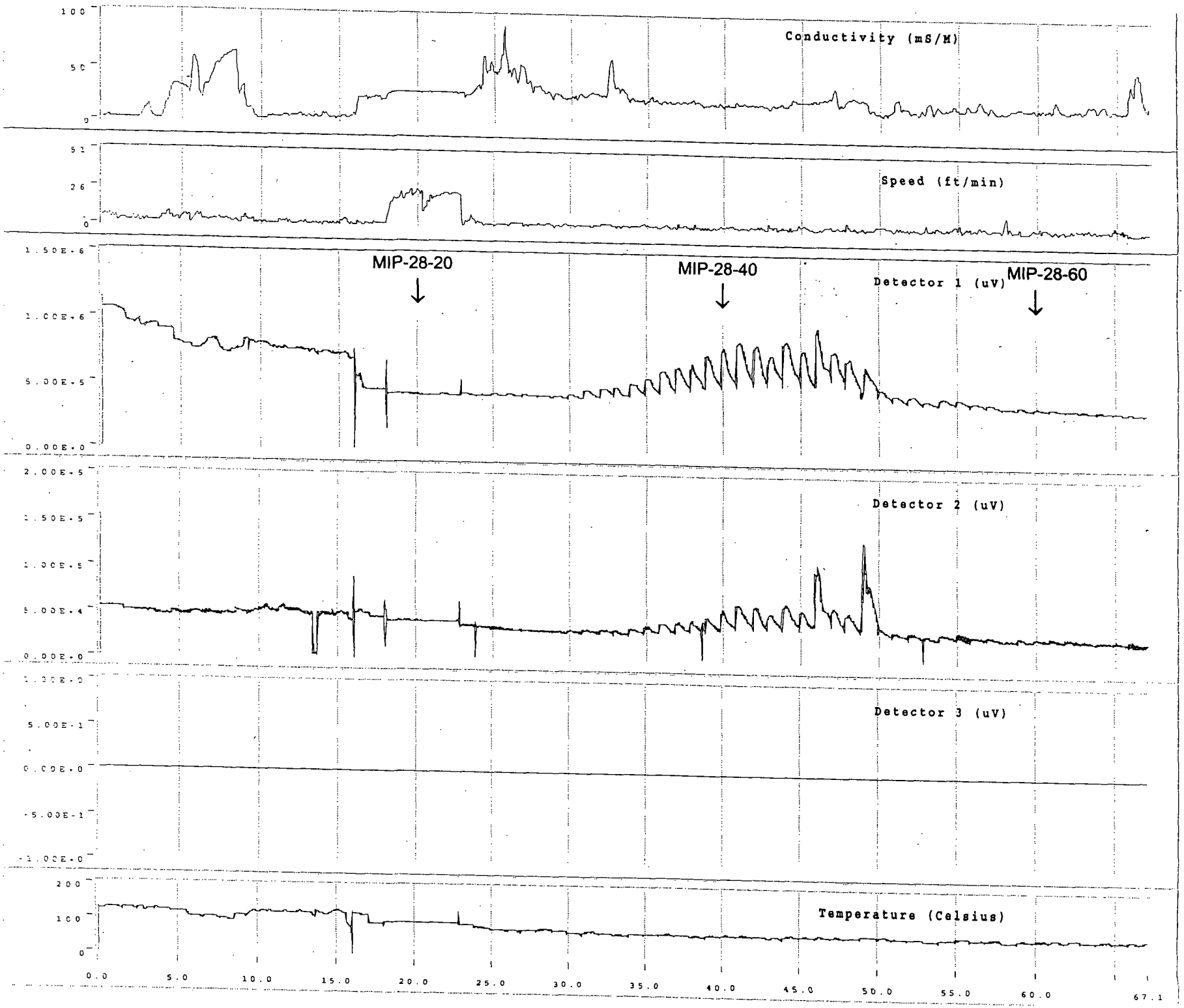
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Speed (ft/min)
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MIP-28-40
MIP-28-60
Detector 1 (uV)
Detector 2 (uV)
Detector 3 (uV)
Temperature (Celsius)
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
55.0
60.0
67.1

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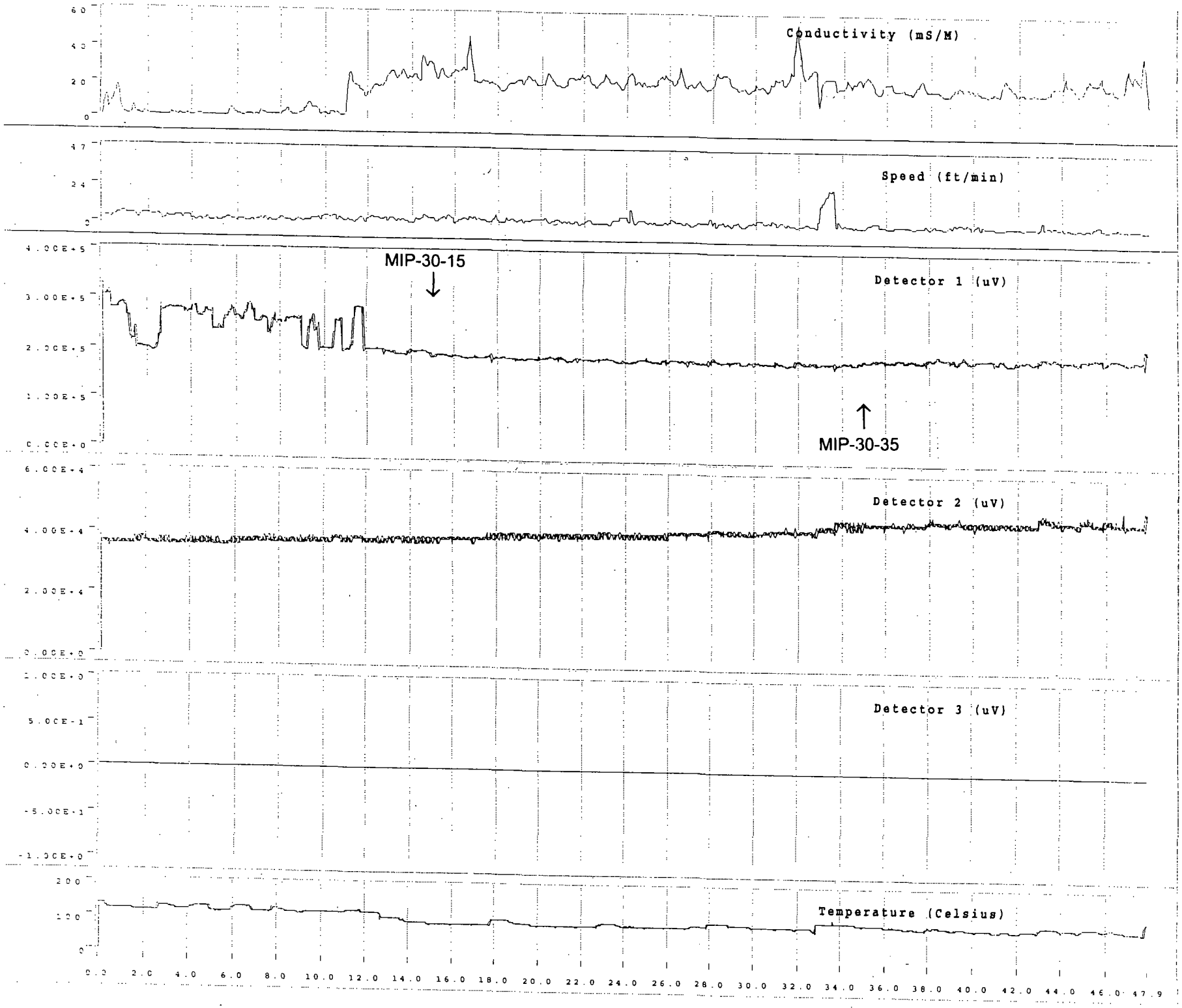

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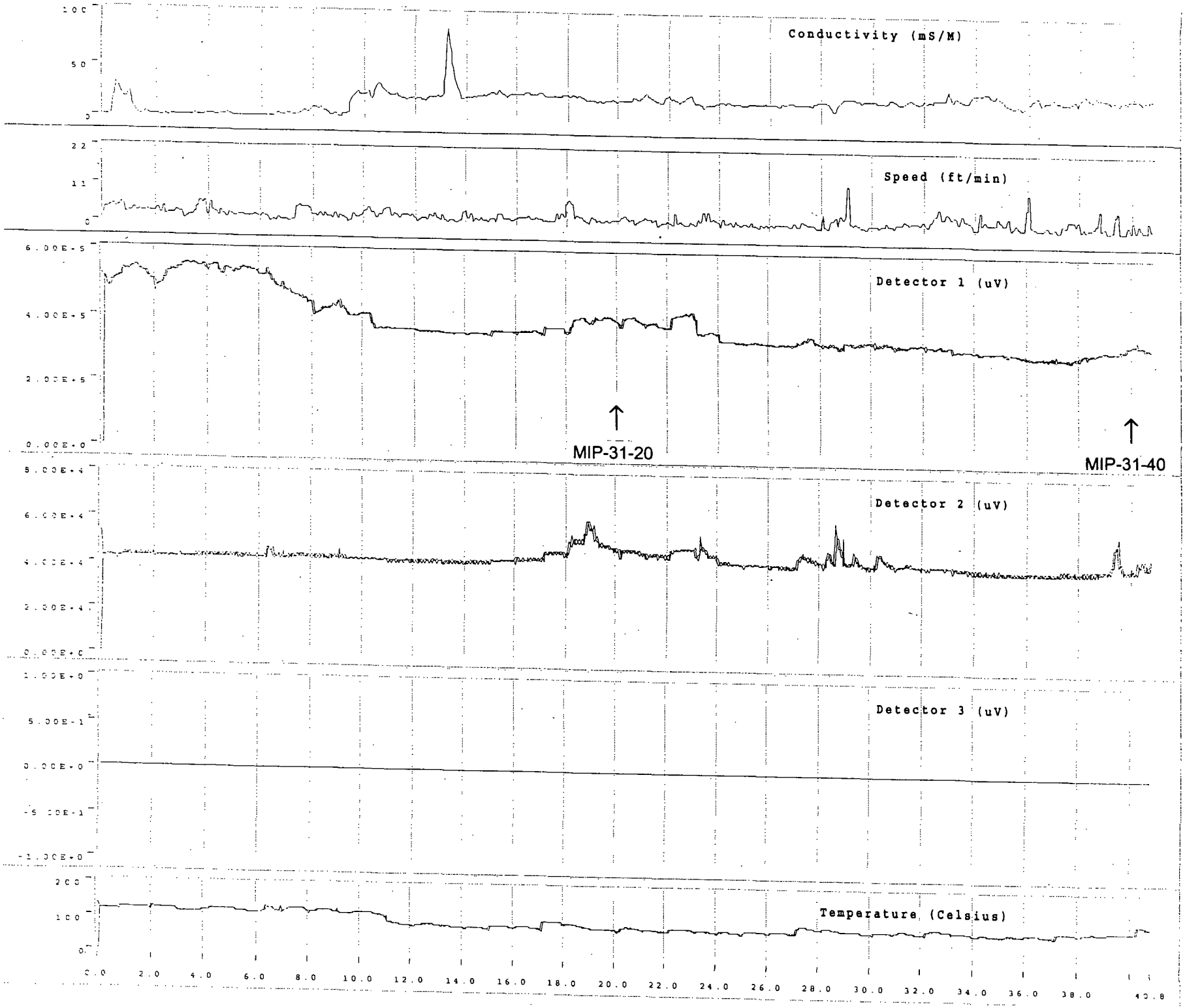
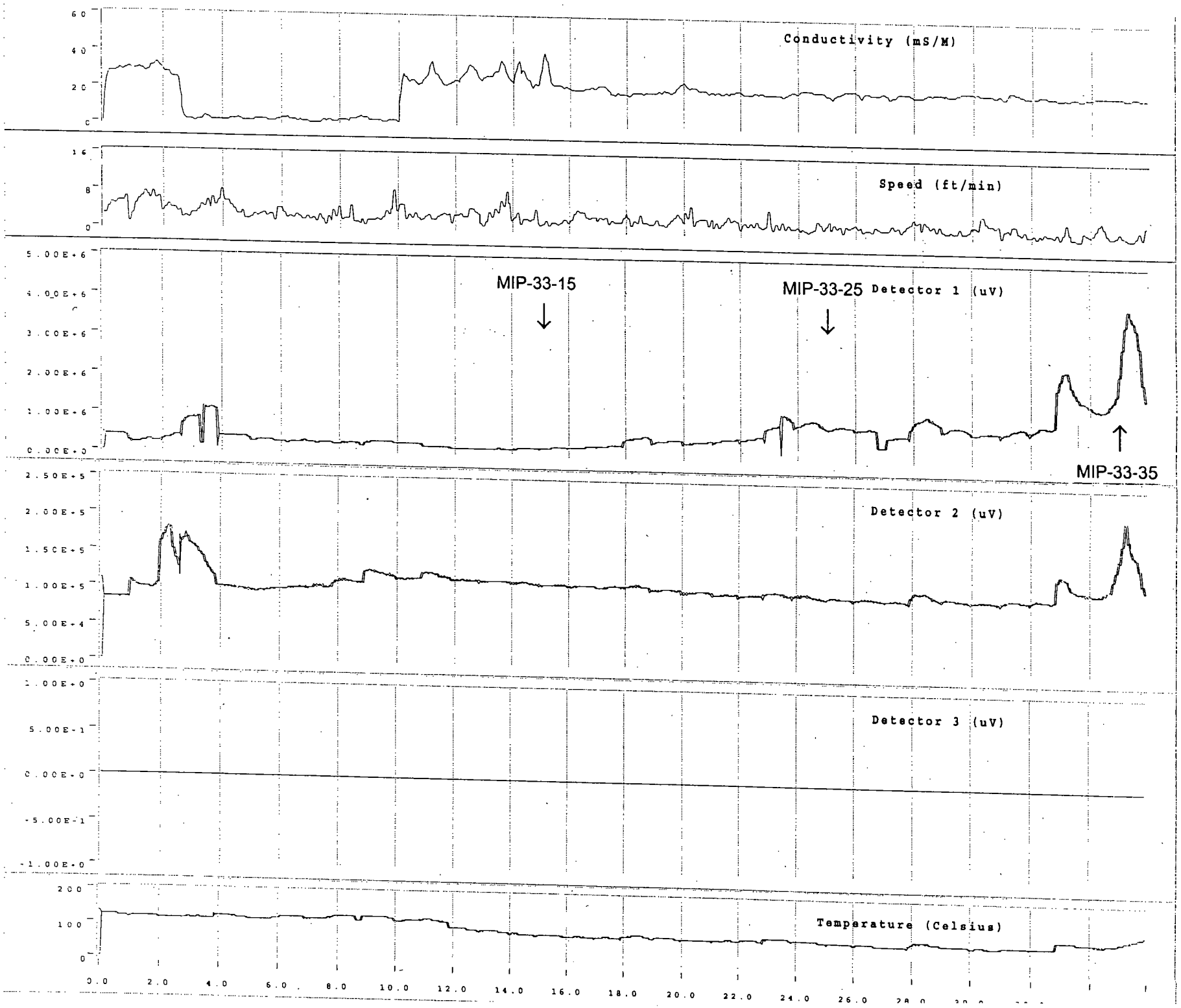
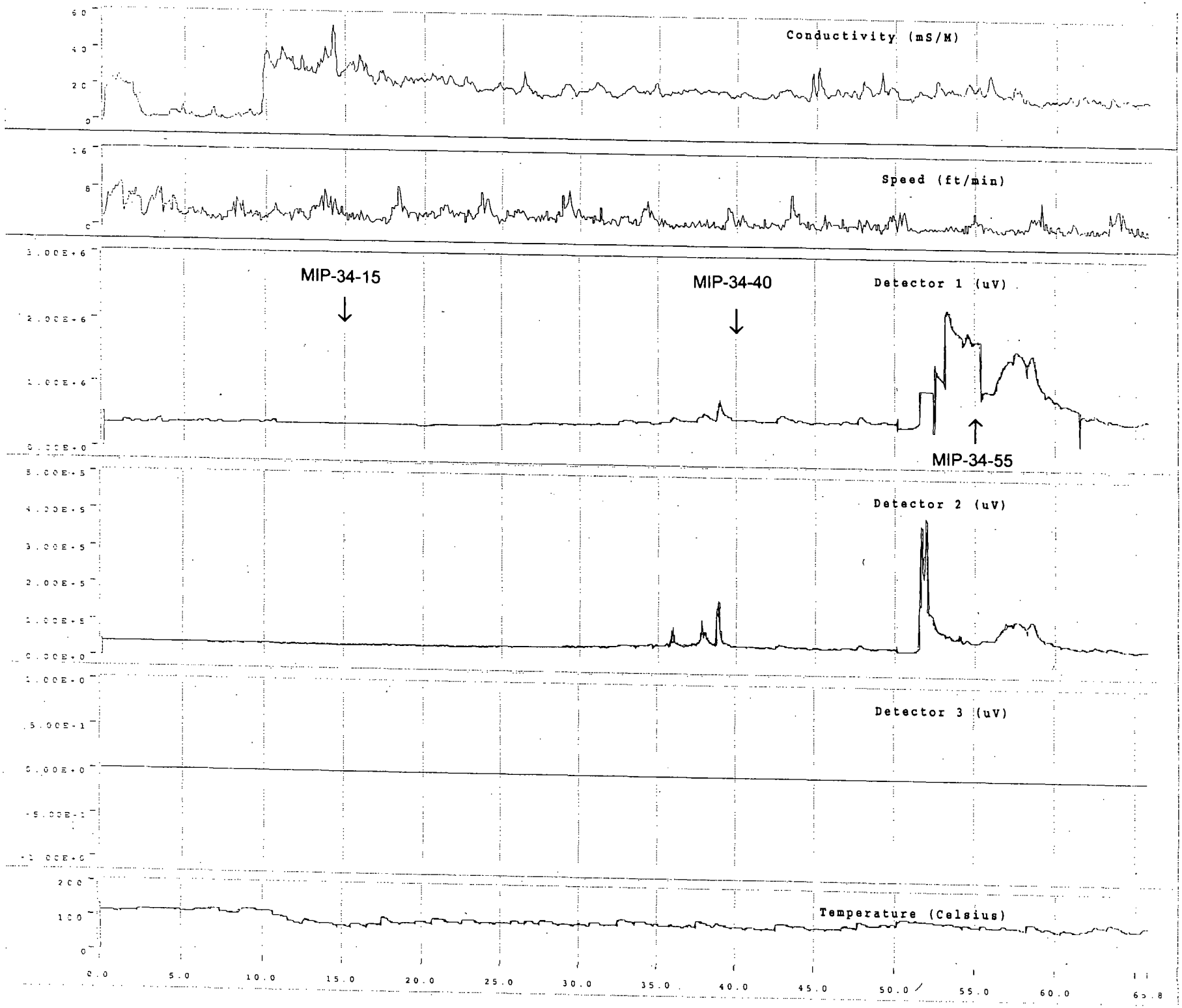


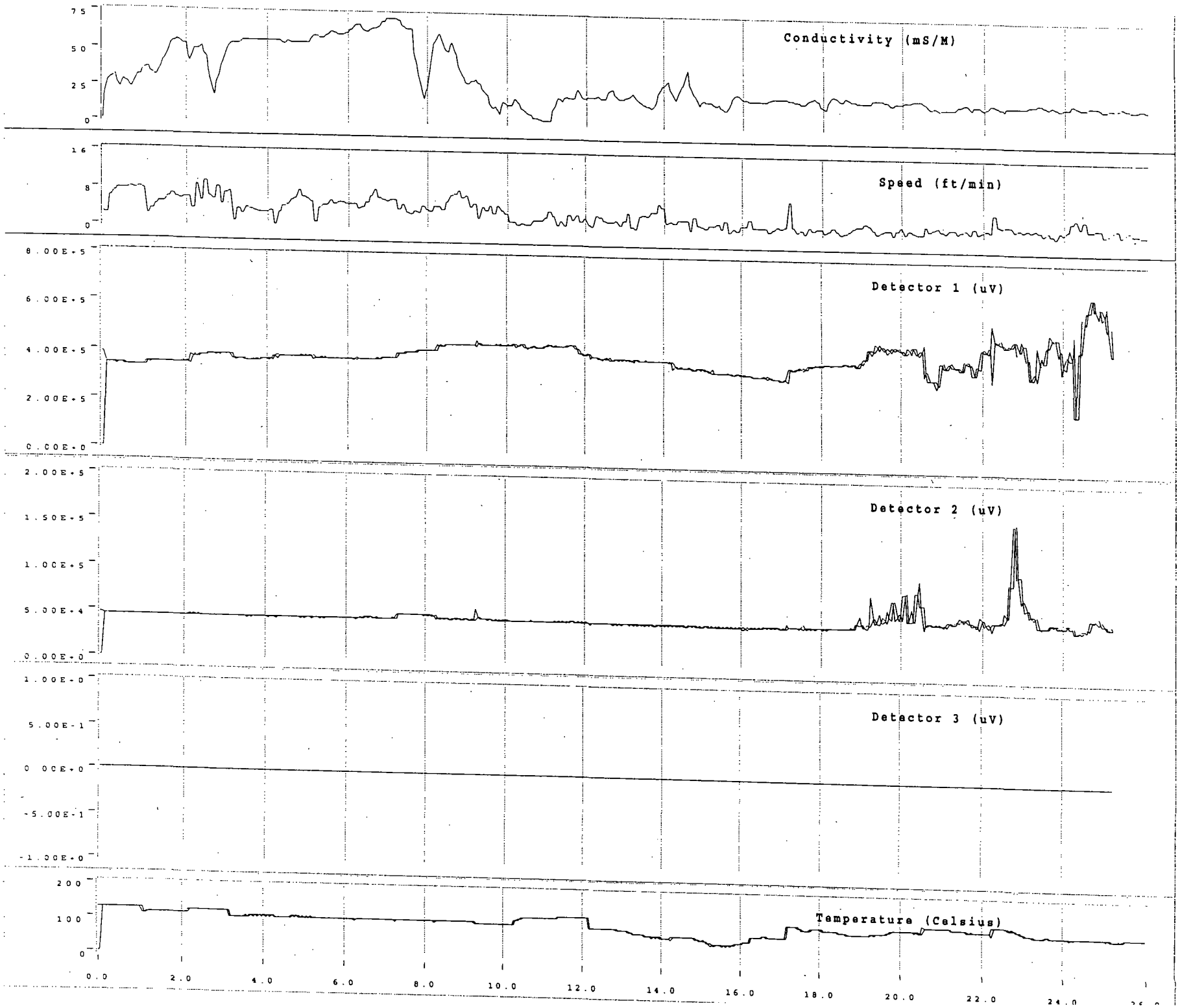
Log: C:\mip dayton\mip33\mip33.DAT



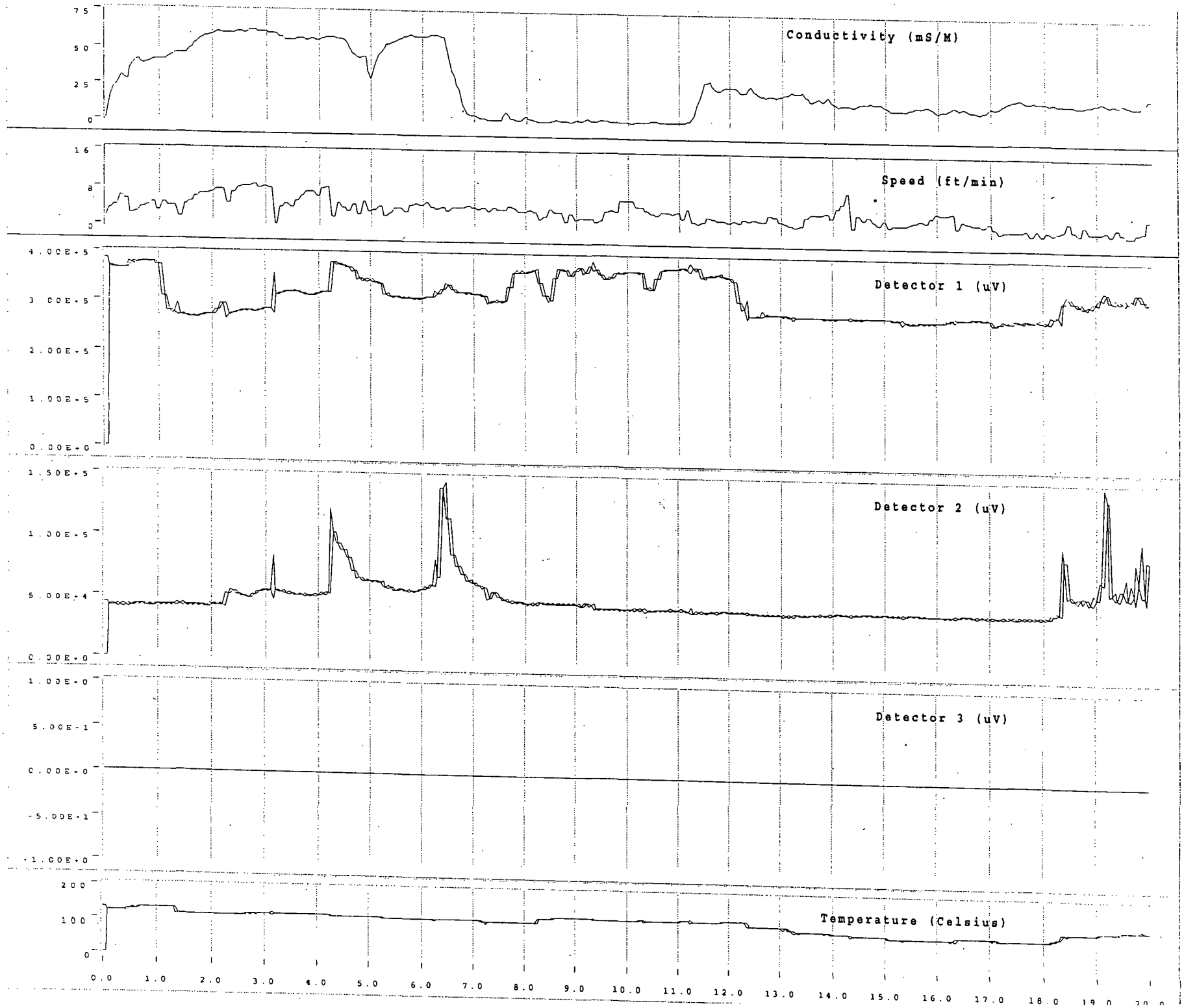
Log: C:\mip dayton\mip34\mip34.DAT



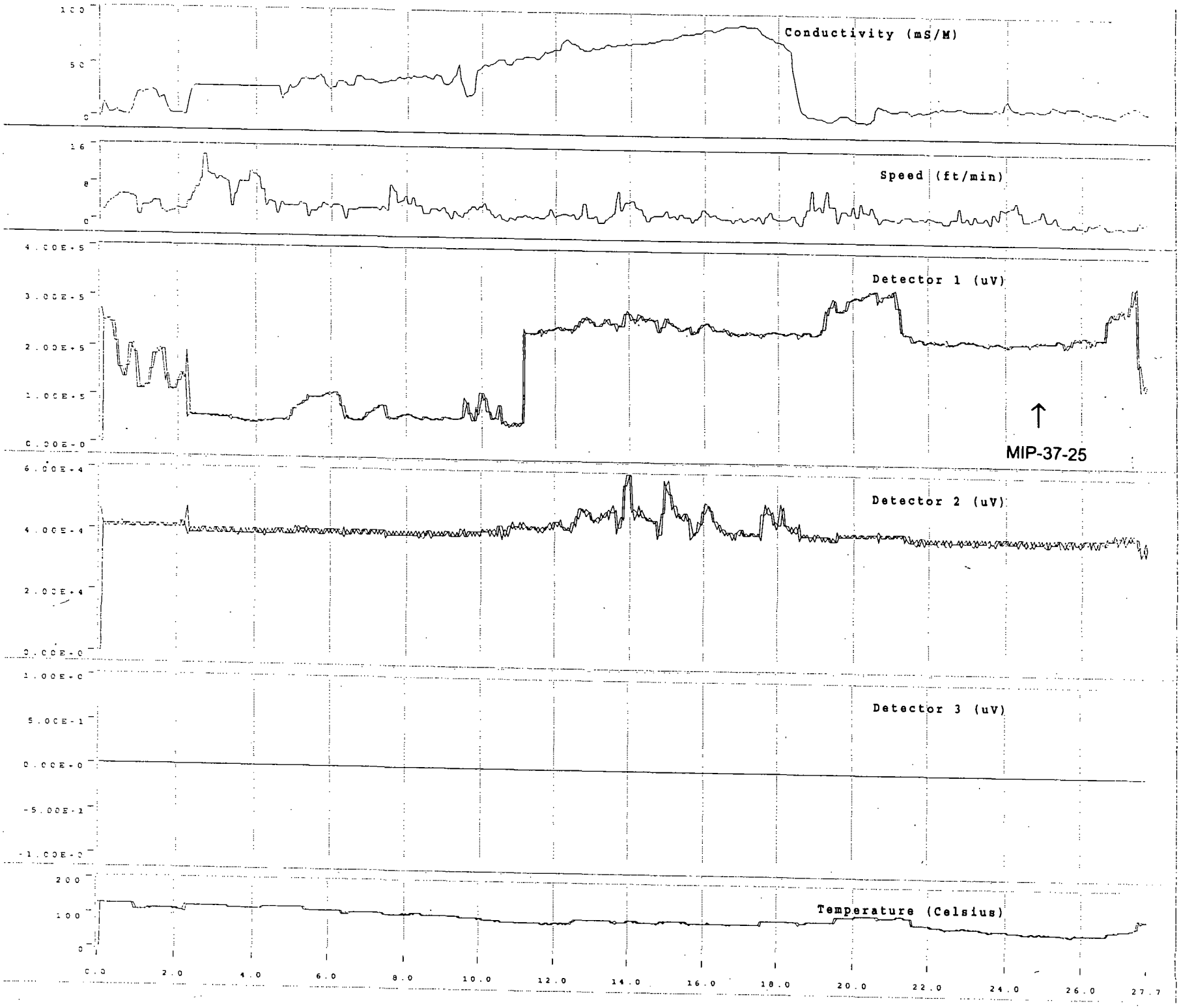
Log: C:\mip dayton\mip36\mip36.DAT



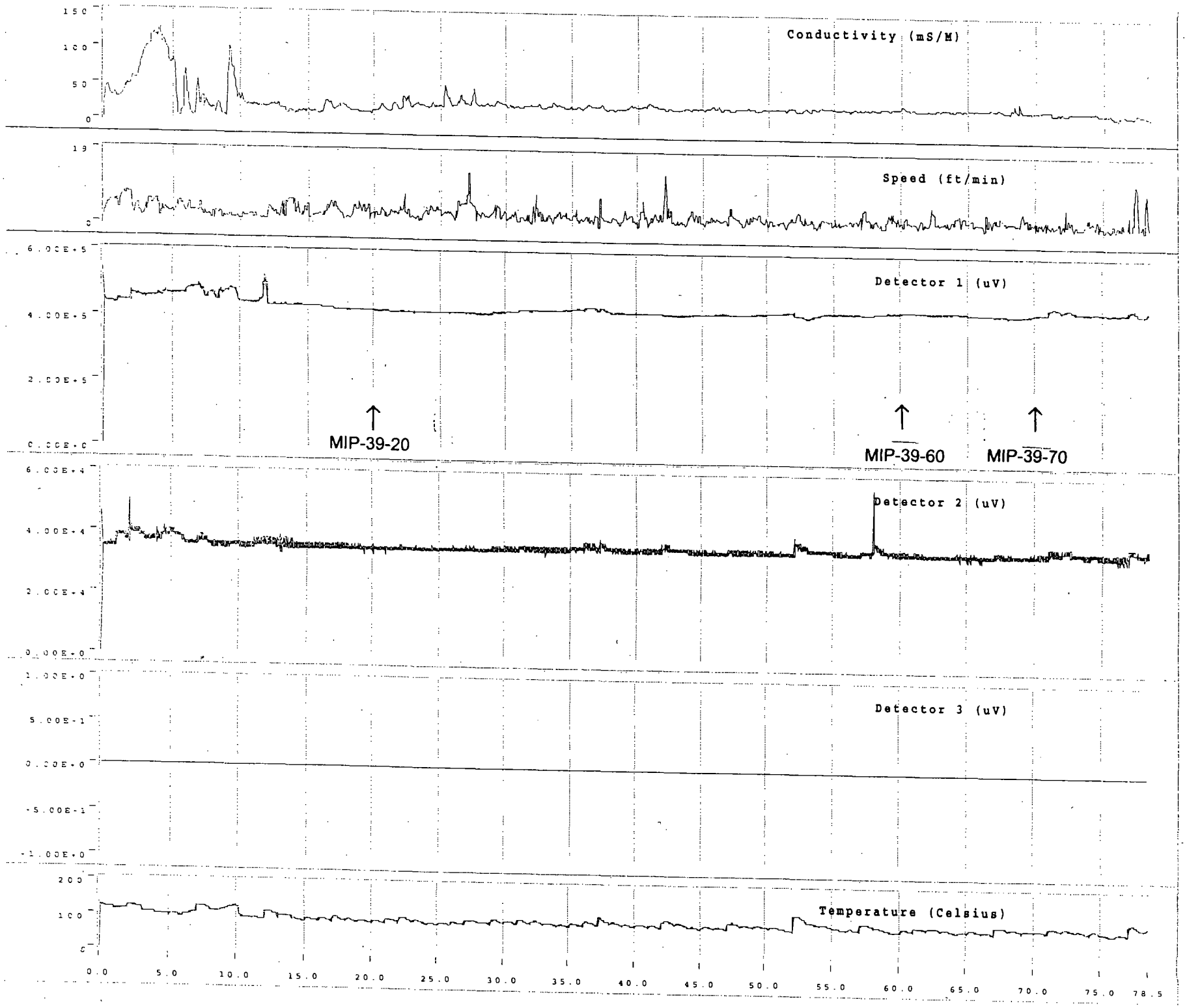
Log: C:\mip dayton\mip36(2)\mip36.DAT



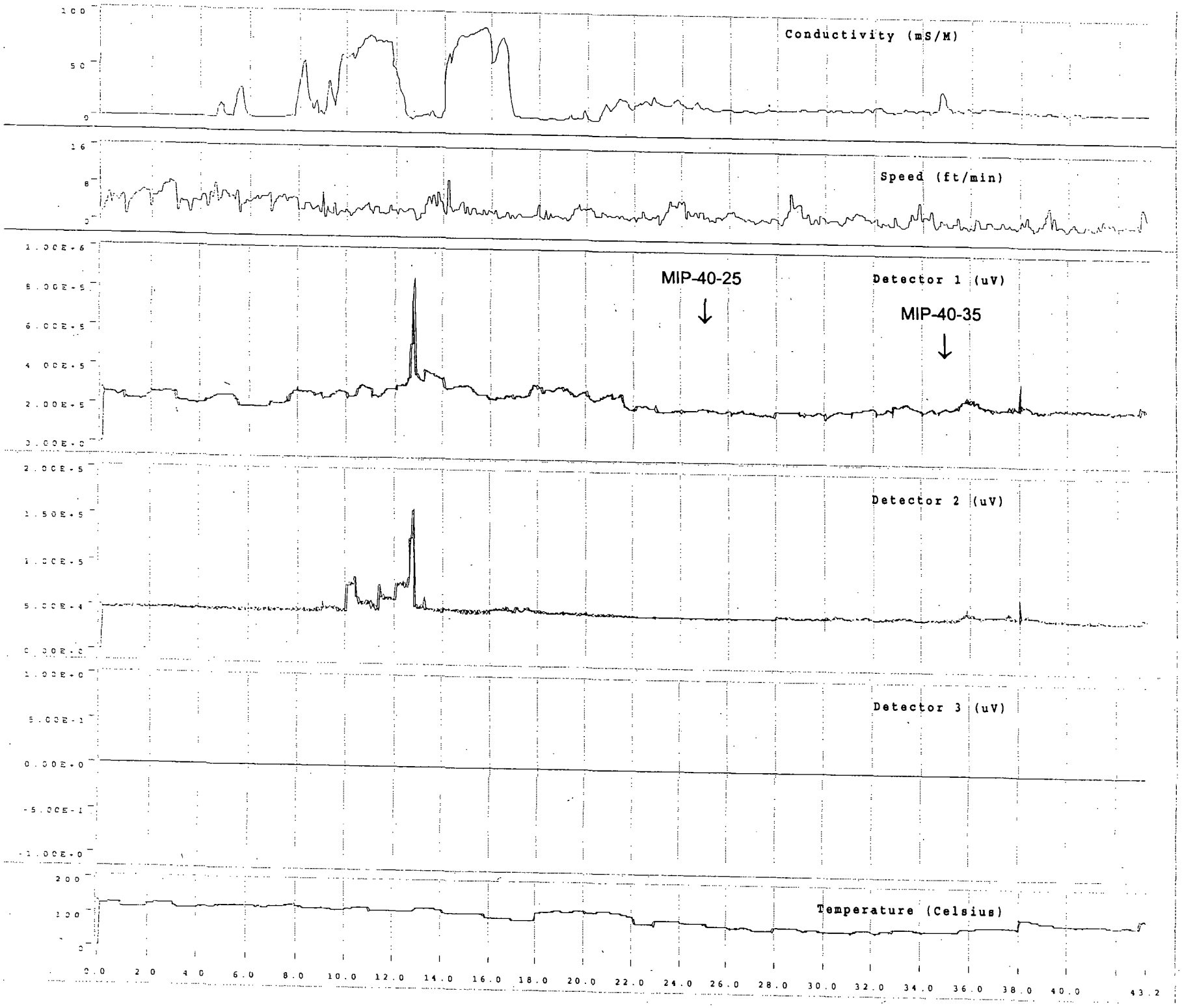
Log: C:\mip dayton\mip37\mip37.DAT



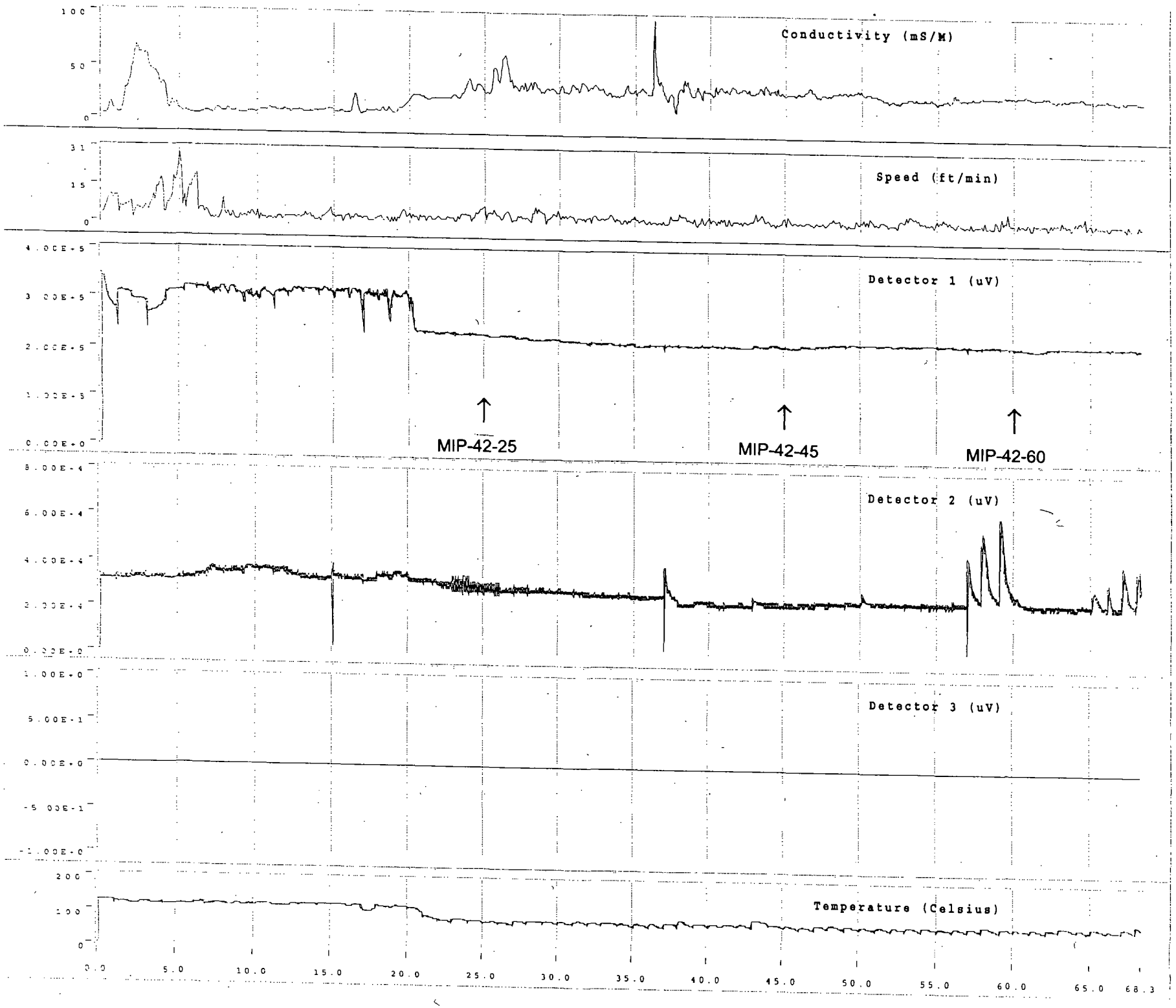
Log: C:\MIPDAYTON\MIP39\MIP39.DAT



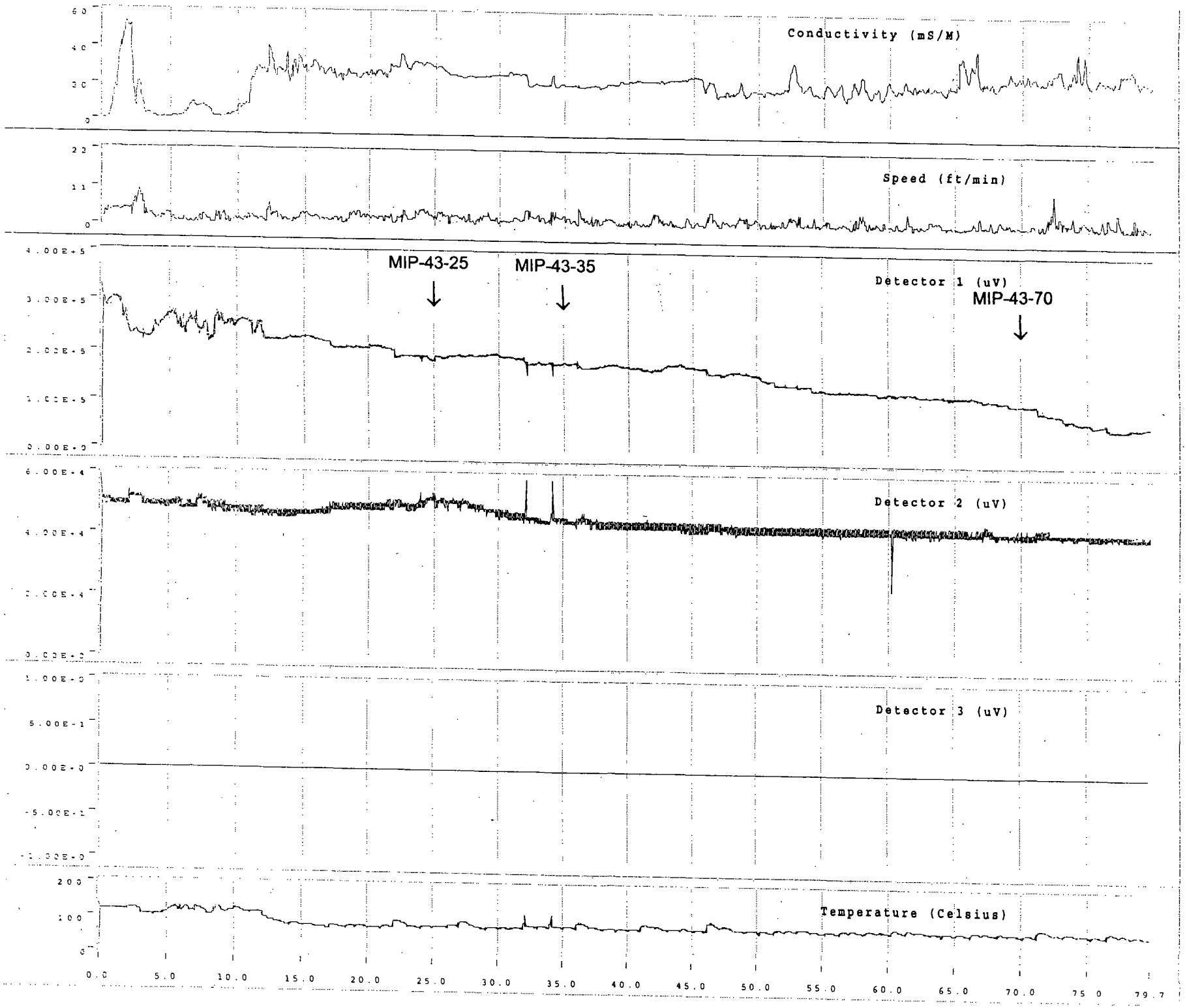
Log: C:\mip dayton\mip40\mip40.DAT



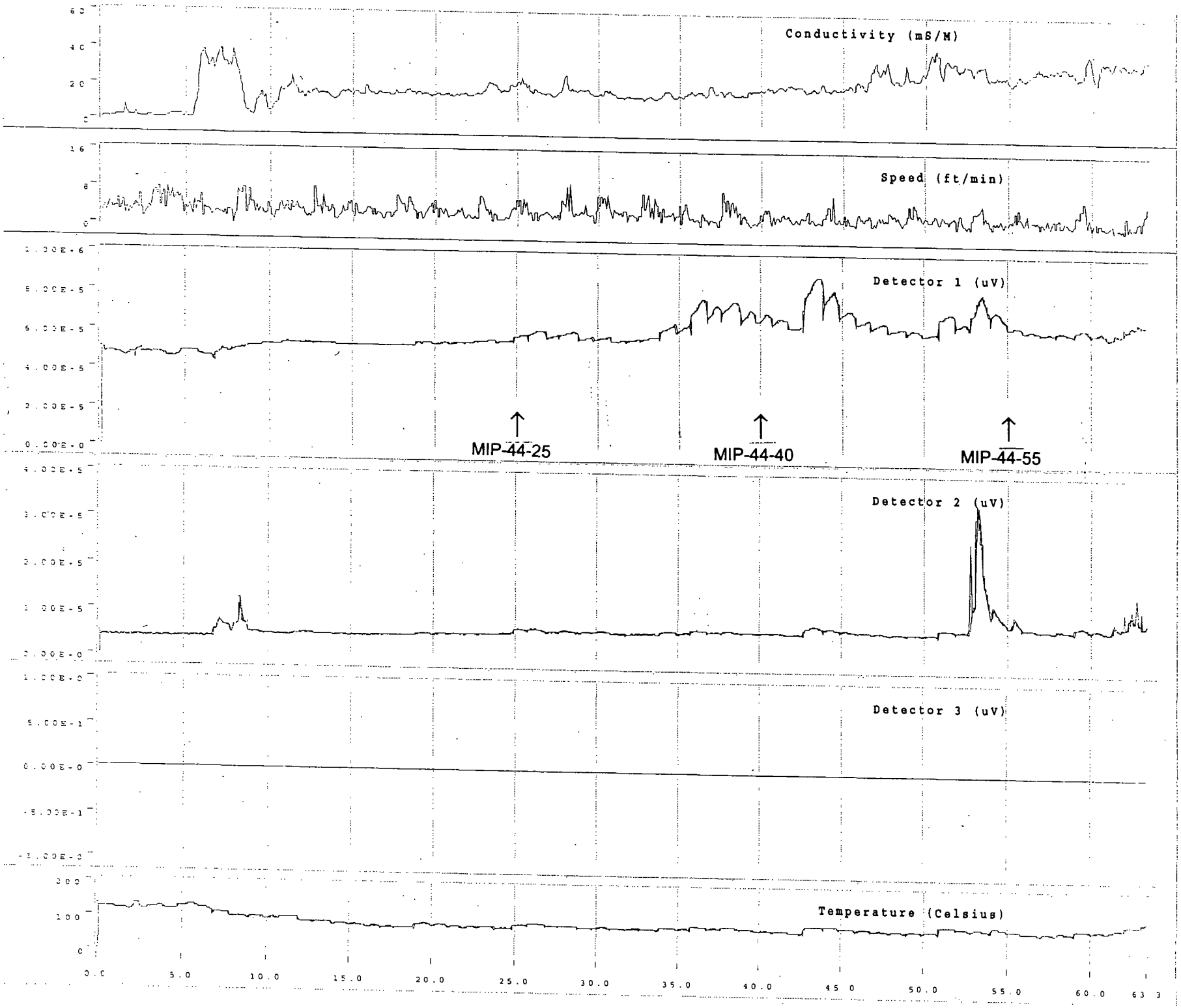
Log: C:\MIPDAYTON\mip42\mip42..DAT



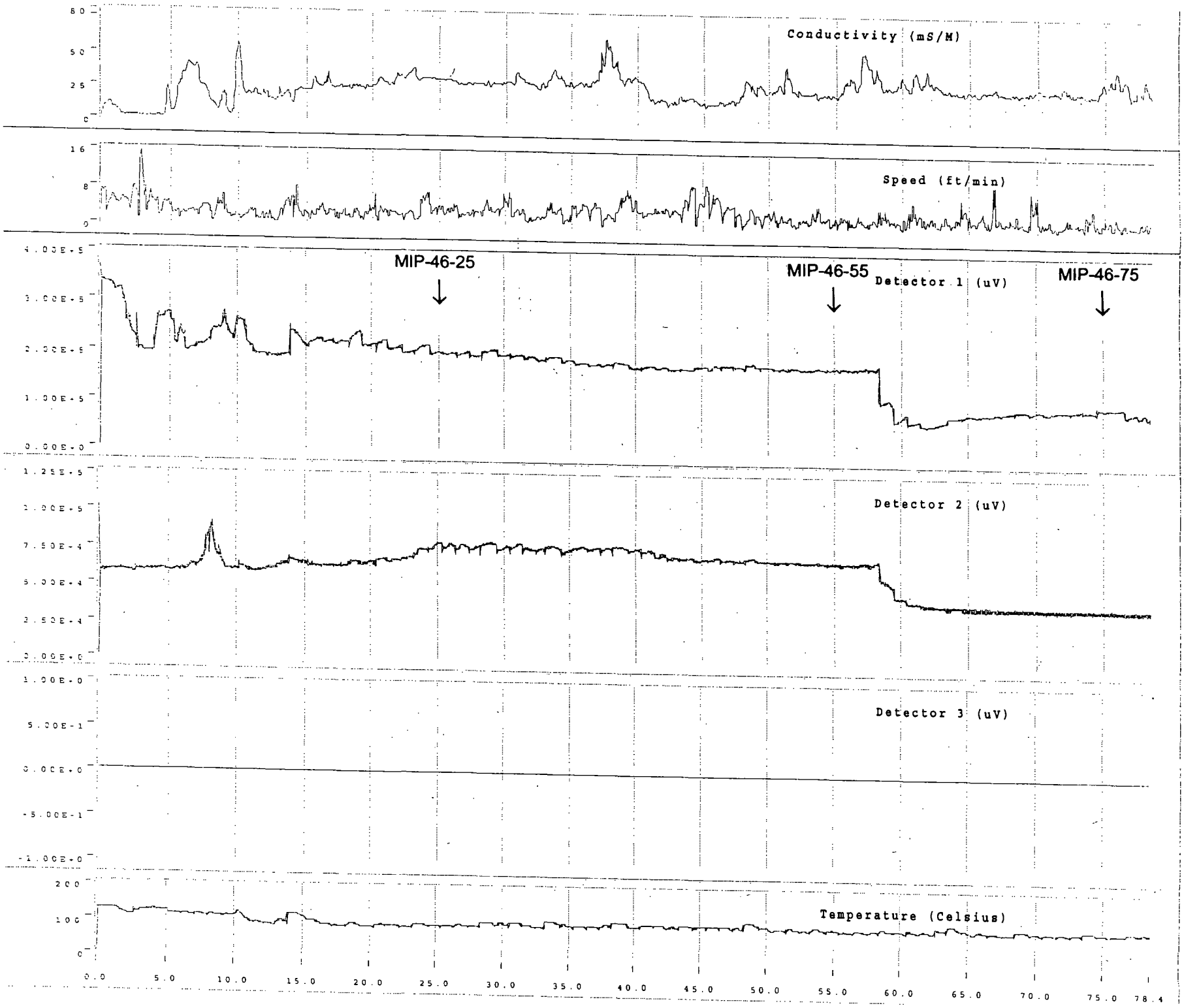
Log: C:\MIPDAYTON\MIP43\MIP43C.DAT



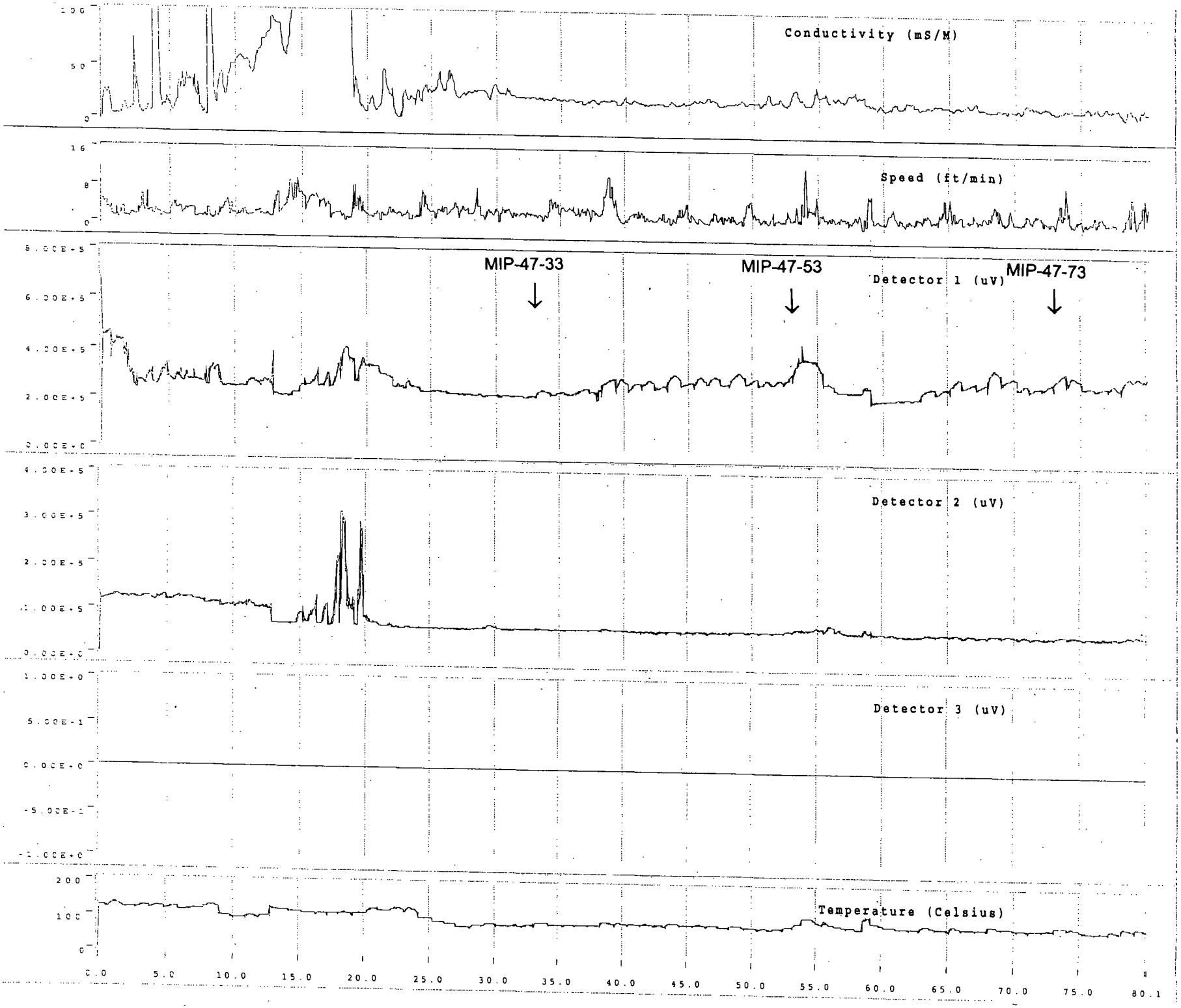
Log: C:\mip dayton\mip44\mip44.DAT



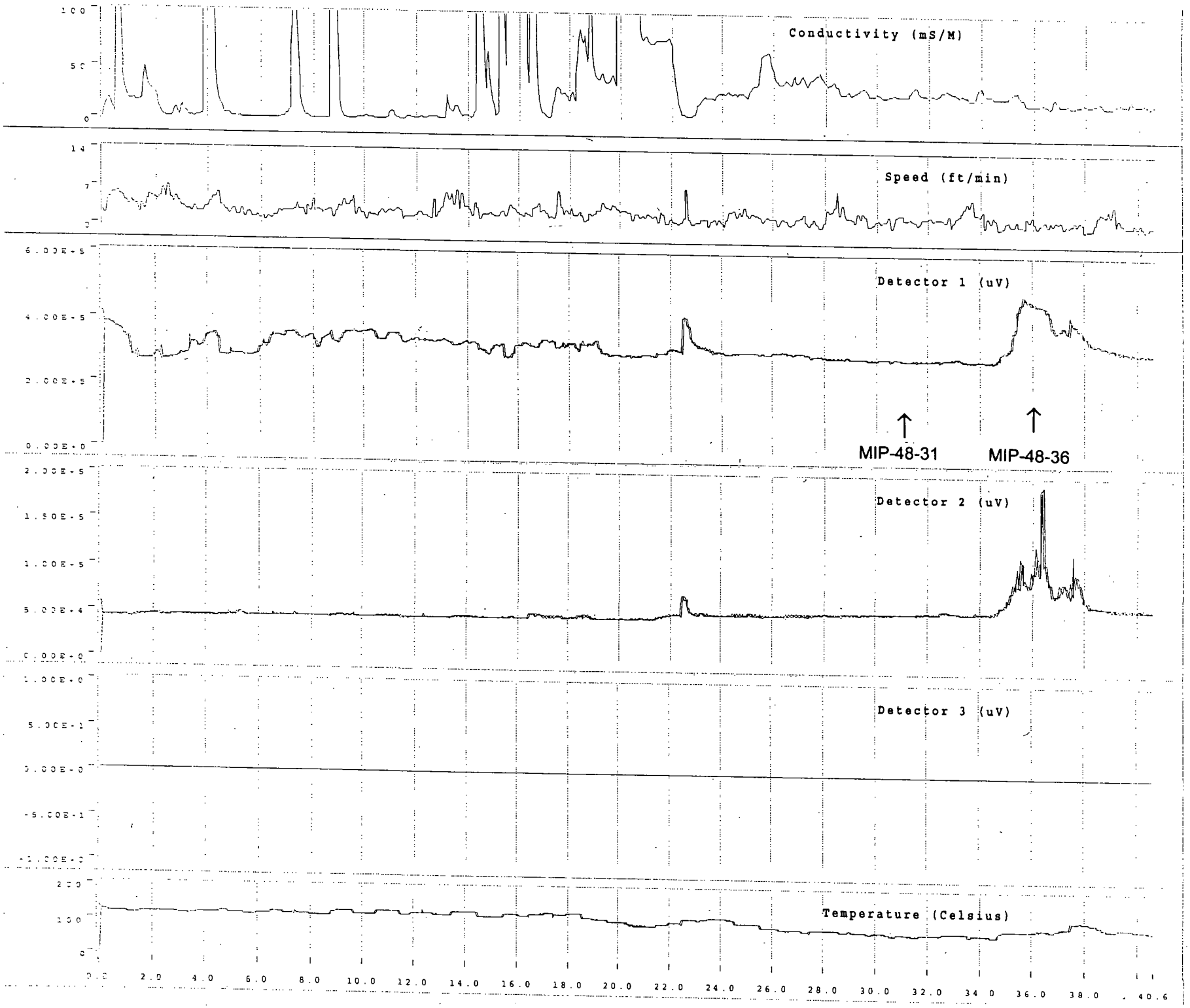
Log: C:\mip dayton\mip46\mip46.DAT



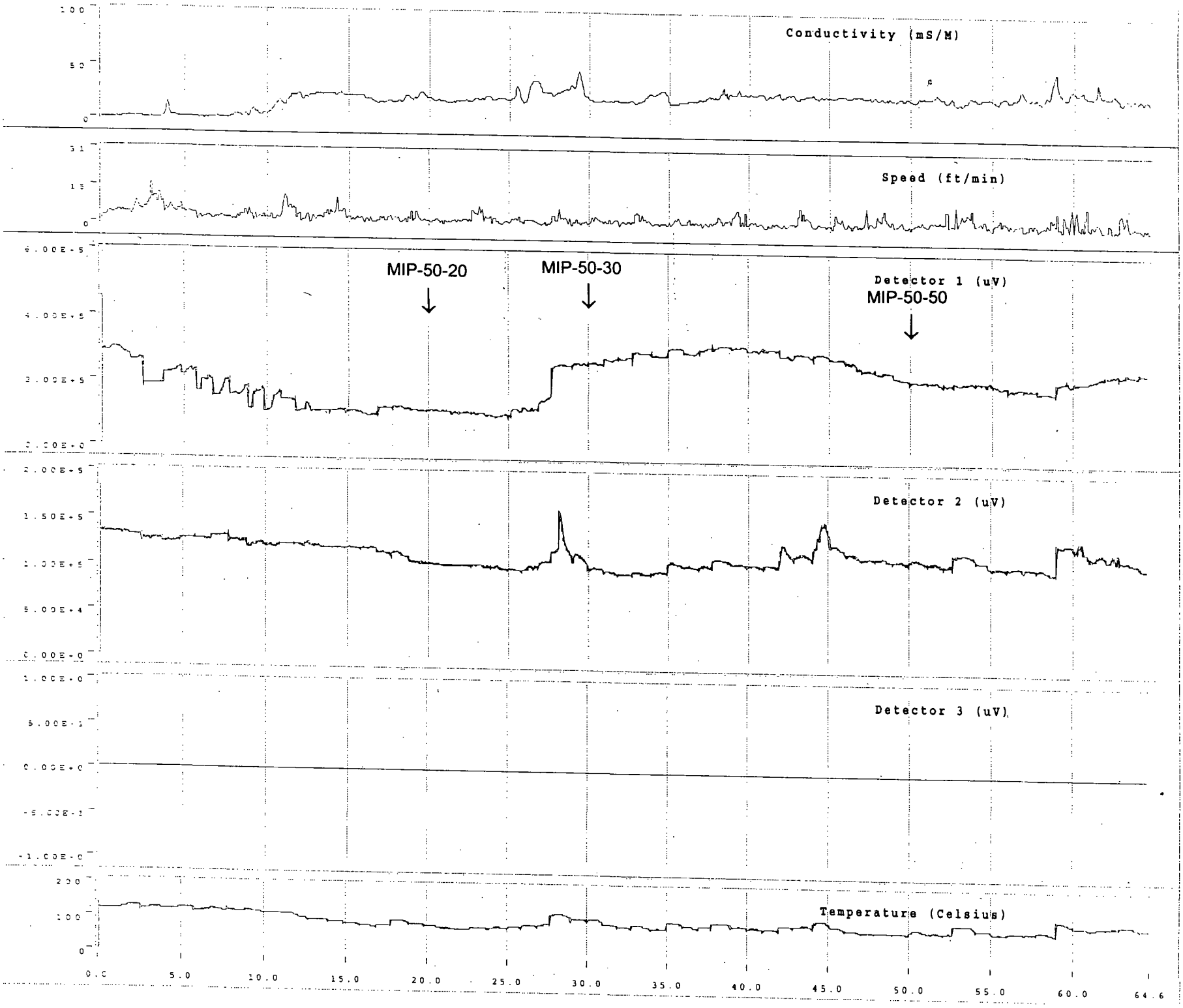
Log: C:\mip dayton\mip47\mip47.DAT



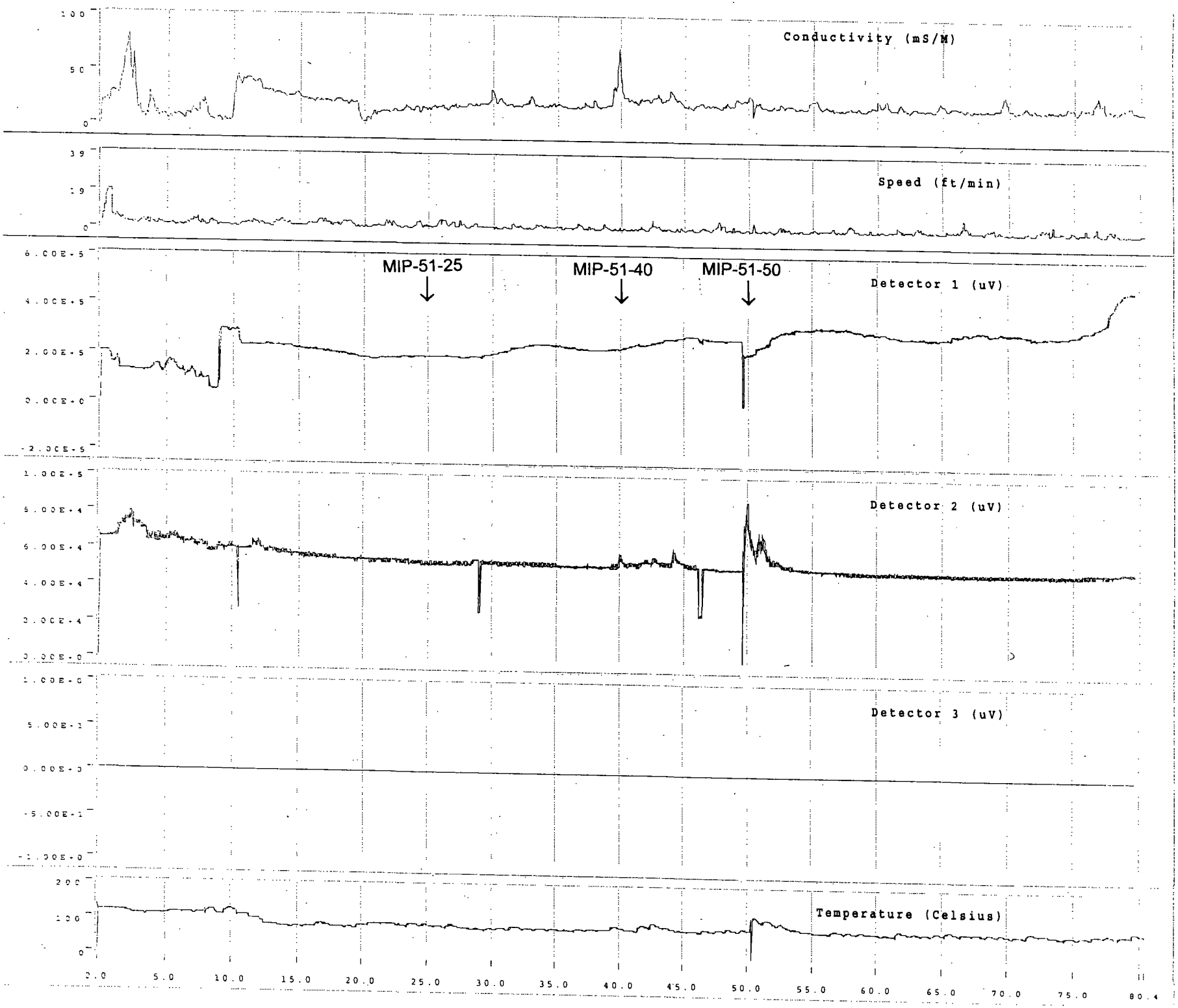
Log: C:\mip dayton\mip48\mip48.DAT



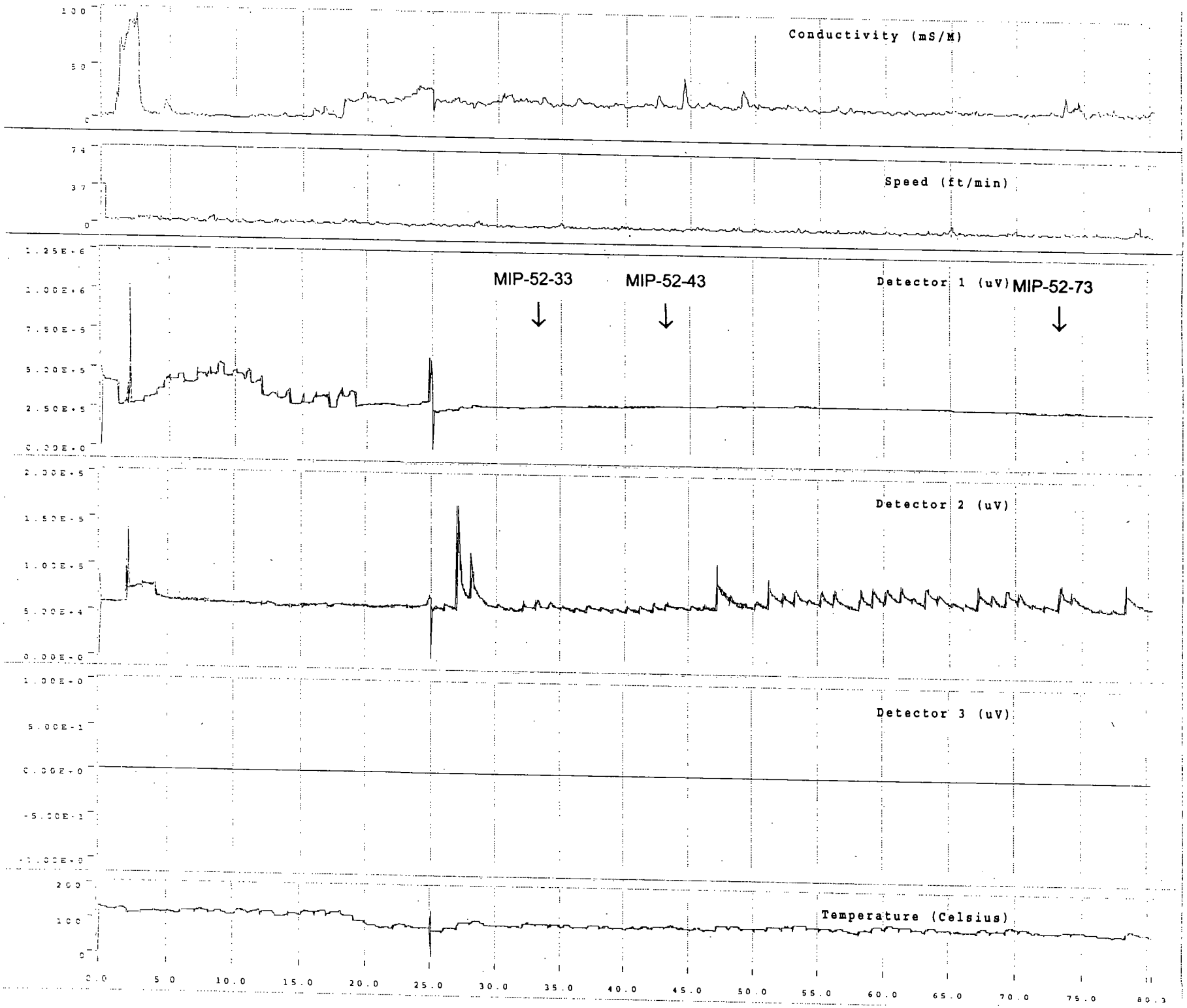
Log: C:\mip dayton\mip50\mip50.DAT



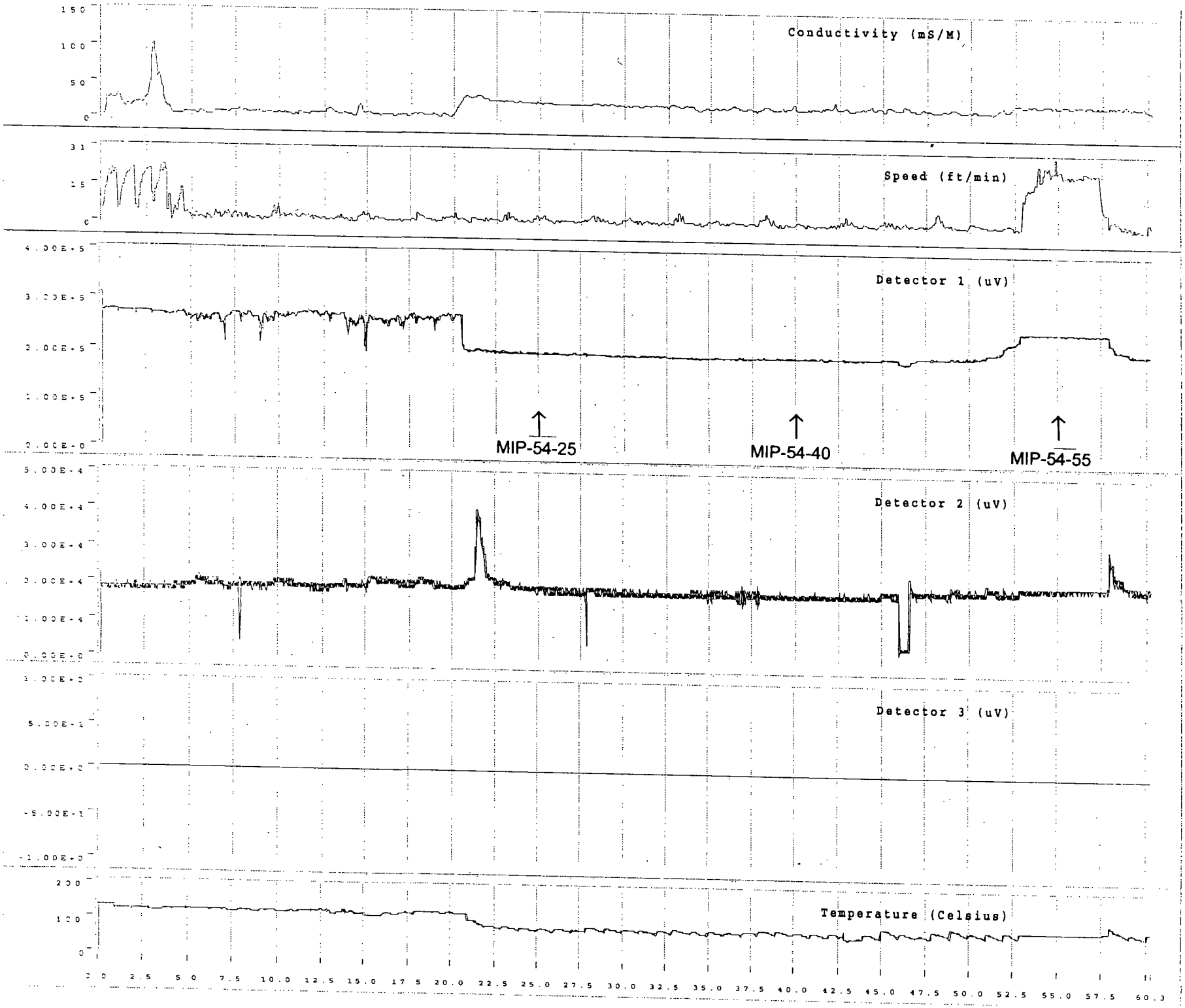
Log: C:\MIPDAYTON\MIP51\



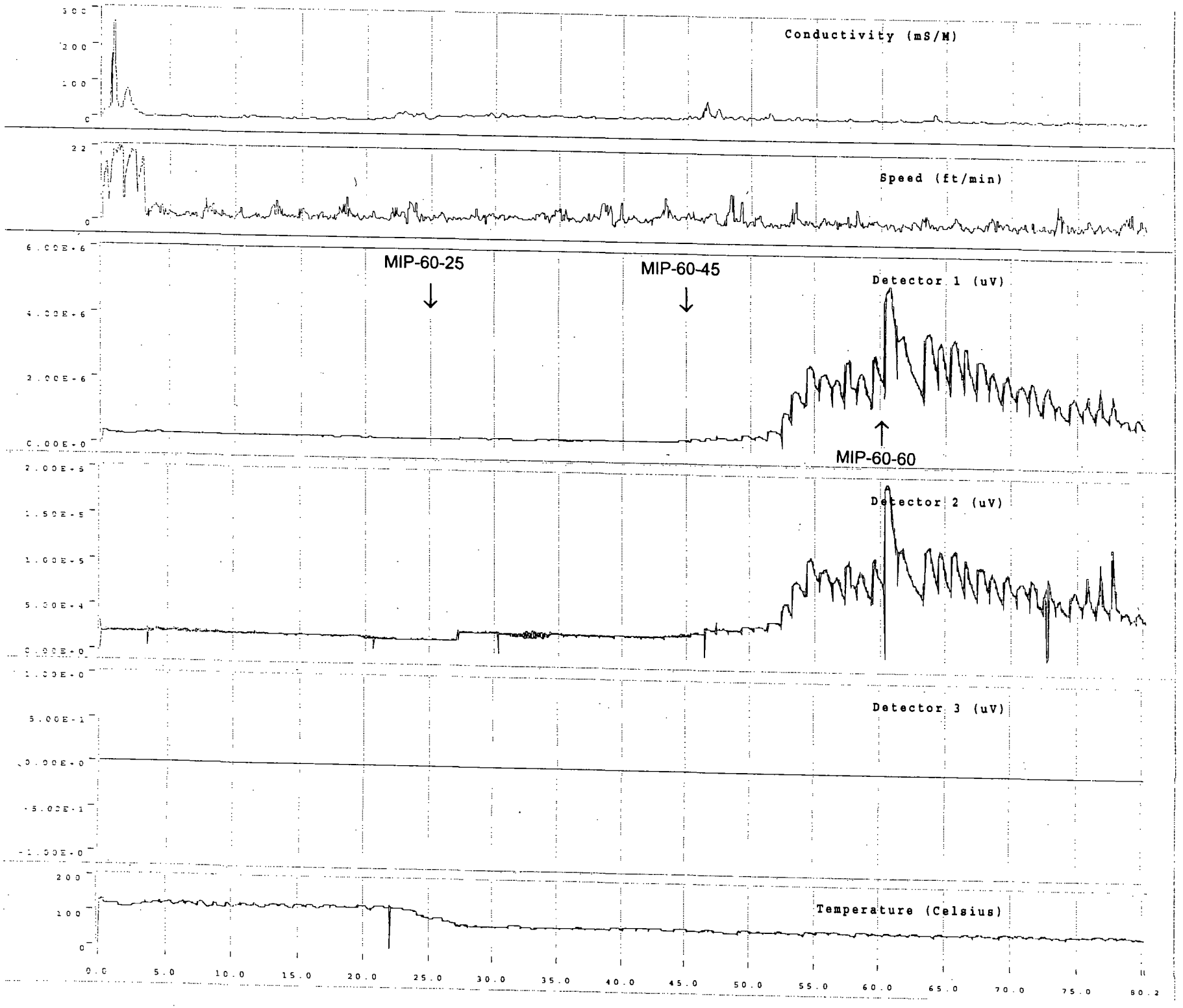
Log: C:\mip dayton\mip52\mip52.DAT



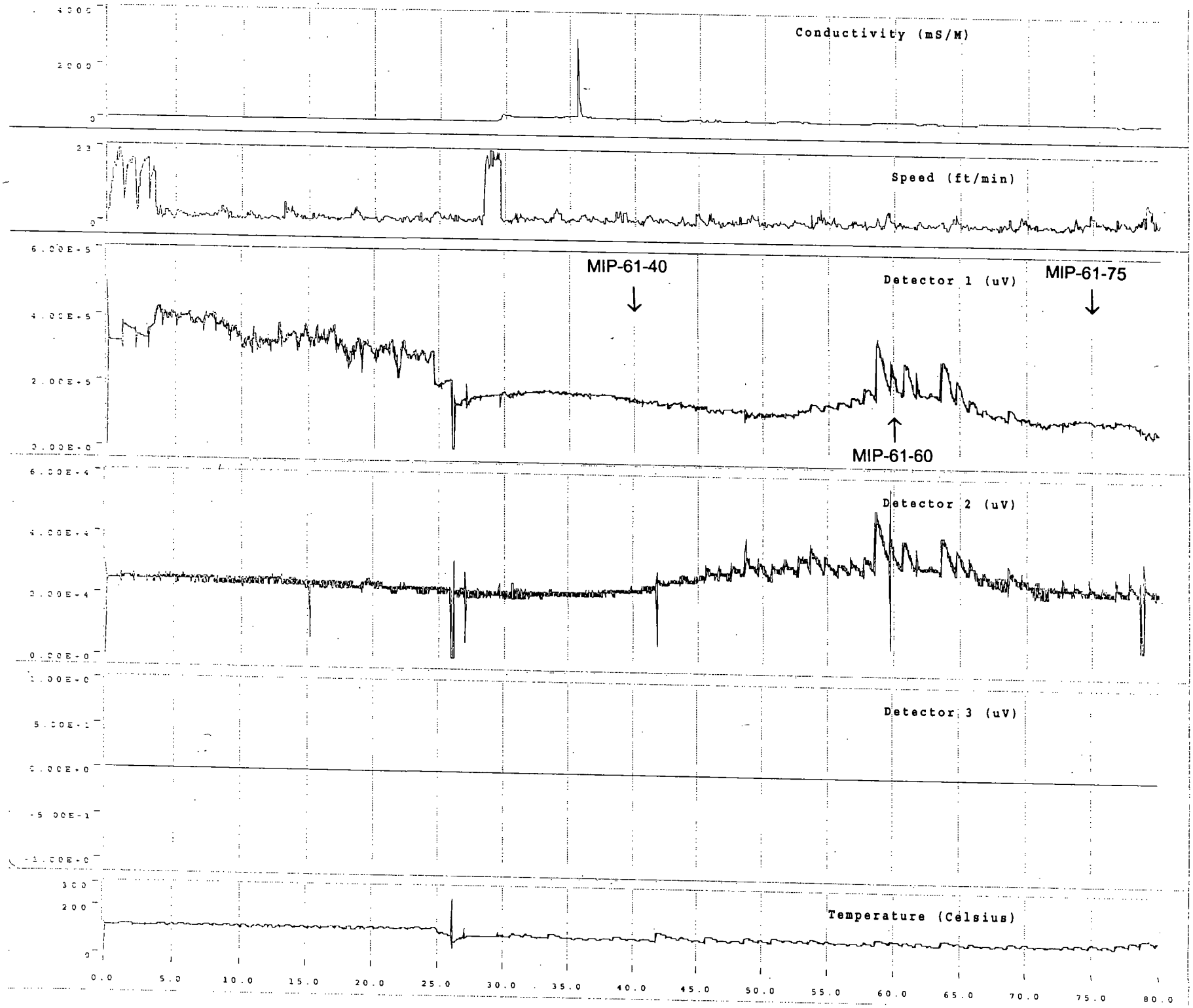
Log: C:\MIPDAYTON\mip54\mip54.DAT



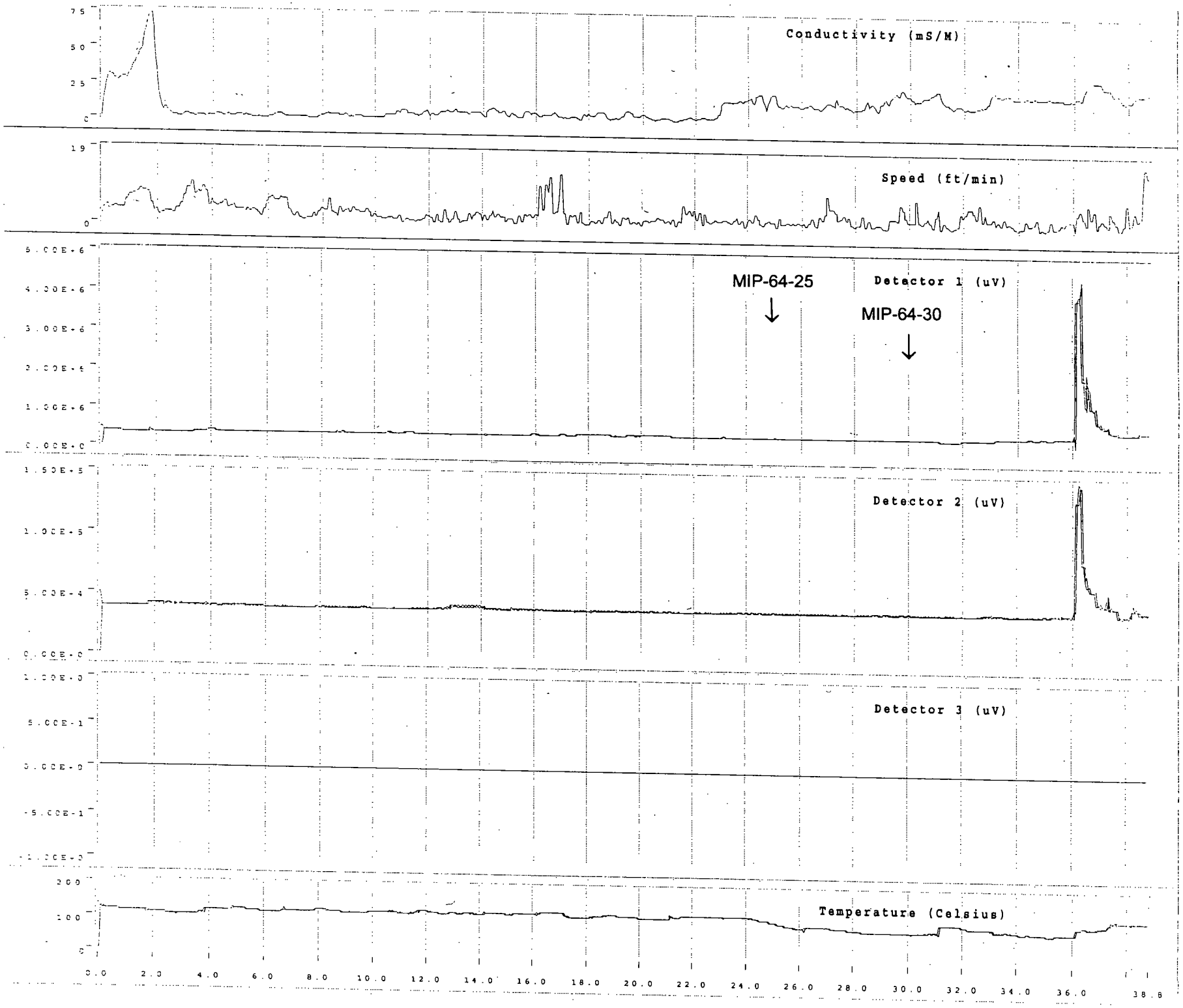
Log: C:\MIPDAYTON\mip60\



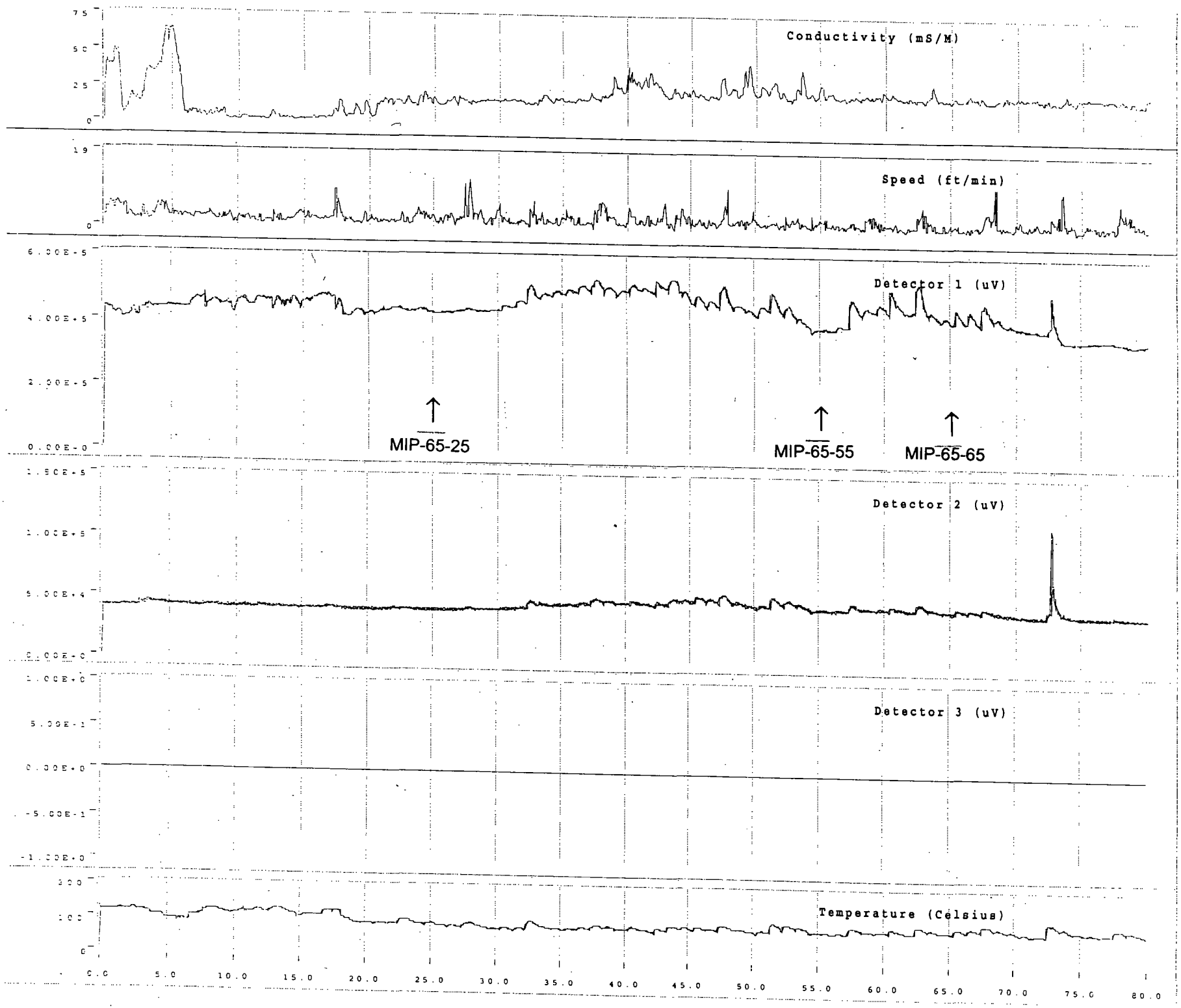
Log: C:\MIPDAYTON\MIP61\mip61.DAT



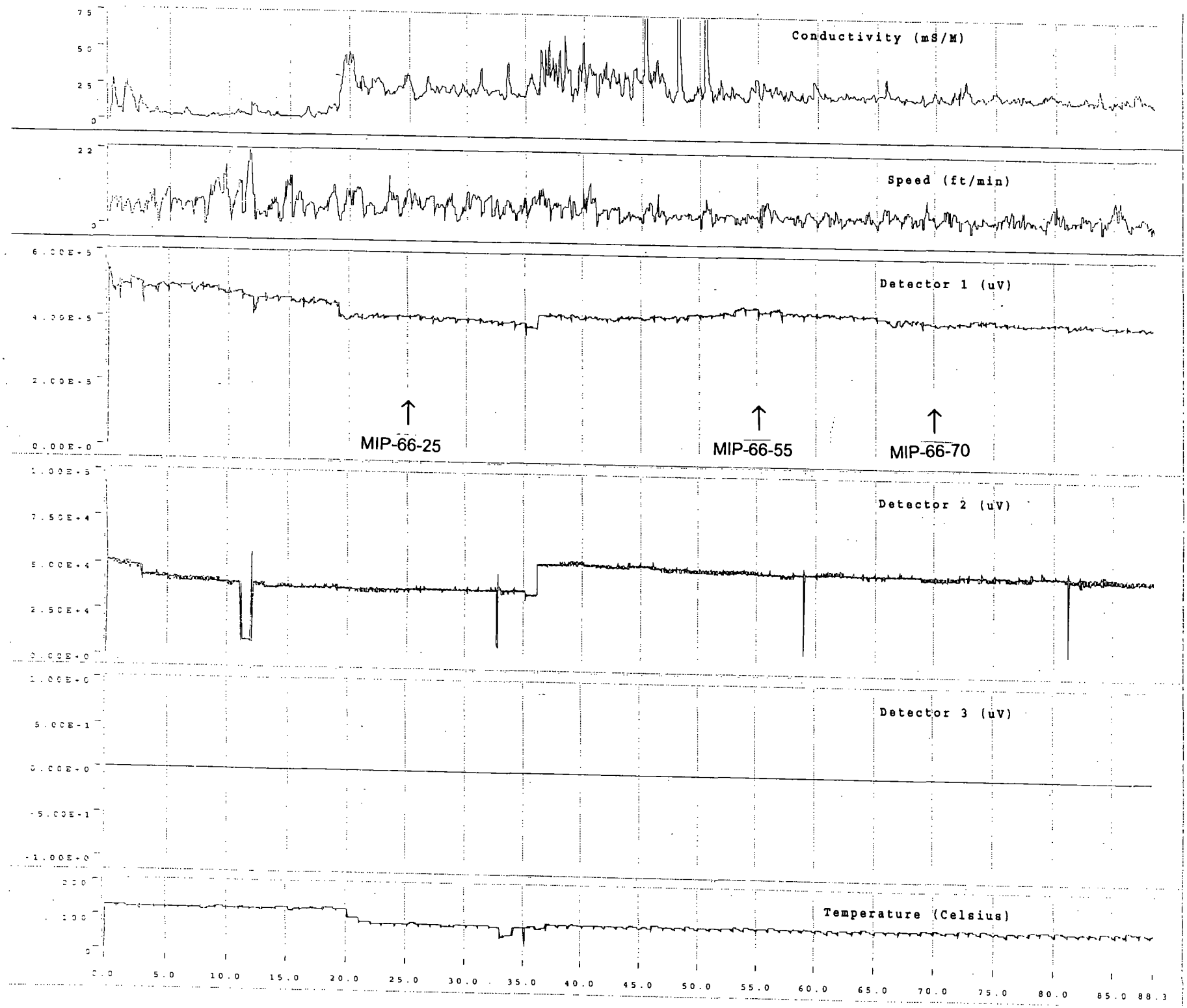
Log: C:\MIPDAYTON\MIP64\MIP64.DAT



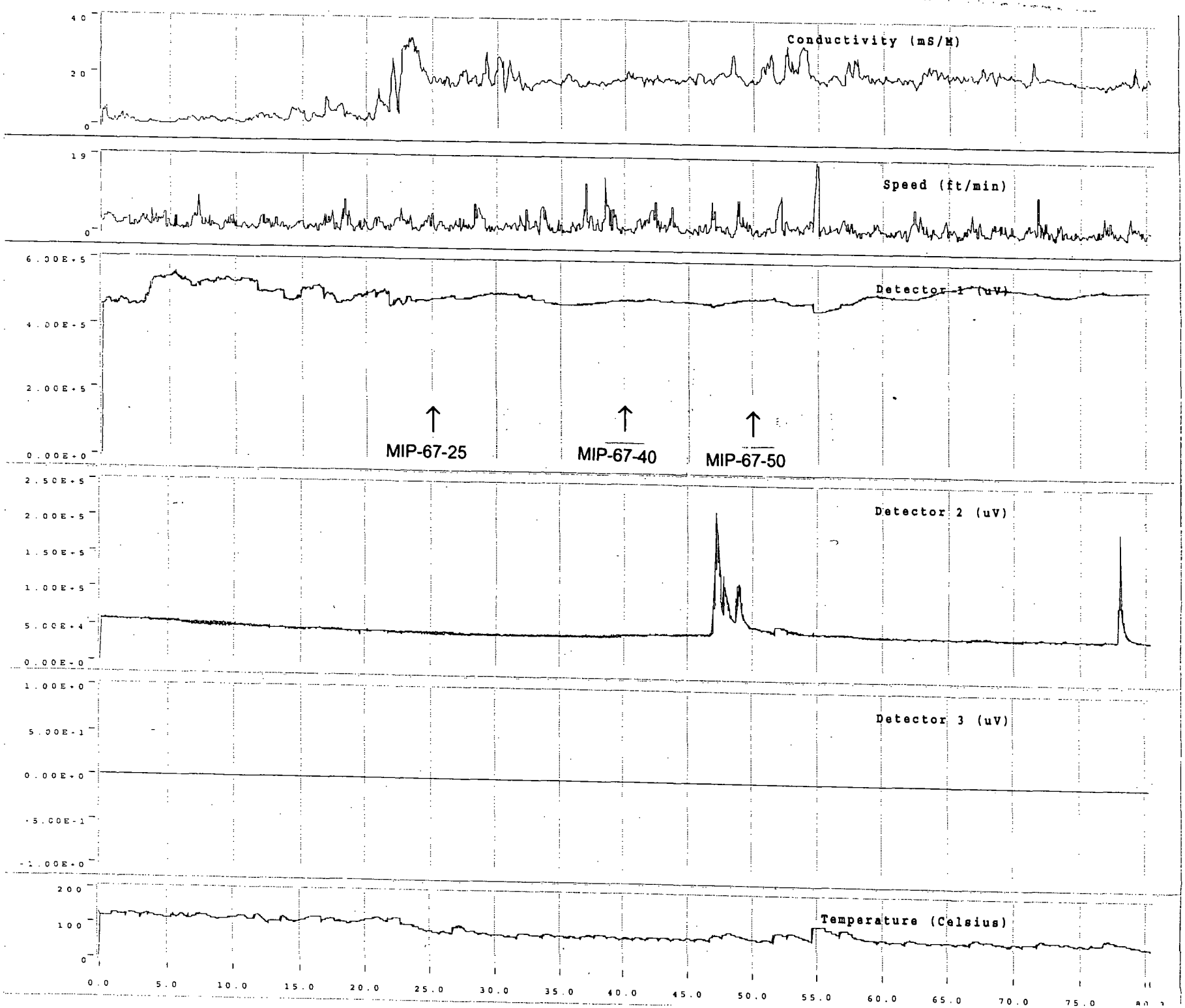
Log: C:\MIPDAYTON\MIP65\MIP65.DAT



Log: C:\MIPDAYTON\MIP66\MIP66.dat

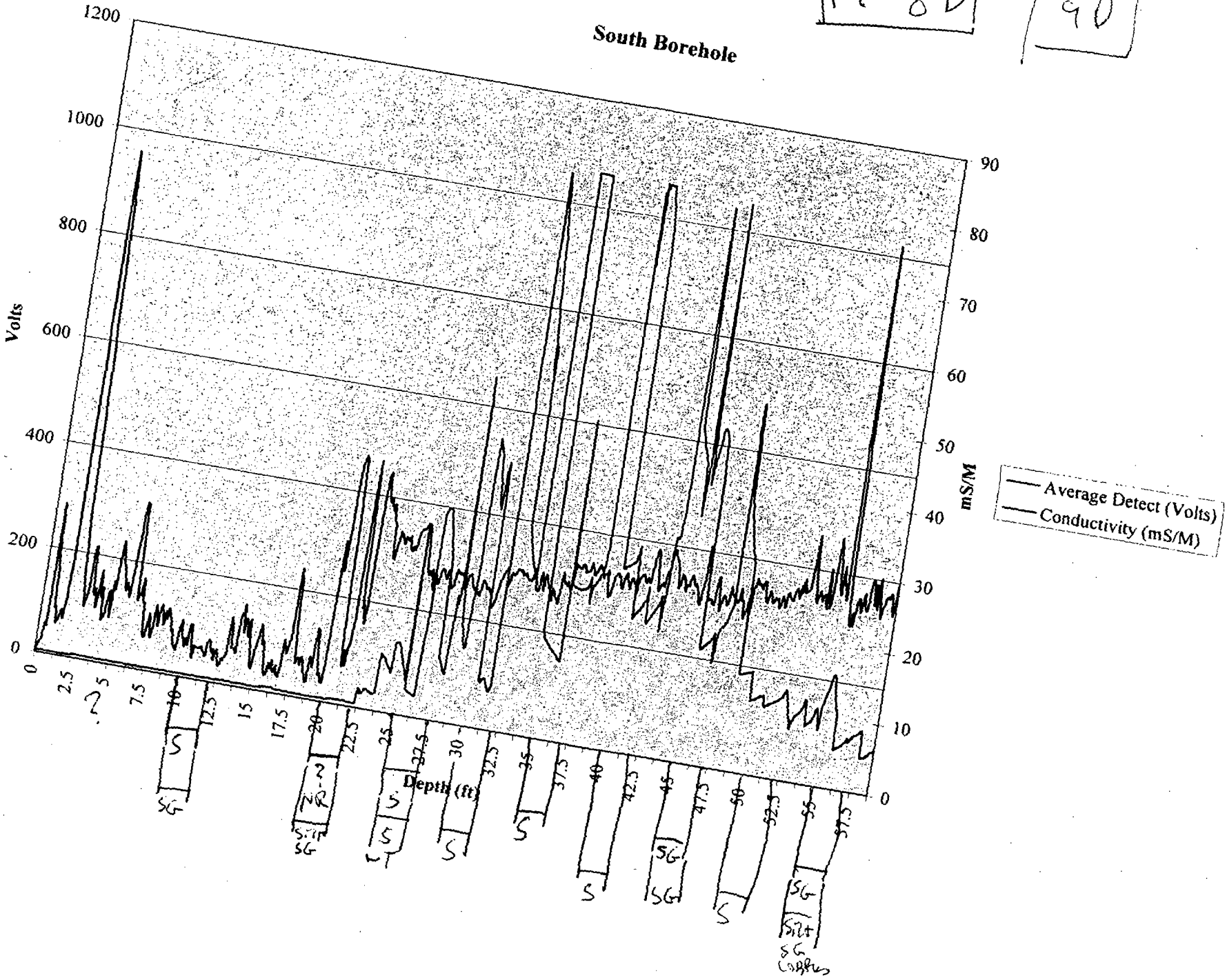


Log: C:\MIPDAYTON\MIP67\MIP67.DAT

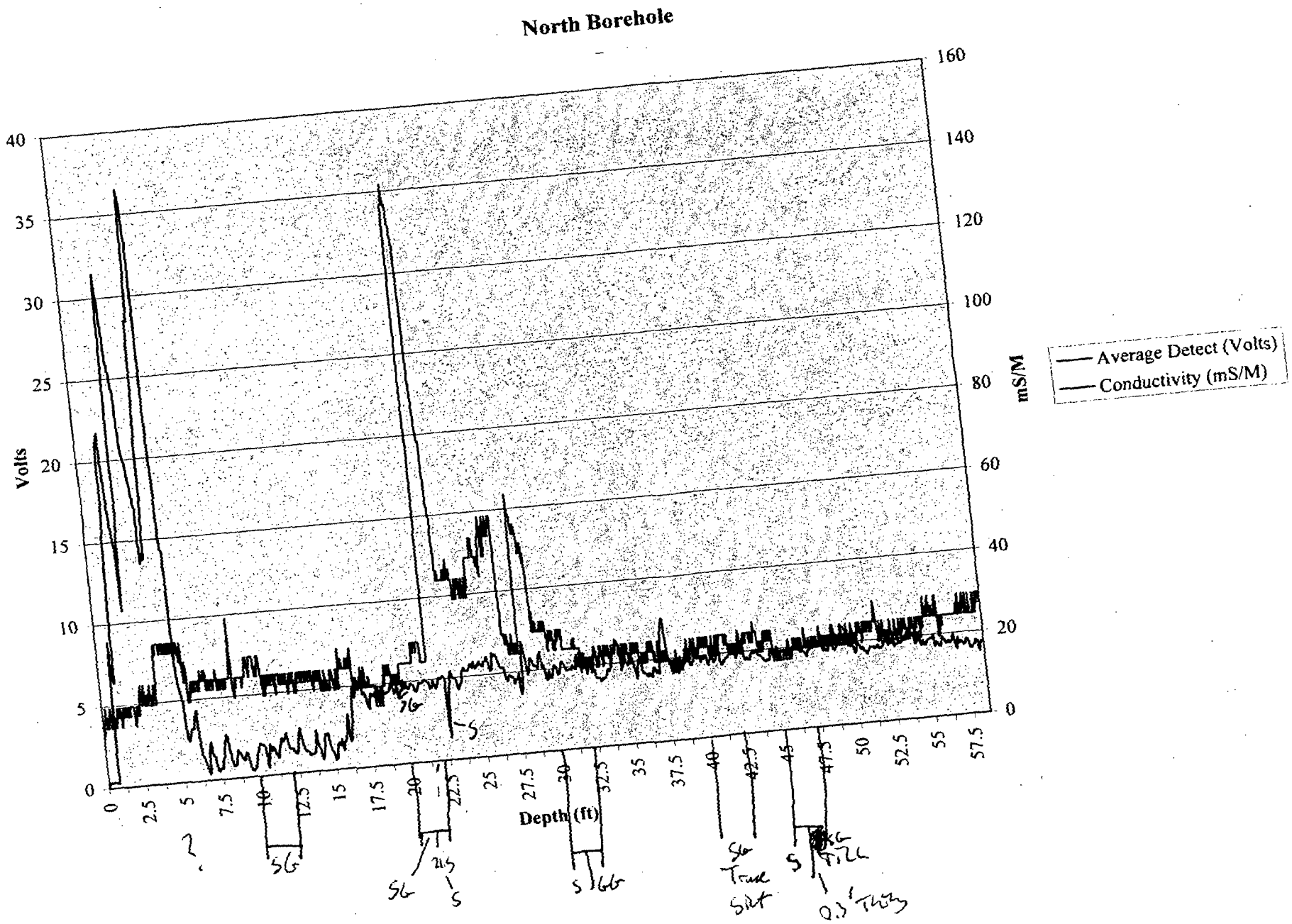


Pz 8D

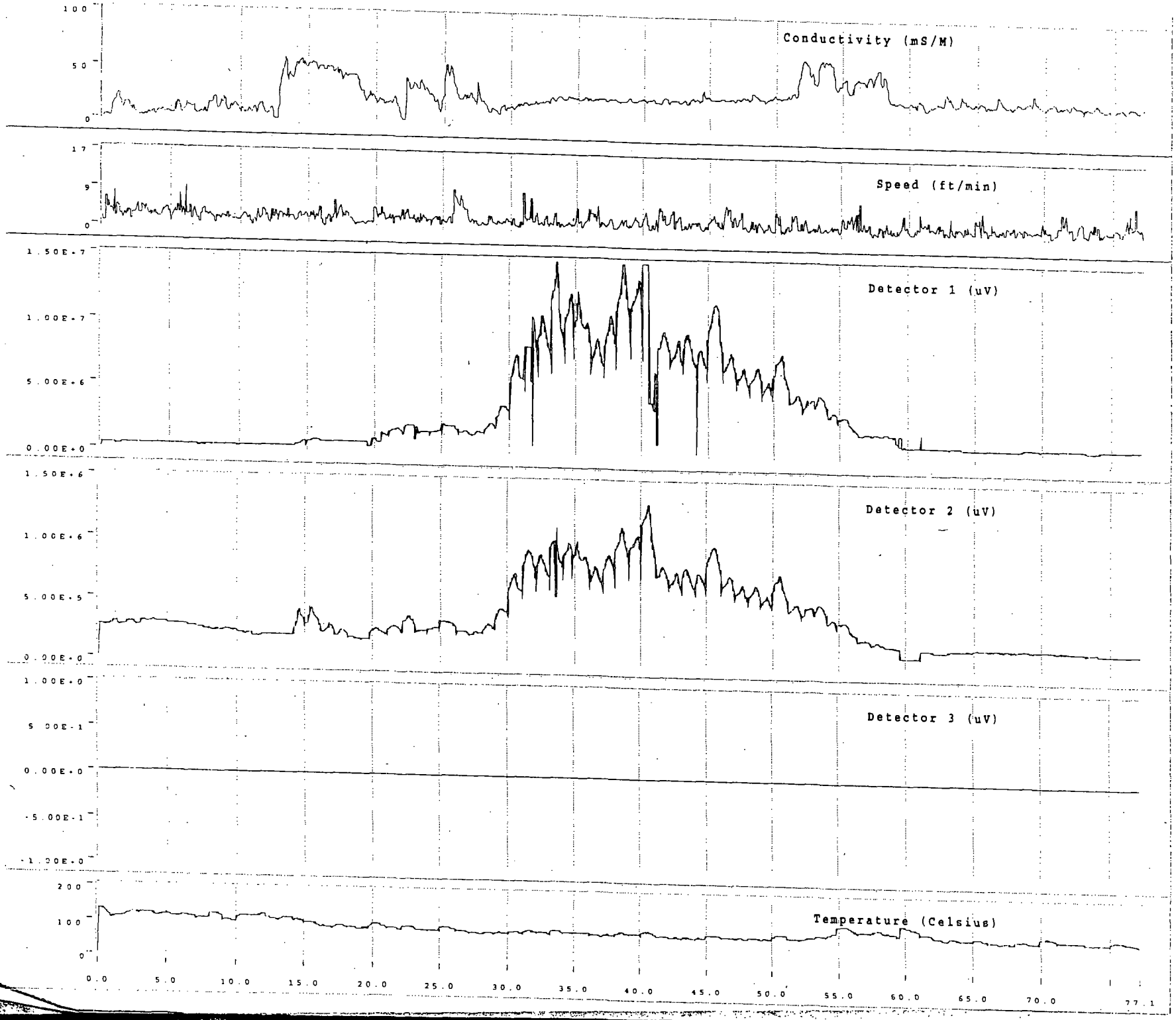
90


South Borehole
Volts
mS/M
Depth (ft)
Average Detect (Volts)
Conductivity (mS/M)

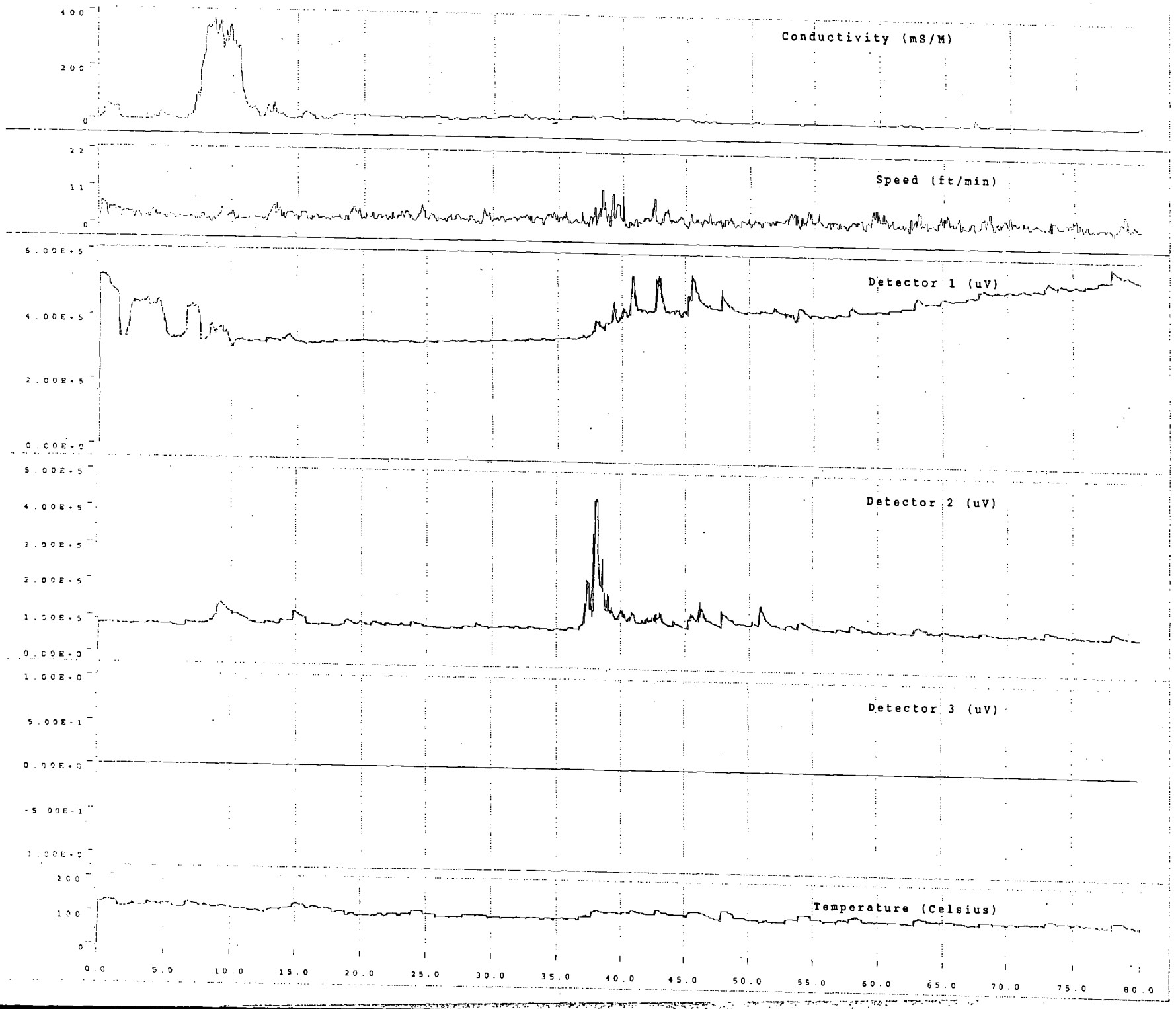
RE 22 I


North Borehole
Volts
mS/M
Depth (ft)
Average Detect (Volts)
Conductivity (mS/M)
0
5
10
15
20
25
30
35
40
0
20
40
60
80
100
120
140
160
0
2.5
5
7.5
10
12.5
15
17.5
20
22.5
25
27.5
30
32.5
35
37.5
40
42.5
45
47.5
50
52.5
55
57.5
SG
SG
S
SG
S
S
SG
Trace
Silt
S
SG
Clay
0.3' Thick

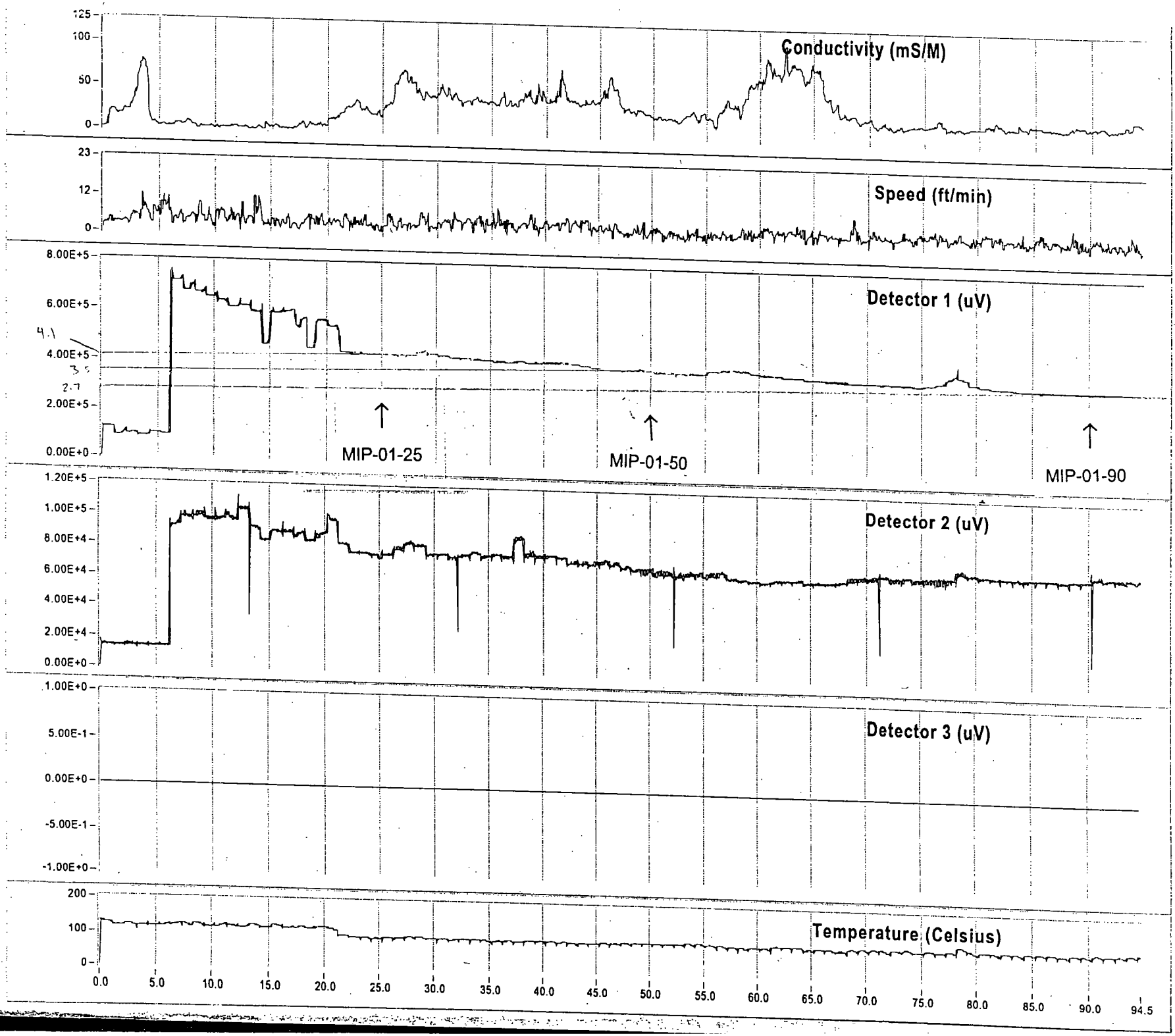
Log: C:\mip dayton\mipb1\mipb1.DAT



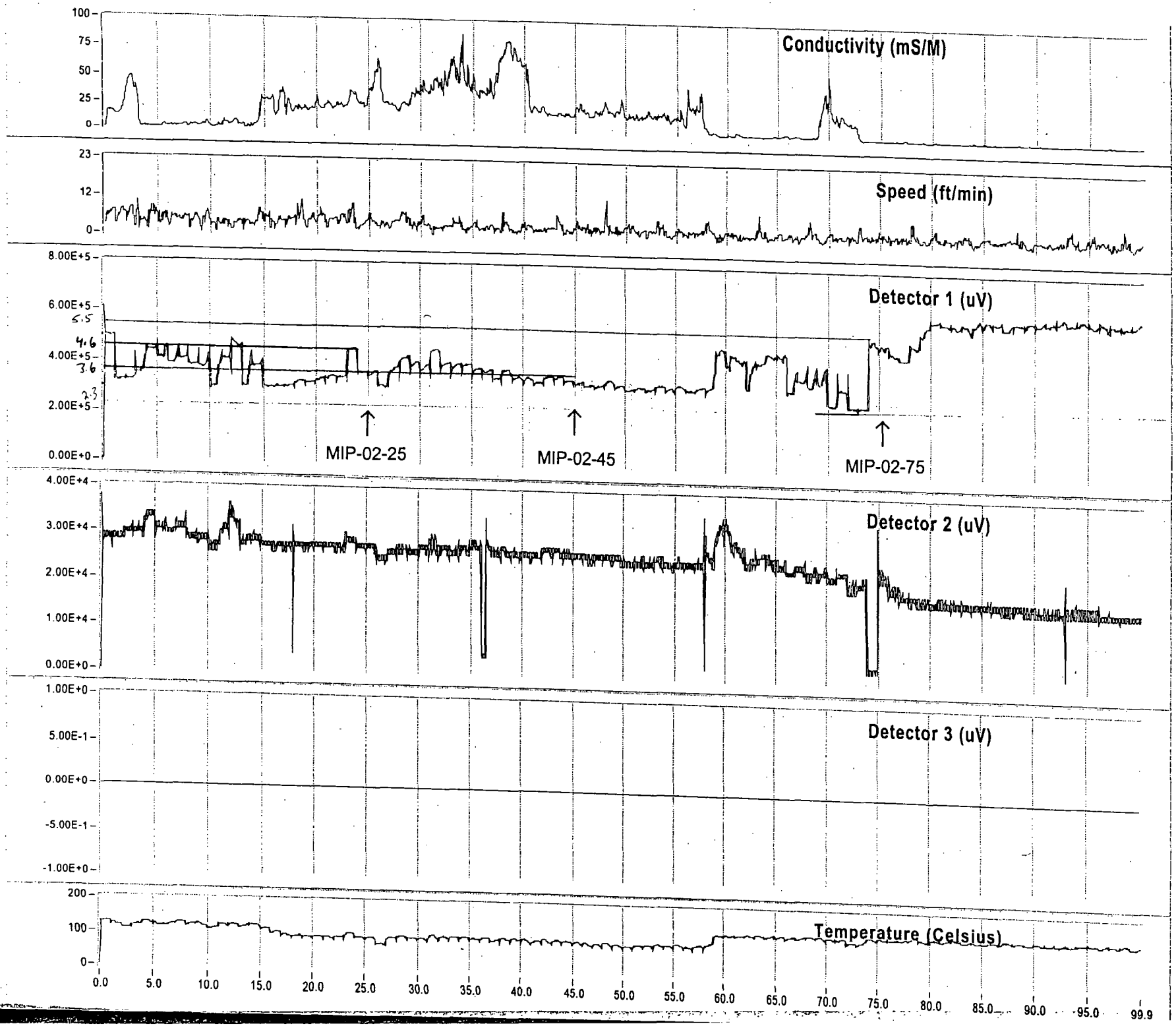
Log: C:\mip dayton\mip69\mip69.DAT



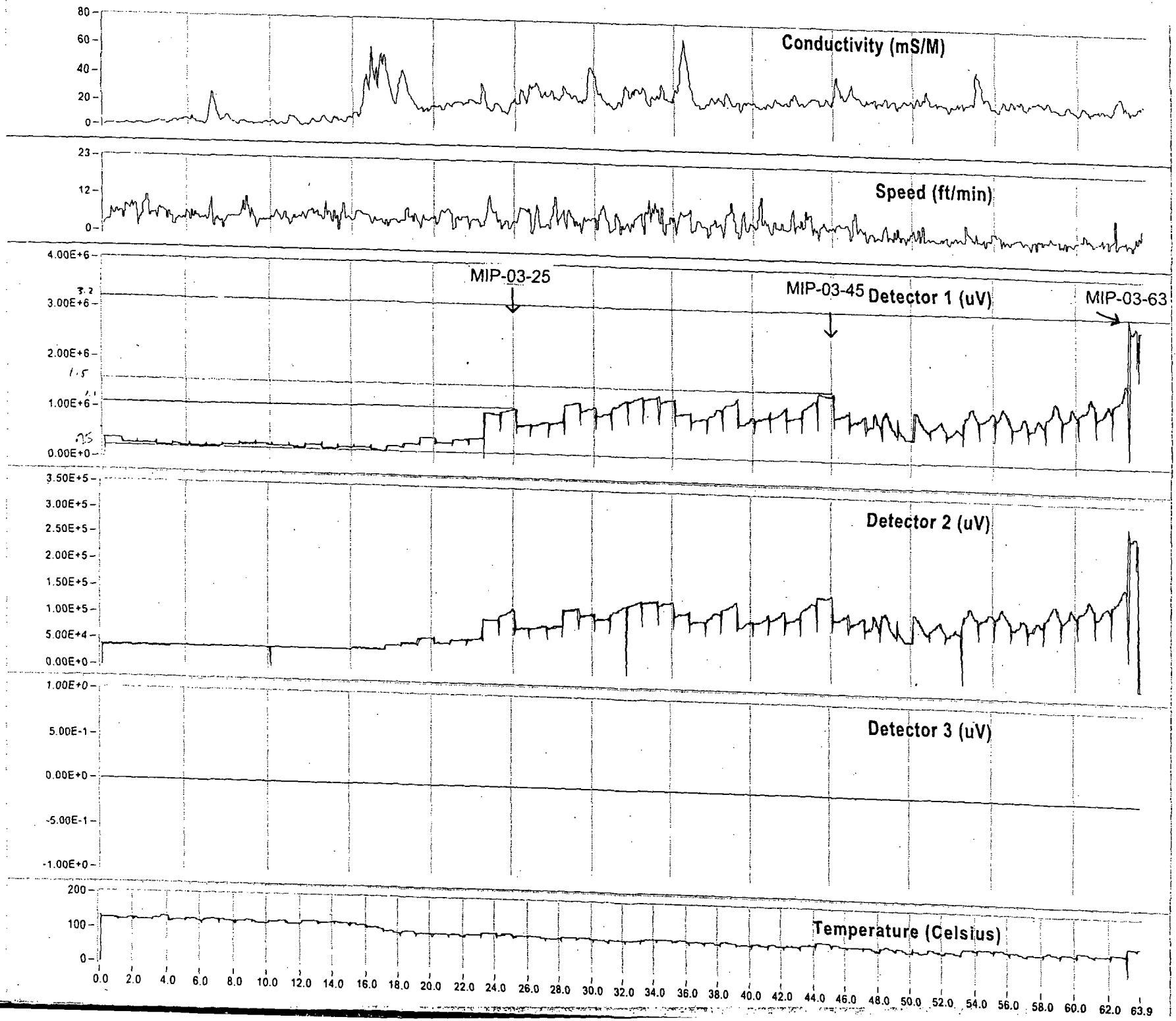
Log: \\BUFFY\C\MIP DAYTON\MIP01\MIP01.DAT



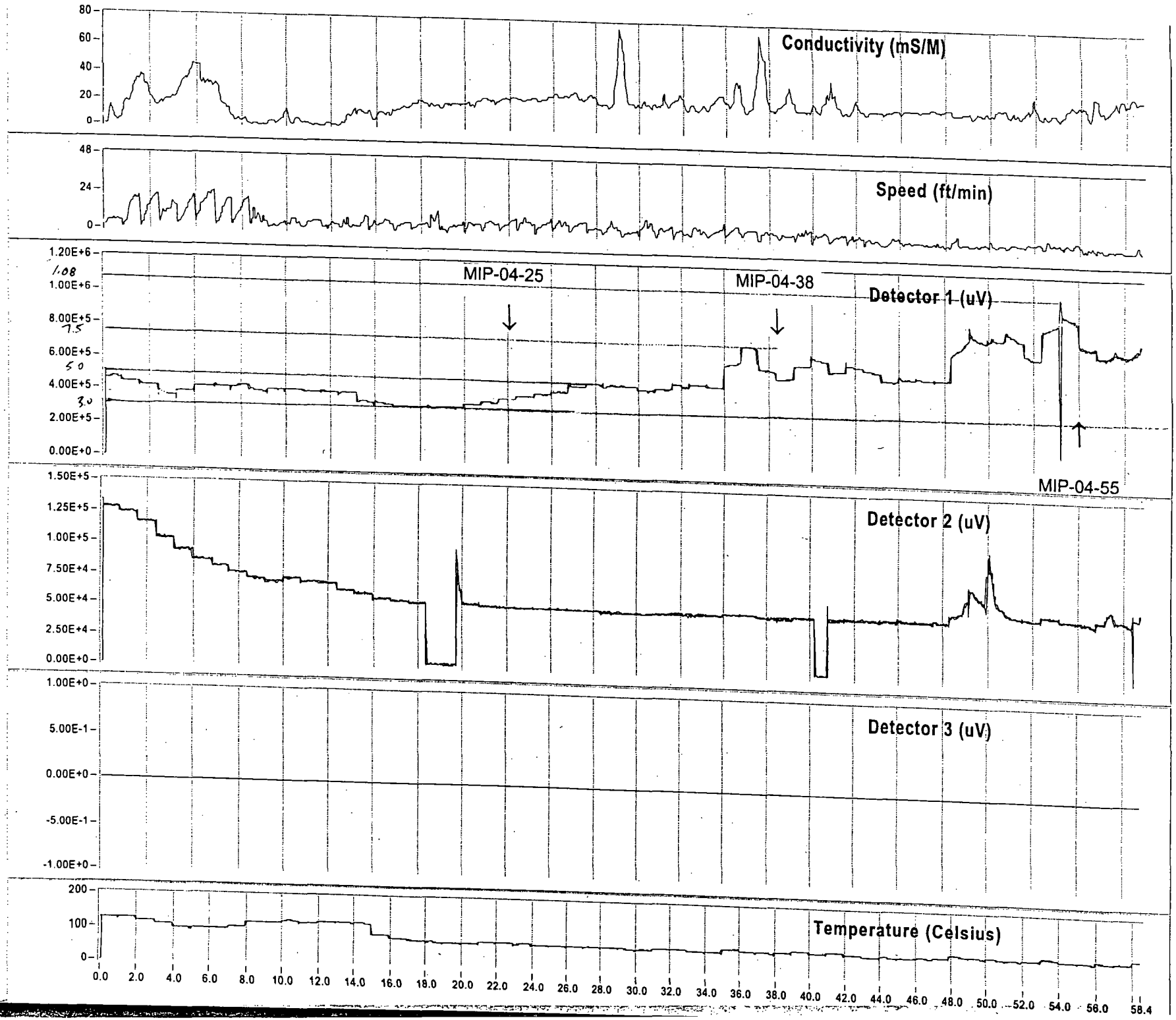
Log: \\BUFFY\C\MIP DAYTON\mip02\mip02.DAT



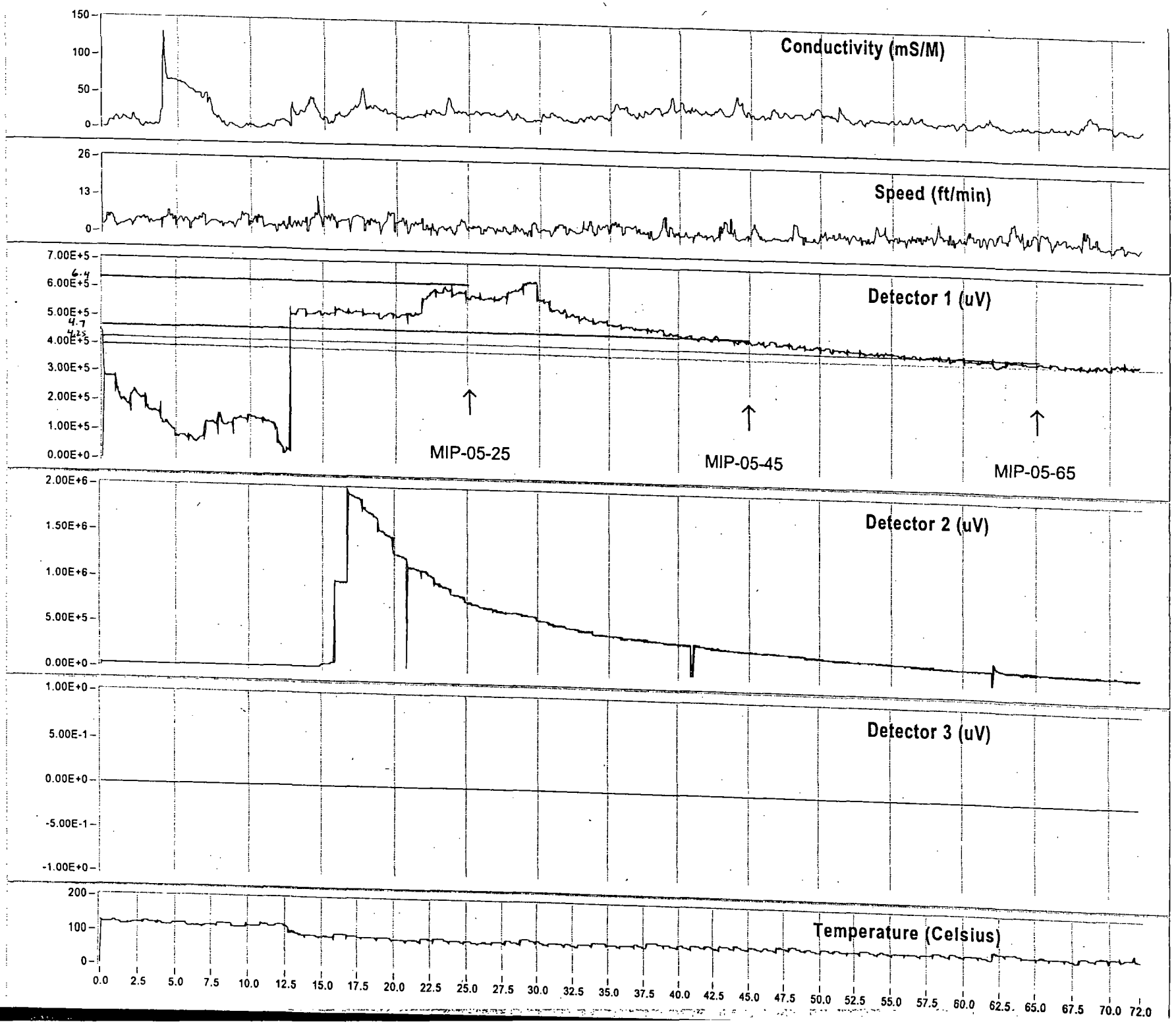
Log: \\BUFFY\C\MIP DAYTON\MIP03\mip03.DAT



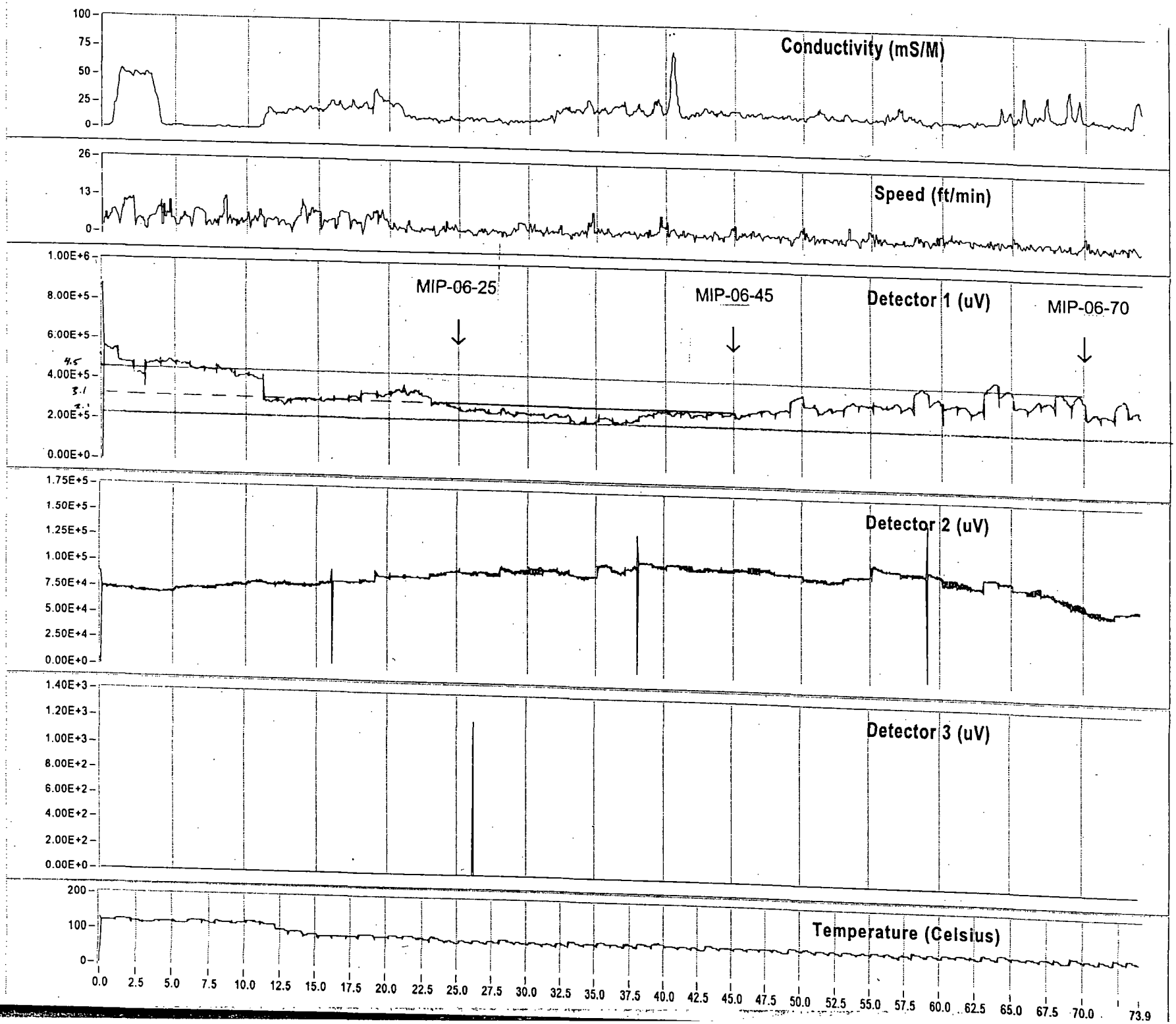
Log: C:\MIP Dayton\MIP4\MIP4.DAT



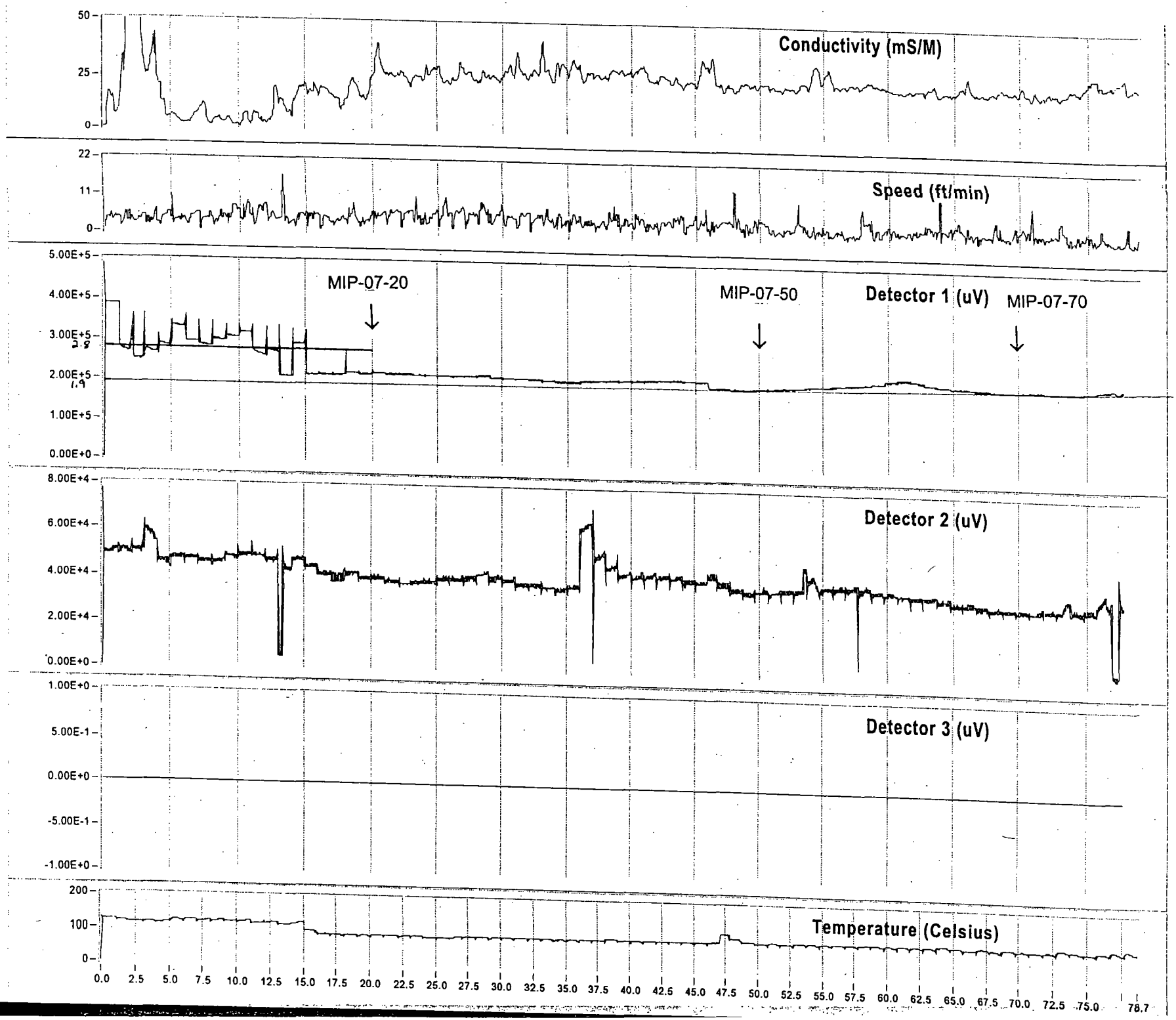
Log: C:\MIP Dayton\MIP05\MIP05.DAT



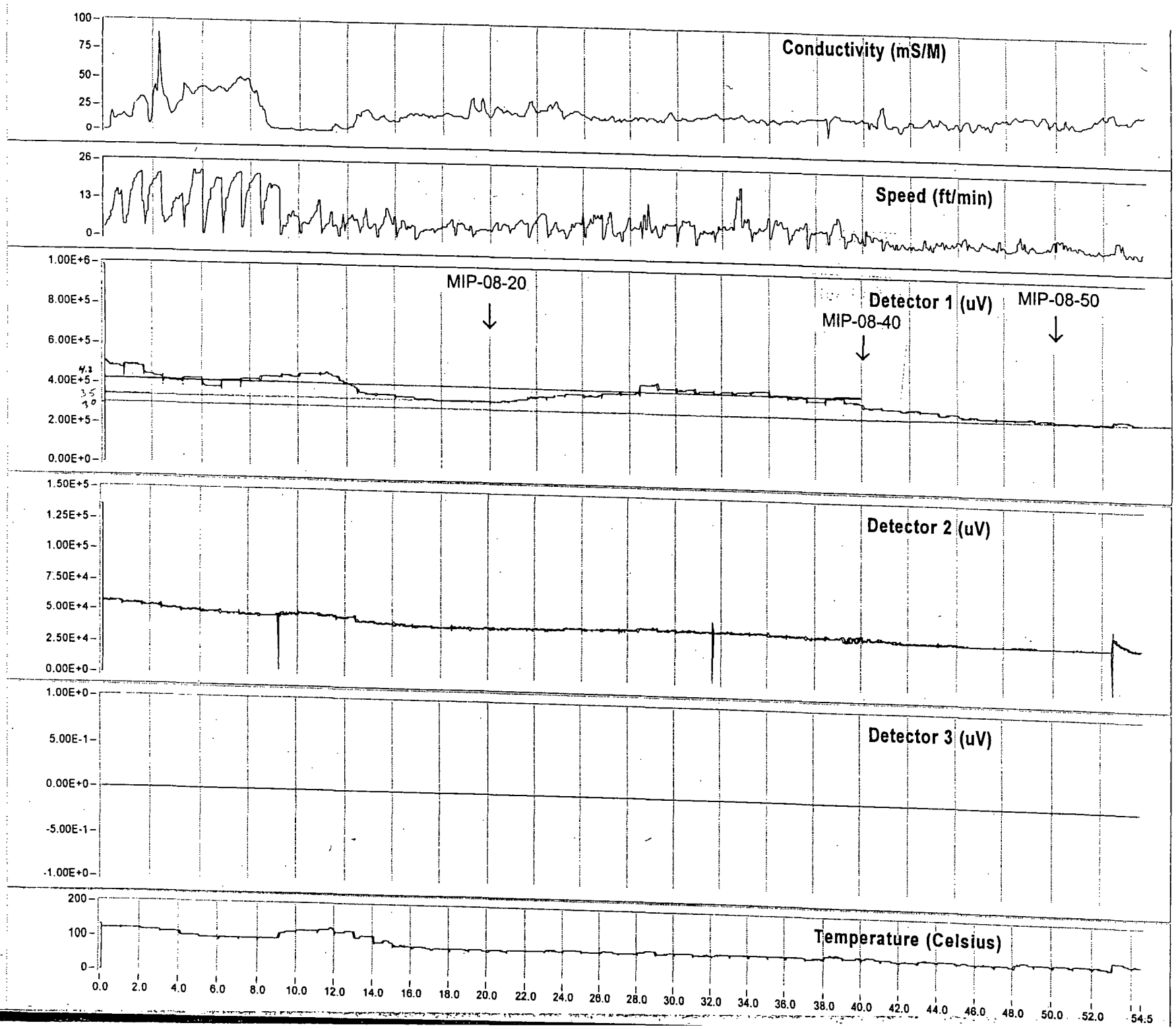
Log: C:\MIP Dayton\MIP06\MIP06.DAT



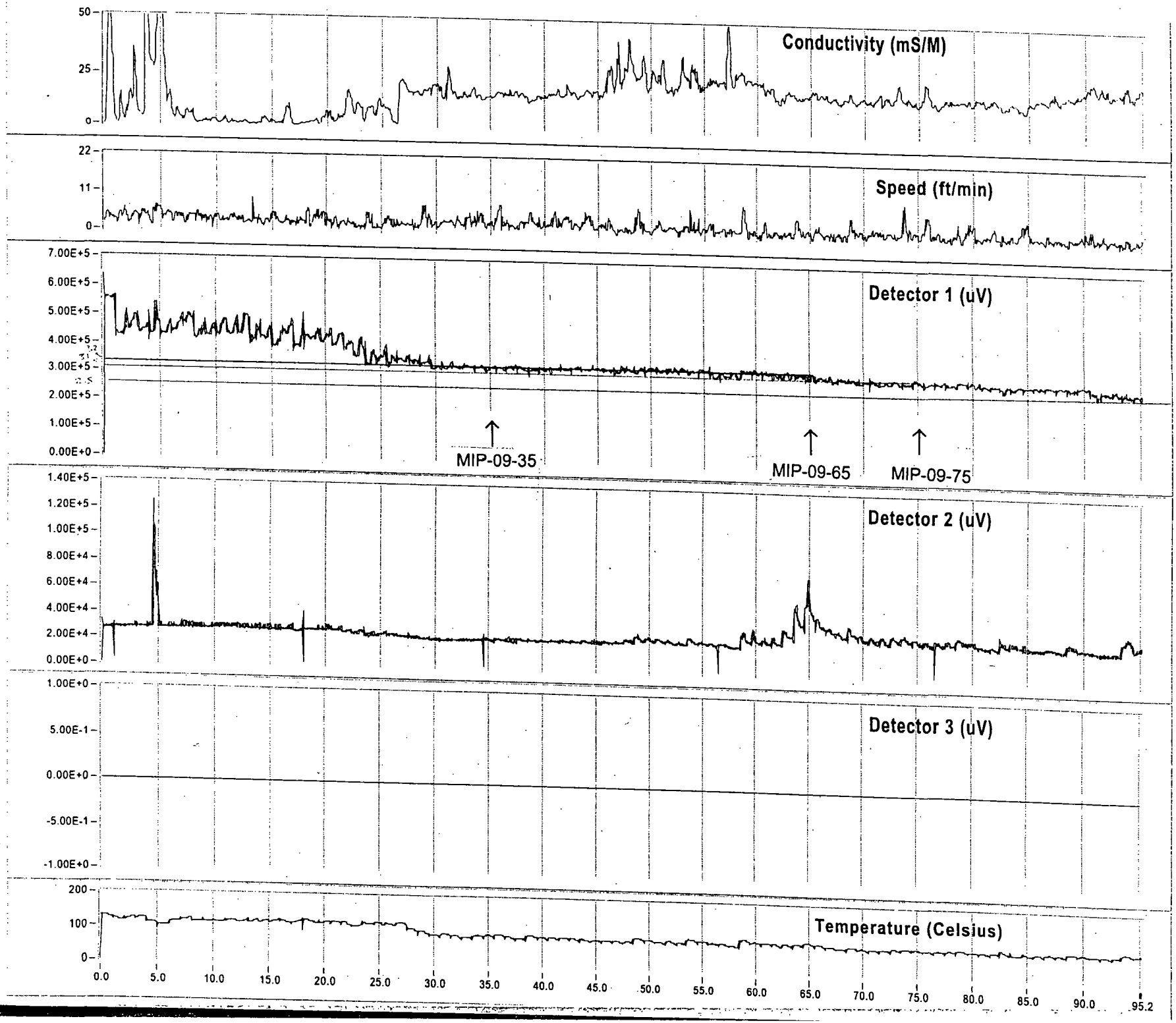
Log: \\BUFFY\C\MIP DAYTON\MIPO7\



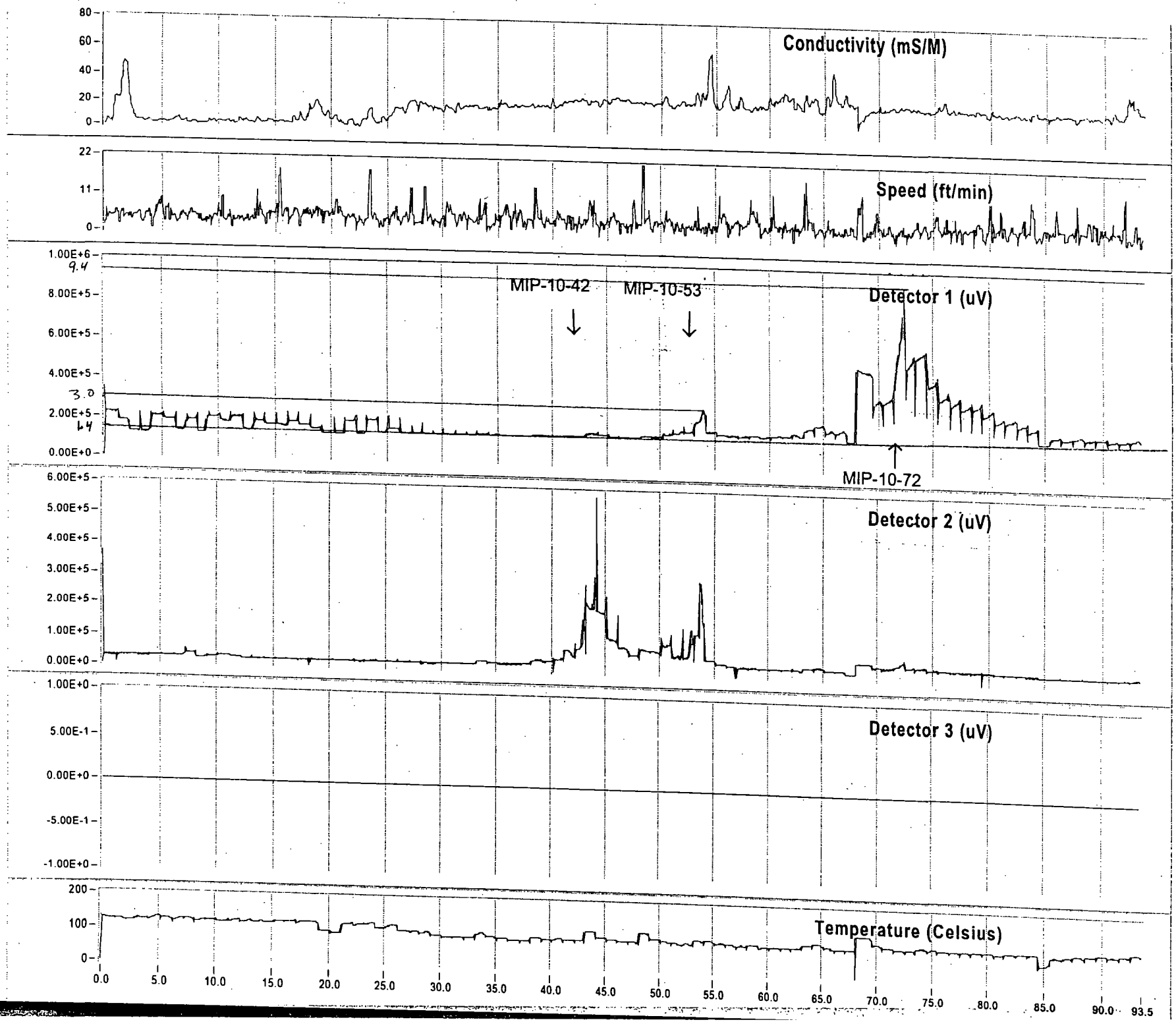
Log: C:\MIP Dayton\MIP8\MIP8.DAT



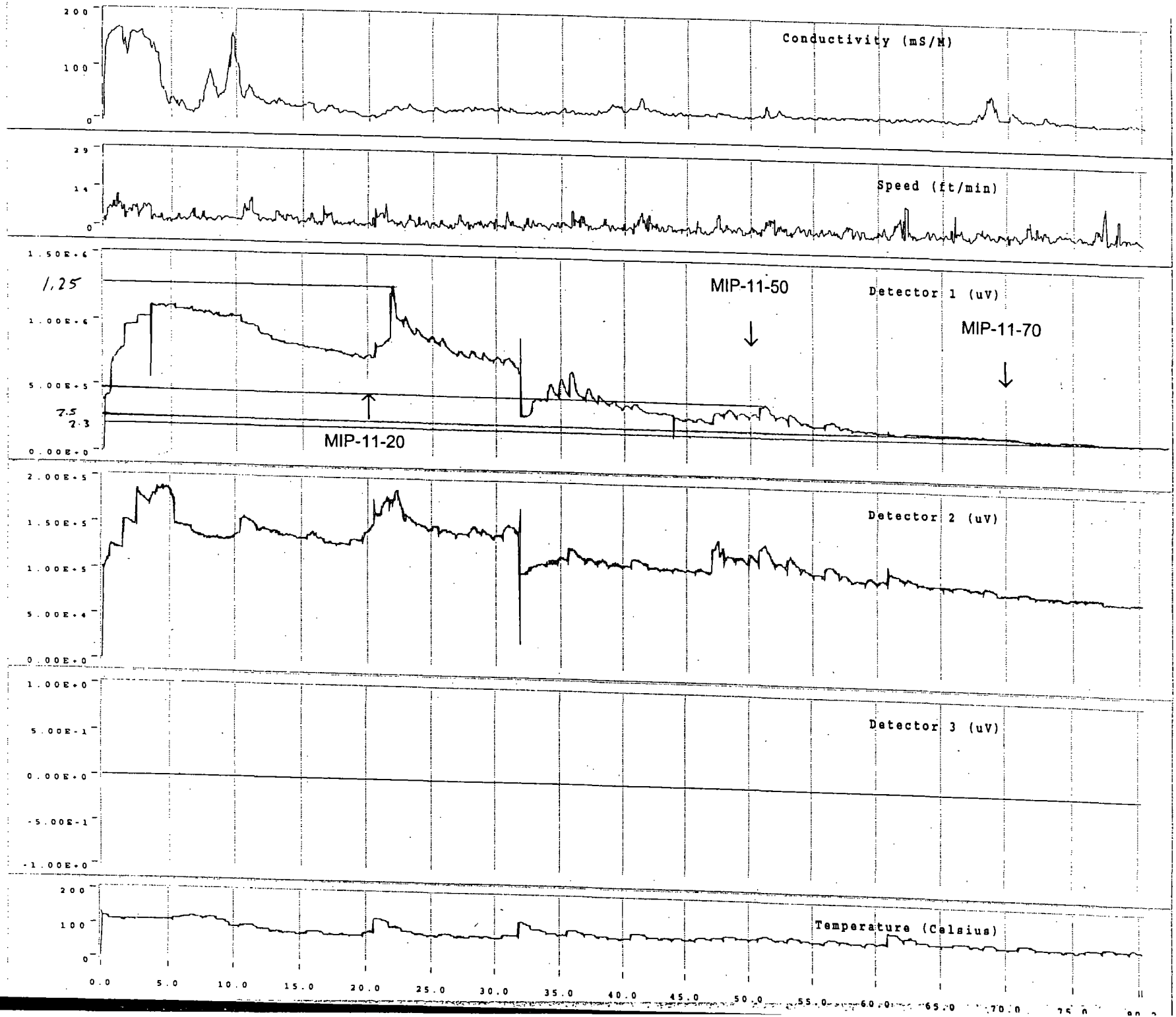
Log: \\BUFFY\C\MIP DAYTON\mip09\mip09.DAT



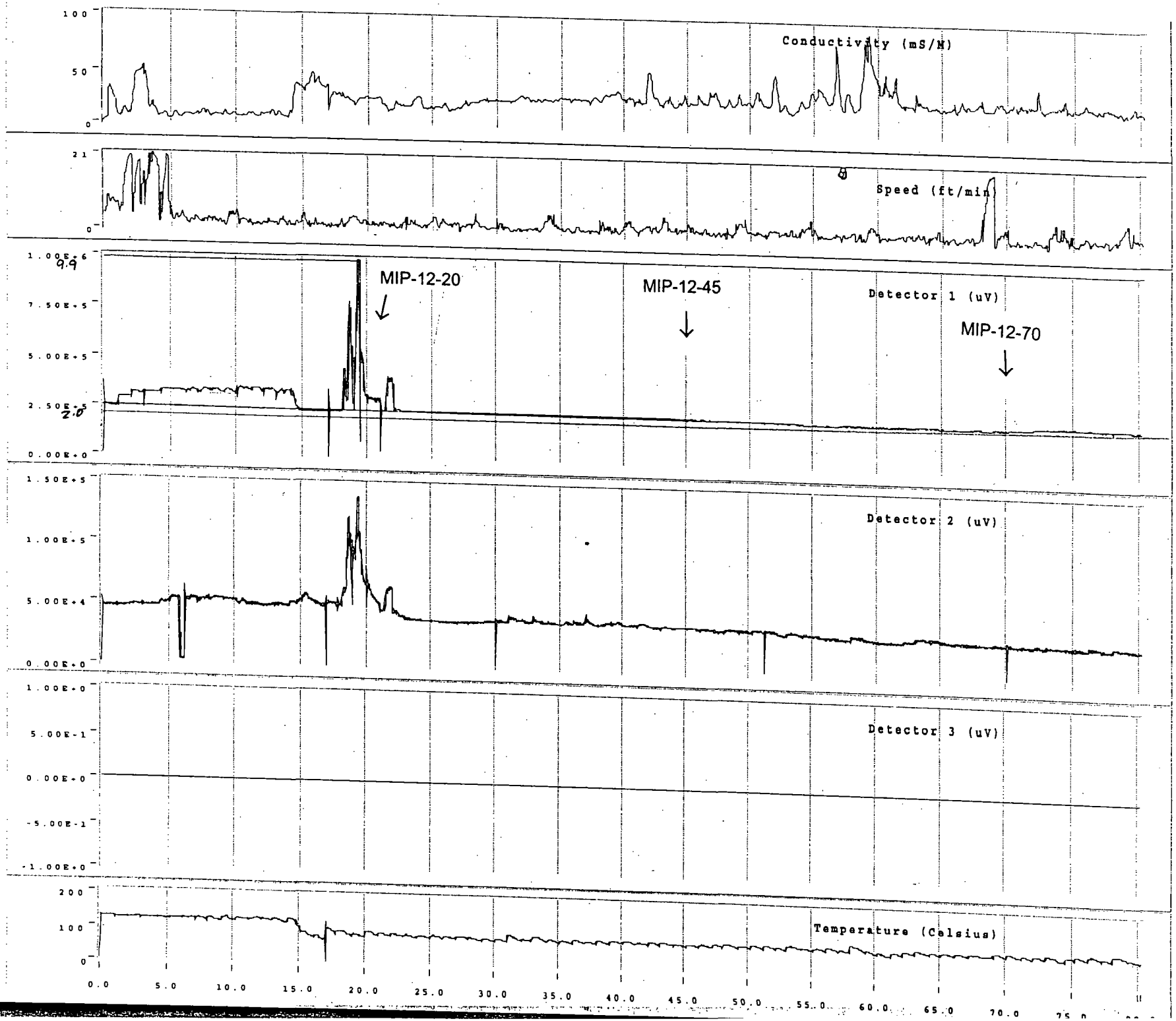
Log: \\BUFFY\C\MIP DAYTON\mip10\



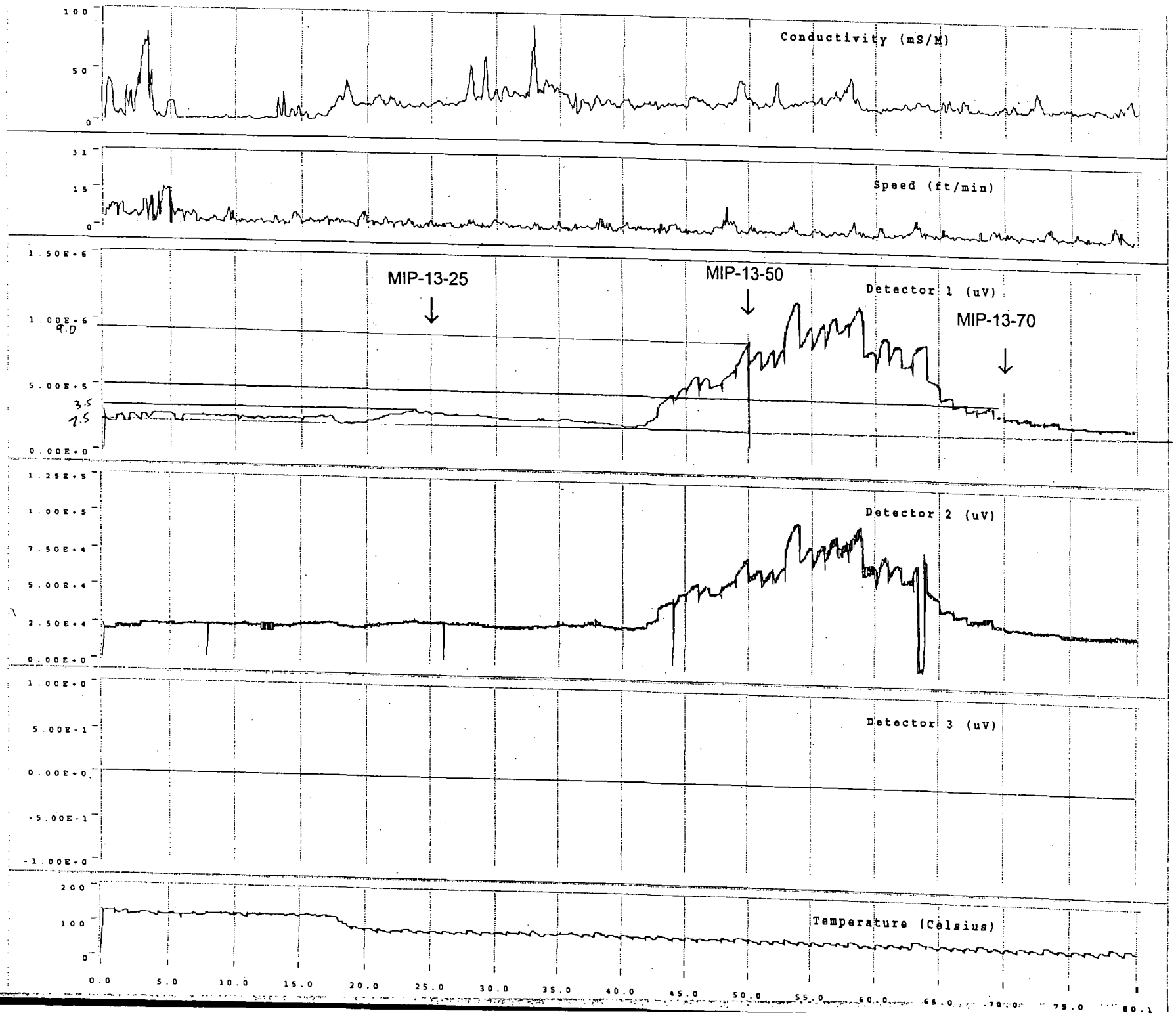
Log: C:\mip dayton\mip11\mip11.DAT



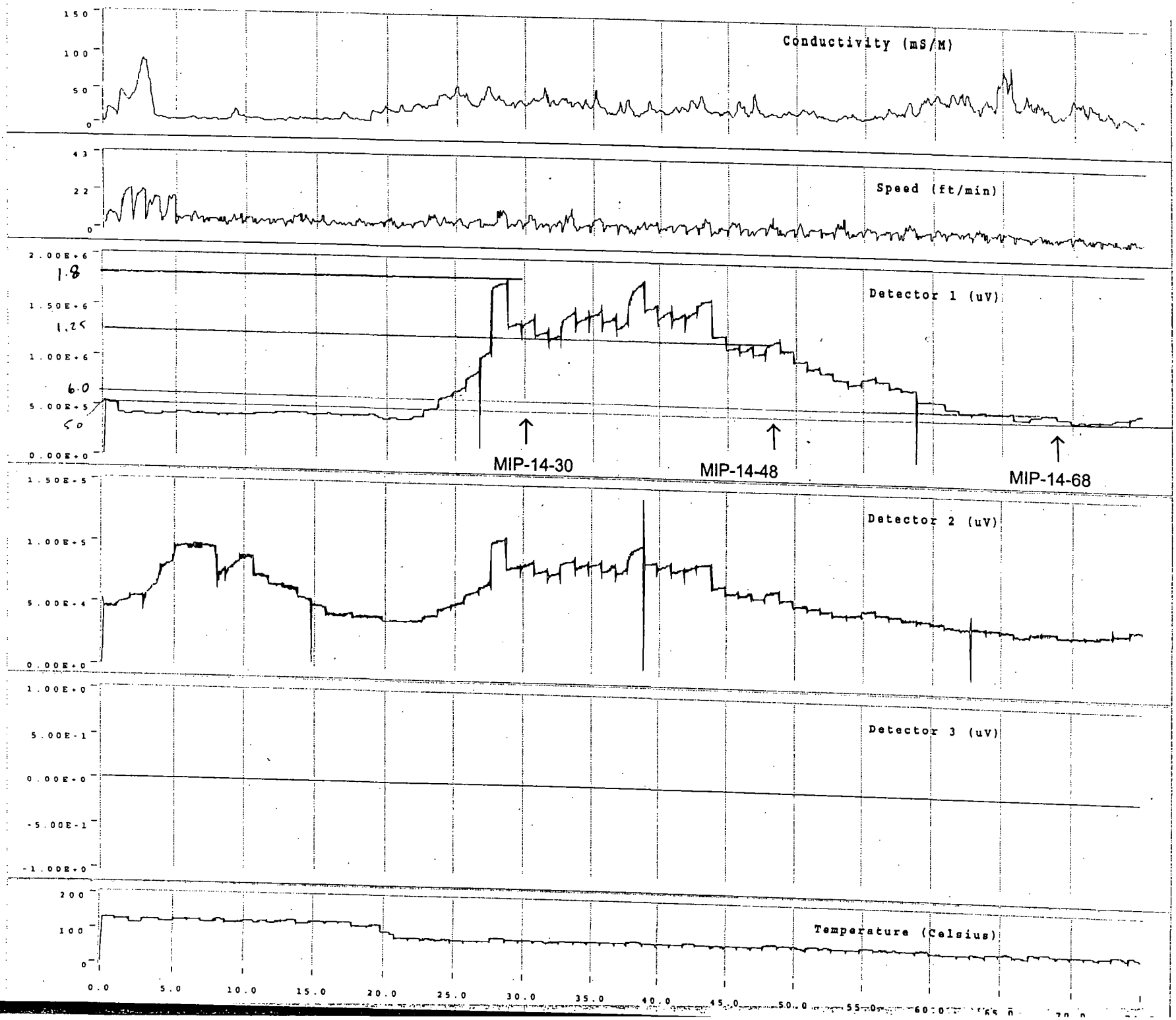
Log: C:\MIPDAYTON\mip12\



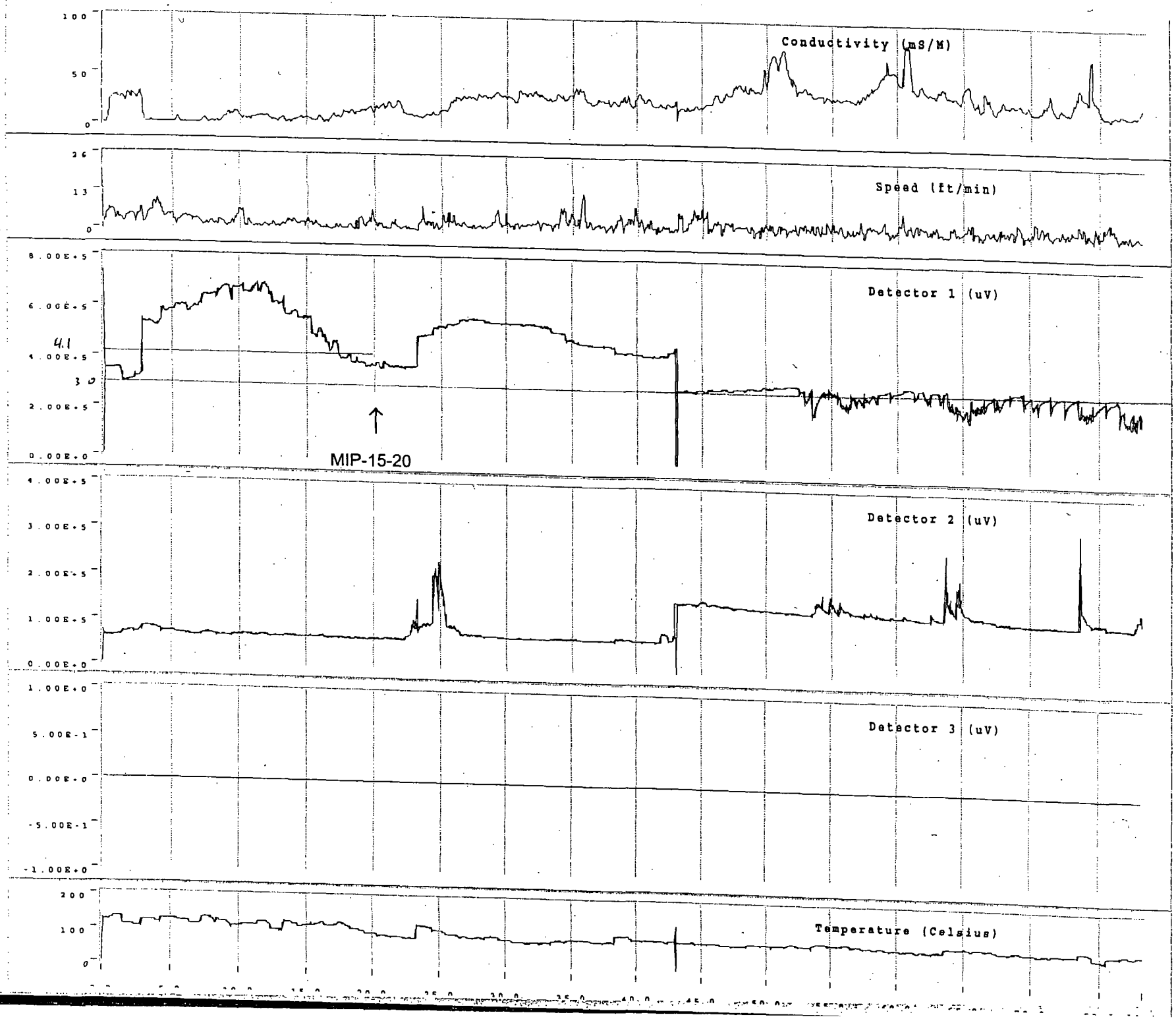
Log: C:\MIPDAYTON\mip13\mip13.DAT



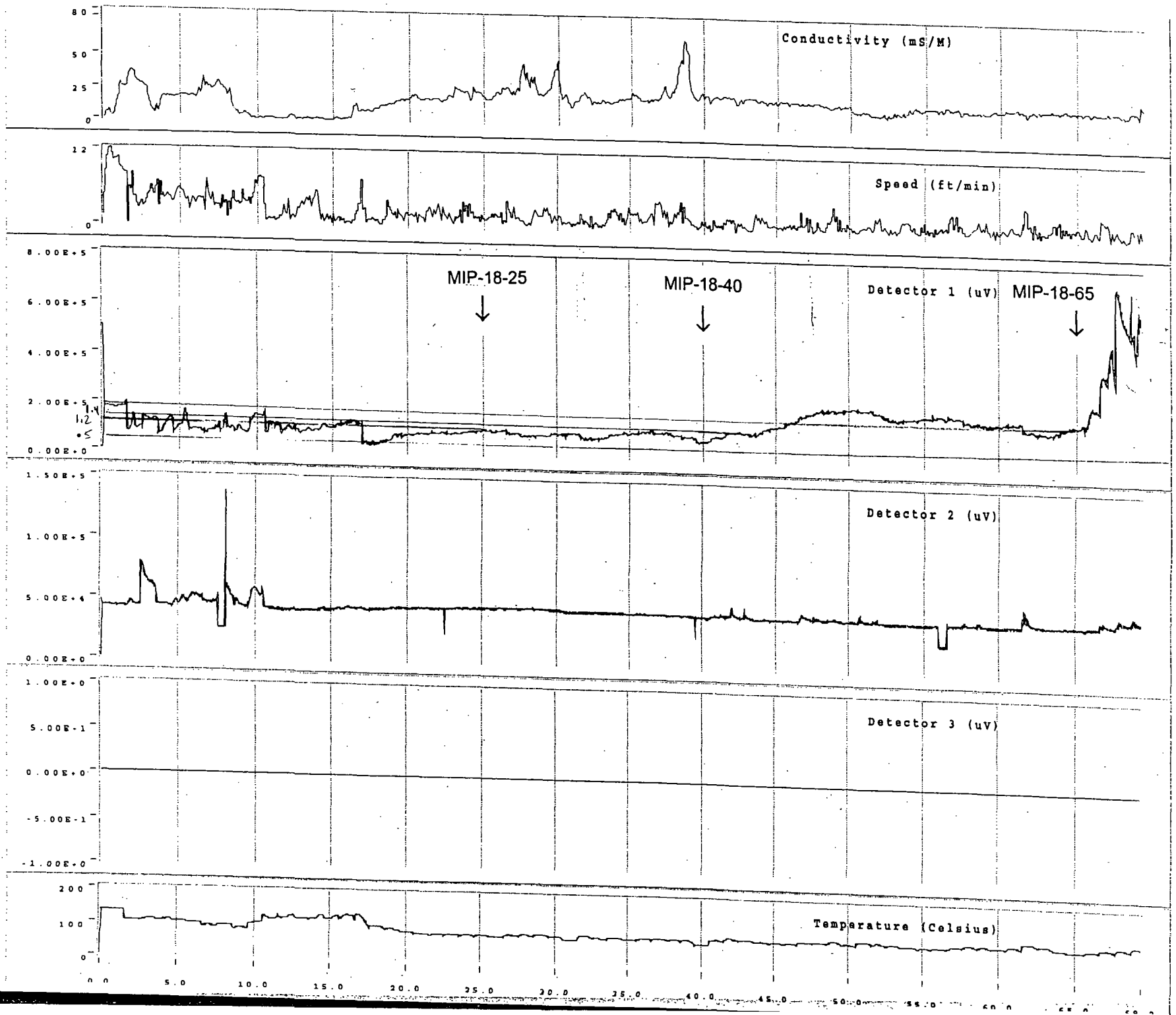
Log: C:\MIPDAYTON\mip14\mip14.DAT



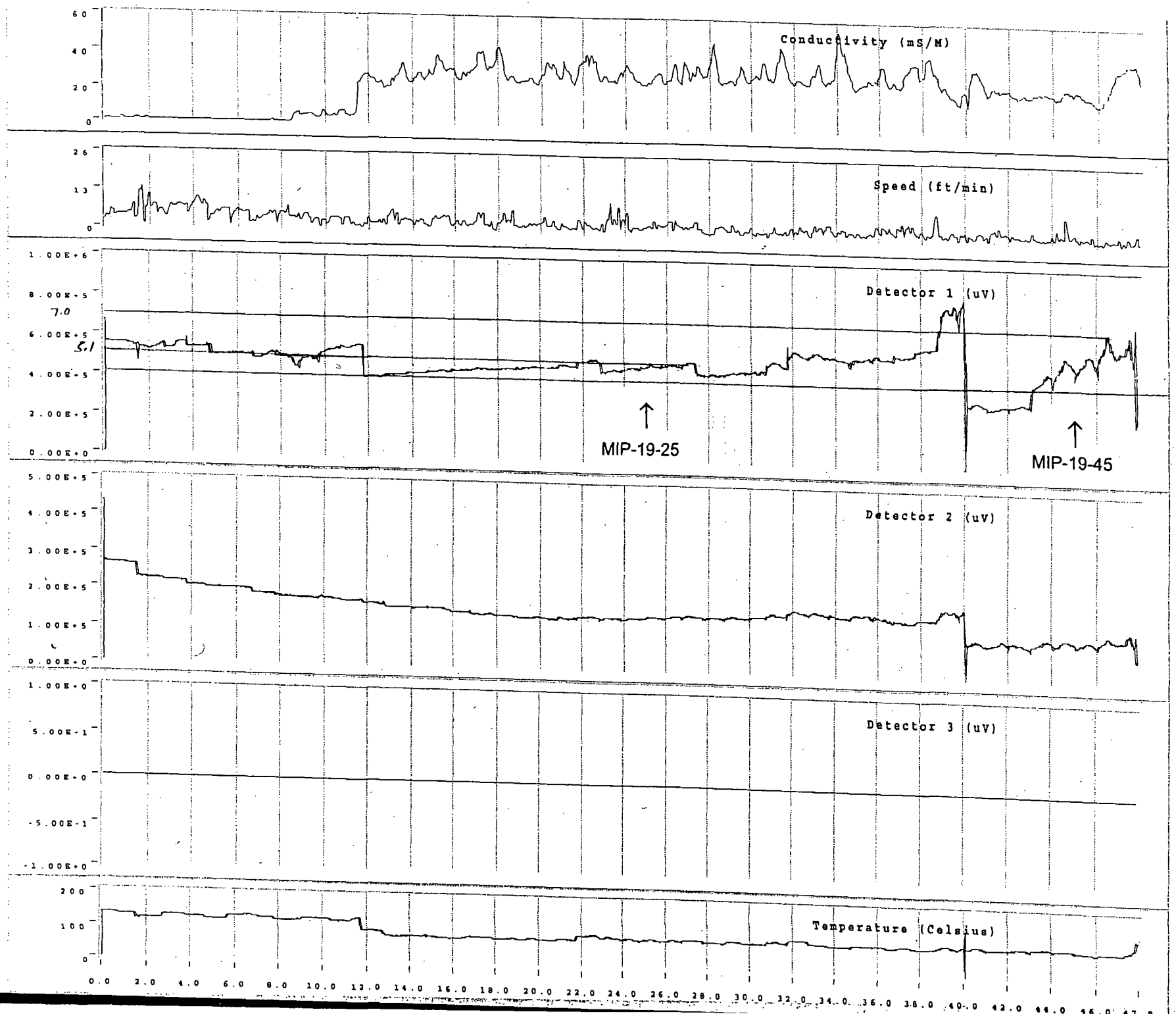
Log: C:\mip dayton\mip15\mip15.DAT



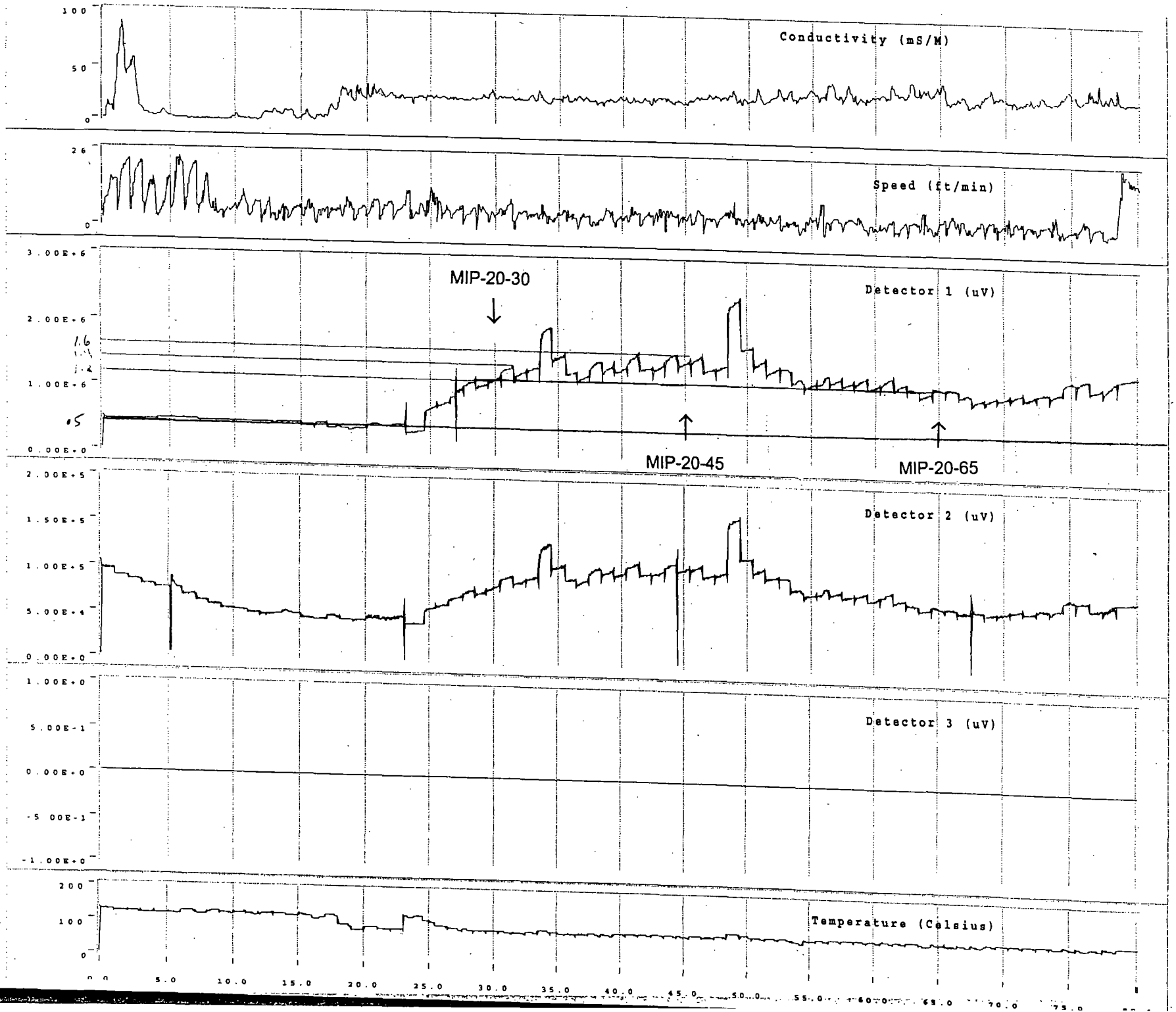
Log: C:\MIPDAYTON\MIP18\MIP18.DAT



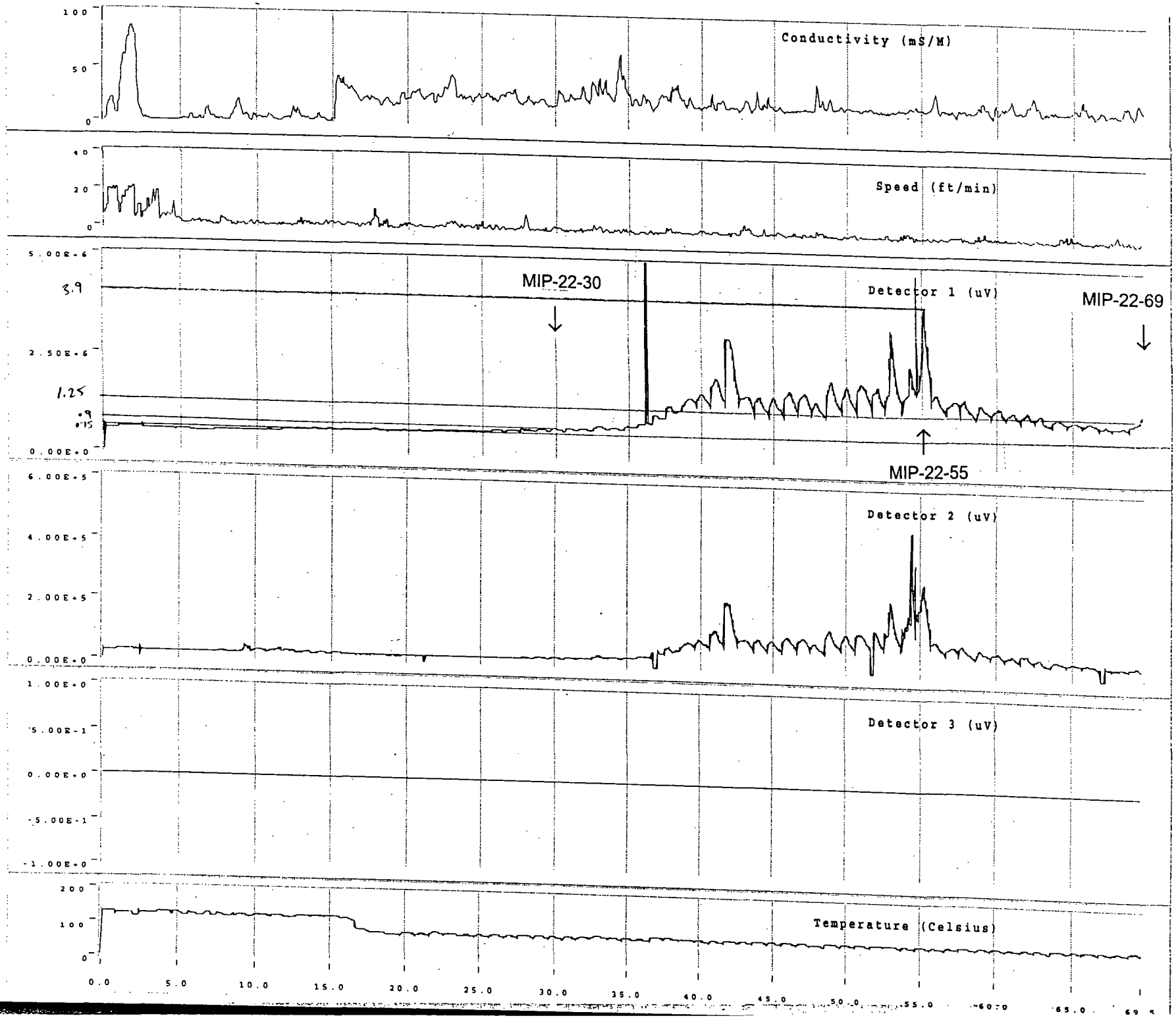
Log: C:\mip dayton\mip19\mip19.DAT



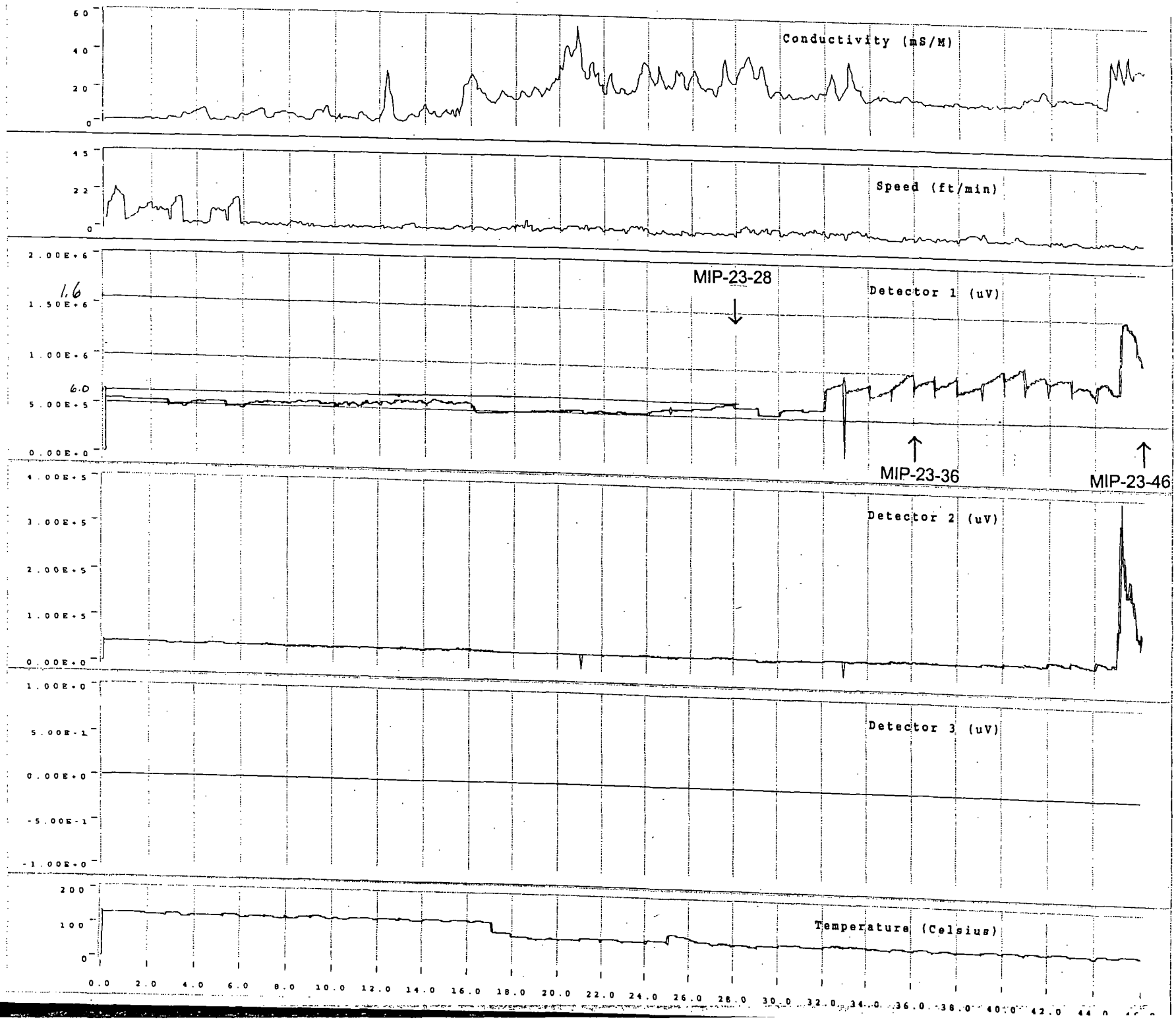
Log: C:\MIPDAYTON\mip20\mip20.DAT



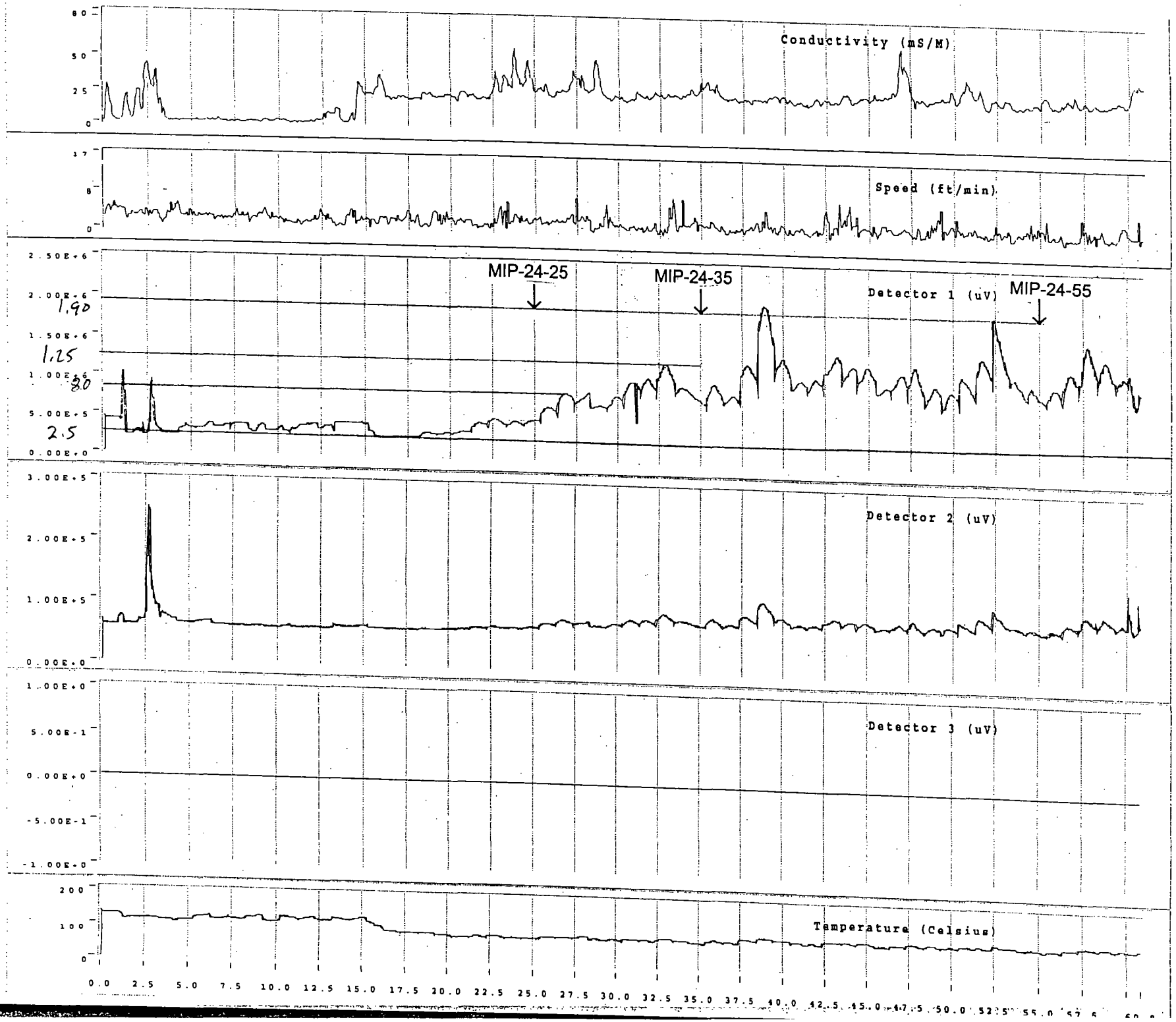
Log: C:\MIPDAYTON\MIP22\MIP22.DAT



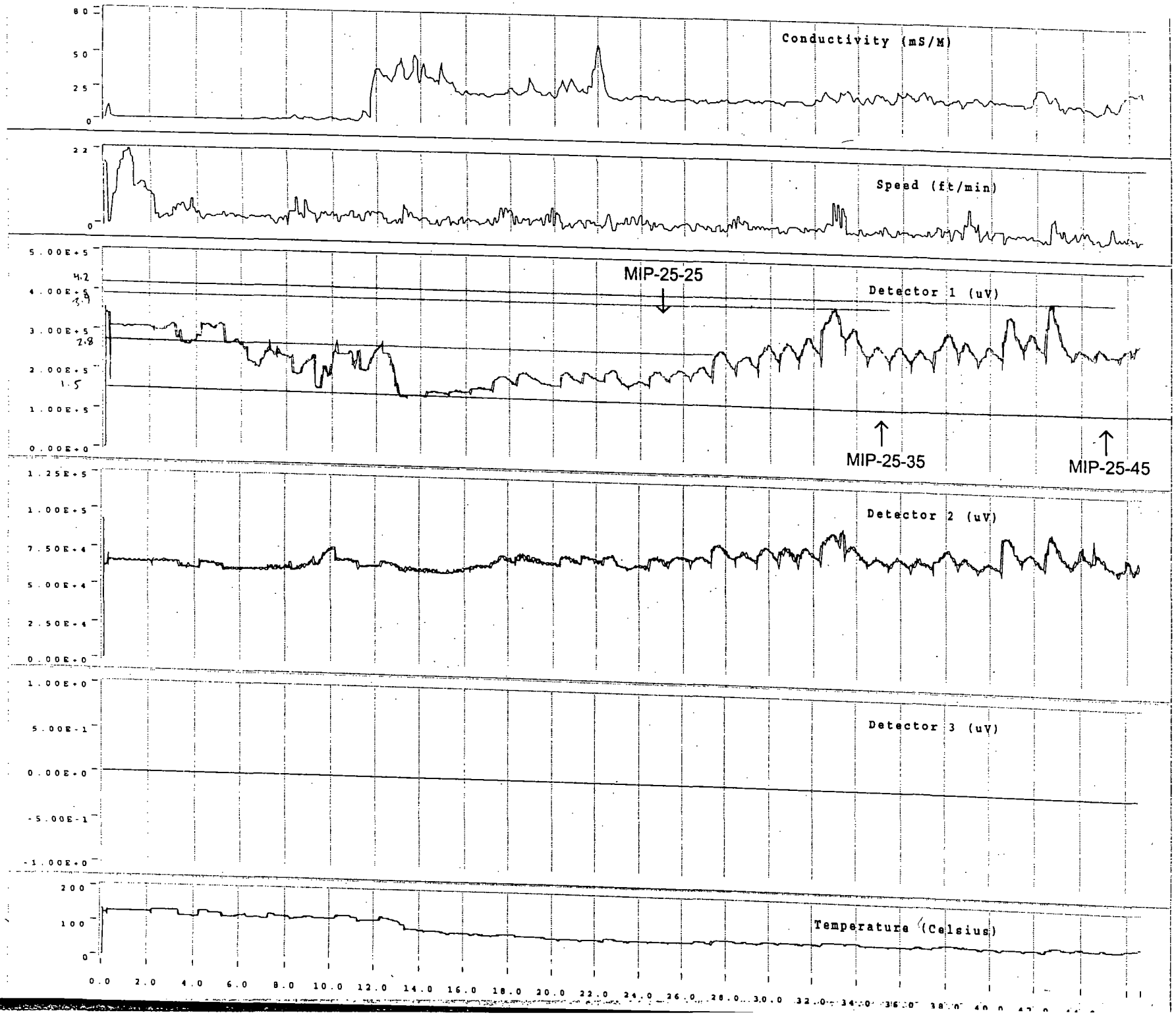
Log: C:\MIPDAYTON\MIP23\MIP23A.DAT



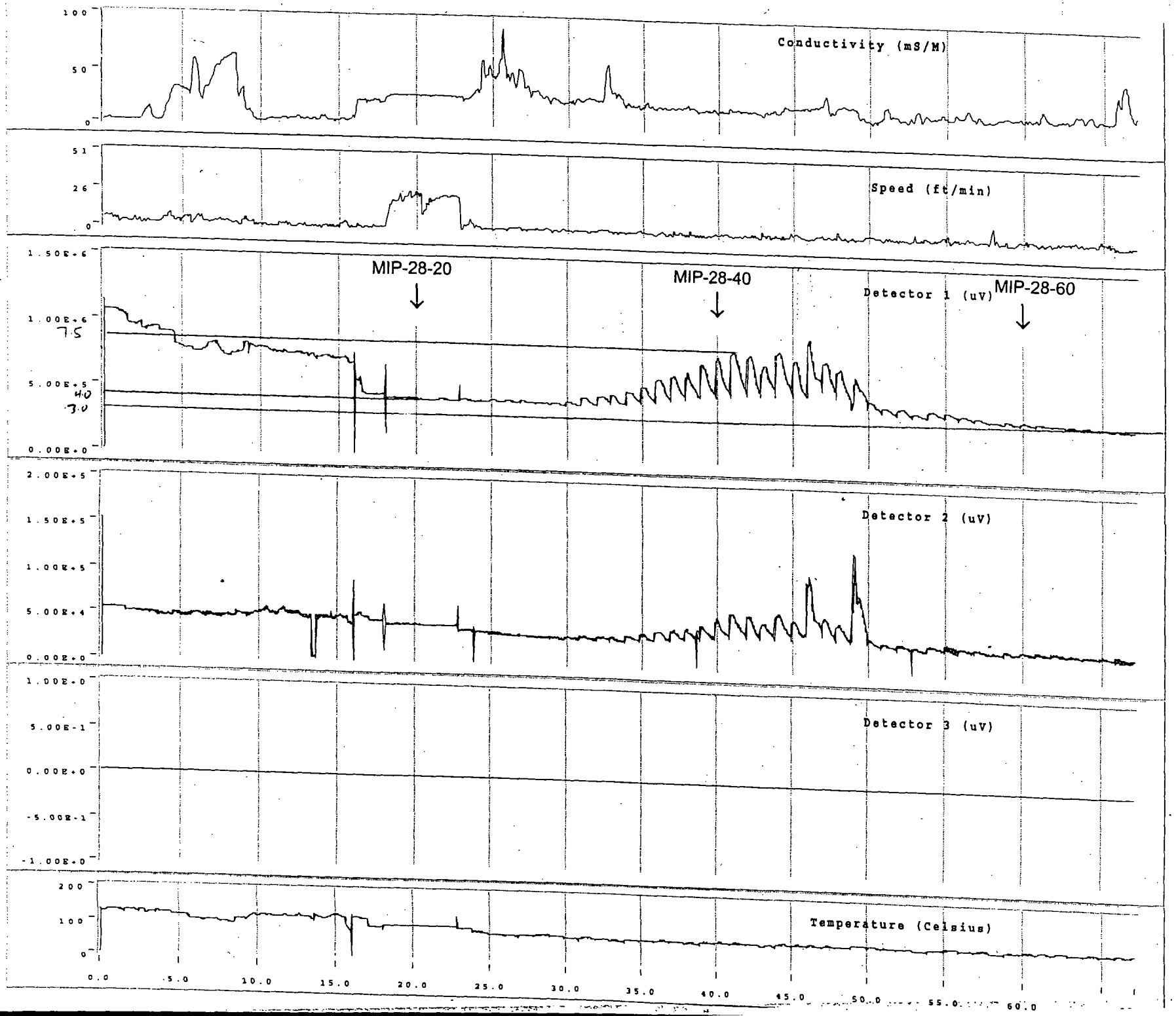
Log: C:\mip dayton\mip24\mip24.DAT



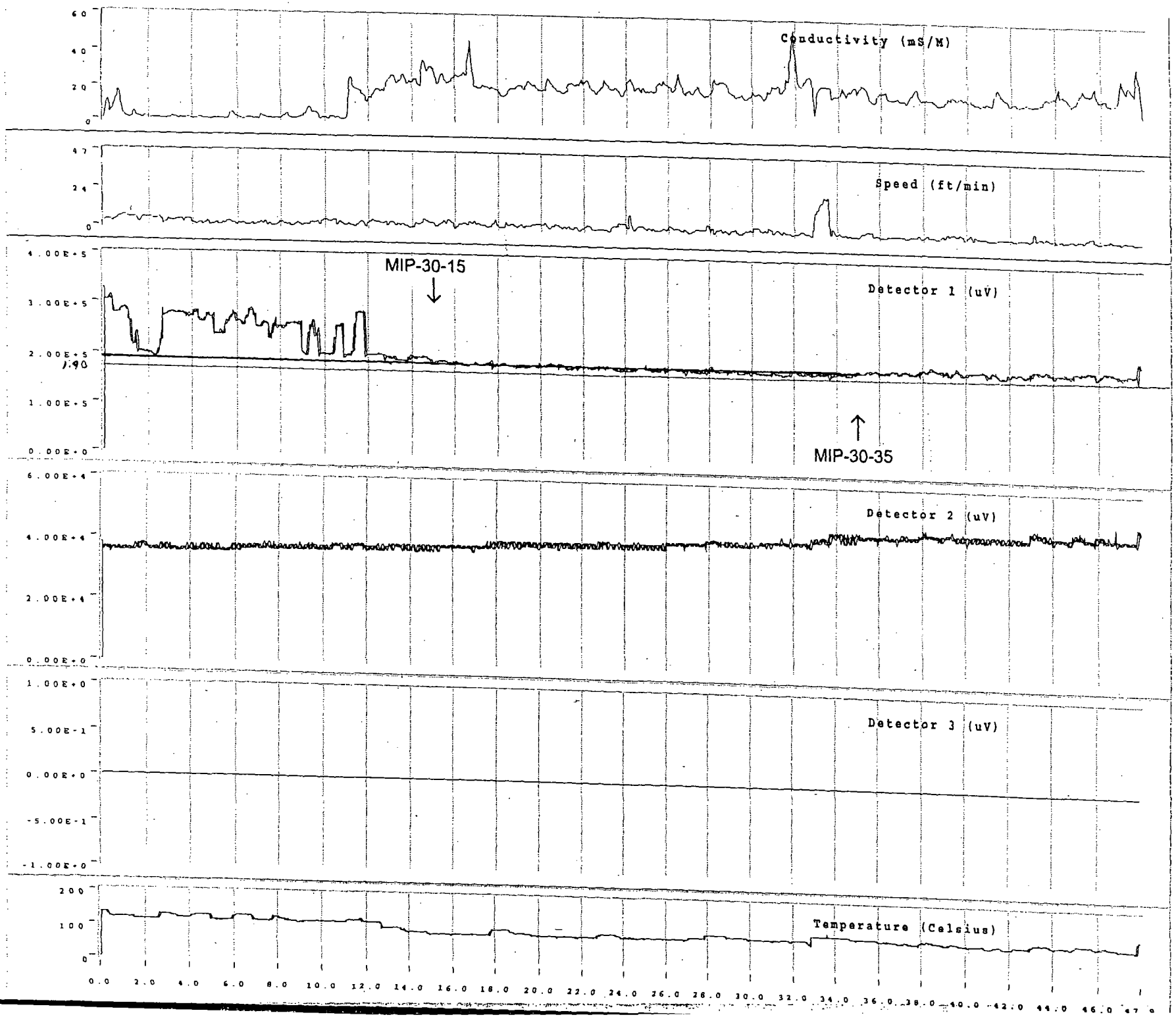
Log: C:\mip dayton\mip25\mip25.DAT



Log: C:\mip dayton\mip26\mip26.DAT


Conductivity (mS/M)
100
50
0
Speed (ft/min)
51
26
0
Detector 1 (uV)
MIP-28-20
MIP-28-40
MIP-28-60
1.50E+6
1.00E+6
7.5
5.00E+5
4.0
3.0
0.00E+0
Detector 2 (uV)
2.00E+5
1.50E+5
1.00E+5
5.00E+4
0.00E+0
Detector 3 (uV)
1.00E+0
5.00E-1
0.00E+0
-5.00E-1
-1.00E+0
Temperature (Celsius)
200
100
0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
55.0
60.0

Log: C:\mip dayton\mip30\mip30.DAT



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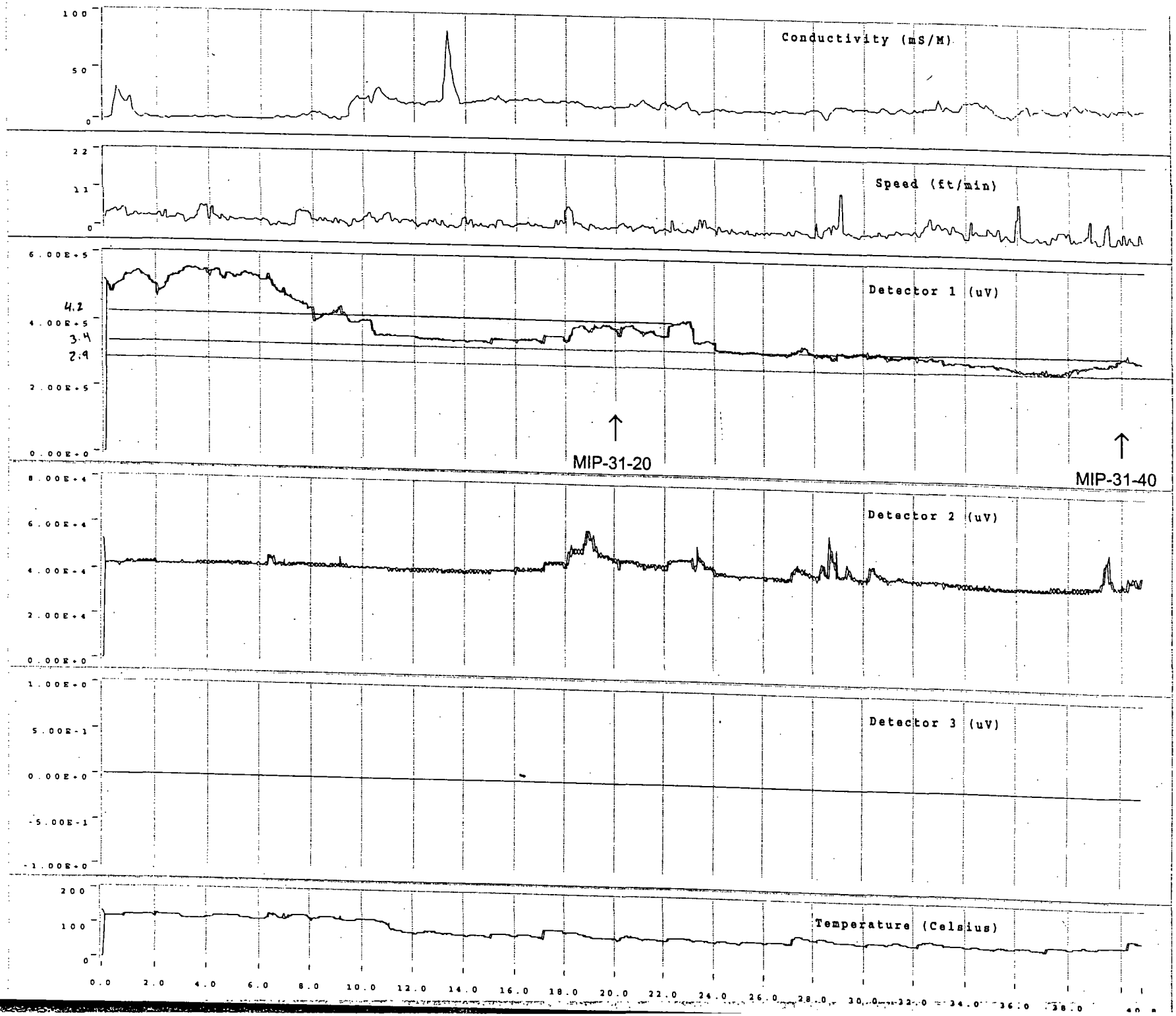

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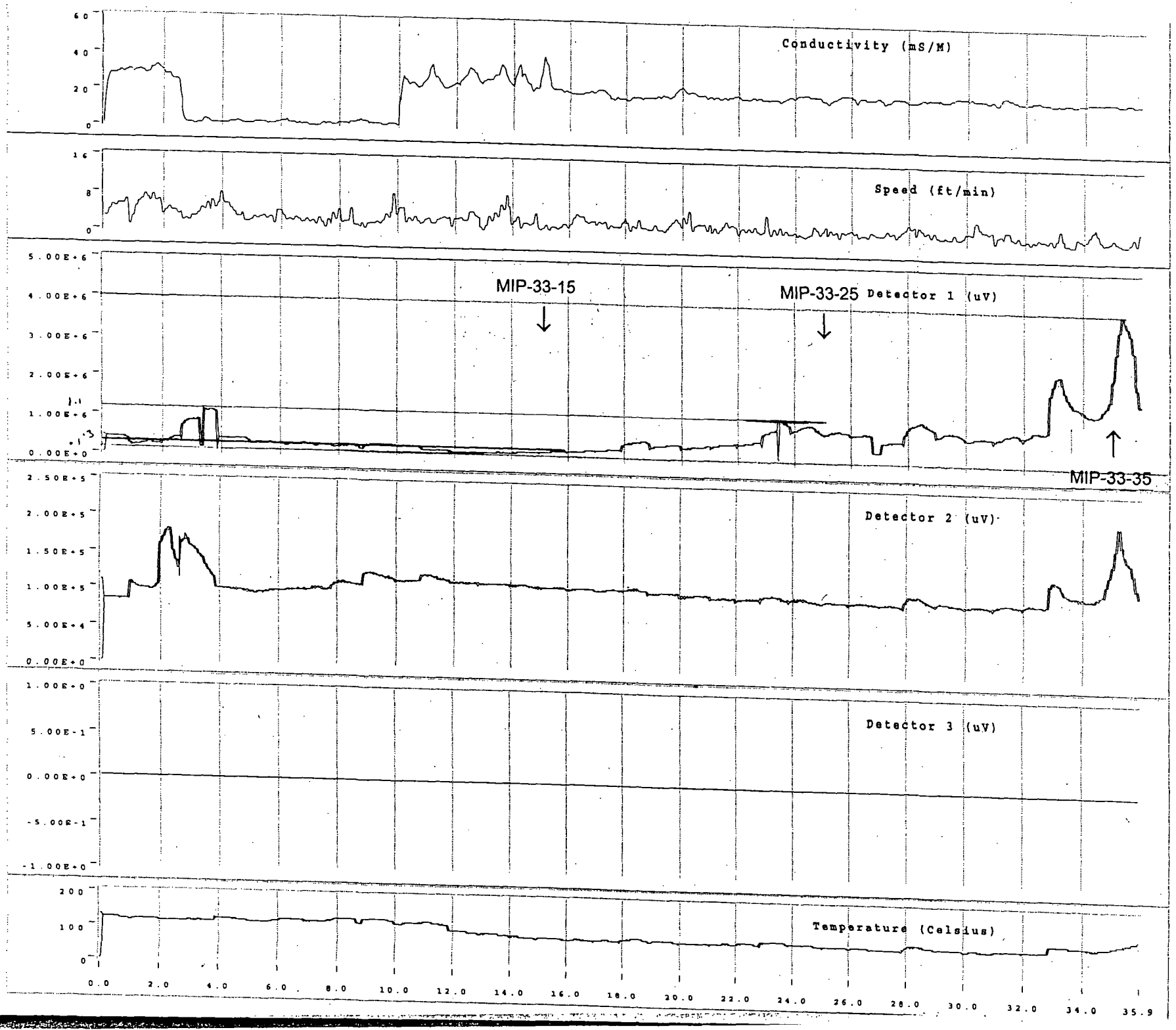

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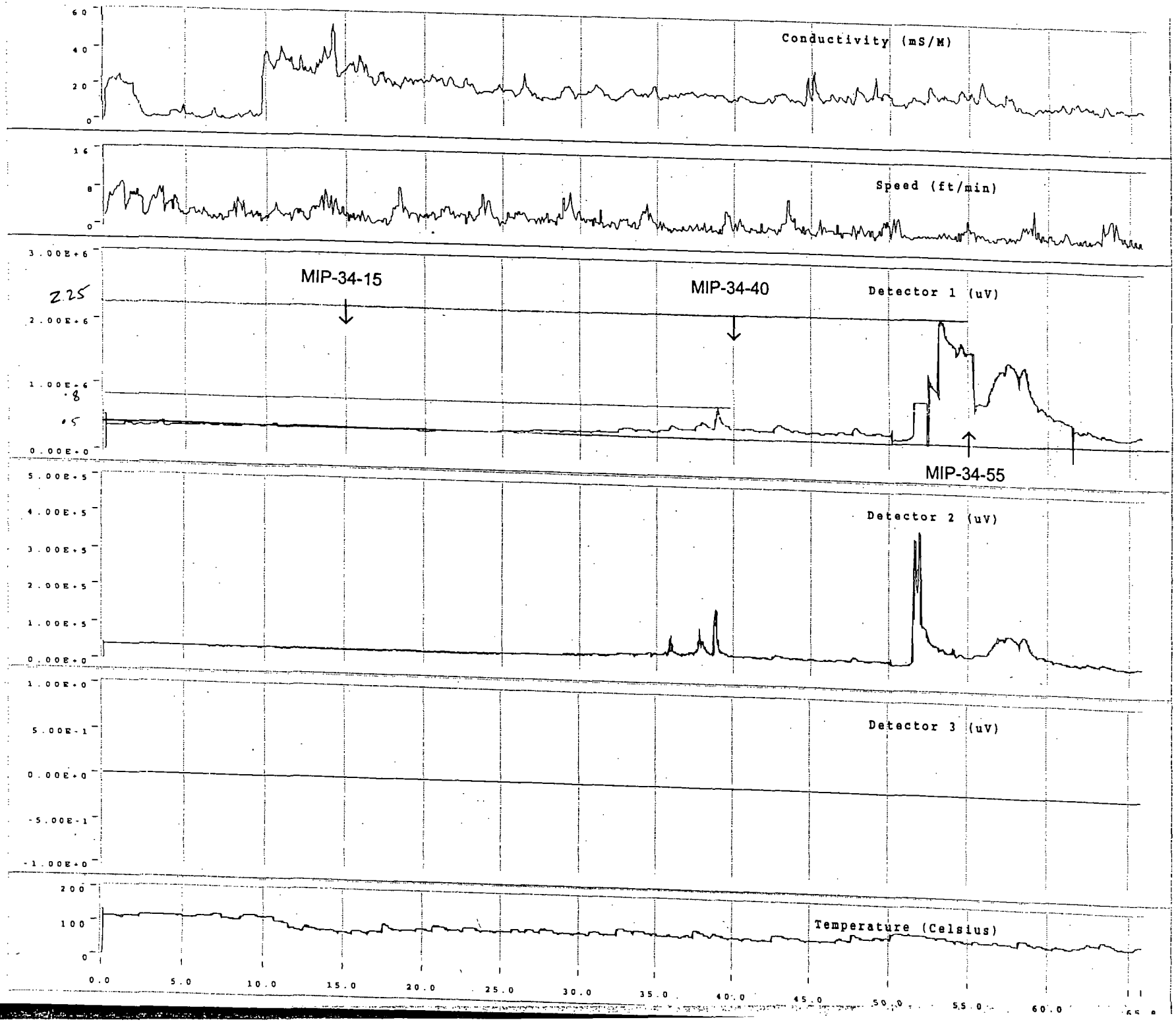

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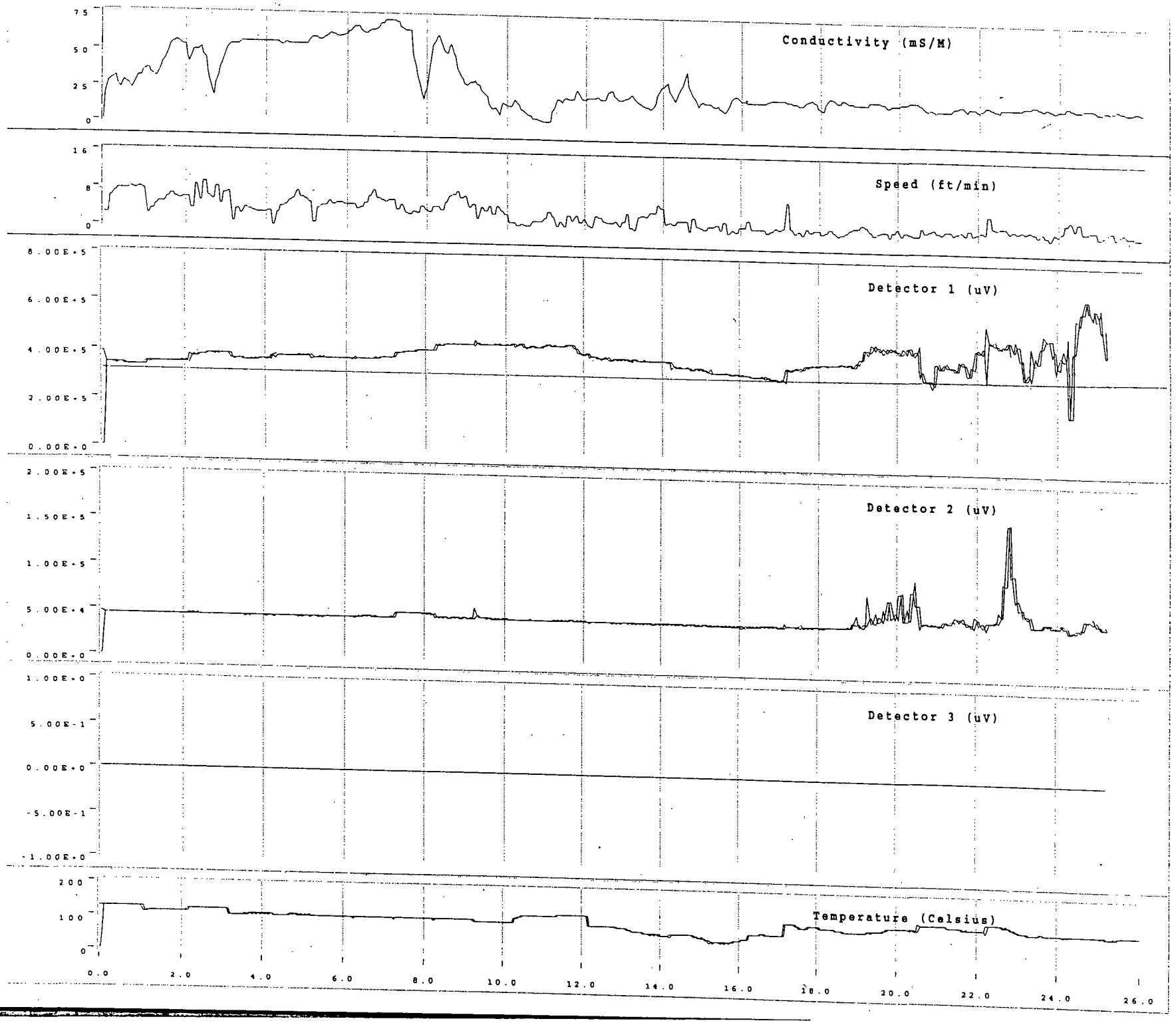

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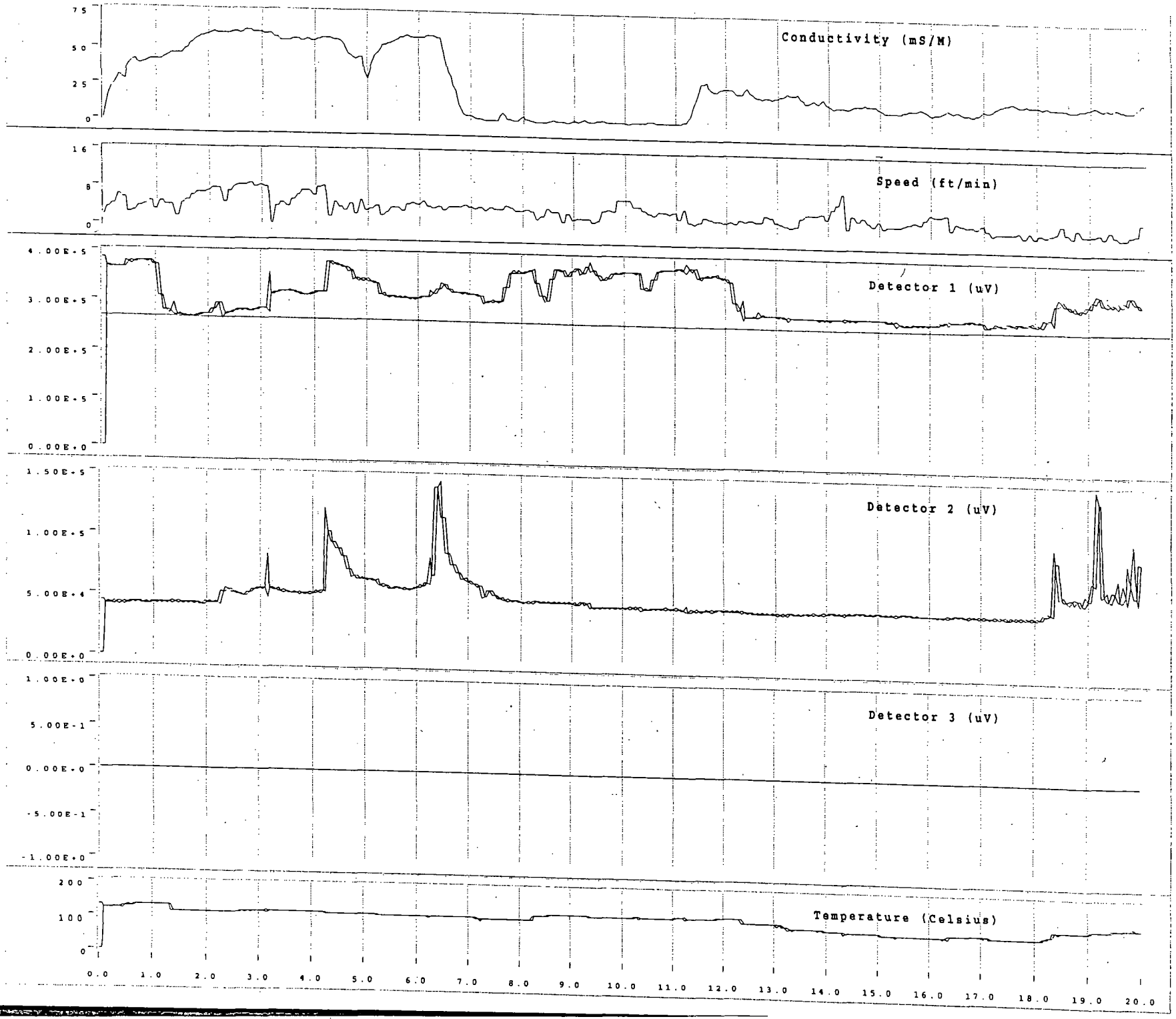

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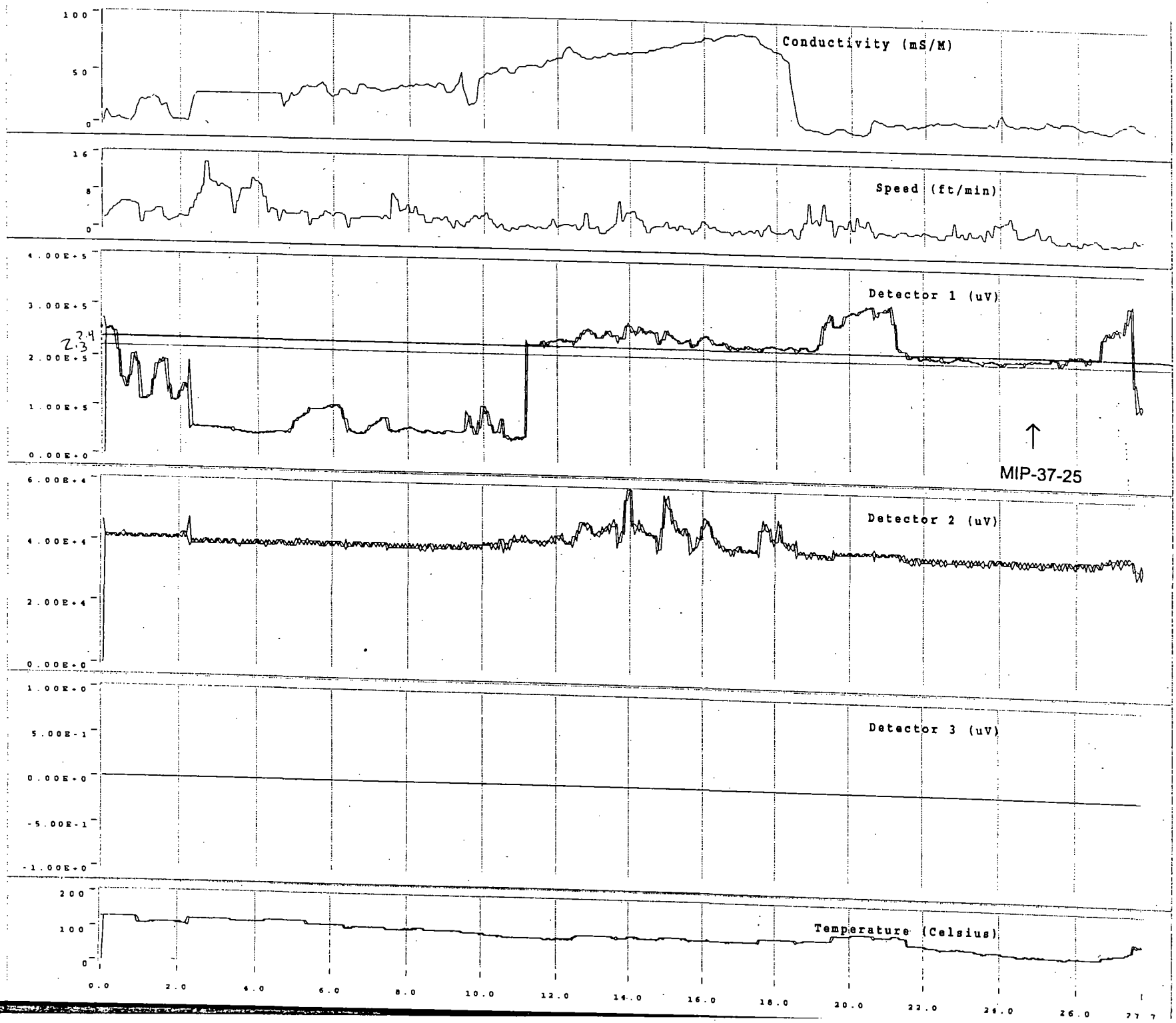

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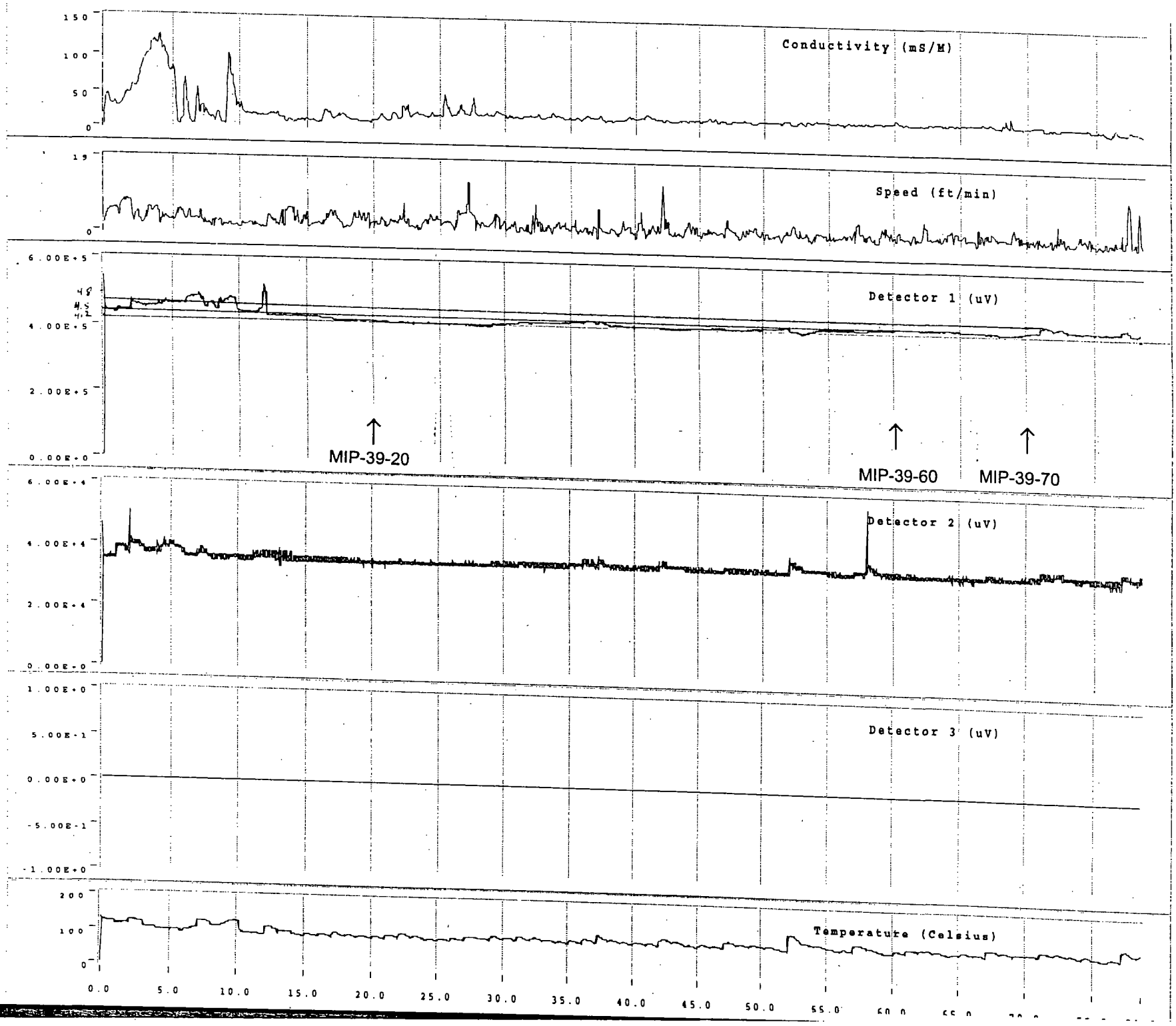

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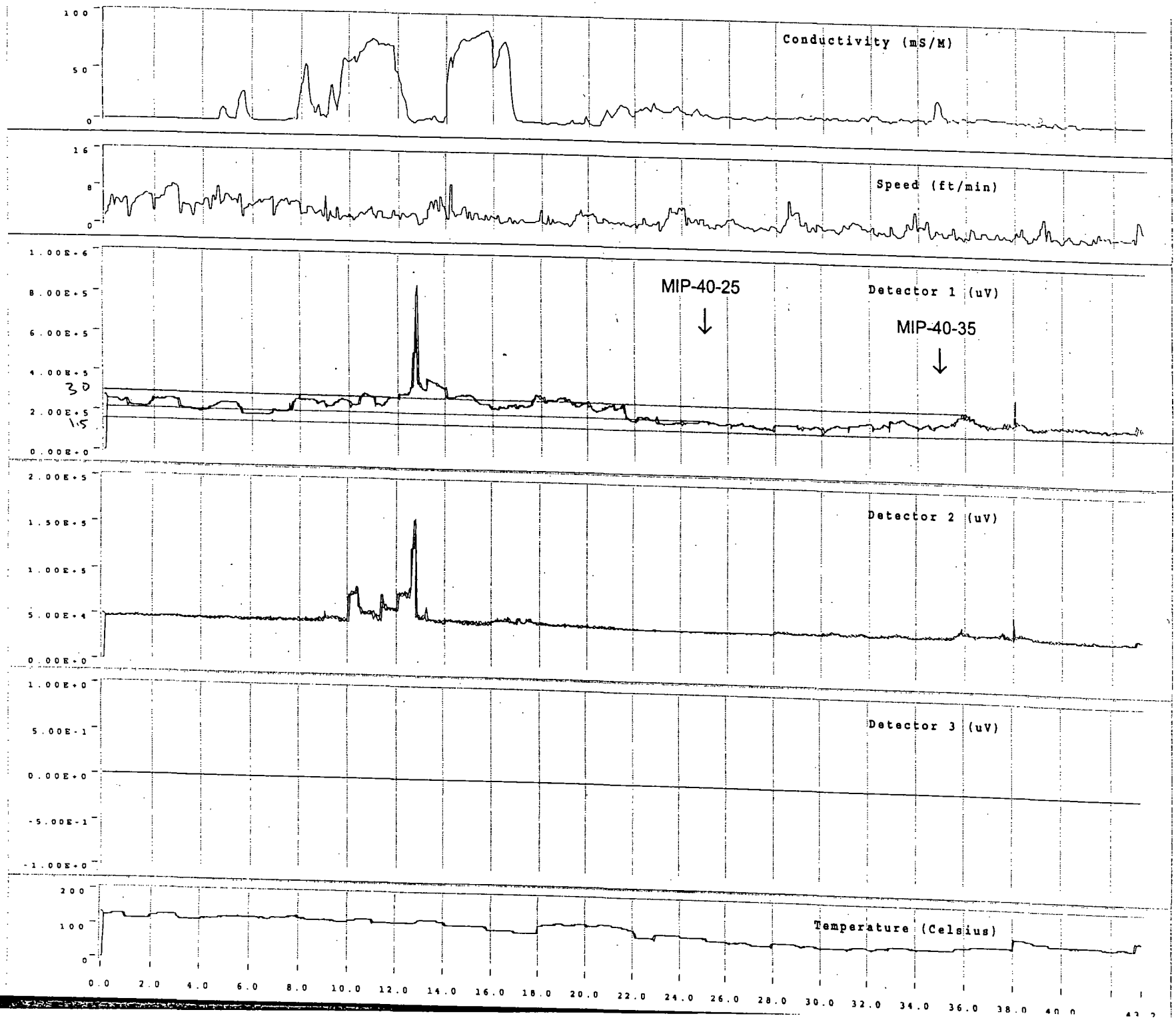

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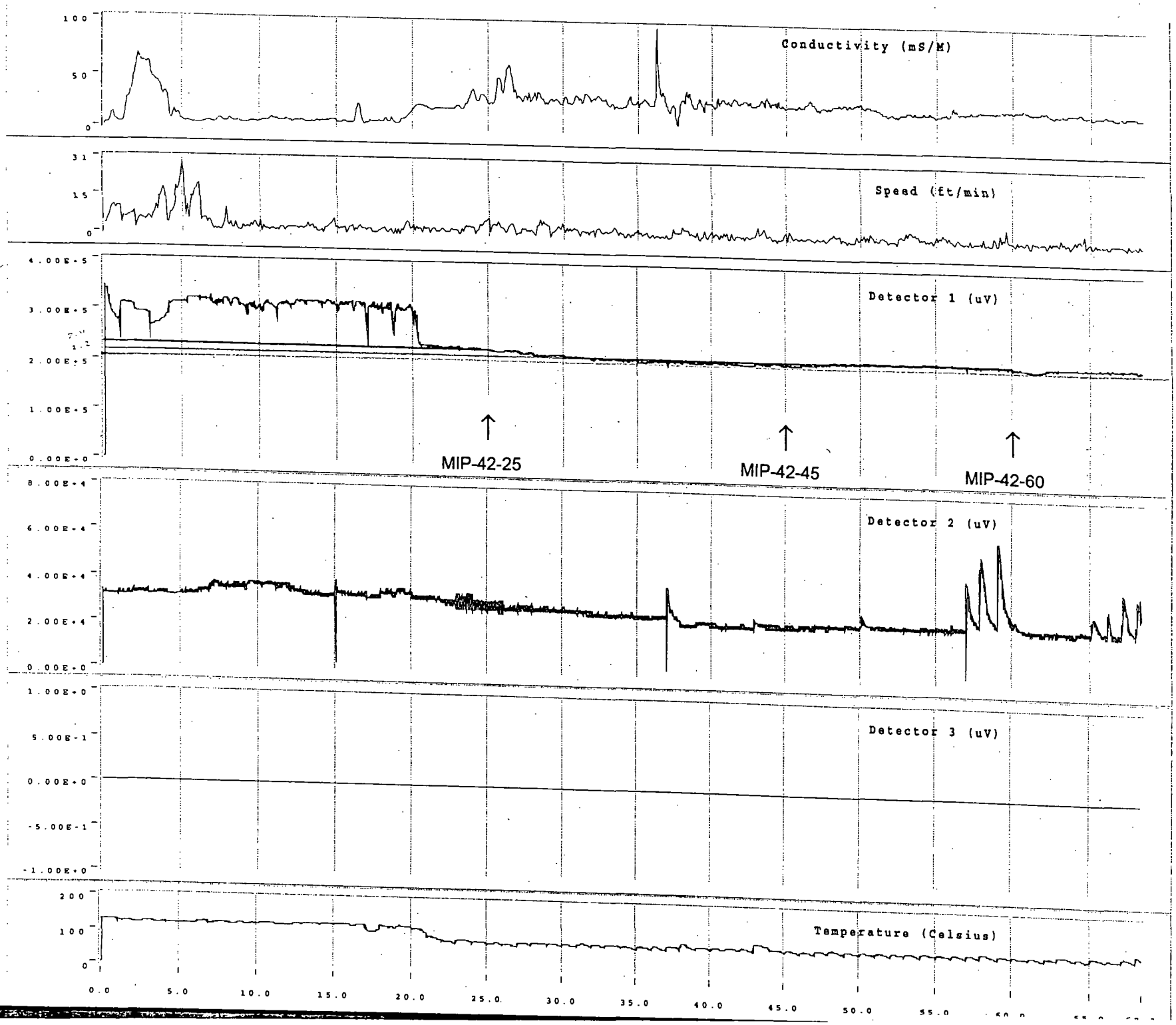

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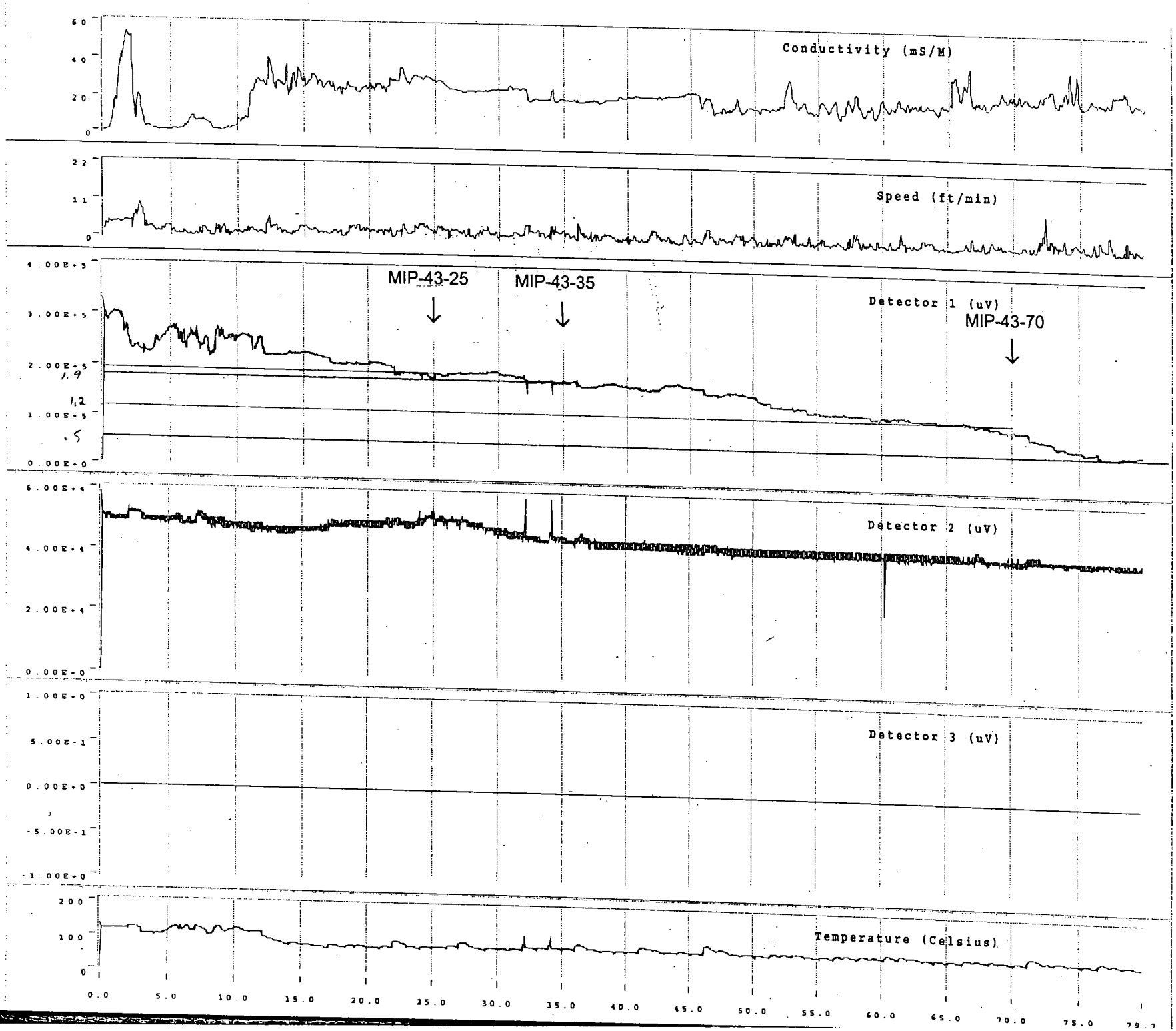

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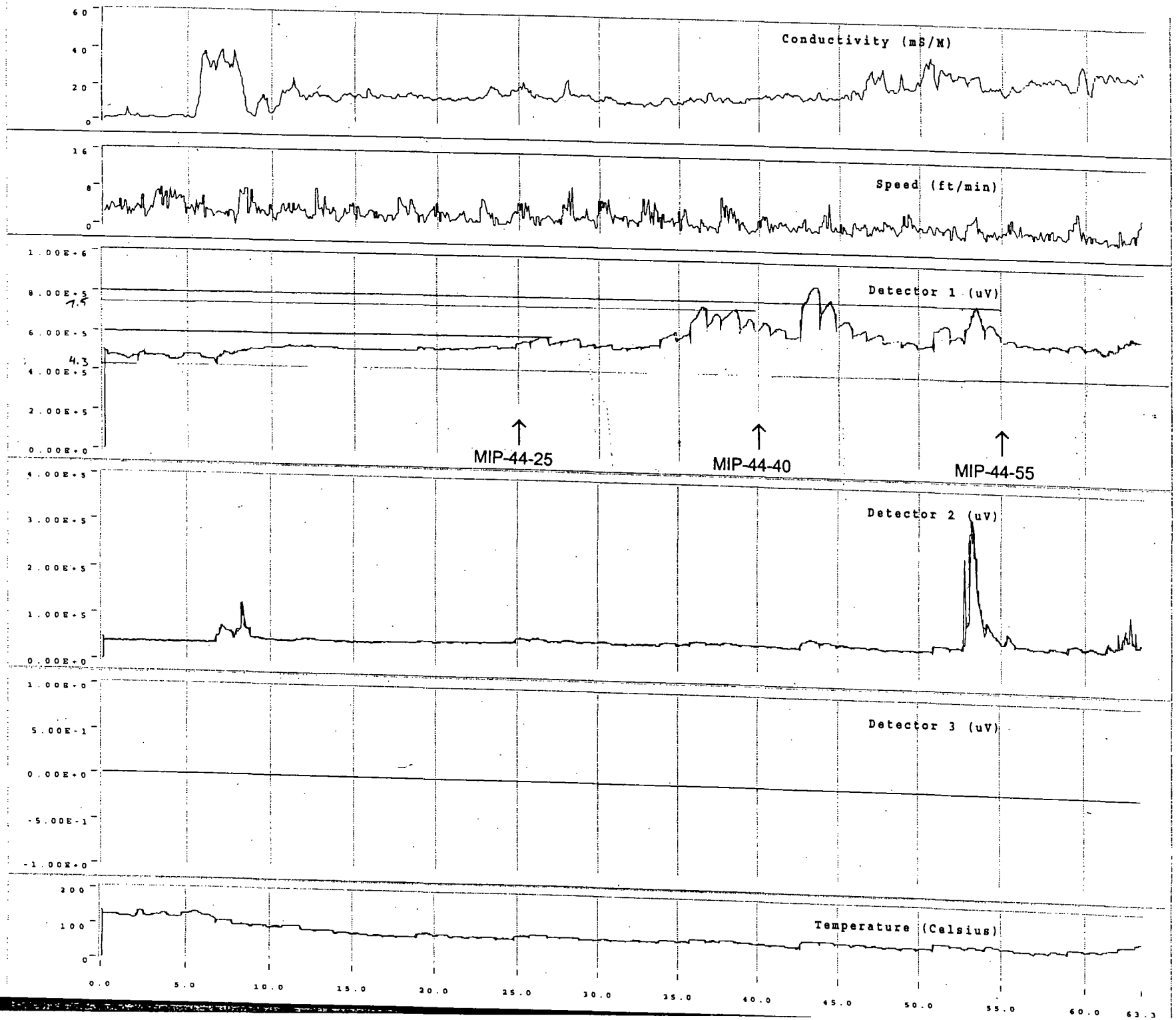

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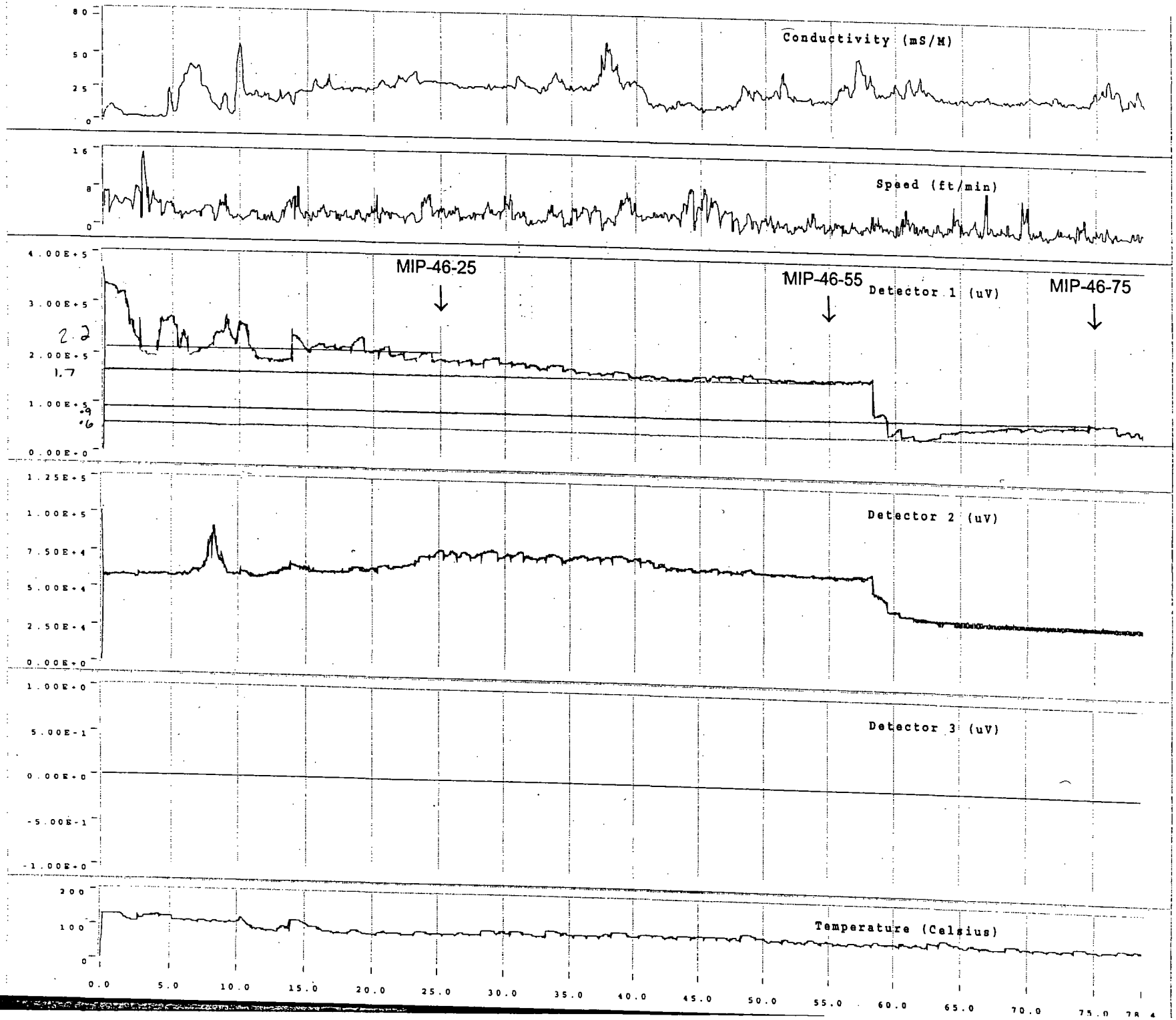

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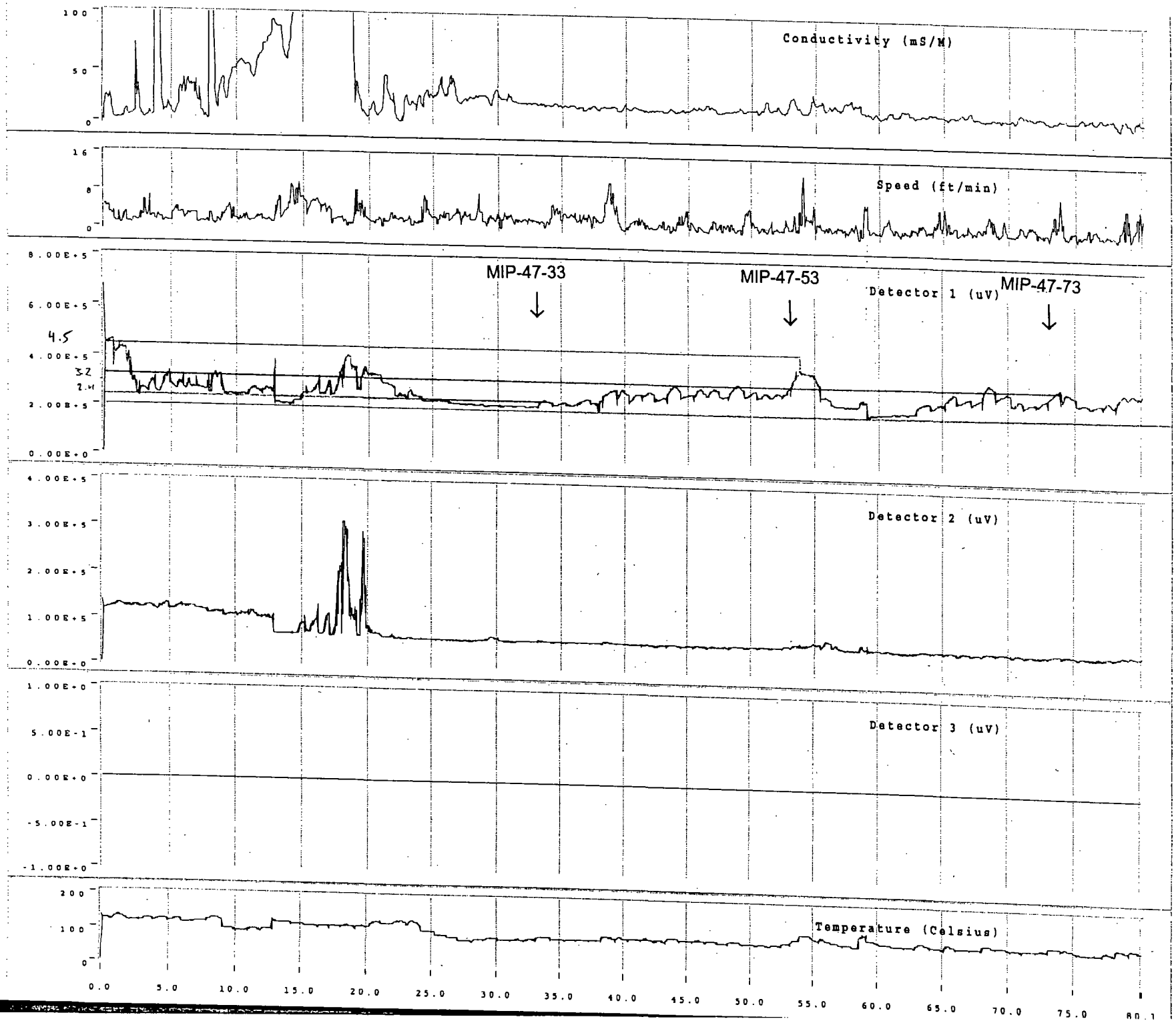

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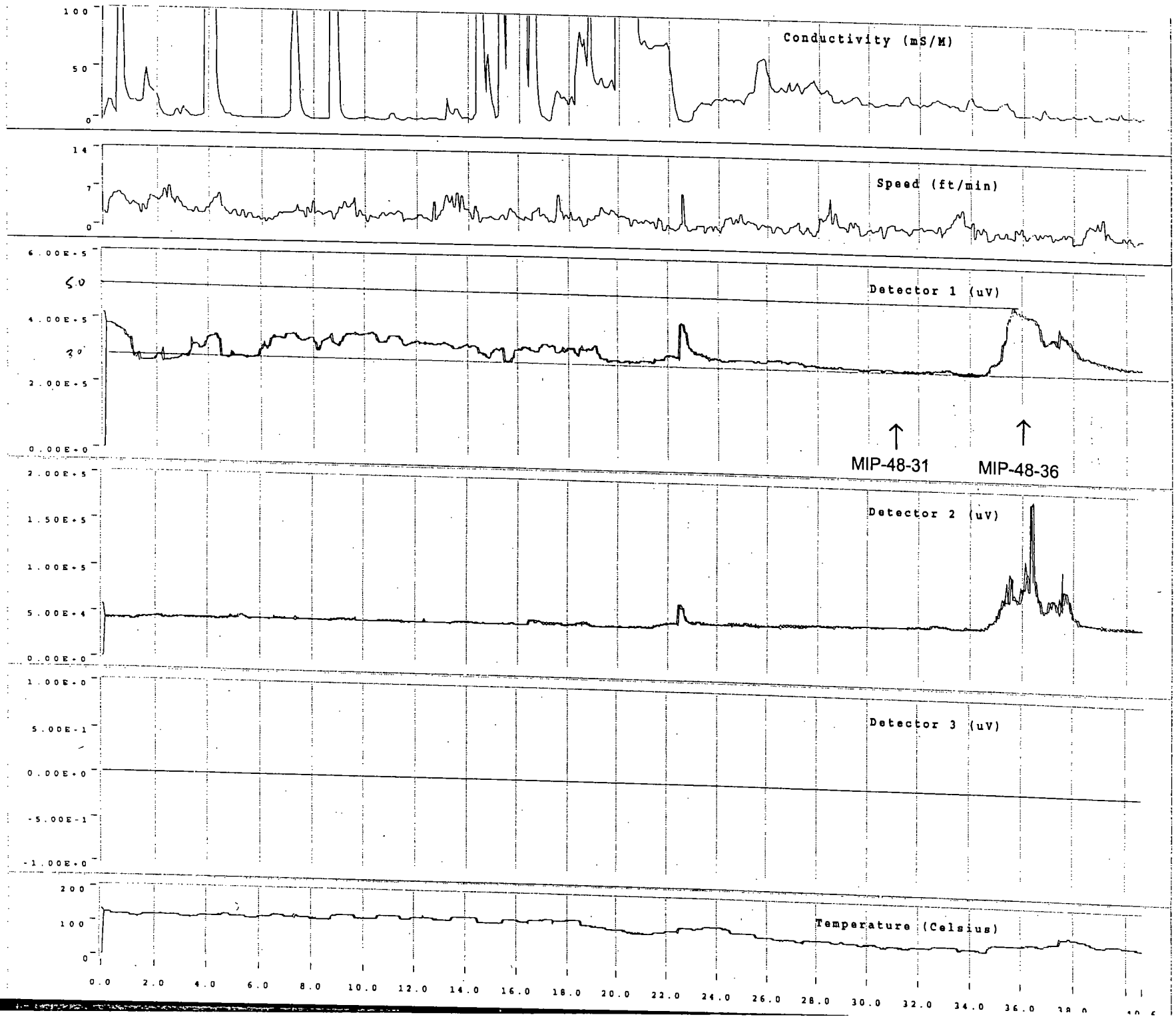

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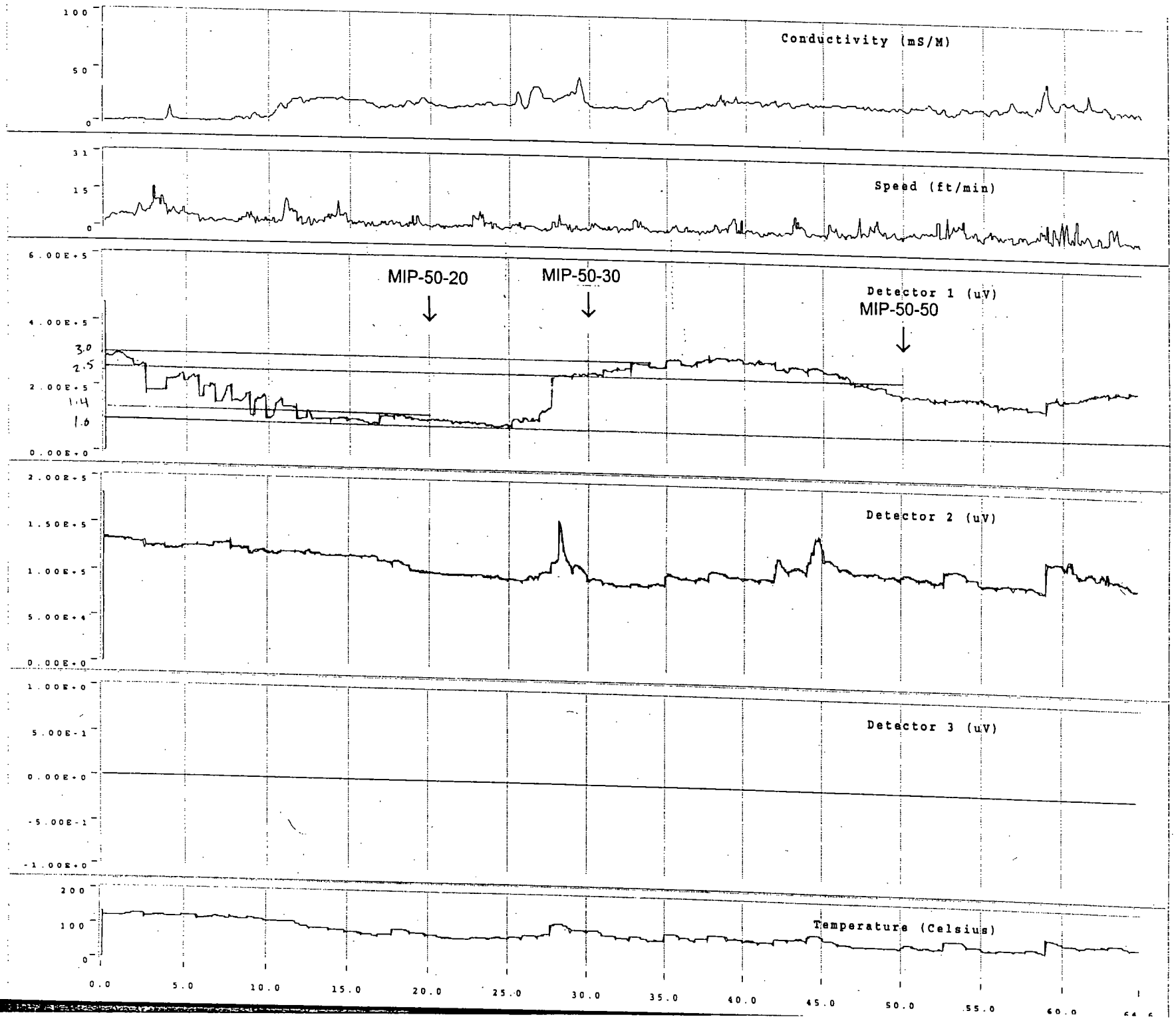

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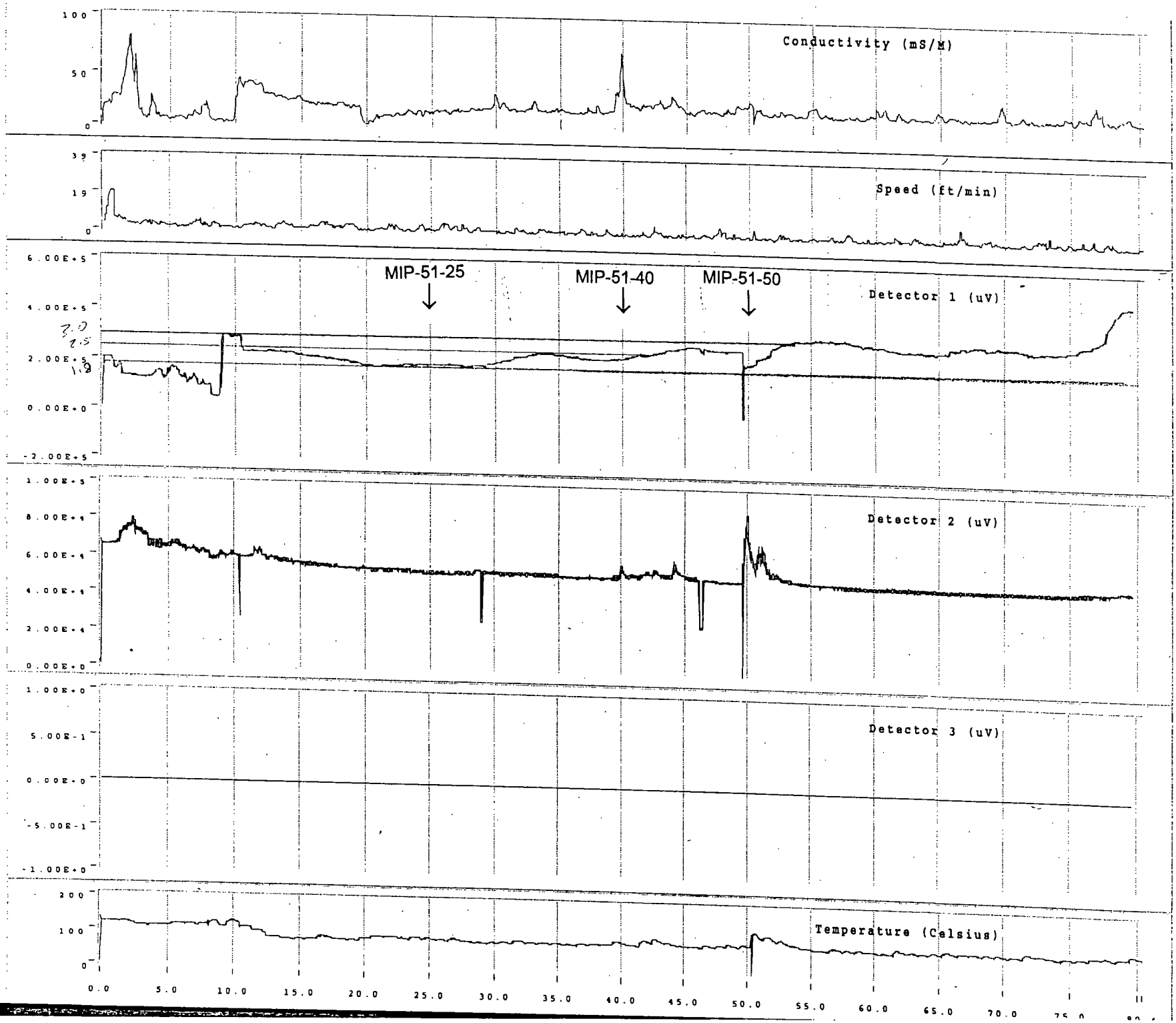

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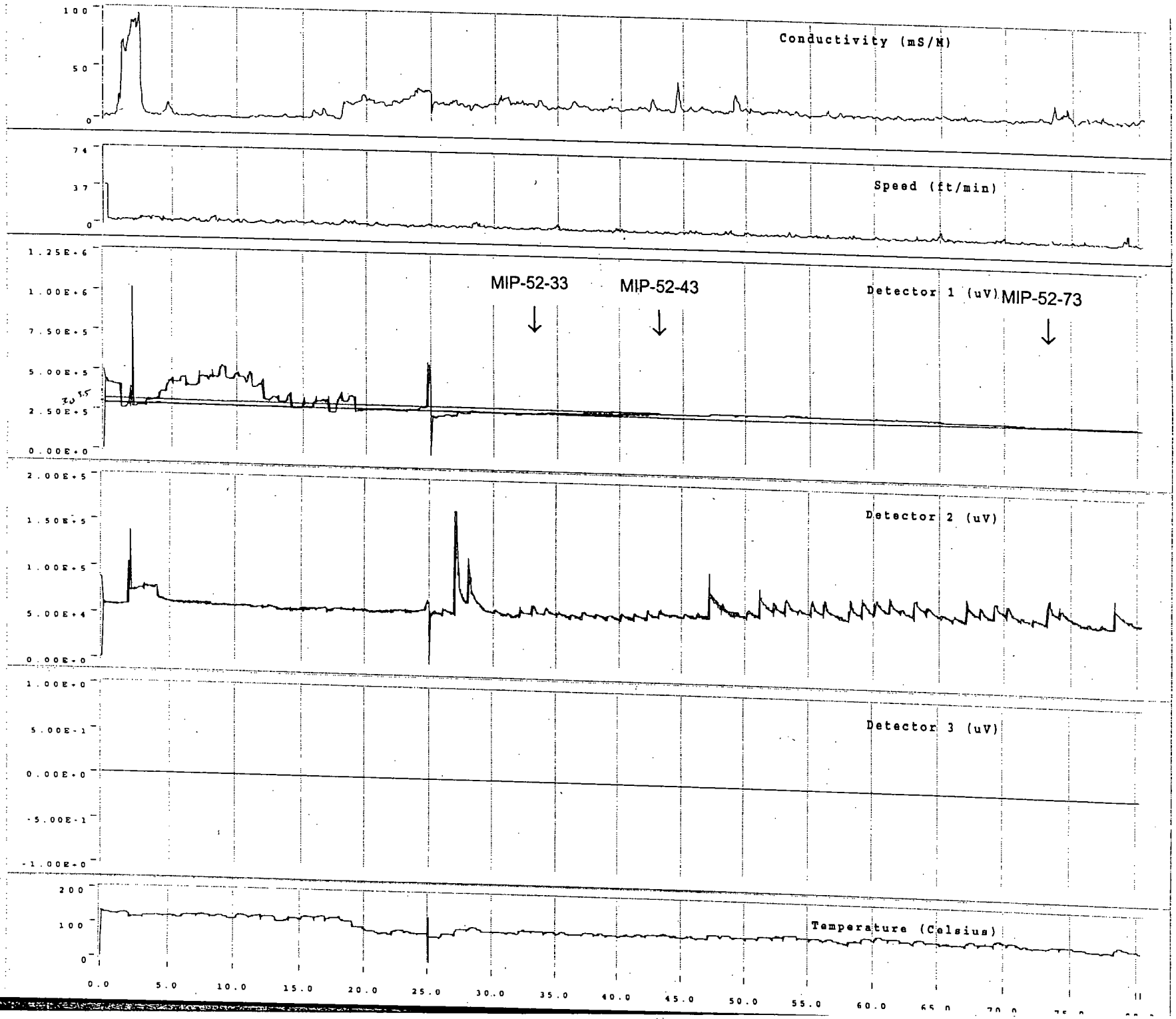

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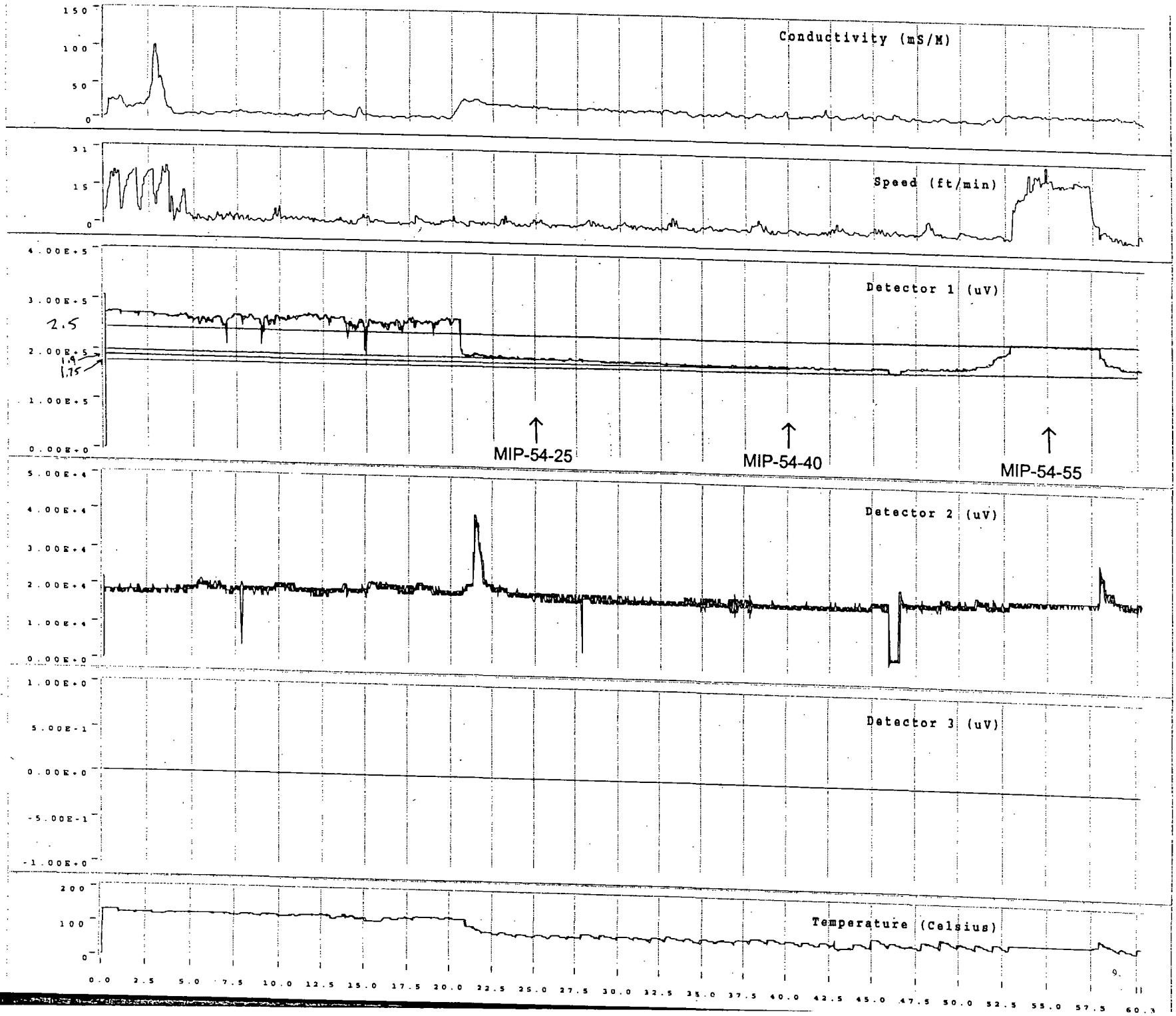

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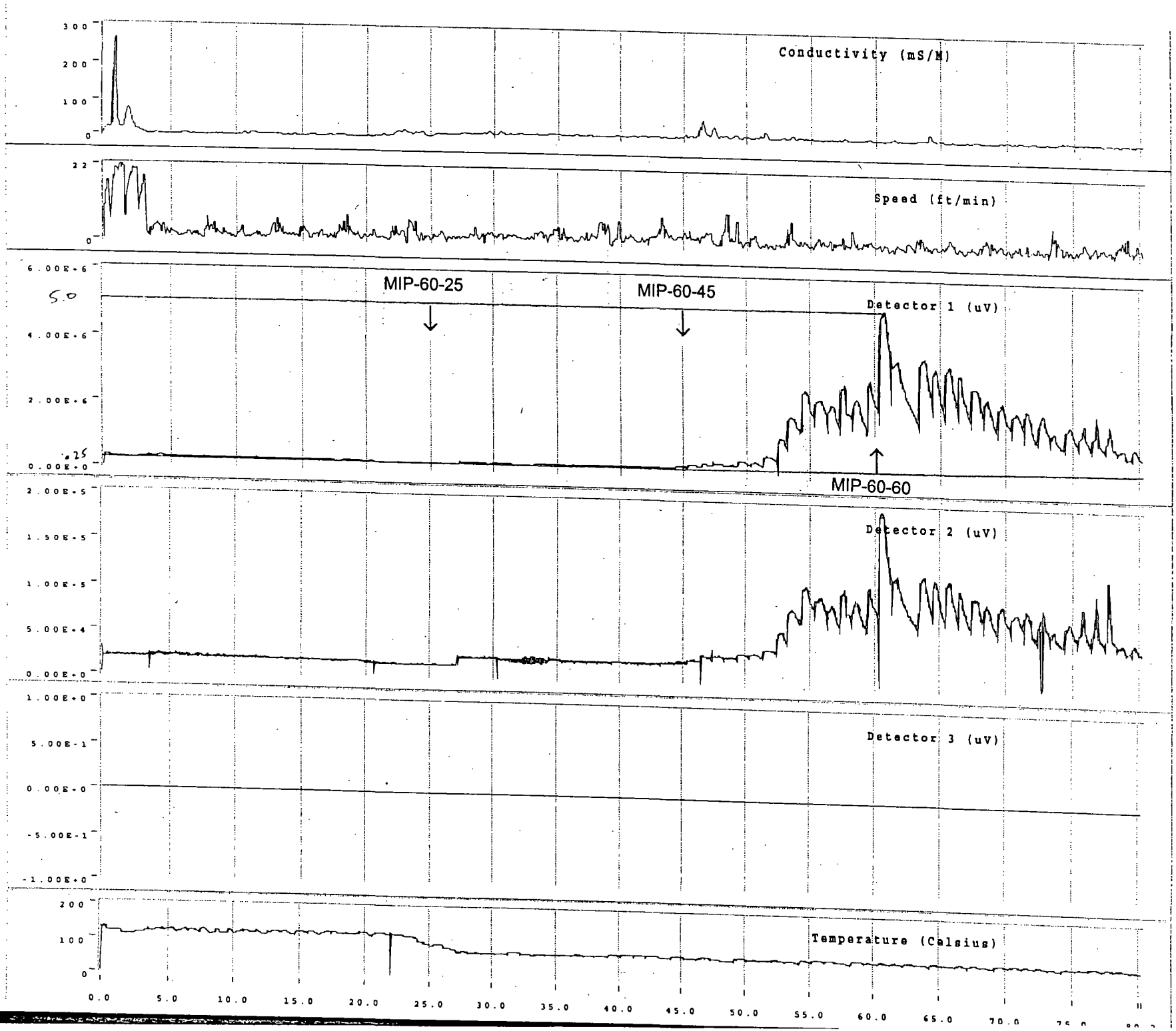

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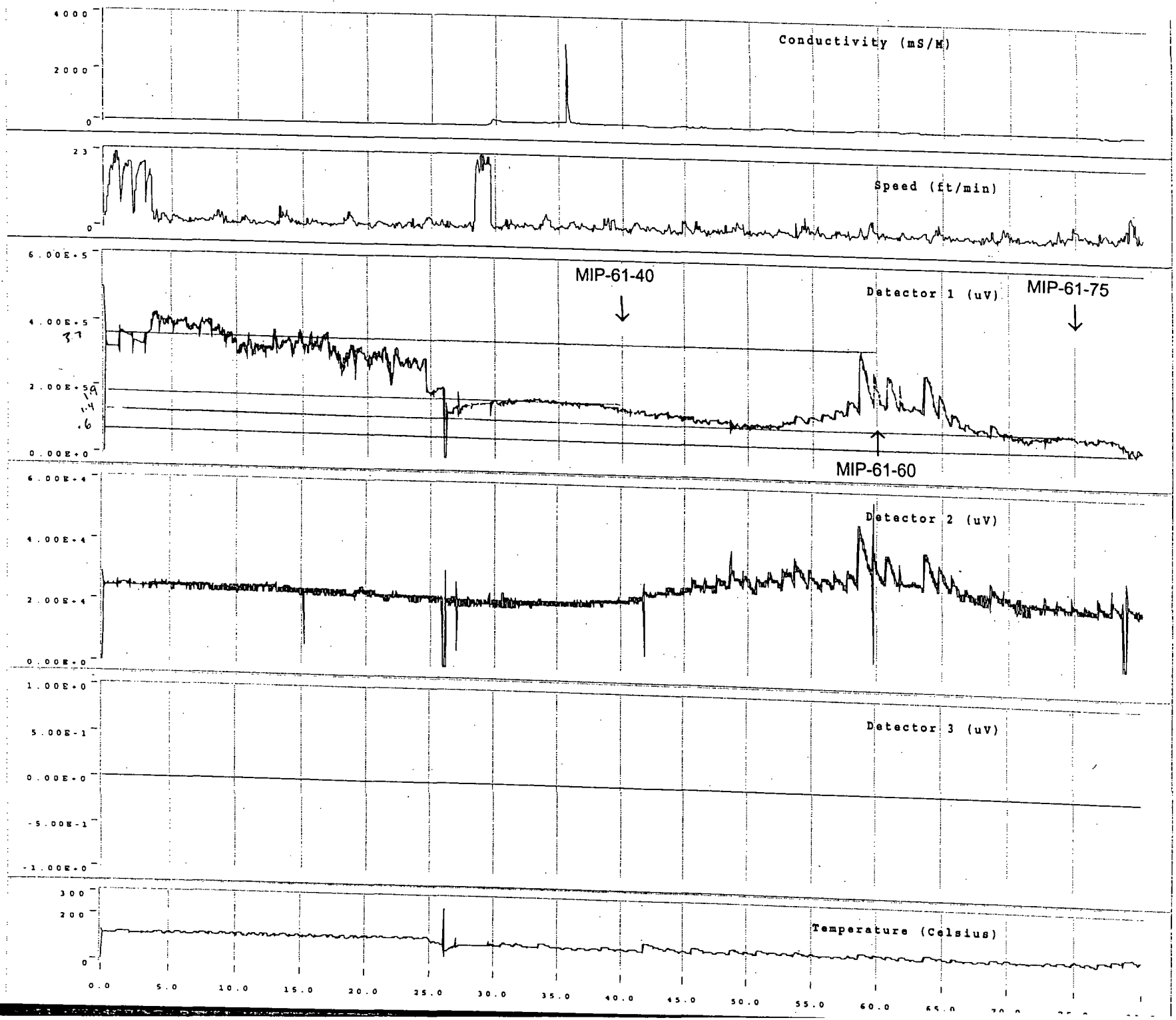

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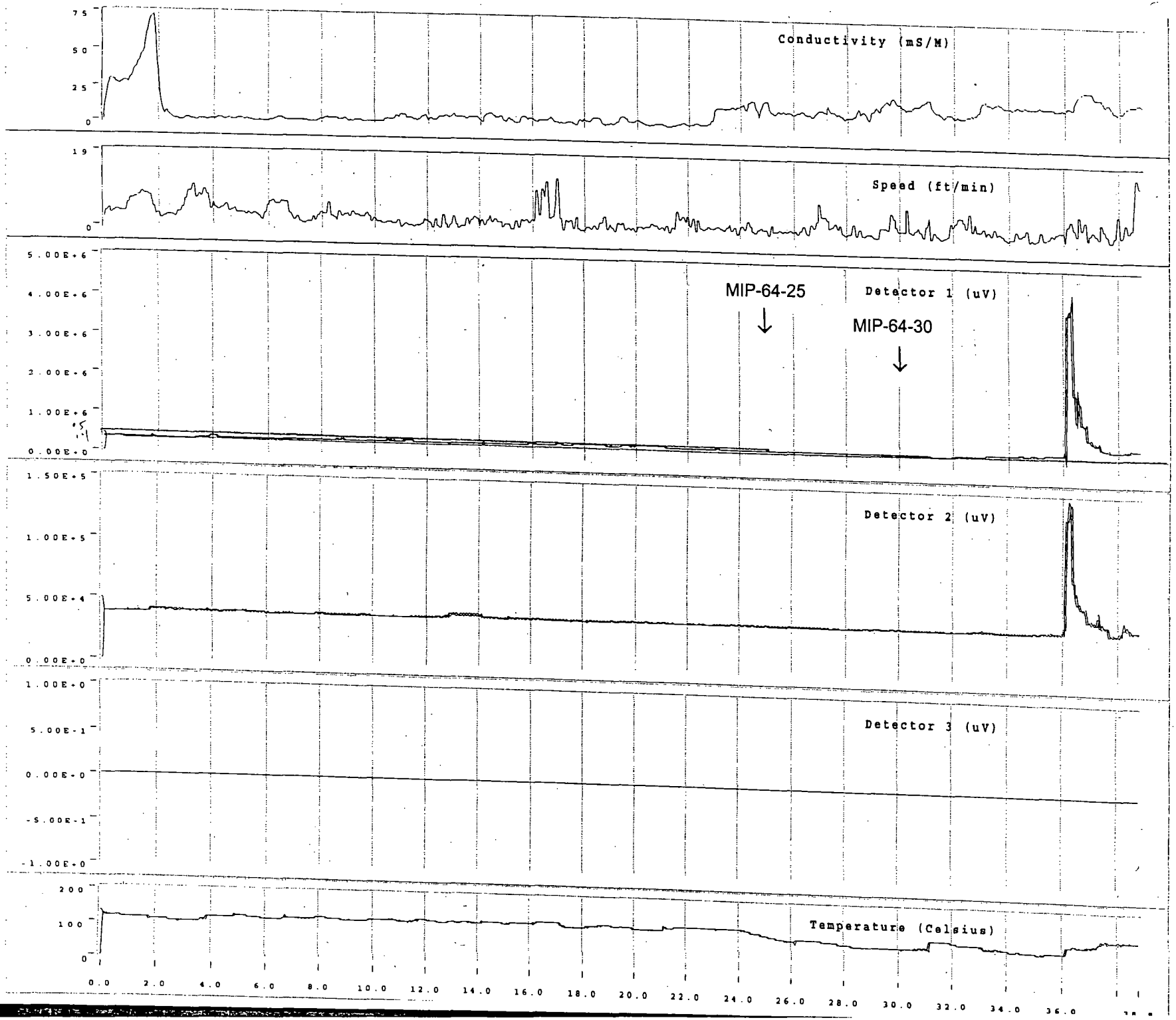

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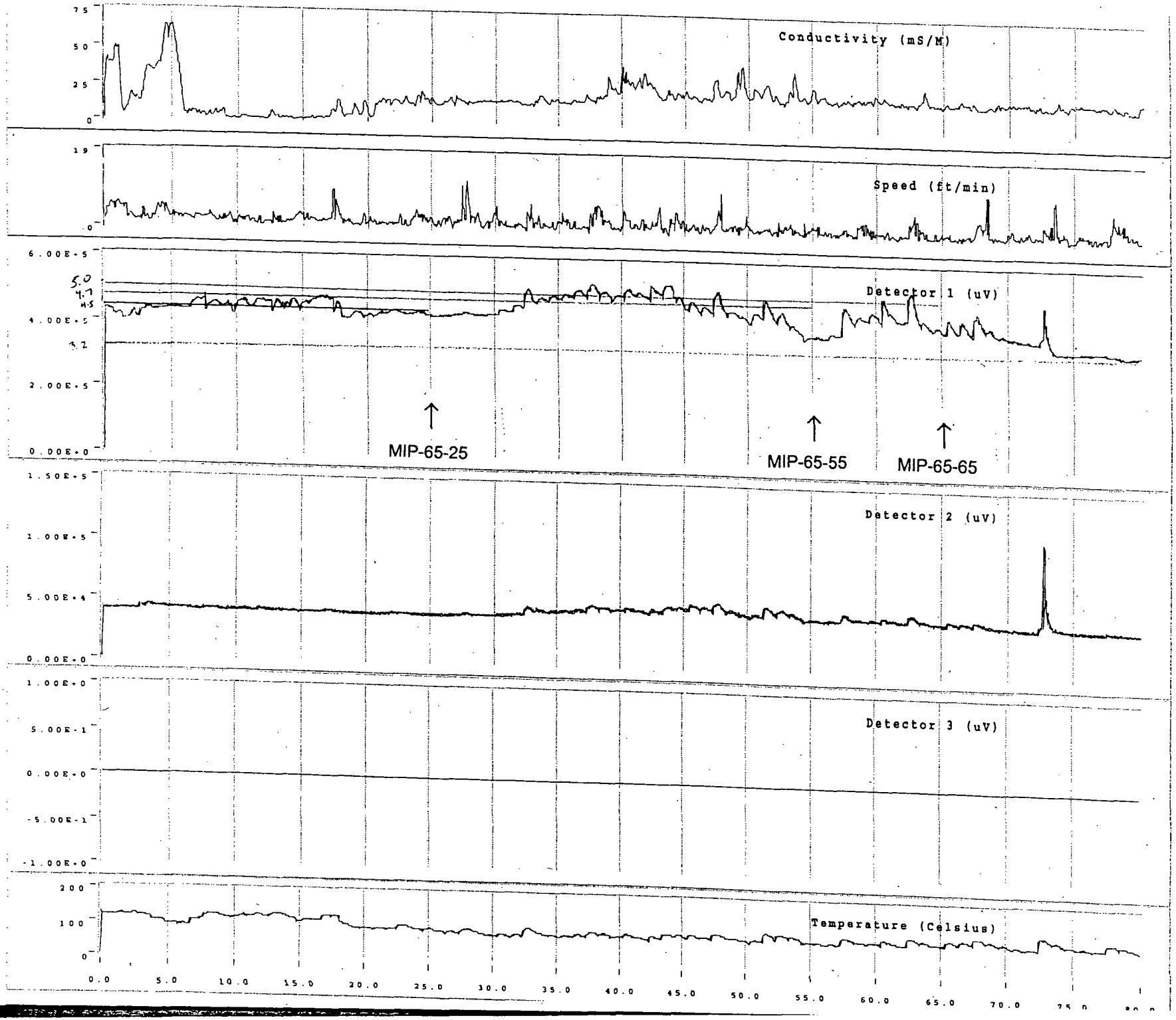

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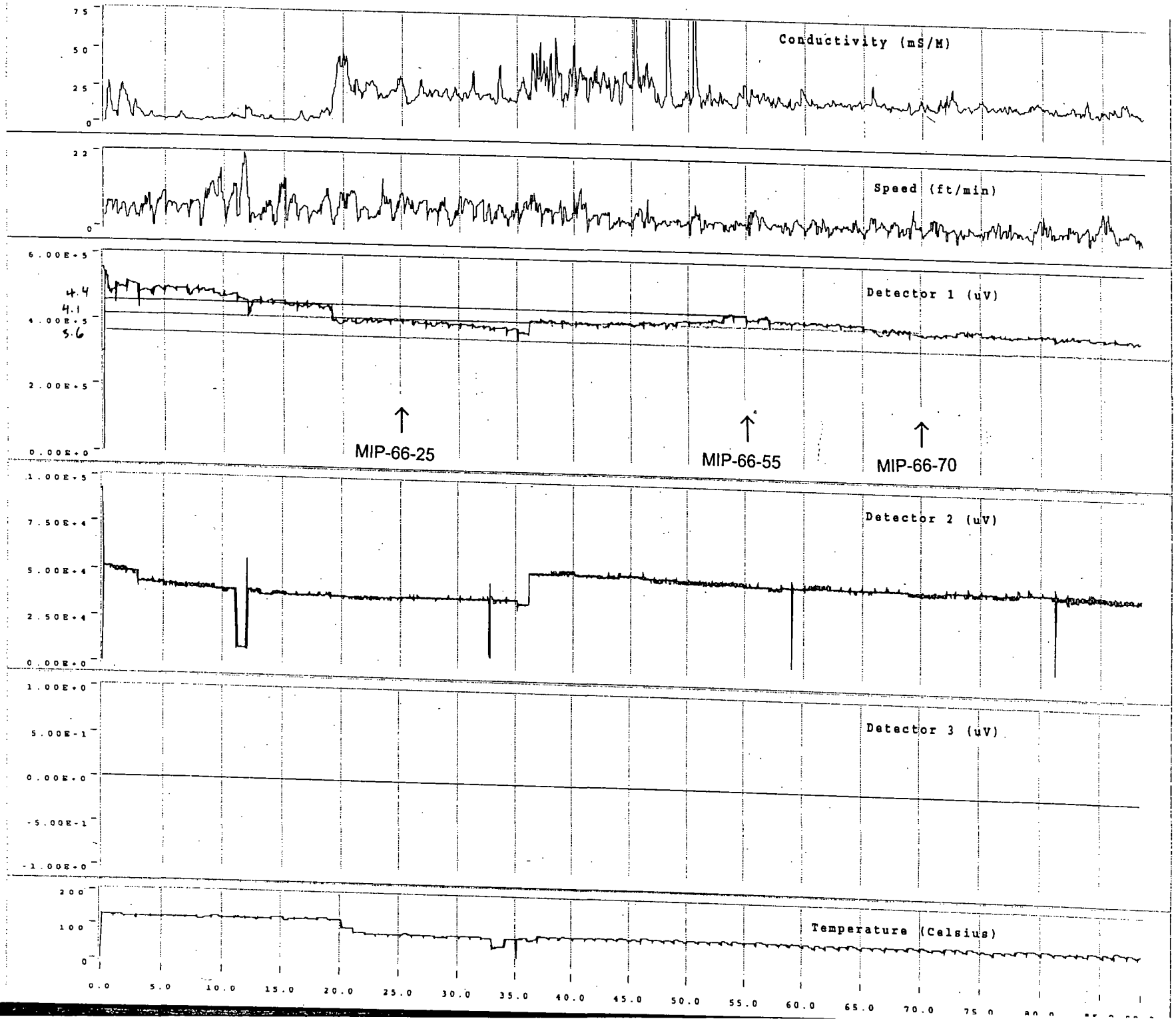

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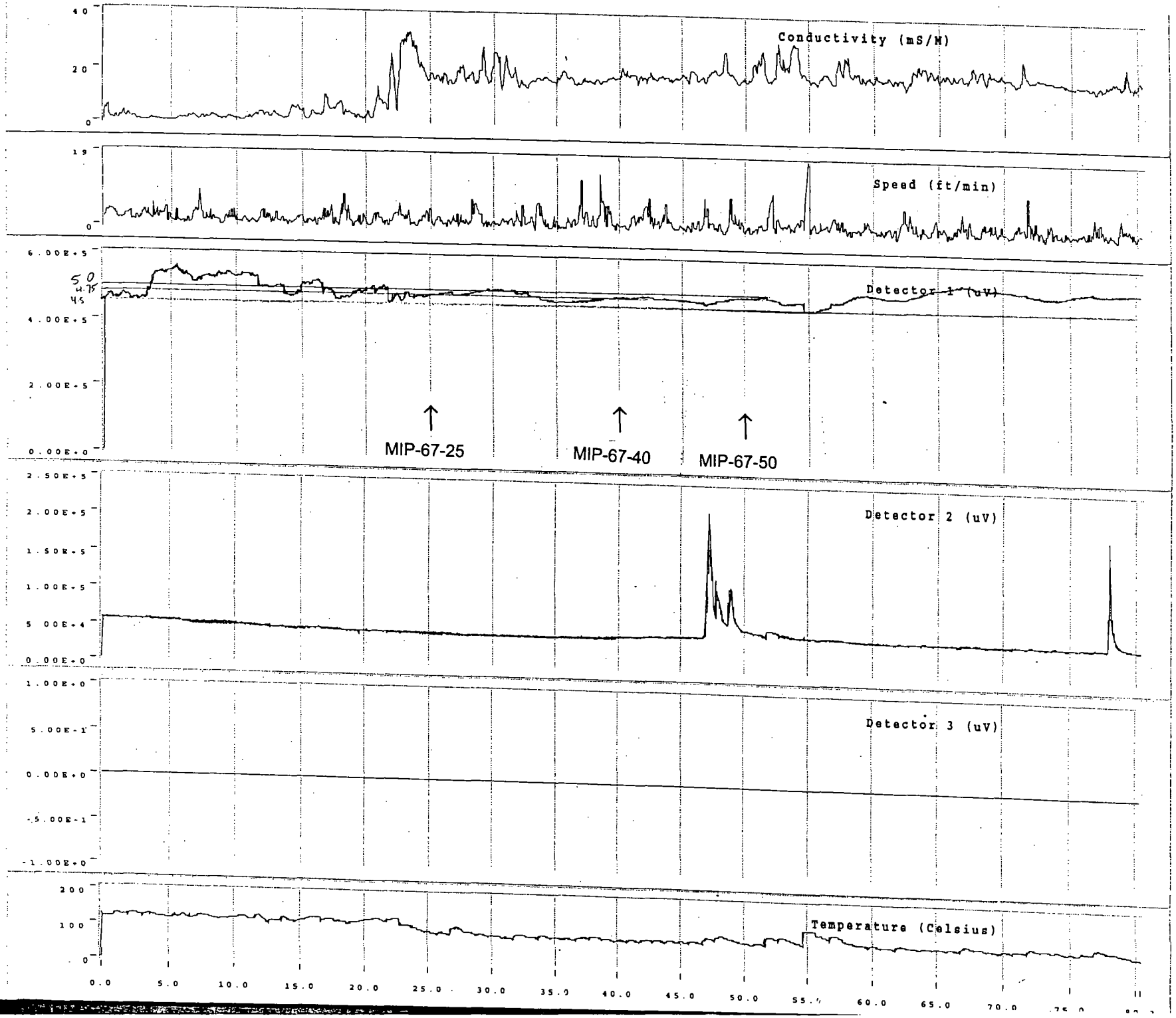

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-1 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton OH 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 14-Mar-99	SETTING:
DRILLING COMPANY: Belasco Drilling Services Inc.	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, 1 1/8" Acetate Liner	SETTING:
OBSERVER: David Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Concrete floor	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Building 40B. Silicate line. 2.5'N and 18'W of I-beam (J-K, 4-5).	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	Hnu Readings PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	concrete		
0.5	4.5	FILL; silty sand, medium to coarse; trace fine to medium gravel; brown; moist, no odor.	10	
	4.5	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-2 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton OH 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 14-Mar-99	SETTING:
DRILLING COMPANY: Belasco Drilling Services Inc.	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, 1 1/8" Acetate Liner	SETTING:
OBSERVER: David Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Concrete floor	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Building 40B. Silicate line. 19'S and 2'E of I-beam (J-K, 5-6)	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	Hnu Readings PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	concrete		
0.5	4.5	FILL; little fine to very coarse sand; trace fine to medium gravel; black; moist; no odor.	56	
	4.5	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-3 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St. , Dayton OH 45414	DIAMETER:
DATE COMPLETED: 14-Mar-99	SETTING:
DRILLING COMPANY: Belasco Drilling Services Inc.	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, 1 1/8" Acetate Liner	SETTING:
OBSERVER: David Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Concrete floor	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Building 40B, Silicate line. 15'S and 19.5'W of I-beam (K, 5-6), along east wall.	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	Hnu Readings PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	concrete		
0.5	4.5	FILL; little fine to very coarse sand; trace fine to medium gravel; black; moist; no odor.	.55	
	4.5	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-4 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St. . Dayton OH 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 14-Mar-99	SETTING:
DRILLING COMPANY: Belasco Drilling Services Inc.	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, 1 1/8" Acetate Liner	SETTING:
OBSERVER: David Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Concrete floor	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Building 40B. Silicate line. 3'N and 17'W of I-beam (K, 6-7), along east wall.	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	Hnu Readings PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	concrete		
0.5	4.5	FILL; little fine to coarse sand; trace medium gravel; black; dry; no odor.	4	
	4.5	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-5 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St. , Dayton OH 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 14-Mar-99	SETTING:
DRILLING COMPANY: Belasco Drilling Services Inc.	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, 1 1/8" Acetate Liner	SETTING:
OBSERVER: David Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Concrete floor	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Building 40B. Silicate line. 1'S and 12.3' E of I-beam (J-K, 6-7).	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	Hnu Readings PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	concrete		
0.5	5.0	FILL; little fine to coarse sand; trace medium gravel; black; dry; no odor.	n/a	
	5.0	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-6 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St. , Dayton OH 45414	DIAMETER:
DATE COMPLETED: 14-Mar-99	SETTING:
DRILLING COMPANY: Belasco Drilling Services Inc.	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, 1 1/8" Acetate Liner	SETTING:
OBSERVER: David Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Concrete floor	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Building 40B. Silicate line. 17.3'N and 10.5'W of I-beam (J-K,5-6).	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	Hnu Readings PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	concrete		
0.5	6.0	FILL; little fine to coarse sand; little medium gravel; brown; dry; no odor.	18	
	6.0	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-7 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton OH 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 14-Mar-99	SETTING:
DRILLING COMPANY: Belasco Drilling Services Inc.	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, 1 1/8" Acetate Liner	SETTING:
OBSERVER: David Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Concrete floor	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Building 40B. Silicate line. 21.3'N and 11.5'W of I-beam (J-K, 6-7).	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	Hnu Readings PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	concrete		
0.5	4.5	SAND, fine to coarse; little gravel; brown; dry; odor; 4' recovery.	32	
	4.5	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-8 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St. , Dayton OH 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 14-Mar-99	SETTING:
DRILLING COMPANY: Belasco Drilling Services Inc.	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, 1 1/8" Acetate Liner	SETTING:
OBSERVER: David Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Concrete floor	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Building 40B. Silicate line. 11'N and 38.5'W of I-beam (J-K, 7-8).	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	Hnu Readings PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	concrete		
0.5	4.5	SAND, silty; trace medium gravel; brown; moist; odor; 2' recovery.	13	
	4.5	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-9 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton OH 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 14-Mar-99	SETTING:
DRILLING COMPANY: Belasco Drilling Services Inc.	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, 1 1/8" Acetate Liner	SETTING:
OBSERVER: David Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Concrete floor	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Building 40B. Silicate line. 3.5'N and 34' W of I-beam (J-K, 6-7).	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	Hnu Readings PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	concrete		
0.5	4.5	SAND, silty; trace medium gravel; brown; moist; no odor; 18" recovery.	n/a	
	4.5	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-10 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St. . Dayton OH 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 14-Mar-99	SETTING:
DRILLING COMPANY: Belasco Drilling Services Inc.	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, 1 1/8" Acetate Liner	SETTING:
OBSERVER: David Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Concrete floor	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Building 40B. Silicate line. 9' N and 2'E of I- beam (J-K, 7-8).	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	Hnu Readings PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	concrete		
0.5	4.5	FILL; little fine to coarse sand; trace medium gravel; no odor; moist; 2' recovery.	25	
	4.5	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-11 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St. , Dayton OH 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 14-Mar-99	SETTING:
DRILLING COMPANY: Belasco Drilling Services Inc.	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, 1 1/8" Acetate Liner	SETTING:
OBSERVER: David Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Concrete floor	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Building 40B. Silicate line. 18'N and 32'W of I-beam (J-K, 8-9).	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	Hnu Readings PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	concrete		
0.5	4.5	SAND, fine to coarse; little gravel; brown; dry; no odor; 18" recovery.	2	
	4.5	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-12 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton OH 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 14-Mar-99	SETTING:
DRILLING COMPANY: Belasco Drilling Services Inc.	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, 1 1/8" Acetate Liner	SETTING:
OBSERVER: David Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Concrete floor	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Building 40B. Silicate line. 13' N and 16'E of I-beam (J-K, 8-9).	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	Hnu Readings PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	concrete		
0.5	4.5	SAND, silty; trace medium gravel; brown; moist; no odor; 12" recovery.	2	
	4.5	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-13 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton OH 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 14-Mar-99	SETTING:
DRILLING COMPANY: Belasco Drilling Services Inc.	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, 1 1/8" Acetate Liner	SETTING:
OBSERVER: David Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Concrete floor	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Building 53. Along north side of the footing from Press	YIELD:

#16 (which was removed). All that is remaining is the footing (drippings apron); which is along the east wall of Building 53. 275'N and 25'W of SE corner of Building 53.

DEPTH IN FEET		GEOLOGIC DESCRIPTION	Hnu Readings PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	concrete		
0.5	1.0	probe		
1.0	4.0	SAND, fine to coarse; some medium to coarse gravel; dry; slight odor; 2' recovery.	1	
4.0	8.0	SAND; fine to coarse; some medium to coarse gravel; dry; no odor; 2' recovery.		
	8.0	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-014 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 19-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~19' bg
REMARKS: South side of Lamar Street - 1/2 way between Webster Street and Dantel Street on the edge of the park.	YIELD: Mobile lab: soil 8-12', 12-16', and 16-19'; ground water 21-23', and 38-40' Fixed lab: soil 16-20'; ground water 20-22', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	4.0	Silt and clay; some angular course sand; little pebbles; firm; brown; moist.	0	3
4.0	8.0	Sand and gravel; poorly sorted; subangular to angular; little silt; gray.	0	3
8.0	12.0	Same as above; Sand, medium to coarse.	0	3
12.0	16.0	Same as above.	0	4
16.0	20.0	Same as above; saturated at 19' bg.	0	4
20.0	24.0	Same as above, saturated; PID @ 23' = 3	2	4
24.0	28.0	Blind drill.		
28.0	30.0	SAND, medium to coarse; little medium gravel; subangular to angular; saturated.	1	
30.0	33.0	Blind drill.		
33.0	35.0	Sand and gravel; subangular to angular; medium to coarse sand; saturated.	0	
38.0	40.0	SAND, medium to coarse; little fine to medium gravel; saturated; brown.	0	
	40.0	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-015 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 20-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~17.5'
REMARKS: South side of Leo Street - 1/2 way between Daniel Street and Milburn Avenue on the edge of the AMVETS parking lot.	YIELD: Mobile lab: soil 4-8', and 12-16'; ground water 17-19', and 38-40' Fixed lab: soil 16-20'; ground water 17-19' and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	0.2	Asphalt		
0.2	0.5	Fill; sand and gravel.		
0.5	3.0	Silty CLAY; soft; brown; moist; no odor.	0	3
3.0	4.0	Same as above; stiff; little very coarse gravel.		
4.0	4.5	Silty SAND; brown; moist; no odor.		3
4.5	8.0	SAND, very coarse; some medium gravel; trace cobbles; brown; no odor.	0	
8.0	12.0	Sand and gravel, fine to coarse; trace cobbles; brown; moist.	2	3.5
12.0	16.0	SAND, medium to very coarse; trace medium gravel; trace cobbles; brown; no odor.	8	
16.0	18.0	SAND, medium to very coarse; trace coarse gravel; brown; saturated at 17.5 feet.	4	4
18.0	20.0	SAND, medium to very coarse; some coarse gravel; brown; saturated.		
23.0	25.0	SAND, medium; trace fine gravel; brown; saturated.	15	2
28.0	30.0	SAND, medium to coarse; trace fine gravel; brown; saturated.	50	2
33.0	35.0	Same as above.	70	
38.0	40.0	Same as above.	140	
	40.0	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-016 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 20-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~18' bg.
REMARKS: South side of Leo Street in front of the first residence east of Webster Street.	YIELD: Mobile lab: soil 4-8', and 16-20'; ground water 18-20', and 34-36' Fixed lab: soil 4-8'; ground water 18-20', and 34-38'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	4.0	Silt and clay; little medium to coarse sand; soft; brown; moist.	0	3
4.0	6.0	Same as above.	0	4
6.0	8.0	Sand and gravel; sand medium to coarse, subangular to angular; trace silt; dry.	0	
8.0	12.0	Same as above; slightly moist.	0	3.5
12.0	16.0	Same as above; very moist at 15.5'; iron oxidation, rust in color at 15.5'.	0	4
16.0	19.0	Same as above; saturated.	0	4
19.0	20.0	SILT; little clay; little sand; trace gravel; firm; gray; moist.	0	
20.0	23.0	Blind drill. Above ends at 22-23 ft bg.		
23.0	25.0	SAND, medium to coarse; trace gravel; poorly sorted; gray; saturated.	0	1.5
28.0	30.0	SAND, medium; trace gravel; brown; saturated.	0	1
33.0	35.0	SAND, medium to coarse; trace gravel; brown; saturated.	0	1.5
35.0	38.0	Blind drill. Hit till @ 36'.		
38.0	40.0	Silt and clay; little sand; trace gravel; very firm; brown; moist. (TILL)	0	1.5
	40.0	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-017 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 20-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~19.5'
REMARKS:	YIELD: Mobile lab: soil 4-8', and 12-16'; ground water 19-21', and 38-40' Fixed lab: soil 12-16'; ground water 19-21', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	0.2	Asphalt		
0.2	3.0	Silty clay; little sand; black to 2', then brown to 3'. (Fill)	5	4
3.0	4.0	GRAVEL, fine to coarse; some medium sand; some silt; trace cobbles; tan and brown.		
4.0	8.0	GRAVEL, fine to very coarse; some coarse sand; trace fine sand; trace cobbles; tan and brown.	6	4
8.0	12.0	Sand and gravel; sand, coarse; gravel, fine to coarse; trace cobbles; trace silt; tan and brown.	6	4
12.0	16.0	SAND, medium to coarse; some medium to coarse gravel; trace cobbles; 6" sand lens at 15',	6	4
		medium to coarse; brown.		
16.0	20.0	Same as above; no discrete sand lens. May not be a representative sample, could be soil	5	
		fallen from above. It was all dry and water is at ~19.5'.		
28.0	30.0	SAND, coarse; well sorted; brown; saturated.	5	2
38.0	40.0	SAND, medium to coarse; well sorted; brown; saturated.	4	2
	40.0	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-018 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: DIAMETER: SLOT NO.
DATE COMPLETED: 20-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~19.5'
REMARKS: South side of Leonhard Street ~1/2 way between Milburn Avenue and Kiser Street.	YIELD: Mobile lab: soil 4-8', and 16-20'; ground water 19-21' and 33.5-35.5' Fixed lab: soil 4-8'; ground water 18-20', and 33.5-35.5'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	4.0	CLAY; some silt; little sand; trace gravel; soft; brown; moist.	0	2.5
4.0	8.0	Sand and gravel; little silt; little medium to coarse sand; subangular to angular; brown-gray; moist.	0	3.5
8.0	12.0	Same as above; slightly moist.	0	3
12.0	16.0	Same as above; moist.	0	4
16.0	20.0	Same as above; water table at 19.5'.	0	3.5
20.0	28.0	Blind drill.		
28.0	30.0	SAND, fine to coarse; angular; trace gravel; gray; saturated.	6	2
30.0	34.0	Blind drill.		
34.0	36.0	SAND, medium to coarse; angular; little gravel; gray; saturated.	13	1.5
	36.0	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-019 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 20-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~21
REMARKS: East side of Deeds Avenue - 1/2 way between Leo Street and Giles Street.	YIELD: Mobile lab: no soils submitted; ground water 21-23', and 38-40' Fixed lab: soil 18-20'; ground water 21-23', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	0.2	Asphalt		
0.2	3.0	Silty clay; some fine sand; trace medium gravel; brown. (Fill)	2	4
3.0	4.0	GRAVEL, fine to medium; some fine sand; trace cobbles; tan, brown, and gray.		
4.0	8.0	GRAVEL, medium to very coarse; some fine to medium sand; trace cobbles; tan, gray, and brown.	1	2
8.0	12.0	GRAVEL, medium to very coarse; some coarse sand; trace cobbles; light brown; moist.	0	4
18.0	20.0	SAND, medium to coarse; some medium gravel; brown; moist.	1	1.5
	40.0	EOB; pushed to 40' for a water sample 38-40'.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-020 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 20-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~19.5' bg.
REMARKS: Approximately 110' east of the NE corner of Webster and Leonhard streets on edge of park.	YIELD: Mobile lab: soil 8-12'; ground water 19-21', and 38-40' Fixed lab: soil 8-12'; ground water19-21', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	1.0	Black top with gravel base.		
1.0	4.0	Sand and gravel; little silt; fine to coarse sand; brown; dry.	0	3
4.0	8.0	Same as above.	0	3
8.0	12.0	Same as above.	0	3.5
12.0	16.0	Same as above.	0	3.5
16.0	20.0	Same as above. Saturated at 19.5'.	2	4
20.0	40.0	Blind drill.		
		EOB. Drove screen to 38-40' to collect water sample.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-021 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 21-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~38'
REMARKS: Just north of the NE corner of Leo and Deeds streets.	YIELD: Mobile lab: soil 0-4', and 24-26'; ground water 38-40' Fixed lab: soil 8-12'; ground water 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	0.2	Asphalt		
0.2	3.0	Silty SAND; trace medium gravel; brown; moist. (Fill).	5	3
3.0	4.0	Sand and gravel, medium to coarse; light brown and tan.		
4.0	8.0	Sand and gravel, medium to coarse; trace cobbles; light brown to tan and gray; slight odor; dry.	2	3
8.0	12.0	Same as above; slight odor.	1	4
19.0	21.0	SILT; trace fine gravel; firm; dark gray; damp; softens with depth and is more moist. (Till).	1	2
		Switched to 2' spoon, 1" diameter.		
	NOTE:	Hit a clay/silt layer at 19'. Tried to get a water sample at 19-21' but it was dry. Pushing a little		
		deeper to get a water sample.		
24.0	26.0	Same till as above. Moist.	--	2
32.0	34.0	Same till as above. Moist.	1	2
	40.0	EOB. Pushed to 40' to get water sample at 38-40'. Driller thinks that we broke through the		
		bottom of the till but this is questionable. No soil sample was taken.		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-022 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 21-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~18.5' bg.
REMARKS: NE corner of Webster and Lamar streets.	YIELD: Mobile lab: soil 12-16'; ground water 18.5-20.5', and 38-40' Fixed lab: soil 12-16'; ground water 18.5-20.5', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	4.0	Clay and silt; some gravel; firm; brown; dry.	0	3
4.0	6.0	Same as above.	0	4
6.0	8.0	Sand and gravel; little silt; sand, fine to coarse; subangular to angular; brown.	0	
8.0	12.0	Same as above.	0	4
12.0	16.0	Same as above; moist at 15'.	0	4
16.0	20.0	Same as above; saturated at 18.5'.	0	4
20.0	28.0	Blind drill.		
28.0	30.0	Sand and gravel; sand, medium to coarse; angular; brown; saturated.	1	2
30.0	38.0	Blind drill.		
38.0	40.0	Same as above. Poor recovery.	--	2"
	40.0	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-023 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 21-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~24'
REMARKS: South side of Lamar Street - 1/2 way between Milburn Avenue and Kiser Street.	YIELD: Mobile lab: soil 4-8'; ground water 24-26', and 38-40' Fixed lab: soil 18-20'; ground water 24-26', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	0.2	Asphalt		
0.2	2.5	Silty sand and gravel; 0-1' black, 1-2.5' brown; damp. (Fill).		4
2.5	3.5	Sand and gravel to 3.5'; brown and tan; dry.	3	
3.5	4.0	SAND, medium to coarse; trace gravel; brown; dry.		
4.0	8.0	Sand and gravel; brown and tan; dry. Bottom foot fell out. Some moisture from street (raining	1	3
		in the morning).		
8.0	12.0	SAND, medium to coarse; little fine to medium gravel; trace cobbles; brown; slight odor.	1	4
12.0	16.0	Sand and gravel; very coarse to medium; trace cobbles; brown; saturated.	1	4
16.0	18.0	Same as above.. Thought it was ground water but it wasn't so drove sampler to 21' but still		
		dry; drove it to 24-26', appeared to be clay from 18-23' per driller.		
18.0	20.0	Till, dark gray with some brown; trace gravel; firm; moist.		4
24.0	26.0	Drove screen to 24-26' for water sample.		
28.0	30.0	GRAVEL, fine to medium; trace very fine sand; brown; saturated.	0	2
38.0	40.0	Sand and gravel; coarse to medium; brown; saturated.	1	2
	40.0	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-024 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 21-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~18.5'
REMARKS: SW corner of Lamar Street and Milburn Avenue.	YIELD: Mobile lab: soil 16-20'; ground water 19-21', and 35-37' Fixed lab: soil 18-20'; ground water 19-21', and 35-37'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	4.0	CLAY; mixed with sand and gravel; brown.	0	4
4.0	8.0	GRAVEL; some fine to coarse sand; angular; brown.	0	4
8.0	12.0	Sand and gravel; medium to coarse sand; subangular to angular.	1	4
12.0	16.0	Same as above	1	4
16.0	20.0	Same as above.	2	
20.0	28.0	Blind drill.		
28.0	30.0	Same as above.		2
30.0	35.0	Blind drill.		
35.0	37.0	SAND, medium to coarse; angular; trace gravel; gray. Hard drilling, stopped at 37'		2"
	37.0	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-025 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 21-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: 16'
REMARKS: Approximately 100' north of the NE corner of Leonhard and Webster streets on the edge of the park.	YIELD: Mobile lab: soil 8-12'; ground water 19-21', and 38-40' Fixed lab: soil 12-16'; ground water 19-21', and 38-40'.

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	0.5	Topsoil		
0.5	3.0	Silty clay; soft; brown; moist.	1	4
3.0	4.0	GRAVEL, coarse; little cobbles; little medium sand; tan.		
4.0	8.0	Sand and gravel, very fine to very coarse; trace cobbles; brown; dry.	1	3
8.0	12.0	Same as above; medium to coarse sand lens 10-11'; odor.	3	
12.0	16.0	Same as above. Saturated just above 16'; odor.	1	
16.0	20.0	Same as above. Saturated; cobbles; groundwater at 18'; odor.	2	
	40.0	EOB. Driller noted that he didn't hit any clay down to 40'. Push down to 40' was fast and easy.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-026 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 21-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: none
REMARKS: Approximately 125 feet south of the SE corner of Leo and Kiser streets.	YIELD: Mobile lab: soil 16-20', and 35-37'; ground water not encountered Fixed lab: soil 16-20'; ground water not encountered

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	1.0	Clay and silt; firm; dry; brown.	0	
1.0	4.0	Sand and gravel; medium to coarse sand; angular; brown.		
4.0	8.0	Same as above.	0	
8.0	12.0	Same as above.	0	
12.0	16.0	Same as above.	0	
16.0	18.5	Same as above. Dry, no water.	0	
18.5	20.0	CLAY; some silt; little gravel; subangular to angular; gray.		
20.0	27.0	Blind drill.		
27.0	29.0	Same as above. Hard drilling.	0	
29.0	35.0	Blind drill. Very hard drilling.		
35.0	37.0	Same as above.	0	
	37.0	Refusal. EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-027 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 22-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~22'
REMARKS: Very difficult drilling starting at 10'. NW corner of Leonhard Street and Milburn Avenue.	YIELD: Mobile lab: soil 8-12'; ground water 23-25', and 38-40' Fixed lab: soil 4-8'; ground water 23-25', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	0.2	Asphalt		
0.2	1.0	Topsoil; soft; black; moist.		
1.0	1.5	SILT; firm; trace organics; brown.		
1.5	4.0	Sand and gravel, very fine to very coarse; trace cobbles; light brown; dry.	5	4
4.0	7.0	Same as above, slight odor.	6	4
7.0	7.5	SAND, very fine to very coarse; some medium gravel; brown; dry.		
7.5	8.0	Same sand and gravel as in 4-7'		
8.0	12.0	Sand and gravel, very fine to very coarse; trace cobbles; brown; dry.	6	4
12.0	25.0	Drove screen and collected water sample.		
25.0	40.0	Drove screen and collected water sample.		
	40.0	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-028 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 22-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~18.5'
REMARKS: PID was not working properly. Approximately 110 feet south of the SE corner of Webster and Lamar streets on edge of park.	YIELD: Mobile lab: no soils submitted; ground water 19-21', and 38-40' Fixed lab: soil 4-8'; ground water 19-21', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	4.0	Clay and silt; little gravel; brown; moist.	0	3.5
4.0	8.0	Sand and gravel; medium to coarse sand; subangular to angular; brown; dry.	0	4
8.0	12.0	Same as above	0	4
12.0	16.0	Same as above	0	4
16.0	18.0	Blind drill.		
18.0	20.0	GRAVEL; some sand; medium to coarse; gray; saturated.	0	
20.0	38.0	Blind drill.		
38.0	40.0	Sand and gravel; sand, medium to coarse; gray; saturated.	0	
	40.0	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-029 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 22-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~21'
REMARKS: North side of Leonhard Street on edge of park ~1/2 way between Webster Street and Milburn Avenue.	YIELD: Mobile lab: soil 21-23'; ground water 21-23', and 38-40' Fixed lab: soil 15-17'; ground water 21-23', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	1.0	Topsoil; black; moist.		
1.0	1.5	SILT; trace medium gravel; trace organics; soft; brown; moist.		
1.5	4.0	Sand and gravel, very fine to very coarse; brown to tan; trace cobbles; dry.	1	4
4.0	7.0	Same as above; trace silty sand at 5'; trace cobbles.	1	3
7.0	8.0	SAND, very fine to very coarse; trace medium gravel; brown; dry.		
8.0	12.0	Same as above.	1	
	NOTE:	Very difficult drilling through cobbles... went to 2' spoon.		
15.0	17.0	Sand and gravel, fine to very coarse; trace cobbles; brown; dry.	2	2
21.0	23.0	SILT; firm; brown; saturated at ~21'.	5	
28.0	30.0	GRAVEL, fine to medium; trace coarse; brown-gray; saturated.	1	
40.0	42.0	Sand and gravel, fine to medium; trace coarse gravel; brown; saturated.	1	
	42.0	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-030 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 22-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~18.5
REMARKS: Near center of park, approximately 330' NE of the NE corner of Webster and Leonhard streets.	YIELD: Mobile lab: soil 12-16'; ground water 20-22', and 38-40' Fixed lab: soil 4-8'; ground water 20-22', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	4.0	Clay and silt; little gravel; brown; moist.	0	4
4.0	8.0	Gravel; some medium to coarse sand; brown; dry.	2.8	4
8.0	12.0	Sand and gravel; medium to coarse sand; subangular to angular; brown; moist.	1.5	4
12.0	16.0	Same as above. Poor recovery, stone in sampler.	4	4"
16.0	28.0	Blind drill.		
28.0	30.0	Sand and gravel; medium to coarse sand; subangular to angular; brown; saturated.	2	3"
30.0	38.0	Blind drill.		
38.0	39.5	Same as above.	8	1
39.5	40.0	Clay and silt; little gravel; little medium sand; firm; brown; moist.		
	40.0	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-031 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 22-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~20
REMARKS: South side of Lamar Street on edge of park ~1/2 way between Daniel Street and Milburn Avenue.	YIELD: Mobile lab: soil 12-16'; ground water 20-22', and 35-37' Fixed lab: soil 4-8'; ground water 20-22', and 35-37'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	0.5	Topsoil; black; moist.		
0.5	2.0	SILT; little organics; firm; brown; moist.		4
2.0	4.0	Sand and gravel, fine to coarse; brown; dry; slight odor.	1	
4.0	8.0	Sand and gravel, fine to coarse; trace cobbles; brown and tan; odor.	4	4
8.0	12.0	Same as above.	5	4
12.0	16.0	Same as above. 6" medium to coarse sand (14.5-15')	6	4
20.0	22.0	Sand and gravel, very fine to very coarse; trace clay; trace cobbles; saturated.	10	1
22.0	40.0	Drove screen to 40' for water sample.		
	40.0	EOB		
	NOTE:	Possibly clay or till in the last few feet of the hole.. Tried to get water sample from 38-40'		
		but it was dry so we pulled up 3'. Also, stiff drilling.		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-032 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 22-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~19
REMARKS: Near center of park, approximately 300' NW of the NW corner of Milburn Avenue and Leonhard Street.	YIELD: Mobile lab: soil 12-16'; ground water 19-21', and 33-35'. Fixed lab: soil 12-16'; ground water 33-35'

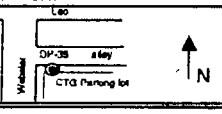
DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	2.0	Clay and silt; brown; moist.		
2.0	4.0	Sand and gravel; sand, medium to coarse; subangular to angular; dry.	1	3.5
4.0	8.0	Same as above.	10	4
8.0	12.0	Same as above.	8	4
12.0	16.0	Same as above.	10	4"
16.0	20.0	Same as above. Poor recovery.... hit rocks.		4"
20.0	33.0	Blind drill.		
33.0	35.0	Possible till, evidenced by drilling and attempt to recover water.		
	35.0	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-033 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 22-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~19'
REMARKS: East side of Daniel Street ~1/2 way between Leo and Lamar streets.	YIELD: Mobile lab: soil 0-4'; ground water 19-21', and 38-40' Fixed lab: soil 0-4'; ground water 19-21', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	1.0	Topsoil; black; moist.		
1.0	1.5	Silty sand, fine; light brown; moist.		
1.5	4.0	Sand and gravel, very fine to very coarse; brown; dry; slight odor.	3	4
4.0	8.0	No recovery, pushing a rock.		
8.0	12.0	No recovery, pushing a rock.		
15.0	17.0	No recovery.		
		Can't get a sample, subsurface too coarse for the 1" diameter spoon.		
19.0	21.0	Drove screen to 21' to collect water sample		
38.0	40.0	Drove screen to 40' to collect water sample		
	40.0	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-034 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 22-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~20'
REMARKS: South side of Leo Street in front of Goodyear ~110' east of the SE corner of Leo Street and Milburn Avenue.	YIELD: Mobile lab: soil 4-8'; ground water 21-23', and 38-40' Fixed lab: soil 4-8'; ground water 21-23', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	4.0	Sand and silt; little clay; reddish-brown.	4.5	3
4.0	8.0	Sand and gravel; brown.	6	4
8.0	12.0	GRAVEL; some medium to coarse sand; subangular to angular; brown; moist.	4.5	4
12.0	16.0	Sand and gravel; brown; moist.	5	4
16.0	20.0	Same as above.	4	4
20.0	28.0	Blind drill.		
28.0	30.0	SAND; some gravel and cobbles; brown; saturated.	25	1.5
30.0	38.0	Blind drill.		
38.0	40.0	SAND, coarse; little fine to medium gravel; brown; saturated.	90	1.5
	40.0	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-035 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 23-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: -17'
REMARKS: 	YIELD: Mobile lab: no soils submitted; ground water 17-19', and 38-40' Fixed lab: no soils submitted; ground water 17-19', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	0.2	Asphalt		
17.0	19.0	Drove screen to 19' to collect water sample.		
38.0	40.0	Drove screen to 40' to collect water sample.		
	40.0	EOB		
	NOTE:	First pushed down to 21'. Tried to get water and the hole went dry. Driller noted that it got		
		stiff at 19'... possibly till. Pulled screen up to 17-19' and got a water sample.		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-036 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 23-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~15'
REMARKS: Just N of what would be the NE corner of Lamar and Kiser streets. Hole under pressure; blowing air and water out of the Geoprobe rods at 27'.	YIELD: Mobile lab: soil 8-12', and 12-16'; ground water 29-31' Fixed lab: soil 12-16'; ground water 30-32'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	1.0	Clay and silt; black; topsoil.	1	2
3.0	4.0	Sand and gravel; medium to coarse sand; subangular to angular; brown; dry.		
4.0	8.0	Same as above.	2	3.5
8.0	12.0	Same as above; slight odor; moist.	3	4
12.0	15.5	Same as above; bottom 6" saturated.	4	4
15.5	16.0	Silt and clay; some medium to very coarse sand; trace gravel; gray; dry. (Till).		
		Attempted to collect groundwater at 14.5-16.5. Couldn't get water. Kept driving 2' sampler.		
16.0	30.0	Blind drill. Hard drilling (likelyTill).		
30.0	32.0	Sand and gravel (same as above).	20	1.5
		At 27 feet a steady flow of air began coming up the drill rods. Filled a 1/2 liter Tedlar bag in less than 1 second.		
		PID readings of the air coming out of the drill rods was 180 ppm.	180	
		Ground water was also spurting out of the drill rods in an erratic fashion to a height of ~10 feet.		
	32.0	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-037 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 23-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~19'
REMARKS: East side of Milburn Avenue ~1/2 way between Lamar and Leonhard streets.	YIELD: Mobile lab: no soils submitted; ground water 19-21', and 38-40' Fixed lab: soil 4-8'; ground water 19-21', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	1.0	Topsoil; black; moist.		
1.0	4.0	Sand and gravel, very fine to coarse; trace cobbles; little silt; brown to black; moist.	3	2
4.0	8.0	Same as above; slight odor.	7	
8.0	12.0	Same as above; no odor.	3	4
12.0	15.0	Same as above.	3	3
15.0	19.0	Blind drill.		
19.0	21.0	Collect water sample.		
21.0	40.0	Blind drill, collect water 38-40'.		
	40.0	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-038 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 23-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~20
REMARKS: Approximately 110 feet N of the NE corner of Leonhard and Kiser streets.	YIELD: Mobile lab: soil 4-8' and 8-12'; ground water 20-22', and 34-36' Fixed lab: soil 8-12'; ground water 20-22', and 34-36'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	0.5	Clay and silt, black. Topsoil.		
0.5	4.0	Sand and gravel; medium to coarse sand; subangular to angular; brown; dry.	1	3.5
4.0	8.0	Same as above.	1	4
8.0	12.0	Same as above.	2	4
12.0	15.0	Same as above.	1	4
15.0	16.0	Blind drill.		
16.0	20.0	Same as above, except trace cobbles.	0	4
20.0	36.0	Blind drill. Drove screen, collected water from 34-36. Refusal at 36'. Appeared to be in sand		
		and gravel.		
	36.0	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-039 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 23-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~18'
REMARKS: West side of Milburn Avenue ~1/2 way between Leo and Lamar streets.	YIELD: Mobile lab: no soils submitted; ground water 18-20', and 38-40' Fixed lab: no soils submitted; ground water 18-20', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	1.0	Topsoil; black; moist; no odor.		
1.0	4.0	Sand and gravel; very fine to coarse; little silt; trace clay; gray-brown; damp; no odor.	2	
4.0	8.0	No recovery; pushed a rock.		
8.0	12.0	Silty sandy, gravelly clay; (resembles till somewhat); soft; brown; moist; no odor.	2	
12.0	16.0	Same as 1-4'; locally more medium to coarse sand; light yellow at top grading to brown with	2	
		a 1" black lens and a 1" orange lens; moist; no odor.		
16.0	20.0	Drove to water table.		
20.0	40.0	Blind drill, collect water 38-40'		
	41.0	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-040 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 23-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~20
REMARKS: South side of Leo street ~85' west of RR tracks and 180 feet east of Kiser Street.	YIELD: Mobile lab: no soils submitted; ground water 21-23', and 38-40' Fixed lab: soil 12-16'; ground water 21-23', and 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	1.0	Black dirt; little sand and gravel.		3.
1.0	3.5	CLAY; little silt and sand; brownish-red.	0	
3.5	4.5	SAND, fine to medium; brown.	1	
4.5	8.0	SAND, medium; some fine to coarse gravel; brown.	1	2.5
8.0	12.0	Same as above.	2	3.5
12.0	16.0	Same as above.	0	3.5
16.0	20.0	Same as above.	0	3.5
20.0	40.0	Blind drill; appears to be sand and gravel to 40 feet.		
	40.0	EOB		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-041 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 23-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~35
REMARKS: South side of Leo Street ~1/2 way between Deeds Avenue and the RR tracks.	YIELD: Mobile lab: no soils submitted; ground water 38-40' Fixed lab: no soils submitted; ground water 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	1.0	Topsoil; black; moist.		
1.0	4.0	SILT; some gravel; trace cobbles; soft; brown; moist.	0	2
4.0	8.0	Sand and gravel, very fine to coarse; trace cobbles; brown; dry.	0	2
8.0	12.0	Same as above.	0	3
15.0	17.0	SILT; firm; brown to dark gray; damp. (Till).	0	1.5
	NOTE:	Tried to get a water sample at 19-21', then at 25-27'. It's all till and yielding no water. Drove		
		down to 40' for water. Driller noted that the drilling was stiff from about 16-35', then		
		softened up at 35'.		
	40.0	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-042 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN TYPE:
1600 Webster St., Dayton, Ohio 45414	DIAMETER: SLOT NO.
DATE COMPLETED: 23-Apr-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct push, plastic liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~35
REMARKS: Just south of the SW corner of Leo and Kiser streets.	YIELD: Mobile lab: no soils submitted; ground water 38-40' Fixed lab: no soils submitted; ground water 38-40'

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	RECOVERY (feet)
FROM	TO			
0.0	21.0	Blind drill to 21', no water. Till.		
21.0	27.0	Blind drill to 27', no water. Till.		
27.0	40.0	Blind drill to 40', collected water 38-40', appear to be below the Till.		
	40.0	EOB		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP043 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 15-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~21 feet
REMARKS: East of tracks at the NW corner of Heidelberg Distributing.	YIELD:
	Water sample collected at 21-23 feet, 09:15 Water sample collected at 38-40 feet, 12:10

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	1.0	Topsoil; brown; damp; no odor.		
1.0	4.0	Silty CLAY; little fine to very coarse sand and gravel; damp; no odor.	0	
4.0	8.0	Sand and gravel, very fine to very coarse; trace silt; light brown; damp.	0	
8.0	12.0	Sand and gravel as in 4-8 feet; locally sandier places and gravelly in others; moist near 12 feet.	0	
12.0	16.0	Sand and gravel, very fine to very coarse; trace silt; trace cobbles; light brown; damp.	0.2	
16.0	20.0	drove sampler.		
20.0	22.0	same as 12-16 feet; saturated at 21 feet; used 1 inch diameter sampler.	0	
28.0	30.0	Assumed to be sand and gravel. No soil sample collected but the sampler tip split in half		
		from gravel and cobbles.		
38.0	40.0	No soil sample but there was fine to very coarse sand in the screen.		
	40.0	End of boring.		

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP044 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 15-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Hard pulling rod at 12-16 feet and 18-19 feet. Stopped at 19 feet and attempted to collect water at 17-19 feet and 19-21 feet. No water.	YIELD: Water collected at 31.5-33.5 feet, 10-10

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	4.0	SILT; little clay; brown; dry.	0	
4.0	8.0	Sand and gravel; little silt; brown; dry.	0	
8.0	11.0	Sand and gravel; little silt; trace cobbles; brown; dry.	0	
11.0	12.0	SAND, very fine to fine; trace gravel; moist.		
12.0	16.0	Sand and gravel; sand very fine to coarse; brown; dry.	0.5	
16.0	17.0	Sand and gravel; sand very fine to coarse; brown; dry.	0.5	
17.0	19.0	Clay and silt, some gravel; grey; hard; moist (Till)		
19.0	28.0	Blind drill.		
28.0	30.0	No sample. Pin would not come out; however, there was sand on the sampler and water in rod.		
30.0	33.5	Blind drill. Refusal at 33.5 feet. Collected water at 31.5-33.5 feet. Gasoline odor. Collected		
		headspace of water = 10 ppm. Attempted to remove pin to collect soil sample - Failed. No		
		soil sample.		
	33.5	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP045 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 15-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS:	YIELD:
	No water at 20 feet, in till Water collected at 38-40 feet, 14:55

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	0.67	Topsoil; brown-black; moist.		
0.67	4.0	SILT; brown; trace fine gravel; firm.	0	
4.0	8.0	Sand and gravel, very fine to very coarse; grey; dry.	0	
8.0	10.0	Sand and gravel, very fine to very coarse; grey; dry.	0	
10.0	12.0	SAND, fine to very coarse; moist brown-grey salt and pepper; 2 inch silty clay lens at 11.5 feet;		
		brown; soft; moist.		
12.0	16.0	Sand and gravel, very fine to very coarse; trace cobble; brown; very moist.	0	
16.0	18.5	Sand and gravel, very fine to very coarse; trace cobble; brown; very moist.	0	
18.5	19.0	Till; brown firm; moist; oxidized.		
19.0	20.0	Till; grey; stiff; dry.		
28.0	30.0	Sand and gravel, very fine to very coarse; brown; saturated; driller thought he broke	0	
		through the till around 27 feet bgl.		
38.0	40.0	SAND, coarse; brown; saturated.	0	
	40.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP046 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 15-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: - 21 feet
REMARKS:	YIELD:
	Water collected at 21-23 feet, 14:05 water collected at 37-39 feet, 15:40

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	4.0	SILT; some clay; black (top) to brown (bottom); 6 inch sand and gravel layer 1-2 feet bgl; dry.	0	
4.0	8.0	Sand and gravel; little silt; sand, very fine to medium; angular to subangular; brown; moist.	0	
8.0	12.0	same as 4-8 feet.	0.5	
12.0	16.0	same as 4-8 feet.	0.5	
16.0	20.0	same as 4-8 feet.	0.75	
20.0	21.0	Blind drill.		
21.0	23.0	Collected water sample at 14:05.		
23.0	27.0	Blind drill. Had problems releasing pin. Used Crisco to help loosen the pin with success.		
27.0	29.0	Sand and gravel; little silty, very fine to medium sand; angular to subangular; brown; wet.	0	
29.0	37.0	Blind drill.		
37.0	39.0	Collected water sample at 15:40.		
	39.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP047 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 15-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS:	YIELD:
	Water sample at 21-23 feet, 16:10 Water sample at 38-40 feet, 16:40

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	1.0	Topsoil; black; damp.		
1.0	2.5	Silty SAND, fine to medium; trace gravel; trace silt; grey; dry.	0	
2.5	4.0	SILT; grey and brown mottled to brown at 4 feet; damp.		
4.0	6.0	SILT; some clay; brown; firm; moist.	0	
6.0	8.0	Sand and gravel, very fine to coarse; some silt; grey-brown.		
8.0	12.0	Sand and gravel, very fine to very coarse; little silt; trace clay; trace cobble; moist.	0	
12.0	16.0	Sand and gravel, very fine to very coarse; trace silt; trace clay; trace cobble; moist.	0	
20.0	22.0	Sand and gravel, fine to medium; brown; saturated.	0	
28.0	30.0	Sand and gravel, fine to medium; brown; saturated.		
38.0	40.0	Assumed to be sand and gravel because it produced large amounts of water.		
	40.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP048 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 15-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~ 19 feet
REMARKS:	YIELD:
	Collected water at 20-22 feet, 16:45 Collected water at 35-37 feet, 17:40

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	4.0	SILT; some clay; trace gravel; top 1 foot black, bottom 3 feet brown; moist.	0	
4.0	8.0	Sand and gravel; little silt; very fine to medium sand; angular to subangular; brown; dry.	0	
8.0	12.0	Sand and gravel; little silt; very fine to medium sand; angular to subangular; brown; dry.	0	
12.0	16.0	same as 4-8 feet; except moist.	0	
16.0	20.0	same as 4-8 feet; wet at 19 feet.	0	
20.0	28.0	Blind drill.		
28.0	30.0	SAND, very fine to coarse; trace gravel; brown; wet.	0	
30.0	35.0	Blind drill.		
35.0	37.0	Collected water sample.		
37.0	39.0	same as 28-30 feet; wet.	0	
	39.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP049 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 16-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS:	YIELD:
	No water at 20 feet, in till Water sample at 38-40 feet, 08:50

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	0.67	Topsoil; black; dry.		
0.67	4.0	SILT; brown; dry; little medium gravel.	0	
4.0	8.0	Sand and gravel; very fine to very coarse; trace cobble; grey; dry.	0	
8.0	12.0	Sand and gravel; very fine to very coarse; trace cobble; grey; dry.	0	
12.0	15.0	Sand and gravel; very fine to very coarse; trace cobble; grey; dry.	0	
15.0	16.0	CLAY; brown, turning to grey at 15.8 feet; moldable; firm. (Till)		
20.0	22.0	Till, grey, moldable, soft.	0	
28.0	30.0	Till, grey; soft; saturated. Bottom of till at 29 feet as noted by driller and plastic liner having only	0	
		half recovery.		
38.0	40.0	Assumed to be sand and gravel because it produced water, and water came up hole to		
		static level.		
	40.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP050 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 16-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: 11.5 feet perched
REMARKS: Collected MS/MSD at 36-38 feet. Bottom of till at 35 feet	YIELD:
	Collected water at 11.5-13.5 feet, 08:20 Collected water at 36-38 feet, 09:20

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	4.0	Silt and clay; some medium sand; angular; trace gravel; brown.	0	
4.0	8.0	Sand and gravel; little very fine to coarse silty sand; angular to subangular; brown; moist.	0	
8.0	12.0	Same as 4-8 feet; wet at 11.5 feet bgl.	0	
12.0	13.0	Same as 4-8 feet.	0	
13.0	16.0	Silt and clay; some medium to very coarse sand; trace gravel; grey; firm till; moist.		
16.0	28.0	Blind drill. Collected water at 36-38 feet		
28.0	30.0	same as 13-16 feet.	0	
30.0	38.0	Blind drill. Collected water at 36-38 feet.		
38.0	40.0	Sand and gravel; little medium to coarse silty sand; angular to subangular; grey; wet.	0	
	40.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP051 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 16-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS:	YIELD:
	Water sample at 38-40 feet. 10:55

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	1.0	Topsoil; black; moist.		
1.0	3.5	SILT; brown; firm; moist.	0	
3.5	4.0	Sand and gravel, very fine to coarse; grey; dry.		
4.0	8.0	Sand and gravel, very fine to coarse; grey; dry.	0	
8.0	12.0	Sand and gravel, very fine to coarse; grey; dry.	0	
12.0	15.5	Sand and gravel, very fine to coarse; grey; dry.	0	
15.5	16.0	Till; brown; firm; dry.		
20.0	22.0	Till; stiff; grey; dry. Drove water sampler, felt like till to the driller to 35 feet then sand	0	
		and gravel was encountered.		
38.0	40.0	Assumed to be sand and gravel due to water collected.		
	40.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP052 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 16-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: No shallow water sample collected. No water. Bottom of till at approximately 25 feet. Auger refusal at 31 feet.	YIELD: Water collected at 27-29 feet, 11:20

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	4.0	SILT; some clay; trace gravel; top 1 foot black, bottom 3 feet brown; dry.	0	
4.0	8.0	Sand and gravel; some silt; sand, fine to coarse; angular to subangular; brown; dry.	0	
8.0	12.0	Sand and gravel; some silt; sand, fine to coarse; angular to subangular; brown; dry.	0	
12.0	15.5	Same as 8-12 feet; 1 inch of bottom wet.	0	
15.5	16.0	Silt and clay; some sand; trace gravel; grey; firm; moist.		
16.0	28.0	Blind drill.		
28.0	30.0	Sand and gravel; some silt; sand, fine to coarse; angular to subangular; grey; wet.	1	
30.0	31.0	Blind drill. Auger refusal at 31 feet. Collected water sample at 27-29 feet.		
	31.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP053 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 16-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS:	YIELD:

Water sample at 38-40 feet, 13:25
No water sample at 21-23 feet, in till.

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	0.67	Topsoil; black; dry.		
0.67	4.0	Sand and gravel; trace cobble; grey; dry.	0	
4.0	8.0	Same as 0.67-4 feet. Didn't take soil sample because the hole kept collapsing. Then tried 2	0	
		foot sampler and the sand and gravel clogged the release tip. No sample. Driller noted		
		possible clay from 17-22 feet.		
21.0	23.0	Tried to collect water 21-23 feet, no water. Pushing screen to 23-25 feet. Still dry. Assumed		
		to be till. Drove sampler to 28-30 feet, lots of water, no sample because it feels under		
		confining till and not representative of the water table.		
28.0	30.0	Assumed to be sand and gravel due to the amount of water produced. Drove 38-40 feet,		
		lots of water, collected water sample.		
38.0	40.0	Assumed to be sand and gravel due to the amount of water produced. Collected water sample.		
	40.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP054 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 16-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: 15.5 feet
REMARKS:	YIELD:
	Collected water 21-23 feet, 12:45 Collected water 36-38 feet, 13:30

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	4.0	SILT; little clay; trace fine sand; brown; dry.	0	
4.0	8.0	Sand and gravel; little silt; sand, very fine to coarse; angular to subangular; grey; brown; moist.	0	
8.0	12.0	Sand and gravel; little silt; sand, very fine to coarse; angular to subangular; trace cobbles;	0	
		grey; brown; moist.		
12.0	16.0	Same as 8-12 feet; wet at 15.5 bg.	0	
16.0	20.0	Same as 8-12 feet; except moist; no water.	0	
20.0	28.0	Blind drill. Collected water sample at 21-23 feet.		
28.0	30.0	Silt and clay; little sand; trace gravel; grey; firm; moist. (Till)	0	
30.0	36.0	Blind drill.		
36.0	38.0	Collected water sample.		
38.0	40.0	Sand and gravel; little silt; sand, medium to coarse grained; angular; grey; wet.	0	
	40.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP055 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 16-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS:	YIELD:
	Water sample at 21-23 feet, 15:10 Water sample at 35-37 feet, 16:45

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	1.0	Topsoil; black; moist.		
1.0	3.5	SILT; soft; brown; moist.	0	
3.5	4.0	Sand and gravel; grey; very fine to very coarse; dry.		
4.0	8.0	Sand and gravel; brown-grey; very fine to very coarse; moist.	0	
8.0	12.0	Sand and gravel; brown-grey; very fine to very coarse; moist.	0	
12.0	16.0	Sand and gravel; brown-grey; very fine to very coarse; moist.		
16.0	21.0	Drove sampler.		
21.0	23.0	Same as 8-12 feet based on the amount of water produced.		
35.0	37.0	Same as 8-12 feet based on the amount of water produced.		
38.0	40.0	Possibly till due to low flow rate... pulled up to 35-37 feet for water sample.		
	40.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP056 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 16-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS:	YIELD:
	Water sample at 21-23 feet, 15:00 No deep sample water sample collected.

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	1.5	SILT; some clay; trace gravel; brown/black; top 3 inch dry.		
1.5	4.0	Sand and gravel; some silt; sand, fine to coarse; angular to subangular; brown; dry.	0	
4.0	8.0	Sand and gravel; some silt; sand, fine to coarse; angular to subangular; brown; dry.	0	
8.0	12.0	Sand and gravel; some silt; sand, fine to coarse; angular to subangular; brown; dry.	0	
12.0	16.0	same as 8-12 feet, wet at 15.5 feet bg.	0	
16.0	20.0	same as 12-16 feet except saturated.	0	
20.0	21.0	Blind drill. Refusal at 33 feet. Attempted to collect water at 31-33 feet.		
21.0	23.0	Collected water sample.		
23.0	26.0	Blind drill.		
26.0	28.0	Sand and gravel; sand, fine to coarse; angular to subangular; grey; wet.	0	
28.0	33.0	Blind drill. Refusal at 33 feet. Attempted to collect water at 31-33 feet.		
	33.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP057 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 16-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS:	YIELD:

No water to 30 feet, no shallow sample
Water sample collected at 35-37 feet, 16:45

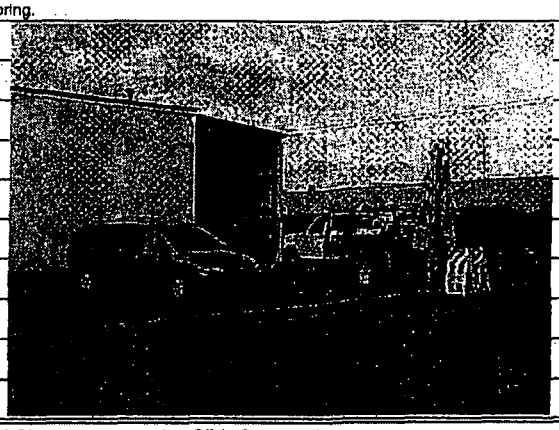
DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0		Drove water sampler to 21-23 feet. No water, in till; went to 26 feet, no water; went to 30 feet,		
		no water; water at 35-37 feet.		
		Driller (Rob) thought we were in sand and gravel to ~ 18 feet; then it felt like we were in till; makes		
		sense since there was no water until 34 feet.		
16.0	18.0	Sand and gravel, very fine to very coarse; brown; damp.	0	
20.0	22.0	Till; upper 6 inches brown then grey; damp; no water.	0	
35.0	37.0	Assumed to be sand and gravel due to the amount of water produced.		
	37.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP058 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 16-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Refusal at 33 feet with screen/soil sampler combo. Tripped out when back down with screen only.	YIELD:
	Collected water at 21-23 feet, 17:10 Collected water at 36.5-38.5 feet, 18:10

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	4.0	SILT; little clay; trace gravel; brown; dry.	0	
4.0	8.0	Sand and gravel; little silt; trace cobbles; brown; sand, fine to coarse; angular to subangular.	0	
8.0	12.0	Sand and gravel; little silt; trace cobbles; brown; sand, fine to coarse; angular to subangular.	0	
12.0	16.0	Sand and gravel; little silt; trace cobbles; brown; sand, fine to coarse; angular to subangular;	0	
		wet at 15 feet.		
16.0	20.0	Same as 12-16 feet except saturated.	0	
20.0	21.0	Blind drill.		
21.0	23.0	Collected water at 17:10.		
23.0	28.0	Blind drill.		
28.0	30.0	Sand and gravel; sand, medium to coarse; subangular to sub rounded; grey; wet.	0	
30.0	36.5	Blind drill.		
36.5	38.5	Water sample collected.		
	38.5	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP059 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 17-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level (concrete surface)	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS:	YIELD:
	Collected water at 8.5-10.5 feet (perched zone), 08:30 Collected water at 21-23 feet, 08:50 Collected water at 38-40 feet, 09:20

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	0.17	Asphalt.		
0.17	3.0	Fill, sand and gravel, very fine to very coarse; grey; dry.	0	
3.0	4.0	SILT; brown; soft; moist.		
4.0	8.0	Sand and gravel, very fine to very coarse; grey; moist.	0	
8.0	10.5	same as above, except wet at ~10 feet, perched zone.	0	
10.5	11.0	Till; brown; firm; damp.		
11.0	12.0	Till; grey; firm; damp.		
12.0	16.0	Till; grey; firm; damp.	0	
21.0	23.0	SAND; fine to very coarse; trace medium gravel; grey; saturated.	0	
28.0	30.0	No sample. Could not release pin in the 2 foot sampler. Assumed to be sand and gravel because		
		that is what clogs the sampler tip.		
38.0	40.0	Assumed to be sand and gravel due to the amount of water produced.		
	40.0	End of boring.		

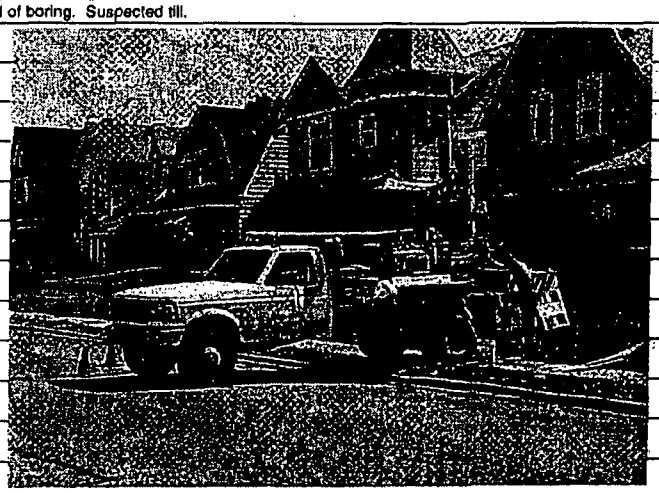


GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP060 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 17-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Hole was caving at 10 feet bg. No sign of till.	YIELD:
	Collected water at 21-23 feet, 08:30 Collected water at 37-39 feet, 09:45

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	2.0	SAND, fine; coal and clinkers; black; organic; dry.	0	
2.0	4.0	Silt and clay; little gravel; brown; firm; dry.		
4.0	8.0	Sand and gravel; little silt; sand, fine to coarse grained; angular to subangular; trace	0	
		cobbles; brown; dry.		
8.0	12.0	Sand and gravel; little silt; sand, fine to coarse grained; angular to subangular; trace	0	
		cobbles; brown; dry.		
12.0	16.0	Same as 8-12 feet. Geoprobe operator (Bob) believes the hole is caving (not staying open and	0	
		the next sample would be the same). Therefore no 16-20 foot soil sample.		
16.0	21.0	Blind drill.		
21.0	23.0	Collected groundwater sample.		
23.0	28.0	Blind drill.		
28.0	30.0	Sand and gravel; sand, medium to coarse; subangular to sub rounded; grey; wet.	0	
30.0	37.0	Blind drill.		
37.0	39.0	Collected groundwater sample, yield was good; assumed sand and gravel.		
	39.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP061 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 17-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS:	YIELD:
	Water sample at 21-23 feet, 11:20

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	1.0	Topsoil.		
1.0	1.5	SILT; brown.		
1.5	4.0	Sand and gravel, very fine to very coarse; grey-brown; dry.	0	
4.0	8.0	Sand and gravel, very fine to very coarse; grey-brown; dry.	0	
8.0	12.0	Sand and gravel, very fine to very coarse; grey-brown; dry.	0	
21.0	23.0	Assumed to be sand and gravel due to water produced.		
28.0	30.0	Assumed Till, no water produced.		
		Drove to 36-38 feet. Refusal. Tried to collect water but no production. Tried to drive		
		38-40 feet but no advancement. Decided to pull up and the rod snapped at the threads 11		
		feet below grade level. 8 rods and a new screen were lost down the hole.		
	38.0	End of boring. Suspected till.		



GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP062 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 17-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~19 feet
REMARKS: No sign of Till. Collected MS/MSD and DUP.	YIELD:
	Collected water at 20-22 feet (and MS/MSD), 10:30 Collected water at 37-39 feet (and duplicate), 11:15

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	4.0	Silt and clay; little gravel; brown. top 1 feet black.	0	
4.0	8.0	Sand and gravel; little silt; trace cobbles; sand, very fine to coarse; angular to subangular;	1	
		dry; brown.		
8.0	12.0	Sand and gravel; little silt; trace cobbles; sand, very fine to coarse; angular to subangular;	0	
		dry; brown.		
12.0	16.0	same as 8-12 feet, except wet at 15.5 feet bg.	0	
16.0	19.0	Blind drill.		
19.0	21.0	SAND; fine to medium; subangular to sub rounded; well sorted; trace organics.	0	
21.0	28.0	Blind drill.		
28.0	30.0	Same as 19-21 feet.	0	
30.0	37.0	Blind drill.		
37.0	39.0	Collected water sample; Good yield (sand).		
	39.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP063 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 17-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: ~18 feet
REMARKS:	YIELD:
	Water collected at 21-23 feet , 15:30 Water collected at 34-36 feet, 16:05

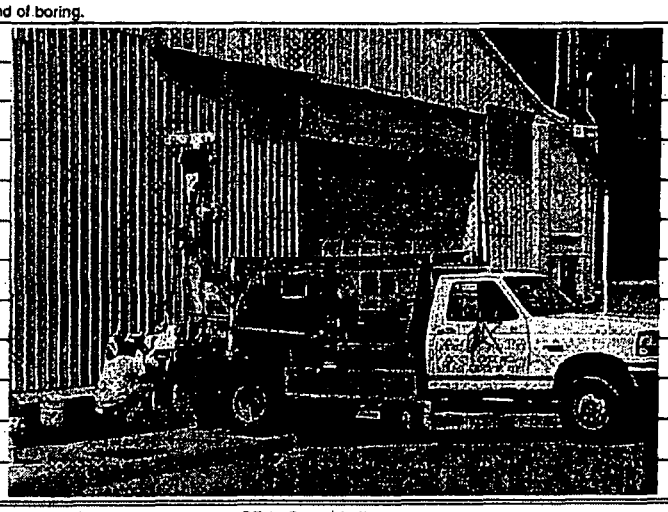
DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	1.0	Topsoil; black.		
1.0	2.0	Sand and gravel; very fine to very coarse; grey; damp.		
2.0	4.0	SILT; brown; soft.	0	
4.0	8.0	Sand and gravel; very fine to medium; brown; dry.	0	
8.0	12.0	SAND, fine to medium; trace cobble; brown; dry.	0	
12.0	16.0	Sand and gravel; very fine to medium; brown; dry.	0	
16.0	20.0	Sand and gravel; very fine to medium; brown; saturated at 18 feet.	0	
28.0	30.0	Assumed to be sand and gravel due to the large amounts of water produced.		
		Pushed to 37-39 feet, produced no water; possibly till.		
		Pulled up to 34-36 feet and produced water. Took sample. Assumed sand and gravel.		
	39.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP064 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 17-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: 19 feet
REMARKS: Hole was caving at 14 feet went to 2 feet sampler.	YIELD:
	Collected water at 20-22 feet, 12:45 Collected water at 37-39 feet, 14:15

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	1.5	Clay and silt, trace of fine to medium gravel; reddish/brown.		
1.5	4.0	SAND and gravel; brown.	0	
4.0	5.0	SAND and gravel; brown.		
5.0	8.0	SAND, fine to medium; little fine to medium gravel; brown.	0	
8.0	12.0	SAND, fine to medium; little fine to medium gravel; brown.	0	
12.0	14.0	GRAVEL; some fine to coarse sand, angular; brown.	0	
14.0	18.0	Blind drill.		
18.0	20.0	Sand and gravel; little silt; sand, fine to coarse grained suban.gular; grey; wet.	0	
20.0	22.0	Collected water sample.		
22.0	28.0	Blind drill.		
28.0	30.0	SAND, very fine to medium; angular to subangular; well sorted; grey; wet.	0	
30.0	36.0	Blind drill.		
36.0	38.0	Sand, medium to very coarse, subangular; trace gravel; grey; wet.	0	
37.0	39.0	Collected water sample.		
	39.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP065 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 17-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: -19 feet
REMARKS:	YIELD:
	Water sample at 19-21 feet, 16:50 Water sample at 36-38 feet, 17:50

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	Topsoil; black; moist.		
0.5	3.0	Sand and gravel, very fine to medium; brown; dry.		
3.0	4.0	SILT; trace medium gravel; brown; firm; dry.		
4.0	6.0	SILT; trace medium gravel; brown; firm; dry.		
6.0	7.0	Old topsoil.		
7.0	8.0	same as 4-6 feet.		
19.0	21.0	Sand and gravel, assumed from large water production.		
		Refusal at 24 feet. Tried for water, no water. Moving 2 feet to the east to try pushing to		
		38-40 feet for water. Refusal at 38 feet. Collected water sample at 36-38 feet.		
36.0	38.0	Assumed sand and gravel due to water production.		
	38.0	End of boring.		



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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP066 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 17-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL: -19 feet
REMARKS:	YIELD:
	Collected water at 20-22 feet, 16:00 Collected water at 37-39 feet, 17:00

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	4.0	Silt and clay; trace gravel; brown.	0	
4.0	8.0	GRAVEL; some fine to coarse sand, angular; trace cobbles; brown; dry.	0	
8.0	12.0	GRAVEL; some fine to coarse sand, angular; trace cobbles; brown; dry.	0	
12.0	16.0	Sand and gravel; little silt; trace cobbles; sand, fine to medium angular to subangular; brown;	0	
		wet at 15 feet.		
16.0	18.0	Blind drill.		
18.0	20.0	Sand and gravel; little silt; sand , medium to very coarse; subangular to subrounded; brown; wet.	0	
20.0	28.0	Blind drill.		
28.0	30.0	Sand and gravel; sand, medium to very coarse; subangular to subrounded; grey; wet.	0	
30.0	37.0	Blind drill.		
37.0	39.0	Collected water sample; good yield (sand and gravel).		
	39.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP067 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 18-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS:	YIELD:
	Water collected at 21-23 feet, 08:15 Water collected at 38-40 feet, 08:50

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	Topsoil; black; dry.		
0.5	4.0	Sand and gravel, very fine to very coarse; grey; dry.	1	
4.0	8.0	Mostly stuff from above but still sand and gravel as above.	1	
		Note: Hole keeps collapsing at 2 feet so the driller can't get a soil sample deeper than 8		
		feet. Tried for soil sample with 2 foot sampler but it got clogged at the tip at 18-20 feet.		
		The tip of the 2 feet sampler was wet at 20 feet.		
21.0	23.0	Water sample collected at 08:15		
28.0	30.0	Tried for water but no production. Assumed till.		
38.0	40.0	Assumed sand and gravel due to the large amounts of water produced.		
	40.0	End of boring.		
		Note: very slow producer at 21-23 feet... may be in till or at till contact.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP068 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 18-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Till 18-30 feet bg	YIELD: No shallow water Collected water 35-37 feet, 09:45 Soil sample collected at 8-12 feet, 08:45

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	3.0	Silt and clay; little sand; trace gravel; brown; dry.	0	
3.0	4.0	Sand and gravel; little silt; sand, fine to coarse, angular; brown; dry.		
4.0	8.0	Sand and gravel; little silt; sand, fine to coarse, angular; brown; dry.	50	
8.0	12.0	Sand and gravel; little silt; sand, fine to coarse, angular; brown; dry.	120	
12.0	14.0	Sand and gravel; little silt; sand, fine to coarse, angular; brown; dry.	40	
14.0	18.0	Blind drill.		
18.0	20.0	Silt and clay; little sand, medium, rounded; trace gravel; grey; Till.	50	
20.0	24.0	Blind drill.		
24.0	26.0	same as 18-20 feet.	3	
26.0	28.0	Blind drill.		
28.0	29.0	same as 18-20 feet. Sand on the tip of spoon. Pin came out... had 1 foot of sample when	1	
		driving to 33 feet.		
29.0	34.0	Blind drill.		
34.0	36.0	Sand and gravel; sand, medium to coarse subangular to subrounded; gravel subrounded; grey; wet.	2	
35.0	37.0	Collected water sample; Refusal at 37 feet.		
	37.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP069 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 18-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Between DP067 and DP068 on Kiser.	YIELD:
	Water collected at 34-36 feet, 10:45

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	0.5	Topsoil; black; dry.		
0.5	2.0	SILT; little medium sand and gravel; trace clay; brown; soft.		
2.0	4.0	Sand and gravel, very fine to very coarse; grey; dry.	1	
4.0	8.0	Sand and gravel, very fine to very coarse; grey; dry.	1	
8.0	12.0	Sand and gravel, very fine to very coarse; grey; dry.	0	
20.0	21.5	Till; brown; firm; saturated.		
21.5	22.0	Sand and gravel, very fine to very coarse; brown; saturated.	1	
28.0	30.0	Sand and gravel assumed due to large water production.		
	36.0	Stopped drilling due to refusal. Slow water production.		
	36.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP070 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 18-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Did not collect shallow soils because of the close proximity of houses with open windows. We did not want to annoy the neighbors.	YIELD: No shallow water sample Water collected at 37-39 feet, 11:45

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	18.0	Blind drill.		
18.0	19.0	Sand and gravel; little silt; sand, fine to coarse, angular; brown; wet.	0	
19.0	20.0	Silt and very fine sand; grey; wet.		
20.0	21.0	Blind drill.		
21.0	23.0	Attempted to collect water; no water.		
23.0	28.0	Blind drill.		
28.0	30.0	SAND, medium to very coarse; subangular; trace gravel; wet; hard advancing.	5	
30.0	37.0	Blind drill.		
37.0	39.0	Collected water sample; good yield.		
	39.0	End of boring.		
		Note: Made second attempt to collect water at 21-23 feet on removal of last drive.		
		Failed, no water.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP071 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 18-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Between DP066 and DP073 on Troy St.	YIELD:
	Water collected at 38-40 feet, 14:55

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	0.67	Topsoil; black; moist.		
0.67	4.0	Sand and gravel, very fine to very coarse; trace silt; brown; moist.	2	
4.0	8.0	Sand and gravel, very fine to very coarse; grey; dry.	2	
8.0	12.0	Sand and gravel, very fine to very coarse; grey; moist.	1	
		Tried for soil sample 20-22 feet with 2 foot sampler but the stop pin sheered off. No sample.		
		Sediment on the tip was wet silty clay. Going for water at 21-23 feet.		
		No water 21-23 feet, possibly till.		
		No water 28-30 feet, possibly till.		
		Water collected at 38-40 feet. Assumed to be sand and gravel due to large amounts of water		
		produced.		
	40.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP072 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 18-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS: Attempted soil sample at 28-30 feet. Rod was pushed sideways. Moved 1 feet and advanced new hole.	YIELD: Collected water at 20-22 feet, 13:30 Collected water at 37-39 feet, 14:20

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	1.0	Silt and clay; black; topsoil.		
1.0	4.0	Sand and gravel; sand, very fine to medium, angular; brown; dry.	0	
4.0	6.0	SAND, very fine to fine, angular; fairly well sorted; brown; dry.	0	
6.0	8.0	Sand and gravel; sand, very fine to coarse; angular; trace cobbles; brown; dry.		
8.0	12.0	Sand and gravel; sand, very fine to coarse; angular; trace cobbles; brown; dry. Went to 2 foot	0	
		sampler. Hard driving 4 foot sampler.		
12.0	18.0	Blind drill.		
18.0	20.0	GRAVEL; some medium to very coarse sand, subangular to subrounded; trace silt; brown; wet.	0	
20.0	22.0	Collected water sample.		
22.0	37.0	Blind drill.		
37.0	39.0	Collected water sample; good yield.		
	39.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP073 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 18-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dave Strand and Mike Plante	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS:	YIELD:

No water produced. Dry. No samples

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	0.67	Topsoil; black; dry.		
0.67	4.0	Sand and gravel, very fine to very coarse; grey; dry.	2	
4.0	8.0	Sand and gravel, very fine to very coarse; grey; moist at 5 feet; trace cobble.	1	
8.0	12.0	Sand and gravel, very fine to very coarse; brown-grey; trace cobble.	1	
12.0	22.0	No recovery due to no soil going in 2 feet sampler. May be due to a watery sand that was just		
		pushed out of the way when advancing the spoon. Tried for water at 20-22 feet, dry.		
22.0	24.0	CLAY (Till); grey; soft; wet.		
		Tried to collect a water sample at 22-24 feet, dry. Driving to 30 feet for water.		
		Tried to collect a water sample at 28-30 feet, dry. Same as 22-24 feet.		
		Tried to collect a water sample at 38-40 feet, dry. Possibly till.		
	40.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP074 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products; Dayton, OH 45414	SCREEN TYPE:
Offsite Geoprobe Investigation, Stage II	DIAMETER: SLOT NO.
DATE COMPLETED: 18-Jun-99	SETTING:
DRILLING COMPANY: Environmental Quality Laboratory	SAND PACK:
DRILLING METHOD: Geoprobe	CASING:
SAMPLING METHOD: Direct Push, acetate liner	SETTING:
OBSERVER: Dane Olson and Chris Hoffman	DEVELOPMENT:
REFERENCE POINT: Grade level	DURATION:
REFERENCE POINT ELEVATION:	WATER LEVEL:
REMARKS:	YIELD:
	Collected water at 20-22 feet, 15:30 Collected water at 37-39 feet, 15:45

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING	BLOW COUNT
FROM	TO			
0.0	1.0	Silt and clay; trace gravel; black topsoil.		
1.0	4.0	Sand and gravel; little silt; trace cobbles; sand, fine to coarse grained, subangular; brown; dry.	0	
4.0	8.0	Sand and gravel; little silt; trace cobbles; sand, fine to coarse grained, subangular; brown; dry.	0	
8.0	12.0	Sand and gravel; little silt; trace cobbles; sand, fine to coarse grained, subangular; brown; dry.	0	
12.0	18.0	Blind drill.		
18.0	20.0	GRAVEL; little medium to very coarse sand; subangular to subrounded; wet.		
20.0	22.0	Collected water sample.		
22.0	37.0	Blind drill.		
37.0	39.0	Collected water sample.		
	39.0	End of boring.		

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-075 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster Street, Dayton, Ohio	SCREEN: DIAMETER: SLOT NO.
DATE COMPLETED: 2-Feb-00	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: SETTING:
DRILLING METHOD: Geoprobe SAMPLING METHOD: Macro Core, Acetate Liner, 2" X 4'	CASING SETTING:
OBSERVER: Dane Olson REFERENCE POINT: Grade Level	SEAL TYPE: SETTING:
REFERENCE POINT ELEVATION: STICK-UP:	DEVELOPMENT: DURATION:
SURFACE COMPLETION:	WATER LEVEL:
REMARKS: Drum Storage pre-expansion soil sampling	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	8"	Concrete.	
8"	4.0	Sand and gravel; fill; brown; 3 ft. recovery.	1
4.0	8.0	SAND; some medium to coarse gravel; brown; 3.5 ft. recovery.	2
8.0	12.0	Same as 4.0 to 8.0 feet; 2.5 ft. recovery.	5
12.0	16.0	Same as 4.0 to 8.0 feet; 4 ft. recovery.	11
18.0	20.0	SAND; some fine gravel; brown; 2 ft. recovery.	9
		Soil 2-4' & 6-8' & VOCs @ 14-16'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-076 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster Street, Dayton, Ohio	SCREEN: DIAMETER: SLOT NO.
DATE COMPLETED: 2-Feb-00	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: SETTING:
DRILLING METHOD: Geoprobe	CASING
SAMPLING METHOD: Macro Core, Acetate Liner, 2" X 4'	SETTING:
OBSERVER: Dane Olson	SEAL TYPE:
REFERENCE POINT: Grade Level	SETTING:
REFERENCE POINT ELEVATION:	DEVELOPMENT:
STICK-UP:	DURATION:
SURFACE COMPLETION:	WATER LEVEL:
REMARKS: Drum Storage pre-expansion soil sampling	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	8"	Cement.	
8"	4.0	SAND, some medium to coarse gravel; brown; 3 ft. recovery.	1
4.0	8.0	Same as 8" to 4.0 feet, 3 ft. recovery.	3
8.0	12.0	Same as 8" to 4.0 feet.	
	12.0	End of boring.	
		Soil at 2-4' & 6-8'.	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-077 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN:
1600 Webster Street, Dayton, Ohio	DIAMETER: SLOT NO.
DATE COMPLETED: 2-Feb-00	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob)	SAND PACK:
Sterling Heights, Michigan	SETTING:
DRILLING METHOD: Geoprobe	CASING
SAMPLING METHOD: Macro Core, Acetate Liner, 2" X 4'	SETTING:
OBSERVER: Dane Olson	SEAL TYPE:
REFERENCE POINT: Grade Level	SETTING:
REFERENCE POINT ELEVATION:	DEVELOPMENT:
STICK-UP:	DURATION:
SURFACE COMPLETION:	WATER LEVEL:
REMARKS:	YIELD:

Drum Storage pre-expansion soil sampling

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	8"	Cement.	
8"	4.0	Sand, silt and black dirt; 2 ft. recovery.	0
4.0	6.5	CLAY; little fine, gravel; brown.	
6.5	8.0	SAND; some medium to coarse gravel; brown.	2
8.0	12.0	Same as 6.5 to 8.0 feet; 3.5 ft. recovery.	3
12.0	16.0	Same as 6.5 to 8.0 feet; 3.5 ft. recovery.	7
	16.0	End of boring.	
		Soil at 10-12' & 14-16'.	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-078 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster Street, Dayton, Ohio	SCREEN: DIAMETER: SLOT NO.
DATE COMPLETED: 2-Feb-00	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: SETTING:
DRILLING METHOD: Geoprobe	CASING
SAMPLING METHOD: Macro Core, Acetate Liner, 2" X 4'	SETTING:
OBSERVER: Dane Olson	SEAL TYPE:
REFERENCE POINT: Grade Level	SETTING:
REFERENCE POINT ELEVATION:	DEVELOPMENT:
STICK-UP:	DURATION:
SURFACE COMPLETION:	WATER LEVEL:
REMARKS:	YIELD:

Drum Storage pre-expansion soil sampling

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0"	8"	Cement	
8"	4.0	SAND; some medium to coarse gravel; brown; 4ft recovery.	2
4.0	8.0	Same as 8" to 4.0 feet; 3.5 ft. recovery.	2
8.0	12.0	Same as 8" to 4.0 feet; 3.5 ft. Recovery.	4
16.0	18.0	Same as 8" to 4.0 feet; 2 ft. recovery.	2
	18.0	End of boring.	
		Soil at 6-8' & VOCs @ 17-18'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-079 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster Street, Dayton, Ohio	SCREEN: DIAMETER: SLOT NO.
DATE COMPLETED: 2-Feb-00	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: SETTING:
DRILLING METHOD: Geoprobe	CASING
SAMPLING METHOD: Macro Core, Acetate Liner, 2" X 4'	SETTING:
OBSERVER: Dana Olson	SEAL TYPE:
REFERENCE POINT: Grade Level	SETTING:
REFERENCE POINT ELEVATION:	DEVELOPMENT:
STICK-UP:	DURATION:
SURFACE COMPLETION:	WATER LEVEL:
REMARKS:	YIELD:

Drum Storage pre-expansion soil sampling

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0"	8"	Cement	
8"	4.0	SAND; some medium to coarse gravel; brown; 3.5 ft. recovery.	1
4.0	8.0	Same as 8" to 4.0 feet; 3.5 ft. recovery.	1
8.0	12.0	Same as 8" to 4.0 feet; 1 ft. recovery.	2
12.0	16.0	Same as 8" to 4.0 feet; 4 ft. recovery.	4
16.0	20.0	Same as 8" to 4.0 feet; 4 ft. recovery.	2
	20.0	End of boring	
		Soil at 2-4' & 14-16' & 18-20'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-080 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster Street, Dayton, Ohio	SCREEN: DIAMETER: SLOT NO.
DATE COMPLETED: 2-Feb-00	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: SETTING:
DRILLING METHOD: Geoprobe	CASING
SAMPLING METHOD: Macro Core, Acetate Liner, 2" X 4'	SETTING:
OBSERVER: Dane Olson	SEAL TYPE:
REFERENCE POINT: Grade Level	SETTING:
REFERENCE POINT ELEVATION:	DEVELOPMENT:
STICK-UP:	DURATION:
SURFACE COMPLETION:	WATER LEVEL:
REMARKS:	YIELD:

Drum Storage pre-expansion soil sampling

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	8"	Cement.	
8"	4.0	SAND: some medium to coarse gravel; brown; 3.5 ft. recovery.	1
4.0	7.0	Same as 8" to 4 ft. 3 ft. recovery..	1
	7.0	Refusal; broke cutting shoe; end of boring..	
		Soil at 2-4'.	

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-081 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster Street, Dayton, Ohio	SCREEN: DIAMETER: SLOT NO.
DATE COMPLETED: 3-Feb-00	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: SETTING:
DRILLING METHOD: Geoprobe SAMPLING METHOD: Macro Core, Acetate Liner, 2" X 4'	CASING SETTING:
OBSERVER: Dane Olson REFERENCE POINT: Grade Level	SEAL TYPE: SETTING:
REFERENCE POINT ELEVATION:	DEVELOPMENT:
STICK-UP:	DURATION:
SURFACE COMPLETION:	WATER LEVEL:
REMARKS: Drum Storage pre-expansion soil sampling	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	8"	Cement.	
8"	2.0	SAND; some medium to fine gravel; brown.	1
2.0	3.0	CLAY; moist; brown.	
3.0	4.0	SAND; some medium to fine gravel; brown; 3.5 ft. recovery.	
4.0	8.0	Same as 3 to 4 feet; 3.5 ft. recovery.	3
8.0	12.0	Same as 3 to 4 feet; 3.5 ft. recovery.	3
	12.0	End of boring; refusal.	
		Samples 2-4' & 8-12'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-082 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN:
1600 Webster Street, Dayton, Ohio	DIAMETER: SLOT NO.
DATE COMPLETED: 3-Feb-00	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob)	SAND PACK:
Sterling Heights, Michigan	SETTING:
DRILLING METHOD: Geoprobe	CASING
SAMPLING METHOD: Macro Core, Acetate Liner, 2" X 4'	SETTING:
OBSERVER: Dane Olson	SEAL TYPE:
REFERENCE POINT: Grade Level	SETTING:
REFERENCE POINT ELEVATION:	DEVELOPMENT:
STICK-UP:	DURATION:
SURFACE COMPLETION:	WATER LEVEL:
REMARKS:	YIELD:

Drum Storage pre-expansion soil sampling

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	8"	Cement.	
8"	2.0	SAND; fine to medium; brown.	3
2.0	4.0	SAND; some medium to coarse gravel; brown; 2 ft. recovery.	
4.0	8.0	Same as 2 to 4 ft. ; 3.5 ft. recovery.	
8.0	12.0	Same as 2 to 4 ft. ; 3.5 ft. recovery.	5
		Soil at 2-4' & 6-8'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-083 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster Street, Dayton, Ohio	SCREEN: DIAMETER: SLOT NO. SETTING:
DATE COMPLETED: 3-Feb-00	
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: SETTING:
DRILLING METHOD: Geoprobe SAMPLING METHOD: Macro Core, Acetate Liner, 2" X 4'	CASING SETTING:
OBSERVER: Dane Olson REFERENCE POINT: Grade Level	SEAL TYPE: SETTING:
REFERENCE POINT ELEVATION: STICK-UP:	DEVELOPMENT: DURATION:
SURFACE COMPLETION:	WATER LEVEL:
REMARKS: Drum Storage pre-expansion soil sampling	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	8"	Cement.	
8"	4.0	CLAY; little silt; trace of sand; dark brown. 3.5 ft. recovery.	1
4.0	6.5	Same as 8" to 4.0 feet.	
6.5	8.0	SAND; some medium to coarse gravel; brown; 3.5 ft. recovery.	2
8.0	12.0	Same as 6.5 to 8.0 feet; 4 ft. recovery.	5
12.0	16.2	Same as 6.5 to 8.0 feet; 4 ft. recovery.	5
18.0	20.0	Same as 6.5 to 8.0 feet; 1.5 ft. recovery.	3
		Soil at 2-4', & 18-20' PCBs + 8-OZ	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-084 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products	SCREEN:
1600 Webster Street, Dayton, Ohio	DIAMETER: SLOT NO.
DATE COMPLETED: 3-Feb-00	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob)	SAND PACK:
Sterling Heights, Michigan	SETTING:
DRILLING METHOD: Geoprobe	CASING
SAMPLING METHOD: Macro Core, Acetate Liner, 2" X 4'	SETTING:
OBSERVER: Dane Olson	SEAL TYPE:
REFERENCE POINT: Grade Level	SETTING:
REFERENCE POINT ELEVATION:	DEVELOPMENT:
STICK-UP:	DURATION:
SURFACE COMPLETION:	WATER LEVEL:
REMARKS:	YIELD:

Drum Storage pre-expansion soil sampling

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	8"	Cement.	
8"	4.0	SAND; some medium to coarse gravel; brown; 3.5 ft. recovery.	1
4.0	8.0	Same as 8" to 4.0 feet; 3.5 ft. recovery.	
8.0	12.0	Same as 8" to 4.0 feet; 4. Ft. recovery.	3
	12.0	End of boring.	
		Soil 2-4' & 6-8'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-085 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster Street, Dayton, Ohio	SCREEN: DIAMETER: SLOT NO.
DATE COMPLETED: 3-Feb-00	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: SETTING:
DRILLING METHOD: Geoprobe SAMPLING METHOD: Macro Core, Acetate Liner, 2" X 4'	CASING SETTING:
OBSERVER: Dane Olson REFERENCE POINT: Grade Level	SEAL TYPE: SETTING:
REFERENCE POINT ELEVATION: STICK-UP:	DEVELOPMENT: DURATION:
SURFACE COMPLETION:	WATER LEVEL:
REMARKS: Drum Storage pre-expansion soil sampling	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	6"	Asphalt.	
6"	1.0	Clay, sand; gravel; brown.	
1.0	4.0	SAND; some medium to coarse gravel; brown; 3.5. Ft. recovery.	4
4.0	8.0	Same as 1.0 to 4.0 ; 3.5. Ft. recovery.	7
8.0	12.0	Same as 1.0 to 4.0 ; 3.5. Ft. recovery.	15
	12.0	End of boring.	
		Soil 2-4' & 10-12'	

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-086 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster Street, Dayton, Ohio	SCREEN: DIAMETER: SLOT NO.
DATE COMPLETED: 3-Feb-00	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: SETTING:
DRILLING METHOD: Geoprobe SAMPLING METHOD: Macro Core, Acetate Liner, 2" X 4'	CASING SETTING:
OBSERVER: Dane Olson REFERENCE POINT: Grade Level	SEAL TYPE: SETTING:
REFERENCE POINT ELEVATION: STICK-UP:	DEVELOPMENT: DURATION:
SURFACE COMPLETION:	WATER LEVEL:
REMARKS: Drum Storage pre-expansion soil sampling	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	4"	Asphalt	
8"	4.0	SAND; some medium to coarse gravel; brown; 3.5. Ft. recovery.	11
4.0	8.0	Same as 8" to 4. Ft; 3.5. Ft. recovery.	3
14.0	16.0	Same as 8" to 4. Ft; 1.5. Ft. recovery.	
	16.0	End of boring.	
		Soil at 1-4' & Dup ; PCBs 14-16'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-087 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster Street, Dayton, Ohio	SCREEN: DIAMETER: SLOT NO.
DATE COMPLETED: 3-Feb-00	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: SETTING:
DRILLING METHOD: Geoprobe SAMPLING METHOD: Macro Core, Acetate Liner, 2" X 4'	CASING SETTING:
OBSERVER: Dane Olson REFERENCE POINT: Grade Level	SEAL TYPE: SETTING:
REFERENCE POINT ELEVATION: STICK-UP:	DEVELOPMENT: DURATION:
SURFACE COMPLETION:	WATER LEVEL:
REMARKS: Drum Storage pre-expansion soil sampling	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	8"	Concrete	2
8"	4.0	CLAY; some medium to coarse gravel; dark brown; 3.5. Ft. recovery.	
4.0	8.0	SAND; some medium to coarse gravel; brown; 3.5. Ft. recovery.	4
8.0	12.0	Same as 4 to 8 ft.; 3.5. Ft. recovery.	3
12.0	16.0	Same as 4 to 8 ft.; 4. Ft. recovery.	9
16.0	20.0	Same as 4 to 8 ft.; 4. Ft. recovery.	7
	20.0	End of boring.	
		Soil at 2-4' (Flash); 5-8' (Dup); 14-16' & 18-20'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: DaimlerChrysler Corporation BORING NO. DP-088 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster Street, Dayton, Ohio	SCREEN: DIAMETER: SLOT NO.
DATE COMPLETED: 3-Feb-00	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: SETTING:
DRILLING METHOD: Geoprobe SAMPLING METHOD: Macro Core, Acetate Liner, 2" X 4'	CASING SETTING:
OBSERVER: Dane Olson REFERENCE POINT: Grade Level	SEAL TYPE: SETTING:
REFERENCE POINT ELEVATION:	DEVELOPMENT:
STICK-UP:	DURATION:
SURFACE COMPLETION:	WATER LEVEL:
REMARKS: Drum Storage pre-expansion soil sampling	YIELD:

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID READING (ppm)
FROM	TO		
0.0	8"	Concrete.	
8"	4.0	SAND; some medium to coarse gravel; brown; 4 ft. recovery.	2
4.0	8.0	Same as 8" to 4 ft. ; 4 ft. recovery.	2
	8.0	End of boring; refusal.	
		Soil at 2-4' & 6-8'	

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-089 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO.
DATE COMPLETED: July 11, 2000	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #59	YIELD: NA

24' east of east wall of Shipping/Receiving Dock #3 and 7' south of north wall of Building #59

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	4.0	Silt, sand and gravel; very fine to very coarse; brownish-gray; dry; no odor.	2.0
4.0	8.0	Silt, sand and gravel; very fine to very coarse; grayish-brown; dry; no odor.	2.0
		EOB	
		Collected soil samples from 1-2' and 6-7'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-090 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO.
DATE COMPLETED: July 11, 2000	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #59	YIELD: NA
14' south of north wall and 41' west of east edge of east overhead door	

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.8	2.0	Silt, sand and gravel; very fine to coarse; light brown; damp; no odor.	1.4
2.0	4.0	Silt, sand and gravel; very fine to coarse; dark brown; damp; no odor.	
4.0	7.0	Silt, sand and gravel; very fine to coarse; dark brown; near dry; no odor.	0.0
		EOB (refusal at 7')	
		Collected soil samples from 3-4' and 6-7'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-091 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO.
DATE COMPLETED: July 11, 2000	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #59	YIELD: NA
Next aisle south of DP-090, 48' west of N/S aisle on south side of E/W aisle.	

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	4.0	Silt, sand and gravel; very fine to very coarse; light brown grading to medium brown; dry; no odor.	3.0
4.0	7.5	Silt, sand and gravel; very fine to very coarse; medium brown; dry; no odor.	3.4
		EOB (rfusal at 7.5')	
		Collected soil samples from 2-3' and 5-6'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-092 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO. SETTING:
DATE COMPLETED: July 12, 2000	
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #59	YIELD: NA
Next aisle south of DP-089 on NE corner of aisle.	

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	2.0	Silt, sand and gravel; very fine to very coarse; light brown; near dry; no odor.	
2.0	4.0	Silt, sand and gravel; very fine to very coarse; trace clay 3-4'; medium brown; near dry; no odor.	1.3
4.0	8.0	Silt, sand and gravel; very fine to very coarse; trace clay 4-5'; medium brown; near dry; no odor.	2.0
		EOB	
		Collected soil samples from 3-4' and 5-6'	

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-093 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO.
DATE COMPLETED: July 12, 2000	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #59	YIELD: NA
Next aisle south of DP-091 and DP-092 on NE corner of aisle.	

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	2.0	Silt, sand and gravel; very fine to very coarse; light brown; near dry; no odor.	
2.0	4.0	Silt, sand and gravel: very fine to very coarse; medium brown; near dry; no odor.	13
4.0	4.5	CLAY; little silt, sand and gravel dispersed throughout; dark brown; damp; no odor.	
4.5	8.0	Silt, sand and gravel; very fine to very coarse; brownish-gray; near dry; no odor. (cobble @ 6 or 7')	28
		EOB	
		Collected soil samples from 2-3' and 6-7'	

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-094 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO.
DATE COMPLETED: July 12, 2000	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #59	YIELD: NA
Next aisle south of DP-091; 47' west of eastern N/S aisle and 6' north of E/W aisle.	

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	2.0	Silt, sand and gravel; very fine to very coarse; light brown; dry; no odor.	
2.0	4.0	Silt, sand and gravel; very fine to coarse; medium brown; dry; no odor.	37
4.0	5.0	Silt, sand and gravel; very fine to coarse; medium brown; dry; no odor.	
		EOB (refusal at 5')	
		Collected soil sample from 4-5'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-095 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO.
DATE COMPLETED: July 12, 2000	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #59	YIELD: NA

Two aisles south of DP-094 on southwest corner of eastern most aisle.

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	2.0	Silt, sand and gravel; very fine to very coarse; light brown; dry; no odor.	2.0
2.0	4.0	Silt, sand and gravel; very fine to very coarse; medium brown; dry; no odor.	
4.0	8.0	Silt, sand and gravel; very fine to very coarse; medium brown; dry; no odor.	1.3
		EOB	
		Collected soil samples from 3-4' and 7-8'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-098 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO. SETTING:
DATE COMPLETED: July 12, 2000	
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #59	YIELD: NA
Next aisle south of DP-093 on western N/S aisle on southeast corner of E/W aisle.	

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	2.0	Silt, sand and gravel; very fine to very coarse; light brown; dry; no odor.	
2.0	4.0	Silt, sand and gravel; very fine to very coarse; medium brown; dry; no odor.	4.1
4.0	5.0	Silt, sand and gravel; very fine to very coarse; trace clay; medium brown; dry; no odor.	
		EOB (refusal at 5')	
		Collected soil sample from 3-4'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-097 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO.
DATE COMPLETED: July 12, 2000	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #50 ~105' north of south wall and 15' west of east wall	YIELD: NA

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	2.0	SAND, fine to medium; trace silt, coarse sand and fine gravel; dark brown; damp; no odor.	3.4
	2.0	Refusal	
		EOB	
		Collected soil sample from 1-2'	

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-098 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO. SETTING:
DATE COMPLETED: July 12, 2000	
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #50	YIELD: NA
Along east wall of Building 50, 4' north and 13' west of column C5/C8	

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	2.0	Silt, sand and gravel; very fine to coarse; brown; dry; no odor.	
2.0	3.5	CLAY; trace fine to medium sand and gravel; dark brown; dry; stiff; no odor.	1.5
3.5	8.0	Silt, sand and gravel; very fine to very coarse; brown; dry; no odor.	6.2
		EOB	
		Collected soil samples from 3-4' and 7-8'	

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-099 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO.
DATE COMPLETED: July 12, 2000	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #50	YIELD: NA
Along east wall of Building 50, 2' north and 13' west of column C7/C8	

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	4.0	Silt, sand and gravel; very fine to very coarse; trace clay; brown; dry; no odor.	12.9
4.0	8.0	Silt, sand and gravel; very fine to very coarse; brown; dry; no odor.	4.7
		EOB	
		Collected soil samples from 3-4' and 7-8'	

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-100 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO.
DATE COMPLETED: July 12, 2000	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #50	YIELD: NA

62' west of east wall along south edge of north E/W aisle

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	1.5	Silt, sand and gravel; very fine to very coarse; gray/brown; dry; no odor.	
1.5	4.0	CLAY; trace fine to coarse sand and gravel dispersed throughout; dark brown; damp; pliable; no odor.	1.3
4.0	8.0	CLAY; trace fine to coarse sand and gravel dispersed throughout; dark brown; damp; pliable; no odor.	1.3
		EOB	
		Collected soil samples from 2-3' and 6-7'	

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-101 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO.
DATE COMPLETED: July 12, 2000	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #50 5' south of Column A11/B12	YIELD: NA

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	2.0	Silt, sand and gravel; very fine to very coarse; brown; dry; no odor.	
2.0	4.0	CLAY; very fine to very coarse sand and gravel dispersed throughout; dark brown; moist; no odor.	0.6
4.0	7.5	CLAY; fine to coarse sand dispersed throughout; dark red brown; damp; no odor.	0.6
7.5	8.0	SAND and gravel; very fine to very coarse; trace silt; brownish-gray; damp; no odor.	
		EOB	
		Collected soil samples from 3-4' and 7-8'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-102 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO. SETTING:
DATE COMPLETED: July 12, 2000	
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #50 13' south of Column A7/B8	YIELD: NA

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	4.0	Silt, sand and gravel; very fine to very coarse; trace clay; brown; damp; no odor.	4.2
4.0	8.0	Silt, sand and gravel; very fine to very coarse; trace clay; brown; damp; no odor.	4.0
		EOB	
		Collected soil samples from 2-3' and 6-7'	

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-103 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO.
DATE COMPLETED: July 12, 2000	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #50	YIELD: NA

7' north and 5' east of SW corner of Maintenance/Weld Repair Shop on south ends of Buildings 50 and 53

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	2.0	Silt; sand and gravel; very fine to very coarse; brown; dry; no odor.	
2.0	4.0	CLAY; brown; damp; no odor. (no sand or gravel)	145
4.0	8.0	Silt, sand and gravel; very fine to very coarse; brownish-gray; trace clay; gray; damp; no odor.	130
		EOB	
		Collected soil samples from 3-4' and 7-8'	

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-104 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO.
DATE COMPLETED: July 17, 2000	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #40A	YIELD: NA

46' south and 3' west of NW corner of Building 40A; or 6' south and 3' west of Column H8/I9

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	2.0	Clayey silt; sand and gravel; very fine to coarse; dark brown; damp; no odor.	
2.0	4.0	Silt, sand and gravel; very fine to coarse; brown; damp; no odor.	0.9
4.0	6.0	Silt, sand and gravel; very fine to coarse; brown; damp; no odor.	0.5
6.0	8.0	SILT, medium brown, damp, no odor. (resembles loess)	
		EOB	
		Collected soil samples from 3-4' and 7-8'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler.Corporation GEOPROBE BORING NO. DP-105 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO.
DATE COMPLETED: July 17, 2000	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #40A 8' south and 2' east of Column H6/I7	YIELD: NA

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	4.0	Silt, sand and gravel; very fine to very coarse; brown; dry; no odor.	24
4.0	8.0	Silt, sand and gravel; very fine to very coarse; brown; dry; no odor.	8.0
		EOB	
		Collected soil samples from 3-4' and 7-8'	

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-106 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO. SETTING:
DATE COMPLETED: July 17, 2000	
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #40A 36' west and 2' north of Column H5/I6	YIELD: NA

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	2.0	Silt, sand and gravel; very fine to coarse; brown; dry; no odor.	
2.0	4.0	CLAY; little silt, sand and gravel dispersed throughout; dark brown; damp; no odor.	6.1
4.0	6.0	Silt, sand and gravel; very fine to coarse; brown; dry; no odor.	
6.0	8.0	SAND, fine; trace medium to very coarse sand and very fine gravel; dry; no odor.	13.3
		EOB	
		Collected soil samples from 2-3' and 6-7'	

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GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-107 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO.
DATE COMPLETED: July 17, 2000	SETTING:
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #40A 15' south and 11' east of Column H4/I5	YIELD: NA

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	3.0	Clayey silt, sand and gravel; very fine to coarse; dark brown; damp; no odor.	14.1
	3.0	Refusal	
		EOB	
		Collected soil sample from 2-3'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL MINNESOTA	OWNER: DaimlerChrysler Corporation GEOPROBE BORING NO. DP-108 PAGE 1 OF 1 PAGES
LOCATION: Dayton Thermal Products 1600 Webster St., Dayton, Ohio 45414	SCREEN TYPE: NA DIAMETER: SLOT NO. SETTING:
DATE COMPLETED: July 17, 2000	
DRILLING COMPANY: Environmental Quality Laboratories (Rob) Sterling Heights, Michigan	SAND PACK: NA SETTING:
DRILLING METHOD: ATV Geoprobe rig with exhaust scrubber	CASING: NA
SAMPLING METHOD: Direct push, acetate liner, 2-inch X 4-foot	SETTING:
OBSERVER: Dave Strand	DEVELOPMENT: NA
REFERENCE POINT: Concrete floor	DURATION: NA
REFERENCE POINT ELEVATION: NA	WATER LEVEL: NA
REMARKS: Inside Building #40A - 15 feet east and 8 feet north of southeast corner of main aisle	YIELD: NA

DEPTH IN FEET		GEOLOGIC DESCRIPTION	PID (ppm)
FROM	TO		
0.0	0.75	Concrete	
0.75	2.0	Silt, sand and gravel; very fine to medium; dark brown; damp; no odor.	16.1
2.0	2.3	SILT, black; trace fine to coarse sand; damp; no odor.	
2.3	4.0	SILT, brown; trace fine sand; damp; no odor.	14.3
4.0	8.0	Silt, sand and gravel; very fine to medium; brownish-gray; damp; no odor.	3.6
		EOB	
		Collected soil samples from 3-4' and 7-8'	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: Chrysler Corporation WELL NO.: ASMP-1 (air sparge monitoring point) PAGE: 1 OF 1 PAGES
SITE LOCATION: Dayton Thermal Products Plant 1600 Webster Street Dayton, Ohio 45404	SCREEN SIZE & TYPE: three 6-inch long 1-inch diameter stainless steel screens SLOT NO.: wire mesh SETTINGS: 26.5-27, 30.5-31, 34.5-35
DATE COMPLETED: March 10, 1998 DATE ABANDONED: March 11,1999	CASING SIZE & TYPE: 3/16-inch Permaflex tubing
DRILLING COMPANY: Carlo Environmental Technology 44907 Trinity Drive Clinton Township Michigan, 48038	SETTING: top of screens to grade SAND PACK SIZE & TYPE: Global #7 Quartz sand
DRILLING METHOD: Hollow-Stem Auger, 4 1/4-inch ID	SETTING: See construction diagram
SAMPLING METHOD: Cuttings OBSERVER: Kai Hansen	SEAL TYPE: Hydrated bentonite
REFERENCE POINT (RP): Floor Surface	BACKFILL TYPE: Global #7 Quartz sand
ELEVATION OF RP:	STATIC WATER LEVEL: ~24 feet below grade
SURFACE COMPLETION: Flush grade	DEVELOPMENT METHOD: NA
ELEVATION OF TOP OF PVC CASING:	DURATION: VOLUME:
REMARKS: Building 40B pilot test area.	

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DEPTH FROM	FEET TO	DESCRIPTION	PID READINGS (ppm)
1	6	Silty clay; brown.	8.4
6	10	Silty clay with sand and gravel; brown.	5.4
10	36	Sand and gravel; various degrees	3.8
	36	End of boring.	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	OWNER: Chrysler Corporation WELL NO.: ASMP-2 (air sparge monitoring point) PAGE: 1 OF 1 PAGES
SITE LOCATION: Dayton Thermal Products Plant 1600 Webster Street Dayton, Ohio 45404	SCREEN SIZE & TYPE: three 6-inch long 1-inch diameter stainless steel screens SLOT NO.: wire mesh SETTINGS: 26.5-27, 30.5-31, 34.5-35
DATE COMPLETED: March 10, 1998 DATE ABANDONED: March 11,1999	CASING SIZE & TYPE: 3/16-inch Permaflex tubing
DRILLING COMPANY: Carlo Environmental Technology 44907 Trinity Drive Clinton Township Michigan, 48038	SETTING: top of screens to grade SAND PACK SIZE & TYPE: Global #7 Quartz sand
DRILLING METHOD: Hollow-Stem Auger, 4 1/4-inch ID	SETTING: See construction diagram
SAMPLING METHOD: Cuttings	SEAL TYPE: Hydrated bentonite
OBSERVER: Kai Hansen	
REFERENCE POINT (RP): Floor Surface	BACKFILL TYPE: Global #7 Quartz sand
ELEVATION OF RP:	STATIC WATER LEVEL: ~24 feet below grade
SURFACE COMPLETION: Flush grade	DEVELOPMENT METHOD: NA
ELEVATION OF TOP OF PVC CASING:	DURATION: VOLUME:
REMARKS: Building 40B pilot test area.	

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DEPTH FEET FROM	TO	DESCRIPTION	PID READINGS (ppm)
1	7	Silty clay with little sand; brown.	5.8
7	36	Sand and gravel; various degrees.	6.4
	36	End of boring.	5.1

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	**OWNER:** Chrysler Corporation **WELL NO.:** ASMP-3 (air sparge monitoring point) **PAGE:** 1 **OF** 1 **PAGES**
SITE LOCATION: Dayton Thermal Products Plant 1600 Webster Street Dayton, Ohio 45404	**SCREEN SIZE & TYPE:** four 6-inch long 1-inch diameter stainless steel screens **SLOT NO.:** wire mesh **SETTINGS:** 20.5-21, 26.5-27, 29.5-30, 32.5-33
DATE COMPLETED: March 11, 1998 Abandoned 3-11-99	**CASING SIZE & TYPE:** 3/16-inch Permaflex tubing
DRILLING COMPANY: Carlo Environmental Technology 44907 Trinity Drive Clinton Township Michigan, 48038	**SETTING:** top of screens to grade **SAND PACK SIZE & TYPE:** Global #7 Quartz sand
DRILLING METHOD: Hollow-Stem Auger, 4 1/4-inch ID	**SETTING:** See construction diagram
SAMPLING METHOD: Cuttings	**SEAL TYPE:** Hydrated bentonite
OBSERVER: Kai Hansen	
REFERENCE POINT (RP): Floor Surface	**BACKFILL TYPE:** Global #7 Quartz sand
ELEVATION OF RP:	**STATIC WATER LEVEL:** ~24 feet below grade
SURFACE COMPLETION: Flush grade	**DEVELOPMENT METHOD:** NA
ELEVATION OF TOP OF PVC CASING:	**DURATION:** **VOLUME:**
REMARKS: Building 40B pilot test area.	

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DEPTH FEET FROM	TO	DESCRIPTION	PID READINGS (ppm)
1	6	Silty clay; brown.	1.2
6	12	Sand with silt and gravel; brown.	4.3
12	36	Sand and gravel; various degrees.	4.6
	36	End of boring.	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	**OWNER:** Chrysler Corporation **WELL NO.:** ASMP-4 (air sparge monitoring point) **PAGE:** 1 **OF** 1 **PAGES**
SITE LOCATION: Dayton Thermal Products Plant 1600 Webster Street Dayton, Ohio 45404	**SCREEN SIZE & TYPE:** three 6-inch long 1-inch diameter stainless steel screens **SLOT NO.:** wire mesh **SETTINGS:** 26.5-27, 29.5-30, 32.5-33
DATE COMPLETED: March 9, 1998 **DATE ABANDONED:** March 11,1999	**CASING SIZE & TYPE:** 3/16-inch Permaflex tubing
DRILLING COMPANY: Carlo Environmental Technology 44907 Trinity Drive Clinton Township Michigan, 48038	**SETTING:** top of screens to grade **SAND PACK SIZE & TYPE:** Global #7 Quartz sand
DRILLING METHOD: Hollow-Stem Auger, 4 1/4-inch ID	**SETTING:** See construction diagram
SAMPLING METHOD: Split Spoons and Cuttings	**SEAL TYPE:** Hydrated bentonite
OBSERVER: Kai Hansen	
REFERENCE POINT (RP): Floor Surface	**BACKFILL TYPE:** Global #7 Quartz sand
ELEVATION OF RP:	**STATIC WATER LEVEL:** ~23 to 24 feet below grade
SURFACE COMPLETION: Flush grade	**DEVELOPMENT METHOD:** NA
ELEVATION OF TOP OF PVC CASING:	**DURATION:** **VOLUME:**
REMARKS: Building 40B pilot test area.	

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DEPTH FEET FROM	TO	DESCRIPTION	PID READINGS (ppm)
1	3	Silty clay; little gravel; brown.	2.7
3	5	Silty clay to 4.5'; little gravel; brown	5.2
5	7	Silty clay to 6.5'; then sand and gravel; brown.	11.8
7	9	Sand, medium with gravel; brown to grey.	6.5
9	11	Sand, fine to medium with gravel; brown.	7.1
11	25	Sand and gravel.	3.8
25	34	Sand and fine gravel; various degrees.	3.4
	34	End of boring.	

GEOLOGIC LOG LEGGETTE, BRASHEARS & GRAHAM, INC. ST. PAUL, MINNESOTA	**OWNER:** Chrysler Corporation **WELL NO.:** ASMP-5 (air sparge monitoring point) **PAGE:** 1 **OF** 1 **PAGES**
SITE LOCATION: Dayton Thermal Products Plant 1600 Webster Street Dayton, Ohio 45404	**SCREEN SIZE & TYPE:** four 6-inch long 1-inch diameter stainless steel screens **SLOT NO.:** wire mesh **SETTINGS:** 20.5-21, 26.5-27, 29.5-30, 32.5-33
DATE COMPLETED: March 9, 1998 **DATE ABANDONED:** March 11,1999	**CASING SIZE & TYPE:** 3/16-inch Permaflex tubing
DRILLING COMPANY: Carlo Environmental Technology 44907 Trinity Drive Clinton Township Michigan, 48038	**SETTING:** top of screens to grade **SAND PACK SIZE & TYPE:** Global #7 Quartz sand
DRILLING METHOD: Hollow-Stem Auger, 4 1/4-inch ID	**SETTING:** See construction diagram
SAMPLING METHOD: Split Spoons and Cuttings	**SEAL TYPE:** Hydrated bentonite
OBSERVER: Kai Hansen	
REFERENCE POINT (RP): Floor Surface	**BACKFILL TYPE:** Global #7 Quartz sand
ELEVATION OF RP:	**STATIC WATER LEVEL:** ~24 feet below grade
SURFACE COMPLETION: Flush grade	**DEVELOPMENT METHOD:** NA
ELEVATION OF TOP OF PVC CASING:	**DURATION:** **VOLUME:**
REMARKS: Building 40B pilot test area.	

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DEPTH FROM	FEET TO	DESCRIPTION	PID READINGS (ppm)
1	3	Silty clay; brown; some black ash material.	14
3	5	Silty clay; brown.	7
5	7	Silty clay; brown.	8.1
7	9	Silty clay with sand, medium to coarse and gravel.	8.2
9	34	Sand and gravel; various degrees.	7.4
	34	End of boring.	

EPA Region 5 Records Ctr.
349889

CITY OF DAYTON

CHRYSLER AIRTEMP SALES CORP. 10, 11, 12

9-185
(October 1950)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

C10-1

WELL SCHEDULE

Date 3-14-55, 19____ Field No. ____

Record by KER Office No. 10

Source of data Mr. [illegible]

1. *Location:* State OHIO County MONT.
   Map [illegible] N.E. corner [illegible]
   ____ ¼ ____ ¼ sec. ____ T ____ N/S R ____ E/W
2. *Owner:* AIRTEMP Address [illegible]
   Tenant ____ Address ____
   Driller [illegible] JACKSON Address ____
3. *Topography* [illegible] FLAT
4. *Elevation* 750 ft. above/below ____
5. *Type:* Dug, drilled, driven, bored, jetted ____ 1938
6. *Depth:* Rept. 90 ft. Meas. ____ ft.
7. *Casing:* Diam. 10 in., to ____ in., Type ____
   Depth ____ ft., Finish [illegible]
8. *Chief Aquifer* ____ From ____ ft. to ____ ft.
   Others ____
9. *Water level* 12 ft. rept./meas. AIRLINE 3-14 1955 above/below [illegible]
   ____ which is 11 ft. above/below surface
10. *Pump:* Type [illegible] Capacity 500 G. M.
    Power: Kind US ELECTRIC Horsepower 30
11. *Yield:* Flow ____ G. M., Pump [illegible] G. M., Meas., Rept. Est. ____
    Drawdown 11 ft. after ____ hours pumping ____ G. M.
12. *Use:* Dom., Stock, PS., RR., Ind., Irr., Obs. ____
    Adequacy, permanence ____
13. *Quality* [illegible] Temp ____ °F.
    Taste, odor, color ____ Sample Yes/No ____
    Unfit for ____
14. *Remarks:* (Log, Analyses, etc.) [illegible] ON PUMP [illegible]
    [illegible] PUMPS CONTINUOUSLY 16 HR DAY
    [illegible] PUMPS [illegible]

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