



From: Office of Sample Management
Phone: 3-3419 MO-346/200W T6-08
Date: April 3, 1990
Subject: TRANSMITTAL OF VALIDATED DATA FOR THE 1100-EM-1
PROJECT (TRANS #16)

12745-90-031

To: S. W. Clark H4-55
cc: M. R. Adams H4-55
R. A. Bechtold T6-08
J. H. Kessner JK T6-08
M. J. Lauterbach H4-55
C. R. Stroup T6-07
JAL File/LB



Validated sample data from the 1100-EM-1 project is being transmitted by the Office of Sample Management (OSM) for the remainder of the split samples analyzed at Pacific Northwest Environmental Laboratories (PNEL) beginning with sample A1310. Included in this transmission are the following samples:

- | | |
|-------|--------|
| A1310 | A2010 |
| AH182 | A2208 |
| AH215 | A2307 |
| A1407 | A2413 |
| A1510 | B00040 |
| A1605 | B00042 |
| A1710 | B0040D |
| A1808 | B0042D |
| A1903 | |

Included with the transmission is a diskette containing the corresponding data summary tables for use by Golder Associates. This transmission completes validation of all samples submitted to Weyerhaeuser and PNEL for the 1100-EM-1 project.

The Office of Sample Management data validation procedure is a review of laboratory performance and implementation of applicable protocols. Subsequent technical data evaluation by project lead personnel should include a determination of the appropriateness of results from a standpoint of past history and present knowledge of the sample site.

If you have any questions, please contact me at the number listed above.

J. A. Lerch
Scientist

jmd



OSM INORGANIC DATA ASSESSMENT

DATE 3/31/90 SAMPLES/MATRIX A2010 soil
 REVIEWED BY JA Lerch
 LABORATORY PNEL
 CASE # 2249
 SDG # A2010

DATA ASSESSMENT SUMMARY

	ICP	AA	Hg	CN
1. Calibrations (Form II)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
2. Blanks (III)	<u>X</u>	<u>X</u>	<u>0</u>	<u>0</u>
3. ICS (IV)	<u>X</u>			
4. Matrix Spike (V)	<u>X</u>	<u>0</u>	<u>0</u>	<u>0</u>
5. Duplicate Analysis (VI)	<u>X</u>	<u>0</u>	<u>0</u>	<u>0</u>
6. LCS (VII)	<u>0</u>	<u>0</u>		
7. Serial Dilution (IX)	<u>X</u>			
8. GFAA		<u>X</u>		
9. Holding Times (XIV)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
10. Other QC <u>none</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>

0 = data had no problems
 X = data qualified due to minor problems
 M = data qualified due to major problems/some data may be unusable

OVERALL ASSESSMENT: no major problems - all results
acceptable w/attached qualifiers

NOTES: _____

o Refer to the corresponding attachments for explanation of any problems.

INORGANIC OC - Calibrations

Name JA Lerch *jl* Date 3/31/90

COMMENTS: all initial & continuing calibration criteria met
- CN mid range std check ok
- Hg, CN correlation coefficients ok

ACTION: none

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------

(The table content is crossed out with a large diagonal line.)

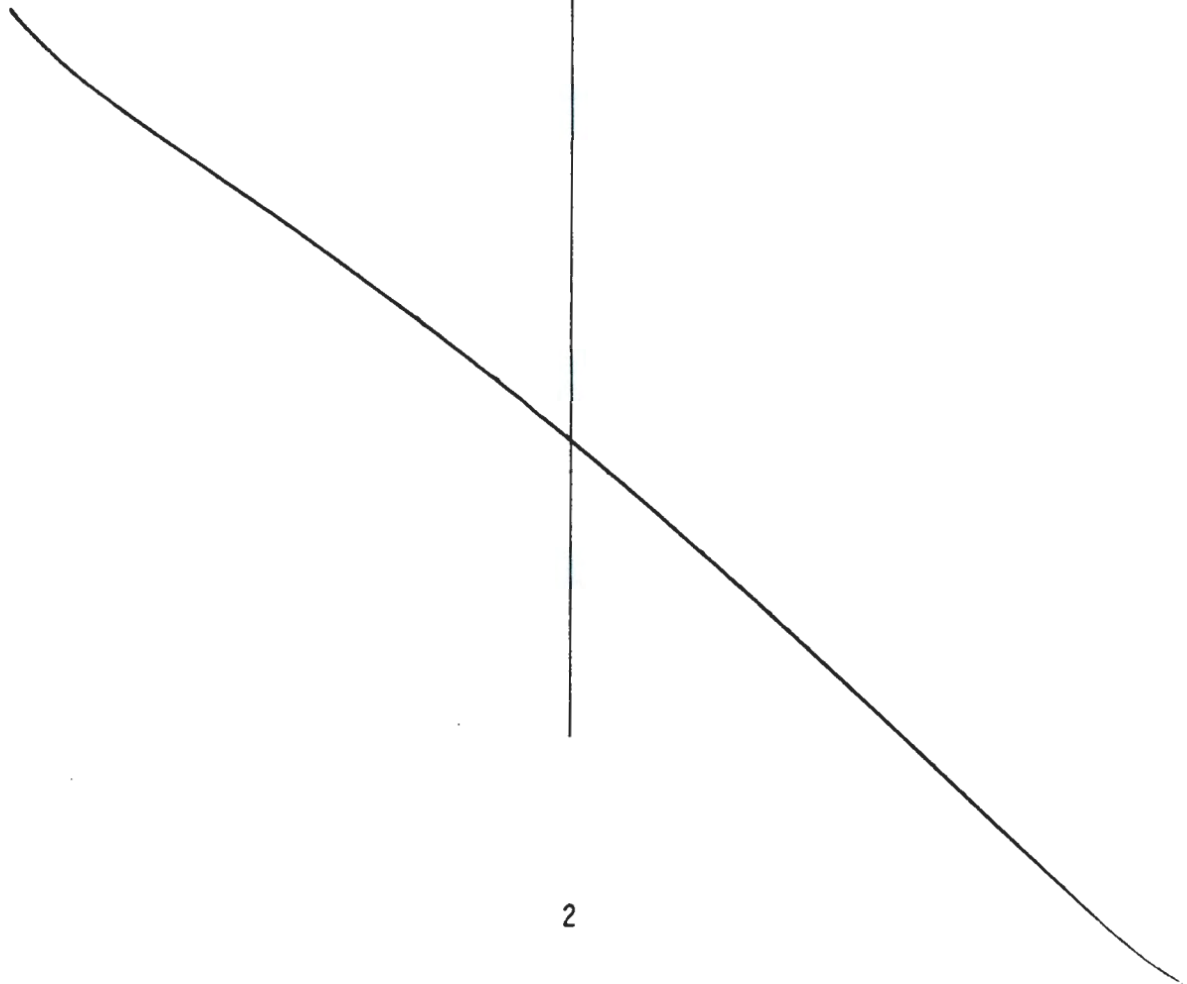
INORGANIC OC - Blanks

Name JA Lerch *JA* Date 3/31/90

COMMENTS: Al, Ba, Be, Cd, Ca, Cr, Cu, Fe, Mn, Ni, Zn
detected in blank

ACTION: qualify associated sample results as per
OSM guidelines

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
A2010	Be	u			
	Cd	u			



INORGANIC QC - ICS

Name JA Lerch ~~for~~ Date 3/31/90

COMMENTS: all ICS solution ZOR within limits
- false positive may exist for Na

ACTION: qualify associated sample results
as per ASM guidelines

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------

A2010	Na	J			
-------	----	---	--	--	--

INORGANIC QC - Matrix Spike

Name JA Lerch Date 3/31/90

COMMENTS: Cr, Mn spike recoveries out of control limits
(low bias)
Sample AZ010S

ACTION: qualify associated sample results according
to OSM guidelines

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
AZ010	Cr	J			
	Mn	J			

INORGANIC QC - Duplicate Analysis

Name JA Lerch *pl* Date 3/31/90

COMMENTS: A2010D - Cr, Ni duplicate RPD out
of control limits

ACTION: qualify associated sample results as
per OSM guidelines

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
A2010	Cr	J			
	Ni	J			

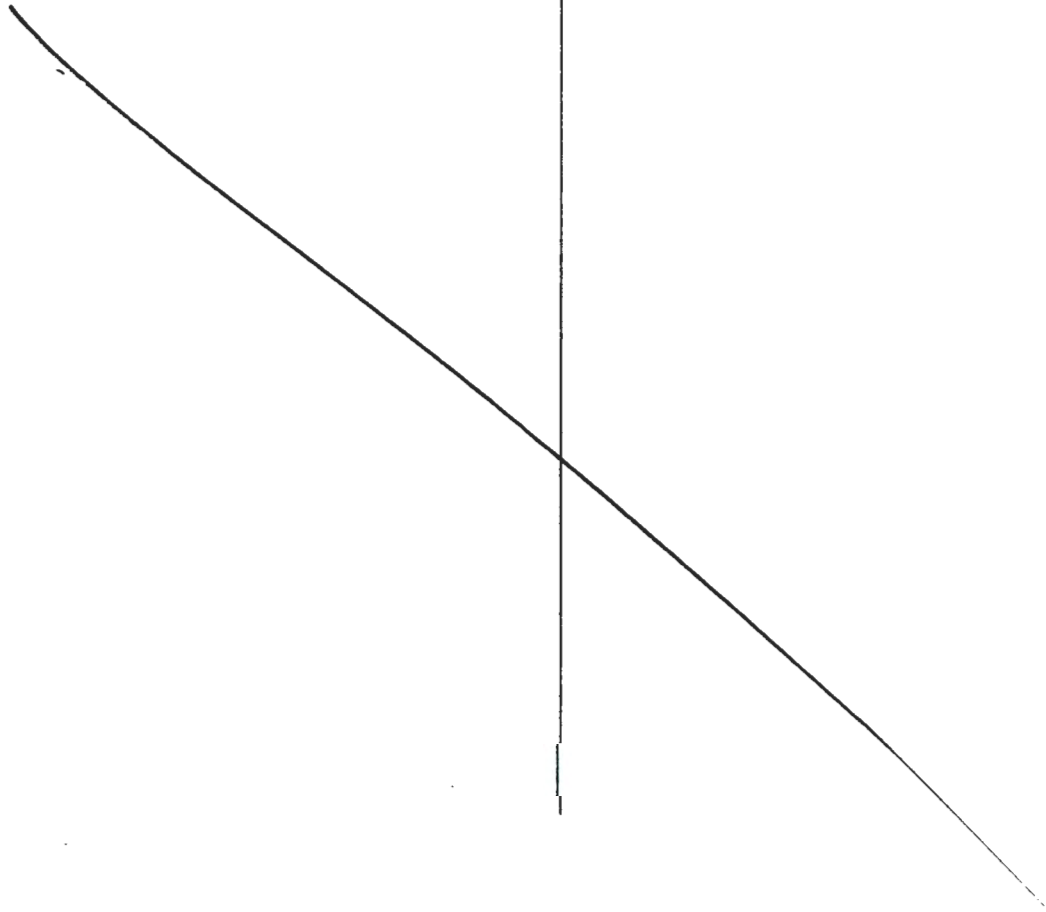
INORGANIC QC - LCS

Name JA Lerch *JA* Date 3/31/90

COMMENTS: all solid LCS results within control
limits

ACTION: none

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------



INORGANIC QC - Serial Dilution

Name JA Lerch *JA* Date 3/31/90

COMMENTS: AZ0104 - serial dilution 70D out of
control limits for Fe, Mn, Na

ACTION: qualify associated sample results
as per OSM guidelines

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
AZ010	Fe	445			
	Mn				
	Na				

INORGANIC OC - Holding Times

Name JA Lerch *JA* Date 3/31/90

COMMENTS: all HT requirements met

ACTION: none

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
 					

INORGANIC QC - GFAA

Name JA Lerch Date 3/31/90

COMMENTS: no MSA required or performed
- analytical spike out of control limits
for Tl (bias low), As (low), Se (low)

ACTION: qualify associated samples as per
OSM guidelines

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
A2010	Tl	UJ			
	As	A			
	Se	UJ			

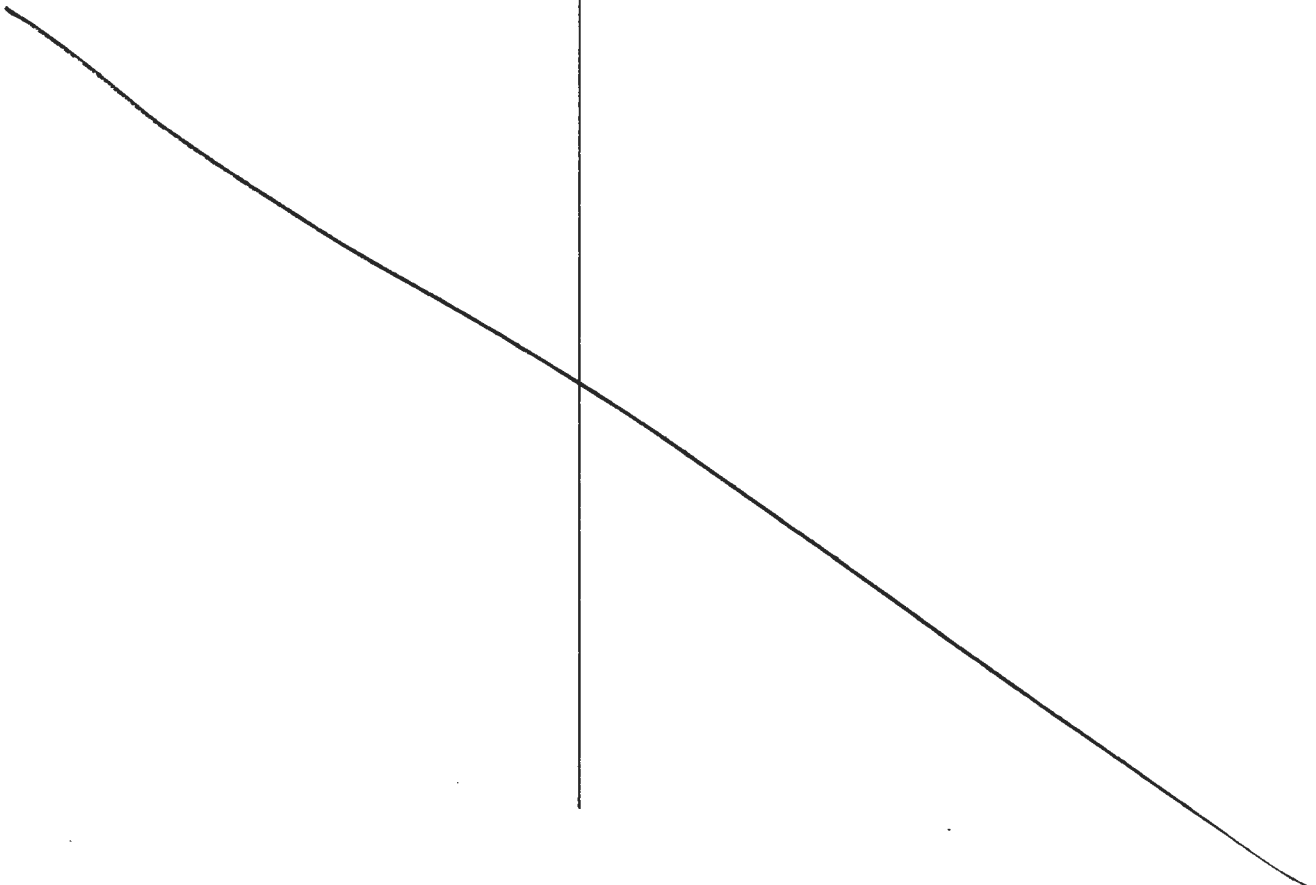
INORGANIC QC - other

Name JA Lerch fL Date 3/31/90

COMMENTS: none

ACTION: none

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------



1
INORGANIC ANALYSIS DATA SHEET

A-2010

Lab Name: G S E L I

Contract:

Lab Code: GULF

Case No.:

SAS No.:

SDG No.: A-2010

Matrix (soil/water): SOIL

Lab Sample ID: 2249-01

Level (low/med): LOW

Date Received: 01/23/90

% Solids: 95.8

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3400			F
7440-36-0	Antimony	5.2	U		F
7440-38-2	Arsenic	0.68	N W J		F
7440-39-3	Barium	60.1			F
7440-41-7	Beryllium	0.57	N	U	F
7440-43-9	Cadmium	0.57	N	U	F
7440-70-2	Calcium	3880			F
7440-47-3	Chromium	14.3	J	N*	F
7440-48-4	Cobalt	9.8			F
7440-50-8	Copper	13.6			F
7439-89-6	Iron	15900	J	E	F
7439-92-1	Lead	2.2			F
7439-95-4	Magnesium	3410			F
7439-96-5	Manganese	222	J	E N	F
7439-97-6	Mercury	0.09	U		CV
7440-02-0	Nickel	16.1	J	*	F
7440-09-7	Potassium	523	B		F
7782-49-2	Selenium	0.31	N W U		F
7440-22-4	Silver	0.33	U		F
7440-23-5	Sodium	340	N E J		F
7440-28-0	Thallium	0.46	N W U		F
7440-62-2	Vanadium	31.2			F
7440-66-6	Zinc	30.6			F
	Cyanide	0.47	U		C

J
3/31/90

Color Before: BLACK

Clarity Before:

Texture: MEDIUM

Color After: COLORLESS

Clarity After:

Artifacts: YES

Comments:

SAMPLE CONTAINED ROCKS.

OSM ORGANIC DATA ASSESSMENT

DATE 3/31/90 SAMPLES/MATRIX A2010 soil
 REVIEWED BY JA Lerch
 LABORATORY PNEL
 CASE # 2249
 SDG # AZ010

DATA ASSESSMENT SUMMARY

	VOA	ABN	PEST
1. Holding Times (Form I)	<u>0</u>	<u>0</u>	<u>0</u>
2. Surrogate Recovery (II)	<u>0</u>	<u>0</u>	<u>X</u>
3. Matrix Spike/ MSD (III)	<u>0</u>	<u>X</u>	<u>0</u>
4. Blanks (IV)	<u>0</u>	<u>0</u>	<u>0</u>
5. GC/MS Tune (V)	<u>0</u>	<u>0</u>	
6. Calibration (VI-VII; VIII pest)	<u>0</u>	<u>0</u>	<u>0</u>
7. Internal Standards (VIII)	<u>0</u>	<u>0</u>	
8. Instr. Perform. (IX pest)			<u>0</u>
9. Other () <u>none</u>			

0 = data had no problems
 X = data qualified due to minor problems
 M = data qualified due to major problems, some data may be unusable

OVERALL ASSESSMENT: no major problems - all results
acceptable with qualification

NOTES: none

Refer to the corresponding attachments for explanation of any problems.

ORGANIC QC - Holding Times

Name JA Lerch *jd* Date 3/31/90

COMMENTS: all HT requirements met

ACTION: none

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------

(The table content is crossed out with a large diagonal line.)

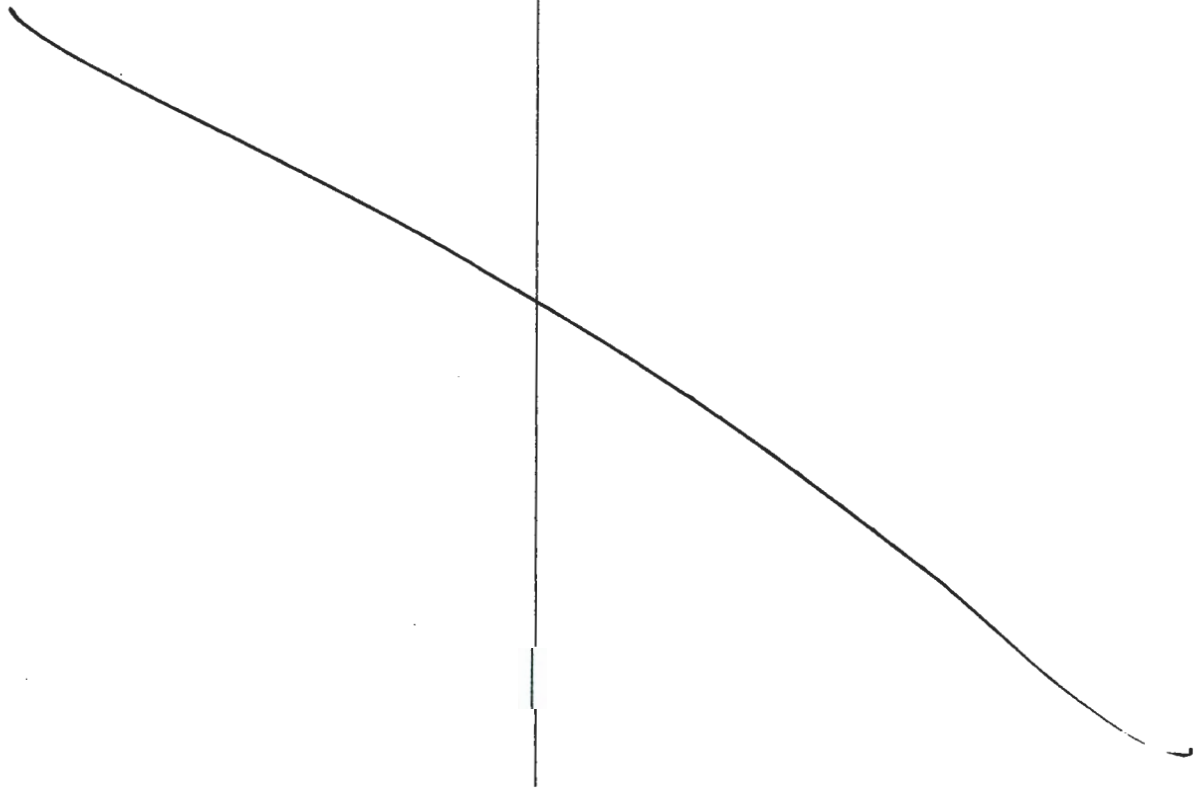
ORGANIC QC - Surrogate Recovery

Name JA Lerch *JL* Date 3/31/90

COMMENTS: all VOA, Pest recoveries within control limits
Pest-blank appears that no surrogate was
added, other results ok

ACTION: none

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------



ORGANIC QC - MS/MSD

Name JA Lerch *JD* Date 3/31/90

COMMENTS: A2010MS+MSD

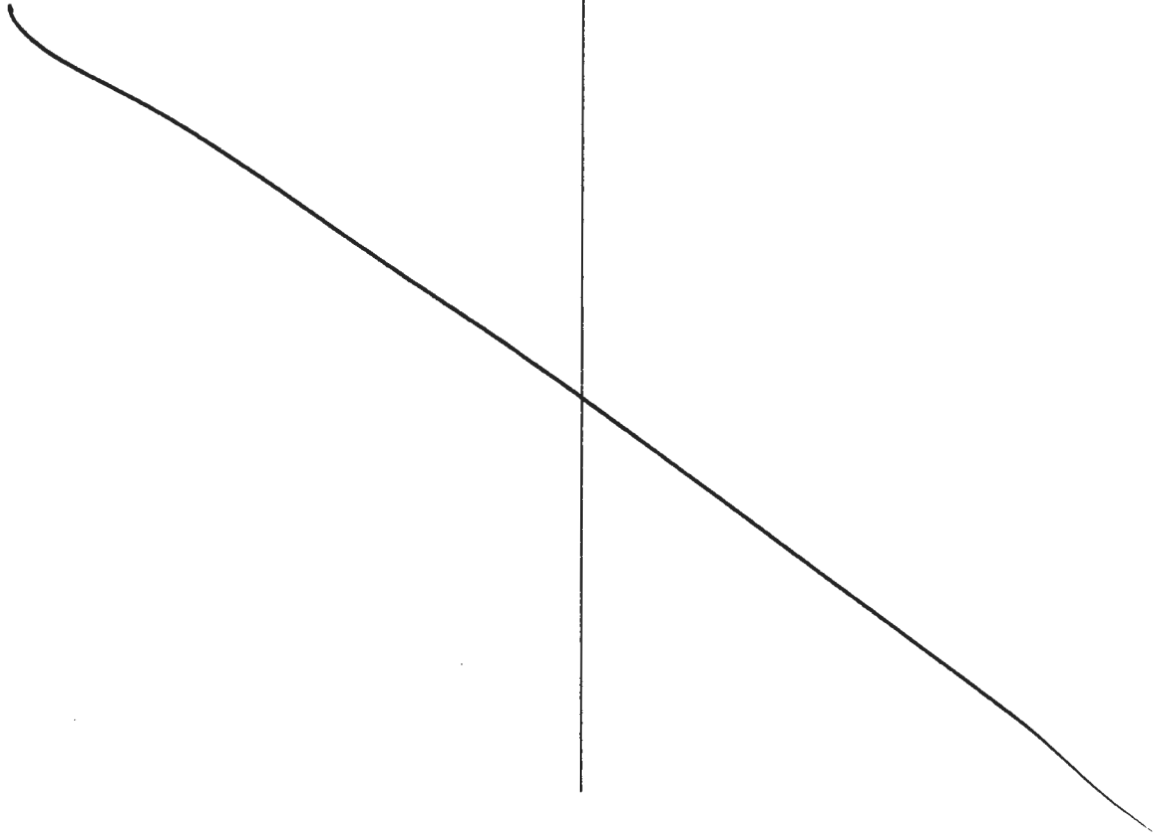
SemiVOA - 3 MS,MSD compounds out of control limits (low bias)

all RPDs ok

All VOA, ~~rest~~ MS/MSD recoveries ok, RPDs ok

ACTION: none

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------



ORGANIC QC - Blanks

Name JA Lerch Date 3/31/90

COMMENTS: all VOA, SemiVOA, Pest blanks free of
TCL contamination; several TICs detected
in SemiVOA blank
-all blank summaries ok

ACTION: qualify associated sample results
as per OSM guidelines

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------

AZ010
-blank qualification
criteria applied to several
SemiVOA TICs

ORGANIC QC - GC/MS Tune

Name JA Lerch Date 3/31/90

COMMENTS: all VOA, SemiVOA GC/MS tune criteria met

ACTION: none

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------

~~Table content is crossed out with a large diagonal line.~~

ORGANIC QC - Calibrations

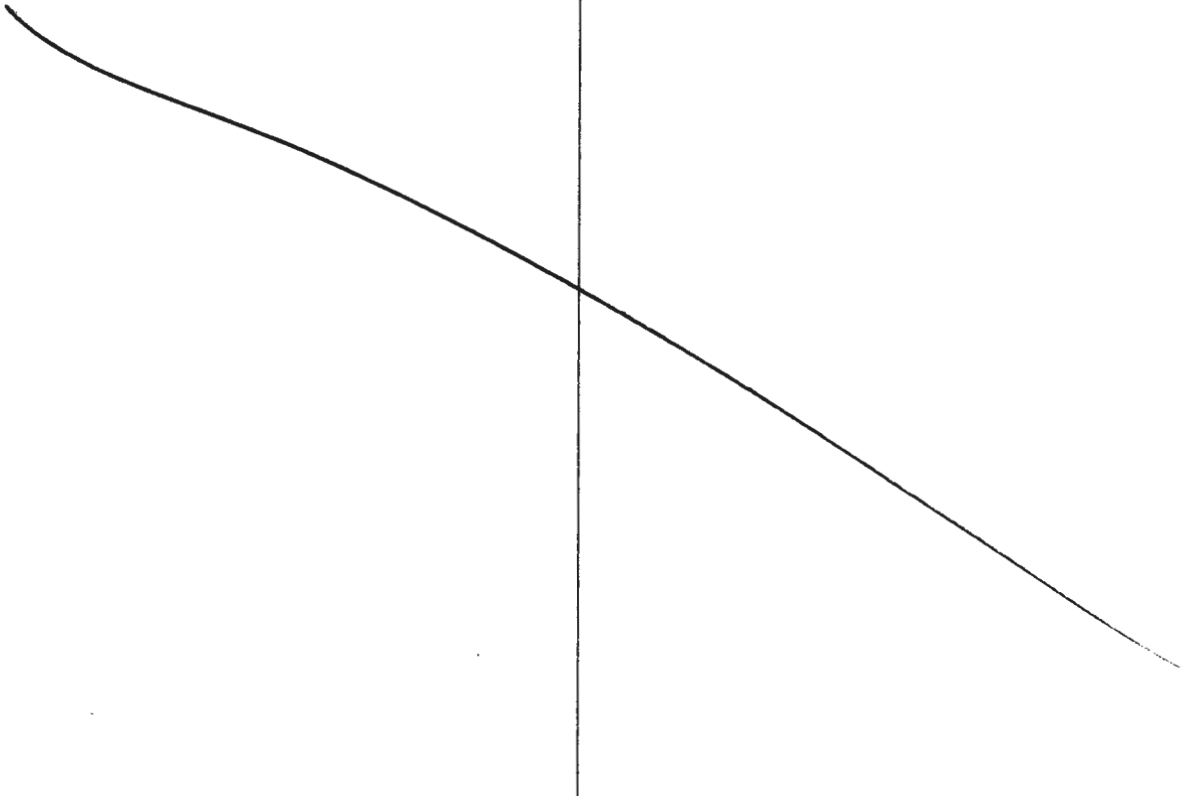
Name JA Lerch *JL* Date 3/31/90

COMMENTS: all VOA, Semi-VOA initial & continuing cal.
results acceptable

Pest-1026 linearity check ok
- 72 hr analytical sequence requirements met
- cont. cal. factor 2σD results acceptable

ACTION: none

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------



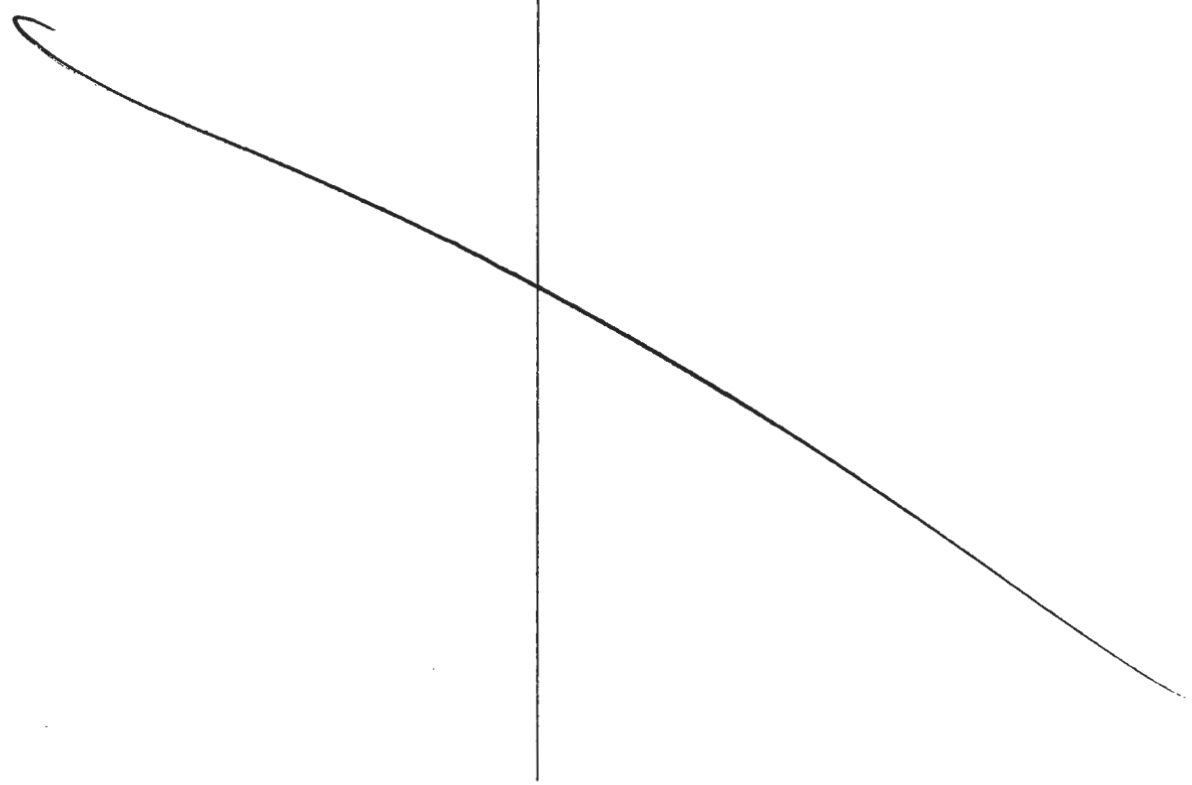
ORGANIC QC - Internal Standards

Name JA Lerch Date 3/31/90

COMMENTS: all VOA, SemiVOA IS area counts +
RT shifts within limits

ACTION: none

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------



ORGANIC QC - Instrument Performance (pest)

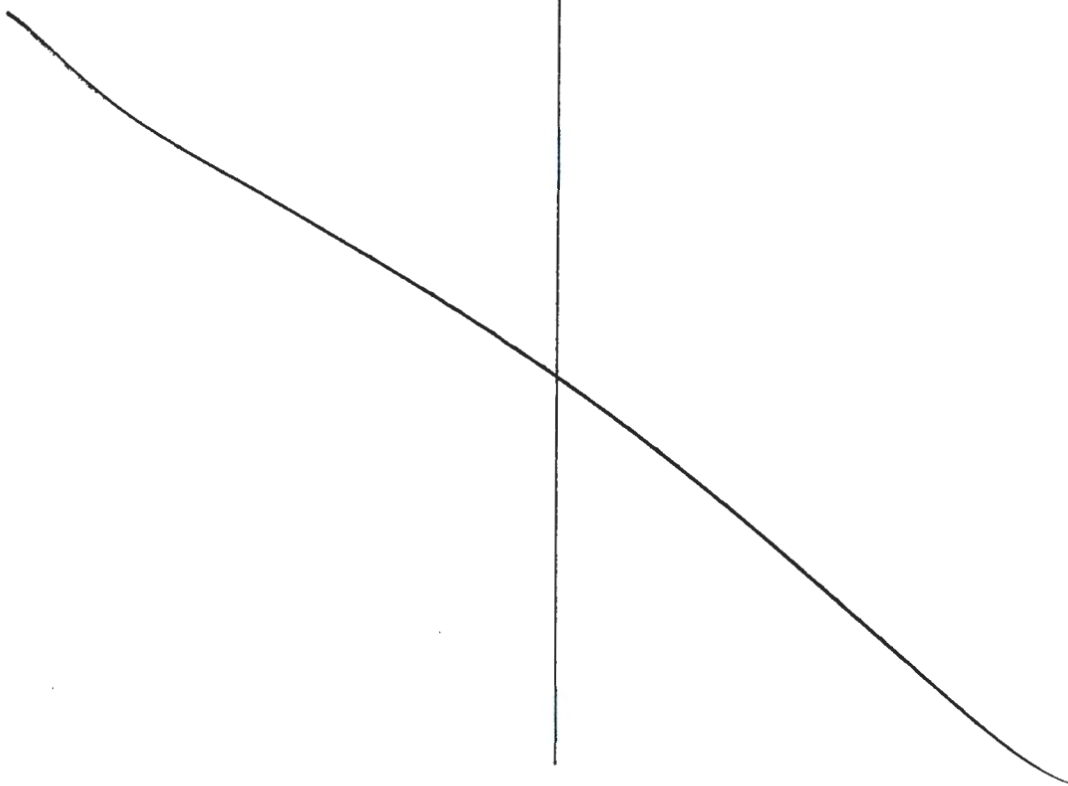
Name JA Lerch Date 3/31/90

COMMENTS: endrin/DDT breakdown check ok

- all DDT RTs > 12 min, RT window criteria met
- DBC RT shift 2σD within control limits
(cannot be evaluated in absence of peak)

ACTION: none

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------



ORGANIC OC - Other

Name JA Lerch *fl* Date 3/31/90

COMMENTS: none

ACTION: none

<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>	<u>sample #</u>	<u>constituent</u>	<u>value/qual</u>
-----------------	--------------------	-------------------	-----------------	--------------------	-------------------

A large diagonal line is drawn across the table area, starting from the top-left corner and extending to the bottom-right corner, effectively crossing out the table content.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

A2010

Lab Name: PNELI_____ Contract: WESTINGHOUS
 Lab Code: PNELI__ Case No.: 2249__ SAS No.: _____ SDG No.: A2010_
 Matrix: (soil/water) SOIL__ Lab Sample ID: 2249-01_____
 Sample wt/vol: 30.0 (g/mL) G__ Lab File ID: BF905_____
 Level: (low/med) LOW__ Date Received: 01/25/90
 % Moisture: not dec. ___4 dec. ____ Date Extracted: 01/29/90
 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 02/01/90
 GPC Cleanup: (Y/N) N__ pH: 9.1 Dilution Factor: 1.00____

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Number TICs found: 18

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown Alkane	9.07	420	BJ
2.	Unknown	10.19	280	BJ
3.	Unknown	10.47	300	BJ
4. 4436753	3-Hexene-2,5-dione (8CI9CI)	10.80	170	BJ
5.	Unknown	12.92	210	J
6. 57103	Hexadecanoic acid (9CI)	25.36	170	BJ
7.	Unknown Alkane	27.79	170	J
8.	Unknown Alkane	28.72	280	BJ
9.	Unknown	29.32	170	BJ
10.	Unknown Alkane	29.61	300	BJ
11.	Unknown Alkane	30.47	420	BJ
12.	Unknown Alkane	32.52	420	BJ
13.	Unknown Alkane	33.79	420	J
14.	Unknown	34.44	140	J
15.	Unknown Alkane	35.32	660	J
16.	Unknown Alkane	39.32	450	J
17.	Unknown Alkane	41.98	310	J
18.	Unknown Alkane	45.18	210	J

JL
3/21/90

004020