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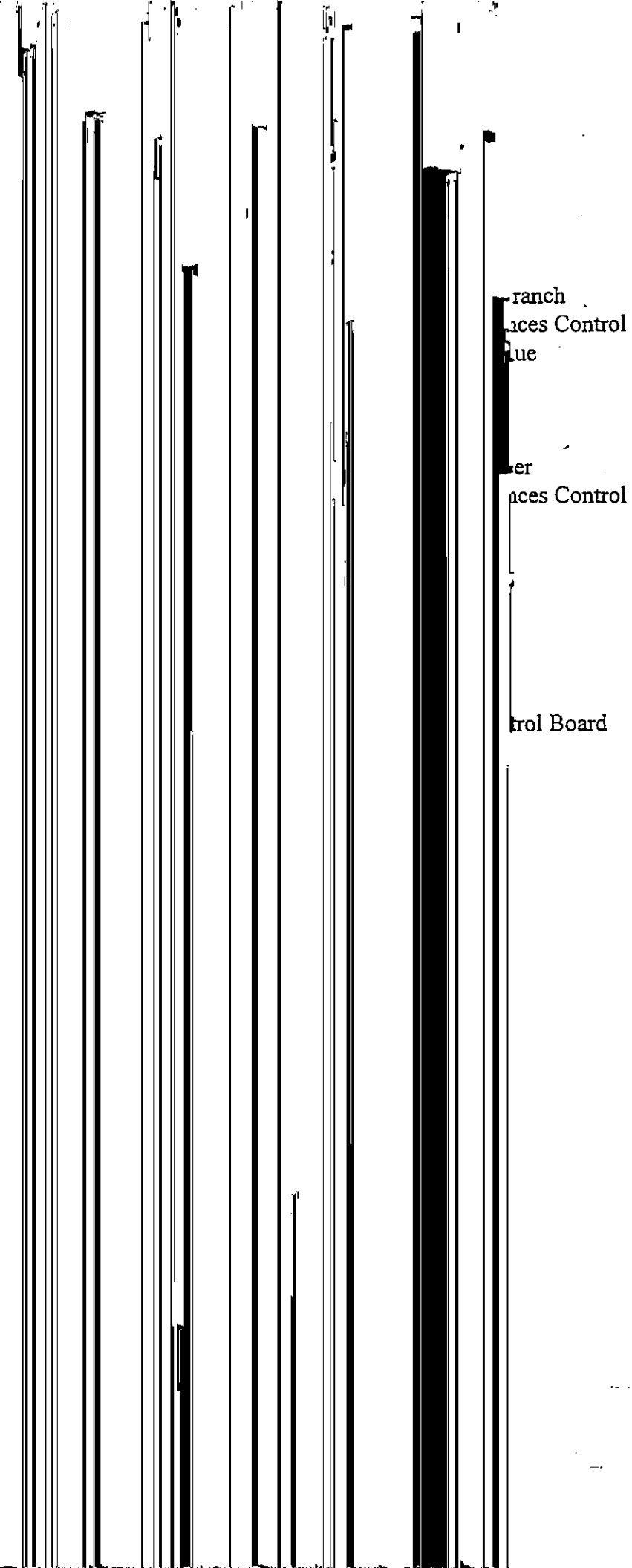
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RADIAN INTERNATIONAL LLC

PN 67515815.1000
DCN 98.67515815.01

FINAL

LOCKHEED MARTIN BEAUMONT BURN PIT AREA REMEDIATION SYSTEM EVALUATION

Prepared for:

Lockheed Martin Corporate Environment,
Safety, and Health Program Office
2550 N. Hollywood Way, 3rd Floor
Burbank, California 91505-1055

Prepared by:

Radian International LLC
16845 Von Karman, Suite 100
Irvine, California 92606

24 September 1998

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ıodeling" to show that any residual contaminants will not to groundwater quality. Groundwater quality will not be E system shutdown as elevated total VOC levels in groundwater ıred and groundwater extraction is still occurring.

ıvater monitoring if contaminants exceeding target-screening in the vadose zone. Groundwater and soil vapor monitoring at a regular basis.

tinued vapor extraction is not thought necessary. Our ıe SVE system and monitor soil vapors on a regular basis.

former Test Facility located
DC) levels in soil and
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ea (BPA) and the Rocket
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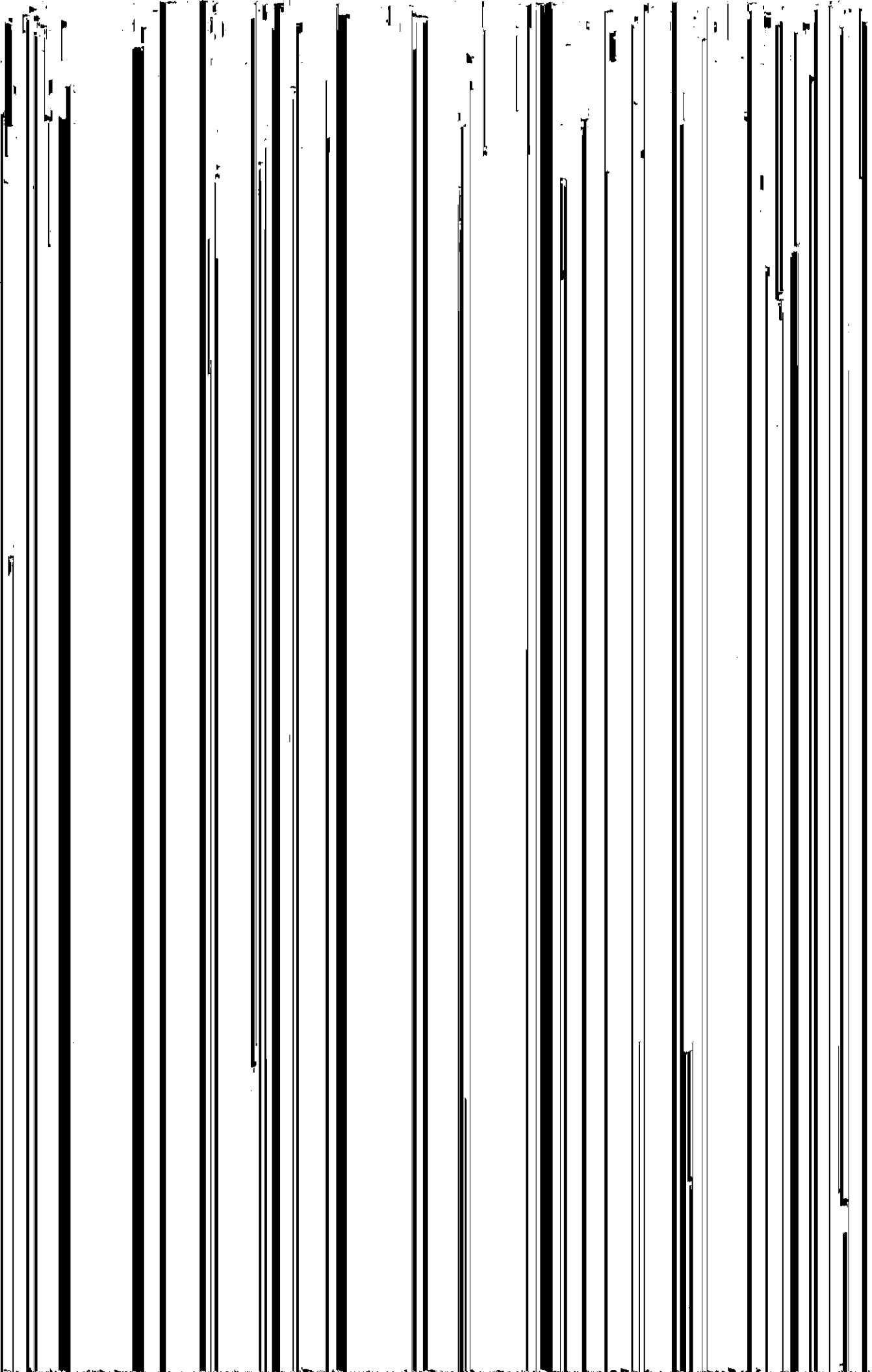

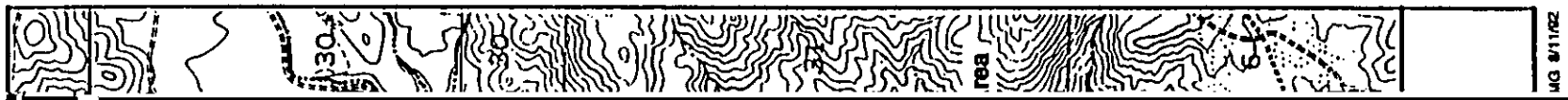

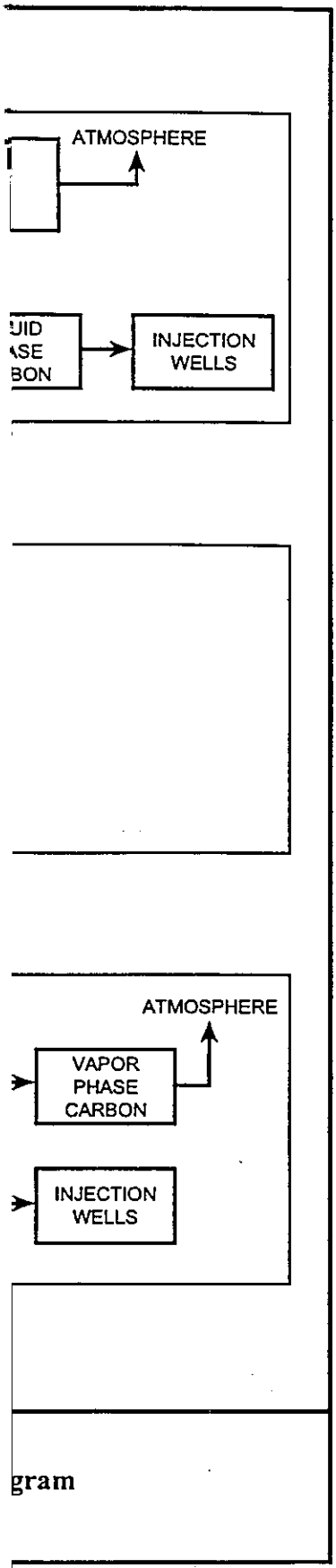
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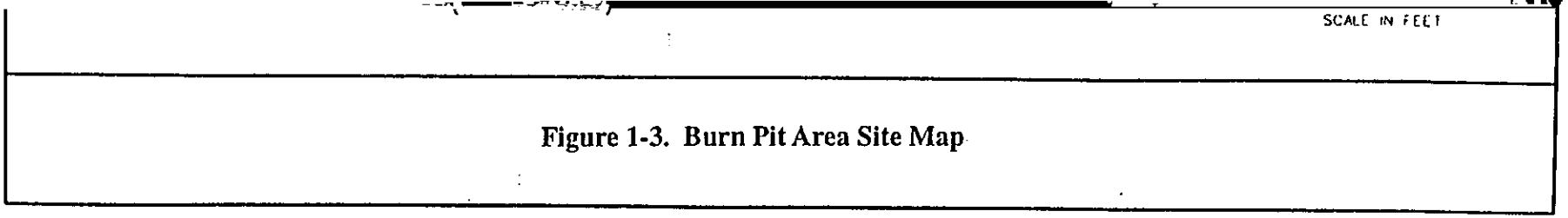
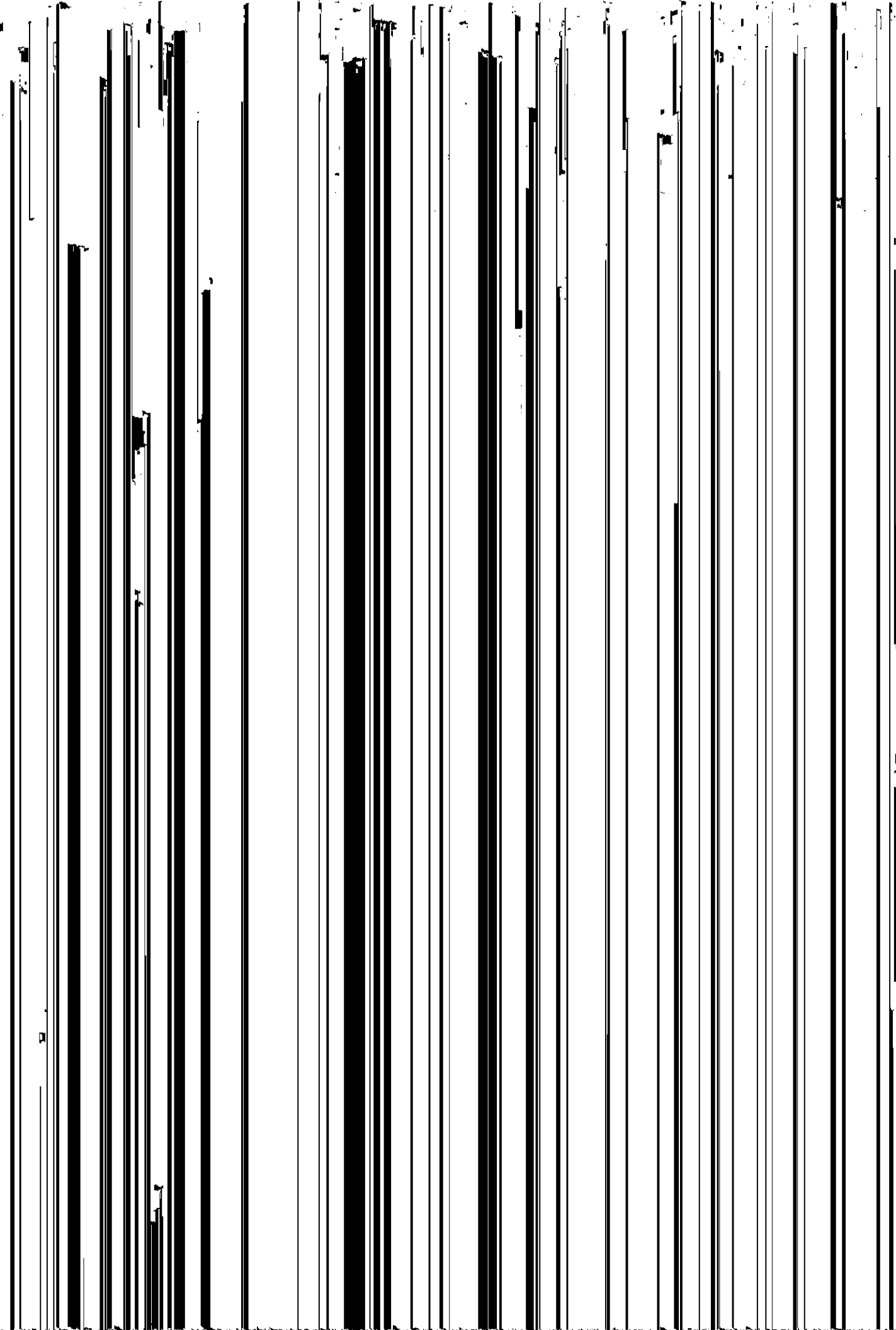


Figure 1-3. Burn Pit Area Site Map



The SVE system has reduced soil vapor concentrations [redacted] y low, non-rebounding
ls. As a result, further continuous vapor extraction is not th [redacted] necessary.

SCALE IN FEET

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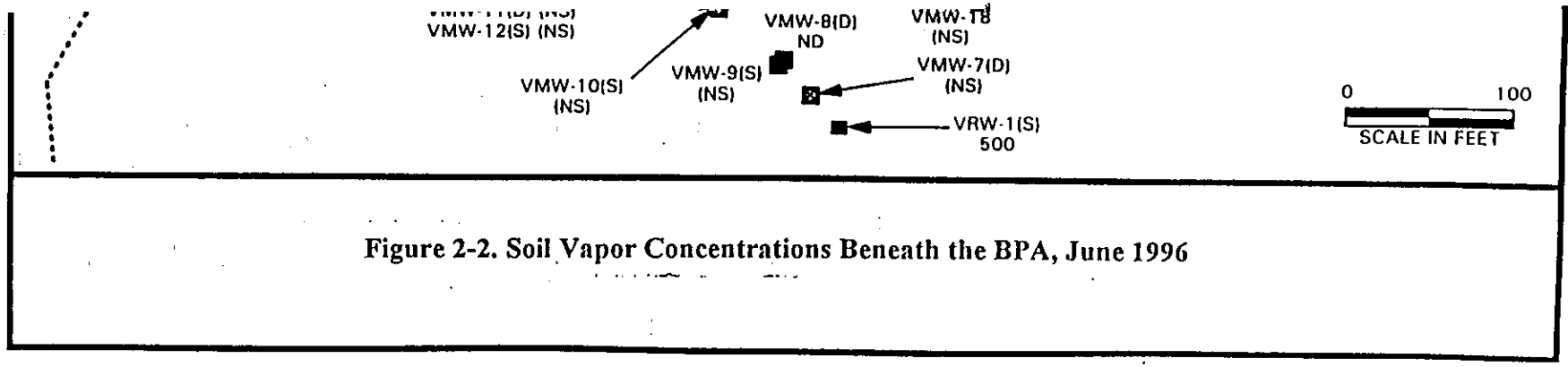

Figure 2-2. Soil Vapor Concentrations Beneath the BPA, June 1996

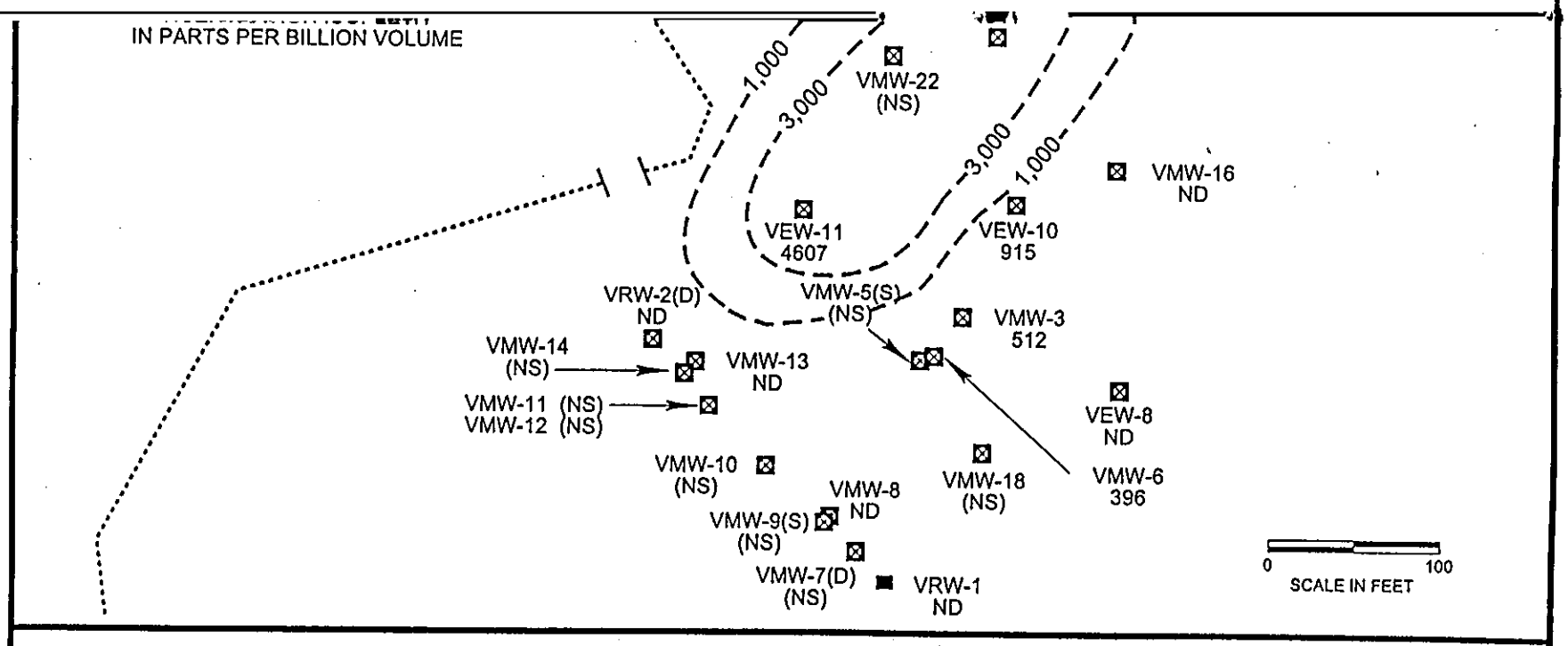

Figure 2-3. Soil Vapor Concentrations Beneath the BPA, August 1997

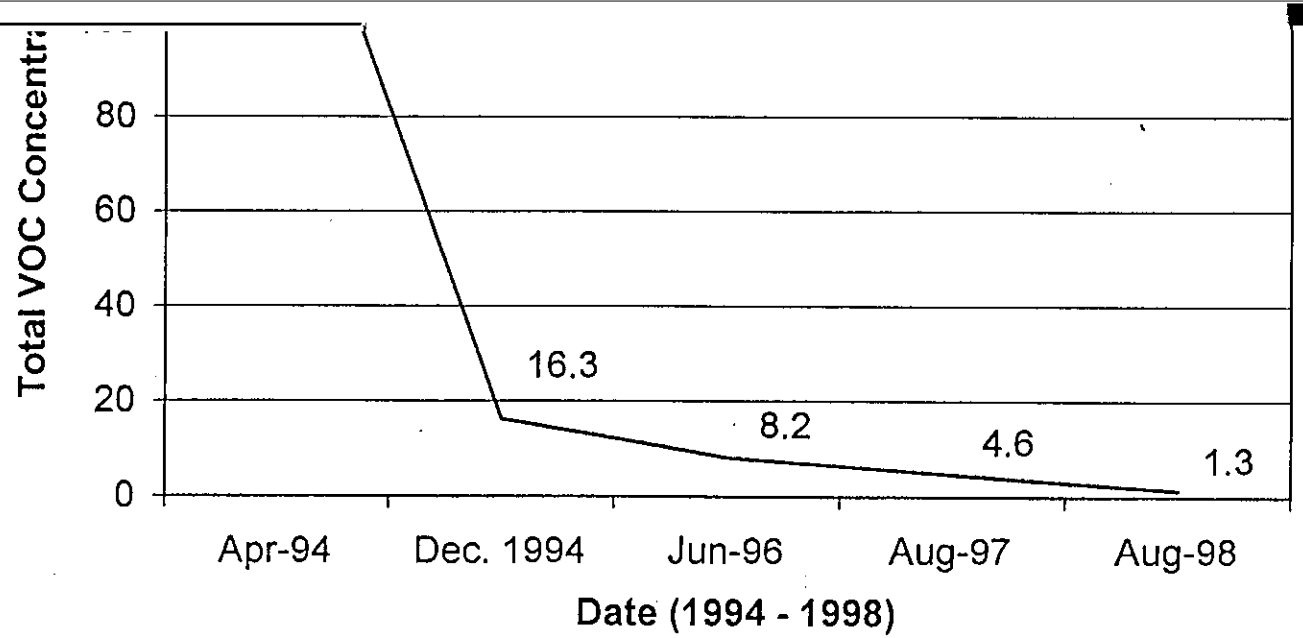

Figure 2-4. Reduction of Total VOCs at BPA Over Time

Figure 2-5. Rebound Data for Wells VEW-6 and VEW-11

ı Observed
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ent Vapor e Result obv)	Percent Reduction
uly 98)	83
ug 97)	>99
July 98)	96
uly 98)	96
ug 97)	>99
ug 97)	>99
ug 97)	>99
ug 97)	>99
ug 97)	>99
ug 97)	>99
ly 98)	*
/A	>99

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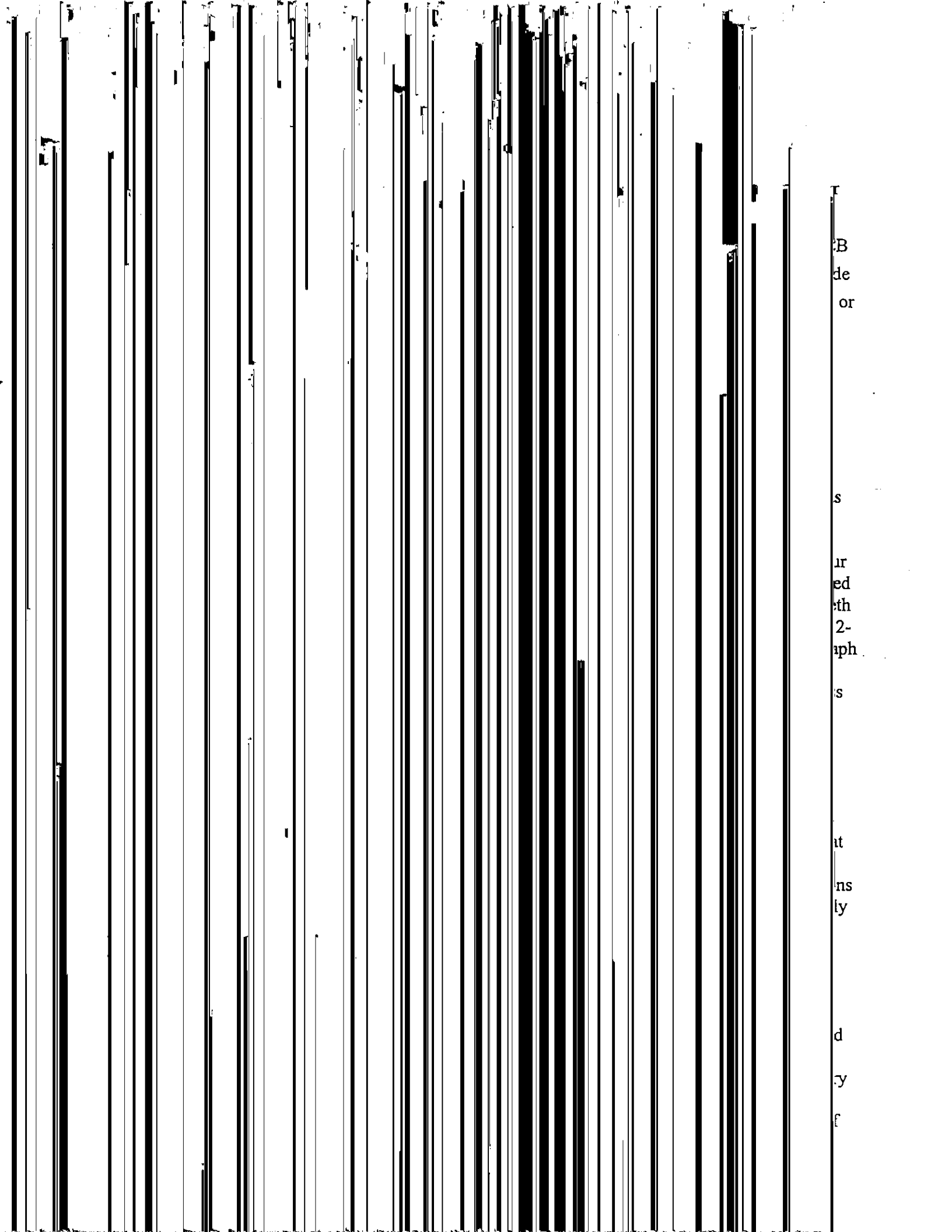

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Appendix A

Laboratory Analyses Results and Field Monitoring Results

Field OVM (ppm)	<1[a]	<1	<1	<1	1.1	0.6	0.8	0.4	<1	2.1

[a] - OVM reading of 0 is interpreted as <1 because OVM rounds down (e.g., .6 is displayed as 0).

Lab Contaminant in blue

Note: OVA Cleaned after 27 May sampling event. OVM readings between 27-May and 15-July are considered representative. Readings for 15 July are not considered representative because OVM lamp may be dirty.

Field OVA (ppm)	0.0	0.0	0.6	0.6	0.6	1.0	0.2	NA[b]	0.0	0.0
Field OVM (ppm)	<1[a]	<1	<1	<1	<1	0.0	0.0	0.0	0.0	0.0

[a] - OVM reading of 0 is interpreted as <1 because OVM rounds down (e.g., .6 is displayed as 0).

Lab contaminant in blue

[b] - Instrument went down.

DISPOSAL CONFIRMED BY	DATE	TIME	CHAIN OF CUSTODY RETURNED BY	DATE	TIME
	/ /	:		/ /	:

WHITE - DATA MANAGEMENT / GOLDENROD- SAMPLE CONTROL / PINK - CUSTODY RECORD / YELLOW - LABORATORY

[redacted]

VALVES TIGHT.

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
[redacted]	7 16 98	10 :00	[redacted]	7 16 98	10 :00
	/ /	:		/ /	:
	/ /	:		/ /	:
DISPOSAL CONFIRMED BY	DATE	TIME	CHAIN-OF-CUSTODY RETURNED BY	DATE	TIME
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WHITE - DATA MANAGEMENT / GOLDENROD- SAMPLE CONTROL / PINK - CUSTODY RECORD / YELLOW - LABORATORY

[redacted]	6/18/98	09:25	[redacted]	6/18/98	09:25	
	/ /	:		/ /	:	
DISPOSAL CONFIRMED BY	DATE	TIME	CHAIN-OF-CUSTODY RETURNED BY	DATE	TIME	
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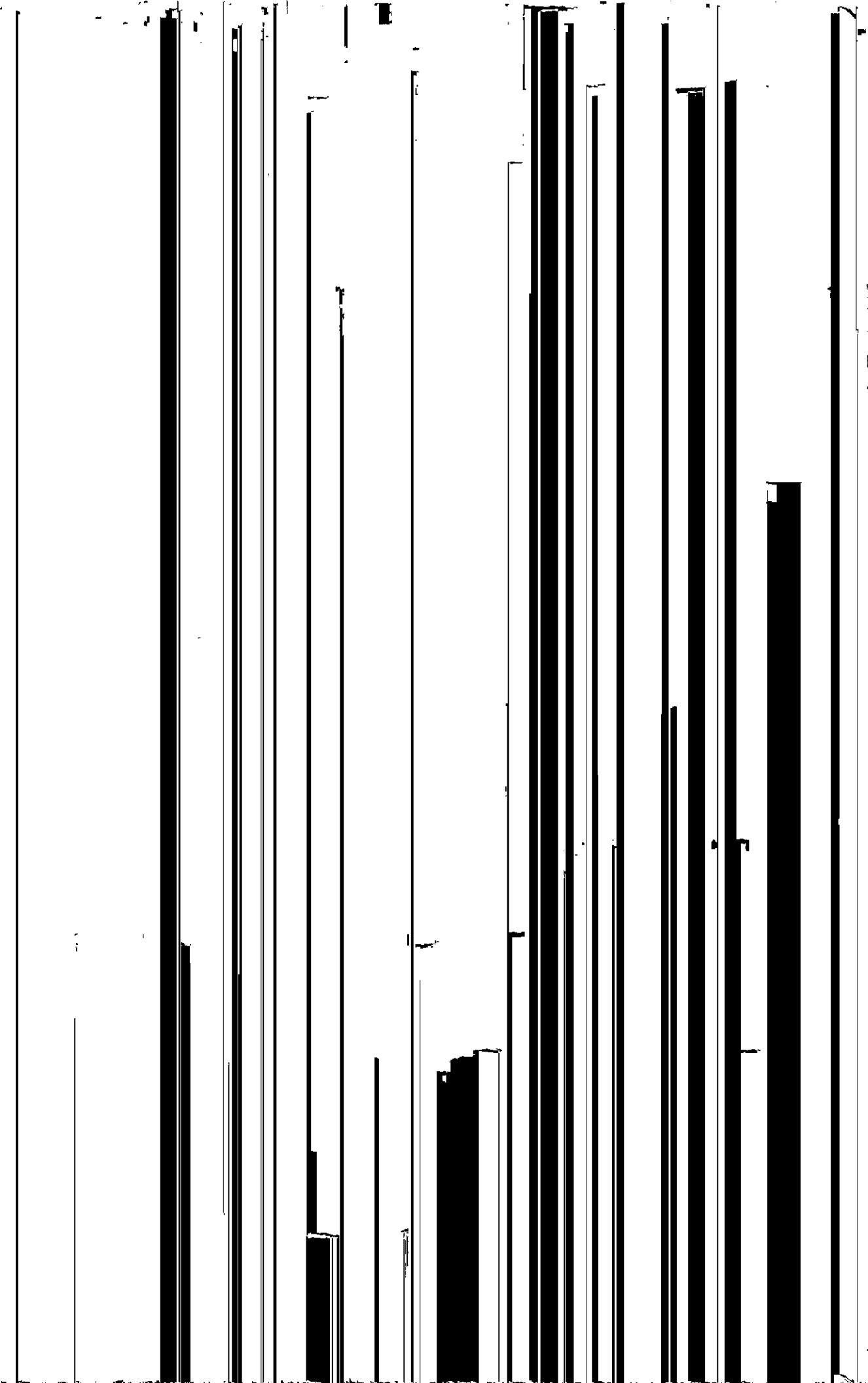

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EPA TO-14 Full List

Instrument: GC/MS E
Date Extracted: N/A
Date Analyzed: 06/18/98

%REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
2	82	60-140	0	0-30	
12	114	60-140	1	0-30	
7	98	60-140	1	0-30	
17	119	60-140	1	0-30	
0	101	60-140	0	0-30	
5	104	60-140	0	0-30	
13	114	60-140	0	0-30	
20	121	60-140	0	0-30	
26	128	60-140	1	0-30	
19	120	60-140	0	0-30	
22	123	60-140	0	0-30	
21	120	60-140	0	0-30	
25	125	60-140	0	0-30	

GLOSSARY OF TERMS AND QUALIFIERS

nental

ıtories, Inc.

r Number: 98-06-0492

Qualifier	Definition
ND	Not detected at indicated reporting limit.

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K: (714) 894-7501

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Environmental
Laboratories, Inc.

ANALYTICAL REPORT
EPA TO-14 Full List

Name:	RADIAN International, LLC		
t ID:	Low Vacuum Pulse Testing		
Order Number:	98-05-0515		
atch ID:	980519	Date Collected:	05/18/98
:	Air	Date Received:	05/19/98
ration:	N/A	Date Prepared:	N/A
d:	EPA TO-14	Date Analyzed:	05/19/98

: Sample Number: **LM98-05-001**
ample Number: 98-05-0515-1

neter	Result	RL	Qualifiers	Units
oroethene	396	18		ppb (v/v)
chloroethene	5.3	1.8		ppb (v/v)
obenzene	ND	1.8		ppb (v/v)
benzene	ND	1.8		ppb (v/v)
Xylene	ND	3.7		ppb (v/v)
oform	ND	1.8		ppb (v/v)
ne	ND	3.7		ppb (v/v)
2-Tetrachloroethane	ND	1.8		ppb (v/v)
ene	ND	1.8		ppb (v/v)
yltoluene	ND	1.8		ppb (v/v)
Trimethylbenzene	ND	1.8		ppb (v/v)
Trimethylbenzene	ND	1.8		ppb (v/v)
l Chloride	ND	1.8		ppb (v/v)
ichlorobenzene	ND	1.8		ppb (v/v)
ichlorobenzene	ND	1.8		ppb (v/v)
ichlorobenzene	ND	1.8		ppb (v/v)
Trichlorobenzene	ND	1.8		ppb (v/v)
chloro-1,3-Butadiene	ND	1.8		ppb (v/v)

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ANALYTICAL REPORT

EPA TO-14 Full List

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Date Collected:	05/18/98
Date Received:	05/19/98
Date Prepared:	N/A
Date Analyzed:	05/19/98

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Result	RL	Qualifiers	Units
113	0.9		ppb (v/v)
2.0	0.9		ppb (v/v)
ND	0.9		ppb (v/v)
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ND	1.9		ppb (v/v)
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ND	0.9		ppb (v/v)

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ANALYTICAL REPORT

EPA TO-14 Full List

RADIAN International, LLC
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Date Received:	05/19/98
Date Prepared:	N/A
Date Analyzed:	05/19/98

ıber: **LM98-05-003**
r: 98-05-0515-3

	Result	RL	Qualifiers	Units
hane	ND	1.9		ppb (v/v)
	ND	1.9		ppb (v/v)
2-Tetrafluoroethane	ND	7.5		ppb (v/v)
	ND	1.9		ppb (v/v)
	ND	1.9		ppb (v/v)
	ND	1.9		ppb (v/v)
	ND	3.8		ppb (v/v)
ane	ND	1.9		ppb (v/v)
	5.8	3.8		ppb (v/v)
	113	1.9		ppb (v/v)
	ND	7.5		ppb (v/v)
2-Trifluoroethane	4.4	3.8		ppb (v/v)
	ND	1.9		ppb (v/v)
e	ND	1.9		ppb (v/v)
	ND	1.9		ppb (v/v)
	ND	3.8		ppb (v/v)
	ND	3.8		ppb (v/v)
ıe	ND	1.9		ppb (v/v)
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e	ND	1.9		ppb (v/v)
ane	ND	1.9		ppb (v/v)
Ether	ND	3.8		ppb (v/v)
ne	ND	1.9		ppb (v/v)
ıe	ND	1.9		ppb (v/v)
ıe	8.3	1.9		ppb (v/v)
	ND	1.9		ppb (v/v)
	ND	3.8		ppb (v/v)
ne	ND	3.8		ppb (v/v)
ane	ND	1.9		ppb (v/v)
	ND	1.9		ppb (v/v)

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LYTICAL REPORT
PA TO-14 Full List

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Date Collected:	05/18/98
Date Received:	05/19/98
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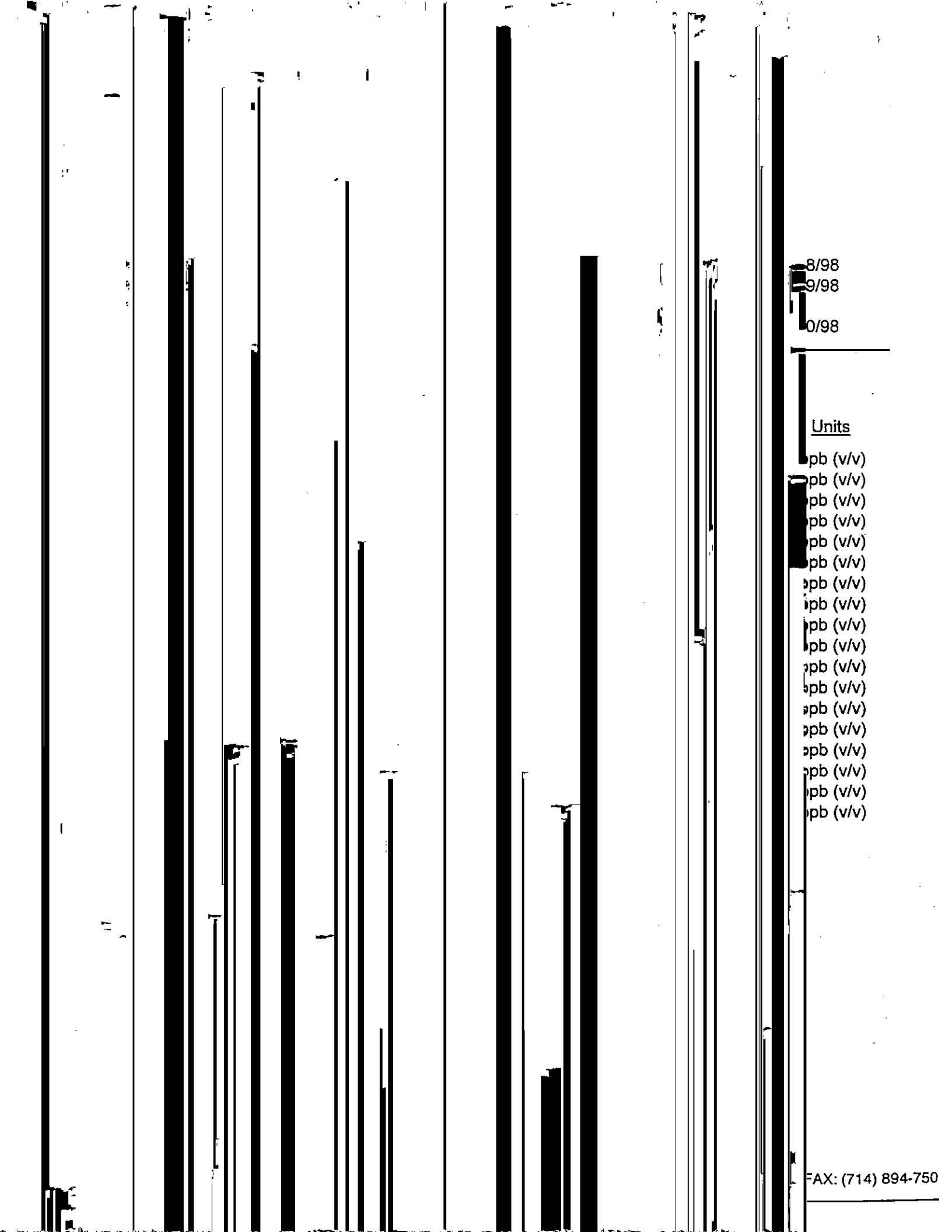
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ANALYTICAL REPORT
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rder Number:	98-05-0515		
ch ID:	980519	Date Collected:	05/18/98
	Air	Date Received:	05/19/98
ation:	N/A	Date Prepared:	N/A
:	EPA TO-14	Date Analyzed:	05/20/98

Sample Number: **LM98-05-005**
mple Number: 98-05-0515-5

eter	Result	RL	Qualifiers	Units
roethene	ND	1.0		ppb (v/v)
nloroethene	ND	1.0		ppb (v/v)
benzene	ND	1.0		ppb (v/v)
enzene	ND	1.0		ppb (v/v)
lene	ND	2.0		ppb (v/v)
form	ND	1.0		ppb (v/v)
e	ND	2.0		ppb (v/v)
-Tetrachloroethane	ND	1.0		ppb (v/v)
ne	ND	1.0		ppb (v/v)
ltoluene	ND	1.0		ppb (v/v)
rimethylbenzene	ND	1.0		ppb (v/v)
rimethylbenzene	ND	1.0		ppb (v/v)
Chloride	ND	1.0		ppb (v/v)
hlorobenzene	ND	1.0		ppb (v/v)
hlorobenzene	ND	1.0		ppb (v/v)
hlorobenzene	ND	1.0		ppb (v/v)
richlorobenzene	ND	1.0		ppb (v/v)
hloro-1,3-Butadiene	ND	1.0		ppb (v/v)

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(: (714) 894-7501

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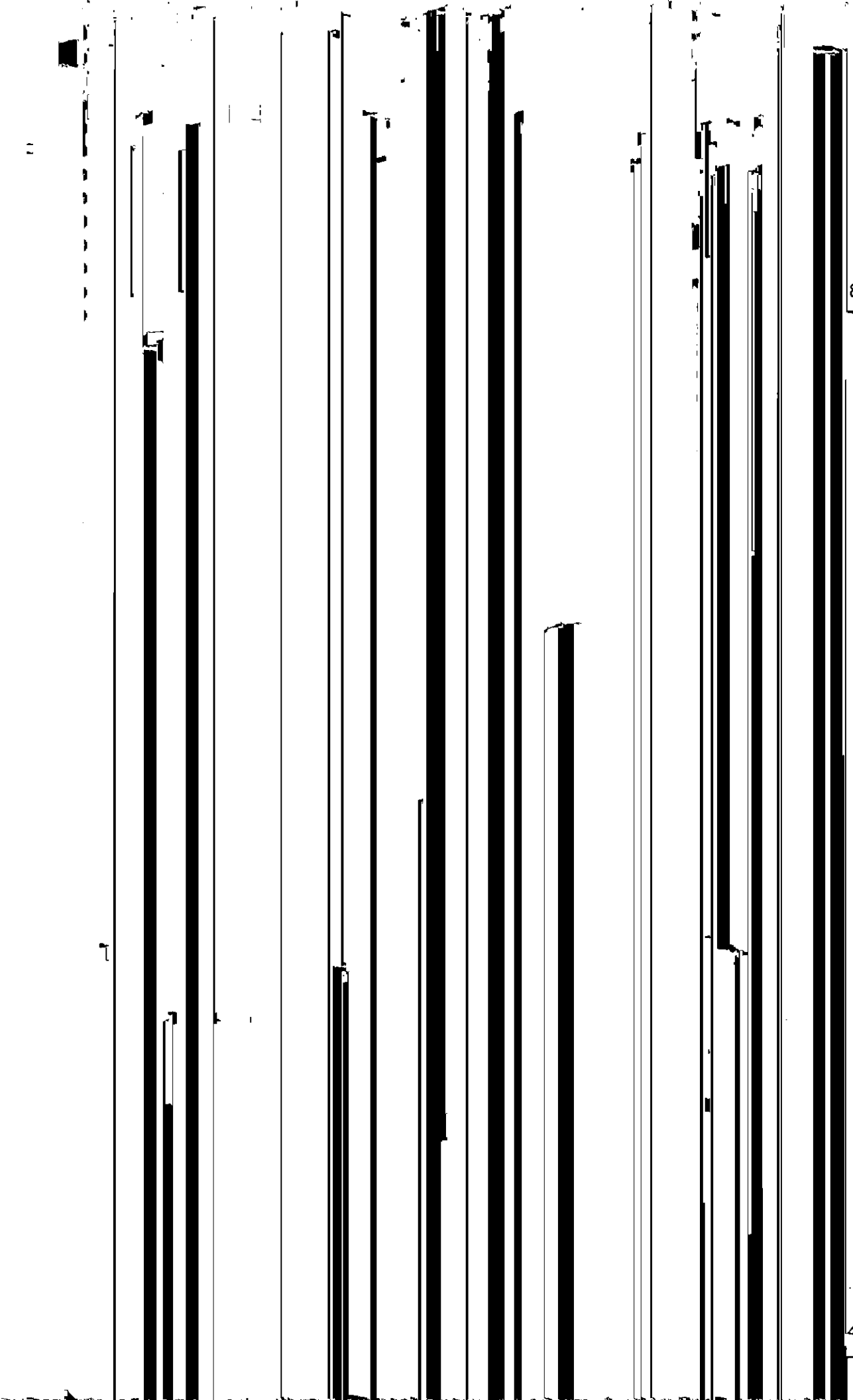
X: (714) 894-7501



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RPD CL	Qualifiers
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Calscience Environmental Laboratories, Inc.

GLOSSARY OF TERMS AND QUALIFIERS

Work Order Number: 98-05-0515

Qualifier	Definition
ND	Not detected at indicated reporting limit.

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5494 • FAX: (714) 894-7501

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X: (714) 894-750

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ANALYTICAL REPORT

EPA TO-14 Full List

RADIAN International, LLC
Low Vacuum Pulse Testing

er:	98-05-0768		
	980529	Date Collected:	05/27/98
	Air	Date Received:	05/28/98
	N/A	Date Prepared:	N/A
	EPA TO-14	Date Analyzed:	05/29/98

mber: **LM98-05-006**
er: 98-05-0768-1

	Result	RL	Qualifiers	Units
	ND	0.9		ppb (v/v)
	ND	0.9		ppb (v/v)
	ND	0.9		ppb (v/v)
	ND	0.9		ppb (v/v)
	ND	1.9		ppb (v/v)
	ND	0.9		ppb (v/v)
	ND	1.9		ppb (v/v)
pethane	ND	0.9		ppb (v/v)
	ND	0.9		ppb (v/v)
	ND	0.9		ppb (v/v)
nzene	ND	0.9		ppb (v/v)
nzene	ND	0.9		ppb (v/v)
	ND	0.9		ppb (v/v)
ne	ND	0.9		ppb (v/v)
ne	ND	0.9		ppb (v/v)
ne	ND	0.9		ppb (v/v)
zene	ND	0.9		ppb (v/v)
tadiene	ND	0.9		ppb (v/v)

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

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ollected:	N/A
Received:	N/A
Prepared:	N/A
Analyzed:	05/29/98

RL	Qualifiers	Units
.5		ppb (v/v)
.5		ppb (v/v)
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.5		ppb (v/v)
.5		ppb (v/v)
.5		ppb (v/v)
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0		ppb (v/v)
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5		ppb (v/v)
5		ppb (v/v)

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Calscience Environmental Laboratories, Inc.

ANALYTICAL REPORT
EPA TO-14 Full List

Client Name:	RADIAN International, LLC		
Project ID:	Low Vacuum Pulse Testing		
Work Order Number:	98-05-0768		
QC Batch ID:	980529	Date Collected:	N/A
Matrix:	Air	Date Received:	N/A
Preparation:	N/A	Date Prepared:	N/A
Method:	EPA TO-14	Date Analyzed:	05/29/98

Client Sample Number: **Method Blank**
Lab Sample Number: 095-01-021-447

Parameter	Result	RL	Qualifiers	Units
Trichloroethene	ND	0.5		ppb (v/v)
Tetrachloroethene	ND	0.5		ppb (v/v)
Chlorobenzene	ND	0.5		ppb (v/v)
Ethylbenzene	ND	0.5		ppb (v/v)
p/m-Xylene	ND	1.0		ppb (v/v)
Bromoform	ND	0.5		ppb (v/v)
Styrene	ND	1.0		ppb (v/v)
1,1,2,2-Tetrachloroethane	ND	0.5		ppb (v/v)
o-Xylene	ND	0.5		ppb (v/v)
4-Ethyltoluene	ND	0.5		ppb (v/v)
1,3,5-Trimethylbenzene	ND	0.5		ppb (v/v)
1,2,4-Trimethylbenzene	ND	0.5		ppb (v/v)
Benzyl Chloride	ND	0.5		ppb (v/v)
1,3-Dichlorobenzene	ND	0.5		ppb (v/v)
1,4-Dichlorobenzene	ND	0.5		ppb (v/v)
1,2-Dichlorobenzene	ND	0.5		ppb (v/v)
1,2,4-Trichlorobenzene	ND	0.5		ppb (v/v)
Hexachloro-1,3-Butadiene	ND	0.5		ppb (v/v)

lity Control - LCS/LCS Duplicate

EPA TO-14 Full List

Instrument: GC/MS E
Date Extracted: N/A
Date Analyzed: 05/29/98

%REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
99	96	60-140	3	0-30	
100	101	60-140	0	0-30	
101	100	60-140	0	0-30	
108	107	60-140	0	0-30	
83	85	60-140	2	0-30	
81	83	60-140	2	0-30	
92	92	60-140	0	0-30	
94	94	60-140	0	0-30	
96	96	60-140	0	0-30	
100	99	60-140	1	0-30	
96	94	60-140	2	0-30	
102	90	60-140	12	0-30	
97	86	60-140	12	0-30	

UALIFIERS

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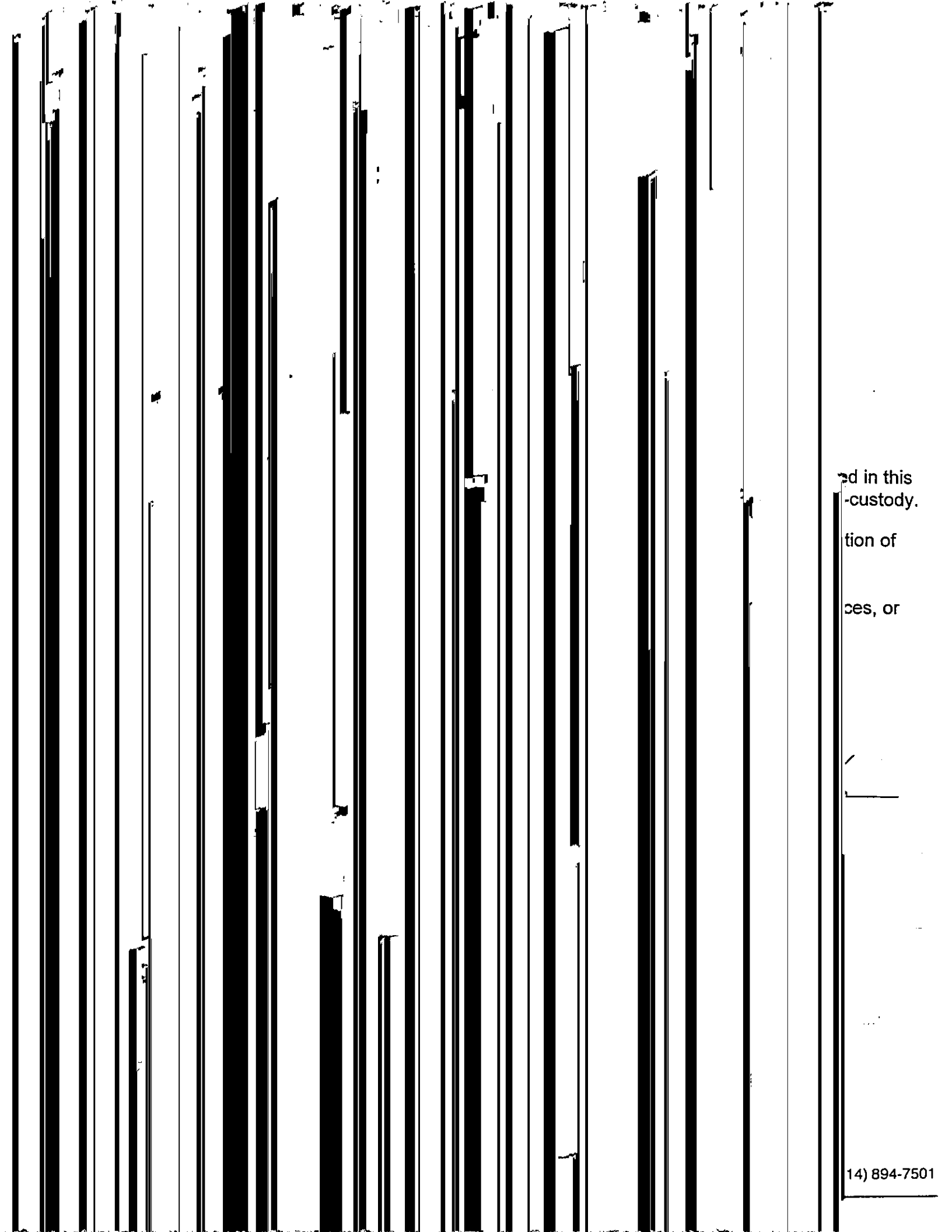

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ared:	N/A
zed:	06/05/98

Qualifiers	Units
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(714) 894-7501

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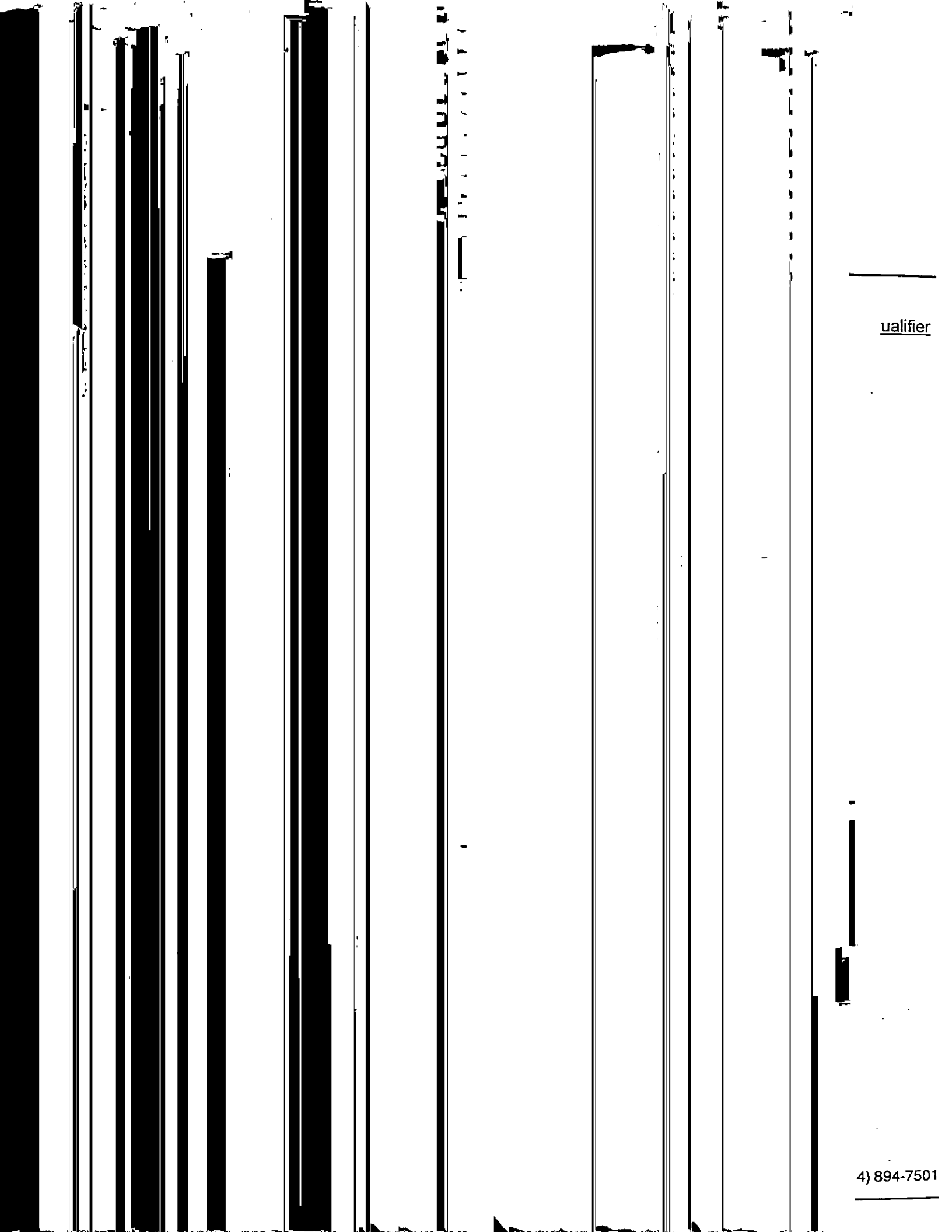
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boratories, Inc.

GLOSSARY OF TERMS AND QUALIFIERS

rk Order Number: 98-06-0159

Qualifier	Definition
ND	Not detected at indicated reporting limit.

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

98-06-0317
Lockheed

erenced project. The samples included in this
ccordance with the attached chain-of-custody.

he samples tested, and any reproduction of

equire sampling supplies or field services, or
free to call me at (714) 895-5494.

Steven L. Lane
Laboratory Director

41-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

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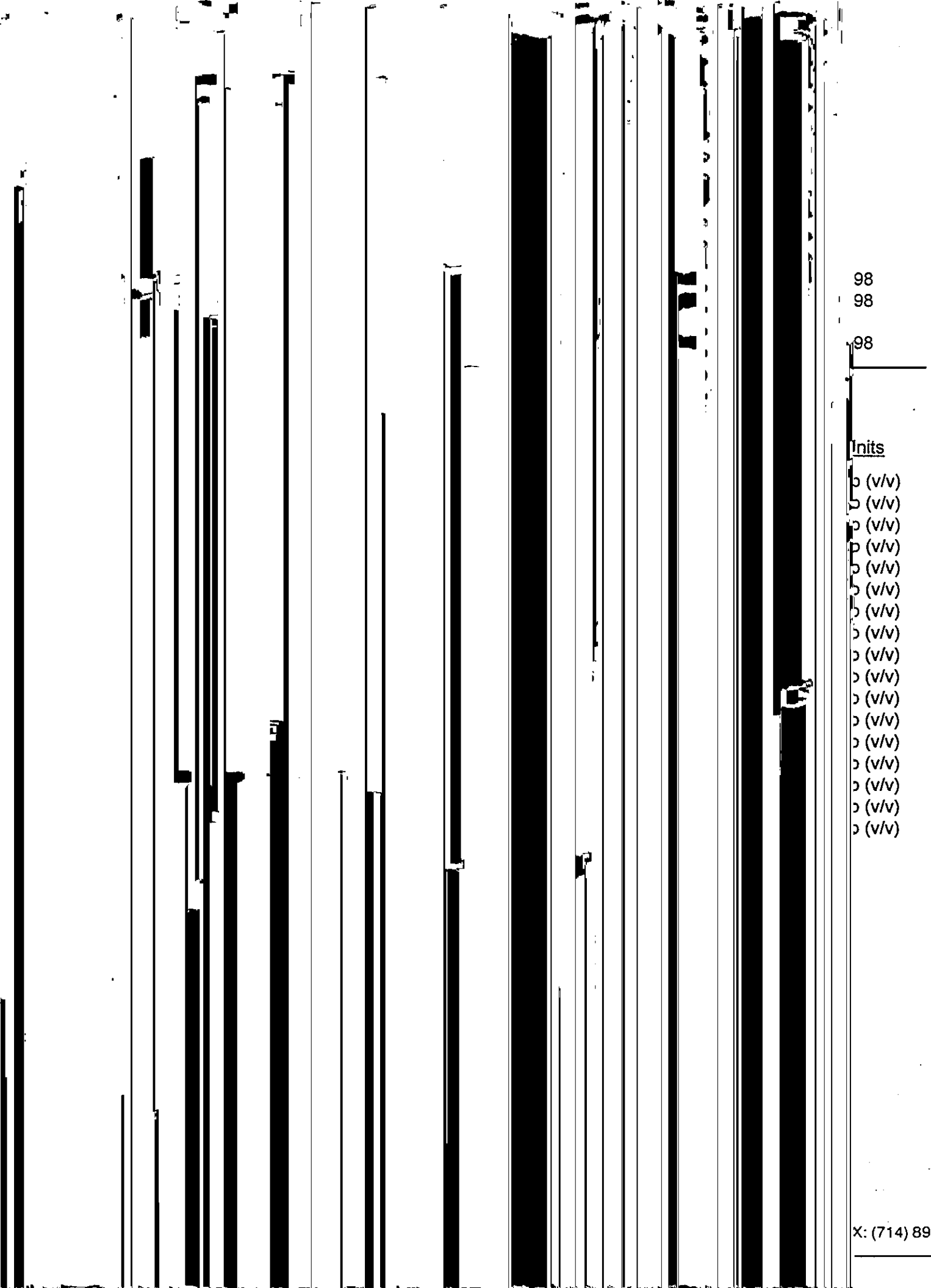
: (714) 894-7501



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X: (714) 894-7501

L REPORT

Full List

Date Collected:	06/10/98
Date Received:	06/11/98
Date Prepared:	N/A
Date Analyzed:	06/11/98

RL	Qualifiers	Units
1.3		ppb (v/v)
1.3		ppb (v/v)
5.2		ppb (v/v)
1.3		ppb (v/v)
1.3		ppb (v/v)
1.3		ppb (v/v)
2.6		ppb (v/v)
1.3		ppb (v/v)
2.6		ppb (v/v)
1.3		ppb (v/v)
5.2		ppb (v/v)
2.6		ppb (v/v)
1.3		ppb (v/v)
1.3		ppb (v/v)
1.3		ppb (v/v)
2.6		ppb (v/v)
2.6		ppb (v/v)
1.3		ppb (v/v)
1.3		ppb (v/v)
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1.3		ppb (v/v)
2.6		ppb (v/v)
1.3		ppb (v/v)
1.3		ppb (v/v)
1.3		ppb (v/v)
1.3		ppb (v/v)
2.6		ppb (v/v)
2.6		ppb (v/v)
1.3		ppb (v/v)
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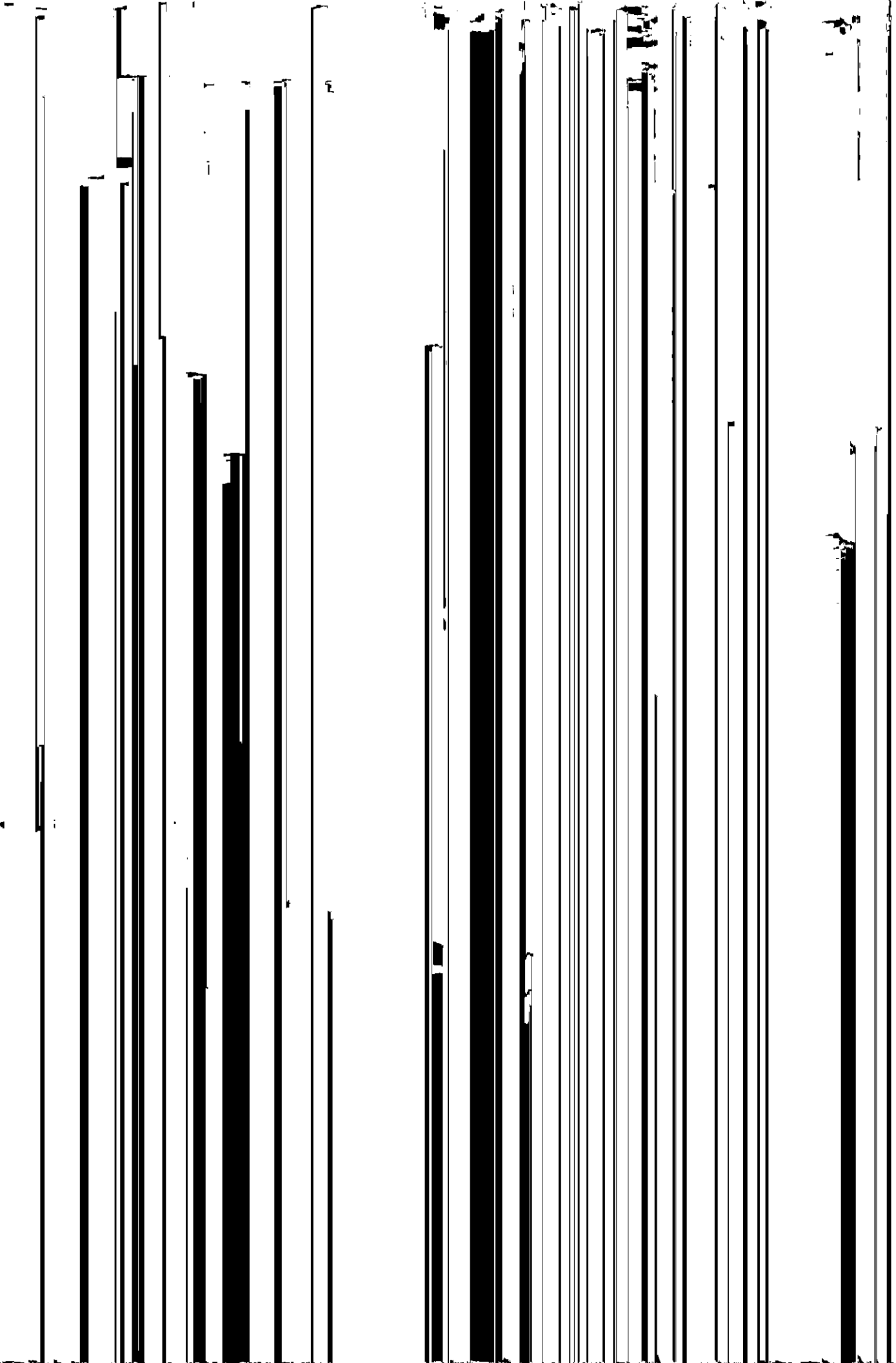

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Units

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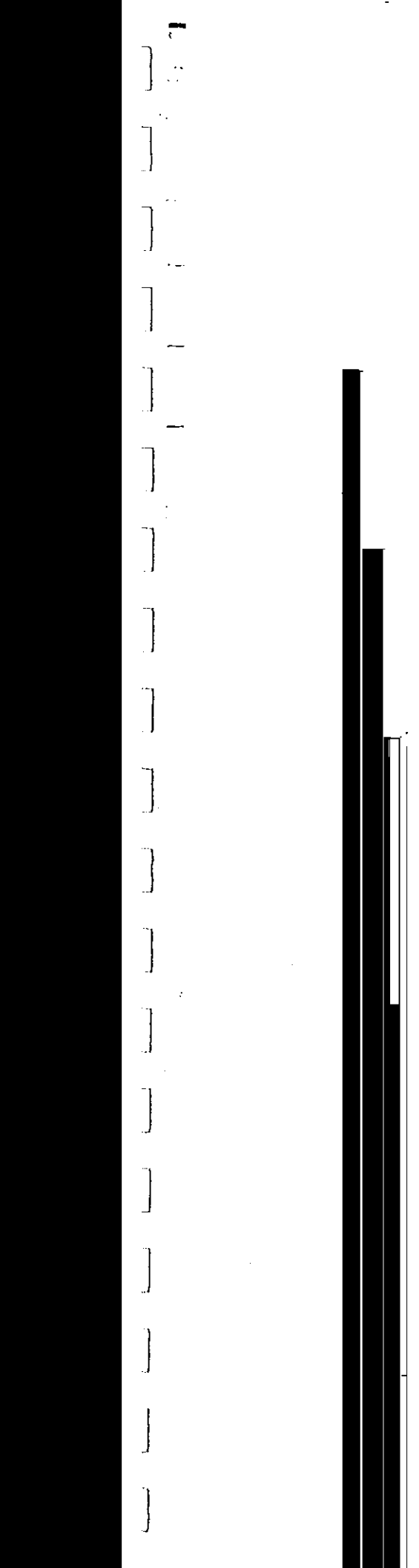
FAX: (714) 894-7501

LCS/LCS Duplicate

-14 Full List

Instrument: GC/MS E
Date Extracted: N/A
Date Analyzed: 06/11/98

%REC	%REC CL	RPD	RPD CL	Qualifiers
)	60-140	6	0-30	
2	60-140	6	0-30	
3	60-140	2	0-30	
5	60-140	4	0-30	
2	60-140	1	0-30	
0	60-140	1	0-30	
3	60-140	0	0-30	
3	60-140	0	0-30	
6	60-140	0	0-30	
'	60-140	3	0-30	
3	60-140	2	0-30	
3	60-140	4	0-30	
6	60-140	2	0-30	



, *Inc.*

l, LLC
venue, Suite 100

ice Work Order Number: **98-07-0344**
eference: **Low Vacuum Pulse Testing Unit 8**

ical report for the above-referenced project. The samples included in this 07/16/98 and analyzed in accordance with the attached chain-of-custody.

alytical report are limited to the samples tested, and any reproduction of ade in its entirety.

ions regarding this report, require sampling supplies or field services, or alytical services, please feel free to call me at (714) 895-5494.

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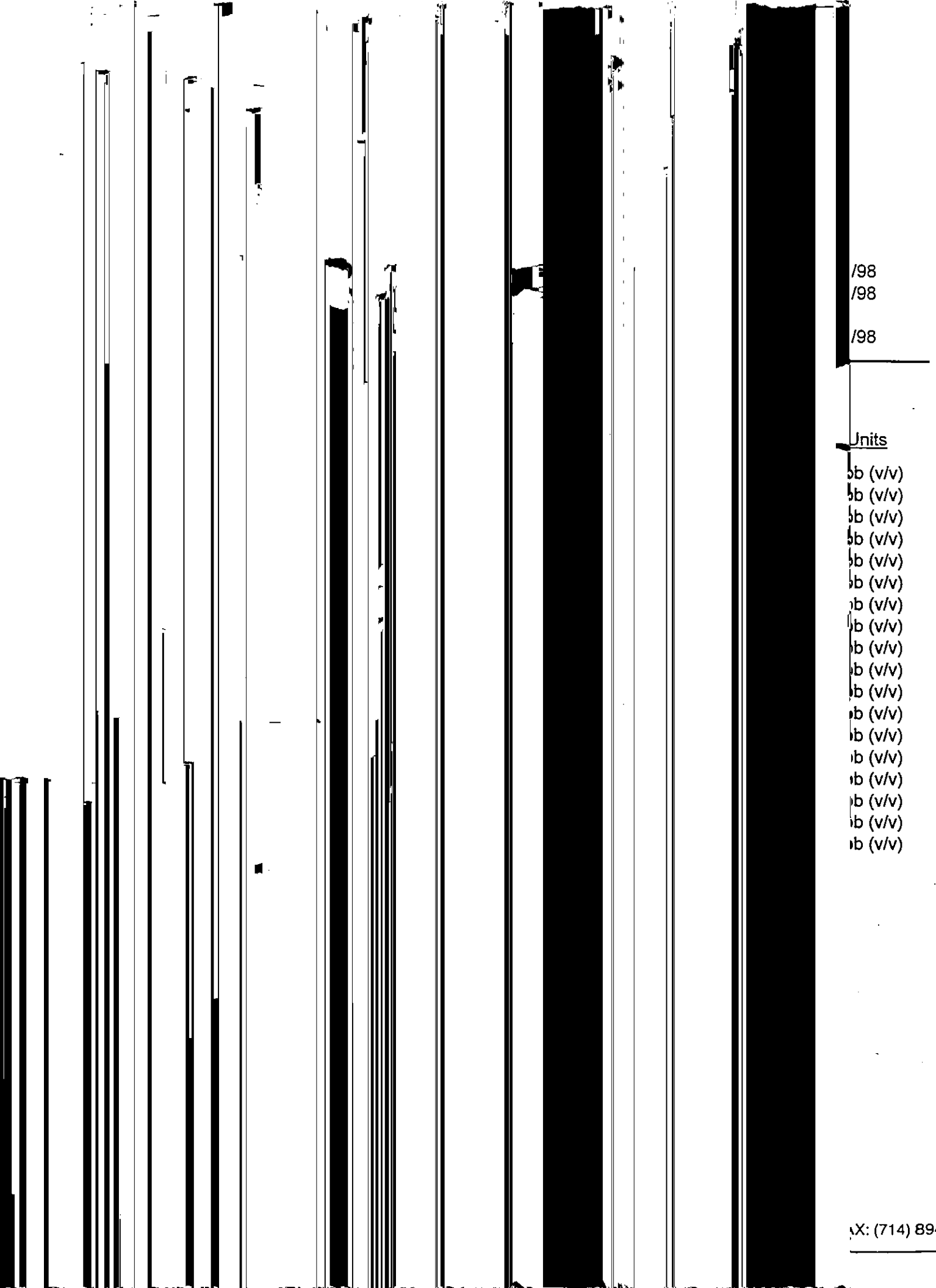
Steven L. Lane
Laboratory Director

ALYTICAL REPORT
EPA TO-14 Full List

LC
iting Unit 8

Date Collected:	07/15/98
Date Received:	07/16/98
Date Prepared:	N/A
Date Analyzed:	07/20/98

ult	RL	Qualifiers	Units
ND	0.9		ppb (v/v)
ND	0.9		ppb (v/v)
ND	3.5		ppb (v/v)
ND	0.9		ppb (v/v)
ND	1.7		ppb (v/v)
ND	0.9		ppb (v/v)
ND	0.9		ppb (v/v)
35	17		ppb (v/v)
ND	0.9		ppb (v/v)
91	17		ppb (v/v)
03	9		ppb (v/v)
ND	3.5		ppb (v/v)
ND	1.7		ppb (v/v)
ND	0.9		ppb (v/v)
ND	0.9		ppb (v/v)
.3	0.9		ppb (v/v)
ND	1.7		ppb (v/v)
.1	1.7		ppb (v/v)
ND	0.9		ppb (v/v)
ND	0.9		ppb (v/v)
.4	0.9		ppb (v/v)
.0	0.9		ppb (v/v)
ND	0.9		ppb (v/v)
.3	0.9		ppb (v/v)
ND	0.9		ppb (v/v)
.4	0.9		ppb (v/v)
ND	1.7		ppb (v/v)
ND	0.9		ppb (v/v)
ND	0.9		ppb (v/v)
ND	0.9		ppb (v/v)
ND	0.9		ppb (v/v)
ND	1.7		ppb (v/v)
ND	1.7		ppb (v/v)
ID	0.9		ppb (v/v)



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Units

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b (v/v)
b (v/v)
b (v/v)

X: (714) 894-7501

ALYTICAL REPORT

EPA TO-14 Full List

LLC
sting Unit 8

Date Collected:	N/A
Date Received:	N/A
Date Prepared:	N/A
Date Analyzed:	07/20/98

sult	RL	Qualifiers	Units
ND	0.5		ppb (v/v)
ND	0.5		ppb (v/v)
ND	2.0		ppb (v/v)
ND	0.5		ppb (v/v)
ND	1.0		ppb (v/v)
ND	0.5		ppb (v/v)
ND	0.5		ppb (v/v)
ND	1.0		ppb (v/v)
ND	0.5		ppb (v/v)
ND	1.0		ppb (v/v)
ND	0.5		ppb (v/v)
ND	2.0		ppb (v/v)
ND	1.0		ppb (v/v)
ND	0.5		ppb (v/v)
ND	0.5		ppb (v/v)
ND	0.5		ppb (v/v)
ND	1.0		ppb (v/v)
ND	1.0		ppb (v/v)
ND	0.5		ppb (v/v)
ND	0.5		ppb (v/v)
ND	0.5		ppb (v/v)
ND	0.5		ppb (v/v)
ND	0.5		ppb (v/v)
ND	0.5		ppb (v/v)
ND	0.5		ppb (v/v)
ND	0.5		ppb (v/v)
ND	1.0		ppb (v/v)
ND	0.5		ppb (v/v)
ND	0.5		ppb (v/v)
ND	0.5		ppb (v/v)
ND	0.5		ppb (v/v)
ND	1.0		ppb (v/v)
ND	1.0		ppb (v/v)
ND	0.5		ppb (v/v)

ALYTICAL REPORT

EPA TO-14 Full List

LC
ting Unit 8

Date Collected:	N/A
Date Received:	N/A
Date Prepared:	N/A
Date Analyzed:	07/20/98

ult	RL	Qualifiers	Units
D	0.5		ppb (v/v)
D	0.5		ppb (v/v)
D	0.5		ppb (v/v)
D	0.5		ppb (v/v)
D	0.5		ppb (v/v)
D	0.5		ppb (v/v)
D	1.0		ppb (v/v)
D	0.5		ppb (v/v)
D	1.5		ppb (v/v)
D	0.5		ppb (v/v)
D	0.5		ppb (v/v)
D	0.5		ppb (v/v)
D	0.5		ppb (v/v)
D	0.5		ppb (v/v)
D	0.5		ppb (v/v)
D	0.5		ppb (v/v)
D	0.5		ppb (v/v)
D	0.5		ppb (v/v)

- LCS/LCS Duplicate

O-14 Full List

Instrument: GC/MS E
Date Extracted: N/A
Date Analyzed: 07/20/98

%REC	%REC CL	RPD	RPD CL	Qualifiers
98	60-140	28	0-30	
91	60-140	28	0-30	
88	60-140	22	0-30	
92	60-140	13	0-30	
94	60-140	17	0-30	
78	60-140	8	0-30	
82	60-140	4	0-30	
79	60-140	19	0-30	
77	60-140	6	0-30	
79	60-140	22	0-30	
74	60-140	21	0-30	
84	60-140	12	0-30	
83	60-140	6	0-30	

Calscience Environmental Laboratories, Inc.

GLOSSARY OF TERMS AND QUALIFIERS

Work Order Number: 98-07-0344

Qualifier	Definition
ND	Not detected at indicated reporting limit.

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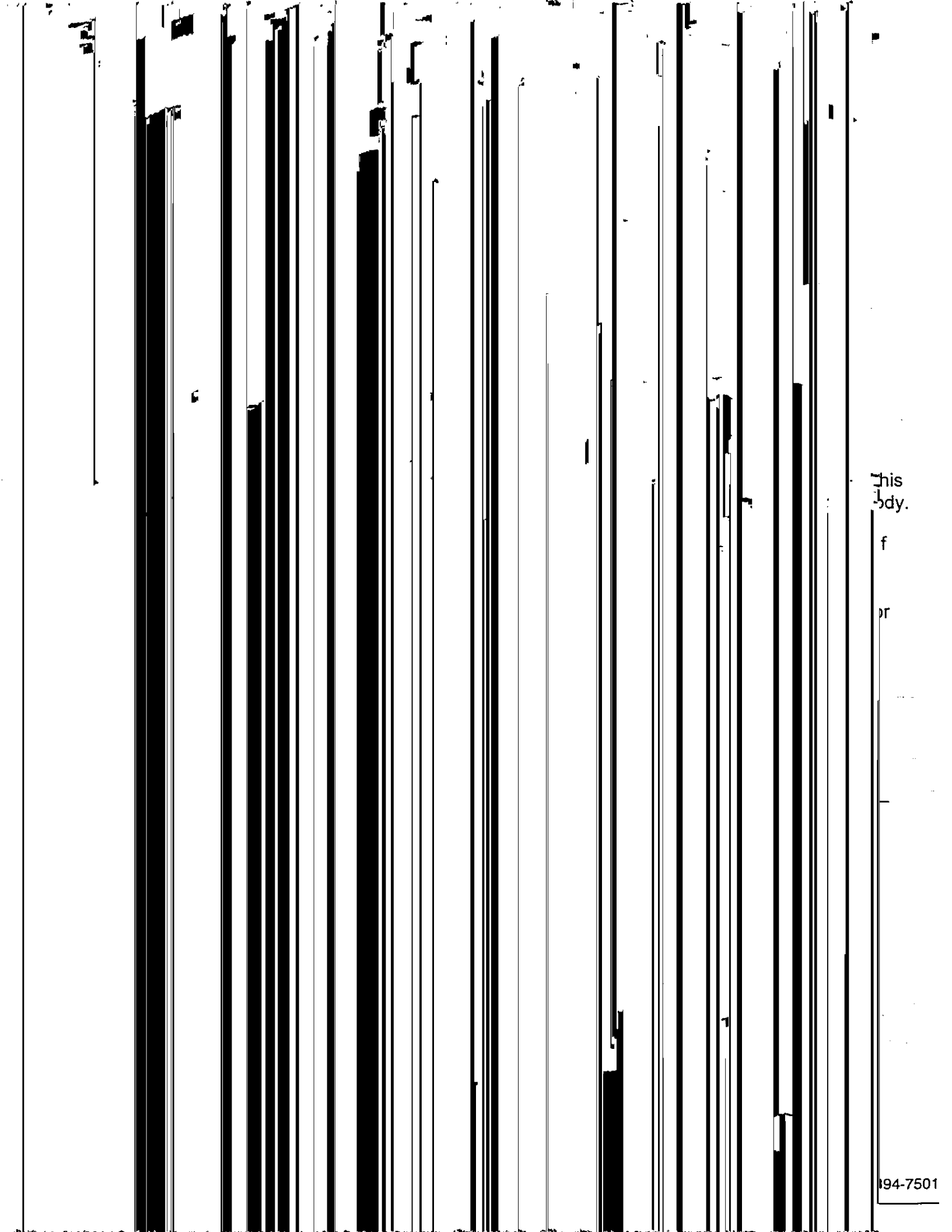

98
98
98

nits

(v/v)
(v/v)
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: (714) 894-7501

[redacted]

9/98
0/98

5/98

Units

pb (v/v)
pb (v/v)
pb (v/v)
pb (v/v)
pb (v/v)
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ce
nmental
oratories, Inc.

ANALYTICAL REPORT
EPA TO-14 Full List

RADIAN International, LLC
Vapor Pulse Test/67515815.1000

ber:	98-07-0761		
	980805A	Date Collected:	07/29/98
	Air	Date Received:	07/30/98
	N/A	Date Prepared:	N/A
	EPA TO-14	Date Analyzed:	08/05/98

umber: **LM98-07-003**
ıber: 98-07-0761-2

	Result	RL	Qualifiers	Units
nethane	ND	1.8		ppb (v/v)
	ND	1.8		ppb (v/v)
2,2-Tetrafluoroethane	ND	7.4		ppb (v/v)
	ND	1.8		ppb (v/v)
	ND	1.8		ppb (v/v)
	ND	1.8		ppb (v/v)
	ND	3.7		ppb (v/v)
ethane	ND	1.8		ppb (v/v)
	7.2	3.7		ppb (v/v)
ne	247	1.8		ppb (v/v)
ide	ND	7.4		ppb (v/v)
,2,2-Trifluoroethane	7.0	3.7		ppb (v/v)
	ND	1.8		ppb (v/v)
nene	ND	1.8		ppb (v/v)
ıne	ND	1.8		ppb (v/v)
	ND	3.7		ppb (v/v)
	4.3	3.7		ppb (v/v)
hene	ND	1.8		ppb (v/v)
	ND	1.8		ppb (v/v)
ıne	ND	1.8		ppb (v/v)
thane	30.8	1.8		ppb (v/v)
	ND	1.8		ppb (v/v)
oride	ND	1.8		ppb (v/v)
ɔane	ND	1.8		ppb (v/v)
ıethane	ND	1.8		ppb (v/v)
nyl Ether	ND	3.7		ppb (v/v)
opene	ND	1.8		ppb (v/v)
ɔpene	ND	1.8		ppb (v/v)
thane	ND	1.8		ppb (v/v)
	ND	1.8		ppb (v/v)
	ND	3.7		ppb (v/v)
anone	ND	3.7		ppb (v/v)
ıethane	ND	1.8		ppb (v/v)

cience
vironmental
aboratories, Inc.

ANALYTICAL REPORT
EPA TO-14 Full List

e:	RADIAN International, LLC Vapor Pulse Test/67515815.1000		
Number:	98-07-0761		
D:	980805A	Date Collected:	07/29/98
	Air	Date Received:	07/30/98
:	N/A	Date Prepared:	N/A
	EPA TO-14	Date Analyzed:	08/05/98

ple Number: **LM98-07-004**
e Number: 98-07-0761-3

	Result	RL	Qualifiers	Units
luoromethane	ND	1.9		ppb (v/v)
nane	ND	1.9		ppb (v/v)
o-1,1,2,2-Tetrafluoroethane	ND	7.6		ppb (v/v)
ide	ND	1.9		ppb (v/v)
nane	ND	1.9		ppb (v/v)
ne	ND	1.9		ppb (v/v)
	ND	3.8		ppb (v/v)
oromethane	ND	1.9		ppb (v/v)
	13.0	3.8		ppb (v/v)
oethene	479	1.9	E	ppb (v/v)
Chloride	ND	7.6		ppb (v/v)
loro-1,2,2-Trifluoroethane	9.4	3.8		ppb (v/v)
ulfide	ND	1.9		ppb (v/v)
roethene	ND	1.9		ppb (v/v)
oethane	5.8	1.9		ppb (v/v)
te	ND	3.8		ppb (v/v)
e	12.9	3.8		ppb (v/v)
proethene	2.0	1.9		ppb (v/v)
	ND	1.9		ppb (v/v)
oethane	14.0	1.9		ppb (v/v)
loroethane	570	1.9	E	ppb (v/v)
	ND	1.9		ppb (v/v)
trachloride	ND	1.9		ppb (v/v)
opropane	ND	1.9		ppb (v/v)
loromethane	ND	1.9		ppb (v/v)
nyl Vinyl Ether	ND	3.8		ppb (v/v)
oropropene	ND	1.9		ppb (v/v)
ropropene	ND	1.9		ppb (v/v)
loroethane	38.8	1.9		ppb (v/v)
	ND	1.9		ppb (v/v)
e	ND	3.8		ppb (v/v)
-Pentanone	ND	3.8		ppb (v/v)
loromethane	ND	1.9		ppb (v/v)

LYTICAL REPORT

PA TO-14 Full List

C

15.1000

Date Collected:	07/29/98
Date Received:	07/30/98
Date Prepared:	N/A
Date Analyzed:	08/05/98

RL	Qualifiers	Units
1.9		ppb (v/v)
1.9		ppb (v/v)
1.9		ppb (v/v)
1.9		ppb (v/v)
1.9		ppb (v/v)
1.9		ppb (v/v)
3.8		ppb (v/v)
1.9		ppb (v/v)
5.7		ppb (v/v)
1.9		ppb (v/v)
1.9		ppb (v/v)
1.9		ppb (v/v)
1.9		ppb (v/v)
1.9		ppb (v/v)
1.9		ppb (v/v)
1.9		ppb (v/v)
1.9		ppb (v/v)
1.9		ppb (v/v)

A 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

RT

cted:	07/29/98
ived:	07/30/98
ared:	N/A
zed:	08/05/98

Qualifiers	Units
	ppb (v/v)
	ppb (v/v)
	ppb (v/v)
	ppb (v/v)
	ppb (v/v)
	ppb (v/v)
	ppb (v/v)
	ppb (v/v)
	ppb (v/v)
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	ppb (v/v)
	ppb (v/v)
	ppb (v/v)
	ppb (v/v)

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ANALYTICAL REPORT

EPA TO-14 Full List

nternational, LLC
se Test/67515815.1000
1

Date Collected:	07/29/98
Date Received:	07/30/98
Date Prepared:	N/A
4 Date Analyzed:	08/05/98

-005
61-4

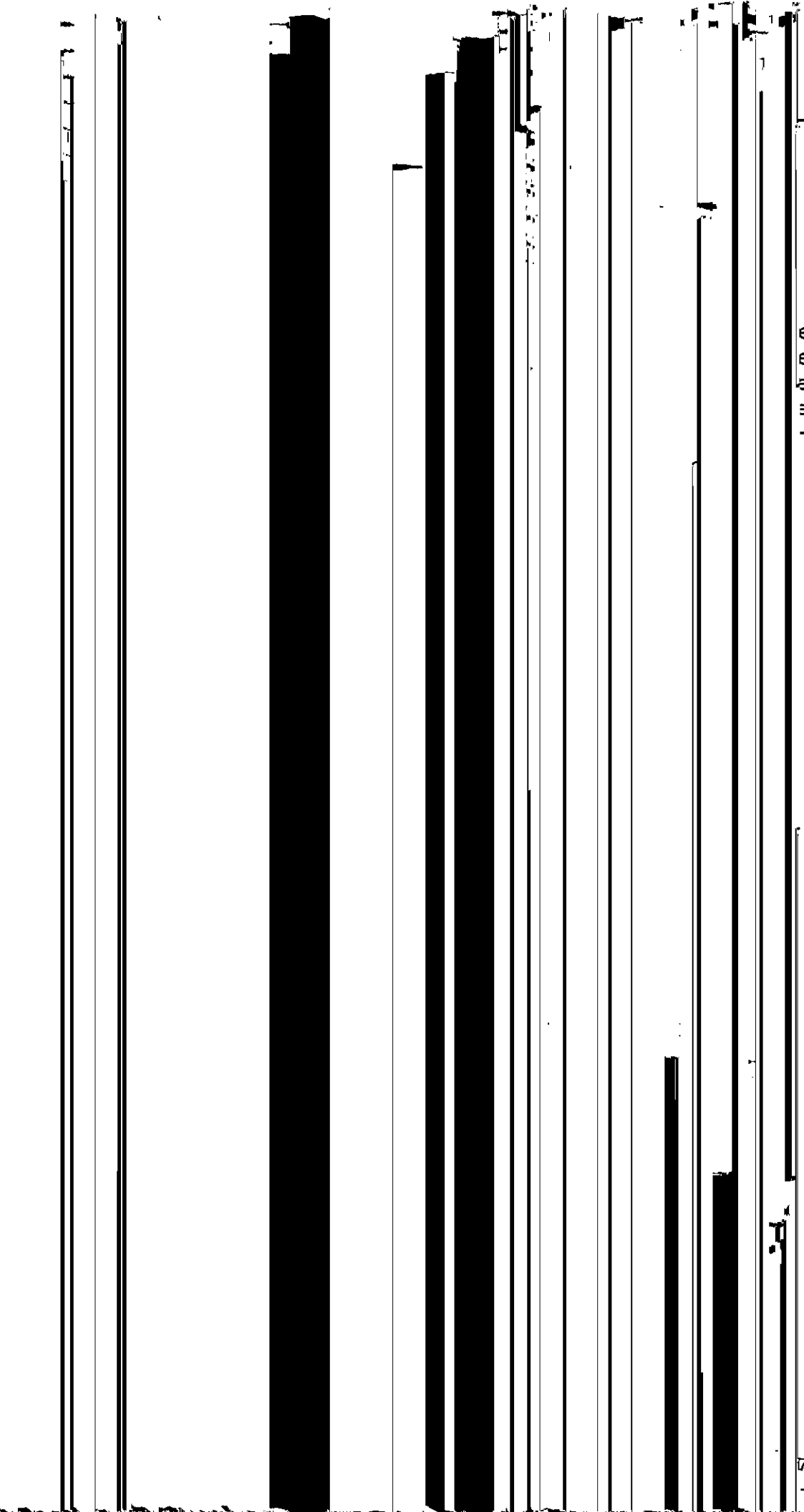
Result	RL	Qualifiers	Units
ND	2.2		ppb (v/v)
ND	2.2		ppb (v/v)
ND	2.2		ppb (v/v)
ND	2.2		ppb (v/v)
ND	2.2		ppb (v/v)
ND	2.2		ppb (v/v)
ND	4.3		ppb (v/v)
ND	2.2		ppb (v/v)
ND	6.4		ppb (v/v)
ND	2.2		ppb (v/v)
ND	2.2		ppb (v/v)
ND	2.2		ppb (v/v)
ND	2.2		ppb (v/v)
ND	2.2		ppb (v/v)
ND	2.2		ppb (v/v)
ND	2.2		ppb (v/v)
ND	2.2		ppb (v/v)
ND	2.2		ppb (v/v)

L REPORT

Full List

Date Collected:	N/A
Date Received:	N/A
Date Prepared:	N/A
Date Analyzed:	08/05/98

RL	Qualifiers	Units
0.5		ppb (v/v)
0.5		ppb (v/v)
2.0		ppb (v/v)
0.5		ppb (v/v)
1.0		ppb (v/v)
0.5		ppb (v/v)
0.5		ppb (v/v)
1.0		ppb (v/v)
0.5		ppb (v/v)
1.0		ppb (v/v)
0.5		ppb (v/v)
2.0		ppb (v/v)
1.0		ppb (v/v)
0.5		ppb (v/v)
0.5		ppb (v/v)
0.5		ppb (v/v)
1.0		ppb (v/v)
1.0		ppb (v/v)
0.5		ppb (v/v)
0.5		ppb (v/v)
0.5		ppb (v/v)
0.5		ppb (v/v)
0.5		ppb (v/v)
0.5		ppb (v/v)
0.5		ppb (v/v)
0.5		ppb (v/v)
1.0		ppb (v/v)
0.5		ppb (v/v)
0.5		ppb (v/v)
0.5		ppb (v/v)
0.5		ppb (v/v)
1.0		ppb (v/v)
1.0		ppb (v/v)



ed:	N/A
ed:	N/A
ed:	N/A
ed:	08/05/98

Qualifiers	Units
	ppb (v/v)
	ppb (v/v)
	ppb (v/v)
	ppb (v/v)
	ppb (v/v)
	ppb (v/v)
	ppb (v/v)
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	ppb (v/v)
	ppb (v/v)
	ppb (v/v)

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licate

GC/MS E
N/A
08/05/98

RPD	RPD CL	Qualifiers
8	0-30	
13	0-30	
7	0-30	
10	0-30	
1	0-30	
1	0-30	
1	0-30	
1	0-30	
0	0-30	
1	0-30	
0	0-30	
1	0-30	
3	0-30	

ARY OF TERMS AND QUALIFIERS

761

ion

ntration exceeds the calibration range.
tected at indicated reporting limit.

den Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

RADIAN INTERNATIONAL LLC

Appendix B

Field Data Sheets for Mid-1998 Pulse Testing

-ing No -es

-undwat -r mea -rements recorded on

-or ext -actio -system;

-ior to -use o -VEW-11 (first well).

1.5

Vapor Well Field Sampling Results[1]
Former Burn Pit Area Low-Vacuum Extraction System Pulse Test
Lockheed Beaumont Facility No. 1

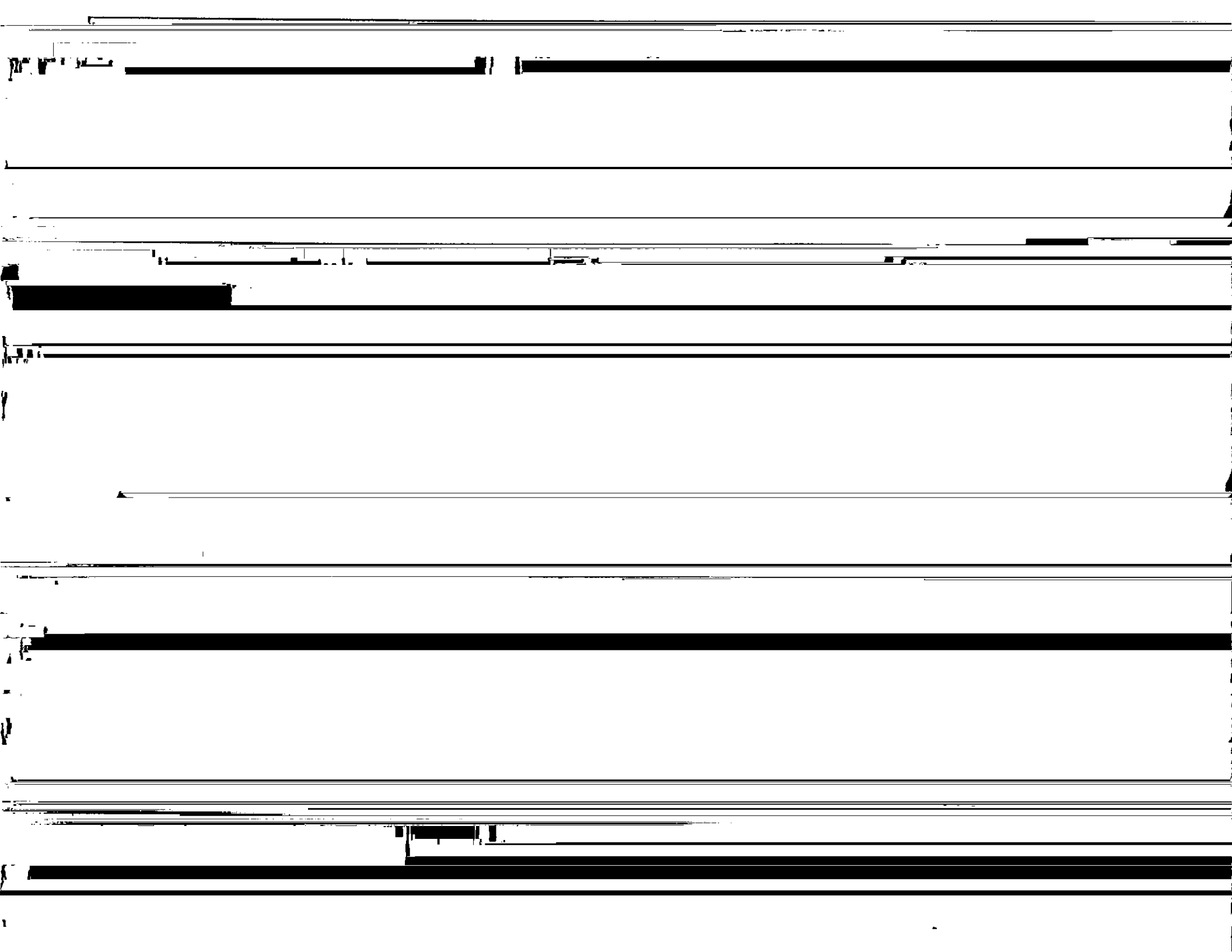
[redacted]

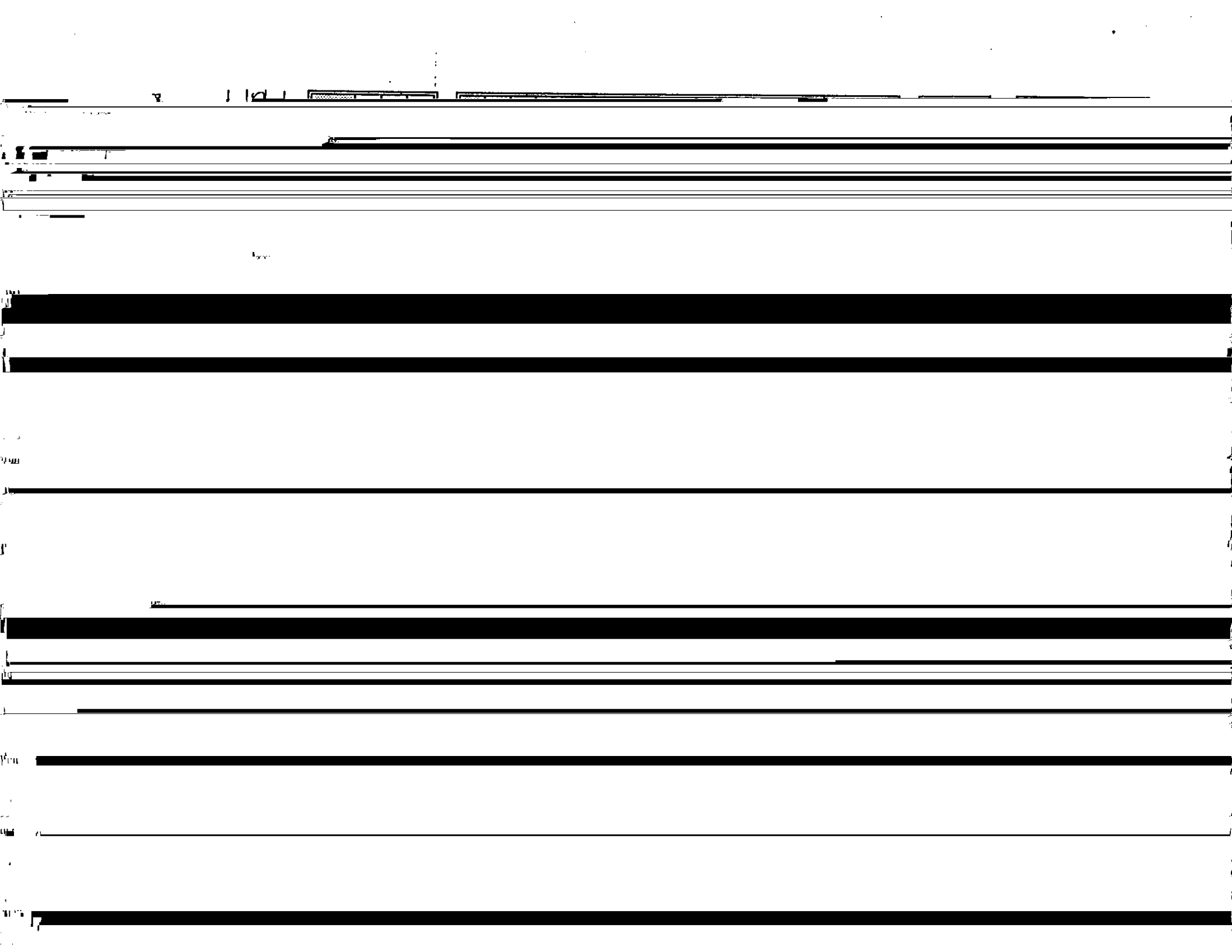
(925) [illegible]

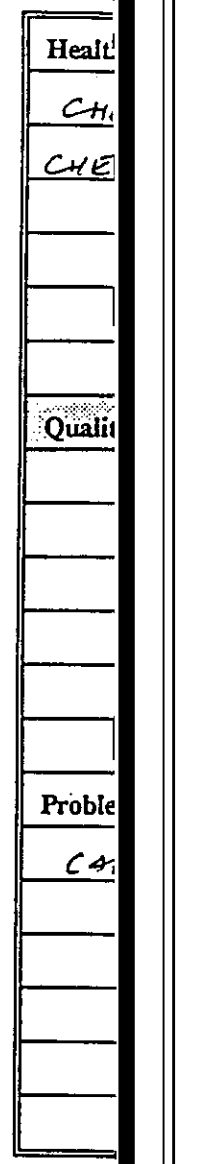
Bunker
(909) 945-7532

Vapor Well Field Sampling Results[1]
Former Burn Pit Area Low-Vacuum Extraction System Pulse Test
Lockheed Beaumont Facility No. 1

Date	VEW-6			VEW-10			VEW-11			VRW-2		
	Time	OVM (Bg/R)[2]	OVA (Bg/R)	Time	OVM (Bg/R)	OVA (Bg/R)	Time	OVM (Bg/R)	OVA (Bg/R)	Time	OVM (Bg/R)	OVA (Bg/R)
6/17/98	~~0917~~ 0915	0	10.6	0	10.2	1103	0	11.2	0	12.2	0917	0	10.6	0	10.3	[illegible]	[illegible]	[illegible]



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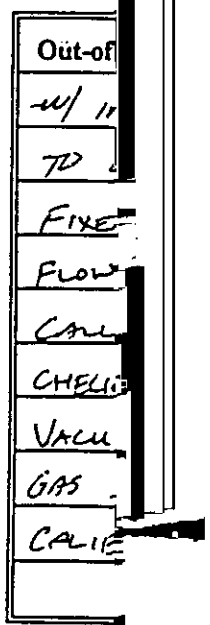
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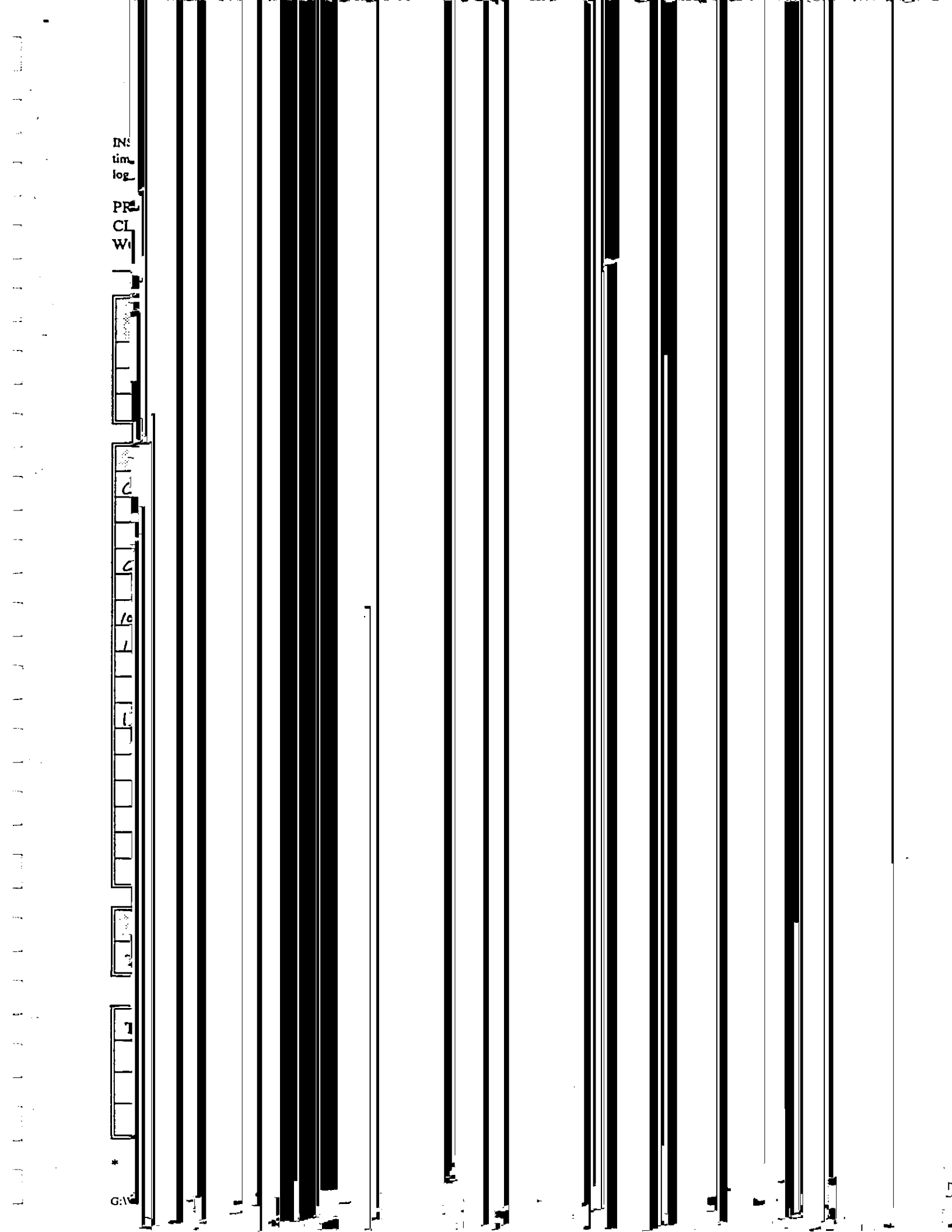

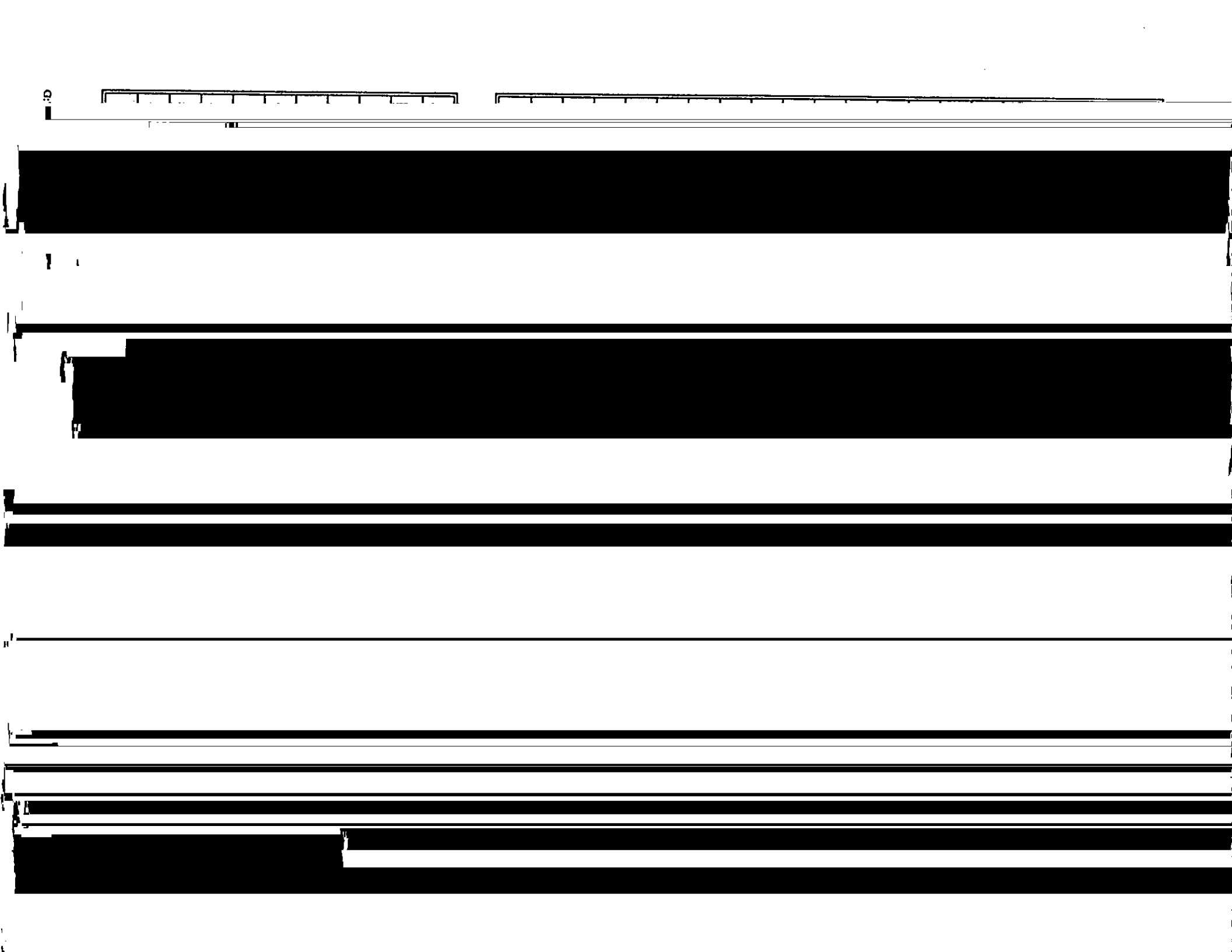

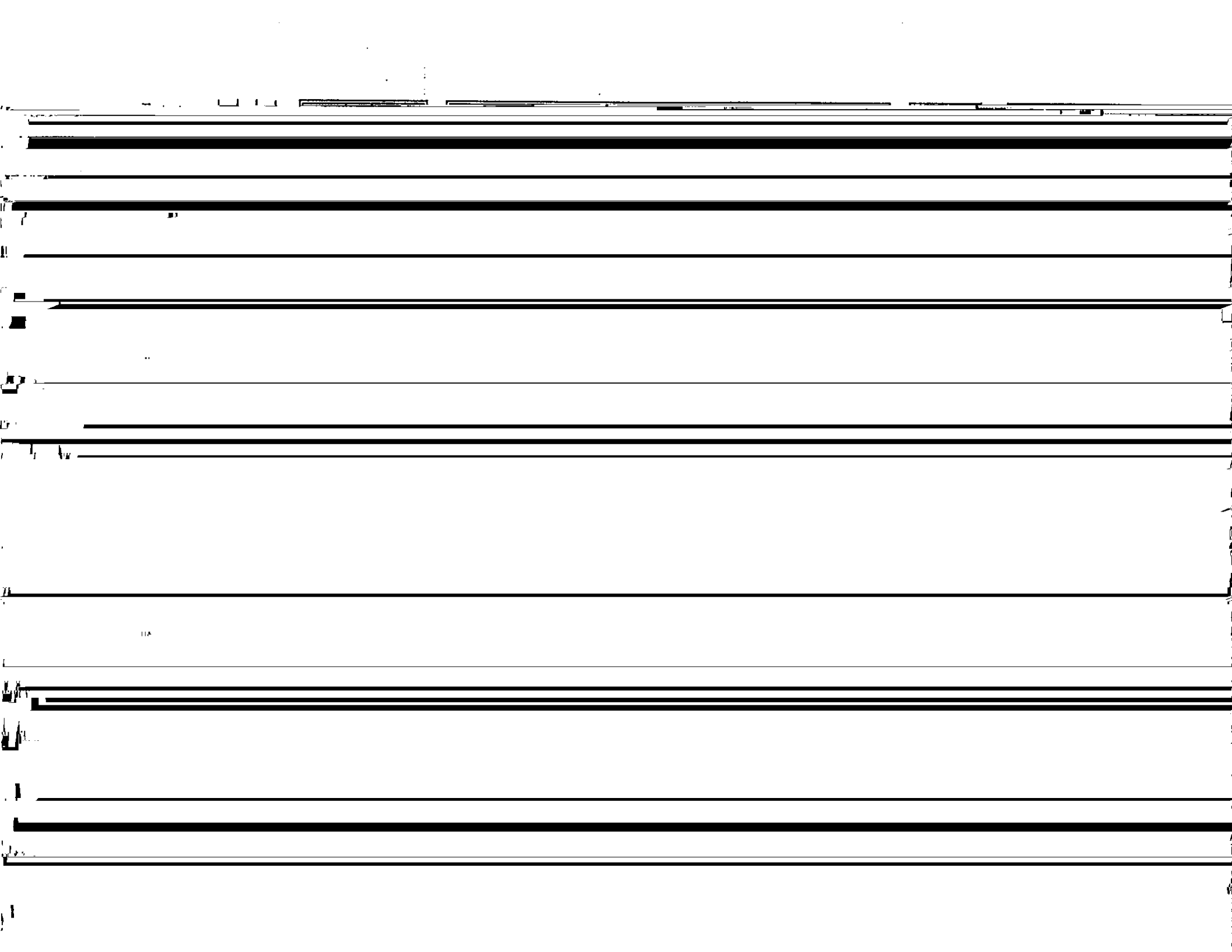

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FORM for

515815.1000
lity No. 1
ls.

Stop Time	Total Hours
1700	8

e)

Pump, etc.
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ding only
ing only.

to LAB.

Out-of-Scope*

Log other field task members' field
-IENT FORM for

~~[illegible]~~ 675758/15
)2. 1
Ē OVA READING

	Stop Time	Total Hours
	1700	8

-scope)

A READINGS
5-006 FROM VEW-11. (2)
Readings ONLY.
Readings ONLY.
READINGS ONLY.
FIRM low OVA READINGS

Out-of-Scope*

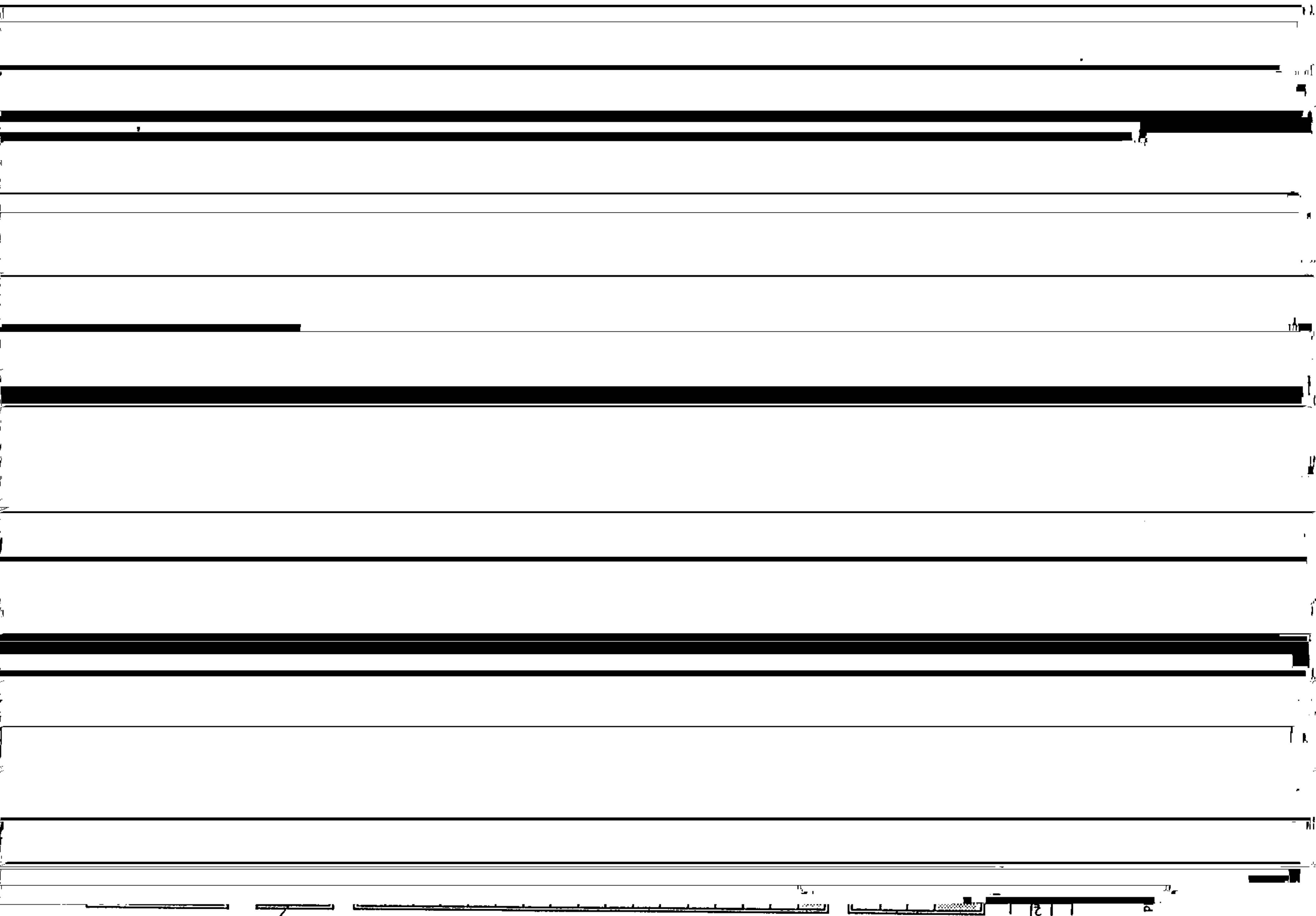
Health and Safety Levels/Acti

Quality Control Actions Taker

Problems/Corrective Action:

(1) ONA ~~Flow~~ FLAME
CALIBRATION TO
-WILL CALL
(2) NOT SURE IF 1ST C
CANISTER AND EN

Out-of-Scope Explanation:



1730-1745 Post Cal. instruments
1745- Travel to Irvine