UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
EPA HOUSTON LABORATORY
6608 HORNWOOD DRIVE
HOUSTON, TX 77074

## QA/QC COMPLIANCE REVIEW OF CONTRACT COMPLIANCE SCREENING (CCS) RESUBMITTED DATA

9831250

DATE: 4/25/88

TO: GT
C/O NANK THOMPSON (6E-SH)

CASE # 8811

SAS #

FROM: H. KREIGH (ESAT)
REGION 6

SITE NAME AR CONTER

ACTION: The reaubmitted information has no effect on the data, please incorporate into the data package.

Yes ☐ No ☑ (see comment section)

LABORATORY RESPONSE TO REGION 6 REQUEST.

COMMENT: BNA FRACTIONS WERE RE-EXTRACTED ON 3/10/88 FOR SAMPLES FB-255 AND FB-264. NO TCL COMPOUNDS WERE FOUND IN EITHER SAMPLE. (THE "U" WAS OMITTED FROM 4-NITROPHENOL ON FORM I AND SAMPLE FB-255). THE MS SURROGATE RECOVERIES WERE ACCEPTABLE IN BOTH REANALYZED SAMPLES. THE DATA ASSESSMENT FOR THOSE FRACTIONS, EXCEPT FOR NOTED ITEMS, WAS ACCEPTABLE.

4/25/88

Resubmitted Data
L.L. Westerman
04/21/88
Page 19 of 34
clw

CONTINUING CALIBRATION CHECK
SEMIVOLATILE HSL COMPOUNDS
(PAGE 1)

CASE NO: --- 8811
CONTRACTOR: ETC/TOXICON
CONTRACT NO: 68-01-7148
INSTRUMENT ID: A

REGION: --- EPA-VI

CALIBRATION DATE: 04/04/88
TIME: 07:41
LABORATORY ID: SS0404888A
INITIAL CALI. DATE: 03/11/88

MINIMUM RF FOR SPCC IS 0.050 MAXIMUM %D FOR CCC IS 25%

| COMPOUND | | AVE RF | RF(50) | % D | CCC | SPCC |
|---|---|---|---|---|---|---|
| PHENOL | | 1.878 | 2.173 | -15.7 | * | |
| BIS(2-CHLOROETHYL)ETHER | | 1.697 | 1.886 | -11.1 | | |
| 2-CHLOROPHENOL | | 1.455 | 1.433 | 1.5 | | |
| 1,3-DICHLOROBENZENE | | 1.622 | 1.467 | 9.6 | | |
| 1,4-DICHLOROBENZENE | | 1.599 | 1.448 | 9.4 | * | |
| BENZYL ALCOHOL | | 0.904 | 1.047 | -15.8 | | |
| 1,2-DICHLOROBENZENE | | 1.510 | 1.379 | 8.7 | | |
| 2-METHYLPHENOL | | 1.433 | 1.706 | -19.1 | | |
| BIS(2-CHLOROISOPROPYL)ETHER | | 1.560 | 0.021 | 98.7 | | |
| 4-METHYLPHENOL | | 1.620 | 1.825 | -12.7 | | |
| N-NITROSO-DI-N-PROPYLAMINE | | 0.898 | 1.361 | -51.6 | | * * |
| HEXACHLOROETHANE | | 0.635 | 0.661 | -4.1 | | |
| NITROBENZENE | | 0.327 | 0.424 | -29.7 | | |
| ISOPHORONE | | 0.671 | 0.875 | -30.4 | | |
| 2-NITROPHENOL | | 0.228 | 0.205 | 10.1 | * | |
| 2,4-DIMETHYLPHENOL | | 0.327 | 0.331 | -1.2 | | |
| BENZOIC ACID | X | 0.227 | 0.167 | 26.4 | | |
| BIS(2-CHLOROETHOXY)METHANE | | 0.489 | 0.557 | -13.9 | | |
| 2,4-DICHLOROPHENOL | | 0.269 | 0.243 | 15.9 | * | |
| 1,2,4-TRICHLOROBENZENE | | 0.300 | 0.266 | 11.3 | | |
| NAPHTHALENE | | 0.958 | 0.974 | -1.7 | | |
| 4-CHLOROANILINE | | 0.111 | 0.169 | -52.3 | | |
| HEXACHLOROBUTADIENE | | 0.145 | 0.132 | 9.0 | * | |
| 4-CHLORO-3-METHYLPHENOL | | 0.312 | 0.380 | -21.8 | * | |
| 2-METHYLNAPHTHALENE | | 0.729 | 0.684 | 6.2 | | |
| HEXACHLOROCYCLOPENTADIENE | | 0.177 | 0.260 | -46.9 | | * * |
| 2,4,6-TRICHLOROPHENOL | | 0.372 | 0.333 | 10.5 | * | |
| 2,4,5-TRICHLOROPHENOL | X | 0.329 | 0.297 | 9.7 | | |
| 2-CHLORONAPHTHALENE | | 1.131 | 1.043 | 7.8 | | |
| 2-NITROANILINE | X | 0.303 | 0.474 | -56.4 | | |
| DIMETHYL PHTHALATE | | 1.271 | 1.157 | 9.0 | | |
| ACENAPHTHYLENE | | 1.541 | 1.367 | 11.3 | | |
| 3-NITROANILINE | X | 0.237 | 0.242 | -2.1 | | |
| ACENAPHTHENE | | 1.036 | 0.917 | 11.5 | * | |
| 2,4-DINITROPHENOL | X | 0.189 | 0.164 | 13.2 | | * * |
| 4-NITROPHENOL | X | 0.100 | 0.110 | -10.0 | | * * |
| DIBENZOFURAN | | 1.516 | 1.435 | 5.3 | | |

RF(50) - RESPONSE FACTOR FROM DAILY STANDARD FILE AT CONCENTRATION INDICATED (50 TOTAL NANOGRAMS)
AVE RF - AVERAGE RESPONSE FACTOR FROM INITIAL CALIBRATION FORM VI
%D - - - PERCENT DIFFERENCE
X - - - DUE TO LOW RESPONSE ANALYZE AT 80 TOTAL NANOGRAMS
CCC - - CALIBRATION CHECK COMPOUNDS (*)
SPCC - - SYSTEM PERFORMANCE CHECK COMPOUNDS (**)

FORM VII

Resubmitted Data
L.L. Westerman
04/21/88
Page 19 of 34

CONTINUING CALIBRATION CHECK
SEMIVOLATILE HSL COMPOUNDS
(PAGE 2)

CASE NO: --- 8811 REGION: --- EPA-VI CALIBRATION DATE: 04/04/88
CONTRACTOR: ETC/TOXICON TIME: 07:41
CONTRACT NO: 68-01-7148 LABORATORY ID: SS040488A
INSTRUMENT ID: A INITIAL CALI. DATE: 03/11/88

MINIMUM RF FOR SPCC IS 0.050 MAXIMUM %D FOR CCC IS 25%

| COMPOUND | | AVE RF | RF(50) | % D | CCC | SPCC |
|---|---|---|---|---|---|---|
| 2,4-DINITROTOLUENE | | 0.222 | 0.299 | -34.7 | | |
| 2,6-DINITROTOLUENE | | 0.315 | 0.277 | 12.1 | | |
| DIETHYLPHTHALATE | | 1.303 | 1.201 | 7.8 | | |
| 4-CHLOROPHENYL-PHENYLETHER | | 0.563 | 0.522 | 7.3 | | |
| FLUORENE | | 1.289 | 1.145 | 11.2 | | |
| 4-NITROANILINE | X | 0.187 | 0.171 | 8.6 | | |
| 4,6-DINITRO-2-METHYLPHENOL | X | 0.155 | 0.149 | 3.9 | | |
| N-NITROSODIPHENYLAMINE (1) | | 0.482 | 0.521 | -8.1 | * | |
| 4-BROMOPHENYL-PHENYLETHER | | 0.223 | 0.203 | 9.0 | | |
| HEXACHLOROBENZENE | | 0.217 | 0.189 | 12.9 | | |
| PENTACHLOROPHENOL | X | 0.154 | 0.143 | 7.1 | * | |
| PHENANTHRENE | | 1.066 | 1.003 | 5.9 | | |
| ANTHRACENE | | 0.976 | 1.041 | -6.4 | | |
| DI-N-BUTYLPHTHALATE | | 1.487 | 1.504 | -1.1 | | |
| FLUORANTHENE | | 1.106 | 1.145 | -3.5 | * | |
| PYRENE | | 1.620 | 1.421 | 12.3 | | |
| BUTYLBENZYLPHTHALATE | | 1.024 | 0.875 | 14.6 | | |
| 3,3'-DICHLOROBENZIDINE | | 0.118 | 0.053 | 55.1 | | |
| BENZO(A)ANTHRACENE | | 1.282 | 1.171 | 8.7 | | |
| BIS(2-ETHYLHEXYL)PHTHALATE | | 1.388 | 1.207 | 13.0 | | |
| CHRYSENE | | 1.146 | 0.999 | 12.8 | | |
| DI-N-OCTYL PHTHALATE | | 2.569 | 2.160 | 15.9 | * | |
| BENZO(B)FLUORANTHENE | | 1.296 | 1.307 | -0.8 | | |
| BENZO(K)FLUORANTHENE | | 1.074 | 0.775 | 27.8 | | |
| BENZO(A)PYRENE | | 0.994 | 0.925 | 6.9 | * | |
| INDENO(1,2,3-CD)PYRENE | | 0.985 | 0.745 | 24.4 | | |
| DIBENZ(A,H)ANTHRACENE | | 0.945 | 0.578 | 38.8 | | |
| BENZO(G,H,I)PERYLENE | | 0.934 | 0.748 | 19.9 | | |

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(1) - - CANNOT BE SEPARATED FROM DIPHENYLAMINE

FORM VII

Resubmitted Data
K.K. Westerman
04/21/88
Page 19 of 34
clw

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SEMIVOLATILE HSL COMPOUNDS
(PAGE 1)

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FORM VII

Resubmitted Data
L.L. Westerman
04/21/88
Page 19 of 34

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(1) - - CANNOT BE SEPARATED FROM DIPHENYLAMINE

FORM VII

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
EPA HOUSTON LABORATORY
6608 HORNWOOD DRIVE
HOUSTON, TX 77074

## QA/QC COMPLIANCE REVIEW OF CONTRACT COMPLIANCE SCREENING (CCS) RESUBMITTED DATA

DATE: 4/11/88

TO: FIT
C/O HANK THOMPSON (6E-SH)

CASE # 8811

SAS #

FROM: V. KREIGH (ESAT)
REGION 6

SITE NAME AIR CENTER

ACTION: The resubmitted information has no effect on the data, please incorporate into the data package.

Yes [X] No [ ] (see comment section)

COMMENT: ONE CORRECTION DELIVERABLE.

4/11/88

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
EPA HOUSTON LABORATORY
6608 HORNWOOD DRIVE
HOUSTON, TX 77074

## QA/QC COMPLIANCE REVIEW OF CONTRACT COMPLIANCE SCREENING (CCS) RESUBMITTED DATA

DATE: 3/23/88

TO: FIT
C/O Hank Thompson (6E-SH)

CASE # 8811

SAS #

FROM: H. Kreigh (ESAT)
Region VI

SITE NAME AIR CENTER

ACTION: The resubmitted information has no effect on the data, please incorporate into the data package.

Yes ☑ No ☐ (see comment section)

COMMENT:

The laboratory will resubmit non-compliant BNA samples FG-255 and FG-264 and resubmit data.

3/23/88

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
HOUSTON BRANCH
6608 HORNWOOD DRIVE
HOUSTON, TEXAS 77074

Ref. Case No. 8811

Site Name Air Center

Date: 02/17/88

Subject: CLP Data Review

From: Michael L. Daggett, Chief, Organic Lab Section; 6E-HL

To: Hank Thompson, 6E-SH

A review of the laboratory raw data for the reference site has been completed by members of the Laboratory Section. Samples were:

| | | | | |
|---|---|---|---|---|
| INORGANIC: | MFF427S | MFF431S | MFF435 S | MFE794S |
| | MFF 428S | MFF432S | MFF456 S | MFE 795W |
| | MFF 429S | MFF433S | MFF457 S | MFE 503 S |
| | MFF 430S | MFF434S | MFF458 RB | |
| | | | | |
| ORGANIC: | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

The data was found:

( ) Acceptable

(X) Provisional; use of data requires caution. Problems are noted in Review Summary.

( ) Unacceptable; data should not be used. Problems are noted in Review Summary.

Questions regarding the review can be addressed to me.

Attachments

cc: David Stockton, 6E-HL

Carla Dempsey, WH-548A

Jim Petty, EMSL/Las Vegas

In Reference to Case No(s):
8811
SDG# MFF456

**Contract Laboratory Program**
**REGIONAL/LABORATORY COMMUNICATION SYSTEM**
**Telephone Record Log**

Date of Call: 2-18-88

Laboratory Name: SPECTRIX, HOUSTON
Lab Contact: CANDY FRIDAY
Region: VI
Regional Contact: MAHMOUD EL-FEKY

Call Initiated By: ___ Laboratory ✓ Region

In reference to data for the following sample number(s):
MFE 794, 795 + 503, MFF427-435, MFF456-458

Summary of Questions/Issues Discussed:
1- CONCENTRATION VALUES OF PREPARATION BLANKS OF WATER AND SOLID MATRIX ARE SWITCHED AROUND.
2- ICP SERIAL DILUTION - SOIL, %D OF Ba, Be, Co, Cu, K, Al & Zn ARE OUTSIDE CRITERIA !?
3- %R OF Cr & Se, OF THE LCS ARE OUTSIDE THE LIMITS. N.C.

Summary of Resolution:
RESUBMISSION OF CORRECTED DATA WILL BE FORWARDED WITH THE CCS RESPONSE.

M. Elfeky
Signature

2-18-88
Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) SMO Copy

recycled paper

ecology and environment

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
HOUSTON BRANCH
6608 HORNWOOD DRIVE
HOUSTON, TEXAS 77074

MEMORANDUM

Date:

Subject: CLP Data Review for Case # 8811

From: Michael L. Daggett, Chief, Organic Lab Section; 6E-HL

To: Carla Dempsey, Quality Assurance Office, AOB; WH-548A

Attached is the data review summary for Case # 8811.

Data was found: (✓) Provisional

( ) Unacceptable

Action required by DPO: ( ) Yes

(✓) No

Attachment (1)

cc: David Stockton, DPO

Jim Petty, EMSL/Las Vegas

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
HOUSTON BRANCH
6608 HORNWOOD DRIVE
HOUSTON, TEXAS 77074

# INORGANIC QC CHECKLIST

Site: AIR CENTER
Contract No.: 68-W8-005
Case No.: 8811
Contractor: SPECTRIX
Reviewed by: M. EL-FEKY
Matrix: SOIL & WATER, LL
Date: 2-17-88
Acct #: 8TFAJN88 SF #: TFAUG4

| Sample No. | | | | | | | |
|---|---|---|---|---|---|---|---|
| MFF 427 | S | MFF 431 | | Duplicate | | MFE 794 | S |
| 428 | S | 432 | | OK980750319 | | 795 | W |
| 429 | S | 433 | | Air Center Inc | | 503 | S |
| 430 | S | 434 | | Wiley Post | B | | |
| | | | | OK City, OK | | | |

COMMENTS (To be completed by EPA Personnel)

| | | | | |
|---|---|---|---|---|
| 1. Data Completeness | ____ Acceptable | ✓ Provisional | ____ Unacceptable |
| 2. Instrument Calibration Tune | ✓ Acceptable | ____ Provisional | ____ Unacceptable |
| 3. Interference Check Sample | ✓ Acceptable | ____ Provisional | ____ Unacceptable |
| 4. Blank Analysis | ____ Acceptable | ✓ Provisional | ____ Unacceptable |
| 5. Matrix Spikes | ____ Acceptable | ✓ Provisional | ____ Unacceptable |
| 6. Duplicates | ____ Acceptable | ✓ Provisional | ____ Unacceptable |
| 7. Field Blanks | ____ Acceptable | ✓ Provisional | ____ Unacceptable |
| 8. Other SERIAL DILUTION | ____ Acceptable | ✓ Provisional | ____ Unacceptable |

ADDITIONAL COMMENTS

1. DATA PACKAGE IS PROVISIONAL, FOR THIRTEEN SOIL SAMPLES, ONE WATER SAMPLE AND ONE RINSATE BLANK, ANALYZED FOR TOTAL METALS AND CYANIDES.

Acceptable - All items delivered; all criteria met

Provisional - Data usable; some non-essential review items missing or criteria were not met

Unacceptable - Data unusable; essential review items missing or criteria not met

INORGANIC QA CHECKLIST
CONTINUATION PAGE

CASE NO. 8811 SITE AIR CENTER

COMMENTS:

1- SAMPLES WERE ANALYZED WITHIN THE CONTRACT REQUIRED HOLDING TIME CRITERIA FOR CN, Hg AND THE REST OF THE METALS.

3- INSTRUMENTS WERE CALIBRATED AT THE PROPER FREQUENCY INITIAL AND CONTINUING CALIBRATION DATA MET ACCEPTANCE CRITERIA.

3- TWO CALIBRATION AND PREPARATION BLANKS WERE SUBMITTE ONE FOR THE SOIL AND ONE FOR WATER MATRICES. THE CONCENTRATION VALUES OF THE PREPARATION BLANK WERE SWITCHED AROUND FOR BOTH MATRICES, IN FORM III. CORRECTED DATA SHOULD BE RESUBMITTED.

4- ICP INTERFERENCE CHECK SAMPLE RESULTS MEET THE SPECIFIED CONTRACT CRITERIA.

5- RECOVERY OF Cr AND Se, IN THE LCS ANALYSIS DID NOT MEET THE CONTRACT CRITERIA. BUT SELENIUM CONCENTRATION REPORTED FALL BETWEEN THE CONTRACT REQUIRED WINDOW. CHROMIUM IS NOT. DATA ASSOCIATED WITH Cr SHOULD BE TREATED AS ESTIMATED.

5- POOR SPIKE AND DUPLICATE RECOVERY DATA & RPD, IN BOTH WATER AND SOLID MATRICES.

IN THE SPIKE DATA, AL, As, Fe AND Hg RECOVERY ARE OUTSIDE THE CONTRACT REQUIRED RECOVERY LIMITS.

RPD OF AL, Ba, Ca, Cr, Cu, Mn, Na, V AND Zn ARE OUTSIDE QC LIM.

INORGANIC QA CHECKLIST
CONTINUATION PAGE

CASE NO. 8811 SITE AIR CENTER

COMMENTS:

DATA ASSOCIATED WITH THE ELEMENTS SHOULD BE TREATED AS ESTIMATED.

6- IN THE ICP SERIAL DILUTION DATA, %D OF Ba, Be, Ca, Cu, K, V AND Zn IN THE SOLID MATRIX, AND % OF Be, V AND Zn IN THE WATER MATRIX ARE OUTSIDE THE ACCEPTANCE CRITERIA. "E" FLAGS ARE REQUIRED FOR THESE ELEMENTS.

7- CONCENTRATIONS ABOVE CRDL WERE REPORTED FOR AL, As, Ba, Be, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Ni, K, Na, V AND Zn.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Air Center, Inc. Oklahoma City, OK

SITE CODE OKD980750319

PAN FOK0270SBF

CASE NUMBER 8811

LABORATORY SPECTRIX

SAMPLE NUMBERS

| | | | |
|---|---|---|---|
| MFF 427 | MFF 431 | MFF 435 | MFF 503 |
| MFF 428 | MFF 432 | MFF 456 | MFF 794 |
| MFF 429 | MFF 433 | MFF 457 | MFF 795 |
| MFF 430 | MFF 434 | MFF 458 | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

REVIEWER Victor Cason, ICF Technology

DATA EVALUATION

SITE NAME Air Center Inc. CASE NO. 8811 PAGE 1

This package contains thirteen soil and two water samples analyzed for total metals and cyanide in low concentrations. The following qualifications are placed on the data.

1) The recovery value for chromium (Cr) was out of control limits in the soil Laboratory Control Sample. Since the analysis was not terminated and the problem fixed, all results for Cr are considered estimates (J flag).

2) Antimony (Sb) soil matrix spike recovery was unacceptable, therefore, the values for Sb in samples MFF 427 - 435, MFF 546, MFF 457, MFE 794 and MFE 503 are unusable (R flag).

3) The recovery values for iron (Fe), aluminum (Al) and manganese (Mn) were unacceptable in the water matrix spike. Therefore, all values for these metals in samples MFF 458 and MFE 795 are unusable (R flag).

4) Recovery values for arsenic (As) and manganese (Mn) were low in the soil matrix spike. Actual sample concentrations and detection limits for these elements may be as great as 2.3 and 1.7 times the reported numbers, respectively. Values reported for samples MFF 427 - 435, MFF 546, MFF 457, MFE 794 and MFE 503 are considered estimates (J flag).

DATA EVALUATION



5) The soil duplicate recoveries were out of control limits for barium, chromium, vanadium and iron. Therefore, the values for these elements in samples MFF 427 - 435, MFF 546, MFF 457, MFE 794 and MFE 503 are considered as estimates (J flag).

7) The water duplicate recoveries were out of control limits for elements aluminum, calcium, iron, manganese, and sodium. Therefore the values for these elements in samples MFF 458 and MFE 795 are considered as estimates (J flag).

8) The method of standard addition correlation coefficients for As in samples MFF 430 and MFF 432 did not meet the control limit requirements. The values for As in the two samples are considered as estimates (J flag).

9) All other QA/QC requirements were within control limits.

INORGANIC CHECKLIST

1. Was the method of standard addition performed on any analysis?____.
   If yes, complete the table below:

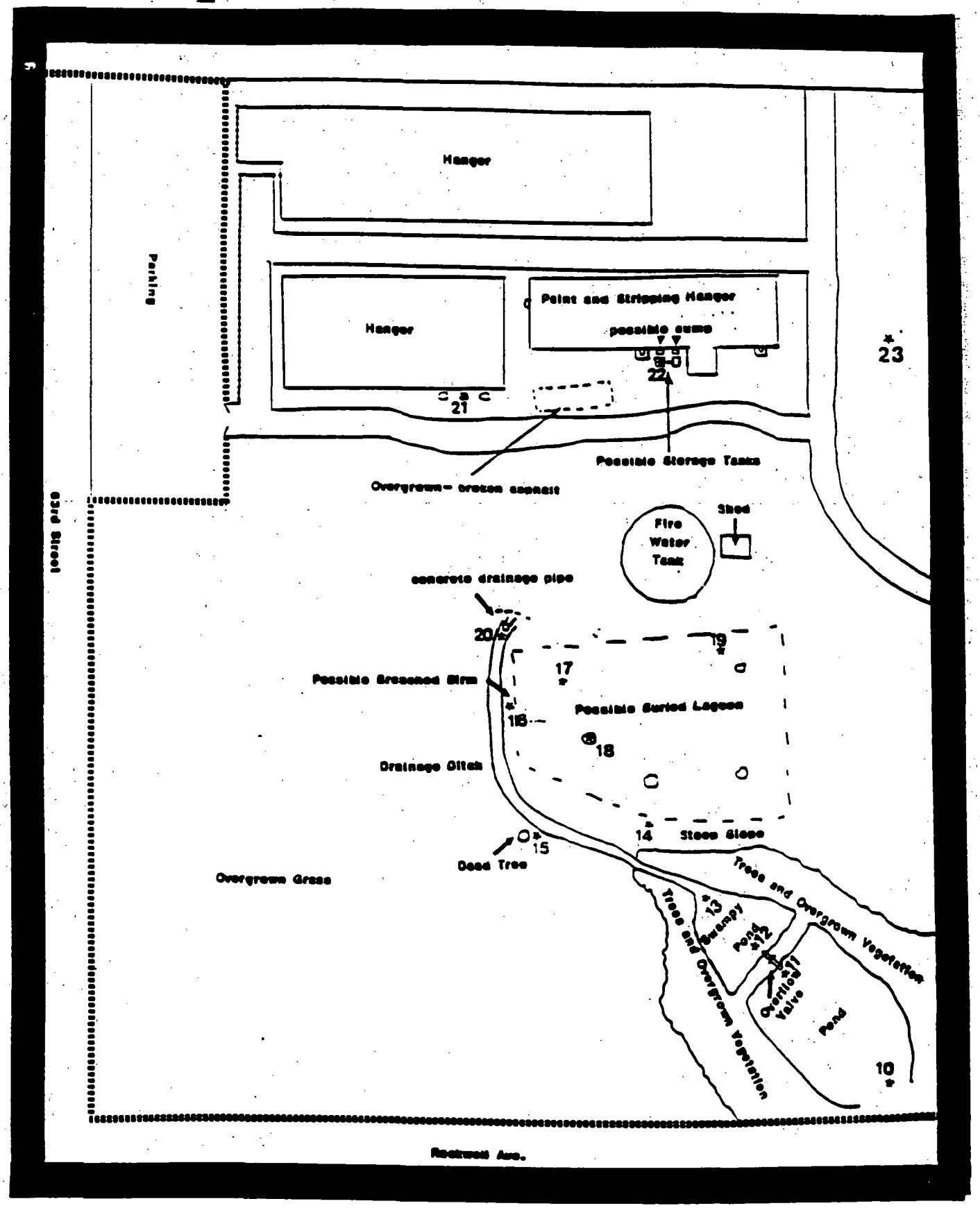
| ELEMENT | SAMPLE # | CORRELATION COEFFICIENT |
|---|---|---|
| Hg | MFF 0350 | .9993 |
| Hg | 038 | [illegible] |
| [illegible] | 038 | .9999 |
| [illegible] | 040 | .9973 |
| [illegible] | 041 | .9914 |
| [illegible] | 041 | .9912 + |
| [illegible] | 045 | .9999 |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] + |
| [illegible] | [illegible] | [illegible] |
| [illegible] | 051 | .9978 |
| [illegible] | 051 | [illegible] + |
| Hg | 052 | .9985 |
| Hg | 050 | .9991 |
| Pb | 036 | .9962 |
| Pb | 036D | .9980 |
| Pb | 038 | .9980 |

Were all the correlation coefficients greater than .995? N/.

NOTE: IF MSA IS PERFORMED AND THE CORRELATION COEFFICIENT IS LESS THAN .995, THE ANALYSIS MUST BE REPEATED ONCE. IF IT IS STILL LESS THAN .995, FLAG THE RESULTS WITH "+".

| | | |
|---|---|---|
| Pb | 039 | .9999 |
| Pb | 040 | .9992 |
| Pb | 041 | .9992 |
| Pb | 042 | .9990 |
| Pb | 043 | .9990 |
| Pb | 044 | .9967 |
| Pb | 045 | .9950 |
| Pb | 046 | .9988 |
| Pb | 050 | .9970 |
| Pb | 051 | .9986 |
| Pb | 053 | .9997 |
| Se | 036S | .9934 |
| Se | 036S | .9980 |
| Se | 037S | .9967 |
| Se | 045 | .9968 |

04-89




**Site Sketch**
**Air Center Inc.**
**Oklahoma City, Oklahoma**
**OKD980750319**
**TDD# F-6-8707-11**
**Site Inspection: 7-23-87**

○ Spots of Dead Vegetation
Fence Line
2 ✱ Possible Sampling Points

04-90

N

TABLE V

Drinking Water Wells

| Map Location | Bis (2-Ethyl Hexyl) Phthalate | Cadmium | Vanadium | Arsenic | Zinc | Chromium | Lead |
|---|---|---|---|---|---|---|---|
| 25 | | | | | 49ppb | | |
| 26 | | — | 48ppb | 17ppb | 43 ppb | 15ppb | 176ppb |
| 27 | | — | — | — | 133 ppb | — | — |
| 28 | 9ppb | — | — | 4ppb | 73 ppb | — | — |
| dup x3 -> | 28ppb | 19ppb 57 | | — | — | — | 66ppb |
| 29 background | | — | | 6ppb | 120 ppb | — | — |

04-91

[illegible]

SITE NAME: [illegible] CENTER
CASE NUMBER [illegible] PAGE 1 OF 1
CONCENTRATIONS IN PARTS PER BILLION

ORGANIC TRACER NUMBERS
AND SAMPLE STATION LOCATION DESCRIPTIONS

| | |
|---|---|
| | 3 |
| STATION #: | [illegible] |
| DESTRAMY WELL | |
| [illegible] | |

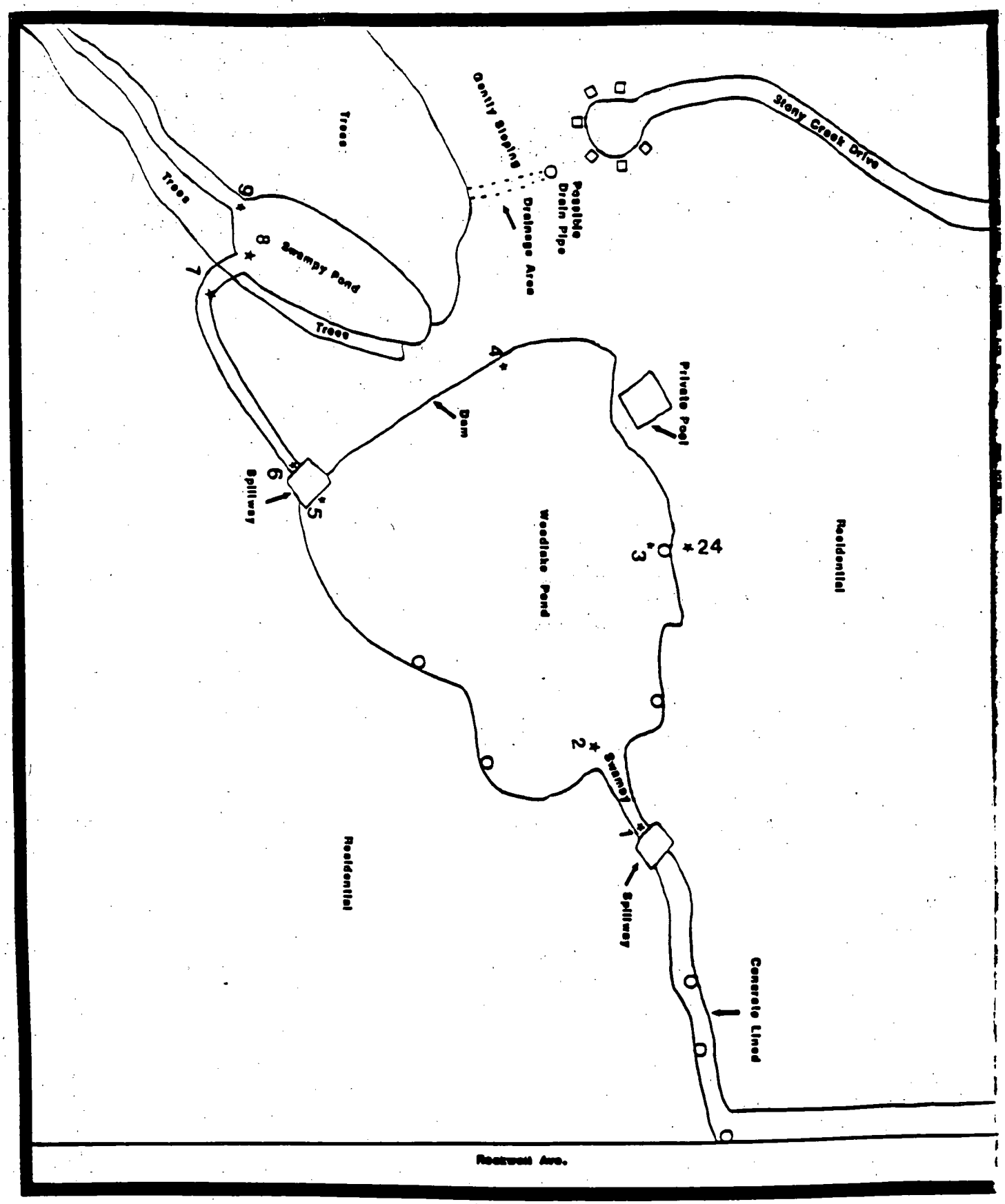
| MATRIX: WATER | | | |
|---|---|---|---|
| COMPOUND | CAS#/SCAN | CLASS | |
| BIS(2-ETHYLHEXYL)PHTHALATE | [illegible]-81-7 | ABN/[illegible] | 3 |
| UNKNOWN | 1745 | ABN/[illegible] | |

1. PRIORITY POLLUTANT
2. SPECIFIED HAZARDOUS SUBSTANCE
3. TENTATIVELY IDENTIFIED

VOA - VOLATILE
ABN - ACID/BASE/NEUTRAL
PES - PESTICIDE

B - THE ANALYTE IS FOUND IN THE LAB BLANK
J - INDICATES AN ESTIMATED VALUE FOR TENTATIVELY IDENTIFIED COMPOUNDS OR COMPOUNDS FOUND BELOW CONTRACT DETECTION LIMIT
P - PRESENT IN SAMPLE, BUT NOT REPORTED BY LAB
C - CONFIRMED BY MASS SPECTRAL DATA

04-92




**Water Course for Drainage Ditch after leaving Air Center**

**OKD980750319**

**TDD# F-6-8707-11**

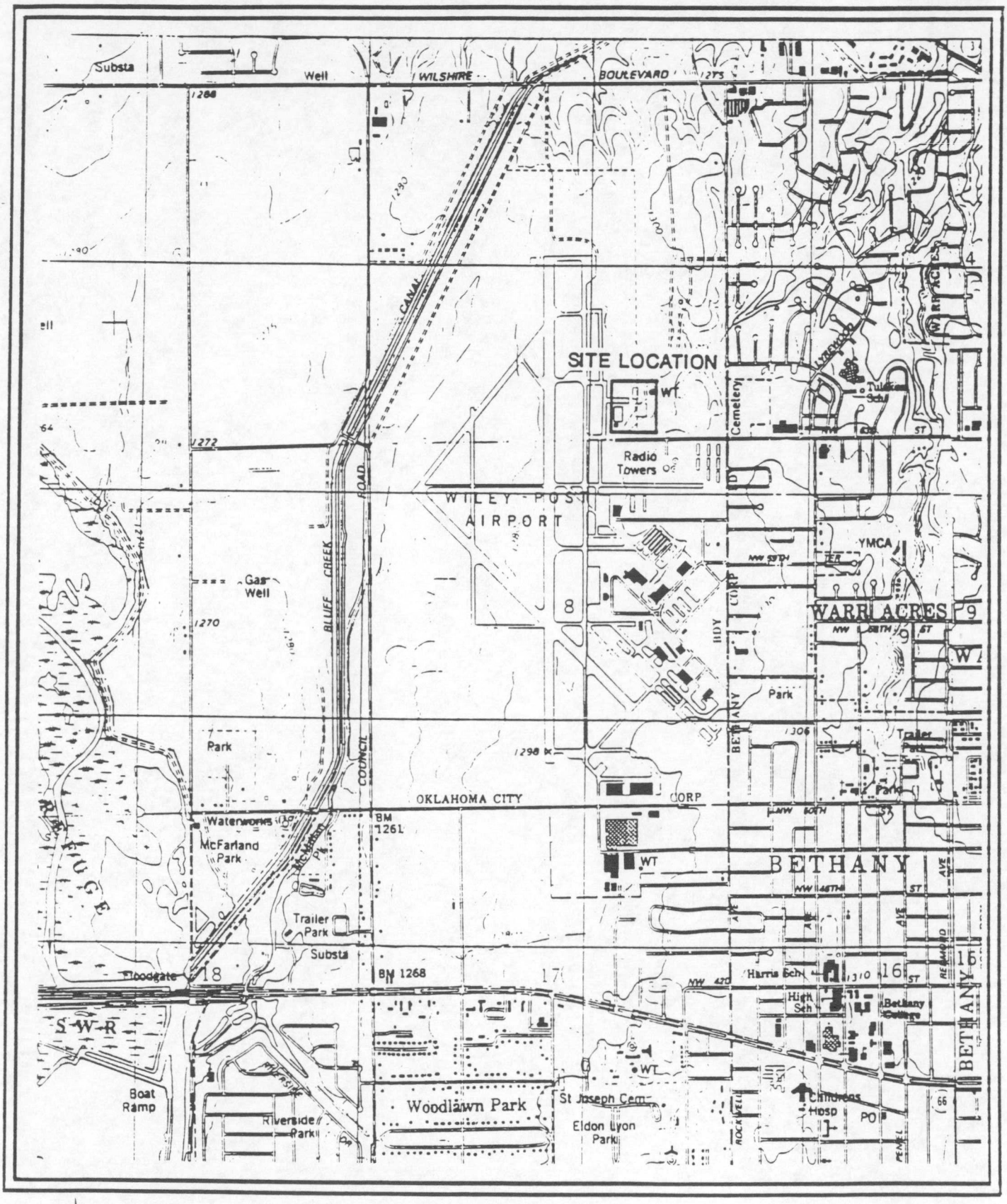
O Drainage Inlets fr[illegible] [illegible]rounding Streets

* Proposed Sampling Points

04-93

Not To Sc[illegible]

ICF




N

0 2000

SCALE 1:24000

Site Location Map
**AIR CENTER INC.**
OKLAHOMA CITY, OK
TDD NO. F-6-8808-36
CERCLIS NO. OKD980750319

OKLAHOMA

QUADRANGLE LOCATION

BETHANY, OK BRITTON, OK

04-95

CONTRACT LABORATORY PROGRAM
COVER SHEET

# ADDITIONAL OR DUPLICATE DATA SUBMISSION
(NOT TO BE USED FOR CCS RESPONSES)

✓ Organic _____ Inorganic _____ Dioxin _____ Other(SAS)

Lab Name: ETC/Toxicon Date: _____

Case: 8811 SAS: _____ SDG: _____

The attached data are being submitted to (check one):

✓ All _____ SMO _____ Region _____ EMSL-LV

For EPA Sample Nos. (enter only those to which these data apply):

| | |
|---|---|
| FG255 | |
| FG264 | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

These data supplement the data submitted on : 02-15-88
(State reasons for submission in cover letter)

OR

These data are a duplicate submission, requested by (name, affiliation):

_____

# GC/MS TUNING AND MASS CALIBRATION
## Decafluorotriphenylphosphine (DFTPP)

CMS 03/14/88 Case No. ~~8770~~ 8811 Contractor ETC/Toxicon Contract No. 68-01-7148

Instrument ID A(FINNØI) Date 1-26-88 Time 0823

Lab ID DF012688A Data Release Authorized By: Maureen T Shields

| m/e | ION ABUNDANCE CRITERIA | %RELATIVE ABUNDANCE |
|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 40.1 |
| 68 | less than 2.0% of mass 69 | 0.00 (0)[1] |
| 69 | mass 69 relative abundance | 44.0 |
| 70 | less than 2.0% of mass 69 | 0.00 (0)[1] |
| 127 | 40.0 - 60.0% of mass 198 | 48.5 |
| 197 | less than 1.0% of mass 198 | 0.00 |
| 198 | base peak, 100% relative abundance | 100 |
| 199 | 5.0 - 9.0% of mass 198 | 5.88 |
| 275 | 10.0 - 30.0% of mass 198 | 19.5 |
| 365 | greater than 1.00% of mass 198 | 1.42 |
| 441 | present, but less than mass 443 | 7.36 |
| 442 | greater than 40.0% of mass 198 | 65.7 |
| 443 | 17.0 - 23.0% of mass 442 | 11.2 (17.1)[2] |

THIS PERFORMANCE TUNE APPLIES TO THE FOLLOWING SAMPLES, BLANKS AND STANDARDS.

[1]Value in parenthesis is % mass 69.
[2]Value in parenthesis is % mass 442.

| SAMPLE ID | LAB ID | DATE OF ANALYSIS | TIME OF ANALYSIS |
|---|---|---|---|
| 50/80ppm SVStd. | SS012688A | 1-26-88 | 0841 |
| MB1 | SV4279MB1 | | 0934 |
| FG244 | SV427902 | | 1124 |
| FG246 | SV427903 | | 1221 |
| FG247 | SV427904 | | 1313 |
| FG258 | SV427908 | | 1407 |
| FG243 | SV427935 | 01/26/88 | 1027 |
| | Resubmitted data | Resubmitted data 03/21/88 | |
| | L L Westerman | L L Westerman | |
| | 04/06/88 | | |
| | | | 8811062011 |

Form V

# ORGANICS

## LABORATORY RESPONSE TO RESULTS OF CCS (continued)

| Sample | Fraction | Criterion | Comments |
|---|---|---|---|
| FG243 | BNA | B | Chronological order corrected on Form V |
| FG249 | ↓ | E | The "R" here is believed to be a typographical error. There is no explanation of a problem other than noncompliance in the previously received CCS. Further, there is no explanation on page 1 of the resolution. |
| ↓ | ↓ | ↓ | |

Page 3 of 3

# GC/MS TUNING AND MASS CALIBRATION
## Decafluorotriphenylphosphine (DFTPP)

CMS 03/14/88 Case No. ~~8770~~ 8811 Contractor ETC/Toxicon Contract No. 68-01-7148

Instrument ID A(FINN01) Date 1-26-88 Time 0823

Lab ID DF012688A Data Release Authorized By: Maureen T Shields

| m/e | ION ABUNDANCE CRITERIA | %RELATIVE ABUNDANCE |
|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 40.1 |
| 68 | less than 2.0% of mass 69 | 0.00 (0)[1] |
| 69 | mass 69 relative abundance | 44.0 |
| 70 | less than 2.0% of mass 69 | 0.00 (0)[1] |
| 127 | 40.0 - 60.0% of mass 198 | 48.5 |
| 197 | less than 1.0% of mass 198 | 0.00 |
| 198 | base peak, 100% relative abundance | 100 |
| 199 | 5.0 - 9.0% of mass 198 | 5.88 |
| 275 | 10.0 - 30.0% of mass 198 | 19.5 |
| 365 | greater than 1.00% of mass 198 | 1.42 |
| 441 | present, but less than mass 443 | 7.36 |
| 442 | greater than 40.0% of mass 198 | 65.7 |
| 443 | 17.0 - 23.0% of mass 442 | 11.2 (17.1)[2] |

THIS PERFORMANCE TUNE APPLIES TO THE FOLLOWING SAMPLES, BLANKS AND STANDARDS.

[1] Value in parenthesis is % mass 69.
[2] Value in parenthesis is % mass 442.

| SAMPLE ID | LAB ID | DATE OF ANALYSIS | TIME OF ANALYSIS |
|---|---|---|---|
| 50/80ppm SVStd. | SS012688A | 1-26-88 | 0841 |
| MB1 | SV4279MB1 | | 0934 |
| FG244 | SV427902 | | 1124 |
| FG246 | SV427903 | | 1221 |
| FG247 | SV427904 | | 1313 |
| FG258 | SV427908 | | 1407 |
| FG243 | SV427935 | 01/26/88 | 1027 |
| | Resubmitted data | Resubmitted data 02/21/88 | |
| | L L Westerman 04/06/88 | L L Westerman | |
| | | | 8811062011 |

Form V

Resubmitted Data
C E Westerman 04/21/88
Page 7 of 34

| In Reference to Case No(s): |
|---|
| 8811 |

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM
Telephone Record Log

Date of Call: 02/22/88

Laboratory Name: ETC/Toxicon
Lab Contact: Charlie E. Westerman
Region: VI
Regional Contact: Harry Kreigh

Call Initiated By: ___ Laboratory ✓ Region

In reference to data for the following sample number(s):
FG 247
FG 255
FG 264

Summary of Questions/Issues Discussed:
① Two acid surrogates were out in each of samples FG255 & FG264 & no explaination was advanced.
② Phenol concentration in FG 247 was approximately 238. What was cutoff for linear range?
③ Continuing calibration 01/27/88 RIC chromatogram missing.
④ Quan Report multiplier sample FG264 incorrect.

Summary of Resolution:
① Two acid surrogates were out in each of samples FG255 & FG264. There is no apparent explaination for these surrogates being out. Further, there is no explaination why these samples were neither reinjected or reextracted & reanalyzed.
② The FG247 phenol Quan List concentration is 10170.300 utilizing a Finnigan factor of 42.740. This corresponds to an extract concentration of 237.957. However, since this sample contained 22 percent moisture, the observed sample extract concentration without any correction was only 185.601 & is well within the customary linear range of the calibration curve. Items ③ & ④ continued on following page.

Charlie E Westerman 03/08/88
Signature Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) SMO Copy

31 MAR 1988

**In Reference to Case No(s):** 7811

**Contract Laboratory Program**
**REGIONAL/LABORATORY COMMUNICATION SYSTEM**
**Telephone Record Log**

Date of Call: 03/07/88

Laboratory Name: CTC / Torrance

Lab Contact: Charlie Westerman

Region: VI

Regional Contact: Harry Kreisch

Call Initiated By: ____ Laboratory ✓ Region

In reference to data for the following sample number(s):

FF247

Summary of Questions/Issues Discussed:

Follow up of original question (2). Phenol concentration in FF247 was approximately 238. What was the cutoff for the linear range?

Summary of Resolution:

Follow up of the original discussion of question (2). The final extract concentration value of 185.60 is 16% above the upper limit of the 160 high level standard.

Charlie E Westerman — Signature

03/10/88 — Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) SMO Copy

**In Reference to Case No(s):**

8511

**Contract Laboratory Program**
**REGIONAL/LABORATORY COMMUNICATION SYSTEM**
**Telephone Record Log**

Date of Call: 02/29/88

Laboratory Name: ETC/Toxicon

Lab Contact: Charlie E Westerman

Region: VI

Regional Contact: Harry Kreigh

Call Initiated By: ____ Laboratory ✓ Region

In reference to data for the following sample number(s):

FG 247
FG 255
FG 264

Summary of Questions/Issues Discussed:

① Two acid surrogates were out in each of samples FG 255 & FG 264 & no explaination was advanced.

✓ ② Phenol concentration in FG 247 was approximately 238. What was cutoff for linear range?

✓ ③ Continuing calibration 01/27/88 RIC chromatogram missing.

✓ ④ Quan Report multiplier sample FG 264 incorrect.

Summary of Resolution:

① Two acid surrogates were out in each of samples FG 255 & FG 264. There is no apparent explaination for these surrogates being out. Further, there is no explaination why these samples were neither reinjected or reextracted & reanalyzed.

② The FG 247 phenol Quan List concentration is 10170.300 utilizing a Finnigan factor of 42.740. This corresponds to an extract concentration of 237.957. However, since this sample contained 72 percent moisture, the observed sample extract concentration without any correction was only 185.601 & is well within the customary linear range of the calibration curve. Items ③ & ④ continued on following page.

Charlie E Westerman — Signature

03/08/88 — Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) SMO Copy

INORGANIC QC CHECKLIST

CONTINUATION PAGE

CASE No. 8811 SITE Air Center

COMMENTS:

1) The data package is provisional for seventeen soil and three water samples at low concentrations for total metals and cyanide.

2) The samples were analyzed and completed within the contract required holding time.

3) Overall Case QC.

   A) Cadmium had a 154% recovery when running the Laboratory Control Sample. This is out of the limit. The reported cadmium concentration may therefore be about 50% high. Those samples containing more than the IDL of cadmium are soils MFF 439, MFF 441, and MFF 451 with 4.4, 1.2, and 1.3 mg/Kg respectively.

   B) The other overall case QC met all contract requirements.

4) Matrix Specific QC

   A) Pre-digestion Spike Recovery for Water

      The pre-digestion spike recovery for the water samples were satisfactory.

   B) Pre-digestion Spike Recovery for Soil

      1. The pre-digestion spike recoveries for the soil samples were not calculated correctly. The contractor has been asked to resubmit Form 5A and Form I's for soil. N flags are needed on 5A and Form I's for soils for arsenic, chromium, selenium in addition to those shown for antimony, nickel, and silver.

      2. Antimony had a 0% pre-digestion spike recovery. The post digestion spike recovery for antimony was 58.3%. No sample concentration for antimony above the IDL was reported. There is the possibility of false negatives (J) for antimony.

      3. The arsenic pre-digestion spike recovery in the soil was 54%. The GFAA analytical spike recovery was an average of 99% for those samples not run by MSA. There is the possibility that some arsenic was lost during the digestion. The arsenic results for the soils may be biased low.

4. The chromium pre-digestion spike recovery in the soil was 1%. This is of particular concern because the soil samples contained as much as 1050 mg/Kg chromium (MFF 439). The post digestion spike recovery was 98.4%. The chromium results may be biased low by about 100% (J).

5. Lead had a 30% pre-digestion spike recovery in the soils. The lead results are biased low by about 70% in the soils. The GFAA analytical spike recovery for lead was an average of 102% for all samples.

6. Nickel had a 41.6% pre-digestion spike recovery in the soil samples. The post digestion spike recovery was 126%. The nickel results may be biased low by about 60%.

7. Selenium had a 224% pre-digestion spike recovery in the soil samples. The GFAA analytical spike recovery for selenium was an average of 98%. No sample contained more than the IDL for selenium. Therefore there is no concern about the high bias.

8. The silver pre-digestion spike recovery was 0%. No sample contained more than the IDL for silver. The is the possibility of false negatives (J).

9. The other metals and cyanide had pre-digestion spike recoveries that were within the limits.

C. Water Duplicates.

The water duplicates were within the control limits.

D. Soil Duplicates.

The RPD for arsenic in the soil samples was a rather poor 39.2% with a control limit of 3%.

Chromium had 37.8% RPD in the soil sample with a 20% control limit.

Iron (23.1% RPD) and zinc (28.1% RPD) were only slightly outside the 20% control limit.

Vanadium with a 20.1% RPD was only slightly outside its 14.8% control limit.

E. Serial Dilutions

All metals were within the required limit for difference after dilution.

5) Sample Specific QC

The GFAA analytical spike recoveries were satisfactory for both soils and water samples. The average recoveries for arsenic, lead, selenium, and thallium are 89, 102, 97, and 91 respectively.

# DATA QUALITY ASSURANCE REVIEW

SITE NAME Air Center, Inc. Oklahoma City, OK

SITE CODE OKD980750319

PAN IOK0270SBF

CASE NUMBER 8811

LABORATORY SPECTRIX

SAMPLE NUMBERS

| | | | |
|---|---|---|---|
| MFF 436 | MFF 441 | MFF 446 | MFF 451 |
| MFF 437 | MFF 442 | MFF 447 | MFF 452 |
| MFF 438 | MFF 443 | MFF 448 | MFF 453 |
| MFF 439 | MFF 444 | MFF 449 | MFF 454 |
| MFF 440 | MFF 445 | MFF 450 | MFF 455 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

REVIEWER Victor Cason, ICF Technology

04-80

DATA EVALUATION

SITE NAME Air Center, INC. CASE NO. 8811 PAGE 1 of 2

The package consists of seventeen soil and three water samples analyzed for total metals and cyanide at low concentration. The following qualifications are placed on the data.

1) Cadmium was out of the control limits for the soil Laboratory Control Sample. The analysis was not terminated. Therefore, the reported values for Cd are considered estimates (J flag) for samples MFF 436, 438-451, 453, and 455.

2) Matrix spike recoveries of antimony, chromium, lead, selenium and silver were unacceptable in the soil matrix spike. All of the values reported for these elements in the soil samples listed above are unusable (R flag).

3) The value for Ni in the soil matrix spike was low. Therefore, the reported values and detection limits for all soil samples could be as great as 2.5 times the Ni concentrations and should be considered estimates (J flag).

4) The recovery value for As in the soil matrix spike was low. The reported values may 1.8 times larger. Reported arsenic values and detection limits should be considered as estimates, (J flag) for all soil samples.

DATA EVALUATION

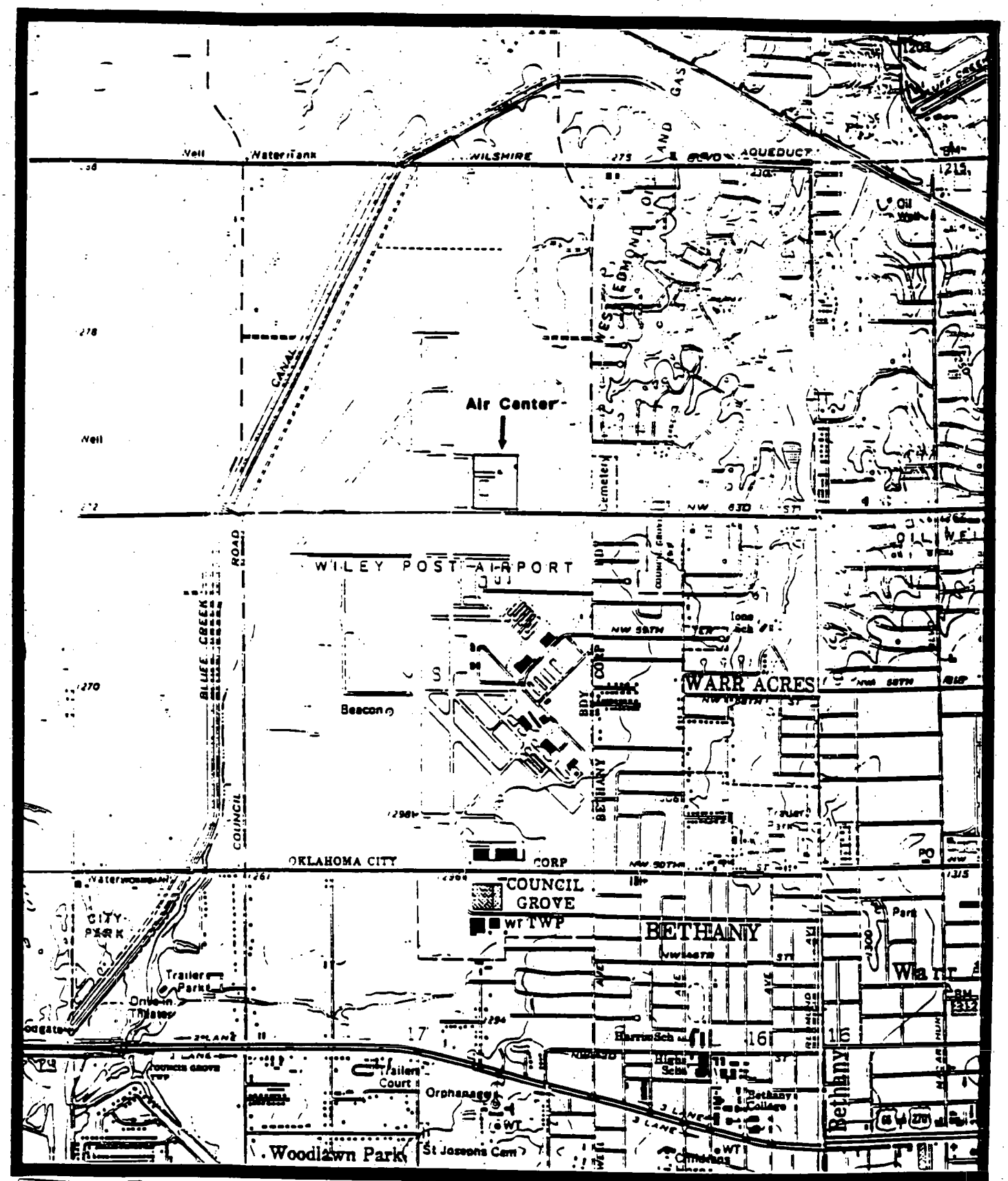
SITE NAME Air Center, Inc. CASE NO. 8811 PAGE 2 of 2

5) The recovery value for selenium was high for the water matrix spike. The actual sample values for the element could be as low as 0.75 times that reported. Reported values for the elements are considered estimates (J flag) for all water samples.

6) The recovery for Ag in the water matrix spike was low. Therefore, the water sample silver values and detection limits are considered estimates (J flag) and may be as much as 1.4 times the reported values.

7) Soil duplicate results were out of control limits for chromium and arsenic. Reported concentrations of these metals are considered estimates (J flag).

8) All other QA/QC requirements were within control limits.



QUADRANGLE LOCATION
U.S.G.S. 7.5 MIN.
TOPOQUADRANGLES

# TITLE : SITE LOCATION

**SITE NAME :** Air Center
Oklahoma City, Oklahoma

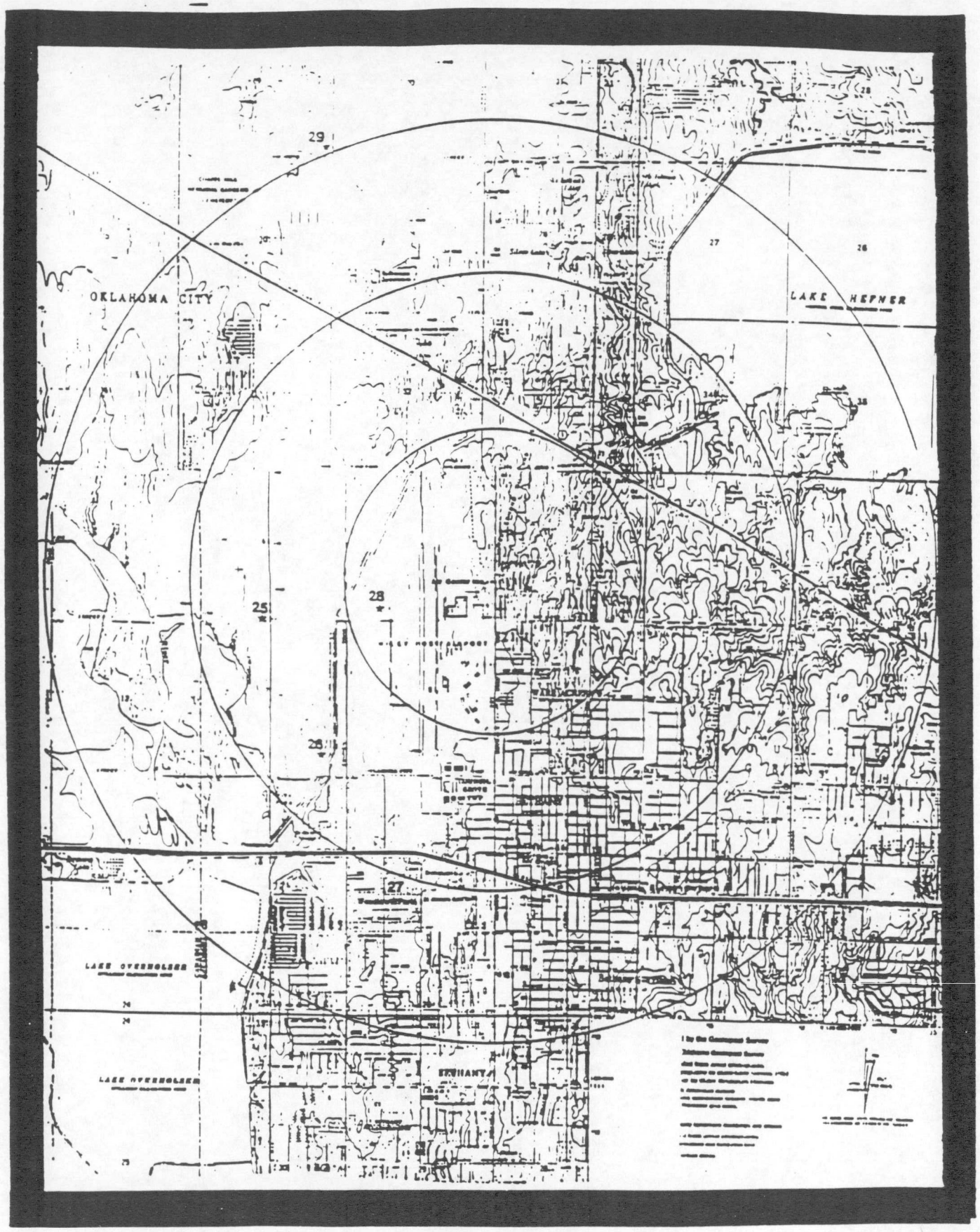
**CERCLIS NO. :** OKD980750319
**TDD NO. :** F-6-8707-11

N

1 0
MILE

04-83

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929




★ WELL LOCATIONS

DRINKING WATER WELL LOCATIONS

**Air Center Inc.**

**Oklahoma City, Oklahoma**

N

TABLE VI

pH and Conductivity Measurements

| Map Location | pH | Conductivity | Temperature |
|---|---|---|---|
| 22 (underground storage tank) | 11.94 | 1100 umhos | 18°C |
| 10 | 7.66 | 250 umhos | 14°C |
| 1 | 7.60 | 270 umhos | 16°C |
| 25 | 7.34 | 910 umhos | 11°C |
| 26 | 7.06 | 1100 umhos | 10°C |
| 27 | 7.00 | 725 umhos | 12.5°C |
| 28 | 7.30 | 500 umhos | 12°C |
| 29 | 7.20 | 1650 umhos | 11.5°C |

# COVER SHEET

## LABORATORY RESPONSE TO RESULTS OF CONTRACT COMPLIANCE SCREENING (CCS)

Response To: (check one)
- [ ] Organics CCS
- [x] Inorganics CCS

Response materials sent to Organics CCS should be sent to the attention of Doris Ling, SMO.
Response materials sent to Inorganics CCS should be sent to the attention of Sa'ad Masri, SMO.

Laboratory Name: Keystone/Houston SPECS

Response Date: 02/27/88

Date Screening Results Received at Laboratory: 02/20/88

EPA Contract No.: 68-W8-0005

Case No.: 8811 (MFF436)

Sample Nos.*: MFF 438, 443, 450, 452, 454

*Only list sample numbers that require reconciliation.

This form is used to identify materials sent in response to results of Contract Compliance Screening (CCS). A separate form must accompany the response for each Case.

Please indicate (on the attached continuation form) which fractions and/or which criteria correspond with your resubmission. Response materials sent to CCS should also be copied to the Region and to EMSL/LV, each with this blue Cover Sheet.

6/5/86

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
HOUSTON BRANCH
6608 HORNWOOD DRIVE
HOUSTON, TEXAS 77074

MEMORANDUM

Date: 2-23-88

Subject: CLP Data Review for Case # 8811

From: Michael Daggett, Chief, Organic Lab Section; 6E-HL

To: Duane Gueder, Quality Assurance Office, OERR; WH-548A

Attached is the data review summary for Case # 8811.

Data was found: (x) Provisional

( ) Unacceptable

Action required by DPO: ( ) Yes

(X) No

Attachment (1)

cc: David Stockton, DPO

John Moore, EMSL/Las Vegas

In Reference to Case No(s):

8811

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: 2-23-88

Laboratory Name: Keystone-Houston

Lab Contact: Candy Friday

Region: Six

Regional Contact: Victor Chapman

Call Initiated By: ____ Laboratory X Region

In reference to data for the following sample number(s):
All, MFF 436 to MFF 455 inclusive

Summary of Questions/Issues Discussed:
See attached page (2 of 2).

List is too long. Will mail it. In general;

1. Flags are needed.
2. Problem with spike recovery calculations.
3. Problem with Cd in LCS.

Summary of Resolution:
Aware of spike calculation problem. Have talked to SMO about Cd problem.
Will address problems

V. A. Chapman
Signature

2-23-88
Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) SMO Copy

In Reference to Case No(s):

8811

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: 2-23-88

Laboratory Name: Keystone-Houston

Lab Contact: Candy Friday

Region: Six

Regional Contact: Victor Chapman

Call Initiated By: ____ Laboratory X Region

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V. G. Chapman
Signature

2-23-88
Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) SMO Copy

Call to Keystone about Case 8811

Form I

1. MFF 443, Selenium should have a U.
2. MFF 438, Arsenic should have an S flag, not +.
3. MFF 454 & 452, Arsenic, requires U flag.
4. MFF 443 & 450, The W flag on Potassium should be on Selenium.
5. MFF 445, Cobalt not reported.
6. Resubmit above.

Form 5A (Soil)

The method used to calculate "Spiked Sample Results" for soils is incorrect. The percent recovery is incorrect.

The quickest way to realize the error in the method is to study the chromium ICP readings for MFF 436 and MFF 436S, data pages 00073 and 00075. The sample had a reading of 0.422 mg/Kg. The spiked sample read 0.424 mg/Kg. One can see without calculations that the recovery was about zero. The calculation method gave -46.2% recovery. Recalculate and resubmit Form 5A for soils.

N flags are needed on this form and on appropriate Form I's for arsenic, chromium, and selenium in addition to those shown for antimony, nickel, and silver.

The selenium spike should have been 2mg/Kg. If that amount was used the spike recovery was within the control limits.

Form 5B (Soil).

The post digestion spike recovery for chromium was not reported. Resubmit.

Form 6 (Soil).

1. The "39.2" RPD shown for antimony should be on the arsenic line.
2. Arsenic is outside the control limits. An * flag should be placed here and on Form I's for soil.
3. The magnesium duplicate value is missing. The RPD is outside the control limits. Place a * flag here and on Form I's for soil.
4. Potassium does not require an * flag. Remove it here and on Form I's.
5. Vanadium needs a * here and on Form I's for soil.
6. Resubmit corrected forms.

Form 7 LCS

Cadmium is outside limit for soil. It was also out in case 8676 (SDG 361), This must be corrected.

V. A. Chapman 2-23-88

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
HOUSTON BRANCH
6608 HORNWOOD DRIVE
HOUSTON, TEXAS 77074

Ref. Case No. 8811

Site Name Air Center, Inc.

Date: 02/23/88

Subject: CLP Data Review

From: Michael L. Daggett, Chief, Organic Lab Section; 6E-HL

To: Hank Thompson, 6E-SH

A review of the laboratory raw data for the reference site has been completed by members of the Laboratory Section. Samples were:

| | | | | |
|---|---|---|---|---|
| INORGANIC: | MFF 436 | MFF 441 | MFF 446 | MFF 451 |
| | MFF 437 | MFF 442 | MFF 447 | MFF 452 |
| | MFF 438 | MFF 443 | MFF 448 | MFF 453 |
| | MFF 439 | MFF 444 | MFF 449 | MFF 454 |
| | MFF 440 | MFF 445 | MFF 450 | MFF 455 |
| ORGANIC: | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

The data was found:

( ) Acceptable

(X) Provisional; use of data requires caution. Problems are noted in Review Summary.

( ) Unacceptable; data should not be used. Problems are noted in Review Summary.

Questions regarding the review can be addressed to me.

Attachments

cc: David Stockton, 6E-HL

Carla Dempsey, WH-548A

Jim Petty, EMSL/Las Vegas

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
HOUSTON BRANCH
6608 HORNWOOD DRIVE
HOUSTON, TEXAS 77074

# INORGANIC QC CHECKLIST

Site Air Center, Inc., OK
Case No. 8811
Reviewed by V. A. Chapman (ESAT)
Date 2-23-88

Contract No. 68-W8-0005
Contractor Keystone-Houston (Spectrix)
Matrix Soil & Water (Low Concentration)
Acct # 8TFAJN88 SF # TFAUG4

| Sample No. | | | | |
|---|---|---|---|---|
| MFF 436 | MFF 440 | MFF 444 | MFF 448 | MFF 452 |
| MFF 437 | MFF 441 | MFF 445 | MFF 449 | MFF 453 |
| MFF 438 | MFF 442 | MFF 446 | MFF 450 | MFF 454 |
| MFF 439 | MFF 443 | MFF 447 | MFF 451 | MFF 455 |

COMMENTS (To be completed by EPA Personnel)

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. Data Completeness | X | Acceptable | | Provisional | | Unacceptable |
| 2. Instrument Calibration Tune | X | Acceptable | | Provisional | | Unacceptable |
| 3. Interference Check Sample | X | Acceptable | | Provisional | | Unacceptable |
| 4. Blank Analysis | X | Acceptable | | Provisional | | Unacceptable |
| 5. Matrix Spikes | | Acceptable | X | Provisional | | Unacceptable |
| 6. Duplicates | | Acceptable | X | Provisional | | Unacceptable |
| 7. Field Blanks | NA | Acceptable | | Provisional | | Unacceptable |
| 8. Other | | Acceptable | | Provisional | | Unacceptable |

ADDITIONAL COMMENTS
See Attached.

Acceptable - All items delivered; all criteria met
Provisional - Data usable; some non-essential review items missing or criteria were not met
Unacceptable - Data unusable; essential review items missing or criteria not met

HC
NS1



# COVER SHEET

## LABORATORY RESPONSE TO RESULTS OF CONTRACT COMPLIANCE SCREENING (CCS)

Response To: (Check one) ✓ Organcis CCS

_____ Inorganics CCS

Response materials sent to Organics CCS should be sent to the attention of Doris Ling, SMO.

Response materials sent to Inorganics CCS should be sent to the attention of Sa'ad Masri, SMO.

Laboratory Name ETC/TOXICON

Response Date 03/21/88

Date Screening Results Received at Laboratory 03/14/88

EPA Contract No. 68-01-7148

Case No. 8811

SDG No. 8811

Sample Nos.*

FG243

FG255

FG264

*Only list sample numbers that require reconciliation.

This form is used to identify materials sent in response to results of Contract Compliance Screening (CCS). A separate form must accompany the response for each Case.

Please indicate (on the attached continuation form) which fractions and/or which criteria correspond with your resubmission. Response materials sent to CCS should also be copied to the Region and to EMSL/LV, each with this blue Cover Sheet.

# ORGANICS

## LABORATORY RESPONSE TO RESULTS OF CCS (continued)

| Sample | Fraction | Criterion | Comments |
|---|---|---|---|
| FG243 | BNA | B | Sample added to Form I; Form resubmitted |
| FG255 | BNA | F | There is no apparent explaination for the low |
| ↓ | ↓ | ↓ | surrogate recoveries. Further, there is no explaination |
| | | | as to why this sample was neither reinjected or |
| | | | extracted and reanalyzed. Sample to be reanalyzed |
| ↓ | ↓ | ↓ | as requested 03/10/88 by EPA VI. |
| FG264 | ↓ | F | Same as FG255 |

| In Reference to Case No(s): |
| --- |
| 8811 |

**Contract Laboratory Program**
**REGIONAL/LABORATORY COMMUNICATION SYSTEM**
**Telephone Record Log**

Date of Call: 03/10/88

Laboratory Name: ETC/Toxicon

Lab Contact: Charlie E. Westerman

Region: VI

Regional Contact: Dr. Melvin Ritter

Call Initiated By: ____ Laboratory X Region

In reference to data for the following sample number(s):

FG255

FG264

Summary of Questions/Issues Discussed:

When will the data for samples with surrogate problems be reanalyzed & resubmitted? Reference CLP Regional/Laboratory Communication System Telephone Record Log 02/09/88 attached.

Summary of Resolution:

The BNA fraction of samples FG255 & FG264 were re-extracted & reanalyzed. The BNA surrogate recoveries were all within the control limits. These data are attached.

Charlie E. Westerman — Signature

04/21/88 — Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) SMO Copy

Quantitation Report File: SV427923

Resubmitted Data
G G Westerman
03/07/88

Data: SV427923.TI
01/27/88 13:04:00
Sample: 4279/23,FG265,LS,1.0,38.31
Conds.: A,IFB/BNA,8811,ETC/TOXICON
Formula: Instrument: A Weight: 0.001
Submitted by: EPA-VI Analyst: BTG Acct. No.: 68017148

AMOUNT=AREA * REF AMNT/(REF AREA * RESP FACT) * ~~38.310~~ 39.68
Resp. fac. from Library Entry

| No | Name | | |
|---|---|---|---|
| 1 | CI30 | D4-14-DICLBENZENE | IS1 |
| 2 | CI40 | D8-NAPHTHALENE | IS2 |
| 3 | CI50 | D10-ACENAPHTHENE | IS3 |
| 4 | CI60 | D10-PHENANTHRENE | IS4 |
| 5 | CI70 | D12-CHRYSENE | IS5 |
| 6 | CI75 | D12-PERYLENE | IS6 |
| 7 | CS50 | 2-FLUOROPHENOL | A1 |
| 8 | CS45 | D6-PHENOL | A2 |
| 9 | CS20 | D5-NITROBENZENE | B1 |
| 10 | CS25 | 2-FLUOROBIPHENYL | B2 |
| 11 | CS55 | 246-TRIBROMOPHENOL | A3 |
| 12 | CS30 | D14-P-TERPHENYL | B3 |

1587.190
1587.190
1587.190
1587.190
1587.190
1587.190
870.410
812.628
486.876
648.518
1100.755
720.071

| No | m/z | Scan | Time | Ref | RRT | Meth | Area(Hght) | Amount | | %Tot |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 152 | 691 | 11:31 | 1 | 1.000 | A BB | 17828. | 1532.390 | UG/L | 11.21 |
| 2 | 136 | 912 | 15:12 | 2 | 1.000 | A BB | 75142. | 1532.390 | UG/L | 11.21 |
| 3 | 164 | 1242 | 20:42 | 3 | 1.000 | A BB | 44967. | 1532.390 | UG/L | 11.21 |
| 4 | 188 | 1524 | 25:24 | 4 | 1.000 | A BB | 60464. | 1532.390 | UG/L | 11.21 |
| 5 | 240 | 2045 | 34:05 | 5 | 1.000 | A BB | 43028. | 1532.390 | UG/L | 11.21 |
| 6 | 264 | 2310 | 38:30 | 6 | 1.000 | A BB | 39042. | 1532.390 | UG/L | 11.21 |
| 7 | 112 | 505 | 8:25 | 1 | 0.731 | A BB | 13233. | 840.358 | UG/L | 6.15 |
| 8 | 99 | 654 | 10:54 | 1 | 0.946 | A BB | 14712. | 784.571 | UG/L | 5.74 |
| 9 | 82 | 791 | 13:11 | 2 | 0.867 | A BB | 10106. | 470.066 | UG/L | 3.44 |
| 10 | 172 | 1120 | 18:40 | 3 | 0.902 | A BB | 21644. | 626.127 | UG/L | 4.58 |
| 11 | 330 | 1397 | 23:17 | 3 | 1.125 | A BV | 2767. | 1062.750 | UG/L | 7.77 |
| 12 | 244 | 1844 | 30:44 | 5 | 0.902 | A BB | 18951. | 695.210 | UG/L | 5.08 |

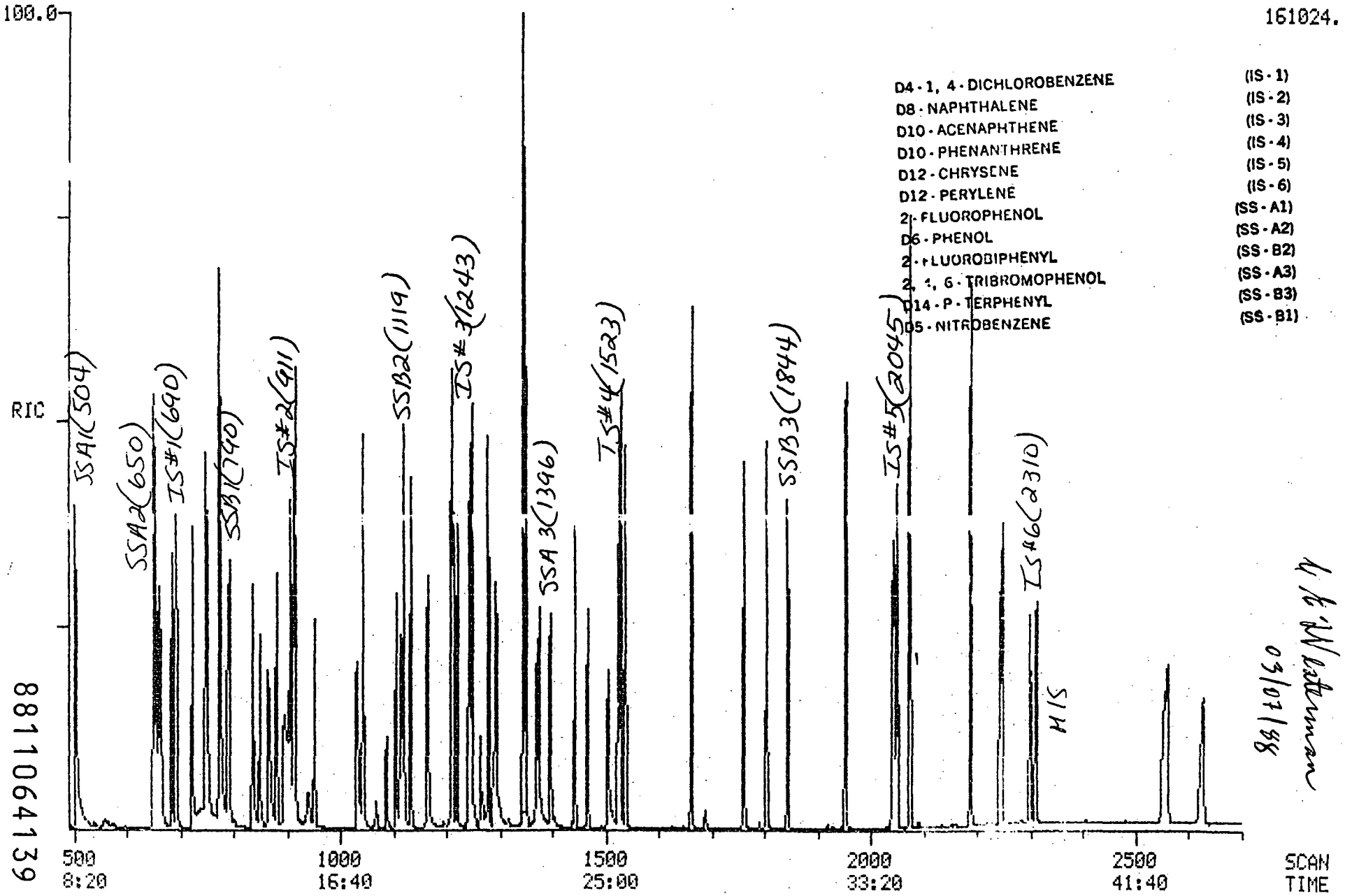
| No | Ret(L) | Ratio | RRT(L) | Ratio | Amnt | Amnt(L) | R.Fac | R.Fac(L) | Ratio |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 11:30 | 1.00 | 1.000 | 1.00 | 1532.40 | 40.00 | 38.310 | 1.000 | 38.31 |
| 2 | 15:11 | 1.00 | 1.000 | 1.00 | 1532.40 | 40.00 | 38.310 | 1.000 | 38.31 |
| 3 | 20:43 | 1.00 | 1.000 | 1.00 | 1532.40 | 40.00 | 38.310 | 1.000 | 38.31 |
| 4 | 25:23 | 1.00 | 1.000 | 1.00 | 1532.40 | 40.00 | 38.310 | 1.000 | 38.31 |
| 5 | 34:05 | 1.00 | 1.000 | 1.00 | 1532.40 | 40.00 | 38.310 | 1.000 | 38.31 |
| 6 | 38:30 | 1.00 | 1.000 | 1.00 | 1532.40 | 40.00 | 38.310 | 1.000 | 38.31 |
| 7 | 8:24 | 1.00 | 0.730 | 1.00 | 840.36 | 100.00 | 11.374 | 1.354 | 8.40 |
| 8 | 10:50 | 1.01 | 0.942 | 1.00 | 784.57 | 100.00 | 12.646 | 1.612 | 7.85 |
| 9 | 13:10 | 1.00 | 0.867 | 1.00 | 470.07 | 50.00 | 4.122 | 0.438 | 9.40 |
| 10 | 18:39 | 1.00 | 0.900 | 1.00 | 626.13 | 50.00 | 14.752 | 1.178 | 12.52 |
| 11 | 23:16 | 1.00 | 1.123 | 1.00 | 1062.76 | 100.00 | 0.943 | 0.089 | 10.63 |
| 12 | 30:44 | 1.00 | 0.902 | 1.00 | 695.21 | 50.00 | 13.498 | 0.971 | 13.90 |

8811063782

RIC
01/27/88 7:48:00
SAMPLE: 50/80 PPM BNA CONT. CALI STD,#3-57-1,
CONDS.: A,IFB/BNA,8811,ETC/TOXICON
RANGE: G 1,2700 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

DATA: SS012788A 1
CALI: SS012788A #3

SCANS 490 TO 2700




Resubmitted Data
H. K. Whitman
03/07/88

88110641 39

Call to Keystone about Case 8811

Form I

1. MFF 443, Selenium should have a U.
2. MFF 438, Arsenic should have an S flag, not +.
3. MFF 454 & 452, Arsenic, requires U flag.
4. MFF 443 & 450, The W flag on Potassium should be on Selenium.
5. MFF 445, Cobalt not reported.
6. Resubmit above.

Form 5A (Soil)

The method used to calculate "Spiked Sample Results" for soils is incorrect. The percent recovery is incorrect.

The quickest way to realize the error in the method is to study the chromium ICP readings for MFF 436 and MFF 436S, data pages 00073 and 00075. The sample had a reading of 0.422 mg/Kg. The spiked sample read 0.424 mg/Kg. One can see without calculations that the recovery was about zero. The calculation method gave -46.2% recovery. Recalculate and resubmit Form 5A for soils.

N flags are needed on this form and on appropriate Form I's for arsenic, chromium, and selenium in addition to those shown for antimony, nickel, and silver.

The selenium spike should have been 2mg/Kg. If that amount was used the spike recovery was within the control limits.

Form 5B (Soil).

The post digestion spike recovery for chromium was not reported. Resubmit.

Form 6 (Soil).

1. The "39.2" RPD shown for antimony should be on the arsenic line.
2. Arsenic is outside the control limits. An * flag should be placed here and on Form I's for soil.
3. The magnesium duplicate value is missing. The RPD is outside the control limits. Place a * flag here and on Form I's for soil.
4. Potassium does not require an * flag. Remove it here and on Form I's.
5. Vanadium needs a * here and on Form I's for soil.
6. Resubmit corrected forms.

Form 7 LCS

Cadmium is outside limit for soil. It was also out in case 8676 (SDG 361), This must be corrected.

V. A. Chapman 2-23-88

mu 4/8/88



# COVER SHEET

## LABORATORY RESPONSE TO RESULTS OF CONTRACT COMPLIANCE SCREENING (CCS)

Response To: (Check one) ✓ Organcis CCS

_____ Inorganics CCS

Response materials sent to Organics CCS should be sent to the attention of Doris Ling, SMO.

Response materials sent to Inorganics CCS should be sent to the attention of Sa'ad Masri, SMO.

Laboratory Name ETC/TOXICON

Response Date 04/07/88

Date Screening Results Received at Laboratory 04/04/88

EPA Contract No. 68-01-7148

Case No. 8811

SDG No. 8811

Sample Nos.* FG243

*Only list sample numbers that require reconciliation.

This form is used to identify materials sent in response to results of Contract Compliance Screening (CCS). A separate form must accompany the response for each Case.

Please indicate (on the attached continuation form) which fractions and/or which criteria correspond with your resubmission. Response materials sent to CCS should also be copied to the Region and to EMSL/LV, each with this blue Cover Sheet.

Resubmitted Data
L L Westerman
04/21/88 Page 5 of 32

# GC/MS TUNING AND MASS CALIBRATION
## Decafluorotriphenylphosphine (DFTPP)

Case No. 8811 Contractor ETC/Toxicon Contract No. 68-01-7148

Instrument ID A Date 4-4-88 Time 0718

Lab ID DFO404 88A Data Release Authorized By: L L Westerman

| m/e | ION ABUNDANCE CRITERIA | %RELATIVE ABUNDANCE |
|---|---|---|
| 51 | 30.0 - 60.0% of mass 198 | 50.9 |
| 68 | less than 2.0% of mass 69 | 0.69 (1.27)[1] |
| 69 | mass 69 relative abundance | 54.5 |
| 70 | less than 2.0% of mass 69 | 0.00 (0.00)[1] |
| 127 | 40.0 - 60.0% of mass 198 | 51.6 |
| 197 | less than 1.0% of mass 198 | 0.00 |
| 198 | base peak, 100% relative abundance | 100 |
| 199 | 5.0 - 9.0% of mass 198 | 6.53 |
| 275 | 10.0 - 30.0% of mass 198 | 21.1 |
| 365 | greater than 1.00% of mass 198 | 1.33 |
| 441 | present, but less than mass 443 | 4.85 |
| 442 | greater than 40.0% of mass 198 | 42.6 |
| 443 | 17.0 - 23.0% of mass 442 | 7.82 (18.4)[2] |

THIS PERFORMANCE TUNE APPLIES TO THE FOLLOWING SAMPLES, BLANKS AND STANDARDS.

[1]Value in parenthesis is % mass 69.
[2]Value in parenthesis is % mass 442.

| SAMPLE ID | LAB ID | DATE OF ANALYSIS | TIME OF ANALYSIS |
|---|---|---|---|
| 50/80ppm SVstd-3-57-1 | SS0404 88A | 4-4-88 | 0741 |
| MB 5 8 cw 04/21/88 | SV4279MB5 | ↓ | 0937 |
| FG255AE | SV427919RE | ↓ | 1052 |
| FG 264 RE | SV427922RE | ↓ | 1229 |

# METHOD BLANK SUMMARY

Case No. 8811 Region VI Contractor ETC/Toxicon Contract No. 68-01-7148

| FILE ID | DATE OF ANALYSIS | FRACTION | MATRIX | CONC. LEVEL | INST. ID | CAS NUMBER | COMPOUND (HSL, TIC OR UNKNOWN) | CONC. | UNITS | CRQL |
|---|---|---|---|---|---|---|---|---|---|---|
| SV4279MB2 | 01/27/88 | BNA | SOIL | LOW | A | | Unk | 6300 | ug/kg | |
| " | " | " | " | " | " | | Unk | 700 | " | |
| SV4279MB3 | 01/25/88 | BNA | Water | LOW | A | 822-67-3 | 2-Cyclohexene-1-ol | 22 | ug/kg | |
| " | " | " | " | " | " | | Unk | 110 | " | |
| " | " | " | " | " | " | 115-96-8 | Ethanol, 2-chloro-Phosphate | 7 | " | |
| SV4279MB4 | 02/07/88 | BNA | SOIL | LOW | A | 3744-02-3 | 4 Methyl-4 pentene-2-one | 320 | ug/kg | |
| " | " | " | " | " | " | | Unk | 2800 | " | |
| " | " | " | " | " | " | 6006-01-5 | 4,8,12 Trimethyl,3,7,11 Tridecatrienenitrile | 180 | " | |
| SV4279MB5 | 04/04/88 | BNA | Soil | Low | A | | NCF | | | |

cew 04/21/88

Resubmitted Date 4/21/88

Page 4 of 34

Comments: NCF - No Compound Found

Resubmitted Data
L L Westerman 04/21/88

| Sample Number |
|---|
| MB8 |

# Organics Analysis Data Sheet
(Page 1)

Page ~~28~~ 29 of 34 cew
8811

Laboratory Name: Toxicon Laboratories, Inc.

Case No: cew

Lab Sample ID No: 4279/MB8

QC Report No: ~~68-01-7148~~ 8811

Sample Matrix: Soil

Contract No: 68-01-7148

Data Release Authorized By: L L Westerman

Date Sample Received:

## Volatile Compounds

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared:

Date Analyzed: NFA

Conc/Dil Factor: pH

Percent Moisture: (Not Decanted)

| CAS Number | | ug/l or ug/Kg (Circle One) |
|---|---|---|
| 74-87-3 | Chloromethane | |
| 74-83-9 | Bromomethane | |
| 75-01-4 | Vinyl Chloride | |
| 75-00-3 | Chloroethane | |
| 75-09-2 | Methylene Chloride | |
| 67-64-1 | Acetone | |
| 75-15-0 | Carbon Disulfide | |
| 75-35-4 | 1, 1-Dichloroethene | |
| 75-34-3 | 1, 1-Dichloroethane | |
| 156-60-5 | Trans-1, 2-Dichloroethene | |
| 67-66-3 | Chloroform | |
| 107-06-2 | 1, 2-Dichloroethane | |
| 78-93-3 | 2-Butanone | |
| 71-55-6 | 1, 1, 1-Trichloroethane | |
| 56-23-5 | Carbon Tetrachloride | |
| 108-05-4 | Vinyl Acetate | |
| 75-27-4 | Bromodichloromethane | |

| CAS Number | | ug/l or ug/Kg (Circle One) |
|---|---|---|
| 78-87-5 | 1, 2-Dichloropropane | |
| 10061-02-6 | Trans-1, 3-Dichloropropene | |
| 79-01-6 | Trichloroethene | |
| 124-48-1 | Dibromochloromethane | |
| 79-00-5 | 1, 1, 2-Trichloroethane | |
| 71-43-2 | Benzene | |
| 10061-01-5 | cis-1, 3-Dichloropropene | |
| 110-75-8 | 2-Chloroethylvinylether | |
| 75-25-2 | Bromoform | |
| 108-10-1 | 4-Methyl-2-Pentanone | |
| 591-78-6 | 2-Hexanone | |
| 127-18-4 | Tetrachloroethene | |
| 79-34-5 | 1, 1, 2, 2-Tetrachloroethane | |
| 108-88-3 | Toluene | |
| 108-90-7 | Chlorobenzene | |
| 100-41-4 | Ethylbenzene | |
| 100-42-5 | Styrene | |
| | Total Xylenes | |

### Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

**Value** If the result is a value greater than or equal to the detection limit, report the value

**U** Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample

**J** Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10J). If limit of detection is 10 µg/l and a concentration of 3 µg/l is calculated, report as 3J

**C** This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract should be confirmed by GC/MS

**B** This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action

**Other** Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

NFA denotes no fraction analyzed.

Laboratory Name: Toxicon Laboratories, Inc.

Case No: 8811

Resubmitted Data
L. & Westerman
04/21/88

| Sample Number |
|---|
| MB8 |

# Organics Analysis Data Sheet
(Page 2)

Page ~~24~~ of 34
30 cw

## Semivolatile Compounds

Concentration: Low Medium (Circle One)

Date Extracted/Prepared: 03/10/88

Date Analyzed: 04/04/88

Conc/Dil Factor: 1

Percent Moisture (Decanted) 0

GPC Cleanup ☐Yes ☒No

Separatory Funnel Extraction ☐Yes

Continuous Liquid - Liquid Extraction ☐Yes

| CAS Number | | ug/l or ug/Kg (Circle One) |
|---|---|---|
| 108-95-2 | Phenol | 330u |
| 111-44-4 | bis(-2-Chloroethyl)Ether | 330u |
| 95-57-8 | 2-Chlorophenol | 330u |
| 541-73-1 | 1, 3-Dichlorobenzene | 330u |
| 106-46-7 | 1, 4-Dichlorobenzene | 330u |
| 100-51-6 | Benzyl Alcohol | 330u |
| 95-50-1 | 1, 2-Dichlorobenzene | 330u |
| 95-48-7 | 2-Methylphenol | 330u |
| 39638-32-9 | bis(2-chloroisopropyl)Ether | 330u |
| 106-44-5 | 4-Methylphenol | 330u |
| 621-64-7 | N-Nitroso-Di-n-Propylamine | 330u |
| 67-72-1 | Hexachloroethane | 330u |
| 98-95-3 | Nitrobenzene | 330u |
| 78-59-1 | Isophorone | 330u |
| 88-75-5 | 2-Nitrophenol | 330u |
| 105-67-9 | 2, 4-Dimethylphenol | 330u |
| 65-85-0 | Benzoic Acid | 1600u |
| 111-91-1 | bis(-2-Chloroethoxy)Methane | 330u |
| 120-83-2 | 2, 4-Dichlorophenol | 330u |
| 120-82-1 | 1, 2, 4-Trichlorobenzene | 330u |
| 91-20-3 | Naphthalene | 330u |
| 106-47-8 | 4-Chloroaniline | 330u |
| 87-68-3 | Hexachlorobutadiene | 330u |
| 59-50-7 | 4-Chloro-3-Methylphenol | 330u |
| 91-57-6 | 2-Methylnaphthalene | 330u |
| 77-47-4 | Hexachlorocyclopentadiene | 330u |
| 88-06-2 | 2, 4, 6-Trichlorophenol | 330u |
| 95-95-4 | 2, 4, 5-Trichlorophenol | 1600u |
| 91-58-7 | 2-Chloronaphthalene | 330u |
| 88-74-4 | 2-Nitroaniline | 1600u |
| 131-11-3 | Dimethyl Phthalate | 330u |
| 208-96-8 | Acenaphthylene | 330u |
| 99-09-2 | 3-Nitroaniline | 1600u |

| CAS Number | | ug/l or ug/Kg (Circle One) |
|---|---|---|
| 83-32-9 | Acenaphthene | 330u |
| 51-28-5 | 2, 4-Dinitrophenol | 1600u |
| 100-02-7 | 4-Nitrophenol | 1600u |
| 132-64-9 | Dibenzofuran | 330u |
| 121-14-2 | 2, 4-Dinitrotoluene | 330u |
| 606-20-2 | 2, 6-Dinitrotoluene | 330u |
| 84-66-2 | Diethylphthalate | 330u |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 330u |
| 86-73-7 | Fluorene | 330u |
| 100-01-6 | 4-Nitroaniline | 1600u |
| 534-52-1 | 4, 6-Dinitro-2-Methylphenol | 330u |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 330u |
| 101-55-3 | 4-Bromophenyl-phenylether | 330u |
| 118-74-1 | Hexachlorobenzene | 330u |
| 87-86-5 | Pentachlorophenol | 1600u |
| 85-01-8 | Phenanthrene | 330u |
| 120-12-7 | Anthracene | 330u |
| 84-74-2 | Di-n-Butylphthalate | 330u |
| 206-44-0 | Fluoranthene | 330u |
| 129-00-0 | Pyrene | 330u |
| 85-68-7 | Butylbenzylphthalate | 330u |
| 91-94-1 | 3, 3'-Dichlorobenzidine | 660u |
| 56-55-3 | Benzo(a)Anthracene | 330u |
| 117-81-7 | bis(2-Ethylhexyl)Phthalate | 330u |
| 218-01-9 | Chrysene | 330u |
| 117-84-0 | Di-n-Octyl Phthalate | 330u |
| 205-99-2 | Benzo(b)Fluoranthene | 330u |
| 207-08-9 | Benzo(k)Fluoranthene | 330u |
| 50-32-8 | Benzo(a)Pyrene | 330u |
| 193-39-5 | Indeno(1, 2, 3-cd)Pyrene | 330u |
| 53-70-3 | Dibenz(a, h)Anthracene | 330u |
| 191-24-2 | Benzo(g, h, i)Perylene | 330u |

(1)-Cannot be separated from diphenylamine

Resubmitted Data
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04/21/88
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Laboratory Name: ETC/Toxicon

Case No: 8811

Sample Number
MB7 8

cew 04/21/88

# Organics Analysis Data Sheet
(Page 4)

## Tentatively Identified Compounds

| CAS Number | Compound Name | Fraction | RT or Scan Number | Estimated Concentration (ug/l or ug/kg) |
|---|---|---|---|---|
| 1. | NFA | Volatile | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |
| 6. | | | | |
| 7. | | | | |
| 8. | | | | |
| 9. | | | | |
| 10. | | | | |
| 11. | NCF | Semivolatile | | |
| 12. | | | | |
| 13. | | | | |
| 14. | | | | |
| 15. | | | | |
| 16. | | | | |
| 17. | | | | |
| 18. | | | | |
| 19. | | | | |
| 20. | | | | |
| 21. | | | | |
| 22. | | | | |
| 23. | | | | |
| 24. | | | | |
| 25. | | | | |
| 26. | | | | |
| 27. | | | | |
| 28. | | | | |
| 29. | | | | |
| 30. | | | | |

NFA denotes no fraction analyzed
NCF denotes no compound found
Unk denotes unknown
mw denotes probable molecular weight

(3) There is no apparent explaination why the base/neutral/acid reconstructed ion current chromatogram for 01/27/88 (page 64139) should be missing from your copy of the data package. A copy of page 64139 is included in the response.

(4) The Finnigan Factor of 38.31 employed for the base/neutral/acid fraction of sample FG264 is incorrect and should actually be 39.68. This gives rise to an error of 3.45%. No base/neutral/acid HSL compounds were detected in this sample. The 38.31 factor corresponds to a percent moisture of 13 percent whereas the percent moisture was actually 16 percent. Page 63782 with the erroneous Finnigan Factor has been corrected. No corrections are required for the Form I page 2 answer sheet.

Charlie G Westerman 03/08/88