1B

ATILE ORGANICS ANALYSIS DATA SHEET

	EPA SAMPLE NO.	EPA SAMPLE NO.
	CJP57	CJP57RE

EM-RTP Contract: 68D00159

Case No.: 17514 SAS No.: _____ SDG No.: CJP38 G No.: CJP38

er) SOIL Lab Sample ID: 467963 : 467963

30.1 (g/mL) G Lab File ID: GD067963C07 GDR67963A02

d) LOW Date Received: 12/06/91 : 12/06/91

) decanted: (Y/N) N Date Extracted: 12/11/91 d: 12/27/91

ac Volume: 500.0 (uL) Date Analyzed: 12/23/91 : 01/05/92

2.0(uL) Dilution Factor: 5.0 or: 2.0

/N Y pH: 7.4

COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	TS: G/KG	Q
Phenol	2300	U	930	U
bis(2-Chloroethyl)Ether	2300	U	930	U
2-Chlorophenol	2300	U	930	U
1,3-Dichlorobenzene	2300	U	930	U
1,4-Dichlorobenzene	2300	U	930	U
1,2-Dichlorobenzene	2300	U	930	U
2-Methylphenol	2300	U	930	U
2,2'-Oxybis(1-Chloropropane)	2300	U	930	U
4-Methylphenol	2300	U	930	U
N-Nitroso-Di-n-Propylamine	2300	U	930	U
Hexachloroethane	2300	U	930	U
Nitrobenzene	2300	U	930	U
Isophorone	2300	U	930	U
2-Nitrophenol	2300	U	930	U
2,4-Dimethylphenol	2300	U	930	U
bis(2-Chloroethoxy)Methane	2300	U	930	U
2,4-Dichlorophenol	2300	U	930	U
1,2,4-Trichlorobenzene	2300	U	930	U
Naphthalene	2300	U	930	U
4-Chloroaniline	2300	U	930	U
Hexachlorobutadiene	2300	U	930	U
4-Chloro-3-Methylphenol	2300	U	930	U
2-Methylnaphthalene	2300	U	930	U
Hexachlorocyclopentadiene	2300	U	930	U
2,4,6-Trichlorophenol	2300	U	930	U
2,4,5-Trichlorophenol	5700	U	2300	U
2-Chloronaphthalene	2300	U	930	U
2-Nitroaniline	5700	U	2300	U
Dimethyl Phthalate	2300	U	930	U
Acenaphthylene	2300	U	930	U
2,6-Dinitrotoluene	2300	U	930	U
3-Nitroaniline	5700	U	2300	U
Acenaphthene	2300	U	120	J ✓

BN surrogate recoveries similar (25)

1C

LATILE ORGANICS ANALYSIS DATA SHEET

	EPA SAMPLE NO.	EPA SAMPLE N(
	CJP57	CJP57RE

HEM,RTP Contract: 68D00159

Case No.: 17514 SAS No.: _____ SDG No.: CJP38 DG No.: CJP38

ter) SOIL Lab Sample ID: 467963 D: 467963

30.1 (g/mL) G Lab File ID: GD067963C07 GDR67963A02

ed) LOW Date Received: 12/06/91 d: 12/06/91

30 decanted: (Y/N) N Date Extracted: 12/11/91 ed: 12/27/91

rat Volume: 500.0 (uL) Date Analyzed: 12/23/91 d: 01/05/92

: 2.0(uL) Dilution Factor: 5.0 tor: 2.0

Y/N) Y pH: 7.4

COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	ITS: UG/KG	Q
2,4-Dinitrophenol	5700	U	2300	U
4-Nitrophenol	5700	U	2300	U
Dibenzofuran	2300	U	930	U
2,4-Dinitrotoluene	2300	U	930	U
Diethylphthalate	2300	U	930	U
4-Chlorophenyl-phenylether	2300	U	930	U
Fluorene	2300	U	210	J ✓
4-Nitroaniline	5700	U	2300	U
4,6-Dinitro-2-Methylphenol	5700	U	2300	U
N-Nitrosodiphenylamine (1)	2300	U	930	U
4-Bromophenyl-phenylether	2300	U	930	U
Hexachlorobenzene	2300	U	930	U
Pentachlorophenol	5700	U	170	J ✓
Phenanthrene	1600	J	3800	✓
Anthracene	260	J	350	J ✓
Carbazole	2300	U	340	J ✓
Di-n-Butylphthalate	2300	U	930	U
Fluoranthene	3100		7600	✓
Pyrene	2900		3500	✓
Butylbenzylphthalate	240	J B	100	J B ✓
3,3'-Dichlorobenzidine	2300	U	930	U
Benzo(a)Anthracene	1600	J	3000	✓
Chrysene	1600	J	2900	✓
bis(2-Ethylhexyl)Phthalate	700	J B	390	BJ ✓
Di-n-Octyl Phthalate	2300	U	930	U
Benzo(b)Fluoranthene	3500	X	10000	X ✓
Benzo(k)Fluoranthene	~~3500~~	~~X~~	~~10000~~	~~X~~
Benzo(a)Pyrene	910	J	1100	✓
Indeno(1,2,3-cd)Pyrene	560	J	730	J ✓
Dibenz(a,h)Anthracene	2300	U	930	U
Benzo(g,h,i)Perylene	2300 ~~4400~~	U	930 ~~1800~~	U

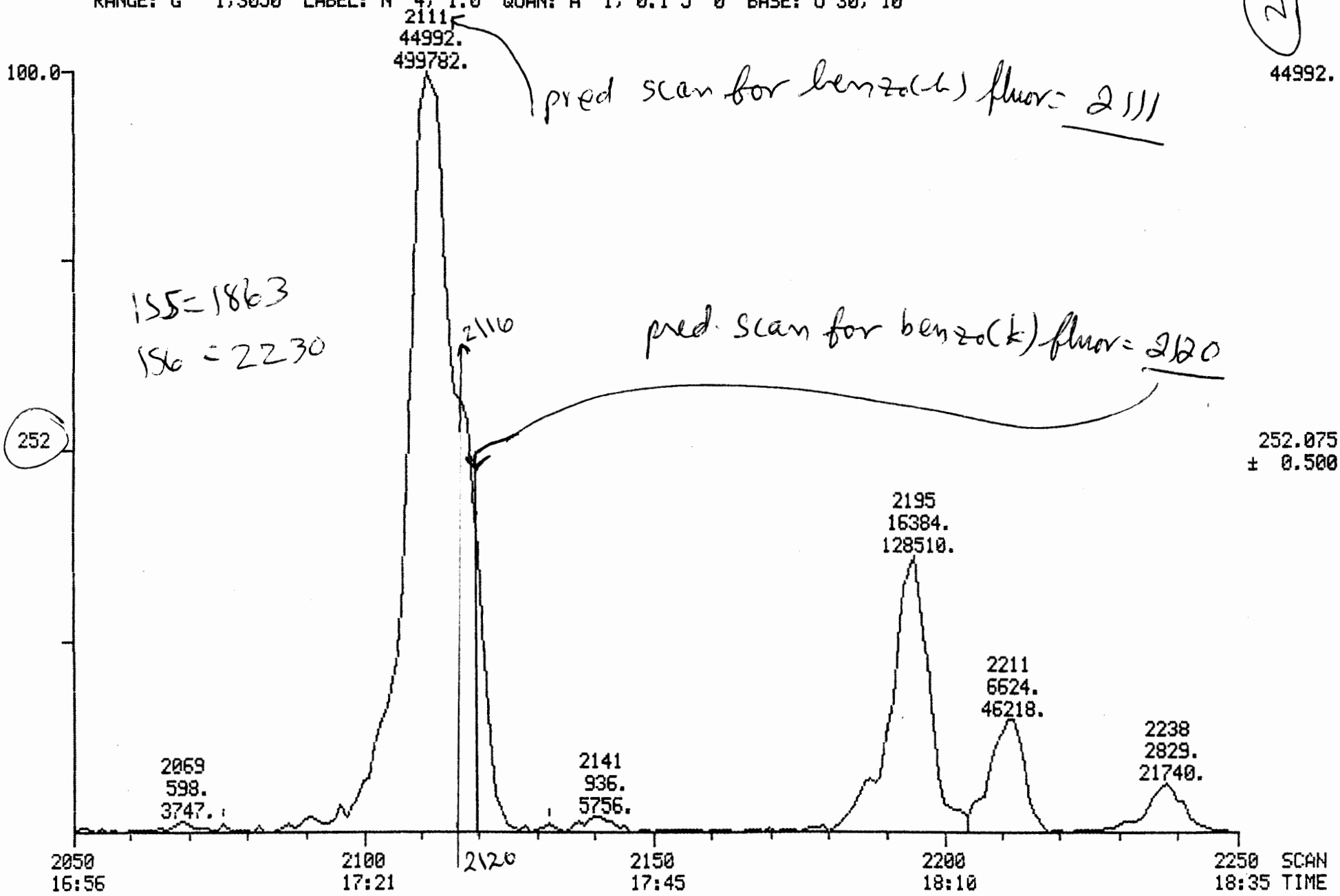
t be separated from Diphenylamine

BN surrogate recoveries similar

(26)

MIDMASS CHROMATOGRAM
01/05/92 20:10:00
SAMPLE: 2UL CC#467963 ID#CJP57 RE
CONDS.: EXTRACTED 12/27/91 1: 2 DILUTION
RANGE: G 1,3050 LABEL: N 4, 1.0 QUAN: A 1, 0.1 J 0 BASE: U 30, 10

DATA: GDR67963A02 #1 SCANS 2050 TO 2250
CALI: GDR67963A02 #2
CS#17514-CJP38 OWA02



29

1318

17514 CJP38

SAMPLE DATA PACKAGE

54 426 DI-N-BUTYL PHTHALATE (Q4#9) <84-74-2>
55 431 FLUORANTHENE (Q4#10) <206-44-0>
56 *459 D12-CHRYSENE (IS#5)
57 445 PYRENE (Q5#3) <129-00-0>
58 415 BUTYLBENZYL PHTHALATE (Q5#4) <85-68-7>
59 423 3,3'-DICHLOROBENZIDINE (Q5#5) <91-94-1>
60 405 BENZO(A)ANTHRACENE (Q5#6) <56-55-3>
61 413 BIS(2-ETHYLHEXYL) PHTHALATE (Q5#7) <117-81-7>
62 418 CHRYSENE (Q5#8) <218-01-9>
63 *497 D12-PERYLENE (IS#6)
64 429 DI-N-OCTYL PHTHALATE (Q6#2) <117-84-0>
65 407 BENZO(B)FLUORANTHENE (Q6#3) <205-99-2>
66 409 BENZO(K)FLUORANTHENE (Q6#4) <207-08-9>
67 406 BENZO(A)PYRENE (Q6#5) <50-32-8>
68 437 INDENO(1,2,3-C,D)PYRENE (Q6#6) <193-39-5>
69 419 DIBENZO(A,H)ANTHRACENE (Q6#7) <53-70-3>
70 408 BENZO(G,H,I)PERYLENE (Q6#8) <191-24-2>
71 #619 2-FLUOROPHENOL (SS#1)
72 #612 D5-PHENOL (SS#2)
73 #634 2-CHLOROPHENOL-D4 (SS#3)
74 #570 1,2-DICHLOROBENZENE-D4 (SS#4)
75 #447 D5-NITROBENZENE (SS#5)
76 #448 2-FLUOROBIPHENYL (SS#6)
77 #628 2,4,6-TRIBROMOPHENOL (SS#7)
78 #496 D14-TERPHENYL (SS#8)

Cont cal std 1/5/92

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount	%Tot
51	178	1431	11:49	45	1.003	A BV	351340.	25.000 NG	1.30
52	167	1465	12:06	45	1.027	A BB	291388.	25.000 NG	1.30
53	178	1439	11:53	45	1.008	A VB	345260.	25.000 NG	1.30
54	149	1518	12:32	45	1.064	A BB	438757.	25.000 NG	1.30
55	202	1623	13:24	45	1.137	A BB	294336.	25.000 NG	1.30
56	240	1860	15:22	56	1.000	A BB	134136.	20.000 NG	1.04
57	202	1661	13:43	56	0.893	A BV	303364.	25.000 NG	1.30
58	149	1761	14:33	56	0.947	A BB	169888.	25.000 NG	1.30
59	252	1852	15:18	56	0.996	A BB	40644.	25.000 NG	1.30
60	228	1858	15:21	56	0.999	A BV	200468.	25.000 NG	1.30
61	149	1857	15:20	56	0.998	A BB	256820.	25.000 NG	1.30
62	228	1865	15:24	56	1.003	A VB	189488.	25.000 NG	1.30
63	264	2224	18:22	63	1.000	A BB	78348.	20.000 NG	1.04
4	149	1997	16:30	63	0.898	A BB	366556.	25.000 NG	1.30
5	252	2106	17:24	63	0.947	A BV	120588.	25.000 NG	1.30

SAMPLE DATA PACKAGE 17514 CJP38 1956

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount	%Tot
66	252	2114	17:28	63	0.951	A VB	121328.	25.000 NG	1.30
67	252	2205	18:13	63	0.991	A BB	100452.	25.000 NG	1.30
68	276	2667	22:02	63	1.199	A BV	79124.	25.000 NG	1.30
69	278	2682	22:09	63	1.206	A BB	71364.	25.000 NG	1.30
70	276	2804	23:10	63	1.261	A BB	74280.	25.000 NG	1.30
71	112	532	4:24	1	0.741	A BB	116900.	25.000 NG	1.30
72	99	664	5:29	1	0.925	A BB	172004.	25.000 NG	1.30
73	132	684	5:39	1	0.953	A BB	144860.	25.000 NG	1.30
74	152	740	6:07	1	1.031	A BB	107348.	25.000 NG	1.30
75	82	801	6:37	13	0.879	A BB	181100.	25.000 NG	1.30
76	172	1080	8:55	26	0.909	A BB	262236.	25.000 NG	1.30
77	330	1314	10:51	26	1.106	A BB	52756.	25.000 NG	1.30
78	244	1683	13:54	56	0.905	A BB	232964.	25.000 NG	1.30

28

No	Ret(L)	Ratio	RRT(L)	Ratio	Amnt	Amnt(L)	R.Fac	R.Fac(L)	Ratio
51	11:49	1.00	10.000	0.10	25.00	25.00	1.104	1.104	1.00
52	12:06	1.00	1.000	1.03	25.00	25.00	0.916	0.916	1.00
53	11:53	1.00	10.000	0.10	25.00	25.00	1.085	1.085	1.00

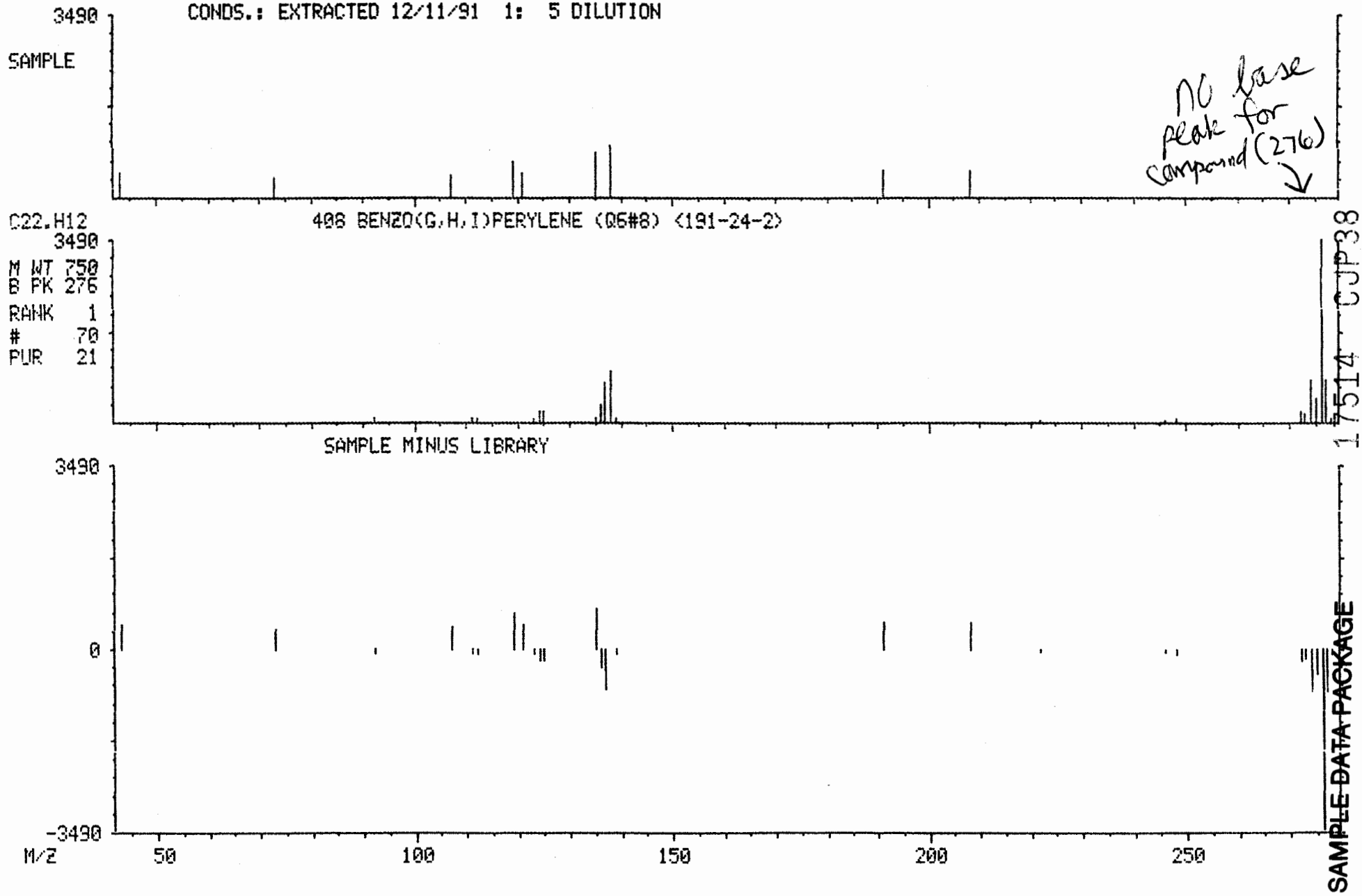
COMPUCHEM LABS, INC.

12/23/91 11:59:00 + 18:14
SAMPLE: 2UL CC#467963 ID#CJP57 CS#17514-CJP38 OWA07
CONDS.: EXTRACTED 12/11/91 1: 5 DILUTION

MID LIBRARY SEARCH (LIBRARYNC)
DATA: GD067963C07 #2248 BASE M/Z: 138
ENHANCED (10B 2N 0T) RIC: 2744.

29

1267



17514 CJP38

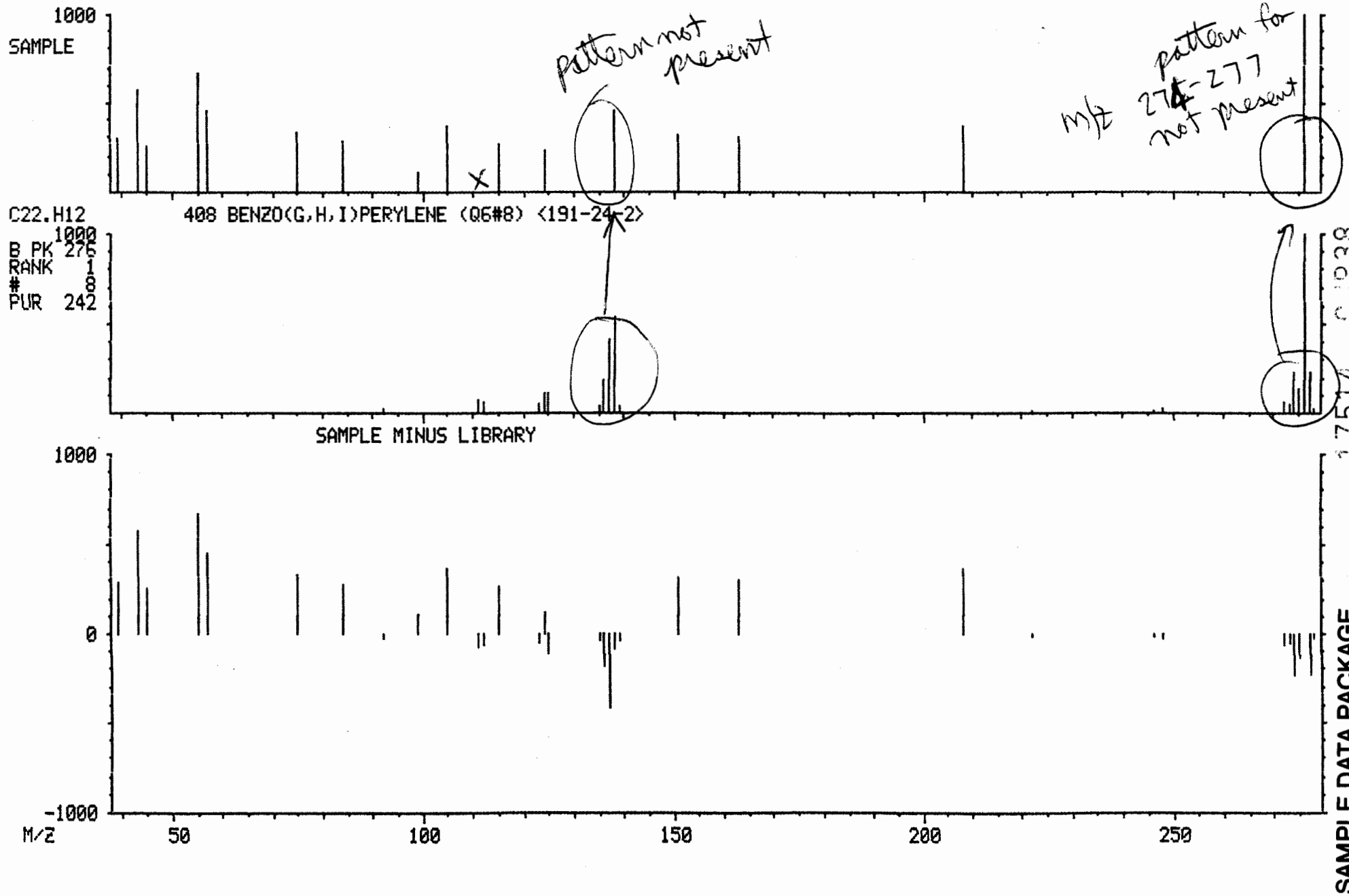
SAMPLE DATA PACKAGE

MID LIBRARY SEARCH
01/05/92 20:10:00 + 23:15
SAMPLE: 2UL CC#467963 ID#CJP57 RE CS#17514-CJP38 OWA02
CONDS.: EXTRACTED 12/27/91 1: 2 DILUTION

DATA: GDR67963A02 #2815 BASE M/Z: 276
ENHANCED (10B 2N 0T) RIC: 2867.
COMPUCHEM LABS, INC.

30

1328



17514 CJP38

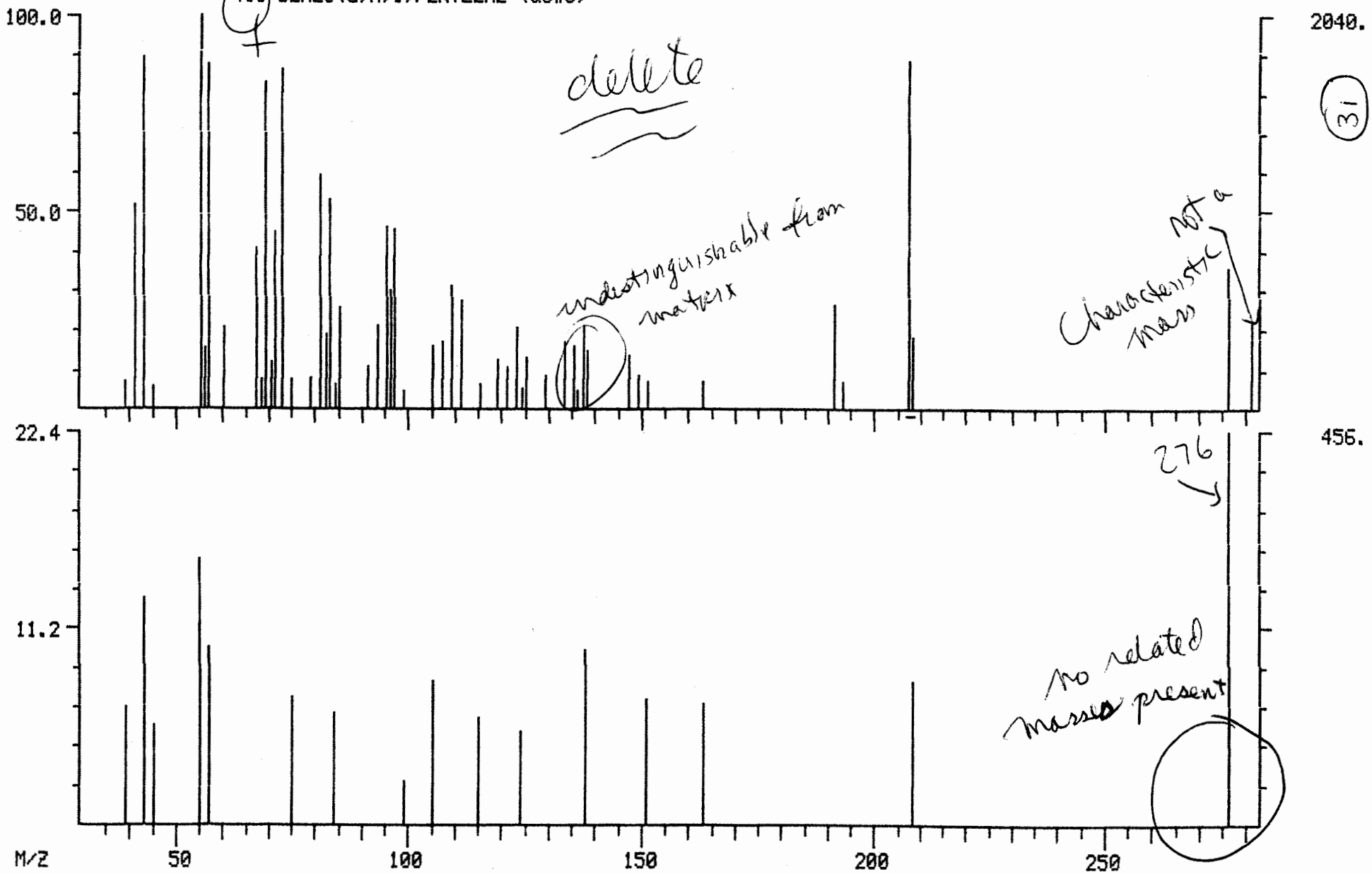
SAMPLE DATA PACKAGE

MID DUAL MASS SPECTRUM
01/05/92 20:10:00 + 23:15
SECOND SPECTRUM
SAMPLE: 2UL CC#467963 ID#CJP57 RE
408 BENZO(G,H,I)PERYLENE (Q6#8)

DATA: GDR67963A02 #2815 BASE M/Z: 55/ 276
CALI: GDR67963A02 #2 RIC: 30175./ 2867.
DATA: GDR67963A02 #2815 COMPUCHEM LABS, INC.

CS#17514-CJP38 OWA02

1329

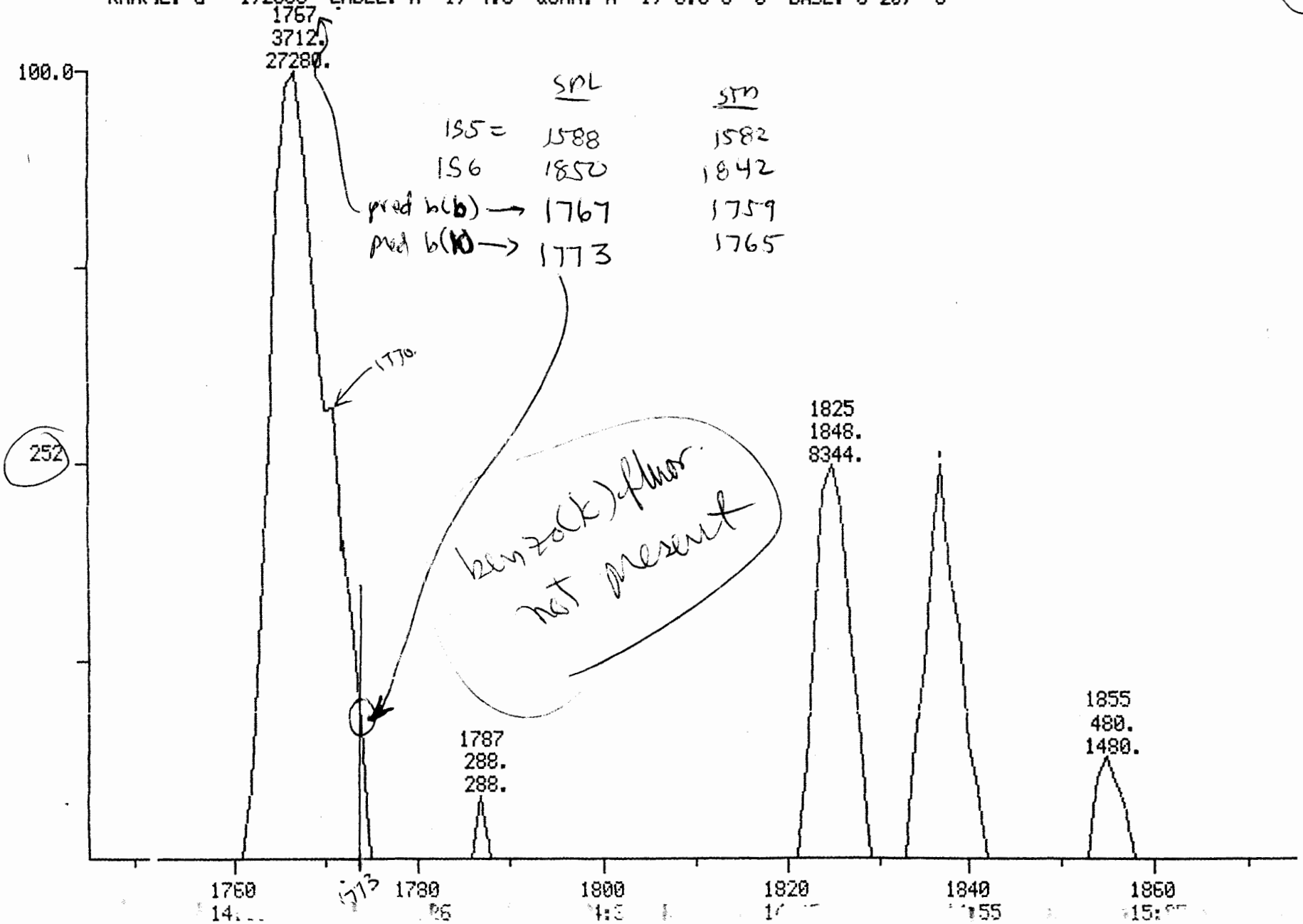


31

17514 CJP38

SAMPLE DATA PACKAGE

MIDMASS CHROMATOGRAM DATA: GD067964C07 #1 SCANS 1745 TO 1875
12/23/91 12:34:00 . CALI: GD067964C07 #2
SAMPLE: 2UL CC#467964 ID#CJP58 CS#17514-CJP38 OWA07
CONDS.: EXTRACTED 12/11/91 1: 5 DILUTION
RANGE: G 1,2500 LABEL: N 1, 4.0 QUAN: A 1, 3.0 J 0 BASE: U 20, 3



	SPL	STD
155 =	1588	1582
156	1850	1842
pred b(b) →	1767	1759
pred b(k) →	1773	1765

benzo(k)fluor not present

32

1381

3712.

252.075
± 0.500

CJP38

17514

SAMPLE DATA PACKAGE

1C

OI TILE ORGANICS ANALYSIS DATA SHEET

	EPA SAMPLE NO.	EPA SAMPLE N
	CJP60	CJ~~P~~60RE

CHEM,RTP Contract: 68D00159

Case No.: 17514 SAS No.: _____ SDG No.: CJP38 | G No.: CJP38

at r) SOIL Lab Sample ID: 467966 | : 467966

30.3 (g/mL) G Lab File ID: GR067966A02 | G3R67966A21

me) LOW Date Received: 12/06/91 | : 12/06/91

21 decanted: (Y/N) N Date Extracted: 12/27/91 | d: 01/06/92

tract Volume: 500.0 (uL) Date Analyzed: 01/02/92 | : 01/09/92

e: 2.0 (uL) Dilution Factor: 1.0 | or: 1.0

(Y/N) Y pH: 6.8

COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	TS: UG/KG	Q
2,4-Dinitrophenol	1000	U	1000	U
4-Nitrophenol	1000	U	1000	U
Dibenzofuran	410	U	420	U
2,4-Dinitrotoluene	410	U	420	U
Diethylphthalate	410	U	420	U
4-Chlorophenyl-phenylether	410	U	420	U
Fluorene	410	U	420	U
4-Nitroaniline	1000	U	1000	U
4,6-Dinitro-2-Methylphenol	1000	U	1000	U
N-Nitrosodiphenylamine (1)	410	U	420	U
4-Bromophenyl-phenylether	410	U	420	U
Hexachlorobenzene	410	U	420	U
Pentachlorophenol	1000	U	1000	U
Phenanthrene	66	J	420	U
Anthracene	410	U	420	U
Carbazole	410	U	420	U
Di-n-Butylphthalate	410	U	420	U
Fluoranthene	130	J	71	J
Pyrene	96	J	52	J
Butylbenzylphthalate	410	U	420	U
3,3'-Dichlorobenzidine	410	U	420	U
Benzo(a)Anthracene	56	J	420	U
Chrysene	61	J	420	U
bis(2-Ethylhexyl)Phthalate	410	U	420	U
Di-n-Octyl Phthalate	410	U	420	U
Benzo(b)Fluoranthene	90 ~~110~~	J ~~U~~	46	J
Benzo(k)Fluoranthene	~~110~~	~~U~~	420	U
Benzo(a)Pyrene	410	U	420	U
Indeno(1,2,3-cd)Pyrene	410	U	420	U
Dibenz(a,h)Anthracene	410	U	420	U
Benzo(g,h,i)Perylene	410	U	420	U

33

not be separated from Diphenylamine

BN surrogate recoveries acceptable, in both anal, esp for terphenyl

Quantitation Report File: GR067966A02

Data: GR067966A02.TI
01/02/92 22:52:00
Sample: 2ul CC#467966 ID#CJP60RE GT 1/4/92 CS#17514-CJP38 OWA02
Conds.: Extracted 12-27-91 Undiluted
Formula: 616 Instrument: 1050 Weight: 0.005
Submitted by: 2 Analyst: 1962 Acct. No.:

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

No	Name
51	444 PHENANTHRENE (Q4#7) <85-01-8>
52	583 CARBAZOLE
53	403 ANTHRACENE (Q4#8) <120-12-7>
54	426 DI-N-BUTYL PHTHALATE (Q4#9) <84-74-2>
55	431 FLUORANTHENE (Q4#10) <206-44-0>
56	*459 D12-CHRYSENE (IS#5)
57	445 PYRENE (Q5#3) <129-00-0>
58	415 BUTYLBENZYL PHTHALATE (Q5#4) <85-68-7>
59	423 3,3'-DICHLOROBENZIDINE (Q5#5) <91-94-1>
60	405 BENZO(A)ANTHRACENE (Q5#6) <56-55-3>
61	413 BIS(2-ETHYLHEXYL) PHTHALATE (Q5#7) <117-81-7>
62	418 CHRYSENE (Q5#8) <218-01-9>
63	*497 D12-PERYLENE (IS#6)
64	429 DI-N-OCTYL PHTHALATE (Q6#2) <117-84-0>
65	407 BENZO(B)FLUORANTHENE (Q6#3) <205-99-2>
66	409 BENZO(K)FLUORANTHENE (Q6#4) <207-08-9>
67	406 BENZO(A)PYRENE (Q6#5) <50-32-8>
68	437 INDENO(1,2,3-C,D)PYRENE (Q6#6) <193-39-5>
69	419 DIBENZO(A,H)ANTHRACENE (Q6#7) <53-70-3>
70	408 BENZO(G,H,I)PERYLENE (Q6#8) <191-24-2>
71	#619 2-FLUOROPHENOL (SS#1)
72	#612 D5-PHENOL (SS#2)
73	#634 2-CHLOROPHENOL-D4 (SS#3)
74	#570 1,2-DICHLOROBENZENE-D4 (SS#4)
75	#447 D5-NITROBENZENE (SS#5)
76	#448 2-FLUOROBIPHENYL (SS#6)
77	#628 2,4,6-TRIBROMOPHENOL (SS#7)
78	#496 D14-TERPHENYL (SS#8)

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount	%Tot
51	178	1443	11:54	45	1.003	A BB	11220.	1.575 NG	0.45 yes
52	NOT FOUND								
53	NOT FOUND								
54	NOT FOUND								
55	202	1636	13:30	45	1.137	A BB	20760.	3.159 NG	0.91 yes
56	240	1875	15:28	56	1.000	A BB	104580.	20.000 NG	5.74
57	202	1673	13:48	56	0.892	A BB	18308.	2.294 NG	0.66 yes
58	NOT FOUND								
59	NOT FOUND								
60	228	1873	15:27	56	0.999	A BV	7908.	1.331 NG	0.38 yes
61	NOT FOUND								
62	228	1880	15:30	56	1.003	A VB	8248.	1.459 NG	0.42 yes
63	264	2253	18:35	63	1.000	A BB	65976.	20.000 NG	5.74
64	NOT FOUND								
65	252	2131	17:35	63	0.946	A BB	~~11976.~~ 9940	~~2.135~~ 2.252 NG	0.78 yes

2.252 (34)

SAMPLE DATA PACKAGE 17514 CJP38 = 90 ug/kg 1505

PROJECT NAME: Inactive LF
Proj. NO.: 32630507

EPA SITE NO.:
REGION: 3

SUPPORT DOCUMENTATION FOR THE REVIEW OF ORGANIC ANALYSIS LAB DATA PACKAGE

CASE/SAS NO.: 17514
TYPE OF ANALYSIS: Low organic
CONTRACT LABORATORY: Compuchem
APPLICABLE IFB OR SOW: 3190
REVIEWER: R. Cohen
REVIEW DATE: March 2, 1992

APPLICABLE SAMPLE NO's.:
CJP21-36
CJP38, CJP52-66

THE FOLLOWING TABLE INDICATES AREAS WHICH WERE EXAMINED IN DETAIL, THE IDENTIFIED PROBLEM AREAS, AND SUPPORT DOCUMENTATION ATTACHMENTS:

	AREAS EXAMINED IN DETAIL CHECK (✓) IF YES OR FOOTNOTE LETTER FOR COMMENTS BELOW				PROBLEM AREAS IDENTIFIED CHECK (✓) IF YES OR FOOTNOTE NUMBER FOR COMMENTS BELOW				SUPPORT DOCUMENTATION ATTACHMENTS CHECK (✓) IF YES OR IDENTIFY ATTACHMENT NO.			
	ALL APPLICABLE ANALYSES	VOA	BNA	PEST/PCB	ALL APPLICABLE ANALYSES	VOA	BNA	PEST/PCB	ALL APPLICABLE ANALYSES	VOA	BNA	PEST/PCB
HOLDING TIMES	✓											
BLANK ANALYSIS RESULTS: TARGET COMPOUNDS	✓				✓				✓			
BLANK ANALYSIS RESULTS: TENTATIVE I.D.s	✓				✓				✓			
SURROGATE SPIKE RESULTS	✓				✓				✓			
MATRIX SPIKE RESULTS	✓				✓				✓			
DUPLICATE ANALYSIS RESULTS	✓											
TARGET COMPOUND MATCHING QUALITY	✓						✓				✓	
TENTATIVELY IDENTIFIED COMPOUNDs	✓											
DFTPP & BFB SPECTRUM TUNE RESULTS	✓											
GC INSTRUMENT PERFORMANCE	✓											
INITIAL CALIBRATIONS	✓											
CONTINUING CALIBRATIONS	✓											
QUANTITATION OF RESULTS	✓						✓				✓	
OTHERS	✓											

COMMENTS:

7514

BLANK ANALYSIS RESULTS FOR TARGET COMPOUNDS

FRACTION	TYPE	CONC	MATRIX	SAMPLE #	SOURCE OF H_2O	CONTAMINANTS (CONCENTRATION / DETECTION LIMIT)
VOA	low aq LAB Blank			VBlkAS	lab	425 $MeCl_2$ 5.5 ug/l (1) 369 acetone 4.6 ug/l (2)
				VBlkW0	lab	429 $MeCl_2$ 2.3 ug/l (1)
				VBlkAU	lab	435 $MeCl_2$ 8.7 ug/l (1) 371 acetone 2.5 ug/l (2)
	low aq Trip blk			CJP65	HNVS	431 $MeCl_2$ 28.1 ug/l (1) 371 acetone 20.7 ug/l (2) 713 $CHCl_3$ 1.6 ug/l (1) *
	low aq field blk			CJP66	HNVS	429 $MeCl_2$ 23.1 ug/l (1) 366 acetone 22.2 ug/l (1) 711 $CHCl_3$ 0.55 ug/l (2)
	Low solid lab blank			VBlkP2	lab	178 $MeCl_2$ 6.4 ug/l (1) 147 acetone 7.8 ug/l (2)
				VBlkP3		174 $MeCl_2$ 19.1 ug/l (1) 145 acetone 10.0 ug/l (2)
				VBlkP5		442 $MeCl_2$ 25.1 ug/l (1) 382 acetone 13.3 ug/l (1) 1031 toluene 0.70 ug/l (2)
				VBlkS3		440 $MeCl_2$ 16.1 ug/l (1) 379 acetone 31.0 (1) * 1029 toluene 0.71 (2)
				VBlkQ4		443 $MeCl_2$ 30.5 ug/l (1) 381 acetone 11.6 (1) 1032 toluene 0.97 (2) *
(125 x) 1m	med solid lab blk			VBlkR9		441 $MeCl_2$ 6.1 ug/l (1) 378 acetone 5.6 ug/l (2)
	low solid - lab blk			VBlkS7		439 $MeCl_2$ 38.1 ug/l (1) * 377 acetone 14.8 ug/l (1) 1028 toluene 0.63 ug/l (2)
				VBlkW8		439 $MeCl_2$ 12.2 ug/l (1) 378 acetone 7.2 ug/l (1) 1028 toluene 0.72 ug/l (2)

LABORATORY REPORTED FIELD BLANK DATA IS COMPARED WITH THE SAMPLE DATA IN A TABULATION FORM WITHIN THE SAMPLE ANALYTICAL DATA SUMMARY. TENTATIVELY IDENTIFIED COMPOUNDS IN BLANKS ARE LISTED ON A SEPARATE FORM.

COMMENTS:

(1) RESULT REPORTED BY LABORATORY AND CONFIRMED BY REVIEWER.

(2) RESULT INFERRED FROM QUANTITATION LIST, DIAGNOSTICS, CHROMATOGRAM AND/OR SPECTRA.

ND = none detected

BLANK ANALYSIS RESULTS FOR TARGET COMPOUNDS

2

FRACTION	TYPE	CONC	MATRIX	SAMPLE #	SOURCE OF H_2O	CONTAMINANTS (CONCENTRATION / DETECTION LIMIT)
BNA	low aq lab blk			SBlk83	lab	1633 dim-bnphth 1.3 ug/l (1) 1996 B ehp 2.7 ug/l (1) 1362 diethyl phth 1.0 ug/l (2) 1890 bu-benz phth. 2.1 ug/l (2)
	low aq lab blk			SBlk74	lab	1967 Behp 2.4 ug/l (1) 1344 diethyl phth. 0.6 ug/l (2)
	low aq field blk			CJP66	HNUS	ND
	low solid LAB Blank			SBlk14	lab	ND
				SBlk54	lab	1892 Behp 1.4 ug/l
				SBlk12	lab	ND
PEST	low aq lab blks			PBlk12	lab	endrin 0.012 ug/l (2) methoxychlor 0.031 ug/l endrin ketone 0.007 ug/l
	low aq field blk			CJP66	HNUS	ND
	low solid lab blks			PBLKMT	lab	DDE 0.006 ug/l (1) endrin ketone 0.012 endrin aldehyde 0.015
				PBLKMV		ND
				PBLKMW		ND
				PBlk18		endrin aldehyde 0.010 ug/l (2) heptachlor 0.010 ug/l (1) DDD 0.036 ug/l (1) delta-BHC 0.013 ug/l (2) endosulfan II 0.24
						DDT 0.050 hept. epoxide 0.008 endosulfan I 0.006 dieldrin 0.009

LABORATORY REPORTED FIELD BLANK DATA IS COMPARED WITH THE SAMPLE DATA IN A TABULATION FORM WITHIN THE SAMPLE ANALYTICAL DATA SUMMARY. TENTATIVELY IDENTIFIED COMPOUNDS IN BLANKS ARE LISTED ON A SEPARATE FORM.

COMMENTS:

37

(1) RESULT REPORTED BY LABORATORY AND CONFIRMED BY REVIEWER.

(2) RESULT INFERRED FROM QUANTITATION LIST, DIAGNOSTICS, CHROMATOGRAM AND/OR SPECTRA. (Below CRQL)

ND = none detected

BLANK ANALYSIS RESULTS FOR TENTATIVELY IDENTIFIED COMPOUNDS

p 1

ALL TENTATIVELY IDENTIFIED COMPOUNDS FOUND IN BLANK ANALYSES ARE LISTED BELOW:

SAMPLE #	FRACTION	SCAN #(S) OR R.T	ESTIMATED CONCENTRATION	COMPOUND NAME	COMMENTS
VBIKA5	VOA			ND	
VBIKW3	VOA			ND	
VBIKAV	VOA			ND	
CJP65	VOA			ND	
CJP66	VOA			ND	
VBIKP2	VOA	727	1% IS@ 798	NLS	
VBIKP3	VOA	1145	2% IS@ 800	NLS	
VBIKP5				ND	
VBIKS3				ND	
VBIKQ4				ND	
VBIKR4				ND	
VBIK[illegible]				ND	
VBIKW[illegible]				ND	
SBIK83	BNA	732	2 ug/l	trichlorophenol	IS
		1656	3	43, 55, 61, 69, 83, 98, 111	819
		2225	3	59, 72, 83, 93, 110, 114	1018
		720	8% IS@ 819	NLS	1305
		1362	8% IS@ 1305	dimethylphen	1553
		1632	8% IS@ 1553	dimethylphen	2023
		1665	8% " "	NLS	2484
		1890	9% IS@ 2023	bis-dimethyl-phen	
		2252	4% IS@ 2484		
SBIK74	BNA	700	6% IS@ 788	NLS	
		709	9% " "		
		1344	5% IS@ 1282	diethylphthalate	
CJP66	BNA	1860	3 ug/l	carboxylic acid	
		647	5% IS@ 793	NLS	
		706	7% " "		
		1064	4% IS@ 991		
		1213	5% IS@ 1275		
SBIK14	BNA	494	200 ug/kg	41, 43, 57, 98	
		570	1500	" " " aldol	
		592	460	43, 69, 97	
		1192	66	(amogate) (TBP)	
		1509	1300	carbox acid	
		1803	66	silane	
		529	4% IS@ 655	NLS	
		559	8% "		
		875	8% IS@ 816		
		991	2% IS@ 1043		
		1719	8% IS@ 1592		

ND = none detected

NLS = no library search conducted

(...) = primary ions

IS = internal standards

BLANK ANALYSIS RESULTS FOR TENTATIVELY IDENTIFIED COMPOUNDS

ALL TENTATIVELY IDENTIFIED COMPOUNDS FOUND IN BLANK ANALYSES ARE LISTED BELOW: p. 2

SAMPLE #	FRACTION	SCAN #(S) OR R.T	ESTIMATED CONCENTRATION	COMPOUND NAME	COMMENTS
SBLK54	BNA	543	67 ug/kg	SHC	
		647	230	43, 69, 97	
		1277	170	43, 71, 111	
		1665	370	74, 85, 87, 117	
		1681	67	41, 43, 56, 57, 60, 63, 69, 73	
		1792	400	45, 117	
		1796	300	59, 117	IS
		1821	600	41, 44, 58, 101 118, 161, 191	740
		1965	670	41, 59, 117, 167, 175, 209	935
		2230	700	58, 115, 175, 193, 209	1215
		618	4% IS@740	NLS	1456
		626	3%		1899
		677	5%		2302
		680	3%		
		700	3%		
		724	2%		
		800	3% IS@935		
		860	4%		
		876	3%		
		891	2%		
		988	3%		
		1091	7% IS@1215		
		1399	3% IS@1456		
		1486	6% " "		
		1632	10% IS@1456		
SBLK12	BNA	644	530 ug/kg	alcohol 43, 69, 97	IS: 740
		659	500 ug/kg	alcohol 43, 69, 92, 112	941
		600	2% IS@740	NLS	1234
		614	3% "		1487
		853	3% IS@941		1940
		1025	5% "		2268
		1180	5% IS@1234		
		1301	3% "		
		1428	6% IS@1487		
		1847	8% IS@1940		
		2121	4% IS@2260		

ND = none detected
NLS = no library search conducted
(...) = primary ions

IS = internal standards

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: COMPUCHEM,RTP Contract: 68D00159

Lab Code: COMPU Case No.: 17514 SAS No.: _____ SDG No.: CJP21

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	CJP21	102	96	86	0	0
02	CJP22	102	92	97	0	0
03	CJP23	99	89	89	0	0
04	CJP24	103	97	96	0	0
05	CJP25	102	96	98	0	0
06	CJP26	99	92	92	0	0
07	CJP27	96	92	98	0	0
08	CJP28	104	100	96	0	0
09	CJP29	101	97	89	0	0
10	CJP30	95	88	83	0	0
11	CJP65	104	100	92	0	0
12	CJP66	104	101	96	0	0
13	CJP21MS	91	88	90	0	0
14	CJP21MSD	92	87	91	0	0
15	VBLKAS	104	98	94	0	0
16	VBLKWO	97	92	91	0	0
17	VBLKAU	97	92	97	0	0

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(88-110)
SMC2 (BFB)	= Bromofluorobenzene	(86-115)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: COMPUCHEM,RTP Contract: 68D00159

Lab Code: COMPU Case No.: 17514 SAS No.: _____ SDG No.: CJP21

Matrix Spike - EPA Sample No.: CJP21

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.00	0	55.40	111	61-145
Trichloroethene	50.00	34.40	85.00	101	71-120
Benzene	50.00	0	47.60	95	76-127
Toluene	50.00	0	45.60	91	76-125
Chlorobenzene	50.00	0	48.40	97	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.00	43.00	86	25 *	14	61-145
Trichloroethene	50.00	77.20	86	16 *	14	71-120
Benzene	50.00	46.40	93	2	11	76-127
Toluene	50.00	44.20	88	3	13	76-125
Chlorobenzene	50.00	47.10	94	3	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

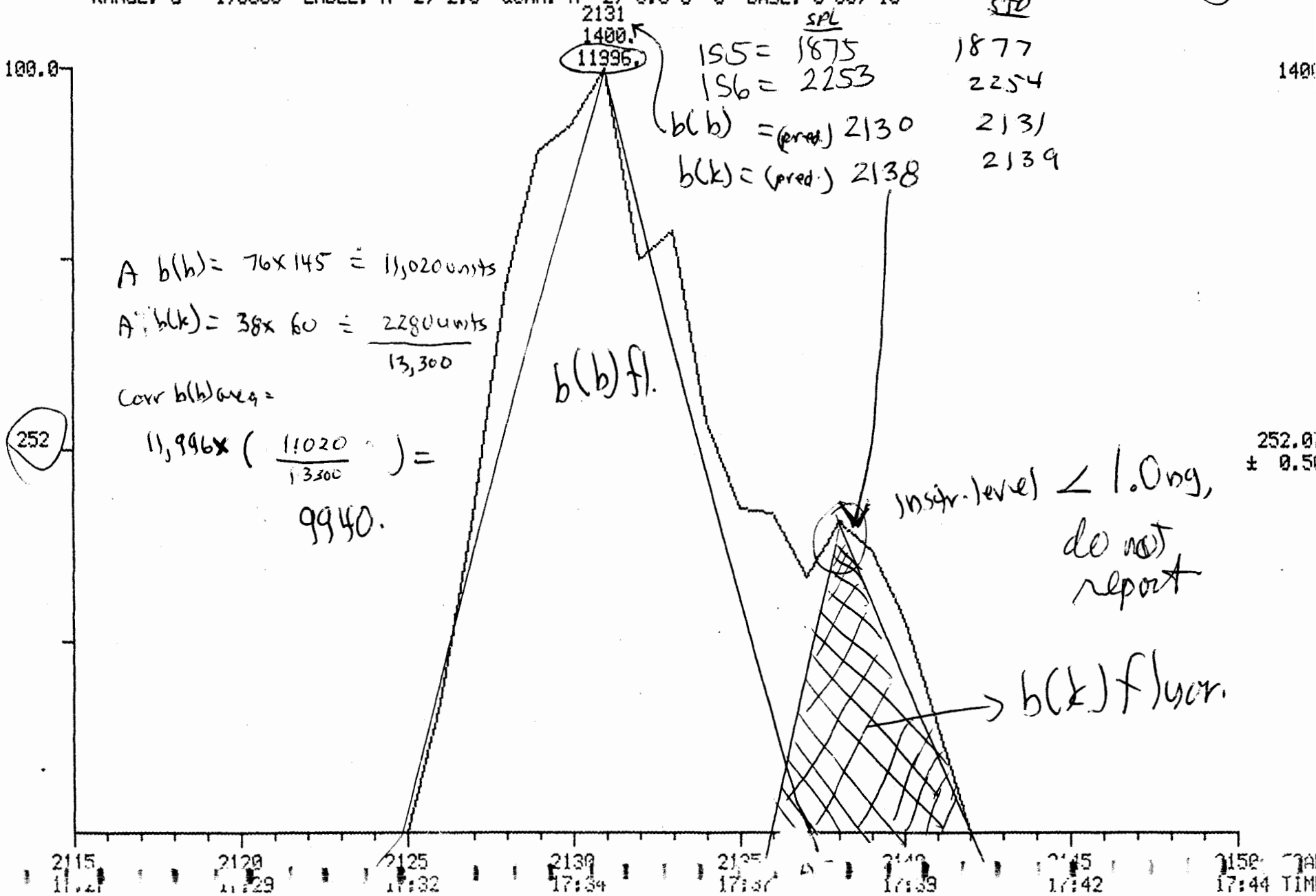
RPD: 2 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: CLP,17514,CJP21,CJP21,LOW,WATER,467926,VOA,EPA,F50051
DB624,CS911212C51,BF911212C51,CB911212C51

MIDMASS CHROMATOGRAM
01/02/92 22:52:00
SAMPLE: 2UL CC#467966 ID#CJP60~~XE~~
CONDS.: EXTRACTED 12-27-91 UNDILUTED
RANGE: G 1,3500 LABEL: N 2, 2.0 QUAN: A 2, 0.3 J 0 BASE: U 30, 10

DATA: GR067966A02 #2135 SCANS 2115 TO 2150
CALI: GR067966A02 #2
CS#17514-CJP38 OWA02

42



	SPL	STD
IS5 =	1875	1877
IS6 =	2253	2254
b(b) = (pred.)	2130	2131
b(k) = (pred.)	2138	2139

A b(b) = 76 x 145 ≐ 11,020 units

A b(k) = 38 x 60 ≐ 2280 units

13,300

Corr b(b) area =

11,996 x (11020 / 13300) =

9940.

b(b) fl.

instr. level < 1.0 ng, do not report

b(k) fluor.

1B

TI E ORGANICS ANALYSIS DATA SHEET

	EPA SAMPLE NO.	EPA SAMPLE NO.
	CJP59	CJP59RE

M, RTP Contract: 68D00159

ase No.: 17514 SAS No.: _____ SDG No.: CJP38 | SDG No.: CJP38

r) SOIL Lab Sample ID: 467965 | D: 467965

30.1 (g/mL) G Lab File ID: GD067965A07 | G2J67965A07

) LOW Date Received: 12/06/91 | d: 12/06/91

decanted: (Y/N) N Date Extracted: 12/11/91 | ed: 12/11/91

ct Volume: 500.0 (uL) Date Analyzed: 12/27/91 | d: 01/04/92

2.0 (uL) Dilution Factor: 25 | tor: 25

N) Y pH: 7.3

COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	NITS: UG/KG	Q
Phenol	11000	U	11000	U
bis(2-Chloroethyl)Ether	11000	U	11000	U
2-Chlorophenol	11000	U	11000	U
1,3-Dichlorobenzene	11000	U	11000	U
1,4-Dichlorobenzene	11000	U	11000	U
1,2-Dichlorobenzene	11000	U	11000	U
2-Methylphenol	11000	U	11000	U
2,2'-Oxybis(1-Chloropropane)	11000	U	11000	U
4-Methylphenol	11000	U	11000	U
N-Nitroso-Di-n-Propylamine	11000	U	11000	U
Hexachloroethane	11000	U	11000	U
Nitrobenzene	11000	U	11000	U
sophorone	11000	U	11000	U
2-Nitrophenol	11000	U	11000	U
2,4-Dimethylphenol	11000	U	11000	U
bis(2-Chloroethoxy)Methane	11000	U	11000	U
2,4-Dichlorophenol	11000	U	11000	U
1,2,4-Trichlorobenzene	11000	U	11000	U
Naphthalene	11000	U	11000	U
4-Chloroaniline	11000	U	11000	U
Hexachlorobutadiene	11000	U	11000	U
4-Chloro-3-Methylphenol	11000	U	11000	U
2-Methylnaphthalene	1200	J	11000	U
Hexachlorocyclopentadiene	11000	U	11000	U
2,4,6-Trichlorophenol	11000	U	11000	U
2,4,5-Trichlorophenol	26000	U	26000	U
2-Chloronaphthalene	11000	U	11000	U
2-Nitroaniline	26000	U	26000	U
Dimethyl Phthalate	11000	U	11000	U
Acenaphthylene	11000	U	11000	U
2,6-Dinitrotoluene	11000	U	11000	U
3-Nitroaniline	26000	U	26000	U
Acenaphthene	11000	U	11000	U

43

1C

RC NICS ANALYSIS DATA SHEET

	EPA SAMPLE NO.	EPA SAMPLE NO.
	CJP59	CJP59RE

Contract: 68D00159

No.: 17514	SAS No.:	SDG No.: CJP38	SDG No.: CJP38
L	Lab Sample ID: 467965	ID: 467965
.1 (g/mL) G	Lab File ID: GD067965A07	: G2J67965A07
	Date Received: 12/06/91	ed: 12/06/91
anted: (Y/N) N	Date Extracted: 12/11/91 (same day)	ted: 12/11/91 re-inject
ume: 500.0 (uL)	Date Analyzed: 12/27/91	ed: 01/04/92
.0 uL)	Dilution Factor: 25	ctor: 25

pH: 7.3

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG		Q		NITS: UG/KG	Q
2,4-Dinitrophenol	26000	U		26000	U
4-Nitrophenol	26000	U		26000	U
Dibenzofuran	11000	U		11000	U
2,4-Dinitrotoluene	11000	U		11000	U
Diethylphthalate	6300	J B	IL=5.9	3800	J B ✓
4-Chlorophenyl-phenylether	11000	U		11000	U
Fluorene	11000	U		11000	U
4-Nitroaniline	26000	U		26000	U
4,6-Dinitro-2-Methylphenol	26000	U		26000	U
N-Nitrosodiphenylamine (1)	11000	U		11000	U
4-Bromophenyl-phenylether	11000	U		11000	U
Hexachlorobenzene	11000	U		11000	U
Pentachlorophenol	26000	U		26000	U
Phenanthrene	4100	J		2000	J ✓
Anthracene	11000	U		11000	U
Carbazole	11000	U		11000	U
Di-n-Butylphthalate	2400	J B		11000	U ✓
Fluoranthene	11000	U		11000	U
Pyrene	11000	U		11000	U
Butylbenzylphthalate	11000	U		11000	U
3,3'-Dichlorobenzidine	11000	U		11000	U
Benzo(a)Anthracene	11000	U		11000	U
Chrysene	7200	J		3300	J ✓
Bis(2-Ethylhexyl)Phthalate	4700	J B ✓		5200	J B
Di-n-Octyl Phthalate	11000	U		11000	U
Benzo(b)Fluoranthene	11000	U		11000	U
Benzo(k)Fluoranthene	11000	U		11000	U
Benzo(a)Pyrene	11000	U		11000	U
Indeno(1,2,3-cd)Pyrene	11000	U		11000	U
Dibenz(a,h)Anthracene	11000	U		11000	U
Benzo(g,h,i)Perylene	11000	U		11000	U

(44)

arated from Diphenylamine

terphenyl surrogate recovery very high in initial analysis

TRPH surr. recov. acceptable.

1C

VOLATILE ORGANICS ANALYSIS DATA SHEET

	EPA SAMPLE NO.	EPA SAMPLE
	CJP61	CJP61RE

UC EM,RTP Contract: 68D00159

U Case No.: 17514 SAS No.: _____ SDG No.: CJP38 | DG No.: CJP38

water) SOIL Lab Sample ID: 467967 | D: 467967

30.3 (g/mL) G Lab File ID: GR067967A02 | G3R67967A2

/med) LOW Date Received: 12/06/91 | d: 12/06/91

9 decanted: (Y/N) N Date Extracted: 12/27/91 | ed: 01/06/92

xtract Volume: 500.0 (uL) Date Analyzed: 01/02/92 | d: 01/09/92

me 2.0(uL) Dilution Factor: 1.0 | tor: 1.0

(Y/N) Y pH: 6.9

COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	ITS: UG/KG	Q
2,4-Dinitrophenol	1100	U	1100	U
7--------4-Nitrophenol	1100	U	1100	U
9--------Dibenzofuran	460	U	460	U
2--------2,4-Dinitrotoluene	460	U	460	U
---------Diethylphthalate	460	U	460	U
-3--------4-Chlorophenyl-phenylether	460	U	460	U
--------Fluorene	460	U	460	U
6--------4-Nitroaniline	1100	U	1100	U
1--------4,6-Dinitro-2-Methylphenol	1100	U	1100	U
--------N-Nitrosodiphenylamine (1)	460	U	460	U
3--------4-Bromophenyl-phenylether	460	U	460	U
1--------Hexachlorobenzene	460	U	460	U
--------Pentachlorophenol	1100	U	1100	U
--------Phenanthrene	77	J ✓	460	U
7-------Anthracene	460	U	460	U
--------Carbazole	460	U	460	U
--------Di-n-Butylphthalate	65	JB ✓	59	JB ✓
--------Fluoranthene	130	J ✓	76	J
--------Pyrene	86	J ✓	64	J
--------Butylbenzylphthalate	460	U	460	U
--------3,3'-Dichlorobenzidine	460	U	460	U
---------Benzo(a)Anthracene	460	U	460	U
--------Chrysene	59	J ✓	460	U
--------bis(2-Ethylhexyl)Phthalate	250	BJ ✓	420	JB
--------Di-n-Octyl Phthalate	460	U	460	U
--------Benzo(b)Fluoranthene	460	U	460	U
--------Benzo(k)Fluoranthene	460	U	460	U
--------Benzo(a)Pyrene	460	U	460	U
--------Indeno(1,2,3-cd)Pyrene	460	U	460	U
--------Dibenz(a,h)Anthracene	460	U	460	U
--------Benzo(g,h,i)Perylene	460	U	460	U

ot be separated from Diphenylamine

surrogate recoveries similar

(45)

ORIGINAL (Red)

Quantitation Report File: GD067968C07

Data: GD067968C07.TI
12/23/91 8:34:00
Sample: 2ul CC#467968 ID#CJP62 CS#17514-CJP38 OWA07
Conds.: Extracted 12/11/91 1: 20 dilution
Formula: 616 Instrument: 1050 Weight: 0.005
Submitted by: 7 Analyst: 917 Acct. No.:

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

No	Name
51	444 PHENANTHRENE (Q4#7) <85-01-8>
52	583 CARBAZOLE
53	403 ANTHRACENE (Q4#8) <120-12-7>
54	426 DI-N-BUTYL PHTHALATE (Q4#9) <84-74-2>
55	431 FLUORANTHENE (Q4#10) <206-44-0>
56	*459 D12-CHRYSENE (IS#5)
57	445 PYRENE (Q5#3) <129-00-0>
58	415 BUTYLBENZYL PHTHALATE (Q5#4) <85-68-7>
59	423 3,3'-DICHLOROBENZIDINE (Q5#5) <91-94-1>
60	405 BENZO(A)ANTHRACENE (Q5#6) <56-55-3>
61	413 BIS(2-ETHYLHEXYL) PHTHALATE (Q5#7) <117-81-7>
62	418 CHRYSENE (Q5#8) <218-01-9>
63	*497 D12-PERYLENE (IS#6)
64	429 DI-N-OCTYL PHTHALATE (Q6#2) <117-84-0>
65	407 BENZO(B)FLUORANTHENE (Q6#3) <205-99-2>
66	409 BENZO(K)FLUORANTHENE (Q6#4) <207-08-9>
67	406 BENZO(A)PYRENE (Q6#5) <50-32-8>
68	437 INDENO(1,2,3-C,D)PYRENE (Q6#6) <193-39-5>
69	419 DIBENZO(A,H)ANTHRACENE (Q6#7) <53-70-3>
70	408 BENZO(G,H,I)PERYLENE (Q6#8) <191-24-2>
71	#619 2-FLUOROPHENOL (SS#1)
72	#612 D5-PHENOL (SS#2)
73	#634 2-CHLOROPHENOL-D4 (SS#3)
4	#570 1,2-DICHLOROBENZENE-D4 (SS#4)
75	#447 D5-NITROBENZENE (SS#5)
76	#448 2-FLUOROBIPHENYL (SS#6)
77	#628 2,4,6-TRIBROMOPHENOL (SS#7)
78	#496 D14-TERPHENYL (SS#8)

No	m/z	Scan	Time	Ref	RRT	Meth	Area(Hght)	Amount		%Tot
51	178	1238	10:02	45	1.002	A BV	38183 ~~41481~~. 2.924	~~3.177~~	NG	1.32 yes
52	NOT FOUND									
53	178	1238	10:02	45	1.002	A BV	41481.	3.386	NG	1.41 no
54	149	1307	10:36	45	1.058	A VV	118980.	7.252	NG	3.01 yes
55	202	1397	11:20	45	1.131	A*BB	16257.	1.375	NG	0.57 yes
56	240	1589	12:53	56	1.000	A BB	114391.	20.000	NG	8.30
57	202	1428	11:35	56	0.899	A BV	14815.	1.845	NG	0.77 yes
58	NOT FOUND									
59	NOT FOUND									46
60	228	1591	12:54	56	1.001	A BB	7754 ~~15508~~ ~~21889~~. 1.227 ~~2.454~~	~~3.222~~	NG	1.34 yes
61	149	1580	12:49	56	0.994	A BB	7754 331095. 1.227	60.057	NG	24.92 yes
62	228	1591	12:54	56	1.001	A BB	~~15508~~ ~~21306~~. ~~2.454~~	~~3.645~~	NG	1.51 yes
63	264	1856	15:03	63	1.000	A VV	117640.	20.000	NG	8.30
64	NOT FOUND									
65	252	1772	14:22	63	0.955	A BB	7765 ~~10537~~.	1.460	NG	0.61 no

ORIGINAL (Red)

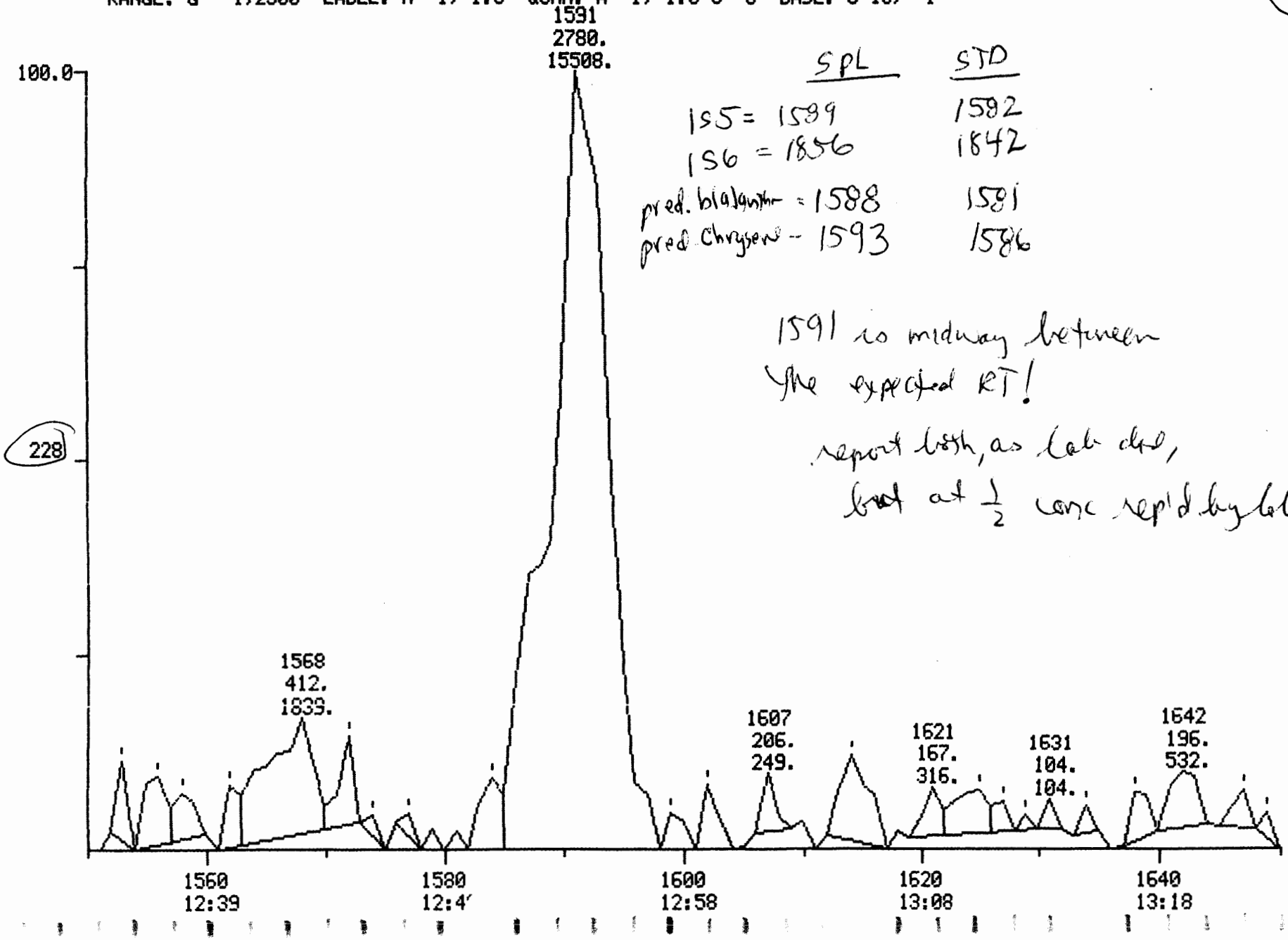
MIDMASS CHROMATOGRAM
12/23/91 8:34:00
SAMPLE: 2UL CC#467968 ID#CJP62
CONDS.: EXTRACTED 12/11/91 1: 20 DILUTION
RANGE: G 1,2500 LABEL: N 1, 1.0 QUAN: A 1, 1.0 J 0 BASE: U 10, 1

DATA: GD067968C07 #1
CALI: GD067968C07 #2
CS#17514-CJP38

SCANS 1550 TO 1650

OWA07

(47)



	SPL	STD
1S5 =	1589	1592
1S6 =	1856	1842
pred. bialanthr =	1588	1591
pred. Chrysene =	1593	1586

1591 is midway between the expected RT!

report both, as lab did, but at 1/2 conc rep'd by lab

2780.

228.0668
± 0.500

SAMPLE DATA PACKAGE

ORIGINAL (Red)

2F
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: COMPUCHEM LABORATORIES Contract: 68D00159

Lab Code: COMPU Case No.: 17514 SAS No.: SDG No.: CJP38

GC Column (1): RTX-1701 ID: 0.53(mm) GC Column (2): DB-608 ID: 0.53(mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT	
01	CJP62MS	0D	0D	0D	0D			0	severe matrix interferences
02	CJP62MSD	0D	0D	0D	0D			0	
03	CJP38	93	77	66	100			0	
04	CJP52	140	80	63	110			0	all spls exhibited HC matrix interference peaks
05	CJP53	86	81	64	99			0	
06	CJP54	79	76	53*	120			1	
07	CJP55	65	91	49*	120			1	
08	CJP56	61	73	25*	190*			2	
09	CJP57	86	74	40*	110			1	
10	CJP58	65	74	36*	620*			2	
11	CJP59	110	100	180*	0*			2	
12	CJP60	97	60	47*	0*			2	
13	CJP61	120	28*	0*	2000*			3	
14	CJP62	0D	0D	0D	0D			0	signif. matrix effects
15	CJP63	82	70	43*	110			1	
16	CJP64	70	120	96	190*			1	
17	PBLK18	110	100	110	130			0	
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

50X dil
50X dil

	QC LIMITS
TCX = Tetrachloro-m-xylene	(60-150)
DCB = Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values.
* Values outside of QC Limits
D Surrogate diluted out.

48

FORM II PEST-1 3/90

ORIGINAL (Red)

3F

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: COMPUCHEM LABORATORIES Contract: 68D00159

Lab Code: COMPU Case No.: 17514 SAS No.: SDG No.: CJP38

Matrix Spike - EPA Sample No.: CJP62

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
gamma-BHC (Lindane)	0.026	26 ug/kg 0.00	BSp. 14 0.00	BSp 54 0	46-127
Heptachlor	0.026	0.00	14 0.00	54 0	35-130
Aldrin	0.026	130	14 0.00	54 0	34-132
Dieldrin	0.052	52 ug/kg 37	20 0.00	38 0	31-134
Endrin	0.052	0.00	32 0.00	62 0	42-139
4,4'-DDT	0.052	230	34 0.00	65 0	23-134

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	0.026	0.00	0	0	50	46-127
Heptachlor	0.026	0.00	0	0	31	35-130
Aldrin	0.026	0.00	0	0	43	34-132
Dieldrin	0.052	0.00	0	0	38	31-134
Endrin	0.052	0.00	0	0	45	42-139
4,4'-DDT	0.052	0.00	0	0	50	23-134

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 0 outside limits

(49)

COMMENTS: NO SPIKE RECOVERIES DUE TO SEVERE MATRIX INTERFERNCE AND 50:1 DILUTION. SEE BLANK SPIKE. (BSp.)

VOA/BNA TIC HC totals were near 960,000 ug/kg

pest Chromatograms exhibited significant matrix interferences.

FORM III PEST-2 3/90

ORIGINAL (Red)

3E

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: COMPUCHEM LABORATORIES Contract: 68D00159

Lab Code: COMPU Case No.: 17514 SAS No.: SDG No.: CJP21

Matrix Spike - EPA Sample No.: CJP21

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
gamma-BHC (Lindane)	0.500	0.00	0.34	68	56-123
Heptachlor	0.500	0.00	0.33	66	40-131
Aldrin	0.500	0.00	0.32	64	40-120
Dieldrin	1.000	0.00	0.72	72	52-126
Endrin	1.000	0.00	0.86	86	56-121
4,4'-DDT	1.000	0.00	0.77	77	38-127

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
gamma-BHC (Lindane)	0.500	0.34	68	0	15	56-123
Heptachlor	0.500	0.34	68	3	20	40-131
Aldrin	0.500	0.33	66	3	22	40-120
Dieldrin	1.000	0.72	72	0	18	52-126
Endrin	1.000	0.87	87	1	21	56-121
4,4'-DDT	1.000	0.75	75	3	27	38-127

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 6 outside limits
Spike Recovery: 0 out of 12 outside limits

50

COMMENTS:

FORM III PEST-1 3/90

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: COMPUCHEM LABORATORIES Contract: 68D00159

Lab Code: COMPU Case No.: 17514 SAS No.: SDG No.: CJP21

GC Column (1): DB-608 ID: 0.53(mm) GC Column (2): RTX-1701 ID: 0.53(mm)

	EPA SAMPLE NO.	TCX 1 %REC #	TCX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #	OTHER (1)	OTHER (2)	TOT OUT
01	CJP21MS	60	50*	85	79			1
02	CJP21MSD	64	59*	89	82			1
03	CJP21	63	55*	86	84			1
04	CJP22	65	71	76	75			0
05	CJP23	66	59*	83	79			1
06	CJP24	61	52*	68	64			1
07	CJP25	62	59*	75	64			1
08	CJP26	63	58*	71	65			1
09	CJP27	66	74	80	75			0
10	CJP28	64	57*	77	72			1
11	CJP29	68	77	81	78			0
12	CJP30	62	60	69	65			0
13	CJP66	68	80	78	75			0
14	PBLK12	64	71	68	65			0
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

OK

	QC LIMITS
TCX = Tetrachloro-m-xylene	(60-150)
DCB = Decachlorobiphenyl	(60-150)

Column to be used to flag recovery values.
* Values outside of QC Limits
D Surrogate diluted out.

51

FORM II PEST-1 3/90

PROJECT NAME: Imaginary Landfill
~~TDD~~ NO.: 326305

EPA SITE NO.:
REGION: III

ORIGINAL (Red)

SUPPORT DOCUMENTATION FOR THE REVIEW OF INORGANIC ANALYTICAL DATA PACKAGE

CASE/SAS NO.: 17514
TYPE OF ANALYSIS: TAL METAL, CYA.
CONTRACT LABORATORY: ITAS Pittsburgh
APPLICABLE IFB OR SOW: 7/88
REVIEWER: J. Hubbard
REVIEW DATE: 4/15/92

APPLICABLE SAMPLE NO's.: MCJP20-MCJP29, MCJP70, MCJP30, MCJP38, MCJP51-MCJP5, MCJP61-MCJP69

THE FOLLOWING TABLE INDICATES AREAS WHICH WERE EXAMINED IN DETAIL, THE IDENTIFIED PROBLEM AREAS, AND SUPPORT DOCUMENTATION ATTACHMENTS:

	AREAS EXAMINED IN DETAIL (CHECK(✓) IF YES OR FOOTNOTE LETTER FOR COMMENTS BELOW)					PROBLEM AREAS IDENTIFIED (CHECK(✓) IF YES OR FOOTNOTE NUMBER FOR COMMENTS BELOW)					SUPPORT DOCUMENTAT ATTACHME (CHECK (✓) IF OR IDENTIF ATTACHMENT)				
	ALL APPLICABLE ANALYSES	ICP OR A.A. METALS	FURNACE METALS	COLD VAPOR MERCURY	CYANIDE	ALL APPLICABLE ANALYSES	ICP OR A.A. METALS	FURNACE METALS	COLD VAPOR MERCURY	CYANIDE	ALL APPLICABLE ANALYSES	ICP OR A.A. METALS	FURNACE METALS	COLD VAPOR MERCURY	
HOLDING TIMES	✓														
BLANK ANALYSIS RESULTS	✓						1	1				✓	✓		
MATRIX SPIKES (PRE-DIGESTION)	✓						2	2	2			✓	✓	✓	
DUPLICATES	✓						1	1.	1			✓		✓	
QUANTITATION OF RESULTS	✓						1					✓			
DETECTION LIMITS/SENSITIVITY	✓														
INITIAL CALIBRATIONS	✓														
CONTINUING CALIBRATIONS	✓						1	2				✓	✓		
LABORATORY CONTROL STANDARDS	✓						2								
ICP LINEAR RANGE ANALYSIS	✓														
ICP INTERFERENCE CHECKS	✓						1					✓			
ICP SERIAL DILUTIONS	✓						1					✓			
GFAA POST-DIGESTION SPIKES	✓							1					✓		
GFAA DUPLICATE BURNS	✓														
GFAA STANDARD ADDITIONS	✓														
OTHERS	✓														

COMMENTS: 1 - Qualification needed; see narrative and support documentation

2 - No qualification needed; see support documentation

ORIGINAL (Red)

Case: 17 SDG
SDGs: MC JP 30
MC JP 20

SUMMARY OF BLANK ANALYSES

(Highest values for each category)

(Units = ug/l)
(SOL = mg/kg)

Metal	INITIAL CALIB. BLANKS			CONT. CALIB. BLANKS			PREP. BLANKS			FIELD BLANKS		
	AQ SDG#	FILT SDG#	SOL SDG#	AQ SDG#	FILT SDG#	SOL SDG#	AQ SDG# ug/L	FILT SDG#	SOL SDG# mg/kg	AQ SPL# MC0P70	FILT SPL#	SOL SPL#
Al												
As												
Sb				17.3								
Ba				1.6								
Be												
Cd				2.4								
Ca				39			45		1.358	66.4		
Cr												
Co												
Cu												
Fe				11.7			47.7		0.943			
Pb												
Mg												
Mn												
Hg												
Ni												
K												
Se												
Ag												
Na							56.3			23.5		
Tl				1					0.2			
V												
Zn	2.8			14			6.6			5.9		

Highest values for each metal (unfiltered aqueous and solids) are circled and are applied to ***all*** samples. FILT field blank results apply ***only*** to filtered samples.

Comments: Max. pos. blank (appropriate units) x 5 x dilution factor (÷ % solids for solid matrix) = Blank Action Level, ~~Blank Action~~ samples results at or below Blank Action Level qualified (B)

Neg. Blank

ORIGINAL (Red)

Case: 1751

SDGs: MCJP30

MCJP20

SUMMARY OF BLANK ANALYSES

(Highest values for each category)

(Units = ug/l)

Metal	INITIAL CALIB. BLANKS			CONT. CALIB. BLANKS			PREP. BLANKS			FIELD BLANKS		
	AQ SDG#	FILT SDG#	SOL SDG#	AQ SDG#	FILT SDG#	SOL SDG#	AQ SDG# ug/L	FILT SDG#	SOL SDG# mg/kg	AQ SPL#	FILT SPL#	SOL SPL#
Al												
As				-2								
Sb				-12								
Ba												
Be												
Cd												
Ca												
Cr												
Co												
Cu												
Fe												
Pb												
Mg									-2.696			
Mn												
Hg												
Ni							-5					
K												
Se												
Ag												
Na												
Tl	-1											
V												
Zn												
Cya	-4			-4			-4					

Highest values for each metal (unfiltered aqueous and solids) are circled and are applied to ***all*** samples. FILT field blank results apply ***only*** to filtered samples.

54

Comments: All absolute values < CRDL; no action

ORIGINAL (Red)

000029

U.S. EPA - CLP

3
BLANKS

Lab Name: ITAS PITTSBURGH Contract: 68-D9-0087

Lab Code: ITPA Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	11.0	U	11.0	U	11.0	U	11.0	U	2.200	U	P
Antimony	7.0	U	12.7	B	17.3	B	7.6	B	1.400	U	P
Arsenic	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	F
Barium	1.0	U	1.0	U	1.5	B	1.6	B	0.200	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Cadmium	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Calcium	6.0	U	8.6	B	7.5	B	39.0	B	1.358	B	P
Chromium	6.0	U	6.0	U	6.0	U	6.0	U	1.200	U	P
Cobalt	3.0	U	3.0	U	3.0	U	3.0	U	0.600	U	P
Copper	3.0	U	3.0	U	3.0	U	3.0	U	0.600	U	P
Iron	4.0	U	4.0	U	4.0	U	11.7	B	0.943	B	P
Lead	26.0	U	26.0	U	26.0	U	26.0	U	5.200	U	P
Magnesium	11.0	U	11.0	U	11.0	U	11.0	U	-2.696	B	P
Manganese	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	P
Mercury	0.2	U	0.2	U	0.2	U			0.100	U	CV
Nickel	17.0	U	17.0	U	17.0	U	17.0	U	3.400	U	P
Potassium	61.0	U	61.0	U	61.0	U	61.0	U	12.200	U	P
Selenium	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	F
Silver	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Sodium	9.0	U	9.0	U	9.0	U	9.0	U	1.800	U	P
Thallium	1.0	U	1.0	U	1.0	U	1.0	U	0.200	B	F
Vanadium	2.0	U	2.0	U	2.0	U	2.0	U	0.400	U	P
Zinc	2.0	U	2.0	U	14.0	B	8.6	B	0.400	U	P
Cyanide	4.0	U	4.0	U	4.0	U			0.200	U	AS

55

ORIGINAL (Red)

000030

U.S. EPA - CLP

3
BLANKS

Lab Name: ITAS PITTSBURGH Contract: 68-D9-0087

Lab Code: ITPA Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			2.0	U	-2.0	B	-2.0	B			F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper			3.0	U	3.0	U					P
Iron											NR
Lead			26.0	U							P
Magnesium											NR
Manganese											NR
Mercury	0.2	U	0.2	U	0.2	U			0.100	U	CV
Nickel											NR
Potassium											NR
Selenium			2.0	U	2.0	U	2.0	U			F
Silver											NR
Sodium											NR
Thallium			1.0	U	1.0	U	1.0	U			F
Vanadium											NR
Zinc			5.2	B							P
Cyanide											NR

56

ORIGINAL (Red)

U.S. EPA - CLP

000031

3
BLANKS

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			2.0	U	2.0	U	2.0	U			F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium			2.0	U	2.0	U	2.0	U			F
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

57

ORIGINAL (Red)

U.S. EPA - CLP

3
BLANKS

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			2.0	U	2.0	U	2.0	U			F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium			2.0	U	2.0	U	2.0	U			F
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

58

ORIGINAL (Red)

000033

U.S. EPA - CLP

3
BLANKS

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			2.0	U	2.0	U	2.0	U			F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium			2.0	U	2.0	U	2.0	U			F
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

59

ORIGINAL (Red)

000034

U.S. EPA - CLP

3
BLANKS

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			2.0	U							F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium			2.0	U							F
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

60

ORIGINAL

3
BLANKS

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L_

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	22.0	U	22.0	U	22.0	U	22.0	U	22.0	U	P
Antimony	11.0	U	11.0	U	-12.0	B	11.0	U	11.0	U	P
Arsenic	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	F
Barium	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	P
Cadmium	2.0	U	2.0	U	2.0	U	2.4	B	2.0	U	P
Calcium	8.0	U	8.0	U	8.0	U	8.0	U	45.0	B	P
Chromium	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	P
Cobalt	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	P
Copper	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	P
Iron	13.0	U	13.0	U	13.0	U	13.0	U	47.7	B	P
Lead	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	F
Magnesium	19.0	U	19.0	U	19.0	U	19.0	U	19.0	U	P
Manganese	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	P
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	CV
Nickel	5.0	U	5.0	U	5.0	U	5.0	U	-5.0	B	P
Potassium	512.0	U	512.0	U	512.0	U	512.0	U	512.0	U	P
Selenium	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	F
Silver	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	P
Sodium	13.0	U	13.0	U	13.0	U	13.0	U	56.3	B	P
Thallium	-1.0	B	1.0	U	1.0	U	1.0	U	1.0	U	F
Vanadium	4.0	U	4.0	U	4.0	U	4.0	U	4.0	U	P
Zinc	2.8	B	3.1	B	2.3	B	2.0	U	6.6	B	P
Cyanide	-4.0	B	-4.0	B	-4.0	B			-4.0	B	AS

61

ORIGINAL (Red)

000028

U.S. EPA - CLP

3
BLANKS

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			2.0	U	2.0	U	2.0	U			F
Barium											NR
Beryllium											NR
Cadmium	2.0	U	2.0	U	2.0	U	2.0	U			P
Calcium			8.0	U							P
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead			1.0	U							F
Magnesium											NR
Manganese											NR
Mercury			0.2	U							CV
Nickel											NR
Potassium											NR
Selenium			2.0	U	2.0	U	2.0	U			F
Silver											NR
Sodium											NR
Thallium			1.0	U	1.0	U					F
Vanadium											NR
Zinc											NR
Cyanide											NR

62

FORM III - IN

7/88

ORIGINAL (Red)

U.S. EPA - CLP

000029

3
BLANKS

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			2.0	U	2.0	U	2.0	U			F
Barium											NR
Beryllium											NR
Cadmium			2.0	U							P
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium			2.0	U	2.0	U	2.0	U			F
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

63

FORM III - IN

7/88

ORIGINAL (Red)

U.S. EPA - CLP

000030

3
BLANKS

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			2.0	U	2.0	U	2.0	U			F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium			2.0	U	2.0	U	2.0	U			F
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

64

FORM III - IN

7/88

ORIGINAL (Red)

000031

U.S. EPA - CLP

3
BLANKS

Lab Name: ITAS PITTSBURGH Contract: 68-D9-0087

Lab Code: ITPA Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			2.0	U	2.0	U	2.0	U			F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead	1.0	U	1.0	U	1.0	U	1.0	U	0.200	U	F
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium			2.0	U	2.0	U	2.0	U			F
Silver											NR
Sodium					-						NR
Thallium			1.0	U	1.0	U	1.0	U			F
Vanadium											NR
Zinc	2.3	B	3.9	B	3.4	B	3.5	B			P
Cyanide											NR

65

FORM III - IN

7/88

U.S. EPA - CLP

3
BLANKS

Lab Name: ITAS PITTSBURGH _____ Contract: 68-D9-0087

Lab Code: ITPA __ Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			2.0	U	2.0	U	2.0	U			F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead			1.0	U							F
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium			2.0	U	2.0	U	2.0	U			F
Silver											NR
Sodium											NR
Thallium			1.0	U	1.0	U					F
Vanadium											NR
Zinc			2.6	B	2.1	B					P
Cyanide											NR

66

U.S. EPA - CLP

3
BLANKS

Lab Name: ITAS PITTSBURGH Contract: 68-D9-0087

Lab Code: ITPA Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			2.0	U	2.0	U					F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead	1.0	U	1.0	U	1.0	U					F
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium			2.0	U							F
Silver											NR
Sodium											NR
Thallium	1.0	U	1.0	U	1.0	U	1.0	B			F
Vanadium											NR
Zinc											NR
Cyanide											NR

67

ORIGINAL (Red)

000034

U.S. EPA - CLP

3
BLANKS

Lab Name: ITAS PITTSBURGH _____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

Preparation Blank Matrix (soil/water): _____

Preparation Blank Concentration Units (ug/L or mg/kg): _____

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic	2.0	U	2.0	U	2.0	U					F
Barium											NR
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium	2.0	U	2.0	U	2.0	U	2.0	U			F
Silver											NR
Sodium											NR
Thallium			1.0	B							F
Vanadium											NR
Zinc											NR
Cyanide											NR

68

FORM III - IN

7/88

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MCJP70 FB

Lab Name: ITAS_PITTSBURGH Contract: 68-D9-0087

Lab Code: ITPA Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

Matrix (soil/water): WATER Lab Sample ID: MCJP70

Level (low/med): LOW Date Received: 12/06/91

% Solids: 0.0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	22.0	U		P
7440-36-0	Antimony	11.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	2.0	U	N	P
7440-70-2	Calcium	66.4	B		P
7440-47-3	Chromium	4.0	U		P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	3.0	U		P
7439-89-6	Iron	13.0	U		P
7439-92-1	Lead	1.0	U		F
7439-95-4	Magnesium	19.0	U		P
7439-96-5	Manganese	1.0	U		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	5.0	U		P
7440-09-7	Potassium	512	U		P
7782-49-2	Selenium	2.0	U		F
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	23.5	B		P
7440-28-0	Thallium	1.0	U		F
7440-62-2	Vanadium	4.0	U		P
7440-66-6	Zinc	5.9	B		P
	Cyanide	2.0	U		AS

Color Before: COLORLESS Clarity Before: CLEAR Texture: _____

Color After: COLORLESS Clarity After: CLEAR Artifacts: _____

Comments: FIELD BLANK

FORM I - IN

69

7/88

ORIGINAL (Red)

000038

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MCJP67S

Lab Name: ITAS_PITTSBURGH Contract: 68-D9-0087

Lab Code: ITPA Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

Matrix: SOIL Level (low/med): LOW

% Solids for Sample: 64.2

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum								*	NR
Antimony	75-125	241.2571		158.5490		152.71	54.2	N	P
Arsenic	75-125	17.7143		8.8571		12.22	72.5	* N	F
Barium	75-125	925.6069		310.7235		610.84	100.7		P
Beryllium	75-125	17.6654		3.1382		15.27	95.1		P
Cadmium	75-125	50.2446		31.9351		15.27	119.9		P
Calcium								**	NR
Chromium		622.9064		845.9404		61.08	-365.2		P
Cobalt	75-125	181.4181		40.7623		152.71	92.1		P
Copper		74389.4081		67062.7023		76.35	9596.2	**	P
Iron									NR
Lead		3554.0040		3178.8590		152.71	245.7	**	P
Magnesium									NR
Manganese	75-125	676.4370		560.3225		152.71	76.0		P
Mercury		25.1402		13.9054		0.78	1440.4	**	CV
Nickel	75-125	400.0889		198.7860		152.71	131.8	* N	P
Potassium									NR
Selenium	75-125	3.0542		0.6108	B	3.05	80.1		F
Silver	75-125	45.9138		20.5116		15.27	166.4	* N	P
Sodium									NR
Thallium	75-125	16.4926		1.2217	B	15.27	100.0		F
Vanadium	75-125	177.5069		38.5493		152.71	91.0		P
Zinc		42764.3394		44626.8707		152.71	-1219.7	**	P
Cyanide	75-125	11.4257		4.9065		7.77	83.9		AS

Comments:

* RPD of ISR and |SSR-SA| acceptable for matrix; difference due to duplicate imprecision rather than matrix effects; no action

** SR > 4 x SA; further reason for no action

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MCJP67A

Lab Name: ITAS_PITTSBURGH Contract: 68-D9-0007

Lab Code: ITPA Case No.: 17514 SAS No.: SDG No.: MCJP30

Matrix: SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Added (SA)	%R	Q	M
Aluminum									NR
Antimony		1454.74		519.12		1040.0	90.0		P
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel		1827.50		650.86		1300.0	90.5		P
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MCJP20S

Lab Name: ITAS_PITTSBURGH_____ Contract:68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

Matrix: __WATER_____ Level (low/med): _LOW____

% Solids for Sample: __0.0

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

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	1935.8200		22.0000	U	2000.00	96.8		P
Antimony	75-125	512.3300		11.0000	U	500.00	102.5		P
Arsenic	75-125	54.0000		16.0000		40.00	95.0		F
Barium	75-125	2016.2400		55.3000	B	2000.00	98.0		P
Beryllium	75-125	50.6200		1.0000	U	50.00	101.2		P
Cadmium	75-125	64.6100		2.0000	U	50.00	129.2	N	P
Calcium									NR
Chromium	75-125	192.1600		4.0000	U	200.00	96.1		P
Cobalt	75-125	497.6500		4.0000	U	500.00	99.5		P
Copper	75-125	250.2100		3.0000	U	250.00	100.1		P
Iron	75-125	1060.8900		113.6900		1000.00	94.7		P
Lead	75-125	21.4000		1.0000	U	20.00	107.0		F
Magnesium									NR
Manganese	75-125	506.6300		14.5000	B	500.00	98.4		P
Mercury	75-125	0.9900		0.2000	U	1.00	99.0		CV
Nickel	75-125	480.6000		5.0000	U	500.00	96.1		P
Potassium									NR
Selenium	75-125	8.0000		2.0000	U	10.00	80.0		F
Silver	75-125	46.1300		3.0000	U	50.00	92.3		P
Sodium									NR
Thallium	75-125	54.0000		1.0000	U	50.00	108.0		F
Vanadium	75-125	447.7000		4.0000	U	500.00	89.5		P
Zinc	75-125	513.0400		12.5800	B	500.00	100.1		P
Cyanide	75-125	98.0000		2.0000	U	100.00	98.0		AS

Comments:

* No positive Cd results in this matrix; no action

ORIGINAL (Red)

000038

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MCJP20A

Lab Name: ITAS_PITTSBURGH Contract: 68-D9-0087

Lab Code: ITPA Case No.: 17514 SAS No.: SDG No.: MCJP20

Matrix: WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium		11.30		2.00	U	10.0	113.0		P
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

ORIGINAL (Red)

000039

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

MCJP20D

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

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

% Solids for Sample: __0.0 % Solids for Duplicate: ___0.0

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		22.0000	U	22.0000	U			P
Antimony		11.0000	U	11.0000	U			P
Arsenic	10.0	16.0000		17.0000		6.1		F
Barium		55.3000	B	55.5000	B	0.4		P
Beryllium		1.0000	U	1.0000	U			P
Cadmium		2.0000	U	2.0000	U			P
Calcium		90742.7000		91050.3500		0.3		P
Chromium		4.0000	U	4.0000	U			P
Cobalt		4.0000	U	4.0000	U			P
Copper		3.0000	U	3.0000	U			P
Iron	100.0	113.6900		100.0600		12.8		P
Lead		1.0000	U	1.0000	U			F
Magnesium	5000.0	23235.7800		23215.0700		0.1		P
Manganese		14.5000	B	14.2200	B	1.9		P
Mercury		0.2000	U	0.2000	U			CV
Nickel		5.0000	U	5.0000	U			P
Potassium		1193.2300	B	1257.0600	B	5.2		P
Selenium		2.0000	U	2.0000	U			F
Silver		3.0000	U	3.0000	U			P
Sodium	5000.0	19644.2100		19781.5000		0.7		P
Thallium		1.0000	U	1.0000	U			F
Vanadium		4.0000	U	4.0000	U			P
Zinc		12.5800	B	12.8400	B	2.0		P
Cyanide		2.0000	U	2.0000	U			AS

74

ORIGINAL (Red)

000040

U.S. EPA - CLP

6
DUPLICATES

EPA SAMPLE NO.

MCJP67D

Lab Name: ITAS PITTSBURGH Contract: 68-D9-0087

Lab Code: ITPA Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

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

% Solids for Sample: 64.2 % Solids for Duplicate: 58.3

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

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		10531.9235		9782.6840		7.4		P
Antimony		158.5490		174.5855		9.6		P
Arsenic	3.1	8.8571		7.9409		10.9		F
Barium	61.1	310.7235		255.6197		19.5		P
Beryllium	1.5	3.1382		5.1561		48.7	*	P
Cadmium		31.9351		69.6705		74.3	*	P
Calcium		8108.0511		10598.1394		26.6	*	P
Chromium		845.9404		688.0270		20.6	*	P
Cobalt	15.3	40.7623		34.9203		15.4		P
Copper		67062.7023		76946.3686		13.7		P
Iron		42996.1670		42712.0158		0.7		P
Lead		3178.8590		4667.3905		37.9	*	P
Magnesium	1527.1	3781.0158		3840.7538		1.6		P
Manganese		560.3225		615.6960		9.4		P
Mercury		13.9054		7.5050		59.8	*	CV
Nickel		198.7860		250.4960		23.0	*	P
Potassium		516.3820	B	535.6893	B	3.7		P
Selenium		0.6108	B	0.6108	B	0.0		F
Silver		20.5116		28.7087		33.3	*	P
Sodium		266.5720	B	251.6722	B	5.8		P
Thallium		1.2217	B	0.3054	B	120.0 *		F
Vanadium	15.3	38.5493		41.5237		7.4		P
Zinc		44626.8707		49091.4116		9.5		P
Cyanide	0.8	4.9065		3.5754		31.4	*	AS

* Results < 2.6 x IDL ; near noise level, no action

75

Field Duplicates Worksheet
Case 17514, SDG MCDJP20, MCJP20

Analyte	MCJP24 Sample (ug/l)	MCJP29 Duplicate (ug/l)	RPD (%)
Aluminum	531.00	525.00	1.14
Antimony			IN
Arsenic	2.00		IN
Barium	60.70	58.60	3.52
Beryllium			IN
Cadmium			IN
Calcium	24300.00	25000.00	-2.02
Chromium			IN
Cobalt			IN
Copper	47.40	42.70	10.43
Iron	1970.00	1700.00	14.71
Lead	6.70	5.80	14.40
Magnesium	11900.00	12200.00	-2.49
Manganese	666.00	590.00	12.10
Mercury			IN
Nickel	7.40		IN
Potassium	2690.00	2830.00	-5.07
Selenium			IN
Silver			IN
Sodium	13400.00	13700.00	-2.21
Thallium			IN
Vanadium	10.90	10.40	4.69
Zinc	180.00	171.00	5.13
Cyanide			IN

IN = Indeterminate

ORIGINAL (Red)

C.L

Field Duplicates Worksheet
Case 17514

Analyte	MCJP51 Sample (mg/kg)	MCJP66 Duplicate (mg/kg)	RPD (%)
Aluminum	14300.00	11000.00	26.09
Antimony	53.70 R	34.20 R	~~44.37~~ IN
Arsenic	7.50	1.50	133.33
Barium	150.00	126.00	17.39
Beryllium	1.30	1.30	0.00
Cadmium			IN
Calcium	1400.00	1390.00	193.56
Chromium	30.90	22.90	29.74
Cobalt	20.30	22.90	-12.04
Copper	4530.00	611.00	152.46
Iron	47500.00	31000.00	42.04
Lead	201.00	118.00	52.04
Magnesium	8560.00	3920.00	74.36
Manganese	3140.00	3010.00	4.23
Mercury	0.21	0.22	-4.65
Nickel	95.70	56.00	52.34
Potassium	444.00	383.00	14.75
Selenium			IN
Silver	1.70	0.78	74.19
Sodium	97.50	99.10	-1.63
Thallium	0.29 B	0.30 B	~~3.39~~ IN
Vanadium	51.80	51.80	0.00
Zinc	1300.00	660.00	65.31
Cyanide	0.37		IN

IN = Indeterminate

NUS CORPORATION AND SUBSIDIARIES	STANDARD CALCULATION SHEET

CLIENT: EPA - ARCS III	FILE NO.: 326305	BY: J. Hubbard	PAGE 1 OF 1
SUBJECT: Sample Quantitation - Zinc, MCJP67		CHECKED BY: R. Slobodu	DATE: 2/24/92

Objective: To calculate the zinc concentration in sample MCJP67 from the raw data.

Approach: Use ICP data and preparation logs.

Relevant Equations:

$$\frac{I \times DF \times \frac{SV}{SW} \times CF_1 \times CF_2}{FS} = SC$$

where: I = Initial ICP result (mg/L)
DF = Dilution factor
SV = Sample volume (mL)
SW = Sample weight (g)
CF_1 = Conversion factor (L/mL: 1/1000)
CF_2 = Conversion factor (g/kg: 1000)
FS = Fraction solids
SC = Final sample concentration (mg/kg)

Assumptions: I = 14.000 mg/L (from data pkg. pp. 96, 102)
Result reported from "MCJP67 X 10 Zn"
DF = 10
SV = 200 mL (p. 58)
SW = 1.02 g (p. 58)
CF_1 = 1 L/1000 mL
CF_2 = 1000 g/kg
FS = 0.642 (p. 14)

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Sample Calculation:

$$SC = \frac{I \times DF \times \frac{SV}{SW} \times CF_1 \times CF_2}{FS} = \frac{14\,\frac{mg}{L} \times 10 \times \frac{200\,mL}{1.02\,g} \times \frac{1\,L}{1000\,mL} \times \frac{1000\,g}{kg}}{0.642}$$

$$= 42758\ mg/kg \approx \boxed{42800\ mg/kg}$$

ORIGINAL (Red)

UU8096

1-3

mtw 12-30-91

Edwin C. Ciecon 12/24/91

[illegible] SOILS, CASE#[illegible] [illegible] FOR DILUTIONS ONLY [illegible]

[illegible] 1[illegible]A [illegible] 24 [illegible]-91

1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	ICSA-1	[illegible]	[illegible]	[illegible]	[illegible]
5	ICSAB-1	[illegible]	521.01	[illegible]	[illegible]
6	CRI 1	[illegible]	[illegible]	[illegible]	[illegible]
7	PBS 12-19-1	[illegible]	-.00864	[illegible]	[illegible]
8	LCCS 0287 12-19-1	[illegible]	1.7604	[illegible]	[illegible]
9	LCCS 0287 12 19-1 [illegible]	[illegible]	.43526	[illegible]	[illegible]
10	MCJP58	[illegible]	39.422	[illegible]	[illegible]
11	MCJP51	[illegible]	50.409	[illegible]	.00447
12	MCJP52	[illegible]	45.880	[illegible]	[illegible]
13	MCJP53	[illegible]	27.419	[illegible]	[illegible]
14	CCV2-1	2.0888	.02153	.00164	.00015
15	CCV1-1	[illegible]	1.9682	.00000	1.9758
16	CCV2-1	[illegible]	.02712	5.9651	.00456
17	CCB1	[illegible]	-.00157	[illegible]	.00015
18	MCJP50	-.00015	41.949	.19712	.00204
19	MCJP61	-.00001	52.973	.32977	.00224
20	MCJP62	.00079	49.889	.45913	[illegible]
21	MCJP64	.16794	61.940	.52509	[illegible]
22	MCJP65	.00035	79.747	.29787	.00422
23	MCJP66	.00265	37.618	.42874	.00453
24	MCJP67	.06716	34.482	1.0172	.01028
25	MCJP67D	.09400	32.030	.83695	.01388
26	MCJP67S	.15033	35.458	3.0306	.05784
27	MCJP63	.00034	41.432	.30568	[illegible]
28	CCV2-2	2.0767	.02849	.00164	[illegible]
29	CCV1-2	.00243	1.9939	.00000	2.0142
30	CCV2-2	.00145	.02865	5.0148	.00471
31	CCB2	.00192	.00470	.00151	[illegible]
32	MCJP68	.01758	39.900	.28679	[illegible]
33	MCJP69	.10975	48.200	1.0359	.01561
34	MCJP69L (USE ALSO AS x 5, Zn).	.02526	10.395	.21916	[illegible]
35	MCJP67A Ag 0.134PPM	.19472	33.480	.99492	.01015
36	MCJP67A Cr 5.54PPM	4.8591	37.327	6.3739	5.0611
37	MCJP67A Ni 1.30PPM	1.2509	35.180	2.3022	1.2161
38	MCJP67A Sb 1.04PPM	.06685	33.895	1.0043	.01090
39	ICSA-2	.00245	524.20	.01519	[illegible]
40	ICSAB-2	.31728	515.00	.47118	[illegible]
41	CRI-2	.02437	.07178	.00164	[illegible]
42	CCV2-3	2.0503	.03190	.00123	-.00001
43	CCV1-3	.00343	1.9406	.00000	[illegible]
44	CCV2-3	.00212	.02487	5.9299	.00470
45	CCB3	.00096	.00447	.00164	[illegible]
46	MCJP64 x10 Zn	.02085	5.6338	.05585	[illegible]
47	MCJP67 x10 Zn	.00905	3.6488	.10568	[illegible]
48	MCJP67Dx10 Zn	.01209	3.4096	.08788	[illegible]
49	MCJP69 x25 Zn (SERIAL DIL)	.00751	2.1392	.04558	[illegible]
50	ICSA-3	.02401	534.76	.01533	[illegible]

ecc 12/24/91

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ORIGINAL (Red)

000102

UTEPA DLF BOILD, CASE#17514, ECC MOIST[illegible] [illegible] FOR DILUTIONS ONLY) [illegible] 01 12

File [illegible]1221A 24-Dec-91 Meth : ICPM Page 1.00

	Conc	Class	Date	Time	AST	Units	Dilution
1	[illegible]	ECC	24-Dec-91	22:22:22	ITPAICP	PPM	1.00000
2	.00041	ECC	24-Dec-91	22:24:21	ITPAICP	PPM	1.00000
3	.00162	ECC	24-Dec-91	22:26:20	ITPAICP	PPM	1.00000
4	.00760	ECC	24-Dec-91	22:28:11	ITPAICP	PPM	1.00000
5	1.0000	ECC	24-Dec-91	22:29:12	ITPAICP	PPM	1.00000
6	.05000	ECC	24-Dec-91	22:31:42	ITPAICP	PPM	1.00000
7	.00117	ECC	24-Dec-91	22:11:58	ITPAICP	PPM	1.00000
8	.00721	ECC	24-Dec-91	22:14:24	ITPAICP	PPM	1.00000
9	.10150	ECC	24-Dec-91	22:16:11	ITPAICP	PPM	1.00000
10	.01482	ECC	24-Dec-91	22:25:28	ITPAICP	PPM	1.00000
11	4.5605	ECC	24-Dec-91	22:27:22	ITPAICP	PPM	1.00000
12	1.4650	ECC	24-Dec-91	22:29:59	ITPAICP	PPM	1.00000
13	.15550	ECC	24-Dec-91	22:43:44	ITPAICP	PPM	1.00000
14	.00270	ECC	24-Dec-91	22:42:22	ITPAICP	PPM	1.00000
15	2.0270	ECC	24-Dec-91	22:51:21	ITPAICP	PPM	1.00000
16	.02104	ECC	24-Dec-91	22:54:20	ITPAICP	PPM	1.00000
17	.00024	ECC	24-Dec-91	23:56:13	ITPAICP	PPM	1.00000
18	.02210	ECC	24-Dec-91	23:58:35	ITPAICP	PPM	1.00000
19	.41502	ECC	24-Dec-91	24:00:26	ITPAICP	PPM	1.00000
20	.89596	ECC	24-Dec-91	24:02:24	ITPAICP	PPM	1.00000
21	120.04	ECC	24-Dec-91	24:04:50	ITPAICP	PPM	1.00000
22	.41871	ECC	24-Dec-91	24:54:10	ITPAICP	PPM	1.00000
23	2.2489	ECC	24-Dec-91	24:56:24	ITPAICP	PPM	1.00000
24	121.07	ECC	24-Dec-91	24:58:24	ITPAICP	PPM	1.00000
25	124.56	ECC	24-Dec-91	25:22:00	ITPAICP	PPM	1.00000
26	119.98	ECC	24-Dec-91	25:25:39	ITPAICP	PPM	1.00000
27	.01369	ECC	24-Dec-91	25:12:42	ITPAICP	PPM	1.00000
28	.00524	ECC	24-Dec-91	25:15:39	ITPAICP	PPM	1.00000
29	2.2744	ECC	24-Dec-91	25:33:20	ITPAICP	PPM	1.00000
30	.00658	ECC	24-Dec-91	25:34:48	ITPAICP	PPM	1.00000
31	.21395	ECC	24-Dec-91	25:37:25	ITPAICP	PPM	1.00000
32	29.629	ECC	24-Dec-91	25:39:26	ITPAICP	PPM	1.00000
33	198.37	ECC	24-Dec-91	25:42:39	ITPAICP	PPM	1.00000
34	49.770	ECC	24-Dec-91	25:45:46	ITPAICP	PPM	1.00000
35	117.73	ECC	24-Dec-91	26:25:49	ITPAICP	PPM	1.00000
36	117.13	ECC	24-Dec-91	26:29:29	ITPAICP	PPM	1.00000
37	119.35	ECC	24-Dec-91	26:11:35	ITPAICP	PPM	1.00000
38	118.31	ECC	24-Dec-91	26:12:24	ITPAICP	PPM	1.00000
39	.22875	ECC	24-Dec-91	26:30:52	ITPAICP	PPM	1.00000
40	1.1994	ECC	24-Dec-91	26:32:22	ITPAICP	PPM	1.00000
41	.05286	ECC	24-Dec-91	26:34:19	ITPAICP	PPM	1.00000
42	.00269	ECC	24-Dec-91	26:36:33	ITPAICP	PPM	1.00000
43	2.2016	ECC	24-Dec-91	26:37:41	ITPAICP	PPM	1.00000
44	.00376	ECC	24-Dec-91	26:39:13	ITPAICP	PPM	1.00000
45	.00862	ECC	24-Dec-91	26:41:47	ITPAICP	PPM	1.00000
46	14.[illegible]	ECC	24-Dec-91	26:52:51	ITPAICP	PPM	1.00000
47	14.000	ECC	24-Dec-91	26:55:29	ITPAICP	PPM	1.00000
48	15.776	ECC	24-Dec-91	26:57:27	ITPAICP	PPM	1.00000
49	12.282	ECC	24-Dec-91	26:59:28	ITPAICP	PPM	1.00000
50	.24412	ECC	24-Dec-91	27:02:35	ITPAICP	PPM	1.00000

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U.S. EPA - CLP

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PREPARATION LOG

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA___ Case No.: _17514 SAS No.: _____ SDG No.:MCJP30

Method: P_

EPA Sample No.	Preparation Date	Weight (gram)	Volume (mL)
LCSS	12/19/91	1.00	200
MCJP30	12/19/91	1.05	200
MCJP38	12/19/91	1.02	200
MCJP51	12/19/91	1.04	200
MCJP52	12/19/91	1.01	200
MCJP53	12/19/91	1.05	200
MCJP61	12/19/91	1.05	200
MCJP62	12/19/91	1.04	200
MCJP63	12/19/91	1.02	200
MCJP64	12/19/91	1.04	200
MCJP65	12/19/91	1.01	200
MCJP66	12/19/91	1.05	200
MCJP67	12/19/91	1.02	200
MCJP67D	12/19/91	1.02	200
MCJP67S	12/19/91	1.02	200
MCJP68	12/19/91	1.05	200
MCJP69	12/19/91	1.02	200
PBS	12/19/91	1.00	200

ORIGINAL (Red)

000014

U.S. EPA - CLP

1

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MCJP67

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

Matrix (soil/water): SOIL_ Lab Sample ID: MCJP67____

Level (low/med): LOW__ Date Received: 12/06/91

% Solids: 64.2

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10500			P
7440-36-0	Antimony	159		EN	P
7440-38-2	Arsenic	8.9		N	F
7440-39-3	Barium	311			P
7440-41-7	Beryllium	3.1		*	P
7440-43-9	Cadmium	31.9		E*	P
7440-70-2	Calcium	8110		E*	P
7440-47-3	Chromium	846		E*	P
7440-48-4	Cobalt	40.8			P
7440-50-8	Copper	67100			P
7439-89-6	Iron	43000		E	P
7439-92-1	Lead	3180		*	P
7439-95-4	Magnesium	3780		E	P
7439-96-5	Manganese	560			P
7439-97-6	Mercury	13.9		*	CV
7440-02-0	Nickel	199		EN*	P
7440-09-7	Potassium	516	B	E	P
7782-49-2	Selenium	0.61	B	W	F
7440-22-4	Silver	20.5		EN*	P
7440-23-5	Sodium	267	B		P
7440-28-0	Thallium	1.2	B		F
7440-62-2	Vanadium	38.5			P
7440-66-6	Zinc	~~44600~~		42800	P
	Cyanide	4.9		*	AS

Color Before: BROWN____ Clarity Before: _____ Texture: MEDIUM

Color After: GREEN____ Clarity After: _____ Artifacts: YES___

Comments:

ARTIFACTS: __WOOD, _ROOTS, _STONES, _AND_GLASS

82

FORM I - IN

7/88

ORIGINAL (Red)

000025

U.S. EPA - CLP

2B

CRDL STANDARD FOR AA AND ICP

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

AA CRDL Standard Source: FISHERRICCAM

ICP CRDL Standard Source: MALLINRICCAA

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony				120.0	123.88	103.2	121.45	101.2
Arsenic	10.0	10.00	100.0					
Barium								
Beryllium				10.0	10.08	100.8	10.17	101.7
Cadmium				10.0	12.65	126.5 **	11.96	119.6
Calcium								
Chromium				20.0	21.20	106.0	20.45	102.2
Cobalt				100.0	107.78	107.8	106.50	106.5
Copper				50.0	56.83	113.7	55.11	110.2
Iron								
Lead	3.0	3.30	110.0					
Magnesium								
Manganese				30.0	31.78	105.9	30.96	103.2
Mercury	0.2	0.17	85.0					
Nickel				80.0	89.40	111.8	77.83	97.3
Potassium								
Selenium	5.0	5.00	100.0					
Silver				20.0	20.36	101.8	19.01	95.0
Sodium								
Thallium	10.0	11.00	110.0					
Vanadium				100.0	104.82	104.8	101.75	101.8
Zinc				40.0	67.84	169.6	70.01	175.0

** No positive results in applicable samples; no action

83

FORM II (PART 2) - IN

7/88

U.S. EPA - CLP

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

AA CRDL Standard Source: _____

ICP CRDL Standard Source: MALLINRICCAA

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium				10.0	9.66	96.6	9.34	93.4
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

84

ORIGINAL (Red)

000026

U.S. EPA - CLP

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ITAS PITTSBURGH Contract: 68-D9-0087

Lab Code: ITPA Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

AA CRDL Standard Source: FISHERRICCAM

ICP CRDL Standard Source: MALLINRICCAA

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony				120.0	131.52	109.6	142.79	119.0
Arsenic	10.0	9.00	90.0					
Barium								
Beryllium				10.0	9.76	97.6	10.06	100.6
Cadmium				10.0	11.42	114.2	11.83	118.3
Calcium								
Chromium				20.0	25.28	126.4	27.78	138.9
Cobalt				100.0	107.00	107.0	108.61	108.6
Copper								
Iron								
Lead	3.0	3.10	103.3	50.0	49.63	99.3	43.34	86.7
Magnesium								
Manganese				30.0	31.90	106.3	33.00	110.0
Mercury	0.2	0.21	105.0					
Nickel				80.0	86.31	107.9	89.23	111.5
Potassium								
Selenium	5.0	5.00	100.0					
Silver				20.0	24.00	120.0	24.37	121.8
Sodium								
Thallium	10.0	11.00	110.0					
Vanadium				100.0	106.96	107.0	108.86	108.9
Zinc				40.0	50.08	125.2 **	53.27	133.2 **

** All applicable samples outside affected range; no action

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FORM II (PART 2) - IN

7/88

ORIGINAL (Red)
000027

U.S. EPA - CLP

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

AA CRDL Standard Source: FISHERRICCAM

ICP CRDL Standard Source: _____

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
Arsenic	10.0	9.25	92.5					
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	3.0	3.27	109.0					
Magnesium								
Manganese								
Mercury	0.2	0.14	70.0 *					
Nickel								
Potassium								
Selenium	5.0	5.30	106.0					
Silver								
Sodium								
Thallium	10.0	11.00	110.0					
Vanadium								
Zinc								

* |True - found| < IDL; near noise level; no action

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FORM II (PART 2) - IN

7/88

ORIGINAL (Red)

000028

U.S. EPA - CLP

2B

CRDL STANDARD FOR AA AND ICP

Lab Name: ITAS PITTSBURGH _____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

AA CRDL Standard Source: _____

ICP CRDL Standard Source: MALLINRICCAA

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper				50.0	50.08	100.2	53.25	106.5
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc				40.0	56.19	140.5 **	59.65	149.1 **

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** All applicable samples outside affected range; no action

Inactive Landfill
ICP ICS Linear Correlations

Sample No.	Interferent Conc. (ug/l) Fe	Sample Analyte Conc. (ug/l)--Sb
ICS 1	182143	199
ICS 2	181953	224
MCJP38	134466.5	168.714
MCJP51	160550	181.506
MCJP52	95278.5	108.9385
MCJP62	102411.5	129.8355
MCJP65	92544	102.912
MCJP66	100595	110.975

Regression Output:

Constant	0.765040
Std Err of Y Est	10.57905
R Squared	0.955139
No. of Observations	6
Degrees of Freedom	6
X Coefficient(s)	0.001161
Std Err of Coef.	0.000102

Sample No.	Interferent Conc. (ug/l) Fe	Sample Analyte Conc. (ug/l)--Sb
ICS 1	182143	199
ICS 2	181953	224
MCJP38	134466.5	168.714
MCJP51	160550	181.506
MCJP52	95278.5	108.9385
MCJP62	102411.5	129.8355
MCJP65	92544	102.912
MCJP66	100595	110.975
MCJP67	138030	510.39
MCJP69	209495	654.425

Regression Output:

Constant	-268.918
Std Err of Y Est	191.4504
R Squared	0.438463
No. of Observations	10
Degrees of Freedom	8
X Coefficient(s)	0.003778
Std Err of Coef.	0.001511

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ICP INTERFERENCE CHECK SAMPLE

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No: _____ SDG No.: MCJP20

ICP ID Number: JA61E_____ ICS Source: USEPA_____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum	540055	536472	524796	524380.1	97.7	516716	515619.6	96.1
Antimony	0	0	-7 *	-13.7 *		-3 *	-7.3 *	
Arsenic								
Barium	0	502	13 *	484.9	96.6	13 *	481.4	95.9
Beryllium	0	480	0	442.1 *	92.1	0	438.8 *	91.4
Cadmium	0	907	-3 *	919.5 *	101.4	-4 *	914.4 *	100.8
Calcium								
Chromium	21	529	16	479.0 **	90.5	19	474.6 **	89.7
Cobalt	0	477	14 *	456.7	95.7	12 *	451.8	94.7
Copper	0	543	17 *	527.4	97.1	17 *	517.0 **	95.2
Iron	206236	199845	185012	183420.8	91.8	182688	180564.2	90.4
Lead								
Magnesium	531358	527530	497561	494768.6	93.8	492402	489295.7	92.8
Manganese	34	496	43	479.1 *	96.6	45	475.4 *	95.8
Mercury								
Nickel	0	940	21 *	841.9 **	89.6	4 *	835.7 **	88.9
Potassium	0	0	1236 *	1205.7 *		1429 *	1213.4 *	
Selenium								
Silver	0	960	-5 *	908.8 **	94.7	-5 *	894.1 **	93.1
Sodium	0	0	1834 *	1863.6 *		1811 *	1841.9 *	
Thallium								
Vanadium	0	509	-2 *	458.1 **	90.0	14 *	456.0 **	89.6
Zinc	216	1208	204	1185.2 **	98.1	209	1214.2	100.5

* |Found - True| < CRDL; no action

** |Found - True| > CRDL but false positive/false negative > CRD not observed; no action

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ICP INTERFERENCE CHECK SAMPLE

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No: _____ SDG No.: MCJP20

ICP ID Number: JA61E_____ ICS Source: USEPA_____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium	0	907	-2 *	897.3 **	98.9	-3 *	913.3 **	100.7
Calcium	494040	512228	487924	484512.6	94.6	499661	494467.6	96.5
Chromium								
Cobalt								
Copper								
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

* |Found - True| < CRDL; no action

** |Found - True| > CRDL but false positive / false negative

> CRDL not observed; no action

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4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No: _____ SDG No.: MCJP30

ICP ID Number: JA9000_____ ICS Source: USEPA_____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	%R	Final Found Sol. A	Final Found Sol. AB	%R
Aluminum	540055	536472	526278	521644.7	97.2	524205	515004.4	96.0
Antimony	0	0	199	186.8		224	232.6	
Arsenic								
Barium	0	502	15 *	477.2	95.1	15 *	471.2	93.9
Beryllium	0	480	2 *	436.8 *	91.0	2 *	440.3 *	91.7
Cadmium	0	907	13	879.3 *	96.9	14	886.2 *	97.7
Calcium	494040	512228	497565	490528.1	95.8	502115	492169.4	96.1
Chromium	21	529	53 * *	503.8 *	95.2	56 * *	513.3 *	97.0
Cobalt	0	477	12 *	453.9	95.2	12 *	457.9	96.0
Copper								
Iron	206236	199845	182143	180378.6	90.3	181953	179199.1	89.7
Lead								
Magnesium	531358	527530	479526	473806.6	89.8	481542	471766.6	89.4
Manganese	34	496	51 * *	494.3	99.7	53 * *	501.3	101.1
Mercury								
Nickel	0	940	29 *	847.5 *	90.2	30 *	854.9 *	90.9
Potassium	0	0	245 *	182.1 *		267 *	233.6 *	
Selenium								
Silver	0	960	2 *	919.1 *	95.7	2 *	917.4 *	95.6
Sodium	0	0	1799 *	1809.3 *		1786 *	1753.7 *	
Thallium								
Vanadium	0	509	21 *	476.3	93.6	21 *	475.0	93.3
Zinc	216	1208	238 * *	1209.0	100.1	244 * *	1212.3	100.4

* |Found - True| <CRDL; no action

* * |Found - True| >CRDL but false positive/false negative >CRDL not observed; no action

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ICP INTERFERENCE CHECK SAMPLE

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No: _____ SDG No.: MCJP30

ICP ID Number: JA61E_____ ICS Source: USEPA_____

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	%R	Final Found Sol. A	Final Found Sol. AB	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	0	4724	32	4451.0	94.2	76	4589.7	97.2
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

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ICP INTERFERENCE CHECK SAMPLE

Lab Name: ITAS PITTSBURGH Contract: 68-D9-0087

Lab Code: ITPA Case No.: 17514 SAS No: _____ SDG No.: MCJP30

ICP ID Number: JA61E ICS Source: USEPA

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	Initial Found %R	Final Found Sol. A	Final Found Sol. AB	Final Found %R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper	0	543	14*	518.3	95.5	14*	525.8	96.8
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc	216	1208	203	1191.0	98.6	210	1220.4	101.0

* |Found - True| < CRDL; no action

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000045

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EPA SAMPLE NO.

ICP SERIAL DILUTION

MCJP69L

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

Matrix (soil/water): SOIL_ Level (low/med): LOW__

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	48200.70		51976.76		7.8		P
Antimony	872.56		1092.34		25.2	E	P
Arsenic							
Barium	1035.99		1095.81		5.8		P
Beryllium	15.61		16.62	B	6.5		P
Cadmium	165.73		187.54		13.2	E	P
Calcium	33124.97		36651.03		10.6	E	P
Chromium	5698.55		6272.64		10.1	E	P
Cobalt	103.07		114.84	B	11.4 *		P
Copper	444818.40		432054.50		2.9		P
Iron	213673.04		239619.64		12.1	E	P
Lead	22758.41		24372.35		7.1		P
Magnesium	26281.67		29054.36		10.5	E	P
Manganese	1983.75		2169.21		9.3		P
Mercury							
Nickel	2829.59		3171.90		12.1	E	P
Potassium	3409.33	B	4023.27	B	18.0	E	P
Selenium							
Silver	109.75		131.30		19.6	E	P
Sodium	1318.06	B	1433.60	B	8.8		P
Thallium							
Vanadium	1849.12		1989.38		7.6		P
Zinc	243853.56		256554.80		5.2		P

* $\left|\frac{S-I}{S}\right| < IDL$, no action

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ICP SERIAL DILUTION

EPA SAMPLE NO.

MCJP20L

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

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

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	22.00	U	110.00	U			P
Antimony	11.00	U	55.00	U			P
Arsenic							
Barium	55.30	B	57.75	B	4.4		P
Beryllium	1.00	U	5.00	U			P
Cadmium	2.00	U	10.00	U			P
Calcium	90742.70		92556.80		2.0		P
Chromium	4.00	U	20.00	U			P
Cobalt	4.00	U	20.00	U			P
Copper	3.00	U	15.00	U			P
Iron	113.69		111.00	B	2.4		P
Lead							
Magnesium	23235.78		23518.85	B	1.2		P
Manganese	14.50	B	14.35	B	1.0		P
Mercury							
Nickel	5.00	U	25.00	U			P
Potassium	1193.23	B	2560.00	U	100.0 **		P
Selenium							
Silver	3.00	U	15.00	U			P
Sodium	19644.21		19806.90	B	0.8		P
Thallium							
Vanadium	4.00	U	20.00	U			P
Zinc	12.58	B	18.15	B	44.3 *		P

* Result attributed to blank contamination, no action.

** Result less than diluted detection limit, no action.

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Metal Pb
IDL 1 ug/l
U = < IDL

ORIGINAL (Red)

Graphite Furnace Spike Recovery Evaluation Form

Sample ID	Instr. Level Result ug/l	PDS Recovery %	Diluted Result ug/l	Diluted PDS Recovery %	MSA Result (if needed) ug/l	Final Result Reported
MCS 8.20	0.5	110				1U
21	0.4	115				1U
22	2	107				2
23	2.1	108				2.1
24	6.7	102				6.7
25	1.7	102				1.7
26	1.7	102				1.7
27	5.4	102				5.4
28	1.1	108				1.1
29	5.8	102				5.8
70	0.1	105				1U
% Solid .61 30			58 x 2	177 *	x10 124.5	40.4
.721 38			34.6 x 5	112		46.6
.607 61			44.9 x 5	108		70.4
.611 63			52.2 x 5	88		81.4
.768 65			58 x 2	92		29.6
.683 52			36 x 5	102		51.7
.716 53			66.6 x 2	88		35.4

* Result reported from MSA; no dilution

Metal _____
IDL 2 ug/l
U = < IDL

ORIGINAL (Red)

Graphite Furnace Spike Recovery Evaluation Form

	Sample ID	Instr. Level Result ug/l	PDS Recovery %	Diluted Result ug/l	Diluted PDS Recovery %	MSA Result (if needed) ug/l	Final Result Reported
	MC DP20	1	90				2U
	21	0	90				2U
	22	0	90				2U
	23	-0	100				2U
	24	1	100				2U
	26	0	90				2U
	70	0	100				2U
	25	0	100				2U
	27	-0	90				2U
	28	0	90				2U
	29	-0	90				2U
% soil .721	38	0	90				0.54U *
.676	51	0	180 **				0.58U
.683	52	0	90				0.59U
.716	53	-0	96				0.58U
.607	61	-0	100				0.63U
.857	62	0	100				0.47U
.61	30	1	90				0.65U
.773	64	2	80				0.51
.768	65	0	100				0.52U
.649	66	-1	90				0.00U
.642	67	2	70				0.61
.702	68	1	100				0.55U
.715	69	5	80 *			6.2	1.7
.611	63	1	100				0.62U

* Result reported from MSA; no dilution

** Recovery not considered low enough to affect detection limit

Metal As
IDL 2 ug/l
U = < IDL

ORIGINAL

Graphite Furnace Spike Recovery Evaluation Form

	Sample ID	Instr. Level Result ug/l	PDS Recovery %	Diluted Result ug/l	Diluted PDS Recovery %	MSA Result (if needed) ug/l	Final Result Reported
	MCJP 20	16	95				16
	21	3	110				3
	22	3	100				3
	23	1	105				2U
	24	2	100				2
	25	1	100				2U
	27	2	95				2
	28	1	105				2U
	29	1	105				2U
	26	1	100				2U
	70	-1	95				2U
As Dolas	30	10	95				3.2
.61	38	35	95				9.4
.721	51	26	85				7.5
.676	52	20	90				5.7
.683	53	37	90				9.8
.716	61	27	85				8.5
.607	62	26	30 *			21	4.8
.557	63	17	85				5.3
.611	64	30	85				7.6
.773	65	14	95				3.6
.768	66	5	95				1.5
.649	68	16	95				4.4
.702	69	43	75 *			x2 47.5	13.2
.715	67	29	85				8.9
.642							

* Result reported from MSA, no action

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Metal Tl
IDL 1 ug/l
U = < IDL

ORIGINAL (Red)

Graphite Furnace Spike Recovery Evaluation Form

	Sample ID	Instr. Level Result ug/l	PDS Recovery %	Diluted Result ug/l	Diluted PDS Recovery %	MSA Result (if needed) ug/l	Final Result Reported
	MB SP 20	-1	110				1 U
	21	0	115				1 U
	22	0	115				1 U
	23	0	110				1 U
	24	-0	110				1 U
	25	-0	105				1 U
	26	0	110				1 U
	27	-0	115				1 U
	28	-1	115				1 U
	29	-1	110				1 U
	70	-0	100				1 U
Metal	30	1	105				0.32
.721	38	1	105				0.27
.676	51	1	100				0.29
.683	52	0	110				0.29 U
.716	53	1	105				0.27
.607	61	1	105				0.31
.657	62	1	110				0.23
.611	63	1	110				0.31
.773	64	2	105				0.51
.768	65	2	100				0.51
.649	66	1	105				0.3
.642	67	4	110				1.2
.702	68	1	105				0.27
.715	69	1	110				0.28

ORIGINAL (Red)

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LABORATORY CONTROL SAMPLE

Lab Name: ITAS PITTSBURGH Contract: 68-D9-0087

Lab Code: ITPA Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

Solid LCS Source: EPALV

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L) True	Aqueous (ug/L) Found	Aqueous (ug/L) %R	Solid (mg/kg) True	Solid (mg/kg) Found	C	Limits	Limits	%R
Aluminum				325.0	352.1		225.0	424.0	108.3
Antimony				211.0	253.7		127.0	294.0	120.2
Arsenic				917.0	940.0		635.0	1199.0	102.5
Barium				4.8	5.3	B	0.0	40.0	110.6
Beryllium				19.4	17.6		16.5	22.3	90.7
Cadmium				45.4	43.6		35.7	55.1	96.0
Calcium				196200.0	196170.0		166800.0	225600.0	100.0
Chromium				99.6	95.9		79.2	120.0	96.2
Cobalt				144.0	134.7		125.0	162.0	93.5
Copper				6910.0	6349.2		6006.0	7820.0	91.9
Iron				22430.0	19961.2		17770.0	27080.0	89.0
Lead				236.0	211.7		188.0	285.0	89.7
Magnesium				118100.0	101989.9		100400.0	129900.0	86.4
Manganese				208.0	194.8		177.0	239.0	93.7
Mercury				12.7	13.0		8.5	17.0	102.2
Nickel				60.9	54.0		49.2	72.6	88.7
Potassium				50.0	91.5	B	0.0	1000.0	183.0
Selenium				39.2	40.0		19.1	59.4	102.0
Silver				22.2	19.4		15.5	29.0	87.5
Sodium				50.0	54.5	B	0.0	1000.0	109.0
Thallium				39.0	38.0		24.6	53.5	97.4
Vanadium				65.8	67.1		51.7	79.9	101.9
Zinc				187.0	161.4		138.0	236.0	86.3
Cyanide				5.6	6.4		4.3	6.9	113.4

* within control limits; no action

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LABORATORY CONTROL SAMPLE

Lab Name: ITAS_PITTSBURGH _____ Contract: 68-D9-0087

Lab Code: ITPA __ Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

Solid LCS Source: EPALV _____

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				236.0	238.0		188.0	285.0	100.8
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

ORIGINAL

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LABORATORY CONTROL SAMPLE

Lab Name: ITAS PITTSBURGH Contract: 68-D9-0087

Lab Code: ITPA Case No.: 17514 SAS No.: _____ SDG No.: MCJP30

Solid LCS Source: EPALV

Aqueous LCS Source: _____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury				12.7	14.8		8.5	17.0	116.5
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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LABORATORY CONTROL SAMPLE

Lab Name: ITAS_PITTSBURGH_____ Contract: 68-D9-0087

Lab Code: ITPA__ Case No.: 17514 SAS No.: _____ SDG No.: MCJP20

Solid LCS Source: _____

Aqueous LCS Source: USEPA_____

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	2056.0	1878.60	91.4						
Antimony	980.0	947.10	96.6						
Arsenic	47.4	48.00	101.3						
Barium	2078.0	1984.70	95.5						
Beryllium	508.0	491.60	96.8						
Cadmium	516.0	500.80	97.1						
Calcium	51382.0	47645.90	92.7						
Chromium	514.0	486.10	94.6						
Cobalt	499.0	492.20	98.6						
Copper	525.0	503.10	95.8						
Iron	2147.0	1954.80	91.0						
Lead	98.4	104.20	105.9						
Magnesium	25745.0	24255.60	94.2						
Manganese	509.0	487.30	95.7						
Mercury									
Nickel	504.0	482.50	95.7						
Potassium	50563.0	49340.90	97.6						
Selenium	52.6	46.00	87.5						
Silver	517.0	472.80	91.5						
Sodium	52348.0	50082.30	95.7						
Thallium	100.7	104.00	103.3						
Vanadium	517.0	490.90	95.0						
Zinc	3052.0	2946.50	96.5						
Cyanide									