START

9356.0007 004146

Analytical and Supporting Laboratory Quality Control Data For DOE – Hanford North Slope Site H–83–L

LEVEL III Deliverable

Prepared by: Environmental Science & Engineering, Inc.
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CASE NARRATIVE

DOE –Hanford North Slope Site H–83–1

The follwoing samples were analyzed :

CDM ID	ESE LAB ID	HE15 #
A06–1–01	CDMHNSS2*1)	B0C3C9
BG1–1–02	CDMHNSS2*2)	B0C3B0
A06–2–02	CDMHNSS2*3)	B0C3B1
A06–3–02	CDMHNSS2*4)	B0C3B2
CS2–2–00	CDMHNSS2*5)	B0C3B3
A03–1–05	CDMHNSS2*6)	B0C3B5
A06–2–EB1	CDMHNSW2*1)	B0C334

The samples were analyzed using the prescribed EPA methods and EPA holding times were met.

In general, the laboratory quality control (QC) requirements have been met and the sample matrix quality control outliers are due to matrix effects. All QC outliers are addressed by the analyst, the department manager and/or the laboratory coordinator in the batch. This information can be found at the end of the batch checklist page.

Sample Date, Cross Reference &

Methodologies Report

Soils

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

SAMPLE DATE AND CROSS REFERENCE REPORT FOR CDM - HANFORD NORTH SLOPE LABORATORY ANALYSES

CDM SAMPLE ID	LABORATORY SAMPLE ID	DATE COLLECT	DATE RECEIVED	ANALYSIS DESCRIPTION	DATE EXTRACTED	DATE ANALYZED	DAYS, ACTUAL/HOLD TIME DAYS TO EXTRACTION	DAYS TO ANALYSIS	ESE BATCH
A06-1-01	CDMHNSS2*1	06/15/94	06/17/94	SCREEN, ALPHA	NA	06/17/94	NA	2/180	G50410
				PERCENT MOISTURE - ASTM D2216	NA	06/21/94	NA	6/180	G50318
				ARSENIC - EPA 7060	NA	06/20/94	NA	5/180	G50304
				SELENIUM - EPA 7740	NA	06/20/94	NA	5/180	G50285
				MERCURY - EPA 7471 (MOD)	NA	06/20/94	NA	5/28	G50283
				ICAP METALS, EPA 6010	NA	06/20/94	NA	5/180	G50282
BG1-1-02	CDMHNSS2*2	06/16/94	06/20/94	SCREEN, ALPHA	NA	06/20/94	NA	4/180	G50410
				PERCENT MOISTURE - ASTM D2216	NA	06/21/94	NA	5/180	G50318
				ARSENIC - EPA 7060	NA	06/21/94	NA	5/180	G50360
				SELENIUM - EPA 7740	NA	06/21/94	NA	5/180	G50363
				MERCURY - EPA 7471 (MOD)	NA	06/21/94	NA	5/28	G50335
				ICAP METALS, EPA 6010	NA	06/21/94	NA	5/180	G50325
				VOCS - EPA 8240	NA	06/20/94	NA	4/14	G50342
				SVOCS - EPA 8270/3540 (SOX)	06/20/94	06/22/94	4/14	2/40	G50499
				OCPS/PCBS - EPA 8080/3540 (SOX)	06/20/94	06/22/94	4/14	2/40	G50396
A06-2-02	CDMHNSS2*3	06/16/94	06/20/94	SCREEN, ALPHA	NA	06/20/94	NA	4/180	G50410
				PERCENT MOISTURE - ASTM D2216	NA	06/21/94	NA	5/180	G50318
				ARSENIC - EPA 7060	NA	06/21/94	NA	5/180	G50360
				SELENIUM - EPA 7740	NA	06/21/94	NA	5/180	G50363
				MERCURY - EPA 7471 (MOD)	NA	06/21/94	NA	5/28	G50335
				ICAP METALS, EPA 6010	NA	06/21/94	NA	5/180	G50325
				VOCS - EPA 8240	NA	06/20/94	NA	4/14	G50342
				SVOCS - EPA 8270/3540 (SOX)	06/20/94	06/22/94	4/14	2/40	G50499
				OCPS/PCBS - EPA 8080/3540 (SOX)	06/20/94	06/22/94	4/14	2/40	G50396
A06-3-02	CDMHNSS2*4	06/16/94	06/20/94	SCREEN, ALPHA	NA	06/20/94	NA	4/180	G50410
				PERCENT MOISTURE - ASTM D2216	NA	06/21/94	NA	5/180	G50318
				ARSENIC - EPA 7060	NA	06/21/94	NA	5/180	G50360
				SELENIUM - EPA 7740	NA	06/21/94	NA	5/180	G50363
				MERCURY - EPA 7471 (MOD)	NA	06/21/94	NA	5/28	G50335
				ICAP METALS, EPA 6010	NA	06/21/94	NA	5/180	G50325
				VOCS - EPA 8240	NA	06/20/94	NA	4/14	G50342
				SVOCS - EPA 8270/3540 (SOX)	06/20/94	06/22/94	4/14	2/40	G50499
				OCPS/PCBS - EPA 8080/3540 (SOX)	06/20/94	06/22/94	4/14	2/40	G50396
CS2-2-00	CDMHNSS2*5	06/17/94	06/20/94	SCREEN, ALPHA	NA	06/21/94	NA	4/180	G50410
				PERCENT MOISTURE - ASTM D2216	NA	06/21/94	NA	4/180	G50318
				ARSENIC - EPA 7060	NA	06/21/94	NA	4/180	G50360
				SELENIUM - EPA 7740	NA	06/21/94	NA	4/180	G50363
				MERCURY - EPA 7471 (MOD)	NA	06/21/94	NA	4/28	G50335
				ICAP METALS, EPA 6010	NA	06/21/94	NA	4/180	G50325
				VOCS - EPA 8240	NA	06/20/94	NA	3/14	G50342
				SVOCS - EPA 8270/3540 (SOX)	06/20/94	06/22/94	3/14	2/40	G50499
				OCPS/PCBS - EPA 8080/3540 (SOX)	06/20/94	06/22/94	3/14	2/40	G50396
A03-1-05	CDMHNSS2*6	06/20/94	06/21/94	SCREEN, ALPHA	NA	06/20/94	NA	0/180	G50410
				PERCENT MOISTURE - ASTM D2216	NA	06/21/94	NA	1/180	G50337
				ARSENIC - EPA 7060	NA	06/22/94	NA	2/180	G50430
				SELENIUM - EPA 7740	NA	06/22/94	NA	2/180	G50435
				MERCURY - EPA 7471 (MOD)	NA	06/22/94	NA	2/28	G50437
				ICAP METALS, EPA 6010	NA	06/22/94	NA	2/180	G50429
				VOAS - CLP SOW OLM01.8	NA	06/23/94	NA	3/14	G50516
				SVOCS - CLP SOW OLM01.8	06/28/94	06/30/94	8/14	2/40	G50788
				OCPS/PCBS - CLP SOW OLM01.8	06/23/94	06/29/94	3/14	6/40	G50744

FOOTNOTES: * = EXCEEDS CRITERIA ACT = ACTUAL HT = HOLDING TIME

000004

Waters

SAMPLE DATE AND CROSS REFERENCE REPORT FOR CDM - HANFORD NORTH SLOPE LABORATORY ANALYSES

CDM SAMPLE ID	LABORATORY SAMPLE ID	DATE COLLECT	DATE RECEIVED	ANALYSIS DESCRIPTION	DATE EXTRACTED	DATE ANALYZED	DAYS, ACTUAL/HOLD TIME DAYS TO EXTRACTION	DAYS TO ANALYSIS	ESE BATCH
A06-2-EB1	CDMHNSW2*1	06/17/94	06/20/94	ARSENIC - EPA 7060	NA	06/21/94	NA	4/180	G50357
				SELENIUM - EPA 7740	NA	06/22/94	NA	5/180	G50362
				MERCURY - EPA 7470	NA	06/21/94	NA	4/28	G50334
				ICAP METALS - EPA 6010	NA	06/22/94	NA	5/180	G50402
				VOCS - EPA 8240	NA	06/20/94	NA	3/14	G50300
				SVOCS - EPA 8270/3520 (CLL)	06/20/94	06/22/94	3/7	2/40	G50500
				OCPS/PCBS - EPA 8080/3520 (CLL)	06/21/94	06/24/94	4/7	3/40	G50403

FOOTNOTES: * = EXCEEDS CRITERIA ACT = ACTUAL HT = HOLDING TIME

Analytical Data

Soils – All Data

SAMPLE ID'S		A06-1-01	BG1-1-02	A06-2-02	A06-3-02	CS2-2-00
PARAMETERS	STORET	CDMHNSS2	CDMHNSS2	CDMHNSS2	CDMHNSS2	CDMHNSS2
UNITS	METHOD	1	2	3	4	5
DATE		06/15/94	06/16/94	06/16/94	06/16/94	06/17/94
TIME		16:11	08:00	14:15	16:00	11:45
FIELD I.D.	29	H83LA061	H83LBG101	H83LA0602	H83LA0603	H83LCS202
#	0					
SITE #	96274	94H83L	94H83L	94H83L	94H83L	94H83L
	0					
CHAIN OF CUSTODY	96793	1	3	3	3	6
#	0					
SCREEN,GR. ALPHA,	96636	20.6	20.7	17.4	9.2	0.0
(ESTIMATE)NCI/KG-WET	R					
SCREEN,GR. BETA,	96637	20.8	19.2	19.1	19.4	18.4
(ESTIMATE)NCI/KG-WET	R					
MOISTURE	70320	2.4	3.1	5.2	2.7	2.9
%WET WT	I					
ARSENIC	1003	0.978	1.02	1.16	1.00	2.12
MG/KG-DRY	7060-G					
SELENIUM	1148	<0.252	<0.255	<0.257	0.271	<0.251
MG/KG-DRY	7740-G					
MERCURY	71921	<0.098	<0.101	<0.105	<0.102	<0.100
MG/KG-DRY	7471M-G					
BARIUM	1008	70.1	62.7	71.2	77.6	54.8
MG/KG-DRY	6010-G					
CADMIUM	1028	<0.496	<0.506	<0.521	<0.501	<0.511
MG/KG-DRY	6010-G					
CHROMIUM	1029	5.88	3.73	4.71	5.16	3.53
MG/KG-DRY	6010-G					
LEAD	1052	11.6	<10.1	<10.4	<10.00	<10.2
MG/KG-DRY	6010-G					
SILVER	1078	<0.496	<0.506	<0.521	<0.501	<0.511
MG/KG-DRY	6010-G					
ACETONE	75059	NRQ	20	17	24	<10.0
UG/KG-DRY	8240-G					
BENZENE	34237	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
BROMODICHLOROMETHANE	34330	NRQ	<5 2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
BROMOFORM	34290	NRQ	<5 2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
BROMOMETHANE	34416	NRQ	<10 0	<11	<10.0	<10.0
UG/KG-DRY	8240-G					
CARBON DISULFIDE	78544	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
CARBON TETRACHLORIDE	34299	NRQ	<5 2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
CHLOROBENZENE	34304	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
CHLOROETHANE	34314	NRQ	<10.0	<11	<10.0	<10.0
UG/KG-DRY	8240-G					
2-CHLOROETHYLVINYL-	34579	NRQ	<5.2	<5.3	<5.1	<5.1
ETHER UG/KG-DRY	8240-G					
CHLOROFORM	34318	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
CHLOROMETHANE	34421	NRQ	<10.0	<11	<10.0	<10.0
UG/KG-DRY	8240-G					
DIBROMOCHLOROMETHANE	34309	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
1,1-DICHLOROETHANE	34499	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
1,2-DICHLOROETHANE	34534	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
1,1-DICHLOROETHYLENE	34504	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
1,2-DICHLOROETHENE(T	96464	NRQ	<5.2	<5.3	<5.1	<5.1
OTAL) UG/KG-DRY	8240-G					
1,2-DICHLOROPROPANE	34544	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					

PROJECT NUMBER 1944022G 0202 PROJECT NAME CDM - HANFORD N. SLOPE
FIELD GROUP CDMHNSS2 PROJECT MANAGER E.H. MANSFIELD
ALL ALL LAB COORDINATOR EDWARD MANSFIELD

SAMPLE ID'S		A06-1-01	BG1-1-02	A06-2-02	A06-3-02	CS2-2-00
PARAMETERS	STORET	CDMHNSS2	CDMHNSS2	CDMHNSS2	CDMHNSS2	CDMHNSS2
UNITS	METHOD	1	2	3	4	5
DATE		06/15/94	06/16/94	06/16/94	06/16/94	06/17/94
TIME		16:11	08:00	14:15	16:00	11:45
CIS-1,3-DICHLORO-	34702	NRQ	<5.2	<5.3	<5.1	<5.1
PROPENE UG/KG-DRY	8240-G					
TRANS-1,3-DICHLORO-	34697	NRQ	<5.2	<5.3	<5.1	<5.1
PROPENE UG/KG-DRY	8240-G					
ETHYLBENZENE	34374	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
2-HEXANONE	75166	NRQ	<10.0	<11	<10.0	<10.0
UG/KG-DRY	8240-G					
METHYLENE CHLORIDE	34426	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
METHYL ETHYL KETONE	75078	NRQ	<10.0	<11	<10.0	<10.0
UG/KG-DRY	8240-G					
METHYLISOBUTYLKETONE	75169	NRQ	<10.0	<11	<10.0	<10.0
UG/KG-DRY	8240-G					
STYRENE	75192	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
1,1,2,2-TETRACHLORO-	34519	NRQ	<5.2	<5.3	<5.1	<5.1
ETHANE UG/KG-DRY	8240-G					
TETRACHLOROETHENE	34478	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
TOLUENE	34483	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
1,1,1-TRICHL'ETHANE	34509	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
1,1,2-TRICHL'ETHANE	34514	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
TRICHLOROETHENE	34487	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
VINYL CHLORIDE	34495	NRQ	<10.0	<11	<10.0	<10.0
UG/KG-DRY	8240-G					
VINYL ACETATE	98583	NRQ	<10.0	<11	<10.0	<10.0
UG/KG-DRY	8240-G					
XYLENE,TOTAL	45510	NRQ	<5.2	<5.3	<5.1	<5.1
UG/KG-DRY	8240-G					
ACENAPHTHENE	34208	NRQ	<72	<74	<72	<72
UG/KG-DRY	8270/3540-G					
ACENAPHTHYLENE	34203	NRQ	<150	<160	<150	<150
UG/KG-DRY	8270/3540-G					
ANTHRACENE	34223	NRQ	<72	<74	<72	<72
UG/KG-DRY	8270/3540-G					
BENZYL ALCOHOL	75212	NRQ	<140	<150	<140	<140
UG/KG-DRY	8270/3540-G					
BENZOIC ACID	75315	NRQ	<2800	<2800	<2800	<2800
UG/KG-DRY	8270/3540-G					
BENZO(A)ANTHRACENE	34529	NRQ	<100	<110	<100	<100
UG/KG-DRY	8270/3540-G					
BENZO(B)FLUORANTHENE	34233	NRQ	<100	<110	<100	<100
UG/KG-DRY	8270/3540-G					
BENZO(K)FLUORANTHENE	34245	NRQ	<100	<110	<100	<100
UG/KG-DRY	8270/3540-G					
BENZO(A)PYRENE	34250	NRQ	<140	<150	<140	<140
UG/KG-DRY	8270/3540-G					
BENZO(GHI)PERYLENE	34524	NRQ	<170	<170	<160	<160
UG/KG-DRY	8270/3540-G					
BUTYLBENZYLPHTHALATE	34295	NRQ	<100	<110	<100	<100
UG/KG-DRY	8270/3540-G					
BIS(2-CHLOROETHYL)	34276	NRQ	<72	<74	<72	<72
ETHER UG/KG-DRY	8270/3540-G					
BIS(2-CHLOROETHOXY)	34281	NRQ	<140	<150	<140	<140
METHANE UG/KG-DRY	8270/3540-G					
BIS(2-ETHYLHEXYL)	39102	NRQ	<100	<110	<100	<100
PHTHALATEUG/KG-DRY	8270/3540-G					
BIS(2-CHL'ISOPROPYL)	34286	NRQ	<72	<74	<72	<72
ETHER UG/KG-DRY	8270/3540-G					

SAMPLE ID'S		A06-1-01	BG1-1-02	A06-2-02	A06-3-02	CS2-2-00
PARAMETERS	STORET	CDMHNSS2	CDMHNSS2	CDMHNSS2	CDMHNSS2	CDMHNSS2
UNITS	METHOD	1	2	3	4	5
DATE		06/15/94	06/16/94	06/16/94	06/16/94	06/17/94
TIME		16:11	08:00	14:15	16:00	11:45
4-BROMOPHENYL PHENYL ETHER UG/KG-DRY	34639 8270/3540-G	NRQ	<140	<150	<140	<140
4-CHLOROANILINE UG/KG-DRY	78867 8270/3540-G	NRQ	<310	<320	<310	<310
2-CHLORONAPHTHALENE UG/KG-DRY	34584 8270/3540-G	NRQ	<72	<74	<72	<72
2-CHLOROPHENOL UG/KG-DRY	34589 8270/3540-G	NRQ	<140	<150	<140	<140
4-CHLORO-3-METHYL PHENOL UG/KG-DRY	34455 8270/3540-G	NRQ	<140	<150	<140	<140
4-CHLOROPHENYLPHENYL ETHER UG/KG-DRY	34644 8270/3540-G	NRQ	<100	<110	<100	<100
CHRYSENE UG/KG-DRY	34323 8270/3540-G	NRQ	<100	<110	<100	<100
DIBEN(A,H)ANTH'CENE UG/KG-DRY	34559 8270/3540-G	NRQ	<170	<170	<160	<160
DIBENZOFURAN UG/KG-DRY	75647 8270/3540-G	NRQ	<120	<130	<120	<120
DI-N-BUTYL PHTHALATE UG/KG-DRY	39112 8270/3540-G	NRQ	<72	<74	<72	<72
1,3-DICHLOROBENZENE UG/KG-DRY	34569 8270/3540-G	NRQ	<72	<74	<72	<72
1,2-DICHLOROBENZENE UG/KG-DRY	34539 8270/3540-G	NRQ	<72	<74	<72	<72
1,4-DICHLOROBENZENE UG/KG-DRY	34574 8270/3540-G	NRQ	<72	<74	<72	<72
3,3-DICHL'BENZIDINE UG/KG-DRY	34634 8270/3540-G	NRQ	<520	<530	<510	<510
2,4-DICHLOROPHENOL UG/KG-DRY	34604 8270/3540-G	NRQ	<140	<150	<140	<140
DIETHYL PHTHALATE UG/KG-DRY	34339 8270/3540-G	NRQ	<72	<74	<72	<72
2,4-DIMETHYLPHENOL UG/KG-DRY	34609 8270/3540-G	NRQ	<140	<150	<140	<140
DIMETHYL PHTHALATE UG/KG-DRY	34344 8270/3540-G	NRQ	<100	<110	<100	<100
2,4-DINITROPHENOL UG/KG-DRY	34619 8270/3540-G	NRQ	<1300	<1400	<1300	<1300
2,4-DINITROTOLUENE UG/KG-DRY	34614 8270/3540-G	NRQ	<140	<150	<140	<140
2,6-DINITROTOLUENE UG/KG-DRY	34629 8270/3540-G	NRQ	<140	<150	<140	<140
DI-N-OCTYL PHTHALATE UG/KG-DRY	34599 8270/3540-G	NRQ	<140	<150	<140	<140
FLUORANTHENE UG/KG-DRY	34379 8270/3540-G	NRQ	<72	<74	<72	<72
FLUORENE UG/KG-DRY	34384 8270/3540-G	NRQ	<72	<74	<72	<72
HEXACHLOROBENZENE UG/KG-DRY	39701 8270/3540-G	NRQ	<100	<110	<100	<100
HEXACHLOROBUTADIENE UG/KG-DRY	39705 8270/3540-G	NRQ	<140	<150	<140	<140
HEXACHLOROCYCLOPENTA DIENE UG/KG-DRY	34389 8270/3540-G	NRQ	<1000	<1100	<1000	<1000
HEXACHLOROETHANE UG/KG-DRY	34399 8270/3540-G	NRQ	<100	<110	<100	<100
INDENO(1,2,3-CD) PYRENE UG/KG-DRY	34406 8270/3540-G	NRQ	<170	<170	<160	<160
ISOPHORONE UG/KG-DRY	34411 8270/3540-G	NRQ	<72	<74	<72	<72
2-METHYLNAPHTHALENE UG/KG-DRY	78868 8270/3540-G	NRQ	<100	<110	<100	<100
2-METHYL-4,6-DINITRO PHENOL UG/KG-DRY	34660 8270/3540-G	NRQ	<690	<710	<690	<690

PROJECT NUMBER 1944022G 0202 PROJECT NAME CDM - HANFORD N. SLOPE
FIELD GROUP CDMHNSS2 PROJECT MANAGER E.H. MANSFIELD
ALL ALL LAB COORDINATOR EDWARD MANSFIELD

SAMPLE ID'S			A06-1-01	BG1-1-02	A06-2-02	A06-3-02	CS2-2-00
PARAMETERS		STORET	CDMHNSS2	CDMHNSS2	CDMHNSS2	CDMHNSS2	CDMHNSS2
	UNITS	METHOD	1	2	3	4	5
DATE			06/15/94	06/15/94	06/16/94	06/16/94	06/17/94
TIME			16:11	08:30	14:15	16:00	11:45
2-METHYLPHENOL		78872	NRQ	<140	<150	<140	<140
	UG/KG-DRY	8270/3540-G					
4-METHYLPHENOL		78803	NRQ	<140	<150	<140	<140
	UG/KG-DRY	8270/3540-G					
NAPHTHALENE		34445	NRQ	<72	<74	<72	<72
	UG/KG-DRY	8270/3540-G					
2-NITROANILINE		98588	NRQ	<310	<320	<310	<310
	UG/KG-DRY	8270/3540-G					
3-NITROANILINE		78869	NRQ	<310	<320	<310	<310
	UG/KG-DRY	8270/3540-G					
4-NITROANILINE		78870	NRQ	<410	<420	<410	<410
	UG/KG-DRY	8270/3540-G					
NITROBENZENE		34450	NRQ	<72	<74	<72	<72
	UG/KG-DRY	8270/3540-G					
2-NITROPHENOL		34594	NRQ	<140	<150	<140	<140
	UG/KG-DRY	8270/3540-G					
4-NITROPHENOL		34649	NRQ	<520	<530	<510	<510
	UG/KG-DRY	8270/3540-G					
N-NITROSODI-N-PROPYL		34431	NRQ	<100	<110	<100	<100
AMINE	UG/KG-DRY	8270/3540-G					
N-NITROSODIPHE'AMINE		34436	NRQ	<72	<74	<72	<72
	UG/KG-DRY	8270/3540-G					
PENTACHLOROPHENOL		39061	NRQ	<260	<260	<260	<260
	UG/KG-DRY	8270/3540-G					
PHENANTHRENE		34464	NRQ	<72	<74	<72	<72
	UG/KG-DRY	8270/3540-G					
PHENOL		34695	NRQ	<140	<150	<140	<140
	UG/KG-DRY	8270/3540-G					
PYRENE		34472	NRQ	<72	<74	<72	<72
	UG/KG-DRY	8270/3540-G					
1,2,4-TRICH'BENZENE		34554	NRQ	<100	<110	<100	<100
	UG/KG-DRY	8270/3540-G					
2,4,6-TRICH'PHENOL		34624	NRQ	<180	<180	<170	<180
	UG/KG-DRY	8270/3540-G					
2,4,5-TRICH'PHENOL		98587	NRQ	<180	<180	<170	<180
	UG/KG-DRY	8270/3540-G					
ALDRIN		39333	NRQ	<0.588	<0.703	<0.685	<0.687
	UG/KG-DRY	8080/3540-G					
BHC,A		39076	NRQ	<0.588	<0.703	<0.685	<0.687
	UG/KG-DRY	8080/3540-G					
BHC,B		34257	NRQ	<0.588	<0.703	<0.685	<0.687
	UG/KG-DRY	8080/3540-G					
BHC,D		34262	NRQ	<0.588	<0.703	<0.685	<0.687
	UG/KG-DRY	8080/3540-G					
BHC,G(LINDANE)		39783	NRQ	<0.588	<0.703	<0.685	<0.687
	UG/KG-DRY	8080/3540-G					
CHLORDANE		39351	NRQ	<3.44	<3.52	<3.43	<3.43
	UG/KG-DRY	8080/3540-G					
DDD,PP'		39311	NRQ	<1.24	<1.27	<1.23	<1.24
	UG/KG-DRY	8080/3540-G					
DDE,PP'		39321	NRQ	<1.03	<1.05	<1.03	<1.03
	UG/KG-DRY	8080/3540-G					
DDT,PP'		39301	NRQ	<0.588	<0.703	<0.685	<0.687
	UG/KG-DRY	8080/3540-G					
DIELDRIN		39383	NRQ	<1.03	<1.05	<1.03	<1.03
	UG/KG-DRY	8080/3540-G					
ENDOSULFAN,A		34364	NRQ	<0.970	<0.992	<0.966	<0.968
	UG/KG-DRY	8080/3540-G					
ENDOSULFAN,B		34359	NRQ	<0.588	<0.703	<0.685	<0.687
	UG/KG-DRY	8080/3540-G					
ENDOSULFAN SULFATE		34354	NRQ	<0.588	<0.703	<0.685	<0.687
	UG/KG-DRY	8080/3540-G					
ENDRIN		39393	NRQ	<0.963	<0.985	<0.959	<0.961
	UG/KG-DRY	8080/3540-G					

Environmental Science & Engineering DATE 08/13/94 STATUS : PAGE 5
PROJECT NUMBER 1944022G 0202 PROJECT NAME CDM - HANFORD N. SLOPE
FIELD GROUP CDMHNSS2 PROJECT MANAGER E.H. MANSFIELD
ALL ALL LAB COORDINATOR EDWARD MANSFIELD

SAMPLE ID'S		A06-1-01	BG1-1-02	A06-2-01	A06-3-02	CS2-2-00
PARAMETERS	STORET	CDMHNSS2	CDMHNSS2	CDMHNSS2	CDMHNSS2	CDMHNSS2
UNITS	METHOD	1	2	3	4	5
DATE		06/15/94	06/16/94	06/16/94	06/16/94	06/17/94
TIME		16:11	08:00	14:15	16:00	11:45
ENDRIN ALDEHYDE	34369	NRQ	<0.688	<0.703	<0.685	<0.687
UG/KG-DRY	8080/3540-G					
HEPTACHLOR	39413	NRQ	<0.688	<0.703	<0.685	<0.687
UG/KG-DRY	8080/3540-G					
HEPTACHLOR EPOXIDE	39423	NRQ	<0.688	<0.703	<0.685	<0.687
UG/KG-DRY	8080/3540-G					
METHOXYCHLOR	39481	NRQ	<0.688	<0.703	<0.685	<0.687
UG/KG-DRY	8080/3540-G					
TOXAPHENE	39403	NRQ	<68.8	<70.3	<68.5	<68.7
UG/KG-DRY	8080/3540-G					
PCB-1016	39514	NRQ	<13.8	<14.1	<13.7	<13.7
UG/KG-DRY	8080/3540-G					
PCB-1221	39491	NRQ	<13.8	<14.1	<13.7	<13.7
UG/KG-DRY	8080/3540-G					
PCB-1232	39495	NRQ	<13.8	<14.1	<13.7	<13.7
UG/KG-DRY	8080/3540-G					
PCB-1242	39499	NRQ	<13.8	<14.1	<13.7	<13.7
UG/KG-DRY	8080/3540-G					
PCB-1248	39503	NRQ	<13.8	<14.1	<13.7	<13.7
UG/KG-DRY	8080/3540-G					
PCB-1254	39507	NRQ	<13.8	<14.1	<13.7	<13.7
UG/KG-DRY	8080/3540-G					
PCB-1260	39511	NRQ	<13.8	<14.1	<13.7	<13.7
UG/KG-DRY	8080/3540-G					

PROJECT NUMBER 1944022G 0202 PROJECT NAME CDM - HANFORD N. SLOPE
FIELD GROUP CDMHNSS2 PROJECT MANAGER E.H. MANSFIELD
ALL ALL LAB COORDINATOR EDWARD MANSFIELD

SAMPLE ID'S		A03-1-05
PARAMETERS	STORET	CDMHNSS2
UNITS	METHOD	6
DATE		06/20/94
TIME		09:30
FIELD I.D.	29	H83LA0301
#	0	
SITE #	96274	94H83L
	0	
CHAIN OF CUSTODY	96793	9
#	0	
SCREEN,GR. ALPHA,	96636	0.9
(ESTIMATE)NCI/KG-WET	R	
SCREEN,GR. BETA,	96637	16.7
(ESTIMATE)NCI/KG-WET	R	
MOISTURE	70320	1.6
%WET WT	I	
ARSENIC	1003	1.15
MG/KG-DRY	7060-G	
SELENIUM	1148	<0.252
MG/KG-DRY	7740-G	
MERCURY	71921	<0.095
MG/KG-DRY	7471M-G	
BARIUM	1008	61.1
MG/KG-DRY	6010-G	
CADMIUM	1028	<0.504
MG/KG-DRY	6010-G	
CHROMIUM	1029	6.13
MG/KG-DRY	6010-G	
LEAD	1052	<10.1
MG/KG-DRY	6010-G	
SILVER	1078	<0.504
MG/KG-DRY	6010-G	
1,1,1-TRICHL'ETHANE	34509	<10.0
UG/KG-DRY	CLP90-G	
1,1,2,2-TETRACHLORO	34519	<10.0
ETHANE UG/KG-DRY	CLP90-G	
1,1,2-TRICHL'ETHANE	34514	<10.0
UG/KG-DRY	CLP90-G	
1,1-DICHLOROETHANE	34499	<10.0
UG/KG-DRY	CLP90-G	
1,1-DICHLOROETHYLENE	34504	<10.0
UG/KG-DRY	CLP90-G	
1,2-DICHLOROETHANE	34534	<10.0
UG/KG-DRY	CLP90-G	
1,2-DICHLOROETHENE(T	96464	<10.0
OTAL) UG/KG-DRY	CLP90-G	
1,2-DICHLOROPROPANE	34544	<10.0
UG/KG-DRY	CLP90-G	
2-HEXANONE	75166	13
UG/KG-DRY	CLP90-G	
ACETONE	75059	95
UG/KG-DRY	CLP90-G	
BENZENE	34237	<10.0
UG/KG-DRY	CLP90-G	
BROMODICHLOROMETHANE	34330	<10.0
UG/KG-DRY	CLP90-G	
BROMOFORM	34290	<10.0
UG/KG-DRY	CLP90-G	
BROMOMETHANE	34416	<10.0
UG/KG-DRY	CLP90-G	
CARBON DISULFIDE	78544	<10.0
UG/KG-DRY	CLP90-G	
CARBON TETRACHLORIDE	34299	<10.0
UG/KG-DRY	CLP90-G	
CHLOROBENZENE	34304	<10.0
UG/KG-DRY	CLP90-G	
CHLOROETHANE	34314	<10.0
UG/KG-DRY	CLP90-G	

SAMPLE ID'S		A03-1-05
PARAMETERS	STORET	CDMHNSS2
UNITS	METHOD	6
DATE		06/20/94
TIME		09:30
CHLOROFORM	34318	<10.0
UG/KG-DRY	CLP90-G	
CHLOROMETHANE	34421	<10.0
UG/KG-DRY	CLP90-G	
CIS-1,3-DICHLOROPROP	34702	<10.0
ENE UG/KG-DRY	CLP90-G	
DIBROMOCHLOROMETHANE	34309	<10.0
UG/KG-DRY	CLP90-G	
ETHYLBENZENE	34374	<10.0
UG/KG-DRY	CLP90-G	
METHYLENE CHLORIDE	34426	<10.0
UG/KG-DRY	CLP90-G	
2-BUTANONE (MEK)	75078	35
UG/KG-DRY	CLP90-G	
4-METHYL-2-PENTANONE	75169	<10.0
(MIBK) UG/KG-DRY	CLP90-G	
STYRENE	75192	<10.0
UG/KG-DRY	CLP90-G	
TETRACHLOROETHENE	34478	<10.0
UG/KG-DRY	CLP90-G	
TOLUENE	34483	<10.0
UG/KG-DRY	CLP90-G	
TRANS-1,3-DICHLOROPR	34697	<10.0
OPENE UG/KG-DRY	CLP90-G	
TRICHLOROETHENE	34487	<10.0
UG/KG-DRY	CLP90-G	
VINYL CHLORIDE	34495	<10.0
UG/KG-DRY	CLP90-G	
XYLENES, TOTAL	97353	<10.0
UG/KG-DRY	CLP90-G	
1,2,4-TRICH'BENZENE	34554	<41000
UG/KG-DRY	CLP90/SON-G	
1,2-DICHLOROBENZENE	34539	<41000
UG/KG-DRY	CLP90/SON-G	
1,3-DICHLOROBENZENE	34569	<41000
UG/KG-DRY	CLP90/SON-G	
1,4-DICHLOROBENZENE	34574	<41000
UG/KG-DRY	CLP90/SON-G	
2,2'-OXYBIS(1-CHLORO	34286	<41000
PROPANE) UG/KG-DRY	CLP90/SON-G	
2,4,5-TRICH'PHENOL	98587	<100000
UG/KG-DRY	CLP90/SON-G	
2,4,6-TRICH'PHENOL	34624	<41000
UG/KG-DRY	CLP90/SON-G	
2,4-DICHLOROPHENOL	34604	<41000
UG/KG-DRY	CLP90/SON-G	
2,4-DIMETHYLPHENOL	34609	<41000
UG/KG-DRY	CLP90/SON-G	
2,4-DINITROPHENOL	34619	<100000
UG/KG-DRY	CLP90/SON-G	
2,4-DINITROTOLUENE	34614	<41000
UG/KG-DRY	CLP90/SON-G	
2,6-DINITROTOLUENE	34629	<41000
UG/KG-DRY	CLP90/SON-G	
2-CHLORONAPHTHALENE	34584	<41000
UG/KG-DRY	CLP90/SON-G	
2-CHLOROPHENOL	34589	<41000
UG/KG-DRY	CLP90/SON-G	
2-METHYL-4,6-DINITRO	34660	<100000
PHENOL UG/KG-DRY	CLP90/SON-G	
2-METHYLNAPHTHALENE	78868	<41000
UG/KG-DRY	CLP90/SON-G	
2-METHYLPHENOL	78872	<41000
UG/KG-DRY	CLP90/SON-G	

SAMPLE ID'S		A03-1-05
PARAMETERS	STORET	CDMHNSS2
UNITS	METHOD	6
DATE		06/20/94
TIME		09:30
2-NITROANILINE	98588	<100000
UG/KG-DRY	CLP90/SON-G	
2-NITROPHENOL	34594	<41000
UG/KG-DRY	CLP90/SON-G	
3,3-DICHL'BENZIDINE	34634	<41000
UG/KG-DRY	CLP90/SON-G	
3-NITROANILINE	78869	<100000
UG/KG-DRY	CLP90/SON-G	
4-BROMOPHENYL PHENYL	34639	<41000
ETHER UG/KG-DRY	CLP90/SON-G	
4-CHLORO-3-METHYLPHE	34455	<41000
NOL UG/KG-DRY	CLP90/SON-G	
4-CHLOROANILINE	78867	<41000
UG/KG-DRY	CLP90/SON-G	
4-CHLOROPHENYLPHENYL	34644	<41000
ETHER UG/KG-DRY	CLP90/SON-G	
4-METHYLPHENOL	78803	<41000
UG/KG-DRY	CLP90/SON-G	
4-NITROANILINE	78870	<100000
UG/KG-DRY	CLP90/SON-G	
4-NITROPHENOL	34649	<100000
UG/KG-DRY	CLP90/SON-G	
ACENAPHTHENE	34208	<41000
UG/KG-DRY	CLP90/SON-G	
ACENAPHTHYLENE	34203	<41000
UG/KG-DRY	CLP90/SON-G	
ANTHRACENE	34223	<41000
UG/KG-DRY	CLP90/SON-G	
BENZO(A)ANTHRACENE	34529	<41000
UG/KG-DRY	CLP90/SON-G	
BENZO(A)PYRENE	34250	<41000
UG/KG-DRY	CLP90/SON-G	
BENZO(B)FLUORANTHENE	34233	<41000
UG/KG-DRY	CLP90/SON-G	
BENZO(GHI)PERYLENE	34524	<41000
UG/KG-DRY	CLP90/SON-G	
BENZO(K)FLUORANTHENE	34245	<41000
UG/KG-DRY	CLP90/SON-G	
BIS(2-CHLOROETHOXY)M	34281	<41000
ETHANE UG/KG-DRY	CLP90/SON-G	
BIS(2-CHLOROETHYL)ET	34276	<41000
HER UG/KG-DRY	CLP90/SON-G	
BIS(2-ETHYLHEXYL)PHT	39102	<41000
HALATE UG/KG-DRY	CLP90/SON-G	
BUTYLBENZYLPHTHALATE	34295	<41000
UG/KG-DRY	CLP90/SON-G	
CARBAZOLE	96242	<41000
UG/KG-DRY	CLP90/SON-G	
CHRYSENE	34323	<41000
UG/KG-DRY	CLP90/SON-G	
DI-N-BUTYL PHTHALATE	39112	<41000
UG/KG-DRY	CLP90/SON-G	
DI-N-OCTYL PHTHALATE	34599	<41000
UG/KG-DRY	CLP90/SON-G	
DIBEN(A,H)ANTHRACENE	34559	<41000
UG/KG-DRY	CLP90/SON-G	
DIBENZOFURAN	75647	<41000
UG/KG-DRY	CLP90/SON-G	
DIETHYL PHTHALATE	34339	<41000
UG/KG-DRY	CLP90/SON-G	
DIMETHYL PHTHALATE	34344	<41000
UG/KG-DRY	CLP90/SON-G	
FLUORANTHENE	34379	<41000
UG/KG-DRY	CLP90/SON-G	

SAMPLE ID'S		A03-1-05
PARAMETERS	STORET	CDMHNSS2
UNITS	METHOD	6
DATE		06/20/94
TIME		09:30
FLUORENE	34384	<41000
UG/KG-DRY	CLP90/SON-G	
HEXACHLOROBENZENE	39701	<41000
UG/KG-DRY	CLP90/SON-G	
HEXACHLOROBUTADIENE	39705	<41000
UG/KG-DRY	CLP90/SON-G	
HEXACHLOROCYCLOPENTA	34389	<41000
DIENE UG/KG-DRY	CLP90/SON-G	
HEXACHLOROETHANE	34399	<41000
UG/KG-DRY	CLP90/SON-G	
INDENO(1,2,3-CD)PYRE	34406	<41000
NE UG/KG-DRY	CLP90/SON-G	
ISOPHORONE	34411	<41000
UG/KG-DRY	CLP90/SON-G	
N-NITROSODI-N-PROPYL	34431	<41000
AMINE UG/KG-DRY	CLP90/SON-G	
N-NITROSODIPHE'AMINE	34436	<41000
UG/KG-DRY	CLP90/SON-G	
NAPHTHALENE	34445	<41000
UG/KG-DRY	CLP90/SON-G	
NITROBENZENE	34450	<41000
UG/KG-DRY	CLP90/SON-G	
PENTACHLPHENOL	39061	<100000
UG/KG-DRY	CLP90/SON-G	
PHENANTHRENE	34464	<41000
UG/KG-DRY	CLP90/SON-G	
PHENOL	34695	<41000
UG/KG-DRY	CLP90/SON-G	
PYRENE	34472	<41000
UG/KG-DRY	CLP90/SON-G	
Aldrin	39333	<1.69
UG/KG-DRY	CLP90	
alpha-BHC	39076	<1.69
UG/KG-DRY	CLP90	
beta-BHC	34257	<1.69
UG/KG-DRY	CLP90	
delta-BHC	34262	<1.69
UG/KG-DRY	CLP90	
gamma-BHC (Lindane)	39783	<1.69
UG/KG-DRY	CLP90	
gamma-Chlordane	39811	<1.69
UG/KG-DRY	CLP90	
alpha-Chlordane	97501	<1.69
UG/KG-DRY	CLP90	
4,4'-DDD	39311	<3.39
UG/KG-DRY	CLP90	
4,4'-DDE	39321	<3.39
UG/KG-DRY	CLP90	
4,4'-DDT	39301	<3.39
UG/KG-DRY	CLP90	
Dieldrin	39383	<3.39
UG/KG-DRY	CLP90	
Endosulfan I	34364	<1.69
UG/KG-DRY	CLP90	
Endosulfan II	34359	<3.39
UG/KG-DRY	CLP90	
Endosulfan sulfate	34354	<3.39
UG/KG-DRY	CLP90	
Endrin	39393	<3.39
UG/KG-DRY	CLP90	
Endrin ketone	98591	<3.39
UG/KG-DRY	CLP90	
Endrin aldehyde	34369	<3.39
UG/KG-DRY	CLP90	

PROJECT NUMBER 1944022G 0202 PROJECT NAME CDM - HANFORD N. SLOPE
FIELD GROUP CDMHNSS2 PROJECT MANAGER E.H. MANSFIELD
ALL ALL LAB COORDINATOR EDWARD MANSFIELD

SAMPLE ID'S		A03-1-05
PARAMETERS	STORET	CDMHNSS2
UNITS	METHOD	6
DATE		06/20/94
TIME		09:30
Heptachlor	39413	<1.69
UG/KG-DRY	CLP90	
Heptachlor epoxide	39423	<1.69
UG/KG-DRY	CLP90	
Methoxychlor	39481	<16.9
UG/KG-DRY	CLP90	
Toxaphene	39403	<169
UG/KG-DRY	CLP90	
Aroclor-1016	39514	<33.9
UG/KG-DRY	CLP90	
Aroclor-1221	39491	<67.8
UG/KG-DRY	CLP90	
Aroclor-1232	39495	<33.9
UG/KG-DRY	CLP90	
Aroclor-1242	39499	<33.9
UG/KG-DRY	CLP90	
Aroclor-1248	39503	<33.9
UG/KG-DRY	CLP90	
Aroclor-1254	39507	<33.9
UG/KG-DRY	CLP90	
Aroclor-1260	39511	<33.9
UG/KG-DRY	CLP90	

Soils – Hits Only

Environmental Science & Engineering DATE 08/13/94 STATUS :
PROJECT NUMBER 1944022G 0202 PROJECT NAME CDM - HANFORD N. SLOPE
FIELD GROUP CDMHNSS2 PROJECT MANAGER E.H. MANSFIELD
ALL ALL LAB COORDINATOR EDWARD MANSFIELD

SAMPLE ID'S			A06-1-01	BG1-1-02	A06-2-02	A06-3-02	CS2-2-00
PARAMETERS		STORET	CDMHNSS2	CDMHNSS2	CDMHNSS2	CDMHNSS2	CDMHNSS2
	UNITS	METHOD	1	2	3	4	5
DATE			06/15/94	06/16/94	06/16/94	06/16/94	06/17/94
TIME			16:11	08:00	14:15	16:00	11:45
FIELD I.D.		29	H83LA061	H83LB3101	H83LA0602	H83LA0603	H83LCS202
	#	0					
SITE #		96274	94H83L	94H83L	94H83L	94H83L	94H83L
		0					
CHAIN OF CUSTODY		96793	1	3	3	3	6
	#	0					
SCREEN,GR. ALPHA,		96636	20.6	20.7	17.4	9.2	0.0
(ESTIMATE)NCI/KG-WET		R					
SCREEN,GR. BETA,		96637	20.8	19.2	19.1	19.4	18.4
(ESTIMATE)NCI/KG-WET		R					
MOISTURE		70320	2.4	3.1	5.2	2.7	2.9
	%WET WT	I					
ARSENIC		1003	0.978	[illegible].02	1.16	1.00	2.12
	MG/KG-DRY	7060-G					
SELENIUM		1148	--	--	--	0.271	--
	MG/KG-DRY	7740-G					
BARIUM		1008	70.1	62.7	71.2	77.6	54.8
	MG/KG-DRY	6010-G					
CHROMIUM		1029	5.88	[illegible].73	[illegible].71	5.15	3.53
	MG/KG-DRY	6010-G					
LEAD		1052	11.6	--	--	--	--
	MG/KG-DRY	6010-G					
ACETONE		75059	NRQ	20	17	24	--
	UG/KG-DRY	8240-G					

PROJECT NUMBER 1944022G 0202 PROJECT NAME CDM - HANFORD N. SLOPE
FIELD GROUP CDMHNSS2 PROJECT MANAGER E.H. MANSFIELD
6 ALL LAB COORDINATOR EDWARD MANSFIELD

SAMPLE ID'S		A03-1-05
PARAMETERS	STORET	CDMHNSS2
UNITS	METHOD	6
DATE		06/20/94
TIME		09:30
FIELD I.D.	29	H83LA0301
#	0	
SITE #	96274	94H83L
	0	
CHAIN OF CUSTODY	96793	5
#	0	
SCREEN,GR. ALPHA,	96636	0.9
(ESTIMATE)NCI/KG-WET	R	
SCREEN,GR. BETA,	96637	16.7
(ESTIMATE)NCI/KG-WET	R	
MOISTURE	70320	1.6
%WET WT	I	
ARSENIC	1003	1.15
MG/KG-DRY	7060-G	
BARIUM	1008	61.1
MG/KG-DRY	6010-G	
CHROMIUM	1029	6.13
MG/KG-DRY	6010-G	
2-HEXANONE	75166	13
UG/KG-DRY	CLP90-G	
ACETONE	75059	95
UG/KG-DRY	CLP90-G	
2-BUTANONE (MEK)	75078	35
UG/KG-DRY	CLP90-G	

Waters – All Data

Environmental Science & Engineering DATE 08/13/94 STATUS : PAGE 1
PROJECT NUMBER 1944022G 0202 PROJECT NAME CDM - HANFORD N. SLOPE
FIELD GROUP CDMHNSW2 PROJECT MANAGER E.H. MANSFIELD
ALL ALL LAB COORDINATOR EDWARD MANSFIELD

SAMPLE ID'S		A06-2-EB1
PARAMETERS	STORET	CDMHNSW2
UNITS	METHOD	1
DATE		06/17/94
TIME		14:30
FIELD I.D.	29	H83LA0602
#	0	
SITE #	96274	94H83L
	0	
CHAIN OF CUSTODY	96793	6
#	0	
ARSENIC,TOTAL	1002	<2.5
UG/L	7060-G	
SELENIUM,TOTAL	1147	<2.5
UG/L	7740-G	
MERCURY,TOTAL	71900	<0.20
UG/L	7470-G	
BARIUM,TOTAL	1007	<20.0
UG/L	6010-G	
CADMIUM,TOTAL	1027	<5.0
UG/L	6010-G	
CHROMIUM,TOTAL	1034	<10.0
UG/L	6010-G	
LEAD,TOTAL	1051	<50.0
UG/L	6010-G	
SILVER,TOTAL	1077	<5.0
UG/L	6010-G	
ACETONE	81552	<9.0
UG/L	8240-G	
BENZENE	34030	<1.0
UG/L	8240-G	
BROMODICHLOROMETHANE	32101	<2.2
UG/L	8240-G	
BROMOFORM	32104	<2.6
UG/L	8240-G	
BROMOMETHANE	34413	<3.5
UG/L	8240-G	
CARBON DISULFIDE	77041	<4.4
UG/L	8240-G	
CARBON TETRACHLORIDE	32102	<2.6
UG/L	8240-G	
CHLOROBENZENE	34301	<1.4
UG/L	8240-G	
CHLOROETHANE	34311	<8.2
UG/L	8240-G	
CHLOROFORM	32106	<2.5
UG/L	8240-G	
2-CHLOROETHYLVINYL-	34576	<3.1
ETHER UG/L	8240-G	
CHLOROMETHANE	34418	<4.4
UG/L	8240-G	
DIBROMOCHLOROMETHANE	32105	<2.3
UG/L	8240-G	
1,1-DICHLOROETHANE	34496	<2.5
UG/L	8240-G	
1,2-DICHLOROETHANE	34531	<2.5
UG/L	8240-G	
1,1-DICHLOROETHYLENE	34501	<3.2
UG/L	8240-G	
1,2-DICHLOROETHENE	96463	<2.4
(TOTAL) UG/L	8240-G	
1,2-DICHLOROPROPANE	34541	<2.0
UG/L	8240-G	
CIS-1,3-DICHLORO-	34704	<2.0
PROPENE UG/L	8240-G	
TRANS-1,3-DICHLORO-	34699	<1.6
PROPENE UG/L	8240-G	
ETHYLBENZENE	34371	<1.3
UG/L	8240-G	

SAMPLE ID'S		A06-2-EB1
PARAMETERS	STORET	CDMHNSW2
UNITS	METHOD	1
DATE		06/17/94
TIME		14:30
2-HEXANONE	77103	<21
UG/L	8240-G	
METHYLENE CHLORIDE	34423	<6.4
UG/L	8240-G	
METHYL ETHYL KETONE	81595	<10.0
UG/L	8240-G	
METHYL ISOBUT'KETONE	81596	<12
UG/L	8240-G	
STYRENE	77128	<0.50
UG/L	8240-G	
1,1,2,2-TETRACHLORO-	34516	<1.5
ETHANE UG/L	8240-G	
TETRACHLOROETHENE	34475	<1.9
UG/L	8240-G	
TOLUENE	34010	<1.7
UG/L	8240-G	
1,1,1-TRICHL'ETHANE	34506	<2.5
UG/L	8240-G	
1,1,2-TRICHL'ETHANE	34511	<2.8
UG/L	8240-G	
TRICHLOROETHENE	39180	<3.0
UG/L	8240-G	
VINYL CHLORIDE	39175	<4.6
UG/L	8240-G	
VINYL ACETATE	77057	<10.0
UG/L	8240-G	
XYLENES,TOTAL	81551	<3.7
UG/L	8240-G	
ACENAPHTHENE	34205	<1.0
UG/L	8270/3520-G	
ACENAPHTHYLENE	34200	<1.0
UG/L	8270/3520-G	
ANTHRACENE	34220	<1.0
UG/L	8270/3520-G	
BENZO(A)ANTHRACENE	34526	<1.5
UG/L	8270/3520-G	
BENZO(B)FLUORANTHENE	34230	<1.5
UG/L	8270/3520-G	
BENZO(K)FLUORANTHENE	34242	<1.5
UG/L	8270/3520-G	
BENZO(A)PYRENE	34247	<2.0
UG/L	8270/3520-G	
BENZO(GHI)PERYLENE	34521	<2.5
UG/L	8270/3520-G	
BUTYLBENZYLPHTHALATE	34292	<1.5
UG/L	8270/3520-G	
BIS(2-CHLOROETHYL)	34273	<1.5
ETHER UG/L	8270/3520-G	
BIS(2-CHLOROETHOXY)	34278	<1.0
METHANE UG/L	8270/3520-G	
BIS(2-ETHYLHEXYL)	39100	5.1
PHTHALATEUG/L	8270/3520-G	
BIS(2-CHL'ISOPROPYL)	34283	<1.0
ETHER UG/L	8270/3520-G	
4-BROMOPHENYLPHENYL	34636	<1.0
ETHER UG/L	8270/3520-G	
2-CHLORONAPHTHALENE	34581	<1.0
UG/L	8270/3520-G	
2-CHLOROPHENOL	34586	<2.0
UG/L	8270/3520-G	
4-CHLORO-3-METHYL	34452	<1.5
PHENOL UG/L	8270/3520-G	
4-CHLOROPHENYLPHENYL	34641	<1.0
ETHER UG/L	8270/3520-G	

Environmental Science & Engineering DATE 08/13/94 STATUS : PAGE 3
PROJECT NUMBER 1944022G 0202 PROJECT NAME CDM - HANFORD N. SLOPE
FIELD GROUP CDMHNSW2 PROJECT MANAGER E.H. MANSFIELD
ALL ALL LAB COORDINATOR EDWARD MANSFIELD

SAMPLE ID'S			A06-2-EB1
PARAMETERS		STORET	CDMHNSW2
	UNITS	METHOD	1
DATE			06/17/94
TIME			14:30
CHRYSENE		34320	<1.5
	UG/L	8270/3520-G	
DIBEN'(A,H)ANTH'CENE		34556	<2.5
	UG/L	8270/3520-G	
DI-N-BUTYLPHTHALATE		39110	<1.0
	UG/L	8270/3520-G	
1,3,DICHLOROBENZENE		34566	<1.0
	UG/L	8270/3520-G	
1,2-DICHLOROBENZENE		34536	<1.0
	UG/L	8270/3520-G	
1,4-DICHLOROBENZENE		34571	<1.0
	UG/L	8270/3520-G	
3,3'-DICHL'BENZIDINE		34631	<5.0
	UG/L	8270/3520-G	
2,4-DICHLOROPHENOL		34601	<2.0
	UG/L	8270/3520-G	
DIETHYLPHTHALATE		34336	<1.0
	UG/L	8270/3520-G	
2,4-DIMETHYLPHENOL		34606	<2.0
	UG/L	8270/3520-G	
DIMETHYLPTHALATE		34341	<2.0
	UG/L	8270/3520-G	
2,4-DINITROPHENOL		34616	<20
	UG/L	8270/3520-G	
2,4-DINITROTOLUENE		34611	<2.0
	UG/L	8270/3520-G	
2,6-DINITROTOLUENE		34626	<2.0
	UG/L	8270/3520-G	
DI-N-OCTYLPHTHALATE		34596	<2.4
	UG/L	8270/3520-G	
FLUORANTHENE		34376	<1.0
	UG/L	8270/3520-G	
FLUORENE		34381	<1.0
	UG/L	8270/3520-G	
HEXACHLOROBENZENE		39700	<2.0
	UG/L	8270/3520-G	
HEXACHLOROBUTADIENE		34391	<2.0
	UG/L	8270/3520-G	
HEXACHLOROCYCLOPENTA		34386	<14
DIENE	UG/L	8270/3520-G	
HEXACHLOROETHANE		34396	<1.5
	UG/L	8270/3520-G	
INDENO(1,2,3-CD)		34403	<2.5
PYRENE	UG/L	8270/3520-G	
ISOPHORONE		34408	<1.0
	UG/L	8270/3520-G	
2-METHYL-4,6-DINITRO		34657	<10.0
PHENOL	UG/L	8270/3520-G	
2-METHYL PHENOL		99073	<2.0
	UG/L	8270/3520-G	
4-METHYL PHENOL		99074	<2.0
	UG/L	8270/3520-G	
NAPHTHALENE		34696	<1.0
	UG/L	8270/3520-G	
NITROBENZENE		34447	<1.0
	UG/L	8270/3520-G	
2-NITROPHENOL		34591	<2.0
	UG/L	8270/3520-G	
4-NITROPHENOL		34646	<10.0
	UG/L	8270/3520-G	
N-NITROSODI-N-PROPYL		34428	<1.0
AMINE	UG/L	8270/3520-G	
N-NITROSODIPHE'AMINE		34433	<1.0
	UG/L	8270/3520-G	

SAMPLE ID'S		A06-2-EB1
PARAMETERS	STORET	CDMHNSW2
UNITS	METHOD	1
DATE		06/17/94
TIME		14:30
PENTACHLOROPHENOL	39032	<3.5
UG/L	8270/3520-G	
PHENANTHRENE	34461	<1.0
UG/L	8270/3520-G	
PHENOL	34694	<2.0
UG/L	8270/3520-G	
PYRENE	34469	<1.0
UG/L	8270/3520-G	
1,2,4-TRICH'BENZENE	34551	<1.0
UG/L	8270/3520-G	
2,4,6-TRICHL'PHENOL	34621	<2.5
UG/L	8270/3520-G	
BENZYL ALCOHOL	77147	<2.0
UG/L	8270/3520-G	
BENZOIC ACID	77247	<5.0
UG/L	8270/3520-G	
4-CHLOROANILINE	99075	<2.0
UG/L	8270/3520-G	
2-NITROANILINE	99077	<2.0
UG/L	8270/3520-G	
3-NITROANILINE	99078	<2.0
UG/L	8270/3520-G	
4-NITROANILINE	99079	<2.0
UG/L	8270/3520-G	
2-METHLYNAPHTHALENE	77416	<1.0
UG/L	8270/3520-G	
2,4,5-TRICHL'PHENOL	77687	<2.5
UG/L	8270/3520-G	
DIBENZOFURAN	81302	<1.0
UG/L	8270/3520-G	
ALDRIN	39330	<0.005
UG/L	8080/3520-G	
BHC,A	39337	<0.005
UG/L	8080/3520-G	
BHC,B	39338	<0.005
UG/L	8080/3520-G	
BHC,D	34259	<0.005
UG/L	8080/3520-G	
BHC,G(LINDANE)	39340	<0.005
UG/L	8080/3520-G	
CHLORDANE	39350	<0.025
UG/L	8080/3520-G	
DDD,PP'	39310	<0.005
UG/L	8080/3520-G	
DDE,PP'	39320	<0.005
UG/L	8080/3520-G	
DDT,PP'	39300	<0.005
UG/L	8080/3520-G	
DIELDRIN	39380	<0.005
UG/L	8080/3520-G	
ENDOSULFAN,A	34361	<0.005
UG/L	8080/3520-G	
ENDOSULFAN,B	34356	<0.005
UG/L	8080/3520-G	
ENDOSULFAN SULFATE	34351	<0.005
UG/L	8080/3520-G	
ENDRIN	39390	<0.005
UG/L	8080/3520-G	
ENDRIN ALDEHYDE	34366	<0.005
UG/L	8080/3520-G	
HEPTACHLOR	39410	<0.005
UG/L	8080/3520-G	
METHOXYCHLOR	39480	<0.005
UG/L	8080/3520-G	

SAMPLE ID'S			A06-2-EB1
PARAMETERS		STORET	CDMHNSW2
	UNITS	METHOD	1
DATE			06/17/94
TIME			14:30
HEPTACHLOR EPOXIDE		39420	<0.005
	UG/L	8080/3520-G	
TOXAPHENE		39400	<0.500
	UG/L	8080/3520-G	
PCB-1016		34671	<0.100
	UG/L	8080/3520-G	
PCB-1221		39488	<0.100
	UG/L	8080/3520-G	
PCB-1232		39492	<0.100
	UG/L	8080/3520-G	
PCB-1242		39496	<0.100
	UG/L	8080/3520-G	
PCB 1248		39500	<0.100
	UG/L	8080/3520-G	
PCB-1254		39504	<0.100
	UG/L	8080/3520-G	
PCB-1260		39508	<0.100
	UG/L	8080/3520-G	

Waters – Hits Only

Environmental Science & Enjineering DATE 08/13/94 STATUS : PAGE 1
PROJECT NUMBER 1944022G 0202 PROJECT NAME CDM - HANFORD N. SLOPE
FIELD GROUP CDMHNSW2 PROJECT MANAGER E.H. MANSFIELD
ALL ALL LAB COORDINATOR EDWARD MANSFIELD

SAMPLE ID'S		A06-2-EB1
PARAMETERS	STORET	CDMHNSW2
UNITS	METHOD	1
DATE		06/17/94
TIME		14:30
FIELD I.D.	29	H83LA0602
#	0	
SITE #	96274	94H83L
	0	
CHAIN OF CUSTODY	96793	6
#	0	
BIS(2-ETHYLHEXYL)	39100	5.1
PHTHALATEUG/L	8270/3520-G	

Quality Control Summary Reports

By Analytical Batch

751565a.0045

Soils

Radiation Screening

ESE BATCH : G50410
CLASSIFICATION : SCREEN, ALPHA

QC TYPE : FDER/SW
ANALYST : SANDRA MIHOCIK
EXTRACTOR :
DATA ENTRY : SANDRA MIHOCIK

REPORT DATE/TIME : 08/13/94 11:31:02
ANALYSIS DATE : 06/20/94
EXTRACT DATE :

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*1	A06-1-01	06/17/94	
CDMHNSS2*2	BG1-1-02		
CDMHNSS2*3	A06-2-02		
CDMHNSS2*4	A06-3-02		
CDMHNSS2*5	CS2-2-00	06/21/94	
CDMHNSS2*6	A03-1-05		

ESE BATCH : G50410

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER
CDMHNSS2*2	ALPHA(EST)	06/20/94		06/16/94	2	2
CDMHNSS2*2	BETA(EST)	06/20/94		06/16/94	2	2
CDMHNSS2*3	ALPHA(EST)	06/20/94		06/16/94	2	2
CDMHNSS2*3	BETA(EST)	06/20/94		06/16/94	2	2
CDMHNSS2*4	ALPHA(EST)	06/20/94		06/16/94	2	2
CDMHNSS2*4	BETA(EST)	06/20/94		06/16/94	2	2
CDMHNSS2*5	ALPHA(EST)	06/21/94		06/17/94	2	2
CDMHNSS2*5	BETA(EST)	06/21/94		06/17/94	2	2

ALL OTHER HOLDING TIMES MET

STORET: 96636 METHOD: R SCREEN,GR. ALPHA, (ESTIMATE), NCI/KG-WET FINAL

STORET: 96637 METHOD: R SCREEN,GR. BETA, (ESTIMATE), NCI/KG-WET FINAL

ESE BATCH : G50410

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/20/94	MB*QC*1	96636*R	SCREEN,GR. ALPHA, (ESTIMATE)	NCI/KG	ND
06/20/94	MB*QC*1	96637*R	SCREEN,GR. BETA, (ESTIMATE)	NCI/KG	2.5
06/20/94	MB*QC*2	96636*R	SCREEN,GR. ALPHA, (ESTIMATE)	NCI/KG	ND
06/20/94	MB*QC*2	96637*R	SCREEN,GR. BETA, (ESTIMATE)	NCI/KG	9.7
06/20/94	MB*QC*3	96636*R	SCREEN,GR. ALPHA, (ESTIMATE)	NCI/KG	ND
06/20/94	MB*QC*3	96637*R	SCREEN,GR. BETA, (ESTIMATE)	NCI/KG	ND

ESE BATCH : G50410

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED	
FINAL CONCENTRATION	NCI/KG-WET
INJECTION VOLUME	NA
SAMPLE VOLUME	NA
EXTRACT VOLUME	NA
CURVE CONCENTRATION	NA
SPIKE SOLN CONCENTRATION	NA
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	NCI/KG-WET
RESPONSE DESCRIPTION	NCI/KG-WET
CONVERSION FACTOR	NA

$$\text{FINAL CONC} = \frac{\text{CURV CONC * EXT VOL * DIL}}{\text{INJ VOL * SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{NCI/KG-WET} = \frac{\text{(NA) * (NA)}}{\text{(NA) * (NA)}}$$

$$\text{(\qquad)} = \frac{\text{(\qquad) * (\qquad) * (\qquad)}}{\text{(\qquad) * (\qquad) * ((100 - (\qquad)) / 100)}}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC * SPIKE VOL}}{\text{SPIKE SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{NCI/KG-WET} = \frac{\text{(NA) * (NA)}}{\text{(NA)}}$$

ESE BATCH : G50410

Environmental Science and Engineering Analytical Services
Computer QC Checks

Batch No.: G50410 Analysis Date: 06/20/94 Analyst: SANDRA MIHOCIK

	Yes	No	"Exceptions" Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?		X	ALPHA(EST) BETA(EST)
Method blank present?	X		
Method blank within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY: RICHARD KINNEY 2302
PROB.:ANALYSIS HOLDING TIME NOT WITHIN CRITERIA.
EXPL.:SAMPLE WERE ANALYZED THE SAME DAY THEY WERE RECEIVED./SM

FINALIZED BY:

TABLE OF ABBREVIATIONS

%RECV : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE : Analysis Date
ANLY TIME : Analysis Time
CURVE : Curve Regression Number
DILUTION : Sample Dilution Factor
EXT DATE : Extract Date
EXT VOL : Extract Volume
FOUND : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL : Injection Volume
REL%DIFF : % Difference between current and previous spike.
RESPONSE : Sample Response
R.T. : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
DA -- Data Sample
MB -- Method Blank
RF -- Reference (from commercially known standard)
RP -- Replicate Sample
SP -- Standard Matrix Spike
SPM -- Sample Matrix Spike
STD -- Internal Standard
SUR -- Surrogate Sample
UN -- Unspiked Sample
SAMP VOL : Sample Volume
SPK CONC : Spike Concentration
ST : Sample response explanation or validity. (listed below)
BK -- No sample response.
NA -- Sample not analyzed.
NR -- Not reserved for this batch. Batch containing the response for this sample is listed in the target field.
OK -- Sample response shown is correct.
! -- Sample response shown is invalid.
< -- Sample response < detection limit. Detection limit is shown in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET : Spike Target (SAMPLE LISTING SECTION)
TARGET : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE : Response Type ("FINAL" or empty.)
UNSP CONC : Unspiked Sample Concentration

% Moisture

ESE BATCH : G50318
CLASSIFICATION : PERCENT MOISTURE - ASTM D2216

QC TYPE : FDER/SW
ANALYST : JULIE HALL
EXTRACTOR : ERIC ANDERSON
DATA ENTRY : JULIE HALL

REPORT DATE/TIME : 08/13/94 11:25:38
ANALYSIS DATE 06/21/94
EXTRACT DATE 06/20/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

BATCH NOTES
93-1 PG.104

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*1	A06-1-01		
CDMHNSS2*2	BG1-1-02		
CDMHNSS2*3	A06-2-02		
CDMHNSS2*4	A06-3-02		
CDMHNSS2*5	CS2-2-00		

ESE BATCH : G50318

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 96041 METHOD: 0 PAN, GM %M

STORET: 96042 METHOD: 0 PAN+SAMPLE (WET), GM %M

STORET: 96043 METHOD: 0 PAN+SAMPLE (DRY), GM %M

STORET: 70320 METHOD: I MOISTURE, %WET WT %M

CALIBRATION CURVE # 1
DETECTION LIMIT=0.50 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : GS0318

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	MB*QC*1	96041*0	PAN	GM	1.58180
06/21/94	MB*QC*1	96042*0	PAN+SAMPLE (WET)	GM	1.58180
06/21/94	MB*QC*1	96043*0	PAN+SAMPLE (DRY)	GM	1.58120
06/21/94	MB*QC*1	70320*I	MOISTURE	%WET W	0.04

Replicate Analysis Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	REP #1	REP #2	RPD	RPD CRIT
06/21/94	RP*CDMHNSS2*2	96041*0	PAN	GM	1.57790	1.58880	0.70000	N/A
06/21/94	RP*CDMHNSS2*2	96042*0	PAN+SAMPLE (WET)	GM	16.70390	15.18020	9.60000	N/A
06/21/94	RP*CDMHNSS2*2	96043*0	PAN+SAMPLE (DRY)	GM	16.23780	14.75980	9.50000	N/A
06/21/94	RP*CDMHNSS2*2	70320*I	MOISTURE	%WET W	3.1	3.1	0.0	23

ESE BATCH : G50318

UNITS AND EXAMPLE CALCULATIONS

	UNITS ENTERED
FINAL CONCENTRATION	%
INJECTION VOLUME	NA
SAMPLE VOLUME	NA
EXTRACT VOLUME	NA
CURVE CONCENTRATION	NA
SPIKE SOLN CONCENTRATION	NA
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	NA
RESPONSE DESCRIPTION	GM
CONVERSION FACTOR	NA

$$\text{FINAL CONC} = \frac{\text{CURV CONC * EXT VOL * DIL}}{\text{INJ VOL * SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\% = \frac{\text{(NA) * (NA)}}{\text{(NA) * (NA)}}$$

$$(\qquad) = \frac{(\qquad\qquad) * (\qquad\qquad) * (\qquad)}{(\qquad\qquad) * (\qquad\qquad) * ((100 - (\qquad\qquad)) / 100)}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC * SPIKE VOL}}{\text{SPIKE SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{NA} = \frac{\text{(NA) * (NA)}}{\text{(NA)}}$$

ESE BATCH : G50318

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50318 Analysis Date: 06/21/94 Analyst: JULIE HALL

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Sample replicate present?	X		
Sample replicate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field.
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

ESE BATCH : G50337
CLASSIFICATION : PERCENT MOISTURE - ASTM D2216

QC TYPE : FDER/SW
ANALYST : JULIE HALL
EXTRACTOR : JULIE HALL
DATA ENTRY : BALANCE UPLOAD

REPORT DATE/TIME : 08/13/94 11:25:50
ANALYSIS DATE : 06/22/94
EXTRACT DATE : 06/21/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

BATCH NOTES
94-3 PG.06 BALANCE #24, RUN #67

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*6	A03-1-05	06/21/94	04:00PM

ESE BATCH : G50337

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T. OVER

ALL HOLDING TIMES MET

STORET: 96041 METHOD: 0 PAN, GM %M

STORET: 96042 METHOD: 0 PAN+SAMPLE (WET), GM %M

STORET: 96043 METHOD: 0 PAN+SAMPLE (DRY), GM %M

STORET: 70320 METHOD: I MOISTURE, %WET WT %M

CALIBRATION CURVE # 1
DETECTION LIMIT=0.50 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : G50337

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	MB*QC*1	96041*0	PAN	GM	1.56710
06/21/94	MB*QC*1	96042*0	PAN+SAMPLE (WET)	GM	1.56710
06/21/94	MB*QC*1	96043*0	PAN+SAMPLE (DRY)	GM	1.56680
06/21/94	MB*QC*1	70320*I	MOISTURE	%WET W	0.02

Replicate Analysis Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	REP #1	REP #2	RPD	RPD CRIT
06/21/94	RP*CDMHNSS2*6	96041*0	PAN	GM	1.57970	1.56260	1.10000	N/A
06/21/94	RP*CDMHNSS2*6	96042*0	PAN+SAMPLE (WET)	GM	17.00130	17.72450	4.20000	N/A
06/21/94	RP*CDMHNSS2*6	96043*0	PAN+SAMPLE (DRY)	GM	16.75400	17.46150	4.10000	N/A
06/21/94	RP*CDMHNSS2*6	70320*I	MOISTURE	%WET W	1.6	1.6	0.0	23

ESE BATCH : G50337

UNITS AND EXAMPLE CALCULATIONS

	UNITS ENTERED
FINAL CONCENTRATION	%
INJECTION VOLUME	NA
SAMPLE VOLUME	NA
EXTRACT VOLUME	NA
CURVE CONCENTRATION	NA
SPIKE SOLN CONCENTRATION	NA
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	NA
RESPONSE DESCRIPTION	GM
CONVERSION FACTOR	NA

$$\text{FINAL CONC} = \frac{\text{CURV CONC * EXT VOL * DIL}}{\text{INJ VOL * SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\% = \frac{\text{(NA) * (NA)}}{\text{(NA) * (NA)}}$$

$$(\qquad) = \frac{(\qquad\qquad) * (\qquad\qquad) * (\qquad)}{(\qquad\qquad) * (\qquad\qquad) * ((100 - (\qquad\qquad)) / 100)}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC * SPIKE VOL}}{\text{SPIKE SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{NA} = \frac{\text{(NA) * (NA)}}{\text{(NA)}}$$

ESE BATCH : G50337

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50337 Analysis Date: 06/22/94 Analyst: JULIE HALL

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Sample replicate present?	X		
Sample replicate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field.
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

ESE BATCH : G50337
CLASSIFICATION : PERCENT MOISTURE - ASTM D2216

QC TYPE FDER/SW
ANALYST : JULIE HALL
EXTRACTOR : JULIE HALL
DATA ENTRY : BALANCE UPLOAD

REPORT DATE/TIME : 08/13/94 11:25:50
ANALYSIS DATE : 06/22/94
EXTRACT DATE : 06/21/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

BATCH NOTES
94-3 PG.06 BALANCE #24, RUN #67

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*6	A03-1-05	06/21/94	04:00PM

ESE BATCH : G50337

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 96041 METHOD: 0 PAN, GM %M

STORET: 96042 METHOD: 0 PAN+SAMPLE (WET), GM %M

STORET: 96043 METHOD: 0 PAN+SAMPLE (DRY), GM %M

STORET: 70320 METHOD: I MOISTURE, %WET WT %M

CALIBRATION CURVE # 1
DETECTION LIMIT=0.50 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : G50337

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	MB*QC*1	96041*0	PAN	GM	1.56710
06/21/94	MB*QC*1	96042*0	PAN+SAMPLE (WET)	GM	1.56710
06/21/94	MB*QC*1	96043*0	PAN+SAMPLE (DRY)	GM	1.56680
06/21/94	MB*QC*1	70320*I	MOISTURE	%WET W	0.02

Replicate Analysis Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	REP #1	REP #2	RPD	RPD CRIT
06/21/94	RP*CDMHNSS2*6	96041*0	PAN	GM	1.57970	1.56260	1.10000	N/A
06/21/94	RP*CDMHNSS2*6	96042*0	PAN+SAMPLE (WET)	GM	17.00130	17.72450	4.20000	N/A
06/21/94	RP*CDMHNSS2*6	96043*0	PAN+SAMPLE (DRY)	GM	16.75400	17.46150	4.10000	N/A
06/21/94	RP*CDMHNSS2*6	70320*I	MOISTURE	%WET W	1.6	1.6	0.0	23

ESE BATCH : G50337

UNITS AND EXAMPLE CALCULATIONS

	UNITS ENTERED
FINAL CONCENTRATION	%
INJECTION VOLUME	NA
SAMPLE VOLUME	NA
EXTRACT VOLUME	NA
CURVE CONCENTRATION	NA
SPIKE SOLN CONCENTRATION	NA
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	NA
RESPONSE DESCRIPTION	GM
CONVERSION FACTOR	NA

$$\text{FINAL CONC} = \frac{\text{CURV CONC * EXT VOL * DIL}}{\text{INJ VOL * SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\% = \frac{\text{(NA) * (NA)}}{\text{(NA) * (NA)}}$$

$$(\qquad) = \frac{(\qquad\qquad) * (\qquad\qquad) * (\qquad)}{(\qquad\qquad) * (\qquad\qquad) * ((100 - (\qquad\qquad)) / 100)}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC * SPIKE VOL}}{\text{SPIKE SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{NA} = \frac{\text{(NA) * (NA)}}{\text{(NA)}}$$

ESE BATCH : G50337

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50337 Analysis Date: 06/22/94 Analyst: JULIE HALL

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Sample replicate present?	X		
Sample replicate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

%RECV : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE : Analysis Date
ANLY TIME : Analysis Time
CURVE : Curve Regression Number
DILUTION : Sample Dilution Factor
EXT DATE : Extract Date
EXT VOL : Extract Volume
FOUND : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL : Injection Volume
REL%DIFF : % Difference between current and previous spike.
RESPONSE : Sample Response
R.T. : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
DA -- Data Sample
MB -- Method Blank
RF -- Reference (from commercially known standard)
RP -- Replicate Sample
SP -- Standard Matrix Spike
SPM -- Sample Matrix Spike
STD -- Internal Standard
SUR -- Surrogate Sample
UN -- Unspiked Sample
SAMP VOL : Sample Volume
SPK CONC : Spike Concentration
ST : Sample response explanation or validity. (listed below)
BK -- No sample response.
NA -- Sample not analyzed.
NR -- Not reserved for this batch. Batch containing the response for this sample is listed in the target field.
OK -- Sample response shown is correct.
! -- Sample response shown is invalid.
< -- Sample response < detection limit. Detection limit is shown in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET : Spike Target (SAMPLE LISTING SECTION)
TARGET : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE : Response Type ("FINAL" or empty.)
UNSP CONC : Unspiked Sample Concentration

Volatile Organic Compounds

ESE BATCH : G50342
CLASSIFICATION : VOCS - EPA 8240

QC TYPE : FDER/SW
ANALYST : YAEL HOOGLAND
EXTRACTOR :
DATA ENTRY : TODD ROMERO

REPORT DATE/TIME : 08/13/94 11:32:42
ANALYSIS DATE : 06/20/94
EXTRACT DATE :

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

BATCH NOTES
DOWNLOAD FILE CDM2YH1

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*5	CS2-2-00	06/20/94	03:43PM
CDMHNSS2*4	A06-3-02	06/20/94	05:17PM
CDMHNSS2*3	A06-2-02	06/20/94	05:49PM
CDMHNSS2*2	BG1-1-02	06/20/94	06:22PM

ESE BATCH : G50342

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T. OVER

ALL HOLDING TIMES MET

STORET: 34421 METHOD: 8240-G CHLOROMETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34416 METHOD: 8240-G BROMOMETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34495 METHOD: 8240-G VINYL CHLORIDE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34314 METHOD: 8240-G CHLOROETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34426 METHOD: 8240-G METHYLENE CHLORIDE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 75059 METHOD: 8240-G ACETONE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 78544 METHOD: 8240-G CARBON DISULFIDE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34504 METHOD: 8240-G 1,1-DICHLOROETHYLENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34499 METHOD: 8240-G 1,1-DICHLOROETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 96464 METHOD: 8240-G 1,2-DICHLOROETHENE(TOTAL), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34318 METHOD: 8240-G CHLOROFORM, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34534 METHOD: 8240-G 1,2-DICHLOROETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 97031 METHOD: SUR 1,2-DICHLOROETHANE-D(4), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 75078 METHOD: 8240-G METHYL ETHYL KETONE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34509 METHOD: 8240-G 1,1,1-TRICHLOROETHANE, UG/KG-DRY GCMS

ESE BATCH : G50342

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34299 METHOD: 8240-G CARBON TETRACHLORIDE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 98583 METHOD: 8240-G VINYL ACETATE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34330 METHOD: 8240-G BROMODICHLOROMETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34544 METHOD: 8240-G 1,2-DICHLOROPROPANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34702 METHOD: 8240-G CIS-1,3-DICHLORO- PROPENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34487 METHOD: 8240-G TRICHLOROETHENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34309 METHOD: 8240-G DIBROMOCHLOROMETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34237 METHOD: 8240-G BENZENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34514 METHOD: 8240-G 1,1,2-TRICHLOROETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34579 METHOD: 8240-G 2-CHLOROETHYLVINYL- ETHER, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34697 METHOD: 8240-G TRANS-1,3-DICHLORO- PROPENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34290 METHOD: 8240-G BROMOFORM, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 75166 METHOD: 8240-G 2-HEXANONE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 75169 METHOD: 8240-G METHYLISOBUTYLKETONE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34478 METHOD: 8240-G TETRACHLOROETHENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1

ESE BATCH : G50342
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34519 METHOD: 8240-G 1,1,2,2-TETRACHLORO- ETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 97026 METHOD: SUR TOLUENE-D(8), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34483 METHOD: 8240-G TOLUENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34304 METHOD: 8240-G CHLOROBENZENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34374 METHOD: 8240-G ETHYLBENZENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 97027 METHOD: SUR BROMOFLUOROBENZENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 45510 METHOD: 8240-G XYLENE,TOTAL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 75192 METHOD: 8240-G STYRENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : G50342

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/20/94	MB*NONE*1	34421*8240-G	CHLOROMETHANE	UG/KG-	ND
06/20/94	MB*NONE*1	34416*8240-G	BROMOMETHANE	UG/KG-	ND
06/20/94	MB*NONE*1	34495*8240-G	VINYL CHLORIDE	UG/KG-	ND
06/20/94	MB*NONE*1	34314*8240-G	CHLOROETHANE	UG/KG-	ND
06/20/94	MB*NONE*1	34426*8240-G	METHYLENE CHLORIDE	UG/KG-	1.7
06/20/94	MB*NONE*1	75059*8240-G	ACETONE	UG/KG-	5.7
06/20/94	MB*NONE*1	78544*8240-G	CARBON DISULFIDE	UG/KG-	ND
06/20/94	MB*NONE*1	34504*8240-G	1,1-DICHLOROETHYLENE	UG/KG-	ND
06/20/94	MB*NONE*1	34499*8240-G	1,1-DICHLOROETHANE	UG/KG-	ND
06/20/94	MB*NONE*1	96464*8240-G	1,2-DICHLOROETHENE(TOTAL)	UG/KG-	ND
06/20/94	MB*NONE*1	34318*8240-G	CHLOROFORM	UG/KG-	ND
06/20/94	MB*NONE*1	34534*8240-G	1,2-DICHLOROETHANE	UG/KG-	ND
06/20/94	MB*NONE*1	75078*8240-G	METHYL ETHYL KETONE	UG/KG-	ND
06/20/94	MB*NONE*1	34509*8240-G	1,1,1-TRICHLOROETHANE	UG/KG-	ND
06/20/94	MB*NONE*1	34299*8240-G	CARBON TETRACHLORIDE	UG/KG-	ND
06/20/94	MB*NONE*1	98583*8240-G	VINYL ACETATE	UG/KG-	ND
06/20/94	MB*NONE*1	34330*8240-G	BROMODICHLOROMETHANE	UG/KG-	ND
06/20/94	MB*NONE*1	34544*8240-G	1,2-DICHLOROPROPANE	UG/KG-	ND
06/20/94	MB*NONE*1	34702*8240-G	CIS-1,3-DICHLORO- PROPENE	UG/KG-	ND
06/20/94	MB*NONE*1	34487*8240-G	TRICHLOROETHENE	UG/KG-	ND
06/20/94	MB*NONE*1	34309*8240-G	DIBROMOCHLOROMETHANE	UG/KG-	ND
06/20/94	MB*NONE*1	34237*8240-G	BENZENE	UG/KG-	ND
06/20/94	MB*NONE*1	34514*8240-G	1,1,2-TRICHLOROETHANE	UG/KG-	ND
06/20/94	MB*NONE*1	34579*8240-G	2-CHLOROETHYLVINYL- ETHER	UG/KG-	ND
06/20/94	MB*NONE*1	34697*8240-G	TRANS-1,3-DICHLORO- PROPENE	UG/KG-	ND
06/20/94	MB*NONE*1	34290*8240-G	BROMOFORM	UG/KG-	ND
06/20/94	MB*NONE*1	75166*8240-G	2-HEXANONE	UG/KG-	ND
06/20/94	MB*NONE*1	75169*8240-G	METHYLISOBUTYLKETONE	UG/KG-	ND
06/20/94	MB*NONE*1	34478*8240-G	TETRACHLOROETHENE	UG/KG-	ND
06/20/94	MB*NONE*1	34519*8240-G	1,1,2,2-TETRACHLORO- ETHANE	UG/KG-	ND
06/20/94	MB*NONE*1	34483*8240-G	TOLUENE	UG/KG-	ND
06/20/94	MB*NONE*1	34304*8240-G	CHLOROBENZENE	UG/KG-	ND
06/20/94	MB*NONE*1	34374*8240-G	ETHYLBENZENE	UG/KG-	ND
06/20/94	MB*NONE*1	45510*8240-G	XYLENE,TOTAL	UG/KG-	ND
06/20/94	MB*NONE*1	75192*8240-G	STYRENE	UG/KG-	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/20/94	SP1*NONE*1	34504*8240-G	1,1-DICHLOROETHYLENE	120	59-172	UG/KG-	50	60
06/20/94	SP1*NONE*1	34487*8240-G	TRICHLOROETHENE	106	62-137	UG/KG-	50	53
06/20/94	SP1*NONE*1	34237*8240-G	BENZENE	102	66-142	UG/KG-	50	51
06/20/94	SP1*NONE*1	34483*8240-G	TOLUENE	98	59-139	UG/KG-	50	49
06/20/94	SP1*NONE*1	34304*8240-G	CHLOROBENZENE	104	60-133	UG/KG-	50	52

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/20/94	SPM1*CDMHNSS2*5	34504*8240-G	1,1-DICHLOROETHYLENE	92	59-172	0.0	UG/KG-	51	47
06/20/94	SPM1*CDMHNSS2*5	34487*8240-G	TRICHLOROETHENE	100	62-137	0.0	UG/KG-	51	51
06/20/94	SPM1*CDMHNSS2*5	34237*8240-G	BENZENE	96	66-142	0.0	UG/KG-	51	49
06/20/94	SPM1*CDMHNSS2*5	34483*8240-G	TOLUENE	94	59-139	0.0	UG/KG-	51	48
06/20/94	SPM1*CDMHNSS2*5	34304*8240-G	CHLOROBENZENE	104	60-133	0.0	UG/KG-	51	53
06/20/94	SPM2*CDMHNSS2*5	34504*8240-G	1,1-DICHLOROETHYLENE	104	59-172	0.0	UG/KG-	51	53
06/20/94	SPM2*CDMHNSS2*5	34487*8240-G	TRICHLOROETHENE	104	62-137	0.0	UG/KG-	51	53
06/20/94	SPM2*CDMHNSS2*5	34237*8240-G	BENZENE	98	66-142	0.0	UG/KG-	51	50
06/20/94	SPM2*CDMHNSS2*5	34483*8240-G	TOLUENE	98	59-139	0.0	UG/KG-	51	50
06/20/94	SPM2*CDMHNSS2*5	34304*8240-G	CHLOROBENZENE	104	60-133	0.0	UG/KG-	51	53

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/20/94	MB*NONE*1	97031*SUR	1,2-DICHLOROETHANE-D(4)	UG/KG-	50	50	100	70-121
06/20/94	MB*NONE*1	97026*SUR	TOLUENE-D(8)	UG/KG-	50	51	100	81-117
06/20/94	MB*NONE*1	97027*SUR	BROMOFLUOROBENZENE	UG/KG-	50	52	100	74-121
06/20/94	DA*CDMHNSS2*5	97031*SUR	1,2-DICHLOROETHANE-D(4)	UG/KG-	50	48	96	70-121
06/20/94	DA*CDMHNSS2*5	97026*SUR	TOLUENE-D(8)	UG/KG-	50	49	98	81-117
06/20/94	DA*CDMHNSS2*5	97027*SUR	BROMOFLUOROBENZENE	UG/KG-	50	49	98	74-121
06/20/94	SPM1*CDMHNSS2*5	97031*SUR	1,2-DICHLOROETHANE-D(4)	UG/KG-	50	48	96	70-121
06/20/94	SPM1*CDMHNSS2*5	97026*SUR	TOLUENE-D(8)	UG/KG-	50	48	96	81-117
06/20/94	SPM1*CDMHNSS2*5	97027*SUR	BROMOFLUOROBENZENE	UG/KG-	50	49	98	74-121
06/20/94	SPM2*CDMHNSS2*5	97031*SUR	1,2-DICHLOROETHANE-D(4)	UG/KG-	50	51	100	70-121
06/20/94	SPM2*CDMHNSS2*5	97026*SUR	TOLUENE-D(8)	UG/KG-	50	51	100	81-117

ESE BATCH : G50342

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/20/94	SPM2*CDMHNSS2*5	97027*SUR	BROMOFLUOROBENZENE	UG/KG-	50	51	100	74-121
06/20/94	DA*CDMHNSS2*4	97031*SUR	1,2-DICHLOROETHANE-D(4)	UG/KG-	50	52	100	70-121
06/20/94	DA*CDMHNSS2*4	97026*SUR	TOLUENE-D(8)	UG/KG-	50	52	100	81-117
06/20/94	DA*CDMHNSS2*4	97027*SUR	BROMOFLUOROBENZENE	UG/KG-	50	51	100	74-121
06/20/94	DA*CDMHNSS2*3	97031*SUR	1,2-DICHLOROETHANE-D(4)	UG/KG-	50	51	100	70-121
06/20/94	DA*CDMHNSS2*3	97026*SUR	TOLUENE-D(8)	UG/KG-	50	49	98	81-117
06/20/94	DA*CDMHNSS2*3	97027*SUR	BROMOFLUOROBENZENE	UG/KG-	50	50	100	74-121
06/20/94	DA*CDMHNSS2*2	97031*SUR	1,2-DICHLOROETHANE-D(4)	UG/KG-	50	51	100	70-121
06/20/94	DA*CDMHNSS2*2	97026*SUR	TOLUENE-D(8)	UG/KG-	50	50	100	81-117
06/20/94	DA*CDMHNSS2*2	97027*SUR	BROMOFLUOROBENZENE	UG/KG-	50	49	98	74-121
06/20/94	SP1*NONE*1	97031*SUR	1,2-DICHLOROETHANE-D(4)	UG/KG-	50	45	90	70-121
06/20/94	SP1*NONE*1	97026*SUR	TOLUENE-D(8)	UG/KG-	50	48	96	81-117
06/20/94	SP1*NONE*1	97027*SUR	BROMOFLUOROBENZENE	UG/KG-	50	47	94	74-121

ESE BATCH : G50342

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50342 Analysis Date: 06/20/94 Analyst: YAEL HOOGLAND

		"Exceptions"	
	Yes	No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Surrogate present?	X		
Surrogate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

ESE BATCH : G50516
CLASSIFICATION : VOAS - CLP SOW OLM01.8

QC TYPE : FDER/SW
ANALYST : YAEL HOOGLAND
EXTRACTOR :
DATA ENTRY : TODD ROMERO

REPORT DATE/TIME : 08/13/94 12:30:59
ANALYSIS DATE : 06/23/94
EXTRACT DATE :

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

BATCH NOTES
DOWNLOAD FILE CDM2YH2

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*6	A03-1-05	06/23/94	02:26PM

ESE BATCH : G50516

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 34421 METHOD: CLP90-G CHLOROMETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34416 METHOD: CLP90-G BROMOMETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34495 METHOD: CLP90-G VINYL CHLORIDE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34314 METHOD: CLP90-G CHLOROETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34426 METHOD: CLP90-G METHYLENE CHLORIDE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 75059 METHOD: CLP90-G ACETONE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 78544 METHOD: CLP90-G CARBON DISULFIDE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34504 METHOD: CLP90-G 1,1-DICHLOROETHYLENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34499 METHOD: CLP90-G 1,1-DICHLOROETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 96464 METHOD: CLP90-G 1,2-DICHLOROETHENE(TOTAL), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34318 METHOD: CLP90-G CHLOROFORM, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34534 METHOD: CLP90-G 1,2-DICHLOROETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 95042 METHOD: SUR 1,2-DICHLOROETHANE-D4 (CLP90), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 75078 METHOD: CLP90-G 2-BUTANONE (MEK), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34509 METHOD: CLP90-G 1,1,1-TRICHLOROETHANE, UG/KG-DRY GCMS

ESE BATCH : G50516

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34299 METHOD: CLP90-G CARBON TETRACHLORIDE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34330 METHOD: CLP90-G BROMODICHLOROMETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34544 METHOD: CLP90-G 1,2-DICHLOROPROPANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34702 METHOD: CLP90-G CIS-1,3-DICHLOROPROPENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34487 METHOD: CLP90-G TRICHLOROETHENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34309 METHOD: CLP90-G DIBROMOCHLOROMETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34237 METHOD: CLP90-G BENZENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34514 METHOD: CLP90-G 1,1,2-TRICHLOROETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34697 METHOD: CLP90-G TRANS-1,3-DICHLOROPROPENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34290 METHOD: CLP90-G BROMOFORM, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 75166 METHOD: CLP90-G 2-HEXANONE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 75169 METHOD: CLP90-G 4-METHYL-2-PENTANONE (MIBK), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34478 METHOD: CLP90-G TETRACHLOROETHENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34519 METHOD: CLP90-G 1,1,2,2-TETRACHLOROETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 95040 METHOD: SUR TOLUENE-D8 (CLP90), UG/KG-DRY GCMS

CALIBRATION CURVE # 1

ESE BATCH : G50516
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34483 METHOD: CLP90-G TOLUENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34304 METHOD: CLP90-G CHLOROBENZENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34374 METHOD: CLP90-G ETHYLBENZENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 95041 METHOD: SUR BROMOFLUOROBENZENE (CLP90), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 97353 METHOD: CLP90-G XYLENES, TOTAL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 75192 METHOD: CLP90-G STYRENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : G50516

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/23/94	MB*NONE*1	34421*CLP90-G	CHLOROMETHANE	UG/KG-	ND
06/23/94	MB*NONE*1	34416*CLP90-G	BROMOMETHANE	UG/KG-	ND
06/23/94	MB*NONE*1	34495*CLP90-G	VINYL CHLORIDE	UG/KG-	ND
06/23/94	MB*NONE*1	34314*CLP90-G	CHLOROETHANE	UG/KG-	ND
06/23/94	MB*NONE*1	34426*CLP90-G	METHYLENE CHLORIDE	UG/KG-	2.7
06/23/94	MB*NONE*1	75059*CLP90-G	ACETONE	UG/KG-	7.3
06/23/94	MB*NONE*1	78544*CLP90-G	CARBON DISULFIDE	UG/KG-	ND
06/23/94	MB*NONE*1	34504*CLP90-G	1,1-DICHLOROETHYLENE	UG/KG-	ND
06/23/94	MB*NONE*1	34499*CLP90-G	1,1-DICHLOROETHANE	UG/KG-	ND
06/23/94	MB*NONE*1	96464*CLP90-G	1,2-DICHLOROETHENE(TOTAL)	UG/KG-	ND
06/23/94	MB*NONE*1	34318*CLP90-G	CHLOROFORM	UG/KG-	ND
06/23/94	MB*NONE*1	34534*CLP90-G	1,2-DICHLOROETHANE	UG/KG-	ND
06/23/94	MB*NONE*1	75078*CLP90-G	2-BUTANONE (MEK)	UG/KG-	ND
06/23/94	MB*NONE*1	34509*CLP90-G	1,1,1-TRICHLOROETHANE	UG/KG-	ND
06/23/94	MB*NONE*1	34299*CLP90-G	CARBON TETRACHLORIDE	UG/KG-	ND
06/23/94	MB*NONE*1	34330*CLP90-G	BROMODICHLOROMETHANE	UG/KG-	ND
06/23/94	MB*NONE*1	34544*CLP90-G	1,2-DICHLOROPROPANE	UG/KG-	ND
06/23/94	MB*NONE*1	34702*CLP90-G	CIS-1,3-DICHLOROPROPENE	UG/KG-	ND
06/23/94	MB*NONE*1	34487*CLP90-G	TRICHLOROETHENE	UG/KG-	ND
06/23/94	MB*NONE*1	34309*CLP90-G	DIBROMOCHLOROMETHANE	UG/KG-	ND
06/23/94	MB*NONE*1	34237*CLP90-G	BENZENE	UG/KG-	ND
06/23/94	MB*NONE*1	34514*CLP90-G	1,1,2-TRICHLOROETHANE	UG/KG-	ND
06/23/94	MB*NONE*1	34697*CLP90-G	TRANS-1,3-DICHLOROPROPENE	UG/KG-	ND
06/23/94	MB*NONE*1	34290*CLP90-G	BROMOFORM	UG/KG-	ND
06/23/94	MB*NONE*1	75166*CLP90-G	2-HEXANONE	UG/KG-	ND
06/23/94	MB*NONE*1	75169*CLP90-G	4-METHYL-2-PENTANONE (MIBK)	UG/KG-	ND
06/23/94	MB*NONE*1	34478*CLP90-G	TETRACHLOROETHENE	UG/KG-	ND
06/23/94	MB*NONE*1	34519*CLP90-G	1,1,2,2-TETRACHLORO ETHANE	UG/KG-	ND
06/23/94	MB*NONE*1	34483*CLP90-G	TOLUENE	UG/KG-	ND
06/23/94	MB*NONE*1	34304*CLP90-G	CHLOROBENZENE	UG/KG-	ND
06/23/94	MB*NONE*1	34374*CLP90-G	ETHYLBENZENE	UG/KG-	ND
06/23/94	MB*NONE*1	97353*CLP90-G	XYLENES, TOTAL	UG/KG-	ND
06/23/94	MB*NONE*1	75192*CLP90-G	STYRENE	UG/KG-	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/23/94	SP1*NONE*1	34504*CLP90-G	1,1-DICHLOROETHYLENE	134	80-120	UG/KG-	50	67
06/23/94	SP1*NONE*1	34487*CLP90-G	TRICHLOROETHENE	100	80-120	UG/KG-	50	50
06/23/94	SP1*NONE*1	34237*CLP90-G	BENZENE	96	80-120	UG/KG-	50	48
06/23/94	SP1*NONE*1	34483*CLP90-G	TOLUENE	96	80-120	UG/KG-	50	48
06/23/94	SP1*NONE*1	34304*CLP90-G	CHLOROBENZENE	102	80-120	UG/KG-	50	51

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/23/94	SPM1*CDMHNSS2*6	34504*CLP90-G	1,1-DICHLOROETHYLENE	100	59-172	0.0	UG/KG-	51	51
06/23/94	SPM1*CDMHNSS2*6	34487*CLP90-G	TRICHLOROETHENE	96	62-137	0.0	UG/KG-	51	49
06/23/94	SPM1*CDMHNSS2*6	34237*CLP90-G	BENZENE	98	66-142	0.0	UG/KG-	51	50
06/23/94	SPM1*CDMHNSS2*6	34483*CLP90-G	TOLUENE	108	59-139	0.0	UG/KG-	51	55
06/23/94	SPM1*CDMHNSS2*6	34304*CLP90-G	CHLOROBENZENE	106	60-133	0.0	UG/KG-	51	54
06/23/94	SPM2*CDMHNSS2*6	34504*CLP90-G	1,1-DICHLOROETHYLENE	92	59-172	0.0	UG/KG-	51	47
06/23/94	SPM2*CDMHNSS2*6	34487*CLP90-G	TRICHLOROETHENE	96	62-137	0.0	UG/KG-	51	49
06/23/94	SPM2*CDMHNSS2*6	34237*CLP90-G	BENZENE	100	66-142	0.0	UG/KG-	51	51
06/23/94	SPM2*CDMHNSS2*6	34483*CLP90-G	TOLUENE	108	59-139	0.0	UG/KG-	51	55
06/23/94	SPM2*CDMHNSS2*6	34304*CLP90-G	CHLOROBENZENE	110	60-133	0.0	UG/KG-	51	56

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/23/94	MB*NONE*1	95042*SUR	1,2-DICHLOROETHANE-D4 (CLP90)	UG/KG-	50	52	100	70-121
06/23/94	MB*NONE*1	95040*SUR	TOLUENE-D8 (CLP90)	UG/KG-	50	49	98	84-138
06/23/94	MB*NONE*1	95041*SUR	BROMOFLUOROBENZENE (CLP90)	UG/KG-	50	48	96	59-113
06/23/94	DA*CDMHNSS2*6	95042*SUR	1,2-DICHLOROETHANE-D4 (CLP90)	UG/KG-	50	54	110	70-121
06/23/94	DA*CDMHNSS2*6	95040*SUR	TOLUENE-D8 (CLP90)	UG/KG-	50	53	110	84-138
06/23/94	DA*CDMHNSS2*6	95041*SUR	BROMOFLUOROBENZENE (CLP90)	UG/KG-	50	48	96	59-113
06/23/94	SPM1*CDMHNSS2*6	95042*SUR	1,2-DICHLOROETHANE-D4 (CLP90)	UG/KG-	50	53	110	70-121
06/23/94	SPM1*CDMHNSS2*6	95040*SUR	TOLUENE-D8 (CLP90)	UG/KG-	50	53	110	84-138
06/23/94	SPM1*CDMHNSS2*6	95041*SUR	BROMOFLUOROBENZENE (CLP90)	UG/KG-	50	46	92	59-113
06/23/94	SPM2*CDMHNSS2*6	95042*SUR	1,2-DICHLOROETHANE-D4 (CLP90)	UG/KG-	50	54	110	70-121
06/23/94	SPM2*CDMHNSS2*6	95040*SUR	TOLUENE-D8 (CLP90)	UG/KG-	50	54	110	84-138
06/23/94	SPM2*CDMHNSS2*6	95041*SUR	BROMOFLUOROBENZENE (CLP90)	UG/KG-	50	47	94	59-113
06/23/94	SP1*NONE*1	95042*SUR	1,2-DICHLOROETHANE-D4 (CLP90)	UG/KG-	50	53	110	70-121

ESE BATCH : G50516

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/23/94	SP1*NONE*1	95040*SUR	TOLUENE-D8 (CLP90)	UG/KG-	50	50	100	84-138
06/23/94	SP1*NONE*1	95041*SUR	BROMOFLUOROBENZENE (CLP90)	UG/KG-	50	48	96	59-113

ESE BATCH : G50516

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50516 Analysis Date: 06/23/94 Analyst: ABL HOOGLAND

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Surrogate present?	X		
Surrogate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field.
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

ESE BATCH : G50426
CLASSIFICATION : VOCS - EPA 8240

QC TYPE : FDER/SW
ANALYST : DANIEL LUCAS
EXTRACTOR :
DATA ENTRY TODD ROMERO

REPORT DATE/TIME : 08/15/94 07:42:28
ANALYSIS DATE : 06/22/94
EXTRACT DATE :

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

BATCH NOTES
DOWNLOAD FILE CDMHNSDL

FIELD GRP QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSW	1944022G 0201	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSW*10	A03-1-TB1	06/22/94	11:11AM

ESE BATCH : G50426

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 34415 METHOD: 8240-G CHLOROMETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=4.4 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34413 METHOD: 8240-G BROMOMETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=3.5 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 39175 METHOD: 8240-G VINYL CHLORIDE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=4.6 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34311 METHOD: 8240-G CHLOROETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=8.2 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34423 METHOD: 8240-G METHYLENE CHLORIDE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=6.4 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 81552 METHOD: 8240-G ACETONE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=9.0 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 77041 METHOD: 8240-G CARBON DISULFIDE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=4.4 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34501 METHOD: 8240-G 1,1-DICHLOROETHYLENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=3.2 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34496 METHOD: 8240-G 1,1-DICHLOROETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 96463 METHOD: 8240-G 1,2-DICHLOROETHENE (TOTAL), UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.4 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 32106 METHOD: 8240-G CHLOROFORM, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 98812 METHOD: SUR 1,2-DICHLOROETHANE-D(4), UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34531 METHOD: 8240-G 1,2-DICHLOROETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 81595 METHOD: 8240-G METHYL ETHYL KETONE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34506 METHOD: 8240-G 1,1,1-TRICHLOROETHANE, UG/L GCMS

ESE BATCH : G50426

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 32102 METHOD: 8240-G CARBON TETRACHLORIDE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.6 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34576 METHOD: 8240-G 2-CHLOROETHYLVINYL- ETHER, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=3.1 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 77057 METHOD: 8240-G VINYL ACETATE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10.0 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 32101 METHOD: 8240-G BROMODICHLOROMETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.2 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34541 METHOD: 8240-G 1,2-DICHLOROPROPANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34704 METHOD: 8240-G CIS-1,3-DICHLORO- PROPENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 39180 METHOD: 8240-G TRICHLOROETHENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=3.0 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 32105 METHOD: 8240-G DIBROMOCHLOROMETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.3 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34511 METHOD: 8240-G 1,1,2-TRICHL'ETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.8 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34030 METHOD: 8240-G BENZENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34699 METHOD: 8240-G TRANS-1,3-DICHLORO- PROPENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.6 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 32104 METHOD: 8240-G BROMOFORM, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.6 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 81596 METHOD: 8240-G METHYL ISOBUT'KETONE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=12.0 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 77103 METHOD: 8240-G 2-HEXANONE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=21.0 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34475 METHOD: 8240-G TETRACHLOROETHENE, UG/L GCMS

CALIBRATION CURVE # 1

ESE BATCH : G50426
DETECTION LIMIT=1.9 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34516 METHOD: 8240-G 1,1,2,2-TETRACHLORO- ETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34010 METHOD: 8240-G TOLUENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=1.7 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 98810 METHOD: SUR TOLUENE-D(8), UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34301 METHOD: 8240-G CHLOROBENZENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=1.4 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34371 METHOD: 8240-G ETHYLBENZENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.3 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 77128 METHOD: 8240-G STYRENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=0.5 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 81551 METHOD: 8240-G XYLENES,TOTAL, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=3.72 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 97947 METHOD: SUR BROMOFLUOROBENZENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : G50426

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	MB*NONE*0622	34418*8240-G	CHLOROMETHANE	UG/L	ND
06/22/94	MB*NONE*0622	34413*8240-G	BROMOMETHANE	UG/L	ND
06/22/94	MB*NONE*0622	39175*8240-G	VINYL CHLORIDE	UG/L	ND
06/22/94	MB*NONE*0622	34311*8240-G	CHLOROETHANE	UG/L	ND
06/22/94	MB*NONE*0622	34423*8240-G	METHYLENE CHLORIDE	UG/L	1.3
06/22/94	MB*NONE*0622	81552*8240-G	ACETONE	UG/L	ND
06/22/94	MB*NONE*0622	77041*8240-G	CARBON DISULFIDE	UG/L	ND
06/22/94	MB*NONE*0622	34501*8240-G	1,1-DICHLOROETHYLENE	UG/L	ND
06/22/94	MB*NONE*0622	34496*8240-G	1,1-DICHLOROETHANE	UG/L	ND
06/22/94	MB*NONE*0622	96463*8240-G	1,2-DICHLOROETHENE (TOTAL)	UG/L	ND
06/22/94	MB*NONE*0622	32106*8240-G	CHLOROFORM	UG/L	ND
06/22/94	MB*NONE*0622	34531*8240-G	1,2-DICHLOROETHANE	UG/L	ND
06/22/94	MB*NONE*0622	81595*8240-G	METHYL ETHYL KETONE	UG/L	ND
06/22/94	MB*NONE*0622	34506*8240-G	1,1,1-TRICHL'ETHANE	UG/L	ND
06/22/94	MB*NONE*0622	32102*8240-G	CARBON TETRACHLORIDE	UG/L	ND
06/22/94	MB*NONE*0622	34576*8240-G	2-CHLOROETHYLVINYL- ETHER	UG/L	ND
06/22/94	MB*NONE*0622	77057*8240-G	VINYL ACETATE	UG/L	ND
06/22/94	MB*NONE*0622	32101*8240-G	BROMODICHLOROMETHANE	UG/L	ND
06/22/94	MB*NONE*0622	34541*8240-G	1,2-DICHLOROPROPANE	UG/L	ND
06/22/94	MB*NONE*0622	34704*8240-G	CIS-1,3-DICHLORO- PROPENE	UG/L	ND
06/22/94	MB*NONE*0622	39180*8240-G	TRICHLOROETHENE	UG/L	ND
06/22/94	MB*NONE*0622	32105*8240-G	DIBROMOCHLOROMETHANE	UG/L	ND
06/22/94	MB*NONE*0622	34511*8240-G	1,1,2-TRICHL'ETHANE	UG/L	ND
06/22/94	MB*NONE*0622	34030*8240-G	BENZENE	UG/L	ND
06/22/94	MB*NONE*0622	34699*8240-G	TRANS-1,3-DICHLORO- PROPENE	UG/L	ND
06/22/94	MB*NONE*0622	32104*8240-G	BROMOFORM	UG/L	ND
06/22/94	MB*NONE*0622	81596*8240-G	METHYL ISOBUT'KETONE	UG/L	ND
06/22/94	MB*NONE*0622	77103*8240-G	2-HEXANONE	UG/L	ND
06/22/94	MB*NONE*0622	34475*8240-G	TETRACHLOROETHENE	UG/L	ND
06/22/94	MB*NONE*0622	34516*8240-G	1,1,2,2-TETRACHLORO- ETHANE	UG/L	ND
06/22/94	MB*NONE*0622	34010*8240-G	TOLUENE	UG/L	ND
06/22/94	MB*NONE*0622	34301*8240-G	CHLOROBENZENE	UG/L	ND
06/22/94	MB*NONE*0622	34371*8240-G	ETHYLBENZENE	UG/L	ND
06/22/94	MB*NONE*0622	77128*8240-G	STYRENE	UG/L	ND
06/22/94	MB*NONE*0622	81551*8240-G	XYLENES,TOTAL	UG/L	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/22/94	SP1*NONE*0622	34501*8240-G	1,1-DICHLOROETHYLENE	104	61-145	UG/L	50	52
06/22/94	SP1*NONE*0622	39180*8240-G	TRICHLOROETHENE	104	71-120	UG/L	50	52
06/22/94	SP1*NONE*0622	34030*8240-G	BENZENE	102	76-127	UG/L	50	51
06/22/94	SP1*NONE*0622	34010*8240-G	TOLUENE	100	76-125	UG/L	50	50
06/22/94	SP1*NONE*0622	34301*8240-G	CHLOROBENZENE	108	75-130	UG/L	50	54

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/22/94	SPM1*CDMHNSW*10	34501*8240-G	1,1-DICHLOROETHYLENE	106	61-145	0.0	UG/L	50	53
06/22/94	SPM1*CDMHNSW*10	39180*8240-G	TRICHLOROETHENE	106	71-120	0.0	UG/L	50	53
06/22/94	SPM1*CDMHNSW*10	34030*8240-G	BENZENE	102	76-127	0.0	UG/L	50	51
06/22/94	SPM1*CDMHNSW*10	34010*8240-G	TOLUENE	100	76-125	0.0	UG/L	50	50
06/22/94	SPM1*CDMHNSW*10	34301*8240-G	CHLOROBENZENE	108	75-130	0.0	UG/L	50	54
06/22/94	SPM2*CDMHNSW*10	34501*8240-G	1,1-DICHLOROETHYLENE	100	61-145	0.0	UG/L	50	50
06/22/94	SPM2*CDMHNSW*10	39180*8240-G	TRICHLOROETHENE	106	71-120	0.0	UG/L	50	53
06/22/94	SPM2*CDMHNSW*10	34030*8240-G	BENZENE	102	76-127	0.0	UG/L	50	51
06/22/94	SPM2*CDMHNSW*10	34010*8240-G	TOLUENE	100	76-125	0.0	UG/L	50	50
06/22/94	SPM2*CDMHNSW*10	34301*8240-G	CHLOROBENZENE	110	75-130	0.0	UG/L	50	55

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	MB*NONE*0622	98812*SUR	1,2-DICHLOROETHANE-D(4)	UG/L	50	47	94	76-114
06/22/94	MB*NONE*0622	98810*SUR	TOLUENE-D(8)	UG/L	50	50	100	85-115
06/22/94	MB*NONE*0622	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	50	100	86-115
06/22/94	DA*CDMHNSW*10	98812*SUR	1,2-DICHLOROETHANE-D(4)	UG/L	50	48	96	76-114
06/22/94	DA*CDMHNSW*10	98810*SUR	TOLUENE-D(8)	UG/L	50	50	100	85-115
06/22/94	DA*CDMHNSW*10	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	49	98	86-115
06/22/94	SPM1*CDMHNSW*10	98812*SUR	1,2-DICHLOROETHANE-D(4)	UG/L	50	47	94	76-114
06/22/94	SPM1*CDMHNSW*10	98810*SUR	TOLUENE-D(8)	UG/L	50	51	100	85-115
06/22/94	SPM1*CDMHNSW*10	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	49	98	86-115
06/22/94	SPM2*CDMHNSW*10	98812*SUR	1,2-DICHLOROETHANE-D(4)	UG/L	50	48	96	76-114
06/22/94	SPM2*CDMHNSW*10	98810*SUR	TOLUENE-D(8)	UG/L	50	51	100	85-115

ESE BATCH : G50426

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	SPM2*CDMHNSW*10	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	50	100	86-115
06/22/94	SP1*NONE*0622	98812*SUR	1,2-DICHLOROETHANE-D(4)	UG/L	50	49	98	76-114
06/22/94	SP1*NONE*0622	98810*SUR	TOLUENE-D(8)	UG/L	50	50	100	85-115
06/22/94	SP1*NONE*0622	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	49	98	86-115

ESE BATCH : G50426

Environmental Science and Engineering Analytical Services
Computer QC Checks

Batch No.: G50426 Analysis Date: 06/22/94 Analyst: DANIEL LUCAS

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Surrogate present?	X		
Surrogate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

ESE BATCH : G50426

TABLE OF ABBREVIATIONS

%RECV : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE : Analysis Date
ANLY TIME : Analysis Time
CURVE : Curve Regression Number
DILUTION : Sample Dilution Factor
EXT DATE : Extract Date
EXT VOL : Extract Volume
FOUND : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL : Injection Volume
REL%DIFF : % Difference between current and previous spike.
RESPONSE : Sample Response
R.T. : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
DA -- Data Sample
MB -- Method Blank
RF -- Reference (from commercially known standard)
RP -- Replicate Sample
SP -- Standard Matrix Spike
SPM -- Sample Matrix Spike
STD -- Internal Standard
SUR -- Surrogate Sample
UN -- Unspiked Sample
SAMP VOL : Sample Volume
SPK CONC : Spike Concentration
ST : Sample response explanation or validity (listed below)
BK -- No sample response.
NA -- Sample not analyzed.
NR -- Not reserved for this batch. Batch containing the response for this sample is listed in the target field.
OK -- Sample response shown is correct.
! -- Sample response shown is invalid.
< -- Sample response < detection limit. Detection limit is shown in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET : Spike Target (SAMPLE LISTING SECTION)
TARGET : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE : Response Type ("FINAL" or empty.)
UNSP CONC : Unspiked Sample Concentration

Semivolatile Organic Compounds

ESE BATCH : G50499
CLASSIFICATION : ACID EXTR.-EPA 8270/3540(SOX)

QC TYPE : FDER/SW
ANALYST : SCOTT KEERAN
EXTRACTOR : DANA DECHOW
DATA ENTRY : TODD ROMERO

REPORT DATE/TIME : 08/15/94 11:19:49
ANALYSIS DATE : 06/22/94
EXTRACT DATE : 06/20/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

BATCH NOTES
DOWNLOAD FILE CDMHS1

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*2	BG1-1-02	06/22/94	11:08AM
CDMHNSS2*3	A06-2-02	06/22/94	12:02PM
CDMHNSS2*4	A06-3-02	06/22/94	12:56PM
CDMHNSS2*5	CS2-2-00	06/22/94	01:51PM

ESE BATCH : G50499

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 98325 METHOD: SUR 2-FLUOROPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 98326 METHOD: SUR PHENOL-D(5), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34695 METHOD: 8270/3540-G PHENOL, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34276 METHOD: 8270/3540-G BIS(2-CHLOROETHYL) ETHER, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34589 METHOD: 8270/3540-G 2-CHLOROPHENOL, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34569 METHOD: 8270/3540-G 1,3-DICHLOROBENZENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34574 METHOD: 8270/3540-G 1,4-DICHLOROBENZENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34539 METHOD: 8270/3540-G 1,2-DICHLOROBENZENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 75212 METHOD: 8270/3540-G BENZYL ALCOHOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 78872 METHOD: 8270/3540-G 2-METHYLPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 78803 METHOD: 8270/3540-G 4-METHYLPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34286 METHOD: 8270/3540-G BIS(2-CHL'ISOPROPYL) ETHER, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34431 METHOD: 8270/3540-G N-NITROSODI-N-PROPYLAMINE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34399 METHOD: 8270/3540-G HEXACHLOROETHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 98327 METHOD: SUR NITROBENZENE-D(5), UG/KG-DRY GCMS

ESE BATCH : G50499

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34450 METHOD: 8270/3540-G NITROBENZENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34411 METHOD: 8270/3540-G ISOPHORONE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34594 METHOD: 8270/3540-G 2-NITROPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34609 METHOD: 8270/3540-G 2,4-DIMETHYLPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 75315 METHOD: 8270/3540-G BENZOIC ACID, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2700 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34281 METHOD: 8270/3540-G BIS(2-CHLOROETHOXY) METHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34604 METHOD: 8270/3540-G 2,4-DICHLOROPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34554 METHOD: 8270/3540-G 1,2,4-TRICH'BENZENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34445 METHOD: 8270/3540-G NAPHTHALENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 78867 METHOD: 8270/3540-G 4-CHLOROANILINE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=300 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39705 METHOD: 8270/3540-G HEXACHLOROBUTADIENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34455 METHOD: 8270/3540-G 4-CHLORO-3-METHYL PHENOL, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 78868 METHOD: 8270/3540-G 2-METHYLNAPHTHALENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34389 METHOD: 8270/3540-G HEXACHLOROCYCLOPENTADIENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1000 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34624 METHOD: 8270/3540-G 2,4,6-TRICH'PHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1

ESE BATCH : G50499
DETECTION LIMIT=170 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 98587 METHOD: 8270/3540-G 2,4,5-TRICH'PHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=170 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 98330 METHOD: SUR 2-FLUOROBIPHENYL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34584 METHOD: 8270/3540-G 2-CHLORONAPHTHALENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 98588 METHOD: 8270/3540-G 2-NITROANILINE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=300 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34344 METHOD: 8270/3540-G DIMETHYL PHTHALATE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34203 METHOD: 8270/3540-G ACENAPHTHYLENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=150 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34629 METHOD: 8270/3540-G 2,6-DINITROTOLUENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 78869 METHOD: 8270/3540-G 3-NITROANILINE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=300 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34208 METHOD: 8270/3540-G ACENAPHTHENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34619 METHOD: 8270/3540-G 2,4-DINITROPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1300 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34649 METHOD: 8270/3540-G 4-NITROPHENOL, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=500 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 75647 METHOD: 8270/3540-G DIBENZOFURAN, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=120 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34614 METHOD: 8270/3540-G 2,4-DINITROTOLUENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34339 METHOD: 8270/3540-G DIETHYL PHTHALATE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34644 METHOD: 8270/3540-G 4-CHLOROPHENYLPHENYL ETHER, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : G50499
STORET: 34384 METHOD: 8270/3540-G FLUORENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 78870 METHOD: 8270/3540-G 4-NITROANILINE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=400 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34436 METHOD: 8270/3540-G N-NITROSODIPHENYLAMINE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 97448 METHOD: SUR 2,4,6-TRIBROMOPHENOL, UG/KG GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34660 METHOD: 8270/3540-G 2-METHYL-4,6-DINITROPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=670 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34639 METHOD: 8270/3540-G 4-BROMOPHENYL PHENYL ETHER, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39701 METHOD: 8270/3540-G HEXACHLOROBENZENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39061 METHOD: 8270/3540-G PENTACHLOROPHENOL, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=250 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34464 METHOD: 8270/3540-G PHENANTHRENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34223 METHOD: 8270/3540-G ANTHRACENE, UG/KG DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39112 METHOD: 8270/3540-G DI-N-BUTYL PHTHALATE , UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34379 METHOD: 8270/3540-G FLUORANTHENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34472 METHOD: 8270/3540-G PYRENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=70 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 97449 METHOD: SUR TERPHENYL-D(14), UG/KG GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34295 METHOD: 8270/3540-G BUTYLBENZYLPHTHALATE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34634 METHOD: 8270/3540-G 3,3-DICHLOROBENZIDINE, UG/KG-DRY GCMS

ESE BATCH : G50499
CALIBRATION CURVE # 1
DETECTION LIMIT=500 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34529 METHOD: 8270/3540-G BENZO(A)ANTHRACENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34323 METHOD: 8270/3540-G CHRYSENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39102 METHOD: 8270/3540-G BIS(2-ETHYLHEXYL) PHTHALATE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34599 METHOD: 8270/3540-G DI-N-OCTYL PHTHALATE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34233 METHOD: 8270/3540-G BENZO(B)FLUORANTHENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34245 METHOD: 8270/3540-G BENZO(K)FLUORANTHENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34250 METHOD: 8270/3540-G BENZO(A)PYRENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=140 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34406 METHOD: 8270/3540-G INDENO(1,2,3-CD) PYRENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=160 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34559 METHOD: 8270/3540-G DIBEN(A,H)ANTHRACENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=160 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34524 METHOD: 8270/3540-G BENZO(GHI)PERYLENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=160 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : G50499

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	MB*NONE*1	34695*8270/3540-G	PHENOL	UG/KG-	ND
06/22/94	MB*NONE*1	34276*8270/3540-G	BIS(2-CHLOROETHYL) ETHER	UG/KG-	ND
06/22/94	MB*NONE*1	34589*8270/3540-G	2-CHLOROPHENOL	UG/KG-	ND
06/22/94	MB*NONE*1	34569*8270/3540-G	1,3-DICHLOROBENZENE	UG/KG-	ND
06/22/94	MB*NONE*1	34574*8270/3540-G	1,4-DICHLOROBENZENE	UG/KG-	ND
06/22/94	MB*NONE*1	34539*8270/3540-G	1,2-DICHLOROBENZENE	UG/KG-	ND
06/22/94	MB*NONE*1	75212*8270/3540-G	BENZYL ALCOHOL	UG/KG-	ND
06/22/94	MB*NONE*1	78872*8270/3540-G	2-METHYLPHENOL	UG/KG-	ND
06/22/94	MB*NONE*1	78803*8270/3540-G	4-METHYLPHENOL	UG/KG-	ND
06/22/94	MB*NONE*1	34286*8270/3540-G	BIS(2-CHL'ISOPROPYL) ETHER	UG/KG-	ND
06/22/94	MB*NONE*1	34431*8270/3540-G	N-NITROSODI-N-PROPYLAMINE	UG/KG-	ND
06/22/94	MB*NONE*1	34399*8270/3540-G	HEXACHLOROETHANE	UG/KG-	ND
06/22/94	MB*NONE*1	34450*8270/3540-G	NITROBENZENE	UG/KG-	ND
06/22/94	MB*NONE*1	34411*8270/3540-G	ISOPHORONE	UG/KG-	ND
06/22/94	MB*NONE*1	34594*8270/3540-G	2-NITROPHENOL	UG/KG-	ND
06/22/94	MB*NONE*1	34609*8270/3540-G	2,4-DIMETHYLPHENOL	UG/KG-	ND
06/22/94	MB*NONE*1	75315*8270/3540-G	BENZOIC ACID	UG/KG-	ND
06/22/94	MB*NONE*1	34281*8270/3540-G	BIS(2-CHLOROETHOXY) METHANE	UG/KG-	ND
06/22/94	MB*NONE*1	34604*8270/3540-G	2,4-DICHLOROPHENOL	UG/KG-	ND
06/22/94	MB*NONE*1	34554*8270/3540-G	1,2,4-TRICH'BENZENE	UG/KG-	ND
06/22/94	MB*NONE*1	34445*8270/3540-G	NAPHTHALENE	UG/KG-	ND
06/22/94	MB*NONE*1	78867*8270/3540-G	4-CHLOROANILINE	UG/KG-	ND
06/22/94	MB*NONE*1	39705*8270/3540-G	HEXACHLOROBUTADIENE	UG/KG-	ND
06/22/94	MB*NONE*1	34455*8270/3540-G	4-CHLORO-3-METHYL PHENOL	UG/KG-	ND
06/22/94	MB*NONE*1	78868*8270/3540-G	2-METHYLNAPHTHALENE	UG/KG-	ND
06/22/94	MB*NONE*1	34389*8270/3540-G	HEXACHLOROCYCLOPENTADIENE	UG/KG-	ND
06/22/94	MB*NONE*1	34624*8270/3540-G	2,4,6-TRICH'PHENOL	UG/KG-	ND
06/22/94	MB*NONE*1	98587*8270/3540-G	2,4,5-TRICH'PHENOL	UG/KG-	ND
06/22/94	MB*NONE*1	34584*8270/3540-G	2-CHLORONAPHTHALENE	UG/KG-	ND
06/22/94	MB*NONE*1	98588*8270/3540-G	2-NITROANILINE	UG/KG-	ND
06/22/94	MB*NONE*1	34344*8270/3540-G	DIMETHYL PHTHALATE	UG/KG-	ND
06/22/94	MB*NONE*1	34203*8270/3540-G	ACENAPHTHYLENE	UG/KG-	ND
06/22/94	MB*NONE*1	34629*8270/3540-G	2,6-DINITROTOLUENE	UG/KG-	ND
06/22/94	MB*NONE*1	78869*8270/3540-G	3-NITROANILINE	UG/KG-	ND
06/22/94	MB*NONE*1	34208*8270/3540-G	ACENAPHTHENE	UG/KG-	ND
06/22/94	MB*NONE*1	34619*8270/3540-G	2,4-DINITROPHENOL	UG/KG-	ND
06/22/94	MB*NONE*1	34649*8270/3540-G	4-NITROPHENOL	UG/KG-	ND
06/22/94	MB*NONE*1	75647*8270/3540-G	DIBENZOFURAN	UG/KG-	ND
06/22/94	MB*NONE*1	34614*8270/3540-G	2,4-DINITROTOLUENE	UG/KG-	ND
06/22/94	MB*NONE*1	34339*8270/3540-G	DIETHYL PHTHALATE	UG/KG-	ND
06/22/94	MB*NONE*1	34644*8270/3540-G	4-CHLOROPHENYLPHENYL ETHER	UG/KG-	ND
06/22/94	MB*NONE*1	34384*8270/3540-G	FLUORENE	UG/KG-	ND
06/22/94	MB*NONE*1	78870*8270/3540-G	4-NITROANILINE	UG/KG-	ND
06/22/94	MB*NONE*1	34436*8270/3540-G	N-NITROSODIPHE'AMINE	UG/KG-	ND
06/22/94	MB*NONE*1	34660*8270/3540-G	2-METHYL-4,6-DINITROPHENOL	UG/KG-	ND
06/22/94	MB*NONE*1	34639*8270/3540-G	4-BROMOPHENYL PHENYL ETHER	UG/KG-	ND
06/22/94	MB*NONE*1	39701*8270/3540-G	HEXACHLOROBENZENE	UG/KG-	ND
06/22/94	MB*NONE*1	39061*8270/3540-G	PENTACHLOROPHENOL	UG/KG-	ND
06/22/94	MB*NONE*1	34464*8270/3540-G	PHENANTHRENE	UG/KG-	ND
06/22/94	MB*NONE*1	34223*8270/3540-G	ANTHRACENE	UG/KG-	ND
06/22/94	MB*NONE*1	39112*8270/3540-G	DI-N-BUTYL PHTHALATE	UG/KG-	ND
06/22/94	MB*NONE*1	34379*8270/3540-G	FLUORANTHENE	UG/KG-	ND
06/22/94	MB*NONE*1	34472*8270/3540-G	PYRENE	UG/KG-	ND
06/22/94	MB*NONE*1	34295*8270/3540-G	BUTYLBENZYLPHTHALATE	UG/KG-	ND
06/22/94	MB*NONE*1	34634*8270/3540-G	3,3-DICHL'BENZIDINE	UG/KG-	ND
06/22/94	MB*NONE*1	34529*8270/3540-G	BENZO(A)ANTHRACENE	UG/KG-	ND
06/22/94	MB*NONE*1	34323*8270/3540-G	CHRYSENE	UG/KG-	ND
06/22/94	MB*NONE*1	39102*8270/3540-G	BIS(2-ETHYLHEXYL) PHTHALATE	UG/KG-	ND
06/22/94	MB*NONE*1	34599*8270/3540-G	DI-N-OCTYL PHTHALATE	UG/KG-	ND
06/22/94	MB*NONE*1	34233*8270/3540-G	BENZO(B)FLUORANTHENE	UG/KG-	ND
06/22/94	MB*NONE*1	34245*8270/3540-G	BENZO(K)FLUORANTHENE	UG/KG-	ND
06/22/94	MB*NONE*1	34250*8270/3540-G	BENZO(A)PYRENE	UG/KG-	ND
06/22/94	MB*NONE*1	34406*8270/3540-G	INDENO(1,2,3-CD) PYRENE	UG/KG-	ND
06/22/94	MB*NONE*1	34559*8270/3540-G	DIBEN(A,H)ANTH'CENE	UG/KG-	ND
06/22/94	MB*NONE*1	34524*8270/3540-G	BENZO(GHI)PERYLENE	UG/KG-	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/22/94	SP1*NONE*1	34695*8270/3540-G	PHENOL	101	26-90	UG/KG-	6700	6800
06/22/94	SP1*NONE*1	34589*8270/3540-G	2-CHLOROPHENOL	91	25-102	UG/KG-	6700	6100
06/22/94	SP1*NONE*1	34574*8270/3540-G	1,4-DICHLOROBENZENE	79	28-104	UG/KG-	3300	2600
06/22/94	SP1*NONE*1	34431*8270/3540-G	N-NITROSODI-N-PROPYLAMINE	76	41-126	UG/KG-	3300	2500

ESE BATCH : G50499

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/22/94	SP1*NONE*1	34554*8270/3540-G	1,2,4-TRICH'BENZENE	82	38-107	UG/KG-	3300	2700
06/22/94	SP1*NONE*1	34455*8270/3540-G	4-CHLORO-3-METHYL PHENOL	91	26-103	UG/KG-	6700	6100
06/22/94	SP1*NONE*1	34208*8270/3540-G	ACENAPHTHENE	85	31-137	UG/KG-	3300	2800
06/22/94	SP1*NONE*1	34649*8270/3540-G	4-NITROPHENOL	73	11-114	UG/KG-	6700	4900
06/22/94	SP1*NONE*1	34614*8270/3540-G	2,4-DINITROTOLUENE	76	28-89	UG/KG-	3300	2500
06/22/94	SP1*NONE*1	39061*8270/3540-G	PENTACHLOROPHENOL	70	17-109	UG/KG-	6700	4700
06/22/94	SP1*NONE*1	34472*8270/3540-G	PYRENE	100	35-142	UG/KG-	3300	3300

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/22/94	SPM1*CDMHNSS2*3	34695*8270/3540-G	PHENOL	90	26-90	0.0	UG/KG-	7000	6300
06/22/94	SPM1*CDMHNSS2*3	34589*8270/3540-G	2-CHLOROPHENOL	80	25-102	0.0	UG/KG-	7000	5600
06/22/94	SPM1*CDMHNSS2*3	34574*8270/3540-G	1,4-DICHLOROBENZENE	71	28-104	0.0	UG/KG-	3500	2500
06/22/94	SPM1*CDMHNSS2*3	34431*8270/3540-G	N-NITROSODI-N-PROPYLAMINE	66	41-126	0.0	UG/KG-	3500	2300
06/22/94	SPM1*CDMHNSS2*3	34554*8270/3540-G	1,2,4-TRICH'BENZENE	77	38-107	0.0	UG/KG-	3500	2700
06/22/94	SPM1*CDMHNSS2*3	34455*8270/3540-G	4-CHLORO-3-METHYL PHENOL	80	26-103	0.0	UG/KG-	7000	5600
06/22/94	SPM1*CDMHNSS2*3	34208*8270/3540-G	ACENAPHTHENE	80	31-137	0.0	UG/KG-	3500	2800
06/22/94	SPM1*CDMHNSS2*3	34649*8270/3540-G	4-NITROPHENOL	79	11-114	0.0	UG/KG-	7000	5500
06/22/94	SPM1*CDMHNSS2*3	34614*8270/3540-G	2,4-DINITROTOLUENE	63	28-89	0.0	UG/KG-	3500	2200
06/22/94	SPM1*CDMHNSS2*3	39061*8270/3540-G	PENTACHLOROPHENOL	73	17-109	0.0	UG/KG-	7000	5100
06/22/94	SPM1*CDMHNSS2*3	34472*8270/3540-G	PYRENE	89	35-142	0.0	UG/KG-	3500	3100
06/22/94	SPM2*CDMHNSS2*3	34695*8270/3540-G	PHENOL	99	26-90	0.0	UG/KG-	7000	6900
06/22/94	SPM2*CDMHNSS2*3	34589*8270/3540-G	2-CHLOROPHENOL	86	25-102	0.0	UG/KG-	7000	6000
06/22/94	SPM2*CDMHNSS2*3	34574*8270/3540-G	1,4-DICHLOROBENZENE	77	28-104	0.0	UG/KG-	3500	2700
06/22/94	SPM2*CDMHNSS2*3	34431*8270/3540-G	N-NITROSODI-N-PROPYLAMINE	69	41-126	0.0	UG/KG-	3500	2400
06/22/94	SPM2*CDMHNSS2*3	34554*8270/3540-G	1,2,4-TRICH'BENZENE	77	38-107	0.0	UG/KG-	3500	2700
06/22/94	SPM2*CDMHNSS2*3	34455*8270/3540-G	4-CHLORO-3-METHYL PHENOL	81	26-103	0.0	UG/KG-	7000	5700
06/22/94	SPM2*CDMHNSS2*3	34208*8270/3540-G	ACENAPHTHENE	83	31-137	0.0	UG/KG-	3500	2900
06/22/94	SPM2*CDMHNSS2*3	34649*8270/3540-G	4-NITROPHENOL	73	11-114	0.0	UG/KG-	7000	5100
06/22/94	SPM2*CDMHNSS2*3	34614*8270/3540-G	2,4-DINITROTOLUENE	66	28-89	0.0	UG/KG-	3500	2300
06/22/94	SPM2*CDMHNSS2*3	39061*8270/3540-G	PENTACHLOROPHENOL	73	17-109	0.0	UG/KG-	7000	5100
06/22/94	SPM2*CDMHNSS2*3	34472*8270/3540-G	PYRENE	91	35-142	0.0	UG/KG-	3500	3200

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	MB*NONE*1	98325*SUR	2-FLUOROPHENOL	UG/KG-	6700	6100	91	25-121
06/22/94	MB*NONE*1	98326*SUR	PHENOL-D(5)	UG/KG-	6670	5850	87.7	24-113
06/22/94	MB*NONE*1	98327*SUR	NITROBENZENE-D(5)	UG/KG-	3300	2400	73	23-120
06/22/94	MB*NONE*1	98330*SUR	2-FLUOROBIPHENYL	UG/KG-	3300	2600	79	30-115
06/22/94	MB*NONE*1	97448*SUR	2,4,6-TRIBROMOPHENOL	UG/KG	6670	4620	69.3	19-122
06/22/94	MB*NONE*1	97449*SUR	TERPHENYL-D(14)	UG/KG	3330	2670	80.2	18-137
06/22/94	DA*CDMHNSS2*2	98325*SUR	2-FLUOROPHENOL	UG/KG-	6700	6000	90	25-121
06/22/94	DA*CDMHNSS2*2	98326*SUR	PHENOL-D(5)	UG/KG-	6670	6070	91.0	24-113
06/22/94	DA*CDMHNSS2*2	98327*SUR	NITROBENZENE-D(5)	UG/KG-	3300	2600	79	23-120
06/22/94	DA*CDMHNSS2*2	98330*SUR	2-FLUOROBIPHENYL	UG/KG-	3300	2600	79	30-115
06/22/94	DA*CDMHNSS2*2	97448*SUR	2,4,6-TRIBROMOPHENOL	UG/KG	6670	4200	63.0	19-122
06/22/94	DA*CDMHNSS2*2	97449*SUR	TERPHENYL-D(14)	UG/KG	3330	3140	94.3	18-137
06/22/94	DA*CDMHNSS2*3	98325*SUR	2-FLUOROPHENOL	UG/KG-	6700	5800	87	25-121
06/22/94	DA*CDMHNSS2*3	98326*SUR	PHENOL-D(5)	UG/KG-	6670	5840	87.6	24-113
06/22/94	DA*CDMHNSS2*3	98327*SUR	NITROBENZENE-D(5)	UG/KG-	3300	2700	82	23-120
06/22/94	DA*CDMHNSS2*3	98330*SUR	2-FLUOROBIPHENYL	UG/KG-	3300	2600	79	30-115
06/22/94	DA*CDMHNSS2*3	97448*SUR	2,4,6-TRIBROMOPHENOL	UG/KG	6670	3830	57.4	19-122
06/22/94	DA*CDMHNSS2*3	97449*SUR	TERPHENYL-D(14)	UG/KG	3330	2550	76.6	18-137
06/22/94	DA*CDMHNSS2*4	98325*SUR	2-FLUOROPHENOL	UG/KG-	6700	5800	87	25-121
06/22/94	DA*CDMHNSS2*4	98326*SUR	PHENOL-D(5)	UG/KG-	6670	5860	87.9	24-113
06/22/94	DA*CDMHNSS2*4	98327*SUR	NITROBENZENE-D(5)	UG/KG-	3300	2800	85	23-120
06/22/94	DA*CDMHNSS2*4	98330*SUR	2-FLUOROBIPHENYL	UG/KG-	3300	2700	82	30-115
06/22/94	DA*CDMHNSS2*4	97448*SUR	2,4,6-TRIBROMOPHENOL	UG/KG	6670	3620	54.3	19-122
06/22/94	DA*CDMHNSS2*4	97449*SUR	TERPHENYL-D(14)	UG/KG	3330	2570	77.2	18-137
06/22/94	DA*CDMHNSS2*5	98325*SUR	2-FLUOROPHENOL	UG/KG-	6700	6000	90	25-121
06/22/94	DA*CDMHNSS2*5	98326*SUR	PHENOL-D(5)	UG/KG-	6670	5920	88.8	24-113
06/22/94	DA*CDMHNSS2*5	98327*SUR	NITROBENZENE-D(5)	UG/KG-	3300	2900	88	23-120
06/22/94	DA*CDMHNSS2*5	98330*SUR	2-FLUOROBIPHENYL	UG/KG-	3300	2800	85	30-115
06/22/94	DA*CDMHNSS2*5	97448*SUR	2,4,6-TRIBROMOPHENOL	UG/KG	6670	3610	54.1	19-122
06/22/94	DA*CDMHNSS2*5	97449*SUR	TERPHENYL-D(14)	UG/KG	3330	2430	73.0	18-137
06/22/94	SPM1*CDMHNSS2*3	98325*SUR	2-FLUOROPHENOL	UG/KG-	6700	5700	85	25-121
06/22/94	SPM1*CDMHNSS2*3	98326*SUR	PHENOL-D(5)	UG/KG-	6670	5800	87.0	24-113
06/22/94	SPM1*CDMHNSS2*3	98327*SUR	NITROBENZENE-D(5)	UG/KG-	3300	2900	88	23-120
06/22/94	SPM1*CDMHNSS2*3	98330*SUR	2-FLUOROBIPHENYL	UG/KG-	3300	2600	79	30-115
06/22/94	SPM1*CDMHNSS2*3	97448*SUR	2,4,6-TRIBROMOPHENOL	UG/KG	6670	3890	58.3	19-122
06/22/94	SPM1*CDMHNSS2*3	97449*SUR	TERPHENYL-D(14)	UG/KG	3330	2560	76.9	18-137

ESE BATCH : G50499

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	SPM2*CDMHNSS2*3	98325*SUR	2-FLUOROPHENOL	UG/KG-	6700	6300	94	25-121
06/22/94	SPM2*CDMHNSS2*3	98326*SUR	PHENOL-D(5)	UG/KG-	6670	6590	98.8	24-113
06/22/94	SPM2*CDMHNSS2*3	98327*SUR	NITROBENZENE-D(5)	UG/KG-	3300	2900	88	23-120
06/22/94	SPM2*CDMHNSS2*3	98330*SUR	2-FLUOROBIPHENYL	UG/KG-	3300	2700	82	30-115
06/22/94	SPM2*CDMHNSS2*3	97448*SUR	2,4,6-TRIBROMOPHENOL	UG/KG	6670	4020	60.3	19-122
06/22/94	SPM2*CDMHNSS2*3	97449*SUR	TERPHENYL-D(14)	UG/KG	3330	2820	84.7	18-137
06/22/94	SP1*NONE*1	98325*SUR	2-FLUOROPHENOL	UG/KG-	6700	6500	97	25-121
06/22/94	SP1*NONE*1	98326*SUR	PHENOL-D(5)	UG/KG-	6670	6670	100.0	24-113
06/22/94	SP1*NONE*1	98327*SUR	NITROBENZENE-D(5)	UG/KG-	3300	3200	97	23-120
06/22/94	SP1*NONE*1	98330*SUR	2-FLUOROBIPHENYL	UG/KG-	3300	2900	88	30-115
06/22/94	SP1*NONE*1	97448*SUR	2,4,6-TRIBROMOPHENOL	UG/KG	6670	4190	62.8	19-122
06/22/94	SP1*NONE*1	97449*SUR	TERPHENYL-D(14)	UG/KG	3330	3180	95.5	18-137

ESE BATCH : G50499

Environmental Science and Engineering Analytical Services
Computer QC Checks

Batch No.: G50499 Analysis Date: 06/22/94 Analyst: SCOTT KEERAN

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Extract holding time within criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?		X	PHENOL
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?		X	PHENOL
Surrogate present?	X		
Surrogate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY: DWIGHT ROBERTS 515
PROB.:STANDARD MATRIX SPIKE NOT WITHIN
ACCEPTANCE CRITERIA.
EXPL.:FOR SP1 AND SPM2, THE PHENOL
RECOVERIES WERE 101.5% AND
98.6% WITH AN UPPER LIMIT OF
90%. THESE RECOVERIES ARE WITHIN
THE RANGE OF HISTORIC DATA./WSK
PROB.:SAMPLE MATRIX SPIKE DUPLICATE
NOT WITHIN ACCEPTANCE CRITERIA.
EXPL.:SEE ABOVE./WSK

FINALIZED BY: TODD ROMERO 1697

TABLE OF ABBREVIATIONS

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field.
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

ESE BATCH : G50788
CLASSIFICATION : PHENOLICS - CLP SOW OLM01.8

QC TYPE : FDER/SW
ANALYST : ATHANASIOS TOMARAS
EXTRACTOR : DANA DECHOW
DATA ENTRY : TODD ROMERO

REPORT DATE/TIME : 08/13/94 12:32:11
ANALYSIS DATE : 06/30/94
EXTRACT DATE : 06/28/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

BATCH NOTES
DOWNLOAD FILE ATHAN4

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*6	A03-1-05	06/30/94	05:15PM

ESE BATCH : G50788

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 95004 METHOD: SUR 2-FLUOROPHENOL (CLP90/SON), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 95003 METHOD: SUR PHENOL-D(5) (CLP90/SON), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34695 METHOD: CLP90/SON-G PHENOL, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34276 METHOD: CLP90/SON-G BIS(2-CHLOROETHYL)ETHER, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 95007 METHOD: SUR 2-CHLOROPHENOL-D4 (CLP90/SON), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34589 METHOD: CLP90/SON-G 2-CHLOROPHENOL, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34569 METHOD: CLP90/SON-G 1,3-DICHLOROBENZENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34574 METHOD: CLP90/SON-G 1,4-DICHLOROBENZENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 95009 METHOD: SUR 1,2-DICHLOROBENZENE-D4 (CLP90/SON), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34539 METHOD: CLP90/SON-G 1,2-DICHLOROBENZENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 78872 METHOD: CLP90/SON-G 2-METHYLPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 78803 METHOD: CLP90/SON-G 4-METHYLPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34286 METHOD: CLP90/SON-G 2,2'-OXYBIS(1-CHLOROPROPANE), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34431 METHOD: CLP90/SON-G N-NITROSODI-N-PROPYLAMINE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34399 METHOD: CLP90/SON-G HEXACHLOROETHANE, UG/KG-DRY GCMS

ESE BATCH : G50788

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 95051 METHOD: SUR NITROBENZENE-D(5) (CLP90/SON), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34450 METHOD: CLP90/SON-G NITROBENZENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34411 METHOD: CLP90/SON-G ISOPHORONE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34594 METHOD: CLP90/SON-G 2-NITROPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34609 METHOD: CLP90/SON-G 2,4-DIMETHYLPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34281 METHOD: CLP90/SON-G BIS(2-CHLOROETHOXY)METHANE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34604 METHOD: CLP90/SON-G 2,4-DICHLOROPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34554 METHOD: CLP90/SON-G 1,2,4-TRICHLOROBENZENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34445 METHOD: CLP90/SON-G NAPHTHALENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 78867 METHOD: CLP90/SON-G 4-CHLOROANILINE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 39705 METHOD: CLP90/SON-G HEXACHLOROBUTADIENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34455 METHOD: CLP90/SON-G 4-CHLORO-3-METHYLPHENOL, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 78868 METHOD: CLP90/SON-G 2-METHYLNAPHTHALENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34389 METHOD: CLP90/SON-G HEXACHLOROCYCLOPENTADIENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34624 METHOD: CLP90/SON-G 2,4,6-TRICHLOROPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1

ESB BATCH : G50788
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 98587 METHOD: CLP90/SON-G 2,4,5-TRICHLOROPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=25000 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 95052 METHOD: SUR 2-FLUOROBIPHENYL (CLP90/SON), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34584 METHOD: CLP90/SON-G 2-CHLORONAPHTHALENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 98588 METHOD: CLP90/SON-G 2-NITROANILINE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=25000 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34344 METHOD: CLP90/SON-G DIMETHYL PHTHALATE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34203 METHOD: CLP90/SON-G ACENAPHTHYLENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34629 METHOD: CLP90/SON-G 2,6-DINITROTOLUENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 78869 METHOD: CLP90/SON-G 3-NITROANILINE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=25000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34208 METHOD: CLP90/SON-G ACENAPHTHENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34619 METHOD: CLP90/SON-G 2,4-DINITROPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=25000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34649 METHOD: CLP90/SON-G 4-NITROPHENOL, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=25000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 75647 METHOD: CLP90/SON-G DIBENZOFURAN, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34614 METHOD: CLP90/SON-G 2,4-DINITROTOLUENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34339 METHOD: CLP90/SON-G DIETHYL PHTHALATE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34644 METHOD: CLP90/SON-G 4-CHLOROPHENYLPHENYL ETHER, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : G50788
STORET: 34384 METHOD: CLP90/SON-G FLUORENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 78870 METHOD: CLP90/SON-G 4-NITROANILINE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=25000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 95005 METHOD: SUR 2,4,6-TRIBROMOPHENOL (CLP90/SON), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34660 METHOD: CLP90/SON-G 2-METHYL-4,6-DINITROPHENOL, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=25000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34436 METHOD: CLP90/SON-G N-NITROSODIPHENYLAMINE, UG/KG DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34639 METHOD: CLP90/SON-G 4-BROMOPHENYL PHENYL ETHER, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 39701 METHOD: CLP90/SON-G HEXACHLOROBENZENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 39061 METHOD: CLP90/SON-G PENTACHLPHENOL, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=25000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34464 METHOD: CLP90/SON-G PHENANTHRENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34223 METHOD: CLP90/SON-G ANTHRACENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 96242 METHOD: CLP90/SON-G CARBAZOLE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 39112 METHOD: CLP90/SON-G DI-N-BUTYL PHTHALATE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34379 METHOD: CLP90/SON-G FLUORANTHENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34472 METHOD: CLP90/SON-G PYRENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 95002 METHOD: SUR TERPHENYL-D(14) (CLP90/SON), UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34295 METHOD: CLP90/SON-G BUTYLBENZYLPHTHALATE, UG/KG-DRY GCMS

ESE BATCH : G50788

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34634 METHOD: CLP90/SON-G 3,3-DICHLOROBENZIDINE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34529 METHOD: CLP90/SON-G BENZO(A)ANTHRACENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34323 METHOD: CLP90/SON-G CHRYSENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 39102 METHOD: CLP90/SON-G BIS(2-ETHYLHEXYL)PHTHALATE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34599 METHOD: CLP90/SON-G DI-N-OCTYL PHTHALATE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34233 METHOD: CLP90/SON-G BENZO(B)FLUORANTHENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34245 METHOD: CLP90/SON-G BENZO(K)FLUORANTHENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34250 METHOD: CLP90/SON-G BENZO(A)PYRENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34406 METHOD: CLP90/SON-G INDENO(1,2,3-CD)PYRENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34559 METHOD: CLP90/SON-G DIBEN(A,H)ANTHRACENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34524 METHOD: CLP90/SON-G BENZO(GHI)PERYLENE, UG/KG-DRY GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10000 DATE: LARGEST RESP= %RSD= RT WINDOW

ESE BATCH : G50788

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/30/94	MB*NONE*1	34695*CLP90/SON-G	PHENOL	UG/KG-	ND
06/30/94	MB*NONE*1	34276*CLP90/SON-G	BIS(2-CHLOROETHYL)ETHER	UG/KG-	ND
06/30/94	MB*NONE*1	34589*CLP90/SON-G	2-CHLOROPHENOL	UG/KG-	ND
06/30/94	MB*NONE*1	34569*CLP90/SON-G	1,3-DICHLOROBENZENE	UG/KG-	ND
06/30/94	MB*NONE*1	34574*CLP90/SON-G	1,4-DICHLOROBENZENE	UG/KG-	ND
06/30/94	MB*NONE*1	34539*CLP90/SON-G	1,2-DICHLOROBENZENE	UG/KG-	ND
06/30/94	MB*NONE*1	78872*CLP90/SON-G	2-METHYLPHENOL	UG/KG-	ND
06/30/94	MB*NONE*1	78803*CLP90/SON-G	4-METHYLPHENOL	UG/KG-	ND
06/30/94	MB*NONE*1	34286*CLP90/SON-G	2,2'-OXYBIS(1-CHLOROPROPANE)	UG/KG-	ND
06/30/94	MB*NONE*1	34431*CLP90/SON-G	N-NITROSODI-N-PROPYLAMINE	UG/KG-	ND
06/30/94	MB*NONE*1	34399*CLP90/SON-G	HEXACHLOROETHANE	UG/KG-	ND
06/30/94	MB*NONE*1	34450*CLP90/SON-G	NITROBENZENE	UG/KG-	ND
06/30/94	MB*NONE*1	34411*CLP90/SON-G	ISOPHORONE	UG/KG-	ND
06/30/94	MB*NONE*1	34594*CLP90/SON-G	2-NITROPHENOL	UG/KG-	ND
06/30/94	MB*NONE*1	34609*CLP90/SON-G	2,4-DIMETHYLPHENOL	UG/KG-	ND
06/30/94	MB*NONE*1	34281*CLP90/SON-G	BIS(2-CHLOROETHOXY)METHANE	UG/KG-	ND
06/30/94	MB*NONE*1	34604*CLP90/SON-G	2,4-DICHLOROPHENOL	UG/KG-	ND
06/30/94	MB*NONE*1	34554*CLP90/SON-G	1,2,4-TRICH'BENZENE	UG/KG-	ND
06/30/94	MB*NONE*1	34445*CLP90/SON-G	NAPHTHALENE	UG/KG-	ND
06/30/94	MB*NONE*1	78867*CLP90/SON-G	4-CHLOROANILINE	UG/KG-	ND
06/30/94	MB*NONE*1	39705*CLP90/SON-G	HEXACHLOROBUTADIENE	UG/KG-	ND
06/30/94	MB*NONE*1	34455*CLP90/SON-G	4-CHLORO-3-METHYLPHENOL	UG/KG-	ND
06/30/94	MB*NONE*1	78868*CLP90/SON-G	2-METHYLNAPHTHALENE	UG/KG-	ND
06/30/94	MB*NONE*1	34389*CLP90/SON-G	HEXACHLOROCYCLOPENTADIENE	UG/KG-	ND
06/30/94	MB*NONE*1	34624*CLP90/SON-G	2,4,6-TRICH'PHENOL	UG/KG-	ND
06/30/94	MB*NONE*1	98587*CLP90/SON-G	2,4,5-TRICH'PHENOL	UG/KG-	ND
06/30/94	MB*NONE*1	34584*CLP90/SON-G	2-CHLORONAPHTHALENE	UG/KG-	ND
06/30/94	MB*NONE*1	98588*CLP90/SON-G	2-NITROANILINE	UG/KG-	ND
06/30/94	MB*NONE*1	34344*CLP90/SON-G	DIMETHYL PHTHALATE	UG/KG-	ND
06/30/94	MB*NONE*1	34203*CLP90/SON-G	ACENAPHTHYLENE	UG/KG-	ND
06/30/94	MB*NONE*1	34629*CLP90/SON-G	2,6-DINITROTOLUENE	UG/KG-	ND
06/30/94	MB*NONE*1	78869*CLP90/SON-G	3-NITROANILINE	UG/KG-	ND
06/30/94	MB*NONE*1	34208*CLP90/SON-G	ACENAPHTHENE	UG/KG-	ND
06/30/94	MB*NONE*1	34619*CLP90/SON-G	2,4-DINITROPHENOL	UG/KG-	ND
06/30/94	MB*NONE*1	34649*CLP90/SON-G	4-NITROPHENOL	UG/KG-	ND
06/30/94	MB*NONE*1	75647*CLP90/SON-G	DIBENZOFURAN	UG/KG-	ND
06/30/94	MB*NONE*1	34614*CLP90/SON-G	2,4-DINITROTOLUENE	UG/KG-	ND
06/30/94	MB*NONE*1	34339*CLP90/SON-G	DIETHYL PHTHALATE	UG/KG-	ND
06/30/94	MB*NONE*1	34644*CLP90/SON-G	4-CHLOROPHENYLPHENYL ETHER	UG/KG-	ND
06/30/94	MB*NONE*1	34384*CLP90/SON-G	FLUORENE	UG/KG-	ND
06/30/94	MB*NONE*1	78870*CLP90/SON-G	4-NITROANILINE	UG/KG-	ND
06/30/94	MB*NONE*1	34660*CLP90/SON-G	2-METHYL-4,6-DINITROPHENOL	UG/KG-	ND
06/30/94	MB*NONE*1	34436*CLP90/SON-G	N-NITROSODIPHE'AMINE	UG/KG-	ND
06/30/94	MB*NONE*1	34639*CLP90/SON-G	4-BROMOPHENYL PHENYL ETHER	UG/KG-	ND
06/30/94	MB*NONE*1	39701*CLP90/SON-G	HEXACHLOROBENZENE	UG/KG-	ND
06/30/94	MB*NONE*1	39061*CLP90/SON-G	PENTACHLPHENOL	UG/KG-	ND
06/30/94	MB*NONE*1	34464*CLP90/SON-G	PHENANTHRENE	UG/KG-	ND
06/30/94	MB*NONE*1	34223*CLP90/SON-G	ANTHRACENE	UG/KG-	ND
06/30/94	MB*NONE*1	96242*CLP90/SON-G	CARBAZOLE	UG/KG-	ND
06/30/94	MB*NONE*1	39112*CLP90/SON-G	DI-N-BUTYL PHTHALATE	UG/KG-	ND
06/30/94	MB*NONE*1	34379*CLP90/SON-G	FLUORANTHENE	UG/KG-	ND
06/30/94	MB*NONE*1	34472*CLP90/SON-G	PYRENE	UG/KG-	ND
06/30/94	MB*NONE*1	34295*CLP90/SON-G	BUTYLBENZYLPHTHALATE	UG/KG-	ND
06/30/94	MB*NONE*1	34634*CLP90/SON-G	3,3-DICHL'BENZIDINE	UG/KG-	ND
06/30/94	MB*NONE*1	34529*CLP90/SON-G	BENZO(A)ANTHRACENE	UG/KG-	ND
06/30/94	MB*NONE*1	34323*CLP90/SON-G	CHRYSENE	UG/KG-	ND
06/30/94	MB*NONE*1	39102*CLP90/SON-G	BIS(2-ETHYLHEXYL)PHTHALATE	UG/KG-	ND
06/30/94	MB*NONE*1	34599*CLP90/SON-G	DI-N-OCTYL PHTHALATE	UG/KG-	ND
06/30/94	MB*NONE*1	34233*CLP90/SON-G	BENZO(B)FLUORANTHENE	UG/KG-	ND
06/30/94	MB*NONE*1	34245*CLP90/SON-G	BENZO(K)FLUORANTHENE	UG/KG-	ND
06/30/94	MB*NONE*1	34250*CLP90/SON-G	BENZO(A)PYRENE	UG/KG-	ND
06/30/94	MB*NONE*1	34406*CLP90/SON-G	INDENO(1,2,3-CD)PYRENE	UG/KG-	ND
06/30/94	MB*NONE*1	34559*CLP90/SON-G	DIBEN(A,H)ANTHRACENE	UG/KG-	ND
06/30/94	MB*NONE*1	34524*CLP90/SON-G	BENZO(GHI)PERYLENE	UG/KG-	ND

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/30/94	SPM1*CDMHNSS2*6	34695*CLP90/SON-G	PHENOL	87	26-90	0.0	UG/KG-	300000	2600[illegible]
06/30/94	SPM1*CDMHNSS2*6	34589*CLP90/SON-G	2-CHLOROPHENOL	80	25-102	0.0	UG/KG-	300000	2400[illegible]
06/30/94	SPM1*CDMHNSS2*6	34574*CLP90/SON-G	1,4-DICHLOROBENZENE	85	28-104	0.0	UG/KG-	200000	1700[illegible]
06/30/94	SPM1*CDMHNSS2*6	34431*CLP90/SON-G	N-NITROSODI-N-PROPYLAMINE	70	41-126	0.0	UG/KG-	200000	1400[illegible]
06/30/94	SPM1*CDMHNSS2*6	34554*CLP90/SON-G	1,2,4-TRICH'BENZENE	75	38-107	0.0	UG/KG-	200000	1500[illegible]

ESE BATCH : G50788

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/30/94	SPM1*CDMHNSS2*6	34455*CLP90/SON-G	4-CHLORO-3-METHYLPHENOL	80	26-103	0.0	UG/KG-	300000	[illegible]
06/30/94	SPM1*CDMHNSS2*6	34208*CLP90/SON-G	ACENAPHTHENE	55	31-137	0.0	UG/KG-	200000	[illegible]
06/30/94	SPM1*CDMHNSS2*6	34649*CLP90/SON-G	4-NITROPHENOL	87	11-114	0.0	UG/KG-	300000	[illegible]
06/30/94	SPM1*CDMHNSS2*6	34614*CLP90/SON-G	2,4-DINITROTOLUENE	65	28-89	0.0	UG/KG-	200000	130000
06/30/94	SPM1*CDMHNSS2*6	39061*CLP90/SON-G	PENTACHLPHENOL	67	17-109	0.0	UG/KG-	300000	200000
06/30/94	SPM1*CDMHNSS2*6	34472*CLP90/SON-G	PYRENE	65	35-142	0.0	UG/KG-	200000	130000
06/30/94	SPM2*CDMHNSS2*6	34695*CLP90/SON-G	PHENOL	80	26-90	0.0	UG/KG-	300000	240000
06/30/94	SPM2*CDMHNSS2*6	34589*CLP90/SON-G	2-CHLOROPHENOL	73	25-102	0.0	UG/KG-	300000	220000
06/30/94	SPM2*CDMHNSS2*6	34574*CLP90/SON-G	1,4-DICHLOROBENZENE	75	28-104	0.0	UG/KG-	200000	150000
06/30/94	SPM2*CDMHNSS2*6	34431*CLP90/SON-G	N-NITROSODI-N-PROPYLAMINE	65	41-126	0.0	UG/KG-	200000	130000
06/30/94	SPM2*CDMHNSS2*6	34554*CLP90/SON-G	1,2,4-TRICH'BENZENE	70	38-107	0.0	UG/KG-	200000	140000
06/30/94	SPM2*CDMHNSS2*6	34455*CLP90/SON-G	4-CHLORO-3-METHYLPHENOL	77	26-103	0.0	UG/KG-	300000	230000
06/30/94	SPM2*CDMHNSS2*6	34208*CLP90/SON-G	ACENAPHTHENE	47	31-137	0.0	UG/KG-	200000	93000
06/30/94	SPM2*CDMHNSS2*6	34649*CLP90/SON-G	4-NITROPHENOL	67	11-114	0.0	UG/KG-	300000	200000
06/30/94	SPM2*CDMHNSS2*6	34614*CLP90/SON-G	2,4-DINITROTOLUENE	60	28-89	0.0	UG/KG-	200000	120000
06/30/94	SPM2*CDMHNSS2*6	39061*CLP90/SON-G	PENTACHLPHENOL	50	17-109	0.0	UG/KG-	300000	150000
06/30/94	SPM2*CDMHNSS2*6	34472*CLP90/SON-G	PYRENE	65	35-142	0.0	UG/KG-	200000	130000

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/30/94	MB*NONE*1	95004*SUR	2-FLUOROPHENOL (CLP90/SON)	UG/KG-	75000	50000	67	25-121
06/30/94	MB*NONE*1	95003*SUR	PHENOL-D(5) (CLP90/SON)	UG/KG-	75000	53000	70.7	24-113
06/30/94	MB*NONE*1	95007*SUR	2-CHLOROPHENOL-D4 (CLP90/SON)	UG/KG-	75000	54000	72	20-130
06/30/94	MB*NONE*1	95009*SUR	1,2-DICHLOROBENZENE-D4 (CLP90/	UG/KG-	50000	41000	82	20-130
06/30/94	MB*NONE*1	95051*SUR	NITROBENZENE-D(5) (CLP90/SON)	UG/KG-	50000	42000	84	23-120
06/30/94	MB*NONE*1	95052*SUR	2-FLUOROBIPHENYL (CLP90/SON)	UG/KG-	50000	39000	78	30-115
06/30/94	MB*NONE*1	95005*SUR	2,4,6-TRIBROMOPHENOL (CLP90/SO	UG/KG-	75000	52000	69.3	19-122
06/30/94	MB*NONE*1	95002*SUR	TERPHENYL-D(14) (CLP90/SON)	UG/KG-	50000	43000	86.0	18-137
06/30/94	DA*CDMHNSS2*6	95004*SUR	2-FLUOROPHENOL (CLP90/SON)	UG/KG-	75000	42000	56	25-121
06/30/94	DA*CDMHNSS2*6	95003*SUR	PHENOL-D(5) (CLP90/SON)	UG/KG-	75000	45000	60.0	24-113
06/30/94	DA*CDMHNSS2*6	95007*SUR	2-CHLOROPHENOL-D4 (CLP90/SON)	UG/KG-	75000	46000	61	20-130
06/30/94	DA*CDMHNSS2*6	95009*SUR	1,2-DICHLOROBENZENE-D4 (CLP90/	UG/KG-	50000	35000	70	20-130
06/30/94	DA*CDMHNSS2*6	95051*SUR	NITROBENZENE-D(5) (CLP90/SON)	UG/KG-	50000	37000	74	23-120
06/30/94	DA*CDMHNSS2*6	95052*SUR	2-FLUOROBIPHENYL (CLP90/SON)	UG/KG-	50000	35000	70	30-115
06/30/94	DA*CDMHNSS2*6	95005*SUR	2,4,6-TRIBROMOPHENOL (CLP90/SO	UG/KG-	75000	35000	46.7	19-122
06/30/94	DA*CDMHNSS2*6	95002*SUR	TERPHENYL-D(14) (CLP90/SON)	UG/KG-	50000	30000	60.0	18-137
06/30/94	SPM1*CDMHNSS2*6	95004*SUR	2-FLUOROPHENOL (CLP90/SON)	UG/KG-	75000	44000	59	25-121
06/30/94	SPM1*CDMHNSS2*6	95003*SUR	PHENOL-D(5) (CLP90/SON)	UG/KG-	75000	48500	64.7	24-113
06/30/94	SPM1*CDMHNSS2*6	95007*SUR	2-CHLOROPHENOL-D4 (CLP90/SON)	UG/KG-	75000	51000	68	20-130
06/30/94	SPM1*CDMHNSS2*6	95009*SUR	1,2-DICHLOROBENZENE-D4 (CLP90/	UG/KG-	50000	38000	76	20-130
06/30/94	SPM1*CDMHNSS2*6	95051*SUR	NITROBENZENE-D(5) (CLP90/SON)	UG/KG-	50000	39000	78	23-120
06/30/94	SPM1*CDMHNSS2*6	95052*SUR	2-FLUOROBIPHENYL (CLP90/SON)	UG/KG-	50000	39000	78	30-115
06/30/94	SPM1*CDMHNSS2*6	95005*SUR	2,4,6-TRIBROMOPHENOL (CLP90/SO	UG/KG-	75000	47000	62.7	19-122
06/30/94	SPM1*CDMHNSS2*6	95002*SUR	TERPHENYL-D(14) (CLP90/SON)	UG/KG-	50000	37000	74.0	18-137
06/30/94	SPM2*CDMHNSS2*6	95004*SUR	2-FLUOROPHENOL (CLP90/SON)	UG/KG-	75000	42000	56	25-121
06/30/94	SPM2*CDMHNSS2*6	95003*SUR	PHENOL-D(5) (CLP90/SON)	UG/KG-	75000	48000	64.0	24-113
06/30/94	SPM2*CDMHNSS2*6	95007*SUR	2-CHLOROPHENOL-D4 (CLP90/SON)	UG/KG-	75000	48000	64	20-130
06/30/94	SPM2*CDMHNSS2*6	95009*SUR	1,2-DICHLOROBENZENE-D4 (CLP90/	UG/KG-	50000	35000	70	20-130
06/30/94	SPM2*CDMHNSS2*6	95051*SUR	NITROBENZENE-D(5) (CLP90/SON)	UG/KG-	50000	39000	78	23-120
06/30/94	SPM2*CDMHNSS2*6	95052*SUR	2-FLUOROBIPHENYL (CLP90/SON)	UG/KG-	50000	37000	74	30-115
06/30/94	SPM2*CDMHNSS2*6	95005*SUR	2,4,6-TRIBROMOPHENOL (CLP90/SO	UG/KG-	75000	39000	52.0	19-122
06/30/94	SPM2*CDMHNSS2*6	95002*SUR	TERPHENYL-D(14) (CLP90/SON)	UG/KG-	50000	34000	68.0	18-137

ESE BATCH : G50788

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50788 Analysis Date: 06/30/94 Analyst: ATHANASIOS TOMARAS

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Extract holding time within criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Surrogate present?	X		
Surrogate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field.
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

4-3556.0080

Organochlorine Pesticides

& PCBs

ESE BATCH : G50396
CLASSIFICATION : CHL. PESTS - EPA 8080/3540 (SOX)

QC TYPE : FDER/SW
ANALYST : GREG AYOUB
EXTRACTOR : DANA DECHOW
DATA ENTRY : GREG AYOUB

REPORT DATE/TIME : 08/13/94 11:39:46
ANALYSIS DATE : 06/20/94
EXTRACT DATE : 06/20/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*2	BG1-1-02	06/22/94	02:10AM
CDMHNSS2*3	A06-2-02	06/22/94	02:59AM
CDMHNSS2*4	A06-3-02	06/22/94	03:47AM
CDMHNSS2*5	CS2-2-00	06/22/94	04:35AM

ESE BATCH : G50396

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T. OVER

ALL HOLDING TIMES MET

STORET: 96471 METHOD: SUR TETRACHLORO-M-XYLENE, UG/G QUAD

CALIBRATION CURVE # 1 (NG/ML)
DETECTION LIMIT=.004 DATE: 06/21/94 LARGEST RESP=1849164 %RSD=3.8610 RT WINDOW:

CONC :	0	.004	.020	.040	.100	200	.400
RESP :	0	18713	93436	193879	484044	1024848	1849164
CONC':	0.003	0.006	0.019	0.038	0.094	0.206	0.399
R.T.:		12.518	12.517	12.522	12.522	12.520	12.520

CONC = 2.5921E-03+ 1.7861E-07*RESP+ 1.9243E-14*RESP**2+ *RESP**3
95% C.I.= 5.4365E-03 2.1062E-08 1.1474E-14
CORRELATION COEFFICIENT = .9996

STORET: 39076 METHOD: 8080/3540-G BHC,A, UG/KG-DRY QUAD

CALIBRATION CURVE # 1 (NG/ML)
DETECTION LIMIT=1 DATE: 06/21/94 LARGEST RESP=463111 %RSD=12.4596 RT WINDOW:

CONC :	0	1	5	10	25	50	100
RESP :	0	4053	17974	34544	86329	213552	463111
CONC':	0.666	1.72	5.31	9.53	22.4	51.7	99.7
R.T.:		15.450	15.449	15.455	15.458	15.455	15.456

CONC = 6.6603E-01+ 2.6007E-04*RESP+ -9.9626E-11*RESP**2+ *RESP**3
95% C.I.= 1.8054E+00 3.0861E-05 6.6049E-11
CORRELATION COEFFICIENT = .9993

STORET: 39783 METHOD: 8080/3540-G BHC,G(LINDANE), UG/KG-DRY QUAD

CALIBRATION CURVE # 1 (NG/ML)
DETECTION LIMIT=1 DATE: 06/21/94 LARGEST RESP=397529 %RSD=10.4742 RT WINDOW:

CONC :	0	1	5	10	25	50	100
RESP :	0	3653	16441	31647	78379	193665	397529
CONC':	0.750	1.77	5.31	9.49	22.1	51.9	99.7
R.T.:		17.131	17.128	17.136	17.138	17.137	17.137

CONC = 7.4959E-01+ 2.7858E-04*RESP+ -7.4859E-11*RESP**2+ *RESP**3
95% C.I.= 2.0107E+00 3.9243E-05 9.8222E-11
CORRELATION COEFFICIENT = .9992

STORET: 34257 METHOD: 8080/3540-G BHC,B, UG/KG-DRY QUAD

CALIBRATION CURVE # 1 (NG/ML)
DETECTION LIMIT=1 DATE: 06/21/94 LARGEST RESP=227484 %RSD=6.2795 RT WINDOW:

CONC :	0	1	5	10	25	50	100
RESP :	0	2569	11819	23148	54698	126606	227484
CONC':	0.754	1.72	5.21	9.55	22.0	52.3	99.5
R.T.:		17.416	17.413	17.420	17.422	17.420	17.421

CONC = 7.5400E-01+ 3.7386E-04*RESP+ 2.6394E-10*RESP**2+ *RESP**3
95% C.I.= 2.2624E+00 7.2860E-05 3.2102E-10
CORRELATION COEFFICIENT = .9990

STORET: 39413 METHOD: 8080/3540-G HEPTACHLOR, UG/KG-DRY QUAD

CALIBRATION CURVE # 1 (NG/ML)
DETECTION LIMIT=1 DATE: 06/21/94 LARGEST RESP=632304 %RSD=6.0832 RT WINDOW:

CONC :	0	1	5	10	25	50	100
RESP :	0	6714	31090	59138	143332	329899	632304
CONC':	0.525	1.56	5.30	9.62	22.6	51.7	99.7
R.T.:		18.521	18.518	18.526	18.528	18.526	18.525

CONC = 5.2537E-01+ 1.5343E-04*RESP+ 5.2935E-12*RESP**2+ *RESP**3
95% C.I.= 1.7293E+00 2.0317E-05 3.2052E-11
CORRELATION COEFFICIENT = .9994

STORET: 34262 METHOD: 8080/3540-G BHC,D, UG/KG-DRY QUAD

CALIBRATION CURVE # 1 (NG/ML)
DETECTION LIMIT=1 DATE: 06/21/94 LARGEST RESP=216650 %RSD=9.5468 RT WINDOW:

CONC :	0	1	5	10	25	50	100
RESP :	0	2533	11043	21036	48112	118466	216650

```
ESE BATCH       : G50396
   CONC':     0.807      1.86      5.42      9.64      21.2      52.6      99.4
    R.T.:              18.984    18.982    18.989    18.992    18.990    18.990

    CONC    =   8.0666E-01+  4.1607E-04*RESP+  1.8010E-10*RESP**2+            *RESP**3
    95% C.I.=   2.7005E+00   9.3139E-05        4.3031E-10
    CORRELATION COEFFICIENT = .9986
```

STORET: 39333 METHOD: 8080/3540-G ALDRIN, UG/KG-DRY QUAD

```
  CALIBRATION CURVE # 1   (NG/ML)
    DETECTION LIMIT=1  DATE: 06/21/94  LARGEST RESP=542921 %RSD=11.9256  RT WINDOW:
   CONC :        0         1         5        10        25        50       100
   RESP :        0      4998     25544     40935    104354    266072    542921
   CONC':    0.786      1.80      5.96      9.06      21.6      52.2      99.6
    R.T.:             19.927    19.926    19.933    19.935    19.935    19.935

    CONC    =   7.8638E-01+  2.0375E-04*RESP+ -4.0021E-11*RESP**2+            *RESP**3
    95% C.I.=   2.4162E+00   3.4725E-05        6.3643E-11
    CORRELATION COEFFICIENT = .9988
```

STORET: 39423 METHOD: 8080/3540-G HEPTACHLOR EPOXIDE, UG/KG-DRY QUAD

```
  CALIBRATION CURVE # 1   (NG/ML)
    DETECTION LIMIT=1  DATE: 06/21/94  LARGEST RESP=410932 %RSD=8.9884  RT WINDOW:
   CONC :        0         1         5        10        25        50       100
   RESP :        0      4422     19556     37387     89250    223156    410932
   CONC':    0.995      1.98      5.36      9.38      21.2      52.7      99.4
    R.T.:             22.282    22.279    22.286    22.288    22.287    22.287

    CONC    =   9.9534E-01+  2.2261E-04*RESP+  4.0929E-11*RESP**2+            *RESP**3
    95% C.I.=   2.7668E+00   5.0837E-05        1.2401E-10
    CORRELATION COEFFICIENT = .9985
```

STORET: 34364 METHOD: 8080/3540-G ENDOSULFAN,A, UG/KG-DRY QUAD

```
  CALIBRATION CURVE # 1   (NG/ML)
    DETECTION LIMIT=1.41  DATE: 06/21/94  LARGEST RESP=320067 %RSD=10.0660  RT WINDOW:
   CONC :        0         1         5        10        25        50       100
   RESP :        0      3506     15177     29970     70970    183981    320067
   CONC':     1.40      2.29      5.29      9.16      20.2      53.5      99.1
    R.T.:             23.624    23.624    23.630    23.631    23.631    23.631

    CONC    =   1.4023E+00+  2.5403E-04*RESP+  1.5971E-10*RESP**2+            *RESP**3
    95% C.I.=   3.5475E+00   8.4003E-05        2.6448E-10
    CORRELATION COEFFICIENT = .9975
```

STORET: 39321 METHOD: 8080/3540-G DDE,PP', UG/KG-DRY QUAD

```
  CALIBRATION CURVE # 1   (NG/ML)
    DETECTION LIMIT=1.5  DATE: 06/21/94  LARGEST RESP=299559 %RSD=9.7554  RT WINDOW:
   CONC :        0         1         5        10        25        50       100
   RESP :        0      3189     13898     27004     73099    175212    299559
   CONC':     1.49      2.30      5.05      8.50      21.3      53.3      99.1
    R.T.:             24.187    24.189    24.198    24.194    24.196    24.191

    CONC    =   1.4914E+00+  2.5278E-04*RESP+  2.4404E-10*RESP**2+            *RESP**3
    95% C.I.=   3.1211E+00   7.7751E-05        2.6239E-10
    CORRELATION COEFFICIENT = .9980
```

STORET: 39383 METHOD: 8080/3540-G DIELDRIN, UG/KG-DRY QUAD

```
  CALIBRATION CURVE # 1   (NG/ML)
    DETECTION LIMIT=1.5  DATE: 06/21/94  LARGEST RESP=292480 %RSD=15.3917  RT WINDOW:
   CONC :        0         1         5        10        25        50       100
   RESP :        0      3479     12943     25165     59690    163455    292480
   CONC':     1.49      2.54      5.39      9.11      19.8      53.6      99.1
    R.T.:             24.445    24.449    24.455    24.450    24.452    24.450

    CONC    =   1.4940E+00+  2.9953E-04*RESP+  1.1697E-10*RESP**2+            *RESP**3
    95% C.I.=   3.7520E+00   9.9194E-05        3.4142E-10
    CORRELATION COEFFICIENT = .9971
```

STORET: 39393 METHOD: 8080/3540-G ENDRIN, UG/KG-DRY QUAD

```
  CALIBRATION CURVE # 1   (NG/ML)
    DETECTION LIMIT=1.4  DATE: 06/21/94  LARGEST RESP=95683 %RSD=14.5254  RT WINDOW:
   CONC :        0         1         5        10        25        50       100
```

ESE BATCH : G50396

RESP :	0	1357	5790	10781	22992	[illegible]	95683
CONC':	1.39	2.35	5.56	9.33	19.2	[illegible]	98.6
R.T.:		25.410	25.411	25.418	25.415	[illegible]	25.415

CONC = 1.3932E+00+ 7.0043E-04*RESP+ 3.2970E-09*RESP**2+ *RESP**3
95% C.I.= 4.4736E+00 3.4774E-04 3.6608E-09
CORRELATION COEFFICIENT = .9962

STORET: 39311 METHOD: 8080/3540-G DDD,PP', UG/KG-DRY QUAD

CALIBRATION CURVE # 1 (NG/ML)
DETECTION LIMIT=1.8 DATE: 06/21/94 LARGEST RESP=134102 %RSD=11.6986 RT WINDOW:

CONC :	0	1	5	10	25	50	100
RESP :	0	1727	7747	14542	32946	65558	134102
CONC':	1.79	2.58	5.43	8.83	18.9	55.2	98.3
R.T.:		25.579	25.581	25.588	25.584	25.586	25.583

CONC = 1.7855E+00+ 4.5559E-04*RESP+ 1.9680E-09*RESP**2+ *RESP**3
95% C.I.= 4.9177E+00 2.7591E-04 2.0806E-09
CORRELATION COEFFICIENT = .9954

STORET: 34359 METHOD: 8080/3540-G ENDOSULFAN,B, UG/KG-DRY QUAD

CALIBRATION CURVE # 1 (NG/ML)
DETECTION LIMIT=1 DATE: 06/21/94 LARGEST RESP=148592 %RSD=15.8552 RT WINDOW:

CONC :	0	1	5	10	25	100
RESP :	0	2137	9405	18061	37065	148592
CONC':	-.718	0.706	5.55	11.3	24.1	100
R.T.:		25.852	25.853	25.862	25.857	25.855

CONC = -7.1781E-01+ 6.6614E-04*RESP+ 8.0158E-11*RESP**2+ *RESP**3
95% C.I.= 1.3919E+00 9.2132E-05 5.8946E-10
CORRELATION COEFFICIENT = .9998

STORET: 39301 METHOD: 8080/3540-G DDT,PP', UG/KG-DRY QUAD

CALIBRATION CURVE # 1 (NG/ML)
DETECTION LIMIT=1 DATE: 06/21/94 LARGEST RESP=146274 %RSD=10.3722 RT WINDOW:

CONC :	0	1	5	10	25	100
RESP :	0	1850	8153	15624	36002	146274
CONC':	-.388	0.904	5.30	10.5	24.7	100
R.T.:		26.334	26.338	26.346	26.341	26.340

CONC = -3.8846E-01+ 6.9877E-04*RESP+ -8.4577E-11*RESP**2+ *RESP**3
95% C.I.= 5.7153E-01 3.9982E-05 2.6083E-10
CORRELATION COEFFICIENT = 1.0000

STORET: 34369 METHOD: 8080/3540-G ENDRIN ALDEHYDE, UG/KG-DRY QUAD

CALIBRATION CURVE # 1 (NG/ML)
DETECTION LIMIT=1 DATE: 06/21/94 LARGEST RESP=167867 %RSD=29.6131 RT WINDOW:

CONC :	0	1	10	25	100
RESP :	0	2973	20439	41236	167867
CONC':	-.742	1.05	11.6	24.1	100
R.T.:		26.679	26.694	26.687	26.686

CONC = -7.4177E-01+ 6.0274E-04*RESP+ -1.4447E-11*RESP**2+ *RESP**3
95% C.I.= 1.9536E+00 1.0654E-04 6.0058E-10
CORRELATION COEFFICIENT = .9997

STORET: 34354 METHOD: 8080/3540-G ENDOSULFAN SULFATE, UG/KG-DRY QUAD

CALIBRATION CURVE # 1 (NG/ML)
DETECTION LIMIT=1 DATE: 06/21/94 LARGEST RESP=149913 %RSD=13.8027 RT WINDOW:

CONC :	0	1	5	10	25	100
RESP :	0	1997	8619	17450	35178	149913
CONC':	-.719	0.700	5.39	11.6	24.0	100
R.T.:		26.989	26.993	27.002	26.997	26.996

CONC = -7.1895E-01+ 7.1130E-04*RESP+ -2.6171E-10*RESP**2+ *RESP**3
95% C.I.= 1.5439E+00 1.0601E-04 6.7302E-10
CORRELATION COEFFICIENT = .9997

STORET: 39481 METHOD: 8080/3540-G METHOXYCHLOR, UG/KG-DRY QUAD

CALIBRATION CURVE # 1 (NG/ML)
DETECTION LIMIT=1 DATE: 06/21/94 LARGEST RESP=55111 %RSD=14.8722 RT WINDOW:

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CONC :	0	1	5	10	25	100
RESP :	0	910	4073	7994	16162	65111
CONC':	-.710	0.676	5.50	11.5	24.0	100
R.T.:		28.572	28.576	28.584	28.578	28.576

CONC = -7.1042E-01+ 1.5234E-03*RESP+ 3.6790E-10*RESP**2+ *RESP**3
95% C.I.= 1.4904E+00 2.2541E-04 3.2914E-09
CORRELATION COEFFICIENT = .9997

STORET: 96343 METHOD: SUR DECACHLOROBIPHENYL, UG/G QUAD

CALIBRATION CURVE # 1 (NG/ML)
DETECTION LIMIT=.004 DATE: 06/21/94 LARGEST RESP=647472 %RSD=21.2025 RT WINDOW:

CONC :	0	.004	.020	.040	.100	.400
RESP :	0	10772	42491	82557	167506	647472
CONC':	-.003	0.003	0.022	0.045	0.096	0.400
R.T.:		33.345	33.348	33.362	33.356	33.353

CONC = -3.0261E-03+ 5.8253E-07*RESP+ 6.2033E-14*RESP**2+ *RESP**3
95% C.I.= 5.6171E-03 8.2783E-08 1.2143E-13
CORRELATION COEFFICIENT = .9998

STORET: 39351 METHOD: 8080/3540-G CHLORDANE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39403 METHOD: 8080/3540-G TOXAPHENE, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39514 METHOD: 8080/3540-G PCB-1016, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39511 METHOD: 8080/3540-G PCB-1260, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39491 METHOD: 8080/3540-G PCB-1221, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39495 METHOD: 8080/3540-G PCB-1232, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW

STORET: 39499 METHOD: 8080/3540-G PCB-1242, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39503 METHOD: 8080/3540-G PCB-1248, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39507 METHOD: 8080/3540-G PCB-1254, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : G50396

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	CCS*IND6*2	39076*8080/3540-G	BHC,A	UG/KG-	463000	515000	111	80-120
06/22/94	CCS*IND6*2	39783*8080/3540-G	BHC,G(LINDANE)	UG/KG-	398000	494000	124	80-120
06/22/94	CCS*IND6*2	34257*8080/3540-G	BHC,B	UG/KG-	227000	265000	117	80-120
06/22/94	CCS*IND6*2	39413*8080/3540-G	HEPTACHLOR	UG/KG-	632000	712000	113	80-120
06/22/94	CCS*IND6*2	34262*8080/3540-G	BHC,D	UG/KG-	217000	283000	130	80-120
06/22/94	CCS*IND6*2	39333*8080/3540-G	ALDRIN	UG/KG-	543000	633000	117	80-120
06/22/94	CCS*IND6*2	39423*8080/3540-G	HEPTACHLOR EPOXIDE	UG/KG-	411000	498000	121	80-120
06/22/94	CCS*IND6*2	34364*8080/3540-G	ENDOSULFAN,A	UG/KG-	320000	406000	127	80-120
06/22/94	CCS*IND6*2	39321*8080/3540-G	DDE,PP'	UG/KG-	300000	392000	131	80-120
06/22/94	CCS*IND6*2	39383*8080/3540-G	DIELDRIN	UG/KG-	292000	377000	129	80-120
06/22/94	CCS*IND6*2	39393*8080/3540-G	ENDRIN	UG/KG-	95700	125000	131	80-120
06/22/94	CCS*IND6*2	39311*8080/3540-G	DDD,PP'	UG/KG-	134000	185000	138	80-120
06/22/94	CCS*IND6*2	34359*8080/3540-G	ENDOSULFAN,B	UG/KG-	149000	220000	148	80-120
06/22/94	CCS*IND6*2	39301*8080/3540-G	DDT,PP'	UG/KG-	146000	210000	144	80-120
06/22/94	CCS*IND6*2	34369*8080/3540-G	ENDRIN ALDEHYDE	UG/KG-	168000	256000	152	80-120
06/22/94	CCS*IND6*2	34354*8080/3540-G	ENDOSULFAN SULFATE	UG/KG-	150000	216000	144	80-120
06/22/94	CCS*IND6*2	39481*8080/3540-G	METHOXYCHLOR	UG/KG-	65100	97100	149	80-120
06/22/94	CCS*IND6*2	39351*8080/3540-G	CHLORDANE	UG/KG-		T*1		80-120
06/22/94	CCS*IND6*2	39403*8080/3540-G	TOXAPHENE	UG/KG-		T*1		80-120
06/22/94	CCS*IND6*2	39514*8080/3540-G	PCB-1016	UG/KG-		T*1		80-120
06/22/94	CCS*IND6*2	39511*8080/3540-G	PCB-1260	UG/KG-		T*1		80-120
06/22/94	CCS*IND6*2	39491*8080/3540-G	PCB-1221	UG/KG-		T*1		80-120
06/22/94	CCS*IND6*2	39495*8080/3540-G	PCB-1232	UG/KG-		T*1		80-120
06/22/94	CCS*IND6*2	39499*8080/3540-G	PCB-1242	UG/KG-		T*1		80-120
06/22/94	CCS*IND6*2	39503*8080/3540-G	PCB-1248	UG/KG-		T*1		80-120
06/22/94	CCS*IND6*2	39507*8080/3540-G	PCB-1254	UG/KG-		T*1		80-120

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	MB*QC*1	39076*8080/3540-G	BHC,A	UG/KG-	ND
06/21/94	MB*QC*1	39783*8080/3540-G	BHC,G(LINDANE)	UG/KG-	ND
06/21/94	MB*QC*1	34257*8080/3540-G	BHC,B	UG/KG-	ND
06/21/94	MB*QC*1	39413*8080/3540-G	HEPTACHLOR	UG/KG-	ND
06/21/94	MB*QC*1	34262*8080/3540-G	BHC,D	UG/KG-	ND
06/21/94	MB*QC*1	39333*8080/3540-G	ALDRIN	UG/KG-	ND
06/21/94	MB*QC*1	39423*8080/3540-G	HEPTACHLOR EPOXIDE	UG/KG-	ND
06/21/94	MB*QC*1	34364*8080/3540-G	ENDOSULFAN,A	UG/KG-	ND
06/21/94	MB*QC*1	39321*8080/3540-G	DDE,PP'	UG/KG-	ND
06/21/94	MB*QC*1	39383*8080/3540-G	DIELDRIN	UG/KG-	ND
06/21/94	MB*QC*1	39393*8080/3540-G	ENDRIN	UG/KG-	ND
06/21/94	MB*QC*1	39311*8080/3540-G	DDD,PP'	UG/KG-	ND
06/21/94	MB*QC*1	34359*8080/3540-G	ENDOSULFAN,B	UG/KG-	ND
06/21/94	MB*QC*1	39301*8080/3540-G	DDT,PP'	UG/KG-	ND
06/21/94	MB*QC*1	34369*8080/3540-G	ENDRIN ALDEHYDE	UG/KG-	ND
06/21/94	MB*QC*1	34354*8080/3540-G	ENDOSULFAN SULFATE	UG/KG-	ND
06/21/94	MB*QC*1	39481*8080/3540-G	METHOXYCHLOR	UG/KG-	ND
06/21/94	MB*QC*1	39351*8080/3540-G	CHLORDANE	UG/KG-	ND
06/21/94	MB*QC*1	39403*8080/3540-G	TOXAPHENE	UG/KG-	ND
06/21/94	MB*QC*1	39514*8080/3540-G	PCB-1016	UG/KG-	ND
06/21/94	MB*QC*1	39511*8080/3540-G	PCB-1260	UG/KG-	ND
06/21/94	MB*QC*1	39491*8080/3540-G	PCB-1221	UG/KG-	ND
06/21/94	MB*QC*1	39495*8080/3540-G	PCB-1232	UG/KG-	ND
06/21/94	MB*QC*1	39499*8080/3540-G	PCB-1242	UG/KG-	ND
06/21/94	MB*QC*1	39503*8080/3540-G	PCB-1248	UG/KG-	ND
06/21/94	MB*QC*1	39507*8080/3540-G	PCB-1254	UG/KG-	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/21/94	SP1*QC*1	39076*8080/3540-G	BHC,A		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39783*8080/3540-G	BHC,G(LINDANE)	92.8	45-129	UG/KG-	33.3	30.9
06/21/94	SP1*QC*1	34257*8080/3540-G	BHC,B		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39413*8080/3540-G	HEPTACHLOR	82.3	30-148	UG/KG-	33.3	27.4
06/21/94	SP1*QC*1	34262*8080/3540-G	BHC,D		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39333*8080/3540-G	ALDRIN	79.3	53-133	UG/KG-	33.3	26.4
06/21/94	SP1*QC*1	39423*8080/3540-G	HEPTACHLOR EPOXIDE		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	34364*8080/3540-G	ENDOSULFAN,A		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39321*8080/3540-G	DDE,PP		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39383*8080/3540-G	DIELDRIN	84.0	46-140	UG/KG-	66.7	56.0
06/21/94	SP1*QC*1	39393*8080/3540-G	ENDRIN	97.0	52-126	UG/KG-	66.7	64.7
06/21/94	SP1*QC*1	39311*8080/3540-G	DDD,PP'		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	34359*8080/3540-G	ENDOSULFAN,B		80-120	UG/KG-		ND

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Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/21/94	SP1*QC*1	39301*8080/3540-G	DDT,PP'	97.5	37-155	UG/KG-	66.7	65.0
06/21/94	SP1*QC*1	34369*8080/3540-G	ENDRIN ALDEHYDE		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	34354*8080/3540-G	ENDOSULFAN SULFATE		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39481*8080/3540-G	METHOXYCHLOR		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39351*8080/3540-G	CHLORDANE		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39403*8080/3540-G	TOXAPHENE		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39514*8080/3540-G	PCB-1016		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39511*8080/3540-G	PCB-1260		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39491*8080/3540-G	PCB-1221		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39495*8080/3540-G	PCB-1232		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39499*8080/3540-G	PCB-1242		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39503*8080/3540-G	PCB-1248		80-120	UG/KG-		ND
06/21/94	SP1*QC*1	39507*8080/3540-G	PCB-1254		80-120	UG/KG-		ND

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/21/94	SPM1*CDMHNSS2*2	39076*8080/3540-G	BHC,A		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39783*8080/3540-G	BHC,G(LINDANE)	96.5	45-129	0.516	UG/KG-	34.4	33.2
06/21/94	SPM1*CDMHNSS2*2	34257*8080/3540-G	BHC,B		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39413*8080/3540-G	HEPTACHLOR	87.8	30-148	0.361	UG/KG-	34.4	30.2
06/21/94	SPM1*CDMHNSS2*2	34262*8080/3540-G	BHC,D		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39333*8080/3540-G	ALDRIN	83.4	53-133	0.541	UG/KG-	34.4	28.7
06/21/94	SPM1*CDMHNSS2*2	39423*8080/3540-G	HEPTACHLOR EPOXIDE		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	34364*8080/3540-G	ENDOSULFAN,A		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39321*8080/3540-G	DDE,PP'		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39383*8080/3540-G	DIELDRIN	92.2	46-140	1.03	UG/KG-	68.8	63.4
06/21/94	SPM1*CDMHNSS2*2	39393*8080/3540-G	ENDRIN	76.6	52-126	0.959	UG/KG-	68.8	52.7
06/21/94	SPM1*CDMHNSS2*2	39311*8080/3540-G	DDD,PP'		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	34359*8080/3540-G	ENDOSULFAN,B		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39301*8080/3540-G	DDT,PP'	104.4	37-155	0.0	UG/KG-	68.8	71.8
06/21/94	SPM1*CDMHNSS2*2	34369*8080/3540-G	ENDRIN ALDEHYDE		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	34354*8080/3540-G	ENDOSULFAN SULFATE		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39481*8080/3540-G	METHOXYCHLOR		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39351*8080/3540-G	CHLORDANE		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39403*8080/3540-G	TOXAPHENE		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39514*8080/3540-G	PCB-1016		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39511*8080/3540-G	PCB-1260		80-120	0.0	UG/KG-		
06/21/94	SPM1*CDMHNSS2*2	39491*8080/3540-G	PCB-1221		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39495*8080/3540-G	PCB-1232		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39499*8080/3540-G	PCB-1242		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39503*8080/3540-G	PCB-1248		80-120	0.0	UG/KG-		ND
06/21/94	SPM1*CDMHNSS2*2	39507*8080/3540-G	PCB-1254		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39076*8080/3540-G	BHC,A		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39783*8080/3540-G	BHC,G(LINDANE)	90.7	45-129	0.516	UG/KG-	34.4	31.2
06/21/94	SPM2*CDMHNSS2*2	34257*8080/3540-G	BHC,B		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39413*8080/3540-G	HEPTACHLOR	81.1	30-148	0.361	UG/KG-	34.4	27.9
06/21/94	SPM2*CDMHNSS2*2	34262*8080/3540-G	BHC,D		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39333*8080/3540-G	ALDRIN	77.3	53-133	0.541	UG/KG-	34.4	26.6
06/21/94	SPM2*CDMHNSS2*2	39423*8080/3540-G	HEPTACHLOR EPOXIDE		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	34364*8080/3540-G	ENDOSULFAN,A		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39321*8080/3540-G	DDE,PP'		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39383*8080/3540-G	DIELDRIN	87.2	46-140	1.03	UG/KG-	68.8	60.0
06/21/94	SPM2*CDMHNSS2*2	39393*8080/3540-G	ENDRIN	83.4	52-126	0.959	UG/KG-	68.8	57.4
06/21/94	SPM2*CDMHNSS2*2	39311*8080/3540-G	DDD,PP'		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	34359*8080/3540-G	ENDOSULFAN,B		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39301*8080/3540-G	DDT,PP'	110.0	37-155	0.0	UG/KG-	68.8	75.7
06/21/94	SPM2*CDMHNSS2*2	34369*8080/3540-G	ENDRIN ALDEHYDE		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	34354*8080/3540-G	ENDOSULFAN SULFATE		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39481*8080/3540-G	METHOXYCHLOR		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39351*8080/3540-G	CHLORDANE		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39403*8080/3540-G	TOXAPHENE		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39514*8080/3540-G	PCB-1016		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39511*8080/3540-G	PCB-1260		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39491*8080/3540-G	PCB-1221		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39495*8080/3540-G	PCB-1232		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39499*8080/3540-G	PCB-1242		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39503*8080/3540-G	PCB-1248		80-120	0.0	UG/KG-		ND
06/21/94	SPM2*CDMHNSS2*2	39507*8080/3540-G	PCB-1254		80-120	0.0	UG/KG-		ND

ESE BATCH : G50396

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	MB*QC*1	96471*SUR	TETRACHLORO-M-XYLENE	UG/G	0.067	0.063	94.0	67-119
06/21/94	MB*QC*1	96343*SUR	DECACHLOROBIPHENYL	UG/G	0.067	0.062	92.5	51-169
06/21/94	SP1*QC*1	96471*SUR	TETRACHLORO-M-XYLENE	UG/G	0.067	0.058	86.6	67-119
06/21/94	SP1*QC*1	96343*SUR	DECACHLOROBIPHENYL	UG/G	0.067	0.060	89.6	51-169
06/21/94	SPM1*CDMHNSS2*2	96471*SUR	TETRACHLORO-M-XYLENE	UG/G	0.067	0.061	91.0	67-119
06/21/94	SPM1*CDMHNSS2*2	96343*SUR	DECACHLOROBIPHENYL	UG/G	0.067	0.074	110	51-169
06/21/94	SPM2*CDMHNSS2*2	96471*SUR	TETRACHLORO-M-XYLENE	UG/G	0.067	0.057	85.1	67-119
06/21/94	SPM2*CDMHNSS2*2	96343*SUR	DECACHLOROBIPHENYL	UG/G	0.067	0.064	95.5	51-169
06/22/94	DA*CDMHNSS2*2	96471*SUR	TETRACHLORO-M-XYLENE	UG/G	0.067	0.061	91.0	67-119
06/22/94	DA*CDMHNSS2*2	96343*SUR	DECACHLOROBIPHENYL	UG/G	0.067	0.073	109	51-169
06/22/94	DA*CDMHNSS2*3	96471*SUR	TETRACHLORO-M-XYLENE	UG/G	0.067	0.061	91.0	67-119
06/22/94	DA*CDMHNSS2*3	96343*SUR	DECACHLOROBIPHENYL	UG/G	0.067	0.064	95.5	51-169
06/22/94	DA*CDMHNSS2*4	96471*SUR	TETRACHLORO-M-XYLENE	UG/G	0.067	0.059	88.1	67-119
06/22/94	DA*CDMHNSS2*4	96343*SUR	DECACHLOROBIPHENYL	UG/G	0.067	0.068	101	51-169
06/22/94	DA*CDMHNSS2*5	96471*SUR	TETRACHLORO-M-XYLENE	UG/G	0.067	0.060	89.6	67-119
06/22/94	DA*CDMHNSS2*5	96343*SUR	DECACHLOROBIPHENYL	UG/G	0.067	0.076	113	51-169
06/22/94	CCS*IND6*2	96471*SUR	TETRACHLORO-M-XYLENE	UG/G	1850000	1960000	106	67-119
06/22/94	CCS*IND6*2	96343*SUR	DECACHLOROBIPHENYL	UG/G	647000	917000	142	51-169

ESE BATCH : G50396

UNITS AND EXAMPLE CALCULATIONS

	UNITS ENTERED
FINAL CONCENTRATION	NG/G
INJECTION VOLUME	NA
SAMPLE VOLUME	G
EXTRACT VOLUME	ML
CURVE CONCENTRATION	NG/ML
SPIKE SOLN CONCENTRATION	NG/ML
SPIKE VOLUME	ML
SPIKE SAMPLE VOLUME	ML
TARGET CONCENTRATION	NG/G
RESPONSE DESCRIPTION	PEAK AREA
CONVERSION FACTOR	NA

$$\text{FINAL CONC} = \frac{\text{CURV CONC * EXT VOL * DIL}}{\text{INJ VOL * SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{NG/G} = \frac{\text{(NG/ML) * (ML)}}{\text{(NA) * (G)}}$$

$$\text{(\qquad)} = \frac{\text{(\qquad) * (\qquad) * (\qquad)}}{\text{(\qquad) * (\qquad) * ((100 - (\qquad)) / 100)}}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC * SPIKE VOL}}{\text{SPIKE SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{NG/G} = \frac{\text{(NG/ML) * (ML)}}{\text{(ML)}}$$

ESE BATCH : G50396

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50396 Analysis Date: 06/20/94 Analyst: GREG AYOUB

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Extract holding time within criteria?	X		
No. of calibration standards present acceptable?	X		
Curve correlation coefficient >= 0.995?	X		
Calibration curve y-intercept < curve detection limit?	X		
Sample responses within highest standard response?	X		
Sample retention times within retention time window?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Surrogate present?	X		
Surrogate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity  (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field.
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

ESE BATCH : G50744
CLASSIFICATION : CHL. PESTS - CLP SOW OLM01.8

QC TYPE : FDER/SW
ANALYST : VICTOR BAUDER
EXTRACTOR : DANA DECHOW
DATA ENTRY : CLP UPLOAD

REPORT DATE/TIME : 08/13/94 12:34:03
ANALYSIS DATE : 06/28/94
EXTRACT DATE : 06/23/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*6	A03-1-05	06/29/94	07:52AM

ESE BATCH : G50744

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 39076 METHOD: CLP90 alpha-BHC, UG/KG-DRY MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=.084672 %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	15857	78838	507015
CONC':			
R.T.:	6.820	6.826	6.819

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=193595.50 %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	80181	378733	1628293
CONC':			
R.T.:	5.048	5.048	5.049

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 34257 METHOD: CLP90 beta-BHC, UG/KG-DRY MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=166292 %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	12606	54549	258930
CONC':			
R.T.:	8.173	8.176	8.170

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=150994(USER DEFINED) %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	38822	169188	677199
CONC':			
R.T.:	7.717	7.719	7.717

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 34262 METHOD: CLP90 delta-BHC, UG/KG-DRY MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=1019397 %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	13969	63575	416877
CONC':			
R.T.:	9.408	9.413	9.407

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=212357(USER DEFINED) %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	60094	294997	1394068
CONC':			
R.T.:	8.401	8.403	8.403

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

ESE BATCH : G50744

STORET: 39783 METHOD: CLP90 gamma-BHC (Lindane), UG/KG-DRY MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=420690.50 %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	17162	82785	484234
CONC':			
R.T.:	7.957	7.964	7.955

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=760314.50 %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	80604	373182	1534273
CONC':			
R.T.:	5.829	5.829	5.829

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 39413 METHOD: CLP90 Heptachlor, UG/KG-DRY MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=433933.00 %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	31084	130521	565870
CONC':			
R.T.:	9.005	9.011	9.002

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=765681.50 %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	103096	426984	1645591
CONC':			
R.T.:	6.279	6.277	6.278

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 39333 METHOD: CLP90 Aldrin, UG/KG-DRY MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=1032530 %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	19997	83289	427608
CONC':			
R.T.:	10.166	10.170	10.163

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=238381(USER DEFINED) %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	84534	357527	1560483
CONC':			
R.T.:	6.930	6.932	6.932

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 39423 METHOD: CLP90 Heptachlor epoxide, UG/KG-DRY MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=432320.06 %RSD= RT WINDOW:

```
ESE BATCH       : G50744
   CONC :          5        20        80
   RESP :      26471    106552    471904
   CONC':
    R.T.:    12.407    12.409    12.404

    CONC    =              +             *RESP+             *RESP**2+             *RESP**3
    95% C.I.=
    CORRELATION COEFFICIENT =

  CALIBRATION CURVE # 2
    DETECTION LIMIT=5  DATE: 06/28/94  LARGEST RESP=269363(USER DEFINED)  %RSD=  RT WINDOW:
   CONC :          5        20        80
   RESP :      86975    364749   1527588
   CONC':
    R.T.:     8.858     8.860     8.859

    CONC    =              +             *RESP+             *RESP**2+             *RESP**3
    95% C.I.=
    CORRELATION COEFFICIENT =
```

STORET: 34364 METHOD: CLP90 Endosulfan I, UG/KG-DRY MRF

```
  CALIBRATION CURVE # 1
    DETECTION LIMIT=5  DATE: 06/28/94  LARGEST RESP=350246.50 %RSD=  RT WINDOW:
   CONC :          5        20        80
   RESP :      23105     96440    421378
   CONC':
    R.T.:    13.906    13.913    13.904

    CONC    =              +             *RESP+             *RESP**2+             *RESP**3
    95% C.I.=
    CORRELATION COEFFICIENT =

  CALIBRATION CURVE # 2
    DETECTION LIMIT=5  DATE: 06/28/94  LARGEST RESP=643625.50 %RSD=  RT WINDOW:
   CONC :          5        20        80
   RESP :      78354    327747   1324808
   CONC':
    R.T.:     9.715     9.712     9.713

    CONC    =              +             *RESP+             *RESP**2+             *RESP**3
    95% C.I.=
    CORRELATION COEFFICIENT =
```

STORET: 39383 METHOD: CLP90 Dieldrin, UG/KG-DRY MRF

```
  CALIBRATION CURVE # 1
    DETECTION LIMIT=10  DATE: 06/28/94  LARGEST RESP=735074.00 %RSD=  RT WINDOW:
   CONC :         10        40       160
   RESP :      42331    178293    857079
   CONC':
    R.T.:    15.135    15.142    15.134

    CONC    =              +             *RESP+             *RESP**2+             *RESP**3
    95% C.I.=
    CORRELATION COEFFICIENT =

  CALIBRATION CURVE # 2
    DETECTION LIMIT=10  DATE: 06/28/94  LARGEST RESP=1326938.50 %RSD=  RT WINDOW:
   CONC :         10        40       160
   RESP :     151393    665439   2725228
   CONC':
    R.T.:    11.029    11.028    11.028

    CONC    =              +             *RESP+             *RESP**2+             *RESP**3
    95% C.I.=
    CORRELATION COEFFICIENT =
```

STORET: 39321 METHOD: CLP90 4,4'-DDE, UG/KG-DRY MRF

```
  CALIBRATION CURVE # 1
    DETECTION LIMIT=10  DATE: 06/28/94  LARGEST RESP=786312.50 %RSD=  RT WINDOW:
   CONC :         10        40       160
   RESP :      34368    152167    790908
   CONC':
    R.T.:    14.962    14.963    14.959
```

ESE BATCH : G50744

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I =
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=452598(USER DEFINED) %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	94780	459636	2255388
CONC':			
R.T.:	10.615	10.615	10.616

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I =
CORRELATION COEFFICIENT =

STORET: 39393 METHOD: CLP90 Endrin, UG/KG-DRY MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=746274.75 %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	37755	162572	766548
CONC':			
R.T.:	16.429	16.434	16.427

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=1361522.00 %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	129344	567956	2344278
CONC':			
R.T.:	11.759	11.759	11.761

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 34359 METHOD: CLP90 Endosulfan II, UG/KG-DRY MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=1372087 %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	42699	173920	798491
CONC':			
R.T.:	17.050	17.052	17.047

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=1417602(USER DEFINED) %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	140794	566454	2384439
CONC':			
R.T.:	13.791	13.792	13.790

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 39311 METHOD: CLP90 4,4'-DDD, UG/KG-DRY MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=506672.00 %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	24903	112959	580401
CONC':			
R.T.:	16.932	16.939	16.933

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2

ESE BATCH : G50744

DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=339752(USER DEFINED) %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	70288	396531	1772013
CONC':			
R.T.:	13.807	13.802	13.797

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 34354 METHOD: CLP90 Endosulfan sulfate, UG/KG-DRY MRF

CALIBRATION CURVE # 1

DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=675025.44 %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	40878	169557	740294
CONC':			
R.T.:	18.462	18.464	18.460

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2

DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=1253101(USER DEFINED) %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	106132	438437	1850027
CONC':			
R.T.:	16.365	16.366	16.365

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 39301 METHOD: CLP90 4,4'-DDT, UG/KG-DRY MRF

CALIBRATION CURVE # 1

DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=628171.13 %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	32185	147023	704195
CONC':			
R.T.:	17.862	17.867	17.862

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2

DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=920446.50 %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	94296	485026	2166599
CONC':			
R.T.:	14.425	14.424	14.425

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 39481 METHOD: CLP90 Methoxychlor, UG/KG-DRY MRF

CALIBRATION CURVE # 1

DETECTION LIMIT=50 DATE: 06/28/94 LARGEST RESP=1684549.00 %RSD= RT WINDOW:

CONC :	50	200	800
RESP :	132645	519665	1933587
CONC':			
R.T.:	20.375	20.378	20.370

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2

DETECTION LIMIT=50 DATE: 06/28/94 LARGEST RESP=3130260.75 %RSD= RT WINDOW:

CONC :	50	200	800
RESP :	264098	1123569	4297539
CONC':			
R.T.:	16.642	16.638	16.637

ESE BATCH : G50744

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 98591 METHOD: CLP90 Endrin ketone, UG/KG-DRY MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=812739.38 %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	41164	182492	842814
CONC':			
R.T.:	20.580	20.582	20.578

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=1362709(USER DEFINED) %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	107228	466803	1949496
CONC':			
R.T.:	17.481	17.482	17.481

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 34369 METHOD: CLP90 Endrin aldehyde, UG/KG-DRY MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=520752.91 %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	34320	134620	546032
CONC':			
R.T.:	18.094	18.094	18.091

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=932645(USER DEFINED) %RSD= RT WINDOW:

CONC :	10	40	160
RESP :	76085	374925	1495556
CONC':			
R.T.:	15.331	15.330	15.329

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 97501 METHOD: CLP90 alpha-Chlordane, UG/KG-DRY MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=327195 %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	24944	102991	468461
CONC':			
R.T.:	13.817	13.821	13.815

CONC = + *RESP+ *RESP**2- *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=345818(USER DEFINED) %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	92835	367346	1483058
CONC':			
R.T.:	10.149	10.150	10.150

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

ESE BATCH : G50744

STORET: 39811 METHOD: CLP90 gamma-Chlordane, UG/KG-DRY MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=329703(USER DEFINED) %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	25262	102810	456008
CONC':			
R.T.:	13.098	13.104	13.097

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=277097(USER DEFINED) %RSD= RT WINDOW:

CONC :	5	20	80
RESP :	89374	351885	1449787
CONC':			
R.T.:	9.956	9.957	9.957

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 39403 METHOD: CLP90 Toxaphene, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=500 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

CALIBRATION CURVE # 2
DETECTION LIMIT=500 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39514 METHOD: CLP90 Aroclor-1016, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

CALIBRATION CURVE # 2
DETECTION LIMIT=100 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39491 METHOD: CLP90 Aroclor-1221, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=200 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

CALIBRATION CURVE # 2
DETECTION LIMIT=200 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39495 METHOD: CLP90 Aroclor-1232, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

CALIBRATION CURVE # 2
DETECTION LIMIT=100 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39499 METHOD: CLP90 Aroclor-1242, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

CALIBRATION CURVE # 2
DETECTION LIMIT=100 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39503 METHOD: CLP90 Aroclor-1248, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

CALIBRATION CURVE # 2
DETECTION LIMIT=100 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39507 METHOD: CLP90 Aroclor-1254, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : G50744
CALIBRATION CURVE # 2
DETECTION LIMIT=100 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39511 METHOD: CLP90 Aroclor-1260, UG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

CALIBRATION CURVE # 2
DETECTION LIMIT=100 DATE: 06/28/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 96999 METHOD: SUR TETRACHLORO-M-XYLENE (CLP90), UG/KG MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=427211(USER DEFINED) %RSD= RT WINDOW:

CONC :	5	5	20	20	80	80
RESP :	23450	23354	100263	97862	425914	427211
CONC':						
R.T.:	5.186	5.186	5.188	5.188	5.182	5.183

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=5 DATE: 06/28/94 LARGEST RESP=1140118(USER DEFINED) %RSD= RT WINDOW:

CONC :	5	5	20	20	80	80
RESP :	69408	67625	286166	262324	1055874	1140118
CONC':						
R.T.:	3.675	3.674	3.674	3.674	3.674	3.673

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

STORET: 95000 METHOD: SUR DECACHLOROBIPHENYL, UG/KG MRF

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=1069254(USER DEFINED) %RSD= RT WINDOW:

CONC :	10	10	40	40	160	160
RESP :	79062	78919	302064	295507	1057878	1069254
CONC':						
R.T.:	24.584	24.586	24.592	24.582	24.584	24.579

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

CALIBRATION CURVE # 2
DETECTION LIMIT=10 DATE: 06/28/94 LARGEST RESP=1963689(USER DEFINED) %RSD= RT WINDOW:

CONC :	10	10	40	40	160	160
RESP :	137062	137026	537382	525532	1915427	1963689
CONC':						
R.T.:	19.695	19.692	19.693	19.694	19.692	19.692

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

ESE BATCH : G50744

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/29/94	CCS*INDAM*2	39076*CLP90	alpha-BHC	UG/KG-	20.0	19.5	97.5	80-120
06/29/94	CCS*INDAM*2	34257*CLP90	beta-BHC	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	34262*CLP90	delta-BHC	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	39783*CLP90	gamma-BHC (Lindane)	UG/KG-	20.0	19.5	97.5	80-120
06/29/94	CCS*INDAM*2	39413*CLP90	Heptachlor	UG/KG-	20.0	19.1	95.5	80-120
06/29/94	CCS*INDAM*2	39333*CLP90	Aldrin	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	39423*CLP90	Heptachlor epoxide	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	34364*CLP90	Endosulfan I	UG/KG-	20.0	19.1	95.5	80-120
06/29/94	CCS*INDAM*2	39383*CLP90	Dieldrin	UG/KG-	40.0	38.4	96.0	80-120
06/29/94	CCS*INDAM*2	39321*CLP90	4,4'-DDE	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	39393*CLP90	Endrin	UG/KG-	40.0	38.3	95.8	80-120
06/29/94	CCS*INDAM*2	34359*CLP90	Endosulfan II	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	39311*CLP90	4,4'-DDD	UG/KG-	40.0	38.4	96.0	80-120
06/29/94	CCS*INDAM*2	34354*CLP90	Endosulfan sulfate	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	39301*CLP90	4,4'-DDT	UG/KG-	40.0	38.0	95.0	80-120
06/29/94	CCS*INDAM*2	39481*CLP90	Methoxychlor	UG/KG-	200	190	95.0	80-120
06/29/94	CCS*INDAM*2	98591*CLP90	Endrin ketone	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	34369*CLP90	Endrin aldehyde	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	97501*CLP90	alpha-Chlordane	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	39811*CLP90	gamma-Chlordane	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	39403*CLP90	Toxaphene	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	39514*CLP90	Aroclor-1016	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	39491*CLP90	Aroclor-1221	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	39495*CLP90	Aroclor-1232	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	39499*CLP90	Aroclor-1242	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	39503*CLP90	Aroclor-1248	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	39507*CLP90	Aroclor-1254	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2	39511*CLP90	Aroclor-1260	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39076*CLP90	alpha-BHC	UG/KG-	20.0	20.1	101	80-120
06/29/94	CCS*INDAM*2*C	34257*CLP90	beta-BHC	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	34262*CLP90	delta-BHC	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39783*CLP90	gamma-BHC (Lindane)	UG/KG-	20.0	20.1	101	80-120
06/29/94	CCS*INDAM*2*C	39413*CLP90	Heptachlor	UG/KG-	20.0	20.0	100.0	80-120
06/29/94	CCS*INDAM*2*C	39333*CLP90	Aldrin	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39423*CLP90	Heptachlor epoxide	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	34364*CLP90	Endosulfan I	UG/KG-	20.0	20.0	100.0	80-120
06/29/94	CCS*INDAM*2*C	39383*CLP90	Dieldrin	UG/KG-	40.0	40.1	100	80-120
06/29/94	CCS*INDAM*2*C	39321*CLP90	4,4'-DDE	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39393*CLP90	Endrin	UG/KG-	40.0	39.7	99.3	80-120
06/29/94	CCS*INDAM*2*C	34359*CLP90	Endosulfan II	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39311*CLP90	4,4'-DDD	UG/KG-	40.0	40.9	102	80-120
06/29/94	CCS*INDAM*2*C	34354*CLP90	Endosulfan sulfate	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39301*CLP90	4,4'-DDT	UG/KG-	40.0	40.1	100	80-120
06/29/94	CCS*INDAM*2*C	39481*CLP90	Methoxychlor	UG/KG-	200	202	101	80-120
06/29/94	CCS*INDAM*2*C	98591*CLP90	Endrin ketone	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	34369*CLP90	Endrin aldehyde	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	97501*CLP90	alpha-Chlordane	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39811*CLP90	gamma-Chlordane	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39403*CLP90	Toxaphene	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39514*CLP90	Aroclor-1016	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39491*CLP90	Aroclor-1221	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39495*CLP90	Aroclor-1232	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39499*CLP90	Aroclor-1242	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39503*CLP90	Aroclor-1248	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39507*CLP90	Aroclor-1254	UG/KG-		ND		80-120
06/29/94	CCS*INDAM*2*C	39511*CLP90	Aroclor-1260	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	39076*CLP90	alpha-BHC	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	34257*CLP90	beta-BHC	UG/KG-	20.0	20.0	100.0	80-120
06/29/94	CCS*INDBM*2	34262*CLP90	delta-BHC	UG/KG-	20.0	20.1	101	80-120
06/29/94	CCS*INDBM*2	39783*CLP90	gamma-BHC (Lindane)	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	39413*CLP90	Heptachlor	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	39333*CLP90	Aldrin	UG/KG-	20.0	19.8	99.0	80-120
06/29/94	CCS*INDBM*2	39423*CLP90	Heptachlor epoxide	UG/KG-	20.0	19.7	98.5	80-120
06/29/94	CCS*INDBM*2	34364*CLP90	Endosulfan I	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	39383*CLP90	Dieldrin	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	39321*CLP90	4,4'-DDE	UG/KG-	40.0	40.4	101	80-120
06/29/94	CCS*INDBM*2	39393*CLP90	Endrin	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	34359*CLP90	Endosulfan II	UG/KG-	40.0	40.1	100	80-120
06/29/94	CCS*INDBM*2	39311*CLP90	4,4'-DDD	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	34354*CLP90	Endosulfan sulfate	UG/KG-	40.0	40.0	100.0	80-120
06/29/94	CCS*INDBM*2	39301*CLP90	4,4'-DDT	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	39481*CLP90	Methoxychlor	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	98591*CLP90	Endrin ketone	UG/KG-	40.0	40.5	101	80-120

ESE BATCH : G50744

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/29/94	CCS*INDBM*2	34369*CLP90	Endrin aldehyde	UG/KG-	40.0	39.5	98.8	80-120
06/29/94	CCS*INDBM*2	97501*CLP90	alpha-Chlordane	UG/KG-	20.0	19.8	99.0	80-120
06/29/94	CCS*INDBM*2	39811*CLP90	gamma-Chlordane	UG/KG-	20.0	19.8	99.0	80-120
06/29/94	CCS*INDBM*2	39403*CLP90	Toxaphene	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	39514*CLP90	Aroclor-1016	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	39491*CLP90	Aroclor-1221	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	39495*CLP90	Aroclor-1232	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	39499*CLP90	Aroclor-1242	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	39503*CLP90	Aroclor-1248	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	39507*CLP90	Aroclor-1254	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2	39511*CLP90	Aroclor-1260	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	39076*CLP90	alpha-BHC	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	34257*CLP90	beta-BHC	UG/KG-	20.0	20.2	101	80-120
06/29/94	CCS*INDBM*2*C	34262*CLP90	delta-BHC	UG/KG-	20.0	20.2	101	80-120
06/29/94	CCS*INDBM*2*C	39783*CLP90	gamma-BHC (Lindane)	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	39413*CLP90	Heptachlor	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	39333*CLP90	Aldrin	UG/KG-	20.0	20.4	102	80-120
06/29/94	CCS*INDBM*2*C	39423*CLP90	Heptachlor epoxide	UG/KG-	20.0	20.3	102	80-120
06/29/94	CCS*INDBM*2*C	34364*CLP90	Endosulfan I	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	39383*CLP90	Dieldrin	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	39321*CLP90	4,4'-DDE	UG/KG-	40.0	40.6	102	80-120
06/29/94	CCS*INDBM*2*C	39393*CLP90	Endrin	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	34359*CLP90	Endosulfan II	UG/KG-	40.0	40.4	101	80-120
06/29/94	CCS*INDBM*2*C	39311*CLP90	4,4'-DDD	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	34354*CLP90	Endosulfan sulfate	UG/KG-	40.0	40.5	101	80-120
06/29/94	CCS*INDBM*2*C	39301*CLP90	4,4'-DDT	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	39481*CLP90	Methoxychlor	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	98591*CLP90	Endrin ketone	UG/KG-	40.0	40.6	102	80-120
06/29/94	CCS*INDBM*2*C	34369*CLP90	Endrin aldehyde	UG/KG-	40.0	40.5	101	80-120
06/29/94	CCS*INDBM*2*C	97501*CLP90	alpha-Chlordane	UG/KG-	20.0	20.2	101	80-120
06/29/94	CCS*INDBM*2*C	39811*CLP90	gamma-Chlordane	UG/KG-	20.0	20.3	102	80-120
06/29/94	CCS*INDBM*2*C	39403*CLP90	Toxaphene	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	39514*CLP90	Aroclor-1016	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	39491*CLP90	Aroclor-1221	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	39495*CLP90	Aroclor-1232	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	39499*CLP90	Aroclor-1242	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	39503*CLP90	Aroclor-1248	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	39507*CLP90	Aroclor-1254	UG/KG-		ND		80-120
06/29/94	CCS*INDBM*2*C	39511*CLP90	Aroclor-1260	UG/KG-		ND		80-120

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/29/94	MB*QC*1	39076*CLP90	alpha-BHC	UG/KG-	ND
06/29/94	MB*QC*1	34257*CLP90	beta-BHC	UG/KG-	ND
06/29/94	MB*QC*1	34262*CLP90	delta-BHC	UG/KG-	ND
06/29/94	MB*QC*1	39783*CLP90	gamma-BHC (Lindane)	UG/KG-	ND
06/29/94	MB*QC*1	39413*CLP90	Heptachlor	UG/KG-	ND
06/29/94	MB*QC*1	39333*CLP90	Aldrin	UG/KG-	ND
06/29/94	MB*QC*1	39423*CLP90	Heptachlor epoxide	UG/KG-	ND
06/29/94	MB*QC*1	34364*CLP90	Endosulfan I	UG/KG-	ND
06/29/94	MB*QC*1	39383*CLP90	Dieldrin	UG/KG-	ND
06/29/94	MB*QC*1	39321*CLP90	4,4'-DDE	UG/KG-	ND
06/29/94	MB*QC*1	39393*CLP90	Endrin	UG/KG-	ND
06/29/94	MB*QC*1	34359*CLP90	Endosulfan II	UG/KG-	ND
06/29/94	MB*QC*1	39311*CLP90	4,4'-DDD	UG/KG-	ND
06/29/94	MB*QC*1	34354*CLP90	Endosulfan sulfate	UG/KG-	ND
06/29/94	MB*QC*1	39301*CLP90	4,4'-DDT	UG/KG-	ND
06/29/94	MB*QC*1	39481*CLP90	Methoxychlor	UG/KG-	ND
06/29/94	MB*QC*1	98591*CLP90	Endrin ketone	UG/KG-	ND
06/29/94	MB*QC*1	34369*CLP90	Endrin aldehyde	UG/KG-	ND
06/29/94	MB*QC*1	97501*CLP90	alpha-Chlordane	UG/KG-	ND
06/29/94	MB*QC*1	39811*CLP90	gamma-Chlordane	UG/KG-	ND
06/29/94	MB*QC*1	39403*CLP90	Toxaphene	UG/KG-	ND
06/29/94	MB*QC*1	39514*CLP90	Aroclor-1016	UG/KG-	ND
06/29/94	MB*QC*1	39491*CLP90	Aroclor-1221	UG/KG-	ND
06/29/94	MB*QC*1	39495*CLP90	Aroclor-1232	UG/KG-	ND
06/29/94	MB*QC*1	39499*CLP90	Aroclor-1242	UG/KG-	ND
06/29/94	MB*QC*1	39503*CLP90	Aroclor-1248	UG/KG-	ND
06/29/94	MB*QC*1	39507*CLP90	Aroclor-1254	UG/KG-	ND
06/29/94	MB*QC*1	39511*CLP90	Aroclor-1260	UG/KG-	ND

ESE BATCH : G50744

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/29/94	SPM1*CDMHNSS2*6	39076*CLP90	alpha-BHC		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	34257*CLP90	beta-BHC		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	34262*CLP90	delta-BHC		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	39783*CLP90	gamma-BHC (Lindane)	48.6	46.5-126.	50.0	UG/KG-	16.9	8.22
06/29/94	SPM1*CDMHNSS2*6	39413*CLP90	Heptachlor	30.1	35.5-129.	50.0	UG/KG-	16.9	5.08
06/29/94	SPM1*CDMHNSS2*6	39333*CLP90	Aldrin	31.5	34-132	0.0	UG/KG-	16.9	5.33
06/29/94	SPM1*CDMHNSS2*6	39423*CLP90	Heptachlor epoxide		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	34364*CLP90	Endosulfan I		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	39383*CLP90	Dieldrin	39.5	31.5-133.	50.0	UG/KG-	33.9	13.4
06/29/94	SPM1*CDMHNSS2*6	39321*CLP90	4,4'-DDE		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	39393*CLP90	Endrin	52.5	42.5-138.	50.0	UG/KG-	33.9	17.8
06/29/94	SPM1*CDMHNSS2*6	34359*CLP90	Endosulfan II		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	39311*CLP90	4,4'-DDD		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	34354*CLP90	Endosulfan sulfate		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	39301*CLP90	4,4'-DDT	38.1	23.5-133.	50.0	UG/KG-	33.9	12.9
06/29/94	SPM1*CDMHNSS2*6	39481*CLP90	Methoxychlor		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	98591*CLP90	Endrin ketone		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	34369*CLP90	Endrin aldehyde		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	97501*CLP90	alpha-Chlordane		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	39811*CLP90	gamma-Chlordane		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	39403*CLP90	Toxaphene		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	39514*CLP90	Aroclor-1016		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	39491*CLP90	Aroclor-1221		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	39495*CLP90	Aroclor-1232		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	39499*CLP90	Aroclor-1242		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	39503*CLP90	Aroclor-1248		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	39507*CLP90	Aroclor-1254		80-120	0.0	UG/KG-		ND
06/29/94	SPM1*CDMHNSS2*6	39511*CLP90	Aroclor-1260		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39076*CLP90	alpha-BHC		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	34257*CLP90	beta-BHC		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	34262*CLP90	delta-BHC		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39783*CLP90	gamma-BHC (Lindane)	41.4	46.5-126.	50.0	UG/KG-	16.9	[illegible]
06/29/94	SPM2*CDMHNSS2*6	39413*CLP90	Heptachlor	27.6	35.5-129.	50.0	UG/KG-	16.9	
06/29/94	SPM2*CDMHNSS2*6	39333*CLP90	Aldrin	29.9	34-132	0.0	UG/KG-	16.9	[illegible]
06/29/94	SPM2*CDMHNSS2*6	39423*CLP90	Heptachlor epoxide		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	34364*CLP90	Endosulfan I		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39383*CLP90	Dieldrin	41.6	31.5-133.	50.0	UG/KG-	33.9	14.1
06/29/94	SPM2*CDMHNSS2*6	39321*CLP90	4,4'-DDE		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39393*CLP90	Endrin	51.0	42.5-138.	50.0	UG/KG-	33.9	17.3
06/29/94	SPM2*CDMHNSS2*6	34359*CLP90	Endosulfan II		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39311*CLP90	4,4'-DDD		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	34354*CLP90	Endosulfan sulfate		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39301*CLP90	4,4'-DDT	35.4	23.5-133.	50.0	UG/KG-	33.9	12.0
06/29/94	SPM2*CDMHNSS2*6	39481*CLP90	Methoxychlor		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	98591*CLP90	Endrin ketone		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	34369*CLP90	Endrin aldehyde		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	97501*CLP90	alpha-Chlordane		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39811*CLP90	gamma-Chlordane		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39403*CLP90	Toxaphene		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39514*CLP90	Aroclor-1016		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39491*CLP90	Aroclor-1221		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39495*CLP90	Aroclor-1232		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39499*CLP90	Aroclor-1242		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39503*CLP90	Aroclor-1248		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39507*CLP90	Aroclor-1254		80-120	0.0	UG/KG-		ND
06/29/94	SPM2*CDMHNSS2*6	39511*CLP90	Aroclor-1260		80-120	0.0	UG/KG-		ND

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/29/94	CCS*INDAM*2	96999*SUR	TETRACHLORO-M-XYLENE (CLP90)	UG/KG	20.0	19.6	98.0	60-150
06/29/94	CCS*INDAM*2	95000*SUR	DECACHLOROBIPHENYL	UG/KG	40.0	38.2	95.5	60-150
06/29/94	CCS*INDAM*2*C	96999*SUR	TETRACHLORO-M-XYLENE (CLP90)	UG/KG	20.0	20.2	101	60-150
06/29/94	CCS*INDAM*2*C	95000*SUR	DECACHLOROBIPHENYL	UG/KG	40.0	40.3	101	60-150
06/29/94	CCS*INDBM*2	96999*SUR	TETRACHLORO-M-XYLENE (CLP90)	UG/KG	20.0	19.4	97.0	60-150
06/29/94	CCS*INDBM*2	95000*SUR	DECACHLOROBIPHENYL	UG/KG	40.0	38.9	97.3	60-150
06/29/94	CCS*INDBM*2*C	96999*SUR	TETRACHLORO-M-XYLENE (CLP90)	UG/KG	20.0	18.8	94.0	60-150
06/29/94	CCS*INDBM*2*C	95000*SUR	DECACHLOROBIPHENYL	UG/KG	40.0	40.0	100.0	60-150
06/29/94	MB*QC*1	96999*SUR	TETRACHLORO-M-XYLENE (CLP90)	UG/KG	13.3	12.9	97.0	60-150

ESE BATCH : G50744

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/29/94	MB*QC*1	95000*SUR	DECACHLOROBIPHENYL	UG/KG	13.3	13.1	98.5	60-150
06/29/94	DA*CDMHNSS2*6	96999*SUR	TETRACHLORO-M-XYLENE (CLP90)	UG/KG	13.3	8.30	62.4	60-150
06/29/94	DA*CDMHNSS2*6	95000*SUR	DECACHLOROBIPHENYL	UG/KG	13.3	1.08	8.12	60-150
06/29/94	SPM1*CDMHNSS2*6	96999*SUR	TETRACHLORO-M-XYLENE (CLP90)	UG/KG	13.3	8.56	64.4	60-150
06/29/94	SPM1*CDMHNSS2*6	95000*SUR	DECACHLOROBIPHENYL	UG/KG	13.3	0.981	7.38	60-150
06/29/94	SPM2*CDMHNSS2*6	96999*SUR	TETRACHLORO-M-XYLENE (CLP90)	UG/KG	13.3	8.45	63.5	60-150
06/29/94	SPM2*CDMHNSS2*6	95000*SUR	DECACHLOROBIPHENYL	UG/KG	13.3	0.966	7.26	60-150

ESE BATCH : G50744

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED

FINAL CONCENTRATION	UG/KG-DRY
INJECTION VOLUME	NA
SAMPLE VOLUME	G
EXTRACT VOLUME	ML
CURVE CONCENTRATION	NG/ML
SPIKE SOLN CONCENTRATION	NG/ML
SPIKE VOLUME	ML
SPIKE SAMPLE VOLUME	G
TARGET CONCENTRATION	NG/G
RESPONSE DESCRIPTION	PK AREA
CONVERSION FACTOR	NA

$$\text{FINAL CONC} = \frac{\text{CURV CONC} * \text{EXT VOL} * \text{DIL}}{\text{INJ VOL} * \text{SAMP VOL} * ((100 - \%\text{MOISTURE}) / 100)}$$

$$\text{UG/KG-DRY} = \frac{(\text{NG/ML}) * (\text{ML})}{(\text{NA}) * (\text{G})}$$

$$(\qquad\qquad) = \frac{(\qquad\qquad\qquad) * (\qquad\qquad\qquad) * (\qquad\qquad)}{(\qquad\qquad\qquad) * (\qquad\qquad\qquad) * ((100 - (\qquad\qquad\qquad)) / 100)}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC} * \text{SPIKE VOL}}{\text{SPIKE SAMP VOL} * ((100 - \%\text{MOISTURE}) / 100)}$$

$$\text{NG/G} = \frac{(\text{NG/ML}) * (\text{ML})}{(\text{G})}$$

ESE BATCH : G50744

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50744 Analysis Date: 06/28/94 Analyst: VICTOR BAUDER

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Extract holding time within criteria?	X		
Sample retention times within retention time window?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?		X	
Standard matrix spike within acceptance criteria?			
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?		X	Heptachlor
			Aldrin
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?		X	gamma-BHC
			Heptachlor
			Aldrin
Surrogate present?	X		
Surrogate within acceptance criteria?		X	DCBP

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY: BRAD WEICHERT 1569
PROB.:STANDARD MATRIX SPIKE NOT PRESENT.
EXPL.:NA./VB
PROB.:SAMPLE MATRIX SPIKE NOT WITHIN ACCEPTANCE CRITERIA.
EXPL.:THE NAMED COMPOUNDS HAVE LOW RECOVERIES. THE SAMPLE IS VERY COMPLEX WITH MANY PEAKS. THERE ARE NO HITS IN THE SAMPLE. THE RESULTS ARE ACCEPTABLE./VB
PROB.:SAMPLE MATRIX SPIKE DUPLICATE NOT WITHIN ACCEPTANCE CRITERIA.
EXPL.:SEE ABOVE./VB
PROB.:SURROGATE NOT WITHIN ACCEPTANCE CRITERIA.
EXPL.:SAMPLE CDMHNSS2*6, SPM1*CDMHNSS2*6 AND SPM2*CDMHNSS*6 HAVE LOW DCBP. THE OTHER SURROGATE TCX IS WITHIN CRITERIA. THE BLANK IS OK FOR BOTH SURROGATES. THERE ARE NO HITS IN THE SAMPLE. THE RESULTS ARE ACCEPTABLE./VSB

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

50.094

ICAP Metals

ESE BATCH : G50282
CLASSIFICATION : PR. POLL. ICAP METALS - EPA 6010

QC TYPE : FDER/SW
ANALYST : ELIZABETH CREARY
EXTRACTOR : DAVID NICHOLS
DATA ENTRY : ICAP UPLOAD

REPORT DATE/TIME : 08/13/94 11:25:59
ANALYSIS DATE : 06/20/94
EXTRACT DATE : 06/20/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*1	A06-1-01	06/20/94	03:43PM

ESE BATCH : G50282

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 1078 METHOD: 6010-G SILVER, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=.005 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 1008 METHOD: 6010-G BARIUM, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=.02 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 1028 METHOD: 6010-G CADMIUM, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=.005 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 1029 METHOD: 6010-G CHROMIUM, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=.01 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 1052 METHOD: 6010-G LEAD, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=.1 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : G50282

Continuing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/20/94	CCB*QC*1	1078*6010-G	SILVER	MG/KG-	ND
06/20/94	CCB*QC*1	1008*6010-G	BARIUM	MG/KG-	0.0001
06/20/94	CCB*QC*1	1028*6010-G	CADMIUM	MG/KG-	0.0005
06/20/94	CCB*QC*1	1029*6010-G	CHROMIUM	MG/KG-	0.001
06/20/94	CCB*QC*1	1052*6010-G	LEAD	MG/KG-	ND

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/20/94	CCV*STD4*1	1078*6010-G	SILVER	MG/KG-	1.00	1.01	101	90-110
06/20/94	CCV*STD4*1	1008*6010-G	BARIUM	MG/KG-		ND		90-110
06/20/94	CCV*STD4*1	1028*6010-G	CADMIUM	MG/KG-		ND		90-110
06/20/94	CCV*STD4*1	1029*6010-G	CHROMIUM	MG/KG-		ND		90-110
06/20/94	CCV*STD4*1	1052*6010-G	LEAD	MG/KG-		ND		90-110
06/20/94	CCV*STD2*1	1078*6010-G	SILVER	MG/KG-		ND		90-110
06/20/94	CCV*STD2*1	1008*6010-G	BARIUM	MG/KG-	1.00	1.00	100.0	90-110
06/20/94	CCV*STD2*1	1028*6010-G	CADMIUM	MG/KG-	1.00	1.01	101	90-110
06/20/94	CCV*STD2*1	1029*6010-G	CHROMIUM	MG/KG-	1.00	1.00	100.0	90-110
06/20/94	CCV*STD2*1	1052*6010-G	LEAD	MG/KG-	1.00	1.01	101	90-110
06/20/94	CCV*QC*1	1078*6010-G	SILVER	MG/KG-	0.500	0.506	101	90-110
06/20/94	CCV*QC*1	1008*6010-G	BARIUM	MG/KG-	0.500	0.496	99.2	90-110
06/20/94	CCV*QC*1	1028*6010-G	CADMIUM	MG/KG-	0.500	0.500	100.0	90-110
06/20/94	CCV*QC*1	1029*6010-G	CHROMIUM	MG/KG-	0.500	0.491	98.2	90-110
06/20/94	CCV*QC*1	1052*6010-G	LEAD	MG/KG-	0.500	0.496	99.2	90-110

Interference Check Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/20/94	ICS*A*1	1078*6010-G	SILVER	MG/KG-		ND		80-120
06/20/94	ICS*A*1	1008*6010-G	BARIUM	MG/KG-		ND		80-120
06/20/94	ICS*A*1	1028*6010-G	CADMIUM	MG/KG-		ND		80-120
06/20/94	ICS*A*1	1029*6010-G	CHROMIUM	MG/KG-		ND		80-120
06/20/94	ICS*A*1	1052*6010-G	LEAD	MG/KG-		ND		80-120
06/20/94	ICS*AB*1	1078*6010-G	SILVER	MG/KG-	1.00	0.979	97.9	80-120
06/20/94	ICS*AB*1	1008*6010-G	BARIUM	MG/KG-	0.500	0.487	97.4	80-120
06/20/94	ICS*AB*1	1028*6010-G	CADMIUM	MG/KG-	1.00	0.978	97.8	80-120
06/20/94	ICS*AB*1	1029*6010-G	CHROMIUM	MG/KG-	0.500	0.467	93.4	80-120
06/20/94	ICS*AB*1	1052*6010-G	LEAD	MG/KG-	1.00	0.900	90.0	80-120
06/20/94	ICS*A*2	1078*6010-G	SILVER	MG/KG-		ND		80-120
06/20/94	ICS*A*2	1008*6010-G	BARIUM	MG/KG-		ND		80-120
06/20/94	ICS*A*2	1028*6010-G	CADMIUM	MG/KG-		ND		80-120
06/20/94	ICS*A*2	1029*6010-G	CHROMIUM	MG/KG-		ND		80-120
06/20/94	ICS*A*2	1052*6010-G	LEAD	MG/KG-		ND		80-120
06/20/94	ICS*AB*2	1078*6010-G	SILVER	MG/KG-	1.00	0.975	97.5	80-120
06/20/94	ICS*AB*2	1008*6010-G	BARIUM	MG/KG-	0.500	0.484	96.8	80-120
06/20/94	ICS*AB*2	1028*6010-G	CADMIUM	MG/KG-	1.00	0.973	97.3	80-120
06/20/94	ICS*AB*2	1029*6010-G	CHROMIUM	MG/KG-	0.500	0.462	92.4	80-120
06/20/94	ICS*AB*2	1052*6010-G	LEAD	MG/KG-	1.00	0.899	89.9	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/20/94	ICV*ICAP19*1	1078*6010-G	SILVER	MG/KG-		ND		90-110
06/20/94	ICV*ICAP19*1	1008*6010-G	BARIUM	MG/KG-		ND		90-110
06/20/94	ICV*ICAP19*1	1028*6010-G	CADMIUM	MG/KG-	1.00	1.01	101	90-110
06/20/94	ICV*ICAP19*1	1029*6010-G	CHROMIUM	MG/KG-	1.00	1.01	101	90-110
06/20/94	ICV*ICAP19*1	1052*6010-G	LEAD	MG/KG-	1.00	1.02	102	90-110
06/20/94	ICV*ICAP7*1	1078*6010-G	SILVER	MG/KG-	1.00	1.02	102	90-110
06/20/94	ICV*ICAP7*1	1008*6010-G	BARIUM	MG/KG-	1.00	1.01	101	90-110
06/20/94	ICV*ICAP7*1	1028*6010-G	CADMIUM	MG/KG-		ND		90-110
06/20/94	ICV*ICAP7*1	1029*6010-G	CHROMIUM	MG/KG-		ND		90-110
06/20/94	ICV*ICAP7*1	1052*6010-G	LEAD	MG/KG-		ND		90-110

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/20/94	MB*REAGENT*1	1078*6010-G	SILVER	MG/KG-	ND
06/20/94	MB*REAGENT*1	1008*6010-G	BARIUM	MG/KG-	0.0003
06/20/94	MB*REAGENT*1	1028*6010-G	CADMIUM	MG/KG-	0.001
06/20/94	MB*REAGENT*1	1029*6010-G	CHROMIUM	MG/KG-	0.001
06/20/94	MB*REAGENT*1	1052*6010-G	LEAD	MG/KG-	0.003
06/20/94	MB*QC*1	1078*6010-G	SILVER	MG/KG-	ND
06/20/94	MB*QC*1	1008*6010-G	BARIUM	MG/KG-	ND

ESE BATCH : G50282

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/20/94	MB*QC*1	1028*6010-G	CADMIUM	MG/KG-	ND
06/20/94	MB*QC*1	1029*6010-G	CHROMIUM	MG/KG-	ND
06/20/94	MB*QC*1	1052*6010-G	LEAD	MG/KG-	ND

Serial Dilution Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	REP #1	REP #2	RPD	RPD CRIT
06/20/94	SD*CDMHNSS2*1	1078*6010-G	SILVER	MG/KG-	0.0	ND	NC	10
06/20/94	SD*CDMHNSS2*1	1008*6010-G	BARIUM	MG/KG-	70.1	72.5	3.40	10
06/20/94	SD*CDMHNSS2*1	1028*6010-G	CADMIUM	MG/KG-	0.0	ND	NC	10
06/20/94	SD*CDMHNSS2*1	1029*6010-G	CHROMIUM	MG/KG-	5.88	5.70	3.10	10
06/20/94	SD*CDMHNSS2*1	1052*6010-G	LEAD	MG/KG-	11.6	8.35	32.6	10

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/20/94	SP1*QC*1	1078*6010-G	SILVER	99.6	73-107	MG/KG-	4.96	4.94
06/20/94	SP1*QC*1	1008*6010-G	BARIUM	98.0	86-106	MG/KG-	198	194
06/20/94	SP1*QC*1	1028*6010-G	CADMIUM	94.0	80-108	MG/KG-	4.96	4.66
06/20/94	SP1*QC*1	1029*6010-G	CHROMIUM	99.5	79-109	MG/KG-	19.8	19.7
06/20/94	SP1*QC*1	1052*6010-G	LEAD	98.2	79-109	MG/KG-	49.6	48.7

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/20/94	SPM1*CDMHNSS2*1	1078*6010-G	SILVER	97.8	73-107	0.0	MG/KG-	5.06	4.95
06/20/94	SPM1*CDMHNSS2*1	1008*6010-G	BARIUM	94.6	86-106	70.1	MG/KG-	203	192
06/20/94	SPM1*CDMHNSS2*1	1028*6010-G	CADMIUM	97.8	80-108	0.0	MG/KG-	5.06	4.95
06/20/94	SPM1*CDMHNSS2*1	1029*6010-G	CHROMIUM	95.1	79-109	5.88	MG/KG-	20.3	19.3
06/20/94	SPM1*CDMHNSS2*1	1052*6010-G	LEAD	92.3	79-109	11.6	MG/KG-	50.6	45.7
06/20/94	SPM2*CDMHNSS2*1	1078*6010-G	SILVER	99.4	73-107	0.0	MG/KG-	4.92	4.89
06/20/94	SPM2*CDMHNSS2*1	1008*6010-G	BARIUM	93.4	86-106	70.1	MG/KG-	197	184
06/20/94	SPM2*CDMHNSS2*1	1028*6010-G	CADMIUM	100.6	80-108	0.0	MG/KG-	4.92	4.95
06/20/94	SPM2*CDMHNSS2*1	1029*6010-G	CHROMIUM	93.4	79-109	5.88	MG/KG-	19.7	18.4
06/20/94	SPM2*CDMHNSS2*1	1052*6010-G	LEAD	92.9	79-109	11.6	MG/KG-	49.2	45.7

Spike into Matrix Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/20/94	SPX*CDMHNSS2*1	1078*6010-G	SILVER	100.4	85-115	MG/KG-	49.6	49.8
06/20/94	SPX*CDMHNSS2*1	1008*6010-G	BARIUM	100.6	85-115	MG/KG-	49.6	49.9
06/20/94	SPX*CDMHNSS2*1	1028*6010-G	CADMIUM	99.8	85-115	MG/KG-	49.6	49.5
06/20/94	SPX*CDMHNSS2*1	1029*6010-G	CHROMIUM	98.4	85-115	MG/KG-	49.6	48.8
06/20/94	SPX*CDMHNSS2*1	1052*6010-G	LEAD	97.4	85-115	MG/KG-	49.6	48.3

ESE BATCH : G50282

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED	
FINAL CONCENTRATION	MG/KG-DRY
INJECTION VOLUME	NA
SAMPLE VOLUME	GRAMS
EXTRACT VOLUME	ML
CURVE CONCENTRATION	UG/ML
SPIKE SOLN CONCENTRATION	UG/ML
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/ML
RESPONSE DESCRIPTION	UG/ML
CONVERSION FACTOR	1

$$\text{FINAL CONC} = \frac{\text{CURV CONC} * \text{EXT VOL} * \text{DIL} * 1}{\text{INJ VOL} * \text{SAMP VOL} * ((100 - \%\text{MOISTURE}) / 100)}$$

$$\text{MG/KG-DRY} = \frac{(\text{UG/ML}) * (\text{ML}) * 1}{(\text{NA}) * (\text{GRAMS})}$$

$$(\qquad) = \frac{(\qquad) * (\qquad) * (\qquad)}{(\qquad) * (\qquad) * ((100 - (\qquad)) / 100)}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC} * \text{SPIKE VOL}}{\text{SPIKE SAMP VOL} * ((100 - \%\text{MOISTURE}) / 100)}$$

$$\text{UG/ML} = \frac{(\text{UG/ML}) * (\text{NA})}{(\text{NA})}$$

ESE BATCH : G50282

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50282 Analysis Date: 06/20/94 Analyst: ELIZABETH CREARY

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICS present?	X		
ICS within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Analytical spike present?	X		
Analytical spike within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

ESE BATCH : G50325
CLASSIFICATION : PR. POLL. ICAP METALS - EPA 6010

QC TYPE : FDER/SW
ANALYST : ELIZABETH CREARY
EXTRACTOR : DAVID NICHOLS
DATA ENTRY : ICAP UPLOAD

REPORT DATE/TIME : 08/13/94 11:26:40
ANALYSIS DATE : 06/21/94
EXTRACT DATE : 06/21/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*2	BG1-1-02	06/21/94	01:37PM
CDMHNSS2*3	A06-2-02	06/21/94	01:40PM
CDMHNSS2*4	A06-3-02	06/21/94	01:43PM
CDMHNSS2*5	CS2-2-00	06/21/94	01:46PM

ESE BATCH : G50325

Continuing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	CCB*QC*1	1078*6010-G	SILVER	MG/KG-	ND
06/21/94	CCB*QC*1	1008*6010-G	BARIUM	MG/KG-	ND
06/21/94	CCB*QC*1	1028*6010-G	CADMIUM	MG/KG-	0.0002
06/21/94	CCB*QC*1	1029*6010-G	CHROMIUM	MG/KG-	ND
06/21/94	CCB*QC*1	1052*6010-G	LEAD	MG/KG-	ND
06/21/94	CCB*QC*2	1078*6010-G	SILVER	MG/KG-	ND
06/21/94	CCB*QC*2	1008*6010-G	BARIUM	MG/KG-	ND
06/21/94	CCB*QC*2	1028*6010-G	CADMIUM	MG/KG-	0.0005
06/21/94	CCB*QC*2	1029*6010-G	CHROMIUM	MG/KG-	ND
06/21/94	CCB*QC*2	1052*6010-G	LEAD	MG/KG-	ND

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	CCV*STD4*1	1078*6010-G	SILVER	MG/KG-	1.00	0.999	99.9	90-110
06/21/94	CCV*STD4*1	1008*6010-G	BARIUM	MG/KG-		ND		90-110
06/21/94	CCV*STD4*1	1028*6010-G	CADMIUM	MG/KG-		ND		90-110
06/21/94	CCV*STD4*1	1029*6010-G	CHROMIUM	MG/KG-		ND		90-110
06/21/94	CCV*STD4*1	1052*6010-G	LEAD	MG/KG-		ND		90-110
06/21/94	CCV*STD2*1	1078*6010-G	SILVER	MG/KG-		ND		90-110
06/21/94	CCV*STD2*1	1008*6010-G	BARIUM	MG/KG-	1.00	1.00	100.0	90-110
06/21/94	CCV*STD2*1	1028*6010-G	CADMIUM	MG/KG-	1.00	1.00	100.0	90-110
06/21/94	CCV*STD2*1	1029*6010-G	CHROMIUM	MG/KG-	1.00	1.00	100.0	90-110
06/21/94	CCV*STD2*1	1052*6010-G	LEAD	MG/KG-	1.00	1.03	103	90-110
06/21/94	CCV*QC*1	1078*6010-G	SILVER	MG/KG-	0.500	0.510	102	90-110
06/21/94	CCV*QC*1	1008*6010-G	BARIUM	MG/KG-	0.500	0.503	101	90-110
06/21/94	CCV*QC*1	1028*6010-G	CADMIUM	MG/KG-	0.500	0.509	102	90-110
06/21/94	CCV*QC*1	1029*6010-G	CHROMIUM	MG/KG-	0.500	0.505	101	90-110
06/21/94	CCV*QC*1	1052*6010-G	LEAD	MG/KG-	0.500	0.492	98.4	90-110
06/21/94	CCV*QC*2	1078*6010-G	SILVER	MG/KG-	0.500	0.509	102	90-110
06/21/94	CCV*QC*2	1008*6010-G	BARIUM	MG/KG-	0.500	0.505	101	90-110
06/21/94	CCV*QC*2	1028*6010-G	CADMIUM	MG/KG-	0.500	0.502	100	90-110
06/21/94	CCV*QC*2	1029*6010-G	CHROMIUM	MG/KG-	0.500	0.503	101	90-110
06/21/94	CCV*QC*2	1052*6010-G	LEAD	MG/KG-	0.500	0.512	102	90-110

Interference Check Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	ICS*A*1	1078*6010-G	SILVER	MG/KG-		ND		80-120
06/21/94	ICS*A*1	1008*6010-G	BARIUM	MG/KG-		ND		80-120
06/21/94	ICS*A*1	1028*6010-G	CADMIUM	MG/KG-		ND		80-120
06/21/94	ICS*A*1	1029*6010-G	CHROMIUM	MG/KG-		ND		80-120
06/21/94	ICS*A*1	1052*6010-G	LEAD	MG/KG-		ND		80-120
06/21/94	ICS*AB*1	1078*6010-G	SILVER	MG/KG-	1.00	0.978	97.8	80-120
06/21/94	ICS*AB*1	1008*6010-G	BARIUM	MG/KG-	0.500	0.490	98.0	80-120
06/21/94	ICS*AB*1	1028*6010-G	CADMIUM	MG/KG-	1.00	0.976	97.6	80-120
06/21/94	ICS*AB*1	1029*6010-G	CHROMIUM	MG/KG-	0.500	0.470	94.0	80-120
06/21/94	ICS*AB*1	1052*6010-G	LEAD	MG/KG-	1.00	0.934	93.4	80-120
06/21/94	ICS*A*2	1078*6010-G	SILVER	MG/KG-		ND		80-120
06/21/94	ICS*A*2	1008*6010-G	BARIUM	MG/KG-		ND		80-120
06/21/94	ICS*A*2	1028*6010-G	CADMIUM	MG/KG-		ND		80-120
06/21/94	ICS*A*2	1029*6010-G	CHROMIUM	MG/KG-		ND		80-120
06/21/94	ICS*A*2	1052*6010-G	LEAD	MG/KG-		ND		80-120
06/21/94	ICS*AB*2	1078*6010-G	SILVER	MG/KG-	1.00	0.981	98.1	80-120
06/21/94	ICS*AB*2	1008*6010-G	BARIUM	MG/KG-	0.500	0.492	98.4	80-120
06/21/94	ICS*AB*2	1028*6010-G	CADMIUM	MG/KG-	1.00	0.979	97.9	80-120
06/21/94	ICS*AB*2	1029*6010-G	CHROMIUM	MG/KG-	0.500	0.472	94.4	80-120
06/21/94	ICS*AB*2	1052*6010-G	LEAD	MG/KG-	1.00	0.919	91.9	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	ICV*ICAP19*1	1078*6010-G	SILVER	MG/KG-		ND		90-110
06/21/94	ICV*ICAP19*1	1008*6010-G	BARIUM	MG/KG-		ND		90-110
06/21/94	ICV*ICAP19*1	1028*6010-G	CADMIUM	MG/KG-	1.00	1.02	102	90-110
06/21/94	ICV*ICAP19*1	1029*6010-G	CHROMIUM	MG/KG-	1.00	1.03	103	90-110
06/21/94	ICV*ICAP19*1	1052*6010-G	LEAD	MG/KG-	1.00	1.03	103	90-110
06/21/94	ICV*ICAP7*1	1078*6010-G	SILVER	MG/KG-	1.00	1.04	104	90-110
06/21/94	ICV*ICAP7*1	1008*6010-G	BARIUM	MG/KG-	1.00	1.03	103	90-110
06/21/94	ICV*ICAP7*1	1028*6010-G	CADMIUM	MG/KG-		ND		90-110
06/21/94	ICV*ICAP7*1	1029*6010-G	CHROMIUM	MG/KG-		ND		90-110
06/21/94	ICV*ICAP7*1	1052*6010-G	LEAD	MG/KG-		ND		90-110

ESE BATCH : G50325

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	MB*REAGENT*1	1078*6010-G	SILVER	MG/KG-	ND
06/21/94	MB*REAGENT*1	1008*6010-G	BARIUM	MG/KG-	0.0003
06/21/94	MB*REAGENT*1	1028*6010-G	CADMIUM	MG/KG-	ND
06/21/94	MB*REAGENT*1	1029*6010-G	CHROMIUM	MG/KG-	ND
06/21/94	MB*REAGENT*1	1052*6010-G	LEAD	MG/KG-	0.003
06/21/94	MB*QC*1	1078*6010-G	SILVER	MG/KG-	ND
06/21/94	MB*QC*1	1008*6010-G	BARIUM	MG/KG-	ND
06/21/94	MB*QC*1	1028*6010-G	CADMIUM	MG/KG-	ND
06/21/94	MB*QC*1	1029*6010-G	CHROMIUM	MG/KG-	ND
06/21/94	MB*QC*1	1052*6010-G	LEAD	MG/KG-	ND

Serial Dilution Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	REP #1	REP #2	RPD	RPD CRIT
06/21/94	SD*CDMHNSS2*5	1078*6010-G	SILVER	MG/KG-	0.0	0.409	NC	10
06/21/94	SD*CDMHNSS2*5	1008*6010-G	BARIUM	MG/KG-	54.8	55.4	1.10	10
06/21/94	SD*CDMHNSS2*5	1028*6010-G	CADMIUM	MG/KG-	0.0	0.256	NC	10
06/21/94	SD*CDMHNSS2*5	1029*6010-G	CHROMIUM	MG/KG-	3.53	3.31	6.40	10
06/21/94	SD*CDMHNSS2*5	1052*6010-G	LEAD	MG/KG-	0.0	4.28	NC	10

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/21/94	SP1*QC*1	1078*6010-G	SILVER	97.2	73-107	MG/KG-	4.94	4.80
06/21/94	SP1*QC*1	1008*6010-G	BARIUM	98.5	86-106	MG/KG-	198	195
06/21/94	SP1*QC*1	1028*6010-G	CADMIUM	99.4	80-108	MG/KG-	4.94	4.91
06/21/94	SP1*QC*1	1029*6010-G	CHROMIUM	98.5	79-109	MG/KG-	19.8	19.5
06/21/94	SP1*QC*1	1052*6010-G	LEAD	97.4	79-109	MG/KG-	49.4	48.1

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/21/94	SPM1*CDMHNSS2*5	1078*6010-G	SILVER	97.5	73-107	0.0	MG/KG-	5.13	5.00
06/21/94	SPM1*CDMHNSS2*5	1008*6010-G	BARIUM	95.1	86-106	54.8	MG/KG-	205	195
06/21/94	SPM1*CDMHNSS2*5	1028*6010-G	CADMIUM	100.2	80-108	0.0	MG/KG-	5.13	5.14
06/21/94	SPM1*CDMHNSS2*5	1029*6010-G	CHROMIUM	103.4	79-109	3.53	MG/KG-	20.5	21.2
06/21/94	SPM1*CDMHNSS2*5	1052*6010-G	LEAD	102.7	79-109	0.0	MG/KG-	51.3	52.7
06/21/94	SPM2*CDMHNSS2*5	1078*6010-G	SILVER	95.6	73-107	0.0	MG/KG-	4.96	4.74
06/21/94	SPM2*CDMHNSS2*5	1008*6010-G	BARIUM	94.5	86-106	54.8	MG/KG-	199	188
06/21/94	SPM2*CDMHNSS2*5	1028*6010-G	CADMIUM	94.4	80-108	0.0	MG/KG-	4.96	4.68
06/21/94	SPM2*CDMHNSS2*5	1029*6010-G	CHROMIUM	101.5	79-109	3.53	MG/KG-	19.9	20.2
06/21/94	SPM2*CDMHNSS2*5	1052*6010-G	LEAD	105.6	79-109	0.0	MG/KG-	49.6	52.4

Spike into Matrix Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/21/94	SPX*CDMHNSS2*5	1078*6010-G	SILVER	101.2	85-115	MG/KG-	51.1	51.7
06/21/94	SPX*CDMHNSS2*5	1008*6010-G	BARIUM	102.2	85-115	MG/KG-	51.1	52.2
06/21/94	SPX*CDMHNSS2*5	1028*6010-G	CADMIUM	100.2	85-115	MG/KG-	51.1	51.2
06/21/94	SPX*CDMHNSS2*5	1029*6010-G	CHROMIUM	101.0	85-115	MG/KG-	51.1	51.6
06/21/94	SPX*CDMHNSS2*5	1052*6010-G	LEAD	103.3	85-115	MG/KG-	51.1	52.8

ESE BATCH : G50325

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED	
FINAL CONCENTRATION	MG/KG-DRY
INJECTION VOLUME	NA
SAMPLE VOLUME	GRAMS
EXTRACT VOLUME	ML
CURVE CONCENTRATION	UG/ML
SPIKE SOLN CONCENTRATION	UG/ML
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/ML
RESPONSE DESCRIPTION	UG/ML
CONVERSION FACTOR	1

$$\text{FINAL CONC} = \frac{\text{CURV CONC} * \text{EXT VOL} * \text{DIL} * 1}{\text{INJ VOL} * \text{SAMP VOL} * ((100 - \%\text{MOISTURE}) / 100)}$$

$$\text{MG/KG-DRY} = \frac{(\text{UG/ML}) * (\text{ML}) * 1}{(\text{NA}) * (\text{GRAMS})}$$

$$(\qquad) = \frac{(\qquad) * (\qquad) * (\qquad)}{(\qquad) * (\qquad) * ((100 - (\qquad)) / 100)}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC} * \text{SPIKE VOL}}{\text{SPIKE SAMP VOL} * ((100 - \%\text{MOISTURE}) / 100)}$$

$$\text{UG/ML} = \frac{(\text{UG/ML}) * (\text{NA})}{(\text{NA})}$$

ESE BATCH : G50325

Environmental Science and Engineering Analytical Services
Computer QC Checks

Batch No.: G50325 Analysis Date: 06/21/94 Analyst: ELIZABETH CREARY

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICS present?	X		
ICS within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Analytical spike present?	X		
Analytical spike within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

ESE BATCH : G50325

TABLE OF ABBREVIATION:

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field.
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

ESE BATCH : G50429
CLASSIFICATION : PR. POLL. ICAP METALS - EPA 6010

QC TYPE : FDER/SW
ANALYST : GARRY PRICE
EXTRACTOR : DAVID NICHOLS
DATA ENTRY : ICAP UPLOAD

REPORT DATE/TIME : 08/13/94 11:28:02
ANALYSIS DATE : 06/22/94
EXTRACT DATE : 06/21/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*6	A03-1-05	06/22/94	03:42PM

ESE BATCH : G50429

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 1078 METHOD: 6010-G SILVER, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=.005 DATE: 06/22/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 1008 METHOD: 6010-G BARIUM, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=.02 DATE: 06/22/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 1028 METHOD: 6010-G CADMIUM, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=.005 DATE: 06/22/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 1029 METHOD: 6010-G CHROMIUM, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=.01 DATE: 06/22/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 1052 METHOD: 6010-G LEAD, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=.1 DATE: 06/22/94 LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : GS0429

Continuing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	CCB*QC*2	1078*6010-G	SILVER	MG/KG-	ND
06/22/94	CCB*QC*2	1008*6010-G	BARIUM	MG/KG-	ND
06/22/94	CCB*QC*2	1028*6010-G	CADMIUM	MG/KG-	0.001
06/22/94	CCB*QC*2	1029*6010-G	CHROMIUM	MG/KG-	ND
06/22/94	CCB*QC*2	1052*6010-G	LEAD	MG/KG-	ND

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	CCV*STD2*1	1078*6010-G	SILVER	MG/KG-		ND		90-110
06/22/94	CCV*STD2*1	1008*6010-G	BARIUM	MG/KG-	1.00	1.01	101	90-110
06/22/94	CCV*STD2*1	1028*6010-G	CADMIUM	MG/KG-	1.00	1.00	100.0	90-110
06/22/94	CCV*STD2*1	1029*6010-G	CHROMIUM	MG/KG-	1.00	1.00	100.0	90-110
06/22/94	CCV*STD2*1	1052*6010-G	LEAD	MG/KG-	1.00	1.01	101	90-110
06/22/94	CCV*STD4*1	1078*6010-G	SILVER	MG/KG-	1.00	1.02	102	90-110
06/22/94	CCV*STD4*1	1008*6010-G	BARIUM	MG/KG-		ND		90-110
06/22/94	CCV*STD4*1	1028*6010-G	CADMIUM	MG/KG-		ND		90-110
06/22/94	CCV*STD4*1	1029*6010-G	CHROMIUM	MG/KG-		ND		90-110
06/22/94	CCV*STD4*1	1052*6010-G	LEAD	MG/KG-		ND		90-110
06/22/94	CCV*QC*2	1078*6010-G	SILVER	MG/KG-	0.500	0.519	104	90-110
06/22/94	CCV*QC*2	1008*6010-G	BARIUM	MG/KG-	0.500	0.501	100	90-110
06/22/94	CCV*QC*2	1028*6010-G	CADMIUM	MG/KG-	0.500	0.508	102	90-110
06/22/94	CCV*QC*2	1029*6010-G	CHROMIUM	MG/KG-	0.500	0.504	101	90-110
06/22/94	CCV*QC*2	1052*6010-G	LEAD	MG/KG-	0.500	0.493	98.6	90-110

Interference Check Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	ICS*A*1	1078*6010-G	SILVER	MG/KG-		ND		80-120
06/22/94	ICS*A*1	1008*6010-G	BARIUM	MG/KG-		ND		80-120
06/22/94	ICS*A*1	1028*6010-G	CADMIUM	MG/KG-		ND		80-120
06/22/94	ICS*A*1	1029*6010-G	CHROMIUM	MG/KG-		ND		80-120
06/22/94	ICS*A*1	1052*6010-G	LEAD	MG/KG-		ND		80-120
06/22/94	ICS*AB*1	1078*6010-G	SILVER	MG/KG-	1.00	1.01	101	80-120
06/22/94	ICS*AB*1	1008*6010-G	BARIUM	MG/KG-	0.500	0.500	100.0	80-120
06/22/94	ICS*AB*1	1028*6010-G	CADMIUM	MG/KG-	1.00	0.995	99.5	80-120
06/22/94	ICS*AB*1	1029*6010-G	CHROMIUM	MG/KG-	0.500	0.474	94.8	80-120
06/22/94	ICS*AB*1	1052*6010-G	LEAD	MG/KG-	1.00	0.934	93.4	80-120
06/22/94	ICS*A*2	1078*6010-G	SILVER	MG/KG-		ND		80-120
06/22/94	ICS*A*2	1008*6010-G	BARIUM	MG/KG-		ND		80-120
06/22/94	ICS*A*2	1028*6010-G	CADMIUM	MG/KG-		ND		80-120
06/22/94	ICS*A*2	1029*6010-G	CHROMIUM	MG/KG-		ND		80-120
06/22/94	ICS*A*2	1052*6010-G	LEAD	MG/KG-		ND		80-120
06/22/94	ICS*AB*2	1078*6010-G	SILVER	MG/KG-	1.00	1.01	101	80-120
06/22/94	ICS*AB*2	1008*6010-G	BARIUM	MG/KG-	0.500	0.499	99.8	80-120
06/22/94	ICS*AB*2	1028*6010-G	CADMIUM	MG/KG-	1.00	0.983	98.3	80-120
06/22/94	ICS*AB*2	1029*6010-G	CHROMIUM	MG/KG-	0.500	0.474	94.8	80-120
06/22/94	ICS*AB*2	1052*6010-G	LEAD	MG/KG-	1.00	0.928	92.8	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	ICV*ICAP19*1	1078*6010-G	SILVER	MG/KG-		ND		90-110
06/22/94	ICV*ICAP19*1	1008*6010-G	BARIUM	MG/KG-		ND		90-110
06/22/94	ICV*ICAP19*1	1028*6010-G	CADMIUM	MG/KG-	1.00	1.02	102	90-110
06/22/94	ICV*ICAP19*1	1029*6010-G	CHROMIUM	MG/KG-	1.00	1.02	102	90-110
06/22/94	ICV*ICAP19*1	1052*6010-G	LEAD	MG/KG-	1.00	0.999	99.9	90-110
06/22/94	ICV*ICAP7*1	1078*6010-G	SILVER	MG/KG-	1.00	1.04	104	90-110
06/22/94	ICV*ICAP7*1	1008*6010-G	BARIUM	MG/KG-	1.00	1.02	102	90-110
06/22/94	ICV*ICAP7*1	1028*6010-G	CADMIUM	MG/KG-		ND		90-110
06/22/94	ICV*ICAP7*1	1029*6010-G	CHROMIUM	MG/KG-		ND		90-110
06/22/94	ICV*ICAP7*1	1052*6010-G	LEAD	MG/KG-		ND		90-110

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	MB*REAGENTS*1	1078*6010-G	SILVER	MG/KG-	ND
06/22/94	MB*REAGENTS*1	1008*6010-G	BARIUM	MG/KG-	0.0002
06/22/94	MB*REAGENTS*1	1028*6010-G	CADMIUM	MG/KG-	0.001
06/22/94	MB*REAGENTS*1	1029*6010-G	CHROMIUM	MG/KG-	0.0005
06/22/94	MB*REAGENTS*1	1052*6010-G	LEAD	MG/KG-	ND
06/22/94	MB*QC*1	1078*6010-G	SILVER	MG/KG-	ND
06/22/94	MB*QC*1	1008*6010-G	BARIUM	MG/KG-	ND

ESE BATCH : G50429

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	MB*QC*1	1028*6010-G	CADMIUM	MG/KG-	ND
06/22/94	MB*QC*1	1029*6010-G	CHROMIUM	MG/KG-	ND
06/22/94	MB*QC*1	1052*6010-G	LEAD	MG/KG-	ND

Serial Dilution Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	REP #1	REP #2	RPD	RPD CRIT
06/22/94	SD*CDMHNSS2*6	1078*6010-G	SILVER	MG/KG-	0.0	ND	NC	10
06/22/94	SD*CDMHNSS2*6	1008*6010-G	BARIUM	MG/KG-	61.1	62.1	1.60	10
06/22/94	SD*CDMHNSS2*6	1028*6010-G	CADMIUM	MG/KG-	0.0	0.953	NC	10
06/22/94	SD*CDMHNSS2*6	1029*6010-G	CHROMIUM	MG/KG-	6.13	5.67	7.80	10
06/22/94	SD*CDMHNSS2*6	1052*6010-G	LEAD	MG/KG-	0.0	ND	NC	10

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/22/94	SP*QC*1	1078*6010-G	SILVER	99.6	73-107	MG/KG-	4.96	4.94
06/22/94	SP*QC*1	1008*6010-G	BARIUM	97.0	86-106	MG/KG-	199	193
06/22/94	SP*QC*1	1028*6010-G	CADMIUM	98.6	80-108	MG/KG-	4.96	4.89
06/22/94	SP*QC*1	1029*6010-G	CHROMIUM	98.5	79-109	MG/KG-	19.9	19.6
06/22/94	SP*QC*1	1052*6010-G	LEAD	96.8	79-109	MG/KG-	49.6	48.0

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/22/94	SPM1*CDMHNSS2*6	1078*6010-G	SILVER	100.8	73-107	0.0	MG/KG-	4.84	4.88
06/22/94	SPM1*CDMHNSS2*6	1008*6010-G	BARIUM	99.5	86-106	61.1	MG/KG-	194	193
06/22/94	SPM1*CDMHNSS2*6	1028*6010-G	CADMIUM	100.4	80-108	0.0	MG/KG-	4.84	4.86
06/22/94	SPM1*CDMHNSS2*6	1029*6010-G	CHROMIUM	91.2	79-109	6.13	MG/KG-	19.4	17.7
06/22/94	SPM1*CDMHNSS2*6	1052*6010-G	LEAD	106.8	79-109	0.0	MG/KG-	48.4	51.7
06/22/94	SPM2*CDMHNSS2*6	1078*6010-G	SILVER	98.3	73-107	0.0	MG/KG-	4.84	4.76
06/22/94	SPM2*CDMHNSS2*6	1008*6010-G	BARIUM	100.5	86-106	61.1	MG/KG-	194	195
06/22/94	SPM2*CDMHNSS2*6	1028*6010-G	CADMIUM	101.2	80-108	0.0	MG/KG-	4.84	4.90
06/22/94	SPM2*CDMHNSS2*6	1029*6010-G	CHROMIUM	89.7	79-109	6.13	MG/KG-	19.4	17.4
06/22/94	SPM2*CDMHNSS2*6	1052*6010-G	LEAD	103.9	79-109	0.0	MG/KG-	48.4	50.3

Spike into Matrix Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/22/94	SPX*CDMHNSS2*6	1078*6010-G	SILVER	102.4	85-115	MG/KG-	50.4	51.6
06/22/94	SPX*CDMHNSS2*6	1008*6010-G	BARIUM	99.0	85-115	MG/KG-	50.4	49.9
06/22/94	SPX*CDMHNSS2*6	1028*6010-G	CADMIUM	100.6	85-115	MG/KG-	50.4	50.7
06/22/94	SPX*CDMHNSS2*6	1029*6010-G	CHROMIUM	99.0	85-115	MG/KG-	50.4	49.9
06/22/94	SPX*CDMHNSS2*6	1052*6010-G	LEAD	106.7	85-115	MG/KG-	50.4	53.8

ESE BATCH : G50429

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED

FINAL CONCENTRATION	MG/KG-DRY
INJECTION VOLUME	NA
SAMPLE VOLUME	GRAMS
EXTRACT VOLUME	ML
CURVE CONCENTRATION	UG/ML
SPIKE SOLN CONCENTRATION	UG/ML
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/ML
RESPONSE DESCRIPTION	UG/ML
CONVERSION FACTOR	1

FINAL CONC = CURV CONC * EXT VOL * DIL * 1 / INJ VOL * SAMP VOL * ((100 - %MOISTURE) / 100

MG/KG-DRY = (UG/ML) * (ML) * 1 / (NA) * (GRAMS)

( ) = ( ) * ( ) * ( ) / ( ) * ( ) * ((100 - ( )) / 100)

TARGET CONC = SPIKE SOLN CONC * SPIKE VOL / SPIKE SAMP VOL * ((100 - %MOISTURE) / 100)

UG/ML = (UG/ML) * (NA) / (NA)

ESE BATCH : G50429

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50429 Analysis Date: 06/22/94 Analyst: GARRY PRICE

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICS present?	X		
ICS within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Analytical spike present?	X		
Analytical spike within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

ESE BATCH : G50429

TABLE OF ABBREVIATIONS

%RECV : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE : Analysis Date
ANLY TIME : Analysis Time
CURVE : Curve Regression Number
DILUTION : Sample Dilution Factor
EXT DATE : Extract Date
EXT VOL : Extract Volume
FOUND : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL : Injection Volume
REL%DIFF : % Difference between current and previous spike.
RESPONSE : Sample Response
R.T. : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
DA -- Data Sample
MB -- Method Blank
RF -- Reference (from commercially known standard)
RP -- Replicate Sample
SP -- Standard Matrix Spike
SPM -- Sample Matrix Spike
STD -- Internal Standard
SUR -- Surrogate Sample
UN -- Unspiked Sample
SAMP VOL : Sample Volume
SPK CONC : Spike Concentration
ST : Sample response explanation or validity. (listed below)
BK -- No sample response.
NA -- Sample not analyzed.
NR -- Not reserved for this batch. Batch containing the response for this sample is listed in the target field.
OK -- Sample response shown is correct.
! -- Sample response shown is invalid.
< -- Sample response < detection limit. Detection limit is shown in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET : Spike Target (SAMPLE LISTING SECTION)
TARGET : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE : Response Type ("FINAL" or empty.)
UNSP CONC : Unspiked Sample Concentration

GFAA Metals – Arsenic

ESE BATCH : G50304
CLASSIFICATION : ARSENIC - EPA 7060

QC TYPE : FDER/SW
ANALYST : MARSHALL SEIGLER
EXTRACTOR : DAVID NICHOLS
DATA ENTRY : MARSHALL SEIGLER

REPORT DATE/TIME : 08/13/94 11:28:41
ANALYSIS DATE : 06/20/94
EXTRACT DATE : 06/20/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*1	A06-1-01	06/20/94	

ESE BATCH : G50304

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 1003 METHOD: 7060-G ARSENIC, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : GS0304

Continuing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/20/94	CCB*QC*5	1003*7060-G	ARSENIC	MG/KG-	ND

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/20/94	CCV*QC*5	1003*7060-G	ARSENIC	MG/KG-	50.0	49.4	98.8	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/20/94	ICV*PE-PURE*2	1003*7060-G	ARSENIC	MG/KG-	50.0	51.0	102	90-110

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/20/94	MB*REAGENT*1	1003*7060-G	ARSENIC	MG/KG-	0.600
06/20/94	MB*QC*1	1003*7060-G	ARSENIC	MG/KG-	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/20/94	SP*QC*1	1003*7060-G	ARSENIC	108.8	80-122	MG/KG-	3.98	4.33

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/20/94	SPM1*CDMHNSS2*1	1003*7060-G	ARSENIC	84.3	80-122	0.978	MG/KG-	3.94	3.32
06/20/94	SPM2*CDMHNSS2*1	1003*7060-G	ARSENIC	100.2	80-122	0.978	MG/KG-	4.03	4.04

Spike into Matrix Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/20/94	SPX*CDMHNSS2*1	1003*7060-G	ARSENIC	96.2	85-115	MG/KG-	10.1	9.72

ESE BATCH : G50304

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED	
FINAL CONCENTRATION	MG/KG-DRY
INJECTION VOLUME	NA
SAMPLE VOLUME	G
EXTRACT VOLUME	L
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	UG/L
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	UG/L
CONVERSION FACTOR	1

$$\text{FINAL CONC} = \frac{\text{CURV CONC} * \text{EXT VOL} * \text{DIL} * 1}{\text{INJ VOL} * \text{SAMP VOL} * ((100 - \%\text{MOISTURE}) / 100)}$$

$$\text{MG/KG-DRY} = \frac{(\text{UG/L}) * (\text{L}) * 1}{(\text{NA}) * (\text{G})}$$

$$(\qquad) = \frac{(\qquad\qquad) * (\qquad\qquad) * (\qquad)}{(\qquad\qquad) * (\qquad\qquad) * ((100 \quad (\qquad\qquad)) / 100)}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC} * \text{SPIKE VOL}}{\text{SPIKE SAMP VOL} * ((100 - \%\text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{UG/L}) * (\text{NA})}{(\text{NA})}$$

ESE BATCH : G50304

Environmental Science and Engineering Analytical Services
Computer QC Checks

Batch No.: G50304 Analysis Date: 06/20/94 Analyst: MARSHALL SEIGLER

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Analytical spike present?	X		
Analytical spike within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

ESE BATCH : G50360
CLASSIFICATION : ARSENIC - EPA 7060

QC TYPE : FDER/SW
ANALYST : JERI ROPERO
EXTRACTOR : DAVID NICHOLS
DATA ENTRY : MARLENE BANNER

REPORT DATE/TIME : 08/13/94 11:29:02
ANALYSIS DATE : 06/21/94
EXTRACT DATE : 06/21/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*2	BG1-1-02	06/21/94	10:50PM
CDMHNSS2*3	A06-2-02	06/21/94	10:55PM
CDMHNSS2*4	A06-3-02	06/21/94	11:00PM
CDMHNSS2*5	CS2-2-00	06/21/94	11:05PM

ESE BATCH : G50360

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 1003 METHOD: 7060-G ARSENIC, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW:

CONC :	0	2.5	5	10	25	50	100
RESP :	.002	.008	.011	.031	.071	136	.282
CONC':							

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

ESE BATCH : G50360

Continuing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	CCB*QC*1	1003*7060-G	ARSENIC	MG/KG-	ND

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	CCV*QC*1	1003*7060-G	ARSENIC	MG/KG-	50.0	48.7	97.4	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	ICV*PE-PURE*1	1003*7060-G	ARSENIC	MG/KG-	50.0	49.9	99.8	90-110

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	MB*REAGENT*1	1003*7060-G	ARSENIC	MG/KG-	ND
06/21/94	MB*QC*1	1003*7060-G	ARSENIC	MG/KG-	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/21/94	SP*QC*1	1003*7060-G	ARSENIC	90.7	80-122	MG/KG-	3.99	3.62

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/21/94	SPM1*CDMHNSS2*5	1003*7060-G	ARSENIC	88.9	80-122	2.12	MG/KG-	4.04	3.59
06/21/94	SPM2*CDMHNSS2*5	1003*7060-G	ARSENIC	86.8	80-122	2.12	MG/KG-	4.08	3.54

Spike into Matrix Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/21/94	SPX*HHNSADD*3	1003*7060-G	ARSENIC		85-115	MG/KG-	10.3	U*2

ESE BATCH : G50360

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED

FINAL CONCENTRATION	MG/KG-DRY
INJECTION VOLUME	NA
SAMPLE VOLUME	NA
EXTRACT VOLUME	L
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	NA
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	UG/L
CONVERSION FACTOR	1000

FINAL CONC = CURV CONC * EXT VOL * DIL * 1000 / INJ VOL * SAMP VOL * ((100 - %MOISTURE) / 100)

MG/KG-DRY = (UG/L) * (L) * 1000 / (NA) * (NA)

( ) = ( ) * ( ) * ( ) / ( ) * ( ) * ((100 ( )) / 100)

TARGET CONC = SPIKE SOLN CONC * SPIKE VOL / SPIKE SAMP VOL * ((100 - %MOISTURE) / 100)

UG/L = (NA) * (NA) / (NA)

ESE BATCH : G50360

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50360 Analysis Date: 06/21/94 Analyst: JERI ROPERO

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Analytical spike present?	X		
Analytical spike within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity  (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field.
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

ESE BATCH : G50430
CLASSIFICATION : ARSENIC - EPA 7060

QC TYPE : FDER/SW
ANALYST : RICK MCCAULEY
EXTRACTOR : DAVID NICHOLS
DATA ENTRY : RICK MCCAULEY

REPORT DATE/TIME : 08/13/94 11:29:13
ANALYSIS DATE : 06/22/94
EXTRACT DATE : 06/21/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*6	A03-1-05	06/22/94	02:40PM

ESE BATCH : G50430

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T. OVER

ALL HOLDING TIMES MET

STORET: 1003 METHOD: 7060-G ARSENIC, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: 06/22/94 LARGEST RESP=.507 %RSD= RT WINDOW:

CONC :	0	2.5	5	10	25	50	100
RESP :	.003	.018	.029	.058	.145	.267	.507
CONC':							

CONC = + *RESP+ *RESP**2- *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

ESE BATCH : G50430

Continuing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	CCB*QC*1	1003*7060-G	ARSENIC	MG/KG-	ND

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	CCV*QC*1	1003*7060-G	ARSENIC	MG/KG-	50.0	51.9	104	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	ICV*SPEX*1	1003*7060-G	ARSENIC	MG/KG-	50.0	50.6	101	90-110

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	MB*REAGENT*1	1003*7060-G	ARSENIC	MG/KG-	ND
06/22/94	MB*QC*1	1003*7060-G	ARSENIC	MG/KG-	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/22/94	SP*QC*1	1003*7060-G	ARSENIC	108.1	80-122	MG/KG-	3.93	4.25

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/22/94	SPM1*CDMHNSS2*6	1003*7060-G	ARSENIC	70.1	80-122	1.15	MG/KG-	3.91	2.74
06/22/94	SPM2*CDMHNSS2*6	1003*7060-G	ARSENIC	76.0	80-122	1.15	MG/KG-	3.91	2.97

Spike into Matrix Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/22/94	SPX*CDMHNSS2*6	1003*7060-G	ARSENIC	93.6	85-115	MG/KG-	10.1	9.45

ESE BATCH : G50430

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED	
FINAL CONCENTRATION	UG/G DRY
INJECTION VOLUME	NA
SAMPLE VOLUME	G
EXTRACT VOLUME	L
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	UG/L
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	UG/L
CONVERSION FACTOR	1

$$\text{FINAL CONC} = \frac{\text{CURV CONC * EXT VOL * DIL * 1}}{\text{INJ VOL * SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{UG/G DRY} = \frac{\text{(UG/L) * (L) * 1}}{\text{(NA) * (G)}}$$

$$\text{(\qquad) = } \frac{\text{(\qquad\qquad) * (\qquad\qquad) * (\qquad)}}{\text{(\qquad\qquad) * (\qquad\qquad) * ((100 - (\qquad\qquad)) / 100)}}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC * SPIKE VOL}}{\text{SPIKE SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{UG/L} = \frac{\text{(UG/L) * (NA)}}{\text{(NA)}}$$

ESE BATCH : G50430

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50430 Analysis Date: 06/22/94 Analyst: RICH MCCAULEY

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?		X	AS
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?		X	AS
Analytical spike present?	X		
Analytical spike within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY: KATHY BARRY 1708
PROB.:SAMPLE MATRIX SPIKE NOT WITIN
ACCEPTANCE CRITERIA.
EXPL.:POSSIBLE MATRIX INTERFERENCE./RM
PROB.:SAMPLE MATRIX SPIKE DUPLICATE
NOT WITHIN ACCEPTANCE CRITERIA.
EXPL.:SEE ABOVE./RM

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field.
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

ESE BATCH : G50285
CLASSIFICATION : SELENIUM - EPA 7740

QC TYPE : FDER/SW
ANALYST : RICK MCCAULEY
EXTRACTOR : DAVID NICHOLS
DATA ENTRY : RICK MCCAULEY

REPORT DATE/TIME : 08/13/94 11:30:08
ANALYSIS DATE : 06/20/94
EXTRACT DATE : 06/20/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*1	A06-1-01	06/20/94	05:28PM

ESE BATCH : G50285

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 1148 METHOD: 7740-G SELENIUM, MG/KG-DRY FINAL

CALIBRATION CURVE # 1

DETECTION LIMIT=2.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

CONC :	0	5	10	25	50	75	100
RESP :	0	.019	.037	.088	.163	.234	.303
CONC':							

CONC = + *RESP+ *RESP**2+ *RESP**3

95% C.I.=

CORRELATION COEFFICIENT =

ESE BATCH : G50285

Continuing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/20/94	CCB*QC*1	1148*7740-G	SELENIUM	MG/KG-	0.100
06/20/94	CCB*QC*2	1148*7740-G	SELENIUM	MG/KG-	0.600

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/20/94	CCV*QC*1	1148*7740-G	SELENIUM	MG/KG-	50.0	46.7	93.4	80-120
06/20/94	CCV*QC*2	1148*7740-G	SELENIUM	MG/KG-	50.0	46.9	93.8	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/20/94	ICV*SPEX*1	1148*7740-G	SELENIUM	MG/KG-	50.0	51.1	102	90-110

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/20/94	MB*REAGENT*1	1148*7740-G	SELENIUM	MG/KG-	0.300
06/20/94	MB*QC*1	1148*7740-G	SELENIUM	MG/KG-	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/20/94	SP*QC*1	1148*7740-G	SELENIUM	93.0	75-123	MG/KG-	0.996	0.926

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/20/94	SPM1*CDMHNSS2*1	1148*7740-G	SELENIUM	72.0	75-123	0.0	MG/KG-	0.985	0.709
06/20/94	SPM2*CDMHNSS2*1	1148*7740-G	SELENIUM	71.9	75-123	0.0	MG/KG-	1.01	0.726

Spike into Matrix Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/20/94	SPX*CDMHNSS2*1	1148*7740-G	SELENIUM	87.4	85-115	MG/KG-	10.1	8.83

ESE BATCH : G50285

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED	
FINAL CONCENTRATION	UG/G DRY
INJECTION VOLUME	NA
SAMPLE VOLUME	G
EXTRACT VOLUME	L
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	UG/L
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	UG/L
CONVERSION FACTOR	1

$$\text{FINAL CONC} = \frac{\text{CURV CONC * EXT VOL * DIL * 1}}{\text{INJ VOL * SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{UG/G DRY} = \frac{\text{(UG/L) * (L) * 1}}{\text{(NA) * (G)}}$$

$$\text{(\qquad)} = \frac{\text{(\qquad) * (\qquad) * (\qquad)}}{\text{(\qquad) * (\qquad) * ((100 - (\qquad)) / 100)}}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC * SPIKE VOL}}{\text{SPIKE SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{UG/L} = \frac{\text{(UG/L) * (NA)}}{\text{(NA)}}$$

ESE BATCH : G50285

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50285 Analysis Date: 06/20/94 Analyst: RICK MCCAULEY

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?		X	SE
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?		X	SE
Analytical spike present?	X		
Analytical spike within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY: KATHY BARRY 1708
PROB:SAMPLE MATRIX SPIKE NOT WITHIN ACCEPTANCE
CRITERIA.
EXPL:POSSIBLE MATRIX INTERFERENCE.
PROB:SAMPLE MATRIX SPIKE DUPLICATE NOT WITHIN ACCEPTANCE
CRITERIA.
EXPL:SAME AS ABOVE.
DHG FOR EHM./06-21-94.

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field.
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

A 5556.017

GFAA Metals – Selenium

ESE BATCH : G50363
CLASSIFICATION : SELENIUM - EPA 7740

QC TYPE : FDER/SW
ANALYST : MARSHALL SEIGLER
EXTRACTOR : DAVID NICHOLS
DATA ENTRY : KEITH GEISZLER

REPORT DATE/TIME : 08/13/94 11:30:32
ANALYSIS DATE : 06/21/94
EXTRACT DATE : 06/21/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*2	BG1-1-02	06/21/94	10:02PM
CDMHNSS2*3	A06-2-02	06/21/94	10:08PM
CDMHNSS2*4	A06-3-02	06/21/94	10:13PM
CDMHNSS2*5	CS2-2-00	06/21/94	10:19PM

ESE BATCH : G50363

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T. OVER

ALL HOLDING TIMES MET

STORET: 1148 METHOD: 7740-G SELENIUM, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW:

CONC :	0	2.5	10	25	50	100
RESP :	0	.01	.037	.09	.172	.329
CONC':						

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

ESE BATCH : G50363

Continuing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	CCB*QC*1	1148*7740-G	SELENIUM	MG/KG-	ND
06/22/94	CCB*QC*2	1148*7740-G	SELENIUM	MG/KG-	0.200
06/22/94	CCB*QC*3	1148*7740-G	SELENIUM	MG/KG-	0.400

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	CCV*QC*1	1148*7740-G	SELENIUM	MG/KG-	50.0	45.0	90.0	80-120
06/21/94	CCV*QC*2	1148*7740-G	SELENIUM	MG/KG-	50.0	53.1	106	80-120
06/22/94	CCV*QC*3	1148*7740-G	SELENIUM	MG/KG-	50.0	49.1	98.2	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	ICV*SPEX*1	1148*7740-G	SELENIUM	MG/KG-	50.0	53.2	106	90-110
06/22/94	ICV*SPEX*2	1148*7740-G	SELENIUM	MG/KG-	50.0	52.7	105	90-110

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	MB*REAGENT*1	1148*7740-G	SELENIUM	MG/KG-	0.900
06/21/94	MB*QC*1	1148*7740-G	SELENIUM	MG/KG-	ND

Standard Addition (SA) Sample Summary

DATE	SAMPLE	STORET	PARAMETER	KNOWN CNC	RESP	UNC CNC	FINAL CNC	CORR
06/21/94	SA0*CDMHNSS2*2	1148*7740-G	SELENIUM	0.0	0	2.50	<0.255	.9994
06/21/94	SA1*CDMHNSS2*2	1148*7740-G	SELENIUM	20.0	.031			
06/21/94	SA2*CDMHNSS2*2	1148*7740-G	SELENIUM	40.0	.057			
06/21/94	SA3*CDMHNSS2*2	1148*7740-G	SELENIUM	60.0	.088			
06/21/94	SA0*CDMHNSS2*3	1148*7740-G	SELENIUM	0.0	.003	2.50	<0.257	.9999
06/21/94	SA1*CDMHNSS2*3	1148*7740-G	SELENIUM	20.0	.033			
06/21/94	SA2*CDMHNSS2*3	1148*7740-G	SELENIUM	40.0	.065			
06/21/94	SA3*CDMHNSS2*3	1148*7740-G	SELENIUM	60.0	.097			
06/21/94	SA0*CDMHNSS2*4	1148*7740-G	SELENIUM	0.0	.004	2.66	0.271	.9
06/21/94	SA1*CDMHNSS2*4	1148*7740-G	SELENIUM	20.0	.03			
06/21/94	SA2*CDMHNSS2*4	1148*7740-G	SELENIUM	40.0	.063			
06/21/94	SA3*CDMHNSS2*4	1148*7740-G	SELENIUM	60.0	.086			
06/21/94	SA0*CDMHNSS2*5	1148*7740-G	SELENIUM	0.0	0	2.50	<0.251	.9988
06/21/94	SA1*CDMHNSS2*5	1148*7740-G	SELENIUM	20.0	.025			
06/21/94	SA2*CDMHNSS2*5	1148*7740-G	SELENIUM	40.0	.048			
06/21/94	SA3*CDMHNSS2*5	1148*7740-G	SELENIUM	60.0	.069			

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/21/94	SP*QC*1	1148*7740-G	SELENIUM	105.1	75-123	MG/KG-	0.999	1.05

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/21/94	SPM1*CDMHNSS2*5	1148*7740-G	SELENIUM	25.0	75-123	0.0	MG/KG-	1.01	0.253
06/21/94	SPM2*CDMHNSS2*5	1148*7740-G	SELENIUM	20.0	75-123	0.0	MG/KG-	1.02	0.204

Spike into Matrix Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/21/94	SPX*CDMHNSS2*3	1148*7740-G	SELENIUM	60.0	85-115	MG/KG-	10.3	6.18

ESE BATCH : G50363

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED	
FINAL CONCENTRATION	UG/G DRY
INJECTION VOLUME	NA
SAMPLE VOLUME	G
EXTRACT VOLUME	L
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	UG/L
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	UG/L
CONVERSION FACTOR	1

$$\text{FINAL CONC} = \frac{\text{CURV CONC * EXT VOL * DIL * 1}}{\text{INJ VOL * SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{UG/G DRY} = \frac{\text{(UG/L) * (L) * 1}}{\text{(NA) * (G)}}$$

$$\text{(\qquad)} = \frac{\text{(\qquad) * (\qquad) * (\qquad)}}{\text{(\qquad) * (\qquad) * ((100 - (\qquad)) / 100)}}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC * SPIKE VOL}}{\text{SPIKE SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{UG/L} = \frac{\text{(UG/L) * (NA)}}{\text{(NA)}}$$

ESE BATCH : G50363

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50363 Analysis Date: 06/21/94 Analyst: MARSHALL SEIGLER

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?		X	SE
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?		X	SE
Analytical spike present?	X		
Analytical spike within acceptance criteria?		X	SE

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY: KATHY BARRY 1708
PROB: SAMPLE MATRI SPIKE, MATRIX SPIKE DUP AND
ANALYTICAL SPIKE NOT WITHIN ACCEPTANCE CRITERIA.
EXPL: POSSIBLE MATRIX INTERFERENCE. / KNG 06-22-94

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
%RECV       : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field.
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
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ESB BATCH GS0435
CLASSIFICATION : SELENIUM SFA 7740

QC : FDER/SW
ANALYST : LULAMAE OSBORNE
EXTRACTOR : DAVID NICHOLS
DATA ENTRY : GFAA UPLOAD

REPORT DATE/TIME : 08/13/94 11:30:51
ANALYSIS DATE : 06/22/94
EXTRACT DATE : 06/21/94

STATUS FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*6	A03-1-05	06/22/94	04:07PM

SE BATCH G50435

HOLDING TIMES CHECK

AMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

LL HOLDING TIMES MET

TORET: 1148 METHOD: 7740-G SELENIUM, MG/KG-DRY FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: 06/22/94 LARGEST RESP= %RSD= RT WINDOW:

CONC	0	2.5	5	25	50	75	100
RESP	.001	006	.011	.05	.093	.135	.18
CONC'							

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

ESE BATCH G50435

Cont ng Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	CCB*QC*1	1148*7740-G	SELENIUM	MG/KG-	ND

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	CCV*QC*1	1148*7740-G	SELENIUM	MG/KG-	50.0	48.1	96.2	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	ICV*PE-PURE*1	1148*7740-G	SELENIUM	MG/KG-	25.0	26.9	108	90-110

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	MB*REAGENT*1	1148*7740-G	SELENIUM	MG/KG-	1.40
06/22/94	MB*QC*1	1148*7740-G	SELENIUM	MG/KG-	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/22/94	SP1*QC*1	1148*7740-G	SELENIUM	102.6	75-123	MG/KG-	0.984	1.01

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/22/94	SPM1*CDMHNSS2*6	1148*7740-G	SELENIUM	85.1	75-123	0.0	MG/KG-	0.977	0.831
06/22/94	SPM2*CDMHNSS2*6	1148*7740-G	SELENIUM	107.5	75-123	0.0	MG/KG-	0.977	1.05

Spike into Matrix Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/	SPX*CDMHNSS2*6	1148*7740-G	SELENIUM	98.2	85-115	MG/KG-	10.1	9.92

ESE BATCH G50435

UNITS AND EXAMPLE CALCULATIONS

	UNITS ENTERED
FINAL CONCENTRATION	MG/KG-DRY
INJECTION VOLUME	NA
SAMPLE VOLUME	G
EXTRACT VOLUME	L
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	UG/L
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	UG/L
CONVERSION FACTOR	1

$$\text{FINAL CONC} = \frac{\text{CURV CONC * EXT VOL * DIL * 1}}{\text{INJ VOL * SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{MG/KG-DRY} = \frac{\text{(UG/L) * (L) * 1}}{\text{(NA) * (G)}}$$

$$\text{(\qquad) = } \frac{\text{(\qquad) * (\qquad) * (\qquad)}}{\text{(\qquad) * (\qquad) * ((100 - (\qquad)) / 100)}}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC * SPIKE VOL}}{\text{SPIKE SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{UG/L} = \frac{\text{(UG/L) * (NA)}}{\text{(NA)}}$$

ESE BATCH . G50435

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch . : G50435 Analysis Date: 06/22/94 Analyst: LILLAMAE OSBORNE

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Analytical spike present?	X		
Analytical spike within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BAT ERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

%RECV : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE : Analysis Date
ANLY TIME : Analysis Time
CURVE : Curve Regression Number
DILUTION : Sample Dilution Factor
EXT DATE : Extract Date
EXT VOL : Extract Volume
FOUND : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL : Injection Volume
REL%DIFF : % Difference between current and previous spike.
RESPONSE : Sample Response
R.T. : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
DA -- Data Sample
MB -- Method Blank
RF -- Reference (from commercially known standard)
RP -- Replicate Sample
SP -- Standard Matrix Spike
SPM -- Sample Matrix Spike
STD -- Internal Standard
SUR -- Surrogate Sample
UN -- Unspiked Sample
SAMP VOL : Sample Volume
SPK CONC : Spike Concentration
ST : Sample response explanation or validity. (listed below)
BK -- No sample response.
NA -- Sample not analyzed.
NR -- Not reserved for this batch. Batch containing the response for this sample is listed in the target field.
OK -- Sample response shown is correct.
! -- Sample response shown is invalid.
< -- Sample response < detection limit Detection limit is shown in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET : Spike Target (SAMPLE LISTING SECTION)
TARGET : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE : Response Type ("FINAL" or empty.)
UNSP CONC : Unspiked Sample Concentration

Mercury

ESE BATCH 350283
CLASSIFICATION : MERCURY - EPA 7471 (MOD)

QC TYPE : FDER/SW
ANALYST : KENT BRAKEFIELD
EXTRACTOR : KENT BRAKEFIELD
DATA ENTRY : KENT BRAKEFIELD

REPORT DATE/TIME : 08/13/94 11:29:34
ANALYSIS DATE : 06/20/94
EXTRACT DATE : 06/20/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*1	A06-1-01		

ESE BATCH G50283

HOLDING TIMES CHECK

SAM	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H T. OVER

ALL HOLDING TIMES MET

STORET: 71921 METHOD: 7471M-G MERCURY, MG/KG-DRY CUAD

CALIBRATION CURVE # 1 (UG/L)
DETECTION LIMIT=0.2 DATE: 06/20/94 LARGEST RESP=76.0(USER DEFINED) %RSD=17.1850 RT WINDOW:

CONC :	0.0	0.2	0.5	1.0	2.0	5.0	7.0	10.0
RESP :	0.5	2.5	5.25	10.0	19.0	43.75	57.0	76.0
CONC':	0.024	0.217	0.489	0.977	1.96	5.06	6.97	10.00

CONC = -2.3715E-02+ 9.5206E-02*RESP+ 4.8239E-04*RESP**2+ *RESP**3
95% C.I.= 4.8899E-02 4.2575E-03 5.7428E-05
CORRELATION COEFFICIENT = 1.0000

ESE BATCH . GS0283

Continuing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/20/94	CCB*QC*1	71921*7471M-G	MERCURY	MG/KG-	ND

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/20/94	CCV*QC*1	71921*7471M-G	MERCURY	MG/KG-	5.00	4.56	91.2	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/20/94	ICV*PE-PURE*1	71921*7471M-G	MERCURY	MG/KG-	5.00	4.76	95.2	80-120

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/20/94	MB*REAGENT*1	71921*7471M-G	MERCURY	MG/KG-	ND
06/20/94	MB*QC*1	71921*7471M-G	MERCURY	MG/KG-	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/20/94	SP*QC*1	71921*7471M-G	MERCURY	85.9	85-125	MG/KG-	2.41	2.07

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/20/94	SPM1*CDMHNSS2*1	71921*7471M-G	MERCURY	51.8	85-125	0.0	MG/KG-	2.49	1.29
06/20/94	SPM2*CDMHNSS2*1	71921*7471M-G	MERCURY	53.8	85-125	0.0	MG/KG-	2.49	1.34

ESE BATCH : G50283

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED

FINAL CONCENTRATION	MG/KG-DRY
INJECTION VOLUME	NA
SAMPLE VOLUME	GRAMS
EXTRACT VOLUME	LITERS
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	NA
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	PEAK HGT
CONVERSION FACTOR	1

FINAL CONC = CURV CONC * EXT VOL * DIL * 1 / INJ VOL * SAMP VOL * ((100 - %MOISTURE) / 100)

MG/KG-DRY = (UG/L) * (LITERS) * 1 / (NA) * (GRAMS)

( ) = ( ) * ( ) * ( ) / ( ) * ( ) * ((100 -) / 100)

TARGET CONC = SPIKE SOLN CONC * SPIKE VOL / SPIKE SAMP VOL * ((100 - %MOISTURE) / 100)

UG/L = (NA) * (NA) / (NA)

ESE BATCH G50283

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No : G50283 Analysis Date: 06/20/94 Analyst: KENT BRAKEFIELD

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
No. of calibration standards present acceptable?	X		
Curve correlation coefficient >= 0.995?	X		
Calibration curve y-intercept < curve detection limit?	X		
Sample responses within highest standard response?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?		X	HG
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?		X	HG

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY: KATHY BARRY 1708
PROB:SAMPLE MATRIX SPIKE NOT WITHIN ACCEPTANCE CRITERIA.
EXPL:POSSIBLE MATRIX EFFECT./KSB./06-21-94.
PROB:SAMPLE MATRIX SPIKE DUPLICATE NOT WITHIN ACCEPTANCE CRITERIA.
EXPL:SAME AS ABOVE.
DHG FOR EHM./06-21-94.

FINALIZED BY:

TABLE OF ABBREVIATIONS

%REC : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE : Analysis Date
ANLY TIME : Analysis Time
CURVE : Curve Regression Number
DILUTION : Sample Dilution Factor
EXT DATE : Extract Date
EXT VOL : Extract Volume
FOUND : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL : Injection Volume
REL%DIFF : % Difference between current and previous spike.
RESPONSE : Sample Response
R.T. : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
DA -- Data Sample
MB -- Method Blank
RF -- Reference (from commercially known standard)
RP -- Replicate Sample
SP -- Standard Matrix Spike
SPM -- Sample Matrix Spike
STD -- Internal Standard
SUR -- Surrogate Sample
UN -- Unspiked Sample
SAMP VOL : Sample Volume
SPK CONC : Spike Concentration
ST : Sample response explanation or validity. (listed below)
BK -- No sample response.
NA -- Sample not analyzed.
NR -- Not reserved for this batch. Batch containing the response for this sample is listed in the target field.
OK -- Sample response shown is correct.
! -- Sample response shown is invalid.
-- Sample response < detection limit. Detection limit is shown in the response field.
STC MTHD: Storet ID * Method Code
TARGET : Spike Target (SAMPLE LISTING SECTION)
TARGET : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE : Response Type ("FINAL" or empty.)
UNSP CONC : Unspiked Sample Concentration

ESE BATCH : G50335
CLASSIFICATION : MERCURY - EPA 7471 (MOD)

QC TYPE FDER/SW
ANALYST : LISA SWAYZE
EXTRACTOR : LISA SWAYZE
DATA ENTRY : LISA SWAYZE

REPORT DATE/TIME 08/13/94 11:29:46
ANALYSIS DATE 06/21/94
EXTRACT DATE 06/21/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*2	BG1-1-02	06/21/94	
CDMHNSS2*3	A06-2-02	06/21/94	
CDMHNSS2*4	A06-3-02	06/21/94	
CDMHNSS2*5	CS2-2-00	06/21/94	

:SE BATCH G50335

HOLDING TIMES CHECK

:AMPL	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H T	OVER

:LL HOLDING TIMES MET

:TORET: 71921 METHOD: 7471M-G MERCURY, MG/KG-DRY QUAD

CALIBRATION CURVE # 1 (UG/L)
DETECTION LIMIT=0.2 DATE: 06/21/94 LARGEST RESP=76.0 %RSD=9.5497 RT WINDOW

CONC :	0.0	0.1	0.2	0.5	1.0	2.0	5.0	7.0	10.0
RESP :	0.0	1.0	2.0	4.75	9.5	19.25	41.5	60.25	76.0
CONC':	0.024	0.120	0.216	0.487	0.969	2.02	4.74	7.38	9.84

CONC = 2.4059E-02+ 9.5265E-02*RESP+ 4.4530E-04*RESP**2+ *RESP**3
95% C.I.= 2.0426E-01 1.9792E-02 2.7138E-04
CORRELATION COEFFICIENT = .9989

ESE BATCH G50335

Continuing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	CCB*QC*1	71921*7471M-G	MERCURY	MG/KG-	0.024

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	CCV*QC*1	71921*7471M-G	MERCURY	MG/KG-	5.00	4.81	96.2	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	ICV*PE-PURE*1	71921*7471M-G	MERCURY	MG/KG-	5.00	4.58	91.6	80-120

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	MB*REAGENTS*1	71921*7471M-G	MERCURY	MG/KG-	0.024
06/21/94	MB*QC*1	71921*7471M-G	MERCURY	MG/KG-	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/21/94	SP*QC*1	71921*7471M-G	MERCURY	89.8	85-125	MG/KG-	2.45	2.20

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/21/94	SPM1*CDMHNSS2*2	71921*7471M-G	MERCURY	97.6	85-125	0.0	MG/KG-	2.47	2.41
06/21/94	SPM2*CDMHNSS2*2	71921*7471M-G	MERCURY	93.8	85-125	0.0	MG/KG-	2.57	2.41

ESE BATCH : G50335

UNITS AND EXAMPLE CALCULATIONS

	UNITS ENTERED
FINA NCENTRATION	UG/G DRY
INJECTION VOLUME	NA
SAMPLE VOLUME	GRAMS
EXTRACT VOLUME	MILLILITER
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	NA
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	PEAK HGT
CONVERSION FACTOR	1

FINAL CONC = CURV CONC * EXT VOL * DIL * 1 / INJ VOL * SAMP VOL * ((100 - %MOISTURE) / 100)

UG/G DRY = (UG/L) * (MILLILITER) * 1 / (NA) * (GRAMS)

( ) = ( ) * ( ) * ( ) / ( ) * ( ) * ((100 -)) / 100)

TARGET CONC = SPIKE SOLN CONC * SPIKE VOL / SPIKE SAMP VOL * ((100 - %MOISTURE) / 100)

UG/L = (NA) * (NA) / (NA)

ESE BATCH G50335

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50335 Analysis Date: 06/21/94 Analyst: LISA SWAYZE

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
No. of calibration standards present acceptable?	X		
Curve correlation coefficient >= 0.995?	X		
Calibration curve y-intercept < curve detection limit?	X		
Sample responses within highest standard response?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

%RE : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE : Analysis Date
ANLY TIME : Analysis Time
CURVE : Curve Regression Number
DILUTION : Sample Dilution Factor
EXT DATE : Extract Date
EXT VOL : Extract Volume
FOUND : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL : Injection Volume
REL%DIFF : % Difference between current and previous spike.
RESPONSE : Sample Response
R.T. : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
- DA -- Data Sample
- MB -- Method Blank
- RF -- Reference (from commercially known standard)
- RP -- Replicate Sample
- SP -- Standard Matrix Spike
- SPM -- Sample Matrix Spike
- STD -- Internal Standard
- SUR -- Surrogate Sample
- UN -- Unspiked Sample

SAMP VOL : Sample Volume
SPK CONC : Spike Concentration
ST : Sample response explanation or validity. (listed below)
- BK -- No sample response.
- NA -- Sample not analyzed.
- NR -- Not reserved for this batch. Batch containing the response for this sample is listed in the target field.
- OK -- Sample response shown is correct.
- ! -- Sample response shown is invalid.
- < -- Sample response < detection limit. Detection limit is shown in the response field.

STC THD: Storet ID * Method Code
TAR : Spike Target (SAMPLE LISTING SECTION)
TARGET : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE : Response Type ("FINAL" or empty.)
UNSP CONC : Unspiked Sample Concentration

ESE BATCH : G50437
CLASSIFICATION : MERCURY - EPA 7471 (MOD)

QC TYPE : FDER/SW
ANALYST : CHRISTOPHER HORRELL
EXTRACTOR : CHRISTOPHER HORRELL
DATA ENTRY : CHRISTOPHER HORRELL

REPORT DATE/TIME : 08/13/94 12:29:58
ANALYSIS DATE : 06/22/94
EXTRACT DATE : 06/22/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSS2	FDER	1944022G 0202	CDM - HANFORD N SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSS2*6	A03-1-05	06/22/94	

ESE BATCH : G50437

HOLDING TIMES CHECK

SAMPI	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL ING TIMES MET

STORET 71921 METHOD: 7471M-G MERCURY, MG/KG-DRY QUAD

CALIBRATION CURVE # 1 (UG/L)
DETECTION LIMIT=0.2 DATE: 06/22/94 LARGEST RESP=84.0 %RSD=22.2012 RT WINDOW=

CONC :	0.0	0.1	0.5	1.0	2.0	5.0	7.0	10.0
RESP :	0.25	1.5	5.5	10.0	18.75	47.0	68.75	84.0
CONC':	-.013	0.114	0.524	0.994	1.93	5.21	6.80	10.0

CONC = -3.8493E 02+ 1.0099E-01*RESP+ 2.2596E-04*RESP**2+ *RESP**3
95% C.I.= 1.5294E-01 1.2132E-02 1.4953E-04
CORRELATION COEFFICIENT = .9995

ESE BATCH : 350437

Continuing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	CCB*QC*1	71921*7471M-G	MERCURY	MG/KG-	ND

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	CCV*QC*1	71921*7471M-G	MERCURY	MG/KG-	5.00	4.13	82.6	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	ICV*PEPURE*1	71921*7471M-G	MERCURY	MG/KG-	5.00	4.04	80.8	80-120

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	MB*QC*1	71921*7471M-G	MERCURY	MG/KG-	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/22/94	SP*QC*1	71921*7471M-G	MERCURY	94.3	85-125	MG/KG-	2.44	2.30

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/22/94	SPM1*CDMHNSS2*6	71921*7471M-G	MERCURY	31.0	85-125	0.0	MG/KG-	2.42	0.751
06/22/94	SPM2*CDMHNSS2*6	71921*7471M-G	MERCURY	39.2	85-125	0.0	MG/KG-	2.50	0.981

ESE BATCH : G50437

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED

FINAL CONCENTRATION	MG/KG-DRY
INJECT. VOLUME	NA
SAMPLE VOLUME	G
EXTRACT VOLUME	L
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	NA
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	PK HT
CONVERSION FACTOR	1

FINAL CONC = CURV CONC * EXT VOL * DIL * 1 / INJ VOL * SAMP VOL * ((100 - %MOISTURE) / 100)

MG/KG-DRY = (UG/L) * (L) * 1 / (NA) * (G)

( ) = ( ) * ( ) * ( ) / ( ) * ( ) * ((100 - ( )) / 100)

TARGET CONC = SPIKE SOLN CONC * SPIKE VOL / SPIKE SAMP VOL * ((100 - %MOISTURE) / 100)

UG/L = (NA) * (NA) / (NA)

ESE BATCH : G50437

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50437 Analysis Date: 06/22/94 Analyst: CHRISTOPHER HORRELL

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
No. of calibration standards present acceptable?	X		
Curve correlation coefficient >= 0.995?	X		
Calibration curve y-intercept < curve detection limit?	X		
Sample responses within highest standard response?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?		X	HG
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?		X	HG

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY: KATHY BARRY 1708
PROB.:SAMPLE MATRIX SPIKE NOT WITHIN
ACCEPTANCE CRITERIA.
EXPL.:POSSIBLE MATRIX INTERFERENCE./CAH
PROB.:SAMPLE MATRIX SPIKE DUPLICATE
NOT WITHIN ACCEPTANCE CRITERIA.
EXPL.:SEE ABOVE./CAH

FINALIZED BY:

ESE BATCH : G50437

TABLE OF ABBREVIATIONS

%RE : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE : Analysis Date
ANLY TIME : Analysis Time
CURVE : Curve Regression Number
DILUTION : Sample Dilution Factor
EXT DATE : Extract Date
EXT VOL : Extract Volume
FOUND : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL : Injection Volume
REL%DIFF : % Difference between current and previous spike.
RESPONSE : Sample Response
R.T. : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
DA -- Data Sample
MB -- Method Blank
RF -- Reference (from commercially known standard)
RP -- Replicate Sample
SP -- Standard Matrix Spike
SPM -- Sample Matrix Spike
STD -- Internal Standard
SUR -- Surrogate Sample
UN -- Unspiked Sample
SAMP VOL : Sample Volume
SPK CONC : Spike Concentration
ST : Sample response explanation or validity. (listed below)
BK -- No sample response.
NA -- Sample not analyzed.
NR -- Not reserved for this batch. Batch containing the response for this sample is listed in the target field.
OK -- Sample response shown is correct.
! -- Sample response shown is invalid.
< -- Sample response < detection limit. Detection limit is shown in the response field.
STORET THD: Storet ID * Method Code
TAR : Spike Target (SAMPLE LISTING SECTION)
TARGET : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE : Response Type ("FINAL" or empty.)
UNSP CONC : Unspiked Sample Concentration

Waters

Volatile Organic Compounds

ESE BATCH : G50300
CLASSIFICATION : VOCS EPA 8240

QC TYPE : FDER/SW
ANALYST : DANIEL LUCAS
EXTRACTOR :
DATA ENTRY : TODD ROMERO

REPORT DATE/TIME : 08/13/94 11:31:10
ANALYSIS DATE : 06/20/94
EXTRACT DATE :

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

BATCH NOTES
DOWNLOAD FILE CERSADL2

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSW2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD
CERSAW1	FDER	1944029G 0201	CE - REDSTONE ARSENAL	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CERSAW1*13	SW46-1	06/20/94	10:07AM
CERSAW1*14	SW46-2	06/20/94	10:35AM
CERSAW1*15	SW46-3	06/20/94	12:31PM
CERSAW1*50	SW56-5	06/20/94	01:00PM
CERSAW1*66	DUP1	06/20/94	01:30PM
CERSAW1*79	TBLK4	06/20/94	02:00PM
CERSAW1*92	EQBLK2	06/20/94	02:31PM
CERSAW1*76	TBLK1	06/20/94	03:00PM
CDMHNSW2*1	A06-2-EB1	06/20/94	03:29PM

ESE BATCH : G50300

HOLDING TIMES CHECK

SAMP	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H T OVER

ALL HOLDING TIMES MET

STORET: 34418 METHOD: 8240-G CHLOROMETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=4.4 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34413 METHOD: 8240-G BROMOMETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=3.5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 39175 METHOD: 8240-G VINYL CHLORIDE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=4.6 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34311 METHOD: 8240-G CHLOROETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=8.2 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34423 METHOD: 8240-G METHYLENE CHLORIDE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=6.4 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 81552 METHOD: 8240-G ACETONE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=9.0 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 77041 METHOD: 8240-G CARBON DISULFIDE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=4.4 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34501 METHOD: 8240-G 1,1-DICHLOROETHYLENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=3.2 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34496 METHOD: 8240-G 1,1-DICHLOROETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 96463 METHOD: 8240-G 1,2-DICHLOROETHENE (TOTAL), UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.4 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 32106 METHOD: 8240-G CHLOROFORM, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 98812 METHOD: SUR 1,2-DICHLOROETHANE-D(4), UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34531 METHOD: 8240-G 1,2-DICHLOROETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 81595 METHOD: 8240-G METHYL ETHYL KETONE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34506 METHOD: 8240-G 1,1,1-TRICHLOROETHANE, UG/L GCMS

ESE BATCH G5030

CALIBRATION CURVE # 1
DETECTION LIMIT=2.9 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 32102 METHOD: 8240-G CARBON TETRACHLORIDE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.6 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34576 METHOD: 8240-G 2-CHLOROETHYLVINYL- ETHER, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=3.1 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 77057 METHOD: 8240-G VINYL ACETATE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10.0 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 32101 METHOD: 8240-G BROMODICHLOROMETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.2 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34541 METHOD: 8240-G 1,2-DICHLOROPROPANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34704 METHOD: 8240-G CIS-1,3-DICHLORO- PROPENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 39180 METHOD: 8240-G TRICHLOROETHENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=3.0 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 32105 METHOD: 8240-G DIBROMOCHLOROMETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.3 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34511 METHOD: 8240-G 1,1,2-TRICHL'ETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.8 DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34030 METHOD: 8240-G BENZENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34699 METHOD: 8240-G TRANS-1,3-DICHLORO- PROPENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.6 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 32104 METHOD: 8240-G BROMOFORM, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.6 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 81596 METHOD: 8240-G METHYL ISOBUT'KETONE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=12.0 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 77103 METHOD: 8240-G 2-HEXANONE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=21.0 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34475 METHOD: 8240-G TETRACHLOROETHENE, UG/L GCMS

CALIBRATION CURVE # 1

ESE BATCH : G50300
DETECTION LIMIT=1.9 DATE: LARGEST RESP= %RSD= RT WINDOW

STOF 34516 METHOD: 8240-G 1,1,2,2-TETRACHLORO- ETHANE, UG/L GCMS

C. .RATION CURVE # 1
DETECTION LIMIT=1.5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34010 METHOD: 8240-G TOLUENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=1.7 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 98810 METHOD: SUR TOLUENE-D(8), UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34301 METHOD: 8240-G CHLOROBENZENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=1.4 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34371 METHOD: 8240-G ETHYLBENZENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.3 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 77128 METHOD: 8240-G STYRENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=0.5 DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 81551 METHOD: 8240-G XYLENES,TOTAL, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=3.72 DATE: LARGEST RESP= %RSD= RT WINDOW:

STOP 97947 METHOD: SUR BROMOFLUOROBENZENE, UG/L GCMS

C. RATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH G50300

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/20/94	MB*NONE*0620	34418*8240-G	CHLOROMETHANE	UG/L	ND
06/20/94	MB*NONE*0620	34413*8240-G	BROMOMETHANE	UG/L	ND
06/20/94	MB*NONE*0620	39175*8240-G	VINYL CHLORIDE	UG/L	ND
06/20/94	MB*NONE*0620	34311*8240-G	CHLOROETHANE	UG/L	ND
06/20/94	MB*NONE*0620	34423*8240-G	METHYLENE CHLORIDE	UG/L	ND
06/20/94	MB*NONE*0620	81552*8240-G	ACETONE	UG/L	ND
06/20/94	MB*NONE*0620	77041*8240-G	CARBON DISULFIDE	UG/L	ND
06/20/94	MB*NONE*0620	34501*8240-G	1,1-DICHLOROETHYLENE	UG/L	ND
06/20/94	MB*NONE*0620	34496*8240-G	1,1-DICHLOROETHANE	UG/L	ND
06/20/94	MB*NONE*0620	96463*8240-G	1,2-DICHLOROETHENE (TOTAL)	UG/L	ND
06/20/94	MB*NONE*0620	32106*8240-G	CHLOROFORM	UG/L	0.38
06/20/94	MB*NONE*0620	34531*8240-G	1,2-DICHLOROETHANE	UG/L	ND
06/20/94	MB*NONE*0620	81595*8240-G	METHYL ETHYL KETONE	UG/L	ND
06/20/94	MB*NONE*0620	34506*8240-G	1,1,1-TRICHLOROETHANE	UG/L	ND
06/20/94	MB*NONE*0620	32102*8240-G	CARBON TETRACHLORIDE	UG/L	ND
06/20/94	MB*NONE*0620	34576*8240-G	2-CHLOROETHYLVINYL ETHER	UG/L	ND
06/20/94	MB*NONE*0620	77057*8240-G	VINYL ACETATE	UG/L	ND
06/20/94	MB*NONE*0620	32101*8240-G	BROMODICHLOROMETHANE	UG/L	ND
06/20/94	MB*NONE*0620	34541*8240-G	1,2-DICHLOROPROPANE	UG/L	ND
06/20/94	MB*NONE*0620	34704*8240-G	CIS-1,3-DICHLORO- PROPENE	UG/L	ND
06/20/94	MB*NONE*0620	39180*8240-G	TRICHLOROETHENE	UG/L	ND
06/20/94	MB*NONE*0620	32105*8240-G	DIBROMOCHLOROMETHANE	UG/L	ND
06/20/94	MB*NONE*0620	34511*8240-G	1,1,2-TRICHLOROETHANE	UG/L	ND
06/20/94	MB*NONE*0620	34030*8240-G	BENZENE	UG/L	ND
06/20/94	MB*NONE*0620	34699*8240-G	TRANS-1,3-DICHLORO- PROPENE	UG/L	ND
06/20/94	MB*NONE*0620	32104*8240-G	BROMOFORM	UG/L	ND
06/20/94	MB*NONE*0620	81596*8240-G	METHYL ISOBUTYL KETONE	UG/L	ND
06/20/94	MB*NONE*0620	77103*8240-G	2-HEXANONE	UG/L	ND
06/20/94	MB*NONE*0620	34475*8240-G	TETRACHLOROETHENE	UG/L	ND
06/20/94	MB*NONE*0620	34516*8240-G	1,1,2,2-TETRACHLORO- ETHANE	UG/L	ND
06/20/94	MB*NONE*0620	34010*8240-G	TOLUENE	UG/L	ND
06/20/94	MB*NONE*0620	34301*8240-G	CHLOROBENZENE	UG/L	ND
06/20/94	MB*NONE*0620	34371*8240-G	ETHYLBENZENE	UG/L	ND
06/20/94	MB*NONE*0620	77128*8240-G	STYRENE	UG/L	ND
06/20/94	MB*NONE*0620	81551*8240-G	XYLENES,TOTAL	UG/L	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/20/94	SP1*NONE*0620	34501*8240-G	1,1-DICHLOROETHYLENE	96	61-145	UG/L	50	48
06/20/94	SP1*NONE*0620	39180*8240-G	TRICHLOROETHENE	94	71-120	UG/L	50	47
06/20/94	SP1*NONE*0620	34030*8240-G	BENZENE	100	76-127	UG/L	50	50
06/20/94	SP1*NONE*0620	34010*8240-G	TOLUENE	102	76-125	UG/L	50	51
06/20/94	SP1*NONE*0620	34301*8240-G	CHLOROBENZENE	108	75-130	UG/L	50	54

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/20/94	SPM1*CERSAW1*14	34501*8240-G	1,1-DICHLOROETHYLENE	102	61-145	0.0	UG/L	50	51
06/20/94	SPM1*CERSAW1*14	39180*8240-G	TRICHLOROETHENE	88	71-120	0.0	UG/L	50	44
06/20/94	SPM1*CERSAW1*14	34030*8240-G	BENZENE	96	76-127	0.0	UG/L	50	48
06/20/94	SPM1*CERSAW1*14	34010*8240-G	TOLUENE	96	76-125	0.0	UG/L	50	48
06/20/94	SPM1*CERSAW1*14	34301*8240-G	CHLOROBENZENE	102	75-130	0.0	UG/L	50	51
06/20/94	SPM2*CERSAW1*14	34501*8240-G	1,1-DICHLOROETHYLENE	102	61-145	0.0	UG/L	50	51
06/20/94	SPM2*CERSAW1*14	39180*8240-G	TRICHLOROETHENE	94	71-120	0.0	UG/L	50	47
06/20/94	SPM2*CERSAW1*14	34030*8240-G	BENZENE	102	76-127	0.0	UG/L	50	51
06/20/94	SPM2*CERSAW1*14	34010*8240-G	TOLUENE	102	76-125	0.0	UG/L	50	51
06/20/94	SPM2*CERSAW1*14	34301*8240-G	CHLOROBENZENE	108	75-130	0.0	UG/L	50	54

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/20/94	MB*NONE*0620	98812*SUR	1,2-DICHLOROETHANE-D(4)	UG/L	50	47	94	76-114
06/20/94	MB*NONE*0620	98810*SUR	TOLUENE-D(8)	UG/L	50	51	100	85-115
06/20/94	MB*NONE*0620	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	48	96	86-115
06/20/94	DA*CERSAW1*13	98812*SUR	1,2-DICHLOROETHANE-D(4)	UG/L	50	48	96	76-114
06/20/94	DA*CERSAW1*13	98810*SUR	TOLUENE-D(8)	UG/L	50	53	110	85-115
06/20/94	DA*CERSAW1*13	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	50	100	86-115
06/20/94	DA*CERSAW1*14	98812*SUR	1,2-DICHLOROETHANE-D(4)	UG/L	50	48	96	76-114
06/20/94	DA*CERSAW1*14	98810*SUR	TOLUENE-D(8)	UG/L	50	51	100	85-115
06/20/94	DA*CERSAW1*14	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	48	96	86-115
06/20/94	SPM1*CERSAW1*14	98812*SUR	1,2-DICHLOROETHANE-D(4)	UG/L	50	48	96	76-114
06/20/94	SPM1*CERSAW1*14	98810*SUR	TOLUENE-D(8)	UG/L	50	51	100	85-115

ESE BATCH : G50300

Surrogate Spike Recovery Summary

DA	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/. .94	SPM1*CERSAW1*14	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	48	96	86-115
06/20/94	SPM2*CERSAW1*14	98812*SUR	1,2-DICHLOROETHANE D4	UG/L	50	48	96	76-114
06/20/94	SPM2*CERSAW1*14	98810*SUR	TOLUENE-D8	UG/L	50	52	100	85-115
06/20/94	SPM2*CERSAW1*14	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	49	98	86-115
06/20/94	SP1*NONE*0620	98812*SUR	1,2-DICHLOROETHANE D4	UG/L	50	47	94	76-114
06/20/94	SP1*NONE*0620	98810*SUR	TOLUENE-D8	UG/L	50	53	110	85-115
06/20/94	SP1*NONE*0620	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	49	98	86-115
06/20/94	DA*CERSAW1*15	98812*SUR	1,2-DICHLOROETHANE D4	UG/L	50	48	96	76-114
06/20/94	DA*CERSAW1*15	98810*SUR	TOLUENE-D8	UG/L	50	51	100	85-115
06/20/94	DA*CERSAW1*15	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	49	98	86-115
06/20/94	DA*CERSAW1*50	98812*SUR	1,2-DICHLOROETHANE D4	UG/L	50	46	92	76-114
06/20/94	DA*CERSAW1*50	98810*SUR	TOLUENE-D8	UG/L	50	51	100	85-115
06/20/94	DA*CERSAW1*50	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	50	100	86-115
06/20/94	DA*CERSAW1*66	98812*SUR	1,2-DICHLOROETHANE D4	UG/L	50	48	96	76-114
06/20/94	DA*CERSAW1*66	98810*SUR	TOLUENE-D8	UG/L	50	51	100	85-115
06/20/94	DA*CERSAW1*66	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	48	96	86-115
06/20/94	DA*CERSAW1*79	98812*SUR	1,2-DICHLOROETHANE D4	UG/L	50	47	94	76-114
06/20/94	DA*CERSAW1*79	98810*SUR	TOLUENE-D8	UG/L	50	51	100	85-115
06/20/94	DA*CERSAW1*79	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	47	94	86-115
06/20/94	DA*CERSAW1*92	98812*SUR	1,2-DICHLOROETHANE D4	UG/L	50	47	94	76-114
06/20/94	DA*CERSAW1*92	98810*SUR	TOLUENE-D8	UG/L	50	50	100	85-115
06/20/94	DA*CERSAW1*92	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	47	94	86-115
06/20/94	DA*CERSAW1*76	98812*SUR	1,2-DICHLOROETHANE D4	UG/L	50	47	94	76-114
06/20/94	DA*CERSAW1*76	98810*SUR	TOLUENE-D8	UG/L	50	51	100	85-115
06/20/94	DA*CERSAW1*76	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	48	96	86-115
06/20/94	DA*CDMHNSW2*1	98812*SUR	1,2-DICHLOROETHANE D4	UG/L	50	45	90	76-114
06/20/94	DA*CDMHNSW2*1	98810*SUR	TOLUENE-D8	UG/L	50	52	100	85-115
06/20/94	DA*CDMHNSW2*1	97947*SUR	BROMOFLUOROBENZENE	UG/L	50	48	96	86-115

ESE BATCH - G50300

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50300 Analysis Date: 06/20/94 Analyst: DANIEL LUCAS

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Surrogate present?	X		
Surrogate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

%RE : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE : Analysis Date
ANLY TIME : Analysis Time
CURVE : Curve Regression Number
DILUTION : Sample Dilution Factor
EXT DATE : Extract Date
EXT VOL : Extract Volume
FOUND : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL : Injection Volume
REL%DIFF : % Difference between current and previous spike.
RESPONSE : Sample Response
R.T. : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
- DA -- Data Sample
- MB -- Method Blank
- RF -- Reference (from commercially known standard)
- RP -- Replicate Sample
- SP -- Standard Matrix Spike
- SPM -- Sample Matrix Spike
- STD -- Internal Standard
- SUR -- Surrogate Sample
- UN -- Unspiked Sample

SAMP VOL : Sample Volume
SPK CONC : Spike Concentration
ST : Sample response explanation or validity. (listed below)
- BK -- No sample response.
- NA -- Sample not analyzed.
- NR -- Not reserved for this batch. Batch containing the response for this sample is listed in the target field.
- OK -- Sample response shown is correct.
- ! -- Sample response shown is invalid.
- < -- Sample response < detection limit. Detection limit is shown in the response field.

STC METHOD: Storet ID * Method Code
TAR : Spike Target (SAMPLE LISTING SECTION)
TARGET : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE : Response Type ("FINAL" or empty.)
UNSP CONC : Unspiked Sample Concentration

Semivolatile Organic Compounds

ESE BATCH : G50509
CLASSIFICATION : ACID EXTR. - EPA 8270/3520 CLL)

QC	: FDER/SW	REPORT DATE/TIME	08/13/94 11:34:03
ANA	: SCOTT KEERAN	ANALYSIS DATE	06/22/94
EXTRACTOR	: CURTIS GUINYARD	EXTRACT DATE	06/20/94
DATA ENTRY	: TODD ROMERO		

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

BATCH NOTES
DOWNLOAD FILE CDMHS2

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSW2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSW2*1	A06-2-EB1	06/22/94	06:24PM

ESE BATCH : G50500

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T. OVER

ALL HOLDING TIMES MET

STORET: 98316 METHOD: SUR 2-FLUOROPHENOL, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 98317 METHOD: SUR PHENOL-D(5), UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW

STORET: 34694 METHOD: 8270/3520-G PHENOL, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34273 METHOD: 8270/3520-G BIS(2-CHLOROETHYL) ETHER, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34586 METHOD: 8270/3520-G 2-CHLOROPHENOL, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34566 METHOD: 8270/3520-G 1,3,DICHLOROBENZENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34571 METHOD: 8270/3520-G 1,4-DICHLOROBENZENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34536 METHOD: 8270/3520-G 1,2-DICHLOROBENZENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 77147 METHOD: 8270/3520-G BENZYL ALCOHOL, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 99073 METHOD: 8270/3520-G 2-METHYL PHENOL, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 99074 METHOD: 8270/3520-G 4-METHYL PHENOL, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34283 METHOD: 8270/3520-G BIS(2-CHL'ISOPROPYL) ETHER UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34428 METHOD: 8270/3520-G N-NITROSODI-N-PROPYLAMINE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34396 METHOD: 8270/3520-G HEXACHLOROETHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 98318 METHOD: SUR NITROBENZENE-D(5), UG/L GCMS

ESE BATCH : G50500

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

ST. 34447 METHOD: 8270/3520-G NITROBENZENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34408 METHOD: 8270/3520-G ISOPHORONE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34591 METHOD: 8270/3520-G 2-NITROPHENOL, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34606 METHOD: 8270/3520-G 2,4-DIMETHYLPHENOL, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 77247 METHOD: 8270/3520-G BENZOIC ACID, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=5.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW

STORET: 34278 METHOD: 8270/3520-G BIS(2-CHLOROETHOXY) METHANE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW

STORET: 34601 METHOD: 8270/3520-G 2,4-DICHLOROPHENOL, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW

ST 34551 METHOD: 8270/3520-G 1,2,4-TRICH'BENZENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW

STORET: 34696 METHOD: 8270/3520-G NAPHTHALENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW

STORET: 99075 METHOD: 8270/3520-G 4-CHLOROANILINE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET. 34391 METHOD: 8270/3520-G HEXACHLOROBUTADIENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34452 METHOD: 8270/3520-G 4-CHLORO-3-METHYL PHENOL, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=1.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 77416 METHOD: 8270/3520-G 2-METHLYNAPHTHALENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34386 METHOD: 8270/3520-G HEXACHLOROCYCLOPENTADIENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=14 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STC 34621 METHOD: 8270/3520-G 2,4,6-TRICHL'PHENOL, UG/L GCMS

CALIBRATION CURVE # 1

ESE BATCH G50500
DETECTION LIMIT=2.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 77687 METHOD: 8270/3520-G 2,4,5-TRICHLOROPHENOL, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 98321 METHOD: SUR 2-FLUOROBIPHENYL, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34581 METHOD: 8270/3520-G 2-CHLORONAPHTHALENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 99077 METHOD: 8270/3520-G 2-NITROANILINE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34341 METHOD: 8270/3520-G DIMETHYLPTHALATE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34200 METHOD: 8270/3520-G ACENAPHTHYLENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34626 METHOD: 8270/3520-G 2,6-DINITROTOLUENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 99078 METHOD: 8270/3520-G 3-NITROANILINE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34205 METHOD: 8270/3520-G ACENAPHTHENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34616 METHOD: 8270/3520-G 2,4-DINITROPHENOL, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34646 METHOD: 8270/3520-G 4-NITROPHENOL, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 81302 METHOD: 8270/3520-G DIBENZOFURAN, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34611 METHOD: 8270/3520-G 2,4-DINITROTOLUENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34336 METHOD: 8270/3520-G DIETHYLPHTHALATE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34641 METHOD: 8270/3520-G 4-CHLOROPHENYLPHENYL ETHER, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

EDE BATCH : G50507
STORET: 34381 METHOD: 8270/3520-G FLUORENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 99079 METHOD: 8270/3520-G 4-NITROANILINE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34433 METHOD: 8270/3520-G N-NITROSODIPHE'AMINE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 97446 METHOD: SUR 2,4,6-TRIBROMOPHENOL, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34657 METHOD: 8270/3520-G 2-METHYL-4,6-DINITROPHENOL, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW

STORET: 34636 METHOD: 8270/3520-G 4-BROMOPHENYLPHENYL ETHER, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39700 METHOD: 8270/3520-G HEXACHLOROBENZENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39032 METHOD: 8270/3520-G PENTACHLOROPHENOL, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=3.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34461 METHOD: 8270/3520-G PHENANTHRENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34220 METHOD: 8270/3520-G ANTHRACENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39110 METHOD: 8270/3520-G DI-N-BUTYLPHTHALATE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34376 METHOD: 8270/3520-G FLUORANTHENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34469 METHOD: 8270/3520-G PYRENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=1.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 97447 METHOD: SUR TERPHENYL-D(14), UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT= DATE: LARGEST RESP= %RSD= RT WINDOW:

STORET: 34292 METHOD: 8270/3520-G BUTYLBENZYLPHTHALATE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34631 METHOD: 8270/3520-G 3,3'-DICHL'BENZIDINE, UG/L GCMS

ESE BATCH G50500
CALIBRATION CURVE # 1
DETECTION LIMIT=5.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34526 METHOD: 8270/3520-G BENZO(A)ANTHRACENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34320 METHOD: 8270/3520-G CHRYSENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39100 METHOD: 8270/3520-G BIS(2-ETHYLHEXYL) PHTHALATE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34596 METHOD: 8270/3520-G DI-N-OCTYLPHTHALATE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.4 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34230 METHOD: 8270/3520-G BENZO(B)FLUORANTHENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34242 METHOD: 8270/3520-G BENZO(K)FLUORANTHENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=1.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34247 METHOD: 8270/3520-G BENZO(A)PYRENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.0 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34403 METHOD: 8270/3520-G INDENO(1,2,3-CD) PYRENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34556 METHOD: 8270/3520-G DIBEN'(A,H)ANTH'CENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34521 METHOD: 8270/3520-G BENZO(GHI)PERYLENE, UG/L GCMS

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: 06/20/94 LARGEST RESP= %RSD= RT WINDOW:

ESE BATCH : G5050

Me: Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	MB*NONE*1	34694*8270/3520-G	PHENOL	UG/L	ND
06/22/94	MB*NONE*1	34273*8270/3520-G	BIS(2-CHLOROETHYL) ETHER	UG/L	ND
06/22/94	MB*NONE*1	34586*8270/3520-G	2-CHLOROPHENOL	UG/L	ND
06/22/94	MB*NONE*1	34566*8270/3520-G	1,3,DICHLOROBENZENE	UG/L	ND
06/22/94	MB*NONE*1	34571*8270/3520-G	1,4-DICHLOROBENZENE	UG/L	ND
06/22/94	MB*NONE*1	34536*8270/3520-G	1,2-DICHLOROBENZENE	UG/L	ND
06/22/94	MB*NONE*1	77147*8270/3520-G	BENZYL ALCOHOL	UG/L	ND
06/22/94	MB*NONE*1	99073*8270/3520-G	2-METHYL PHENOL	UG/L	ND
06/22/94	MB*NONE*1	99074*8270/3520-G	4-METHYL PHENOL	UG/L	ND
06/22/94	MB*NONE*1	34283*8270/3520-G	BIS(2-CHL'ISOPROPYL) ETHER	UG/L	ND
06/22/94	MB*NONE*1	34428*8270/3520-G	N-NITROSODI-N-PROPYLAMINE	UG/L	ND
06/22/94	MB*NONE*1	34396*8270/3520-G	HEXACHLOROETHANE	UG/L	ND
06/22/94	MB*NONE*1	34447*8270/3520-G	NITROBENZENE	UG/L	ND
06/22/94	MB*NONE*1	34408*8270/3520-G	ISOPHORONE	UG/L	ND
06/22/94	MB*NONE*1	34591*8270/3520-G	2-NITROPHENOL	UG/L	ND
06/22/94	MB*NONE*1	34606*8270/3520-G	2,4-DIMETHYLPHENOL	UG/L	ND
06/22/94	MB*NONE*1	77247*8270/3520-G	BENZOIC ACID	UG/L	ND
06/22/94	MB*NONE*1	34278*8270/3520-G	BIS(2-CHLOROETHOXY) METHANE	UG/L	ND
06/22/94	MB*NONE*1	34601*8270/3520-G	2,4-DICHLOROPHENOL	UG/L	ND
06/22/94	MB*NONE*1	34551*8270/3520-G	1,2,4-TRICH'BENZENE	UG/L	ND
06/22/94	MB*NONE*1	34696*8270/3520-G	NAPHTHALENE	UG/L	ND
06/22/94	MB*NONE*1	99075*8270/3520-G	4-CHLOROANILINE	UG/L	ND
06/22/94	MB*NONE*1	34391*8270/3520-G	HEXACHLOROBUTADIENE	UG/L	ND
06/22/94	MB*NONE*1	34452*8270/3520-G	4-CHLORO-3-METHYL PHENOL	UG/L	ND
06/22/94	MB*NONE*1	77416*8270/3520-G	2-METHLYNAPHTHALENE	UG/L	ND
06/22/94	MB*NONE*1	34386*8270/3520-G	HEXACHLOROCYCLOPENTADIENE	UG/L	ND
06/22/94	MB*NONE*1	34621*8270/3520-G	2,4,6-TRICHL'PHENOL	UG/L	ND
06/22/94	MB*NONE*1	77687*8270/3520-G	2,4,5-TRICHL'PHENOL	UG/L	ND
06/22/94	MB*NONE*1	34581*8270/3520-G	2-CHLORONAPHTHALENE	UG/L	ND
06/22/94	MB*NONE*1	99077*8270/3520-G	2-NITROANILINE	UG/L	ND
06/22/94	MB*NONE*1	34341*8270/3520-G	DIMETHYLPTHALATE	UG/L	ND
06/[illegible]	MB*NONE*1	34200*8270/3520-G	ACENAPHTHYLENE	UG/L	ND
06[illegible]	MB*NONE*1	34626*8270/3520-G	2,6-DINITROTOLUENE	UG/L	ND
06[illegible]94	MB*NONE*1	99078*8270/3520-G	3-NITROANILINE	UG/L	ND
06/22/94	MB*NONE*1	34205*8270/3520-G	ACENAPHTHENE	UG/L	ND
06/22/94	MB*NONE*1	34616*8270/3520-G	2,4-DINITROPHENOL	UG/L	ND
06/22/94	MB*NONE*1	34646*8270/3520-G	4-NITROPHENOL	UG/L	ND
06/22/94	MB*NONE*1	81302*8270/3520-G	DIBENZOFURAN	UG/L	ND
06/22/94	MB*NONE*1	34611*8270/3520-G	2,4-DINITROTOLUENE	UG/L	ND
06/22/94	MB*NONE*1	34336*8270/3520-G	DIETHYLPHTHALATE	UG/L	ND
06/22/94	MB*NONE*1	34641*8270/3520-G	4-CHLOROPHENYLPHENYL ETHER	UG/L	ND
06/22/94	MB*NONE*1	34381*8270/3520-G	FLUORENE	UG/L	ND
06/22/94	MB*NONE*1	99079*8270/3520-G	4-NITROANILINE	UG/L	ND
06/22/94	MB*NONE*1	34433*8270/3520-G	N-NITROSODIPHE'AMINE	UG/L	ND
06/22/94	MB*NONE*1	34657*8270/3520-G	2-METHYL-4,6-DINITROPHENOL	UG/L	ND
06/22/94	MB*NONE*1	34636*8270/3520-G	4-BROMOPHENYLPHENYL ETHER	UG/L	ND
06/22/94	MB*NONE*1	39700*8270/3520-G	HEXACHLOROBENZENE	UG/L	ND
06/22/94	MB*NONE*1	39032*8270/3520-G	PENTACHLOROPHENOL	UG/L	ND
06/22/94	MB*NONE*1	34461*8270/3520-G	PHENANTHRENE	UG/L	ND
06/22/94	MB*NONE*1	34220*8270/3520-G	ANTHRACENE	UG/L	ND
06/22/94	MB*NONE*1	39110*8270/3520-G	DI-N-BUTYLPHTHALATE	UG/L	ND
06/22/94	MB*NONE*1	34376*8270/3520-G	FLUORANTHENE	UG/L	ND
06/22/94	MB*NONE*1	34469*8270/3520-G	PYRENE	UG/L	ND
06/22/94	MB*NONE*1	34292*8270/3520-G	BUTYLBENZYLPHTHALATE	UG/L	ND
06/22/94	MB*NONE*1	34631*8270/3520-G	3,3'-DICHL'BENZIDINE	UG/L	ND
06/22/94	MB*NONE*1	34526*8270/3520-G	BENZO(A)ANTHRACENE	UG/L	ND
06/22/94	MB*NONE*1	34320*8270/3520-G	CHRYSENE	UG/L	ND
06/22/94	MB*NONE*1	39100*8270/3520-G	BIS(2-ETHYLHEXYL) PHTHALATE	UG/L	3.6
06/22/94	MB*NONE*1	34596*8270/3520-G	DI-N-OCTYLPHTHALATE	UG/L	ND
06/22/94	MB*NONE*1	34230*8270/3520-G	BENZO(B)FLUORANTHENE	UG/L	ND
06/22/94	MB*NONE*1	34242*8270/3520-G	BENZO(K)FLUORANTHENE	UG/L	ND
06/22/94	MB*NONE*1	34247*8270/3520-G	BENZO(A)PYRENE	UG/L	ND
06/22/94	MB*NONE*1	34403*8270/3520-G	INDENO(1,2,3-CD) PYRENE	UG/L	ND
06/22/94	MB*NONE*1	34556*8270/3520-G	DIBEN'(A,H)ANTH'CENE	UG/L	ND
06/22/94	MB*NONE*1	34521*8270/3520-G	BENZO(GHI)PERYLENE	UG/L	ND

Standard Matrix Spike Recovery Summary

DA	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/22/94	SP1*NONE*1	34694*8270/3520-G	PHENOL	90	12-89	UG/L	100	90
06/22/94	SP1*NONE*1	34586*8270/3520-G	2-CHLOROPHENOL	74	27-123	UG/L	100	74
06/22/94	SP1*NONE*1	34571*8270/3520-G	1,4-DICHLOROBENZENE	92	36-97	UG/L	50	46
06/22/94	SP1*NONE*1	34428*8270/3520-G	N-NITROSODI-N-PROPYLAMINE	90	41-116	UG/L	50	45

ESE BATCH : G50500

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/22/94	SP1*NONE*1	34551*8270/3520-G	1,2,4-TRICHLOROBENZENE	94	39-98	UG/L	50	47
06/22/94	SP1*NONE*1	34452*8270/3520-G	4-CHLORO-3-METHYL PHENOL	92	23-97	UG/L	100	92
06/22/94	SP1*NONE*1	34205*8270/3520-G	ACENAPHTHENE	66	46-118	UG/L	50	33
06/22/94	SP1*NONE*1	34646*8270/3520-G	4-NITROPHENOL	87	10-80	UG/L	100	87
06/22/94	SP1*NONE*1	34611*8270/3520-G	2,4-DINITROTOLUENE	90	24-96	UG/L	50	45
06/22/94	SP1*NONE*1	39032*8270/3520-G	PENTACHLOROPHENOL	62	9-103	UG/L	100	62
06/22/94	SP1*NONE*1	34469*8270/3520-G	PYRENE	98	26-127	UG/L	50	49

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	MB*NONE*1	98316*SUR	2-FLUOROPHENOL	UG/L	100	64	64	21-100
06/22/94	MB*NONE*1	98317*SUR	PHENOL-D(5)	UG/L	100	67	67	10-94
06/22/94	MB*NONE*1	98318*SUR	NITROBENZENE-D(5)	UG/L	50	33	66	35-114
06/22/94	MB*NONE*1	98321*SUR	2-FLUOROBIPHENYL	UG/L	50	30	60	43-116
06/22/94	MB*NONE*1	97446*SUR	2,4,6-TRIBROMOPHENOL	UG/L	100	44	44	10-123
06/22/94	MB*NONE*1	97447*SUR	TERPHENYL-D(14)	UG/L	50	29	58	33-141
06/22/94	DA*CDMHNSW2*1	98316*SUR	2-FLUOROPHENOL	UG/L	100	68	68	21-100
06/22/94	DA*CDMHNSW2*1	98317*SUR	PHENOL-D(5)	UG/L	100	68	68	10-94
06/22/94	DA*CDMHNSW2*1	98318*SUR	NITROBENZENE-D(5)	UG/L	50	33	66	35-114
06/22/94	DA*CDMHNSW2*1	98321*SUR	2-FLUOROBIPHENYL	UG/L	50	32	64	43-116
06/22/94	DA*CDMHNSW2*1	97446*SUR	2,4,6-TRIBROMOPHENOL	UG/L	100	43	43	10-123
06/22/94	DA*CDMHNSW2*1	97447*SUR	TERPHENYL-D(14)	UG/L	50	31	62	33-141
06/22/94	SP1*NONE*1	98316*SUR	2-FLUOROPHENOL	UG/L	100	77	77	21-100
06/22/94	SP1*NONE*1	98317*SUR	PHENOL-D(5)	UG/L	100	70	70	10-94
06/22/94	SP1*NONE*1	98318*SUR	NITROBENZENE-D(5)	UG/L	50	39	78	35-114
06/22/94	SP1*NONE*1	98321*SUR	2-FLUOROBIPHENYL	UG/L	50	35	70	43-116
06/22/94	SP1*NONE*1	97446*SUR	2,4,6-TRIBROMOPHENOL	UG/L	100	59	59	10-123
06/22/94	SP1*NONE*1	97447*SUR	TERPHENYL-D(14)	UG/L	50	39	78	33-141

ESE BATCH : G50500

Environmental Science and Engineering Analytical Services
Computer QC Checks

Bat .: G50500 Analysis Date: 06/22/94 Analyst: SCOTT KEERAN

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Extract holding time within criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?		X	PHENOL
			4-NITPHEN
Sample matrix spike present?		X	
Sample matrix spike within acceptance criteria?			
Surrogate present?	X		
Surrogate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY: DWIGHT ROBERTS 515
PROB.:STANDARD MATRIX SPIKE NOT WITHIN
ACCEPTANCE CRITERIA.
EXPL.:FOR PHENOL, SP1 RECOVERY WAS 90.0%
WITH AN UPPER LIMIT OG 89%. FOR
NITROPHENOL THE SP1 RECOVERY WAS
7.0% WITH AN UPPE LIMIT OF 80%.
THESE RECOVERIES ARE WITHIN THE
RANGE OF HISTORIC DATA./WSK
PROB.:SAMPLE MATRIX SPIKE NOT PRESENT.
EXPL.:SEE ABOVE./WSK

FINALIZED BY:

TABLE OF ABBREVIATIONS

%RECV : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE : Analysis Date
ANLY TIME : Analysis Time
CURVE : Curve Regression Number
DILUTION : Sample Dilution Factor
EXT DATE : Extract Date
EXT VOL : Extract Volume
FOUND : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL : Injection Volume
REL%DIFF : % Difference between current and previous spike.
RESPONSE : Sample Response
R.T. : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
DA -- Data Sample
MB -- Method Blank
RF -- Reference (from commercially known standard)
RP -- Replicate Sample
SP -- Standard Matrix Spike
SPM -- Sample Matrix Spike
STD -- Internal Standard
SUR -- Surrogate Sample
UN -- Unspiked Sample
SAMP VOL : Sample Volume
SPK CONC : Spike Concentration
ST : Sample response explanation or validity. (listed below)
BK -- No sample response.
NA -- Sample not analyzed.
NR -- Not reserved for this batch. Batch containing the response for this sample is listed in the target field.
OK -- Sample response shown is correct.
! -- Sample response shown is invalid.
< -- Sample response < detection limit. Detection limit is shown in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET : Spike Target (SAMPLE LISTING SECTION)
TARGET : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE : Response Type ("FINAL" or empty.)
UNSP CONC : Unspiked Sample Concentration

Organochlorine Pesticides

& PCBs

ESE BATCH : G50403
CLASSIFICATION : CHL. PESTS EPA 8080/3520 (CLL)

QC TYPE : FDER/SW
ANALYST : GREG AYOUB
EXTRACTOR : CURTIS GUINYARD
DATA ENTRY : GREG AYOUB

REPORT DATE/TIME : 08/13/94 11:39:03
ANALYSIS DATE : 06/20/94
EXTRACT DATE : 06/22/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

BATCH NOTES
UPDATED - CHANGE PRELIMINARY./DRW/GA 6/27

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSW2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSW2*1	A06-2-EB1	06/24/94	05:04AM

ESE BATCH : G50403

HOLDING TIMES CHECK

SAM	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 96472 METHOD: SUR TETRACHLORO-M-XYLENE, UG/L QUAD

CALIBRATION CURVE # 1 (UG/L)
DETECTION LIMIT=4 DATE: 06/23/94 LARGEST RESP=2091853 %RSD=4.7589 RT WINDOW:

CONC :	0	4	20	40	100	200	400
RESP :	0	19205	99661	215219	535519	1081006	2091853
CONC':	1.02	4.47	19.0	39.9	98.6	201	400
R.T.:		12.528	12.527	12.524	12.525	12.522	12.520

CONC = 1.0244E+00+ 1.7944E-04*RESP+ 5.3416E-12*RESP**2+ *RESP**3
95% C.I.= 1.3555E+00 4.6489E-06 2.2155E-12
CORRELATION COEFFICIENT = 1.0000

STORET: 39337 METHOD: 8080/3520-G BHC,A, UG/L QUAD

CALIBRATION CURVE # 1 (UG/L)
DETECTION LIMIT=1 DATE: 06/23/94 LARGEST RESP=557176 %RSD=14.5647 RT WINDOW:

CONC :	0	1	5	10	25	50	100
RESP :	0	4186	19520	40510	98512	229376	557176
CONC':	0.237	1.28	5.06	10.1	23.6	50.8	99.9
R.T.:		15.458	15.458	15.456	15.460	15.458	15.455

CONC = 2.3716E-01+ 2.4948E-04*RESP+ -1.2670E-10*RESP**2+ *RESP**3
95% C.I.= 9.1127E-01 1.3373E-05 2.3575E-11
CORRELATION COEFFICIENT = .9998

STORET: 39340 METHOD: 8080/3520-G BHC,G(LINDANE), UG/L QUAD

CALIBRATION CURVE # 1 (UG/L)
DETECTION LIMIT=1 DATE: 06/23/94 LARGEST RESP=495245 %RSD=12.9704 RT WINDOW:

CONC :	0	1	5	10	25	50	100
RESP :	0	3808	18134	37020	90810	208414	495245
CONC':	0.202	1.24	5.09	10.1	23.7	50.7	99.9
R.T.:		17.140	17.141	17.139	17.141	17.141	17.138

CONC = 2.0181E-01+ 2.7227E-04*RESP+ -1.4323E-10*RESP**2+ *RESP**3
95% C.I.= 8.1395E-01 1.3249E-05 2.6304E-11
CORRELATION COEFFICIENT = .9999

STORET: 39338 METHOD: 8080/3520-G BHC,B, UG/L QUAD

CALIBRATION CURVE # 1 (UG/L)
DETECTION LIMIT=1 DATE: 06/23/94 LARGEST RESP=281072 %RSD=5.6850 RT WINDOW:

CONC :	0	1	5	10	25	50	100
RESP :	0	2426	12391	26331	61314	130594	281072
CONC':	-.077	0.918	4.98	10.6	24.4	50.2	100.0
R.T.:		17.428	17.427	17.424	17.426	17.425	17.422

CONC = -7.7213E-02+ 4.1065E-04*RESP+ -1.9456E-10*RESP**2+ *RESP**3
95% C.I.= 5.0820E-01 1.3606E-05 4.7790E-11
CORRELATION COEFFICIENT = .9999

STORET: 39410 METHOD: 8080/3520-G HEPTACHLOR, UG/L QUAD

CALIBRATION CURVE # 1 (UG/L)
DETECTION LIMIT=1 DATE: 06/23/94 LARGEST RESP=775190 %RSD=5.2937 RT WINDOW:

CONC :	0	1	5	10	25	50	100
RESP :	0	7099	34282	69716	166234	356638	775190
CONC':	-.072	1.00	5.09	10.4	24.3	50.3	100.0
R.T.:		18.529	18.529	18.527	18.529	18.528	18.525

CONC = -7.2164E-02+ 1.5170E-04*RESP+ -2.9233E-11*RESP**2+ *RESP**3
95% C.I.= 4.6121E-01 4.5104E-06 5.7408E-12
CORRELATION COEFFICIENT = 1.0000

STORET: 34259 METHOD: 8080/3520-G BHC,D, UG/L QUAD

ATION CURVE # 1 (UG/L)
DETECTION LIMIT=1 DATE: 06/23/94 LARGEST RESP=300739 %RSD=10.2534 RT WINDOW:

CONC :	0	1	5	10	25	50	100
RESP :	0	2468	11661	25062	56974	126450	300739

```
ESE BATCH        : G50403
   CONC':      -.153      .948      5.01      10.8      24.1      50.3      100.0
    R.T.:               18.998    18.997    18.994    18.996    18.996    18.994

    CONC     =  -1.5290E-01+  4.4717E-04*RESP+ -3.7987E-10*RESP**2+            *RESP**3
    95% C.I.=   7.0376E-01   1.8604E-05         6.0680E-11
    CORRELATION COEFFICIENT = .9999
```

STORET: 39330 METHOD: 8080/3520-G ALDRIN, UG/L QUAD

```
  CALIBRATION CURVE # 1    (UG/L)
    DETECTION LIMIT=1  DATE: 06/23/94  LARGEST RESP=693706 %RSD=16.7176  RT WINDOW:
   CONC :          0          1          5         10         25         50        100
   RESP :          0       4698      23608      48751     121983     287828     693706
   CONC':      0.422       1.35       5.06       9.90       23.4       50.9       99.9
    R.T.:               19.936    19.937    19.935    19.938    19.938    19.935

    CONC     =   4.2178E-01+  1.9833E-04*RESP+ -7.9204E-11*RESP**2+            *RESP**3
    95% C.I.=   1.0361E+00   1.2232E-05         1.7348E-11
    CORRELATION COEFFICIENT = .9998
```

STORET: 39420 METHOD: 8080/3520-G HEPTACHLOR EPOXIDE, UG/L QUAD

```
  CALIBRATION CURVE # 1    (UG/L)
    DETECTION LIMIT=1  DATE: 06/23/94  LARGEST RESP=556263 %RSD=9.4131  RT WINDOW:
   CONC :          0          1          5         10         25         50        100
   RESP :          0       4707      21995      45588     108669     242707     556263
   CONC':      0.038       1.12       5.06       10.3       24.0       50.5       99.9
    R.T.:               22.291    22.291    22.288    22.291    22.291    22.288

    CONC     =   3.7997E-02+  2.3013E-04*RESP+ -9.0868E-11*RESP**2+            *RESP**3
    95% C.I.=   6.7247E-01   9.4924E-06         1.6795E-11
    CORRELATION COEFFICIENT = .9999
```

STORET: 34361 METHOD: 8080/3520-G ENDOSULFAN,A, UG/L QUAD

```
  CALIBRATION CURVE # 1    (UG/L)
    DETECTION LIMIT=1  DATE: 06/23/94  LARGEST RESP=453742 %RSD=9.3516  RT WINDOW:
   CONC :          0          1          5         10         25         50        100
   RESP :          0       3859      17957      37426      88937     201353     453742
   CONC':      0.128       1.19       5.05       10.3       23.7       50.7       99.9
    R.T.:               23.634    23.634    23.633    23.633    23.633    23.632

    CONC     =   1.2824E-01+  2.7625E-04*RESP+ -1.2418E-10*RESP**2+            *RESP**3
    95% C.I.=   8.3927E-01   1.4471E-05         3.1436E-11
    CORRELATION COEFFICIENT = .9999
```

STORET: 39320 METHOD: 8080/3520-G DDE,PP', UG/L QUAD

```
  CALIBRATION CURVE # 1    (UG/L)
    DETECTION LIMIT=1  DATE: 06/23/94  LARGEST RESP=400469 %RSD=11.2634  RT WINDOW:
   CONC :          0          1          5         10         25         50        100
   RESP :          0       3170      15143      32899      74550     169242     400469
   CONC':     -.024       1.04       5.00       10.8       23.7       50.5       99.9
    R.T.:               24.203    24.201    24.199    24.200    24.199    24.197

    CONC     =  -2.3641E-02+  3.3474E-04*RESP+ -2.1256E-10*RESP**2+            *RESP**3
    95% C.I.=   8.5995E-01   1.7140E-05         4.2027E-11
    CORRELATION COEFFICIENT = .9998
```

STORET: 39380 METHOD: 8080/3520-G DIELDRIN, UG/L QUAD

```
  CALIBRATION CURVE # 1    (UG/L)
    DETECTION LIMIT=1  DATE: 06/23/94  LARGEST RESP=434099 %RSD=14.5778  RT WINDOW:
   CONC :          0          1          5         10         25         50        100
   RESP :          0       3179      15161      32349      77318     181406     434099
   CONC':      0.282       1.28       5.00       10.2       23.4       50.9       99.9
    R.T.:               24.457    24.455    24.453    24.455    24.454    24.452

    CONC     =   2.8243E-01+  3.1435E-04*RESP+ -1.9552E-10*RESP**2+            *RESP**3
    95% C.I.=   1.0176E+00   1.9053E-05         4.3160E-11
    CORRELATION COEFFICIENT = .9998
```

STORET: 39390 METHOD: 8080/3520-G ENDRIN, UG/L QUAD

```
  CALIBRATION CURVE # 1    (UG/L)
    DETECTION LIMIT=1  DATE: 06/23/94  LARGEST RESP=175427 %RSD=7.8172  RT WINDOW:
   CONC :          0          1          5         10         25         50        100
```

```
ESE BATCH        : G50403
  RESP :          0      1475      7423     16569     35990     91773    1 542
  CONC':       -.157     0.864      4.95      11.1      23.9      50.4      00.9
     :               25.421    25.419    25.418    25.418    25.418    25.416

    CONC    =  -1.5713E-01+  6.9325E-04*RESP+ -6.9839E-10*RESP**2+            *RESP**3
   95% C.I.=   9.1796E-01   4.0042E-05         2.2475E-10
   CORRELATION COEFFICIENT = .9998
```

STORET: 39310 METHOD: 8080/3520-G DDD,PP', UG/L QUAD

```
  CALIBRATION CURVE # 1   (UG/L)
   DETECTION LIMIT=1  DATE: 06/23/94  LARGEST RESP=213343 %RSD=12.8335  RT WINDOW:
  CONC :          0         1         5        10        25        50       100
  RESP :          0      1501      8211     19069     41414     94023    213343
  CONC':      0.038     0.925      4.86      11.1      23.6      50.6      99.9
   R.T.:               25.596    25.594    25.590    25.592    25.590    25.586

   CONC    =   3.7547E-02+  5.9197E-04*RESP+ -5.7993E-10*RESP**2+            *RESP**3
   95% C.I.=   1.0597E+00   3.8801E-05         1.7907E-10
   CORRELATION COEFFICIENT = .9998
```

STORET: 34356 METHOD: 8080/3520-G ENDOSULFAN,B, UG/L QUAD

```
  CALIBRATION CURVE # 1   (UG/L)
   DETECTION LIMIT=1  DATE: 06/23/94  LARGEST RESP=267573 %RSD=9.5641  RT WINDOW:
  CONC :          0         1         5        10        25        50       100
  RESP :          0      2167     10831     24725     52824    121454    267573
  CONC':      0.044      1.03      4.93      11.1      23.2      50.8      99.9
   R.T.:               25.866    25.864    25.861    25.862    25.862    25.859

   CONC    =   4.4194E-02+  4.5473E-04*RESP+ -3.0475E-10*RESP**2+            *RESP**3
   95% C.I.=   1.2443E+00   3.5940E-05         1.3245E-10
   CORRELATION COEFFICIENT = .9997
```

STORET: 39300 METHOD: 8080/3520-G DDT,PP', UG/L QUAD

```
  CALIBRATION CURVE # 1   (UG/L)
      ECTION LIMIT=1  DATE: 06/23/94  LARGEST RESP=221746 %RSD=11.3662  RT WINDOW:
       :          0         1         5        10        25        50       100
     2 :          0      1676      8472     20015     43721     98333    221746
  CONC':      0.026     0.969      4.76      11.1      23.7      50.5      99.9
   R.T.:               26.352    26.349    26.347    26.348    26.347    26.343

   CONC    =   2.6074E-02+  5.6347E-04*RESP+ -5.0907E-10*RESP**2+            *RESP**3
   95% C.I.=   9.9801E-01   3.4988E-05         1.5541E-10
   CORRELATION COEFFICIENT = .9998
```

STORET: 34366 METHOD: 8080/3520-G ENDRIN ALDEHYDE, UG/L QUAD

```
  CALIBRATION CURVE # 1   (UG/L)
   DETECTION LIMIT=1  DATE: 06/23/94  LARGEST RESP=312148 %RSD=20.278  RT WINDOW:
  CONC :          0         1         5        25       100
  RESP :          0      2667     10994     88961    312148
  CONC':      0.752      1.44      3.61      25.2     100.0
   R.T.:               26.696    26.695    26.687    26.686

   CONC    =   7.5163E-01+  2.5786E-04*RESP+  1.9235E-10*RESP**2+            *RESP**3
   95% C.I.=   1.4200E+00   4.3229E-05         1.3460E-10
   CORRELATION COEFFICIENT = .9998
```

STORET: 34351 METHOD: 8080/3520-G ENDOSULFAN SULFATE, UG/L QUAD

```
  CALIBRATION CURVE # 1   (UG/L)
   DETECTION LIMIT=1  DATE: 06/23/94  LARGEST RESP=247269 %RSD=9.6779  RT WINDOW:
  CONC :          0         1         5        10        25        50       100
  RESP :          0      2034      9807     23319     49854    113996    247269
  CONC':      0.102      1.08      4.78      11.1      23.2      50.8      99.9
   R.T.:               27.006    27.003    27.001    27.002    27.001    26.999

   CONC    =   1.0211E-01+  4.7963E-04*RESP+ -3.0754E-10*RESP**2+            *RESP**3
   95% C.I.=   1.2424E+00   3.8548E-05         1.5394E-10
   CORRELATION COEFFICIENT = .9997
```

ST 39480 METHOD: 8080/3520-G METHOXYCHLOR, UG/L QUAD

```
  CALIBRATION CURVE # 1   (UG/L)
   DETECTION LIMIT=1  DATE: 06/23/94  LARGEST RESP=102910 %RSD=13.3712  RT WINDOW:
```

ESE BATCH : G50403

CONC :	0	1	5	10	25	50	100
RESP :	0	793	4093	11140	28109	51012	102911
CONC':	0.234	1.03	4.36	11.4	23.3	50.7	99.9
R.T.:		28.596	28.591	28.588	28.589	28.587	28.584

CONC = 2.3428E-01+ 1.0095E-03*RESP+ -3.9918E-10*RESP**2+ *RESP**3
95% C.I.= 1.3384E+00 9.6007E-05 9.2643E-10
CORRELATION COEFFICIENT = .9996

STORET: 96342 METHOD: SUR DECACHLOROBIPHENYL, UG/L QUAD

CALIBRATION CURVE # 1 (UG/L)
DETECTION LIMIT=4 DATE: 06/23/94 LARGEST RESP=1117229 %RSD=8.4659 RT WINDOW:

CONC :	0	4	20	40	100	200	400
RESP :	0	11206	48391	118702	240097	546620	1117229
CONC':	0.205	4.53	18.9	45.7	91.5	204	399
R.T.:		33.376	33.371	33.366	33.367	33.367	33.362

CONC = 2.0469E-01+ 3.8664E-04*RESP+ -2.6221E-11*RESP**2+ *RESP**3
95% C.I.= 6.1752E+00 4.1211E-05 3.6525E-11
CORRELATION COEFFICIENT = .9995

STORET: 39350 METHOD: 8080/3520-G CHLORDANE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: 06/23/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39400 METHOD: 8080/3520-G TOXAPHENE, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=100 DATE: 06/23/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 34671 METHOD: 8080/3520-G PCB-1016, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/23/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 39488 METHOD: 8080/3520-G PCB-1221, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/23/94 LARGEST RESP= %RSD= RT WINDOW

STORET: 39492 METHOD: 8080/3520-G PCB-1232, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/23/94 LARGEST RESP= %RSD= RT WINDOW

STORET: 39496 METHOD: 8080/3520-G PCB-1242, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/23/94 LARGEST RESP= %RSD= RT WINDOW

STORET: 39500 METHOD: 8080/3520-G PCB 1248, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/23/94 LARGEST RESP= %RSD= RT WINDOW

STORET: 39504 METHOD: 8080/3520-G PCB-1254, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/23/94 LARGEST RESP= %RSD= RT WINDOW

STORET: 39508 METHOD: 8080/3520-G PCB-1260, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/23/94 LARGEST RESP= %RSD= RT WINDOW

ESE BATCH : G50403

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/24/94	CCS*IND6*2	39337*8080/3520-G	BHC,A	UG/L	557000	568000	102	80-120
06/24/94	CCS*IND6*2	39340*8080/3520-G	BHC,G LINDANE)	UG/L	495000	500000	101	80-120
06/24/94	CCS*IND6*2	39338*8080/3520-G	BHC,B	UG/L	281000	276000	98.2	80-120
06/24/94	CCS*IND6*2	39410*8080/3520-G	HEPTACHLOR	UG/L	775000	765000	98.7	80-120
06/24/94	CCS*IND6*2	34259*8080/3520-G	BHC,D	UG/L	301000	308000	102	80-120
06/24/94	CCS*IND6*2	39330*8080/3520-G	ALDRIN	UG/L	694000	672000	96.8	80-120
06/24/94	CCS*IND6*2	39420*8080/3520-G	HEPTACHLOR EPOXIDE	UG/L	556000	543000	97.7	80-120
06/24/94	CCS*IND6*2	34361*8080/3520-G	ENDOSULFAN,A	UG/L	454000	443000	97.6	80-120
06/24/94	CCS*IND6*2	39320*8080/3520-G	DDE,PP'	UG/L	400000	393000	98.3	80-120
06/24/94	CCS*IND6*2	39380*8080/3520-G	DIELDRIN	UG/L	434000	422000	97.2	80-120
06/24/94	CCS*IND6*2	39390*8080/3520-G	ENDRIN	UG/L	175000	184000	105	80-120
06/24/94	CCS*IND6*2	39310*8080/3520-G	DDD,PP'	UG/L	213000	208000	97.7	80-120
06/24/94	CCS*IND6*2	34356*8080/3520-G	ENDOSULFAN,B	UG/L	268000	259000	96.6	80-120
06/24/94	CCS*IND6*2	39300*8080/3520-G	DDT,PP'	UG/L	222000	214000	96.4	80-120
06/24/94	CCS*IND6*2	34366*8080/3520-G	ENDRIN ALDEHYDE	UG/L	312000	261000	83.7	80-120
06/24/94	CCS*IND6*2	34351*8080/3520-G	ENDOSULFAN SULFATE	UG/L	247000	229000	92.7	80-120
06/24/94	CCS*IND6*2	39480*8080/3520-G	METHOXYCHLOR	UG/L	103000	106000	103	80-120
06/24/94	CCS*IND6*2	39350*8080/3520-G	CHLORDANE	UG/L		T*1		80-120
06/24/94	CCS*IND6*2	39400*8080/3520-G	TOXAPHENE	UG/L		T*1		80-120
06/24/94	CCS*IND6*2	34671*8080/3520-G	PCB-1016	UG/L		T*1		80-120
06/24/94	CCS*IND6*2	39488*8080/3520-G	PCB-1221	UG/L		T*1		80-120
06/24/94	CCS*IND6*2	39492*8080/3520-G	PCB-1232	UG/L		T*1		80-120
06/24/94	CCS*IND6*2	39496*8080/3520-G	PCB-1242	UG/L		T*1		80-120
06/24/94	CCS*IND6*2	39500*8080/3520-G	PCB 1248	UG/L		T*1		80-120
06/24/94	CCS*IND6*2	39504*8080/3520-G	PCB-1254	UG/L		T*1		80-120
06/24/94	CCS*IND6*2	39508*8080/3520-G	PCB-1260	UG/L		T*1		80-120

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/24/94	MB*QC*1	39337*8080/3520-G	BHC,A	UG/L	ND
[illegible]4/94	MB*QC*1	39340*8080/3520-G	BHC,G(LINDANE)	UG/L	ND
[illegible]/94	MB*QC*1	39338*8080/3520-G	BHC,B	UG/L	ND
[illegible]24/94	MB*QC*1	39410*8080/3520-G	HEPTACHLOR	UG/L	ND
06/24/94	MB*QC*1	34259*8080/3520-G	BHC,D	UG/L	ND
06/24/94	MB*QC*1	39330*8080/3520-G	ALDRIN	UG/L	ND
06/24/94	MB*QC*1	39420*8080/3520-G	HEPTACHLOR EPOXIDE	UG/L	ND
06/24/94	MB*QC*1	34361*8080/3520-G	ENDOSULFAN,A	UG/L	ND
06/24/94	MB*QC*1	39320*8080/3520-G	DDE,PP'	UG/L	ND
06/24/94	MB*QC*1	39380*8080/3520-G	DIELDRIN	UG/L	ND
06/24/94	MB*QC*1	39390*8080/3520-G	ENDRIN	UG/L	ND
06/24/94	MB*QC*1	39310*8080/3520-G	DDD,PP'	UG/L	ND
06/24/94	MB*QC*1	34356*8080/3520-G	ENDOSULFAN,B	UG/L	ND
06/24/94	MB*QC*1	39300*8080/3520-G	DDT,PP'	UG/L	ND
06/24/94	MB*QC*1	34366*8080/3520-G	ENDRIN ALDEHYDE	UG/L	ND
06/24/94	MB*QC*1	34351*8080/3520-G	ENDOSULFAN SULFATE	UG/L	ND
06/24/94	MB*QC*1	39480*8080/3520-G	METHOXYCHLOR	UG/L	ND
06/24/94	MB*QC*1	39350*8080/3520-G	CHLORDANE	UG/L	ND
06/24/94	MB*QC*1	39400*8080/3520-G	TOXAPHENE	UG/L	ND
06/24/94	MB*QC*1	34671*8080/3520-G	PCB-1016	UG/L	ND
06/24/94	MB*QC*1	39488*8080/3520-G	PCB-1221	UG/L	ND
06/24/94	MB*QC*1	39492*8080/3520-G	PCB-1232	UG/L	ND
06/24/94	MB*QC*1	39496*8080/3520-G	PCB-1242	UG/L	ND
06/24/94	MB*QC*1	39500*8080/3520-G	PCB 1248	UG/L	ND
06/24/94	MB*QC*1	39504*8080/3520-G	PCB-1254	UG/L	ND
06/24/94	MB*QC*1	39508*8080/3520-G	PCB-1260	UG/L	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/24/94	SP1*QC*1	39337*8080/3520-G	BHC,A		80-120	UG/L		ND
06/24/94	SP1*QC*1	39340*8080/3520-G	BHC,G(LINDANE)	80.0	43-145	UG/L	0.250	0.200
06/24/94	SP1*QC*1	39338*8080/3520-G	BHC,B		80-120	UG/L		ND
06/24/94	SP1*QC*1	39410*8080/3520-G	HEPTACHLOR	64.4	48-124	UG/L	0.250	0.161
06/24/94	SP1*QC*1	34259*8080/3520-G	BHC,D		80-120	UG/L		ND
06/24/94	SP1*QC*1	39330*8080/3520-G	ALDRIN	62.0	37-127	UG/L	0.250	0.155
06/24/94	SP1*QC*1	39420*8080/3520-G	HEPTACHLOR EPOXIDE		80-120	UG/L		ND
[illegible]/94	SP1*QC*1	34361*8080/3520-G	ENDOSULFAN,A		80-120	UG/L		ND
[illegible]4/94	SP1*QC*1	39320*8080/3520-G	DDE,PP		80-120	UG/L		ND
06/24/94	SP1*QC*1	39380*8080/3520-G	DIELDRIN	72.0	56-142	UG/L	0.500	0.360
06/24/94	SP1*QC*1	39390*8080/3520-G	ENDRIN	70.2	35-155	UG/L	0.500	0.351
06/24/94	SP1*QC*1	39310*8080/3520-G	DDD,PP		80-120	UG/L		ND
06/24/94	SP1*QC*1	34356*8080/3520-G	ENDOSULFAN,B		80-120	UG/L		ND

ESE BATCH : G50403

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/24/94	SP1*QC*1	39300*8080/3520-G	DDT,PP'	76.2	46-152	UG/L	0.500	0.381
06/24/94	SP1*QC*1	34366*8080/3520-G	ENDRIN ALDEHYDE		80-120	UG/L		ND
06/24/94	SP1*QC*1	34351*8080/3520-G	ENDOSULFAN SULFATE		80-120	UG/L		ND
06/24/94	SP1*QC*1	39480*8080/3520-G	METHOXYCHLOR		80-120	UG/L		ND
06/24/94	SP1*QC*1	39350*8080/3520-G	CHLORDANE		80-120	UG/L		ND
06/24/94	SP1*QC*1	39400*8080/3520-G	TOXAPHENE		80-120	UG/L		ND
06/24/94	SP1*QC*1	34671*8080/3520-G	PCB-1016		80-120	UG/L		ND
06/24/94	SP1*QC*1	39488*8080/3520-G	PCB-1221		80-120	UG/L		ND
06/24/94	SP1*QC*1	39492*8080/3520-G	PCB-1232		80-120	UG/L		ND
06/24/94	SP1*QC*1	39496*8080/3520-G	PCB-1242		80-120	UG/L		ND
06/24/94	SP1*QC*1	39500*8080/3520-G	PCB 1248		80-120	UG/L		ND
06/24/94	SP1*QC*1	39504*8080/3520-G	PCB-1254		80-120	UG/L		ND
06/24/94	SP1*QC*1	39508*8080/3520-G	PCB-1260		80-120	UG/L		ND

Surrogate Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/24/94	MB*QC*1	96472*SUR	TETRACHLORO-M-XYLENE	UG/L	1.00	0.829	82.9	23-109
06/24/94	MB*QC*1	96342*SUR	DECACHLOROBIPHENYL	UG/L	1.00	0.841	84.1	31-145
06/24/94	SP1*QC*1	96472*SUR	TETRACHLORO-M-XYLENE	UG/L	1.00	0.834	83.4	23-109
06/24/94	SP1*QC*1	96342*SUR	DECACHLOROBIPHENYL	UG/L	1.00	0.953	95.3	31-145
06/24/94	DA*CDMHNSW2*1	96472*SUR	TETRACHLORO-M-XYLENE	UG/L	1.00	0.808	80.8	23-109
06/24/94	DA*CDMHNSW2*1	96342*SUR	DECACHLOROBIPHENYL	UG/L	1.00	0.311	31.1	31-145
06/24/94	CCS*IND6*2	96472*SUR	TETRACHLORO-M-XYLENE	UG/L	2090000	2060000	98.6	23-109
06/24/94	CCS*IND6*2	96342*SUR	DECACHLOROBIPHENYL	UG/L	1120000	1050000	93.8	31-145

ESE BATCH : G50403

UNITS AND EXAMPLE CALCULATIONS

	UNITS ENTERED
.L CONCENTRATION	UG/L
..JECTION VOLUME	NA
SAMPLE VOLUME	ML
EXTRACT VOLUME	ML
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	UG/L
SPIKE VOLUME	ML
SPIKE SAMPLE VOLUME	ML
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	PEAK AREA
CONVERSION FACTOR	NA

FINAL CONC = CURV CONC * EXT VOL * DIL / INJ VOL * SAMP VOL * ((100 - %MOISTURE) / 100)

UG/L = (UG/L) * (ML) / (NA) * (ML)

( ) = ( ) * ( ) * ( ) / ( ) * ( ) * ((100 - ( )) / 100)

TARGET CONC = SPIKE SOLN CONC * SPIKE VOL / SPIKE SAMP VOL * ((100 - %MOISTURE) / 100)

UG/L = (UG/L) * (ML) / (ML)

ESE BATCH : G50403

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50403 Analysis Date: 06/20/94 Analyst: GREG AYOUB

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
Extract holding time within criteria?	X		
No. of calibration standards present acceptable?	X		
Curve correlation coefficient >= 0.995?	X		
Calibration curve y-intercept < curve detection limit?	X		
Sample responses within highest standard response?	X		
Sample retention times within retention time window?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?		X	
Sample matrix spike within acceptance criteria?			
Surrogate present?	X		
Surrogate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY: BRAD WEICHERT 1569
PROB.:STANDARD MATRIX SPIKE NOT
PRESENT.
EXPL.:LOST DURING EXTRACTION.
SAMPLES REEXTRACTED 6/21/94
TO CONFIRM PRELIMINARY DATA./GA
PROB.:SAMPLE MATRIX SPIKE NOT PRESENT.
EXPL.:NA./GA

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
            : % Recovery for spiked sample. (FOUND/TARGET * 100
A. . DATE   : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    : Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field.
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
    T*MTHD: Storet ID * Method Code
   .ET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
```

ICAP Metals

ESE BATCH : G50402
CLASSIFICATION : ICAP METALS - EPA 6010

TYPE	: FDER/SW	REPORT DATE/TIME	: 08/13/94 11:27:24
ANALYST	: ELIZABETH CREARY	ANALYSIS DATE	: 06/22/94
EXTRACTOR	: DAVID NICHOLS	EXTRACT DATE	: 06/21/94
DATA ENTRY	: ICAP UPLOAD		

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSW2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSW2*1	A06-2-EB1	06/22/94	10:14AM

ESE BATCH : G50402

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 1077 METHOD: 6010-G SILVER,TOTAL, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: 06/22/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 1007 METHOD: 6010-G BARIUM,TOTAL, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=20 DATE: 06/22/94 LARGEST RESP= %RSD= RT WINDOW

STORET: 1027 METHOD: 6010-G CADMIUM,TOTAL, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=5 DATE: 06/22/94 LARGEST RESP= %RSD= RT WINDOW:

STORET: 1034 METHOD: 6010-G CHROMIUM,TOTAL, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=10 DATE: 06/22/94 LARGEST RESP= %RSD= RT WINDOW

STORET: 1051 METHOD: 6010-G LEAD,TOTAL, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=50 DATE: 06/22/94 LARGEST RESP= %RSD= RT WINDOW

ESE BATCH : G50402

Continuing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	CCB*QC*1	1077*6010-G	SILVER,TOTAL	UG/L	ND
06/22/94	CCB*QC*1	1007*6010-G	BARIUM,TOTAL	UG/L	ND
06/22/94	CCB*QC*1	1027*6010-G	CADMIUM,TOTAL	UG/L	0.3
06/22/94	CCB*QC*1	1034*6010-G	CHROMIUM,TOTAL	UG/L	2.0
06/22/94	CCB*QC*1	1051*6010-G	LEAD,TOTAL	UG/L	ND

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	CCV*STD4*1	1077*6010-G	SILVER,TOTAL	UG/L	1000	1020	102	90-110
06/22/94	CCV*STD4*1	1007*6010-G	BARIUM,TOTAL	UG/L		ND		90-110
06/22/94	CCV*STD4*1	1027*6010-G	CADMIUM,TOTAL	UG/L		ND		90-110
06/22/94	CCV*STD4*1	1034*6010-G	CHROMIUM,TOTAL	UG/L		ND		90-110
06/22/94	CCV*STD4*1	1051*6010-G	LEAD,TOTAL	UG/L		ND		90-110
06/22/94	CCV*STD2*1	1077*6010-G	SILVER,TOTAL	UG/L		ND		90-110
06/22/94	CCV*STD2*1	1007*6010-G	BARIUM,TOTAL	UG/L	1000	1020	102	90-110
06/22/94	CCV*STD2*1	1027*6010-G	CADMIUM,TOTAL	UG/L	1000	1020	102	90-110
06/22/94	CCV*STD2*1	1034*6010-G	CHROMIUM,TOTAL	UG/L	1000	1010	101	90-110
06/22/94	CCV*STD2*1	1051*6010-G	LEAD,TOTAL	UG/L	1000	1020	102	90-110
06/22/94	CCV*QC*1	1077*6010-G	SILVER,TOTAL	UG/L	500	502	100	90-110
06/22/94	CCV*QC*1	1007*6010-G	BARIUM,TOTAL	UG/L	500	512	102	90-110
06/22/94	CCV*QC*1	1027*6010-G	CADMIUM,TOTAL	UG/L	500	504	101	90-110
06/22/94	CCV*QC*1	1034*6010-G	CHROMIUM,TOTAL	UG/L	500	505	101	90-110
06/22/94	CCV*QC*1	1051*6010-G	LEAD,TOTAL	UG/L	500	505	101	90-110

Interference Check Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	ICS*A*1	1077*6010-G	SILVER,TOTAL	UG/L		ND		80-120
06/22/94	ICS*A*1	1007*6010-G	BARIUM,TOTAL	UG/L		ND		80-120
06/22/94	ICS*A*1	1027*6010-G	CADMIUM,TOTAL	UG/L		ND		80-120
6/22/94	ICS*A*1	1034*6010-G	CHROMIUM,TOTAL	UG/L		ND		80-120
2/94	ICS*A*1	1051*6010-G	LEAD,TOTAL	UG/L		ND		80-120
/22/94	ICS*AB*1	1077*6010-G	SILVER,TOTAL	UG/L	1000	980	98.0	80-120
06/22/94	ICS*AB*1	1007*6010-G	BARIUM,TOTAL	UG/L	500	485	97.0	80-120
06/22/94	ICS*AB*1	1027*6010-G	CADMIUM,TOTAL	UG/L	1000	957	95.7	80-120
06/22/94	ICS*AB*1	1034*6010-G	CHROMIUM,TOTAL	UG/L	500	461	92.2	80-120
06/22/94	ICS*AB*1	1051*6010-G	LEAD,TOTAL	UG/L	1000	907	90.7	80-120
06/22/94	ICS*A*2	1077*6010-G	SILVER,TOTAL	UG/L		ND		80-120
06/22/94	ICS*A*2	1007*6010-G	BARIUM,TOTAL	UG/L		ND		80-120
06/22/94	ICS*A*2	1027*6010-G	CADMIUM,TOTAL	UG/L		ND		80-120
06/22/94	ICS*A*2	1034*6010-G	CHROMIUM,TOTAL	UG/L		ND		80-120
06/22/94	ICS*A*2	1051*6010-G	LEAD,TOTAL	UG/L		ND		80-120
06/22/94	ICS*AB*2	1077*6010-G	SILVER,TOTAL	UG/L	1000	961	96.1	80-120
06/22/94	ICS*AB*2	1007*6010-G	BARIUM,TOTAL	UG/L	500	494	98.8	80-120
06/22/94	ICS*AB*2	1027*6010-G	CADMIUM,TOTAL	UG/L	1000	985	98.5	80-120
06/22/94	ICS*AB*2	1034*6010-G	CHROMIUM,TOTAL	UG/L	500	472	94.4	80-120
06/22/94	ICS*AB*2	1051*6010-G	LEAD,TOTAL	UG/L	1000	876	87.6	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/22/94	ICV*ICAP19*1	1077*6010-G	SILVER,TOTAL	UG/L		ND		90-110
06/22/94	ICV*ICAP19*1	1007*6010-G	BARIUM,TOTAL	UG/L		ND		90-110
06/22/94	ICV*ICAP19*1	1027*6010-G	CADMIUM,TOTAL	UG/L	1000	1020	102	90-110
06/22/94	ICV*ICAP19*1	1034*6010-G	CHROMIUM,TOTAL	UG/L	1000	1030	103	90-110
06/22/94	ICV*ICAP19*1	1051*6010-G	LEAD,TOTAL	UG/L	1000	1040	104	90-110
06/22/94	ICV*ICAP7*1	1077*6010-G	SILVER,TOTAL	UG/L	1000	1040	104	90-110
06/22/94	ICV*ICAP7*1	1007*6010-G	BARIUM,TOTAL	UG/L	1000	1010	101	90-110
06/22/94	ICV*ICAP7*1	1027*6010-G	CADMIUM,TOTAL	UG/L		ND		90-110
06/22/94	ICV*ICAP7*1	1034*6010-G	CHROMIUM,TOTAL	UG/L		ND		90-110
06/22/94	ICV*ICAP7*1	1051*6010-G	LEAD,TOTAL	UG/L		ND		90-110

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	MB*QC*1	1077*6010-G	SILVER,TOTAL	UG/L	ND
2/94	MB*QC*1	1007*6010-G	BARIUM,TOTAL	UG/L	ND
22/94	MB*QC*1	1027*6010-G	CADMIUM,TOTAL	UG/L	ND
06/22/94	MB*QC*1	1034*6010-G	CHROMIUM,TOTAL	UG/L	ND
06/22/94	MB*QC*1	1051*6010-G	LEAD,TOTAL	UG/L	ND

ESE BATCH : G50402

Serial Dilution Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	REP #1	REP #2	RPD	RPD CRIT

Serial Dilution Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	REP #1	REP #2	RPD	RPD CRIT
06/22/94	SD*CDMHNSW2*1	1077*6010-G	SILVER,TOTAL	UG/L	0.0	11.3	NC	10
06/22/94	SD*CDMHNSW2*1	1007*6010-G	BARIUM,TOTAL	UG/L	0.0	0.9	NC	10
06/22/94	SD*CDMHNSW2*1	1027*6010-G	CADMIUM,TOTAL	UG/L	0.0	8.9	NC	10
06/22/94	SD*CDMHNSW2*1	1034*6010-G	CHROMIUM,TOTAL	UG/L	0.0	8.2	NC	10
06/22/94	SD*CDMHNSW2*1	1051*6010-G	LEAD,TOTAL	UG/L	0.0	65.3	NC	10

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/22/94	SP1*QC*1	1077*6010-G	SILVER,TOTAL	101.4	73-107	UG/L	50.0	50.7
06/22/94	SP1*QC*1	1007*6010-G	BARIUM,TOTAL	102.5	86-106	UG/L	2000	2050
06/22/94	SP1*QC*1	1027*6010-G	CADMIUM,TOTAL	102.8	80-108	UG/L	50.0	51.4
06/22/94	SP1*QC*1	1034*6010-G	CHROMIUM,TOTAL	101.5	79-109	UG/L	200	203
06/22/94	SP1*QC*1	1051*6010-G	LEAD,TOTAL	104.8	79-109	UG/L	500	524

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/22/94	SPM1*CDMHNSW2*1	1077*6010-G	SILVER,TOTAL	98.6	73-107	0.0	UG/L	50.0	49.3
06/22/94	SPM1*CDMHNSW2*1	1007*6010-G	BARIUM,TOTAL	98.5	86-106	0.0	UG/L	2000	1970
06/22/94	SPM1*CDMHNSW2*1	1027*6010-G	CADMIUM,TOTAL	93.8	80-108	0.0	UG/L	50.0	46.9
06/22/94	SPM1*CDMHNSW2*1	1034*6010-G	CHROMIUM,TOTAL	99.0	79-109	0.0	UG/L	200	198
06/22/94	SPM1*CDMHNSW2*1	1051*6010-G	LEAD,TOTAL	98.4	79-109	0.0	UG/L	500	492
06/22/94	SPM2*CDMHNSW2*1	1077*6010-G	SILVER,TOTAL	97.2	73-107	0.0	UG/L	50.0	48.6
06/22/94	SPM2*CDMHNSW2*1	1007*6010-G	BARIUM,TOTAL	98.0	86-106	0.0	UG/L	2000	1960
06/22/94	SPM2*CDMHNSW2*1	1027*6010-G	CADMIUM,TOTAL	96.8	80-108	0.0	UG/L	50.0	48.4
06/22/94	SPM2*CDMHNSW2*1	1034*6010-G	CHROMIUM,TOTAL	99.0	79-109	0.0	UG/L	200	198
06/22/94	SPM2*CDMHNSW2*1	1051*6010-G	LEAD,TOTAL	98.4	79-109	0.0	UG/L	500	492

Spike into Matrix Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/22/94	SPX*CDMHNSW2*1	1077*6010-G	SILVER,TOTAL	99.0	85-115	UG/L	500	495
06/22/94	SPX*CDMHNSW2*1	1007*6010-G	BARIUM,TOTAL	101.0	85-115	UG/L	500	505
06/22/94	SPX*CDMHNSW2*1	1027*6010-G	CADMIUM,TOTAL	101.6	85-115	UG/L	500	508
06/22/94	SPX*CDMHNSW2*1	1034*6010-G	CHROMIUM,TOTAL	101.8	85-115	UG/L	500	509
06/22/94	SPX*CDMHNSW2*1	1051*6010-G	LEAD,TOTAL	105.8	85-115	UG/L	500	529

ESE BATCH : G50402

UNITS AND EXAMPLE CALCULATIONS

	UNITS ENTERED
L CONCENTRATION	UG/L
ECTION VOLUME	NA
SAMPLE VOLUME	NA
EXTRACT VOLUME	NA
CURVE CONCENTRATION	UG/ML
SPIKE SOLN CONCENTRATION	NA
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	NA
CONVERSION FACTOR	1000

$$\text{FINAL CONC} = \frac{\text{CURV CONC} * \text{EXT VOL} * \text{DIL} * 1000}{\text{INJ VOL} * \text{SAMP VOL} * ((100 - \%\text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{UG/ML}) * (\text{NA}) * 1000}{(\text{NA}) * (\text{NA})}$$

$$(\qquad) = \frac{(\qquad) * (\qquad) * (\qquad)}{(\qquad) * (\qquad) * ((100 - (\qquad)) / 100)}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC} * \text{SPIKE VOL}}{\text{SPIKE SAMP VOL} * ((100 - \%\text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{NA}) * (\text{NA})}{(\text{NA})}$$

ESE BATCH G50402

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50402 Analysis Date: 06/22/94 Analyst: ELIZABETH O'REARY

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICS present?	X		
ICS within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Analytical spike present?	X		
Analytical spike within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

```
            . % Recovery for spiked sample. (FOUND/TARGET * 100)
  . . DATE  : Analysis Date
ANLY TIME   : Analysis Time
CURVE       : Curve Regression Number
DILUTION    : Sample Dilution Factor
EXT DATE    : Extract Date
EXT VOL     : Extract Volume
FOUND       : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL     : Injection Volume
REL%DIFF    : % Difference between current and previous spike.
RESPONSE    : Sample Response
R.T.        : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID   : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
      DA  -- Data Sample
      MB  -- Method Blank
      RF  -- Reference (from commercially known standard)
      RP  -- Replicate Sample
      SP  -- Standard Matrix Spike
      SPM -- Sample Matrix Spike
      STD -- Internal Standard
      SUR -- Surrogate Sample
      UN  -- Unspiked Sample
SAMP VOL    . Sample Volume
SPK CONC    : Spike Concentration
ST          : Sample response explanation or validity. (listed below)
      BK  -- No sample response.
      NA  -- Sample not analyzed.
      NR  -- Not reserved for this batch.  Batch containing the response
             for this sample is listed in the target field
      OK  -- Sample response shown is correct.
      !   -- Sample response shown is invalid.
      <   -- Sample response < detection limit. Detection limit is shown
             in the response field.
     T*MTHD: Storet ID * Method Code
   ,ET      : Spike Target (SAMPLE LISTING SECTION)
TARGET      : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE        : Response Type ("FINAL" or empty.)
UNSP CONC   : Unspiked Sample Concentration
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GFAA Metals – Arsenic

ESE BATCH : G50357
CLASSIFICATION : ARSENIC - EPA 7060

TYPE	: FDER/SW	REPORT DATE/TIME	: 08/13/94 11:28:52
ANALYST	: JERI ROPERO	ANALYSIS DATE	: 06/21/94
EXTRACTOR	: DAVID NICHOLS	EXTRACT DATE	: 06/21/94
DATA ENTRY	: JERI ROPERO		

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSW2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSW2*1	A06-2-EB1	06/21/94	05:35PM

ESE BATCH : G50357

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T	OVER

ALL HOLDING TIMES MET

STORET: 1002 METHOD: 7060-G ARSENIC,TOTAL, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW:

CONC :	0	2.5	5	10	25	50	100
RESP :	.001	.009	.011	.029	.062	.123	.252
CONC':							

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

ESE BATCH : G90357

.inuing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	CCB*QC*1	1002*7060-G	ARSENIC,TOTAL	UG/L	0.1

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	CCV*QC*1	1002*7060-G	ARSENIC TOTAL	UG/L	50.0	50.9	102	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	ICV*PE-PURE*1	1002*7060-G	ARSENIC,TOTAL	UG/L	50.0	51.7	103	90-110

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	MB*QC*1	1002*7060-G	ARSENIC,TOTAL	UG/L	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/21/94	SP*QC*1	1002*7060-G	ARSENIC,TOTAL	93.3	75-117	UG/L	40.0	37.3

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/21/94	SPM1*CDMHNSW2*1	1002*7060-G	ARSENIC,TOTAL	100.0	75-117	0.0	UG/L	40.0	40.0
06/21/94	SPM2*CDMHNSW2*1	1002*7060-G	ARSENIC,TOTAL	95.5	75-117	0.0	UG/L	40.0	38.2

Spike into Matrix Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
1/94	SPX*CDMHNSW2*1	1002*7060-G	ARSENIC,TOTAL	98.8	85-115	UG/L	100.0	98.8

ESE BATCH : G50357

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED	
FINAL CONCENTRATION	UG/L
INJECTION VOLUME	NA
SAMPLE VOLUME	NA
EXTRACT VOLUME	NA
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	UG/L
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	UG/L
CONVERSION FACTOR	1

$$\text{FINAL CONC} = \frac{\text{CURV CONC} * \text{EXT VOL} * \text{DIL} * 1}{\text{INJ VOL} * \text{SAMP VOL} * ((100 - \%\text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{UG/L}) * (\text{NA}) * 1}{(\text{NA}) * (\text{NA})}$$

$$(\qquad\qquad) = \frac{(\qquad\qquad) * (\qquad\qquad) * (\qquad\qquad 1}{(\qquad\qquad) * (\qquad\qquad) * ((100 - (\qquad\qquad) / 100)}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC} * \text{SPIKE VOL}}{\text{SPIKE SAMP VOL} * ((100 - \%\text{MOISTURE}) / 100)}$$

$$\text{UG/L} = \frac{(\text{UG/L}) * (\text{NA})}{(\text{NA})}$$

ESE BATCH G50357

Environmental Science and Engineering Analytical Services
Computer QC Checks

h No.: G50357 Analysis Date: 06/21/94 Analyst: JERI ROPERO

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Analytical spike present?	X		
Analytical spike within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

H OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

%RECV : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE : Analysis Date
ANLY TIME : Analysis Time
CURVE : Curve Regression Number
DILUTION : Sample Dilution Factor
EXT DATE : Extract Date
EXT VOL : Extract Volume
FOUND : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL : Injection Volume
REL%DIFF : % Difference between current and previous spike.
RESPONSE : Sample Response
R.T. : Retention Time
SAMPLE CODE : Sample Type * Sample ID
SAMPLE ID : Field Group * Sequence Number
SAMPLE TYPE : The kind of sample analyzed. (listed below)
- DA -- Data Sample
- MB -- Method Blank
- RF -- Reference (from commercially known standard)
- RP -- Replicate Sample
- SP -- Standard Matrix Spike
- SPM -- Sample Matrix Spike
- STD -- Internal Standard
- SUR -- Surrogate Sample
- UN -- Unspiked Sample

SAMP VOL : Sample Volume
SPK CONC : Spike Concentration
ST : Sample response explanation or validity. (listed below)
- BK -- No sample response.
- NA -- Sample not analyzed.
- NR -- Not reserved for this batch. Batch containing the response for this sample is listed in the target field.
- OK -- Sample response shown is correct.
- ! -- Sample response shown is invalid.
- < -- Sample response < detection limit. Detection limit is shown in the response field.

STORET*MTHD : Storet ID * Method Code
TARGET : Spike Target (SAMPLE LISTING SECTION)
TARGET : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE : Response Type ("FINAL" or empty.)
UNSP CONC : Unspiked Sample Concentration

GFAA Metals – Selenium

ESE BATCH G50362
CLASSIFICATION : SELENIUM - EPA 7740

QC TYPE : FDER/SW
ANALYST : MARSHALL SEIGLER
EXTRACTOR : DAVID NICHOLS
DATA ENTRY : KEITH GEISZLER

REPORT DATE/TIME 08/13/94 11:30:20
ANALYSIS DATE 06/21/94
EXTRACT DATE 06/21/94

STATUS : FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSW2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSW2*1	A06-2-EB1	06/22/94	12:27AM

ESE BATCH : G50362

HOLDING TIMES CHECK

SAMP	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H T. OVER

ALL DING TIMES MET

STORET: 1147 METHOD: 7740-G SELENIUM,TOTAL, UG/L FINAL

CALIBRATION CURVE # 1
DETECTION LIMIT=2.5 DATE: 06/21/94 LARGEST RESP= %RSD= RT WINDOW

CONC :	0	2.5	10	25	50	100
RESP :	0	.01	.037	.09	.172	329
CONC':						

CONC = + *RESP+ *RESP**2+ *RESP**3
95% C.I.=
CORRELATION COEFFICIENT =

ESE BATCH : G50362

Continuing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	CCB*QC*1	1147*7740-G	SELENIUM,TOTAL	UG/L	ND
06/22/94	CCB*QC*2	1147*7740-G	SELENIUM,TOTAL	UG/L	0.2
06/22/94	CCB*QC*3	1147*7740-G	SELENIUM,TOTAL	UG/L	0.4

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	CCV*QC*1	1147*7740-G	SELENIUM,TOTAL	UG/L	50.0	45.0	90.0	80-120
06/21/94	CCV*QC*2	1147*7740-G	SELENIUM,TOTAL	UG/L	50.0	53.1	106	80-120
06/22/94	CCV*QC*3	1147*7740-G	SELENIUM,TOTAL	UG/L	50.0	49.1	98.2	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	ICV*SPEX*1	1147*7740-G	SELENIUM,TOTAL	UG/L	50.0	53.2	106	90-110
06/22/94	ICV*SPEX*2	1147*7740-G	SELENIUM,TOTAL	UG/L	50.0	52.7	105	90-110

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/22/94	MB*QC*2	1147*7740-G	SELENIUM,TOTAL	UG/L	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/21/94	SP*QC*2	1147*7740-G	SELENIUM,TOTAL	102.0	76-122	UG/L	10.0	10.2

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/22/94	SPM1*CDMHNSW2*1	1147*7740-G	SELENIUM,TOTAL	120.0	76-122	0.0	UG/L	10.0	12.0
06/22/94	SPM2*CDMHNSW2*1	1147*7740-G	SELENIUM,TOTAL	111.0	76-122	0.0	UG/L	10.0	11.1

Spike into Matrix Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/22/94	SPX*CDMHNSW2*1	1147*7740-G	SELENIUM,TOTAL	104.0	85-115	UG/L	100.0	104

ESE BATCH : G50362

UNITS AND EXAMPLE CALCULATIONS

	UNITS ENTERED
FI ONCENTRATION	UG/L
IN ION VOLUME	NA
SAMPLE VOLUME	NA
EXTRACT VOLUME	NA
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	UG/L
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	UG/L
CONVERSION FACTOR	1

$$\text{FINAL CONC} = \frac{\text{CURV CONC * EXT VOL * DIL * 1}}{\text{INJ VOL * SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{UG/L} = \frac{\text{(UG/L) * (NA) * 1}}{\text{(NA) * (NA)}}$$

$$(\qquad) = \frac{(\qquad\qquad) * (\qquad\qquad) * (\qquad)}{(\qquad\qquad) * (\qquad\qquad) * ((100 - (\qquad)) / 100)}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC * SPIKE VOL}}{\text{SPIKE SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{UG/L} = \frac{\text{(UG/L) * (NA)}}{\text{(NA)}}$$

ESE BATCH G50362

Environmental Science and Engineering Analytical Services

Computer QC Checks

Batch No.: G50362 Analysis Date: 06/21/94 Analyst: MARSHALL SEIGLER

		"Exceptions"	
	Yes	No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		
Analytical spike present?	X		
Analytical spike within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

ESE BATCH : G50362

TABLE OF ABBREVIATIONS

%R : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANL DATE : Analysis Date
ANLY TIME : Analysis Time
CURVE : Curve Regression Number
DILUTION : Sample Dilution Factor
EXT DATE : Extract Date
EXT VOL : Extract Volume
FOUND : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL : Injection Volume
REL%DIFF : % Difference between current and previous spike.
RESPONSE : Sample Response
R.T. : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
DA -- Data Sample
MB -- Method Blank
RF -- Reference (from commercially known standard)
RP -- Replicate Sample
SP -- Standard Matrix Spike
SPM -- Sample Matrix Spike
STD -- Internal Standard
SUR -- Surrogate Sample
UN -- Unspiked Sample
SAMP VOL : Sample Volume
SPK CONC : Spike Concentration
ST : Sample response explanation or validity. (listed below)
BK -- No sample response.
NA -- Sample not analyzed.
NR -- Not reserved for this batch. Batch containing the response for this sample is listed in the target field.
OK -- Sample response shown is correct.
! -- Sample response shown is invalid.
< -- Sample response < detection limit. Detection limit is shown in the response field.
STORET THD: Storet ID * Method Code
TAR : Spike Target (SAMPLE LISTING SECTION)
TARGET : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE : Response Type ("FINAL" or empty.)
UNSP CONC : Unspiked Sample Concentration

Mercury

ESE BATCH : G50334
CLASSIFICATION : MERCURY - EPA 7470

QC : FDER/SW
ANAL : LISA SWAYZE
EXTRACTOR : LISA SWAYZE
DATA ENTRY : LISA SWAYZE

REPORT DATE/TIME : 08/13/94 11:29:24
ANALYSIS DATE : 06/21/94
EXTRACT DATE : 06/21/94

STATUS FINAL

METHOD BLANK CORRECTION METHOD : NONE

FIELD GRP	QC TYPE	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
CDMHNSW2	FDER	1944022G 0202	CDM - HANFORD N. SLOPE	EDWARD MANSFIELD

SAMPLE CODE	CLIENT ID	DATE ANALYZED	TIME ANALYZED
CDMHNSW2*1	A06-2-EB1	06/21/94	

ESE BATCH : G50334

HOLDING TIMES CHECK

SAMPLE	ANALYTE	ANL DATE	EXT DATE	SMP DATE	H.T.	OVER

ALL HOLDING TIMES MET

STORET: 71900 METHOD: 7470-G MERCURY,TOTAL, UG/L QUAD

CALIBRATION CURVE # : (UG/L)
DETECTION LIMIT=0.1 DATE: 06/21/94 LARGEST RESP=76.0 %RSD=9.5497 RT WINDOW:

CONC :	0.0	0.1	0.2	0.5	1.0	2.0	5.0	7.0	10.0
RESP :	0.0	1.0	2.0	4.75	9.5	19.25	41.5	60.25	76.0
CONC':	0.02	0.12	0.22	0.49	0.97	2.02	4.74	7.38	9.84

CONC = 2.4059E-02+ 9.5265E-02*RESP+ 4.4530E-04*RESP**2+ *RESP**3
95% C.I.= 2.0426E-01 1.9792E-02 2.7138E-04
CORRELATION COEFFICIENT = .9989

ESE BATCH : G50334

Co. ing Calibration Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	CCB*QC*1	71900*7470-G	MERCURY,TOTAL	UG/L	0.02

Continuing Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	CCV*QC*1	71900*7470-G	MERCURY,TOTAL	UG/L	5.00	4.94	98.8	80-120

Initial Calibration Verification Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	TARGET	FOUND	%RECV	RECV CRIT
06/21/94	ICV*PE-PURE*1	71900*7470-G	MERCURY,TOTAL	UG/L	5.00	5.01	100	80-120

Method Blank Sample Summary

DATE	SAMPLE	STORET	PARAMETER	UNITS	FOUND
06/21/94	MB*QC*1	71900*7470-G	MERCURY,TOTAL	UG/L	ND

Standard Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNITS	TARGET	FOUND
06/21/94	SP*QC*1	71900*7470-G	MERCURY,TOTAL	96.2	85-127	UG/L	5.00	4.81

Sample Matrix Spike Recovery Summary

DATE	SAMPLE	STORET	PARAMETER	%RECV	RECV CRIT	UNSPIKED	UNITS	TARGET	FOUND
06/21/94	SPM1*CDMHNSW2*1	71900*7470-G	MERCURY,TOTAL	90.2	85-127	0.0	UG/L	5.00	4.51
06/21/94	SPM2*CDMHNSW2*1	71900*7470-G	MERCURY,TOTAL	96.2	85-127	0.0	UG/L	5.00	4.81

ESE BATCH : G50334

UNITS AND EXAMPLE CALCULATIONS

UNITS ENTERED	
FINAL CONCENTRATION	UG/L
INJECTION VOLUME	NA
SAMPLE VOLUME	NA
EXTRACT VOLUME	NA
CURVE CONCENTRATION	UG/L
SPIKE SOLN CONCENTRATION	NA
SPIKE VOLUME	NA
SPIKE SAMPLE VOLUME	NA
TARGET CONCENTRATION	UG/L
RESPONSE DESCRIPTION	PEAK HGT
CONVERSION FACTOR	1

$$\text{FINAL CONC} = \frac{\text{CURV CONC * EXT VOL * DIL * 1}}{\text{INJ VOL * SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{UG/L} = \frac{\text{(UG/L) * (NA) * 1}}{\text{(NA) * (NA)}}$$

$$\text{(\qquad) = } \frac{\text{(\qquad\qquad) * (\qquad\qquad) * (\qquad\qquad 1}}{\text{(\qquad\qquad) * (\qquad\qquad) * ((100 - (\qquad\qquad)) / 100)}}$$

$$\text{TARGET CONC} = \frac{\text{SPIKE SOLN CONC * SPIKE VOL}}{\text{SPIKE SAMP VOL * ((100 - \%MOISTURE) / 100)}}$$

$$\text{UG/L} = \frac{\text{(NA) * (NA)}}{\text{(NA)}}$$

ESE BATCH : G50334

Environmental Science and Engineering Analytical Services

Computer QC Checks

Bat : G50334 Analysis Date: 06/21/94 Analyst: LISA SWAYZE

	Yes	"Exceptions" No	Comment / Corrective Action
Are ALL units documented in batch?	X		
Analysis holding time within criteria?	X		
No of calibration standards present acceptable?	X		
Curve correlation coefficient >= 0.995?	X		
Calibration curve y-intercept < curve detection limit?	X		
Sample responses within highest standard response?	X		
CCV present?	X		
CCV within acceptance criteria?	X		
ICV present?	X		
ICV within acceptance criteria?	X		
Method blank present?	X		
Method blank within acceptance criteria?	X		
Standard matrix spike present?	X		
Standard matrix spike within acceptance criteria?	X		
Sample matrix spike present?	X		
Sample matrix spike within acceptance criteria?	X		
Sample matrix spike duplicate present?	X		
Sample matrix spike duplicate within acceptance criteria?	X		

Note: Any "NO" answer requires a comment.

OVERRIDE COMMENTS

BATCH OVERRIDE BY:

FINALIZED BY:

TABLE OF ABBREVIATIONS

%RECV : % Recovery for spiked sample. (FOUND/TARGET * 100)
ANLY DATE : Analysis Date
ANLY TIME : Analysis Time
CURVE : Curve Regression Number
DILUTION : Sample Dilution Factor
EXT DATE : Extract Date
EXT VOL : Extract Volume
FOUND : Spiked Sample Conc. - Unspiked Sample Conc.
INJ VOL : Injection Volume
REL%DIFF : % Difference between current and previous spike.
RESPONSE : Sample Response
R.T. : Retention Time
SAMPLE CODE: Sample Type * Sample ID
SAMPLE ID : Field Group * Sequence Number
SAMPLE TYPE: The kind of sample analyzed. (listed below)
DA -- Data Sample
MB -- Method Blank
RF -- Reference (from commercially known standard)
RP -- Replicate Sample
SP -- Standard Matrix Spike
SPM -- Sample Matrix Spike
STD -- Internal Standard
SUR -- Surrogate Sample
UN -- Unspiked Sample
SAMP VOL : Sample Volume
SPK CONC : Spike Concentration
ST : Sample response explanation or validity. (listed below)
BK -- No sample response.
NA -- Sample not analyzed.
NR -- Not reserved for this batch. Batch containing the response for this sample is listed in the target field.
OK -- Sample response shown is correct.
! -- Sample response shown is invalid.
< -- Sample response < detection limit. Detection limit is shown in the response field.
STORET*MTHD: Storet ID * Method Code
TARGET : Spike Target (SAMPLE LISTING SECTION)
TARGET : Spike Target Concentration (SPIKED SAMPLE SECTION)
TYPE : Response Type ("FINAL" or empty)
UNSP CONC : Unspiked Sample Concentration

Dilution Factor Report

SAMPLE.....SITE ID.....ANALYTE.....DIL.....BATCH

No data points with dilution > 1.

Tentatively Identified Compounds

Volatile Organic Compounds

MS .ta file header from : >99921

Sample: CDMHNSS2*2 Operator: USERS6 MS 6/20/94 18:22
Misc : 06/20/94
Sys. #: 1 MS model: 96 SW/HW rev.: IA ALS # : 0
Method file: MF96S Tuning file: MT9201 No. of extra records: 2
Source temp.: 200 Analyzer temp.: 200 Transfer line temp. : 230

Chromatographic temperatures :	10.	170.	0.	0.	0.
Chromatographic times, min. :	3.0	5.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	0.0	0.0

No peaks found.

Summary of Unknowns PBM Library Search and Quantitation

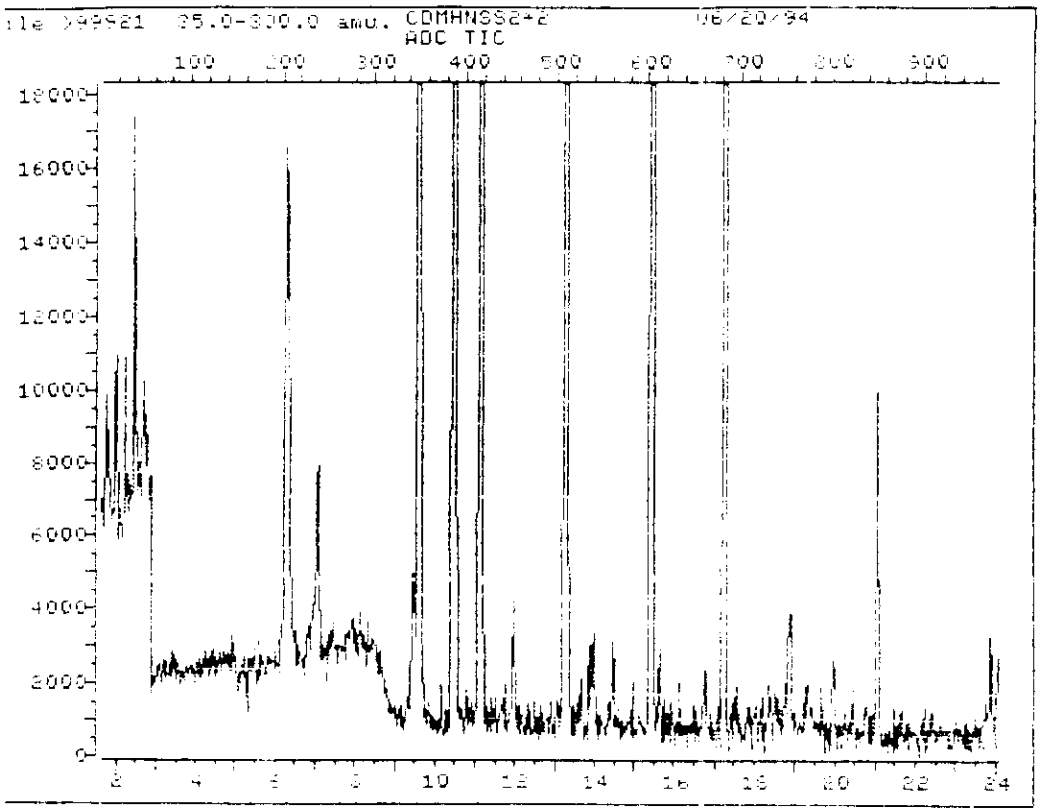
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	870700.	9.61	1.63 - 10.38
2	50.0	1323374.	11.15	10.38 - 13.30
3	50.0	1481857.	15.44	13.30 - 24.06

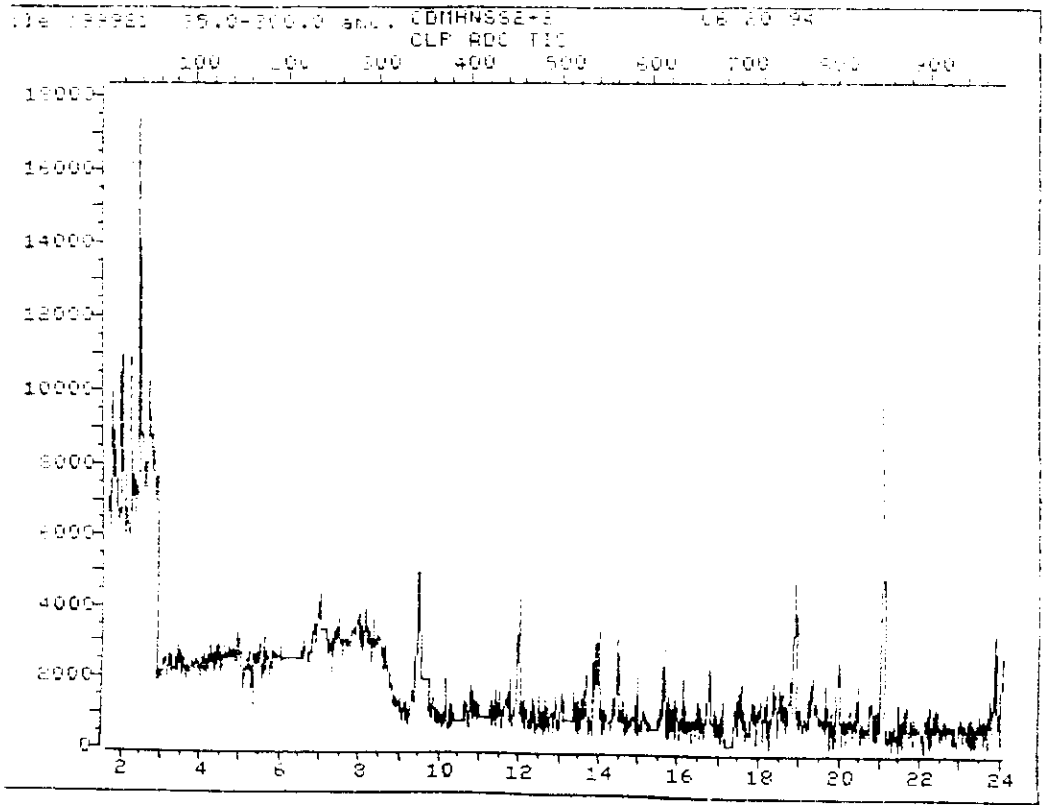
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 0.00
Amount Method (AM) = 1000.00 Amount Used (AU) = 1000.00

Correction Factor = ******** = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

7:25 PM MON., 20 JUNE, 1994


35.0-300.0 amu. CDMHNSS2+2
ADC TIC
100 200 300 400 500 600 700 800 900
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2 4 6 8 10 12 14 16 18 20 22 24


CDMHNSS2+2
CLP ADC TIC
100 200 300 400 500 600 700 800 900
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2 4 6 8 10 12 14 16 18 20 22 24

```
working...
   There were no UNKNOWNS
   Creating the .RR file
QN  99921
                    960106209418 22R   35  300 1.375  3                          00158C2
                    Bromochloromethane                                            0020D4E
                      1 128  349   8.6148  1  111222.ug/Kg   50.0000              0036807
                    Methylene Chloride                                            0044F15
                      2  84  238   7.0691  1    4716.ug/Kg    1.0821              0054FAC
                    Acetone                                                       0062C02
                      3  43  204   6.2894  1   77006.ug/Kg   19.3284              0075F49
                    1,2-Dichloroethane-d4                                         0084119
                      4  65  386  10.4634  1  257897.ug/Kg   50.5867              0090AC6
                    1,4-Difluorobenzene                                           0106D29
                      5 114  416  11.1517  5  497248.ug/Kg   50.0000              0113699
                    Chlorobenzene-d5                                              0126B15
                      6 117  603  15.4408  6  400378.ug/Kg   50.0000              0130555
                    Toluene-d8                                                    0146A12
                      7  98  589  13.2847  6  416841.ug/Kg   48.5717              0153372
                    Bromofluorobenzene                                            0167028
                      8  95  383  17.2758  6  262125.ug/Kg   49.3335              0177E06
 PBM results file is for MS data file 99298 not 99921                             0186E27
ENDFILE                                                                           0197BE0

 Reduced results file. R99921 summary
      QUANT data from. 99921
```

MS data file header from : >99920

Sample: CDMHNSS2*3 Operator: USER96 MS 6/20/94 17:49
Misc : 06/20/94
Sys. #: 1 MS model: 96 SW/HW rev.: IA ALS # : 0
Method file: MF96S Tuning file: MT9201 No. of extra records: 2
Source temp.: 200 Analyzer temp. 200 Transfer line temp. : 230

Chromatographic temperatures :	10.	170.	0.	0.	0.
Chromatographic times, min. :	3.0	5.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	0.0	0.0

No peaks found.

Summary of Unknowns PBM Library Search and Quantitation

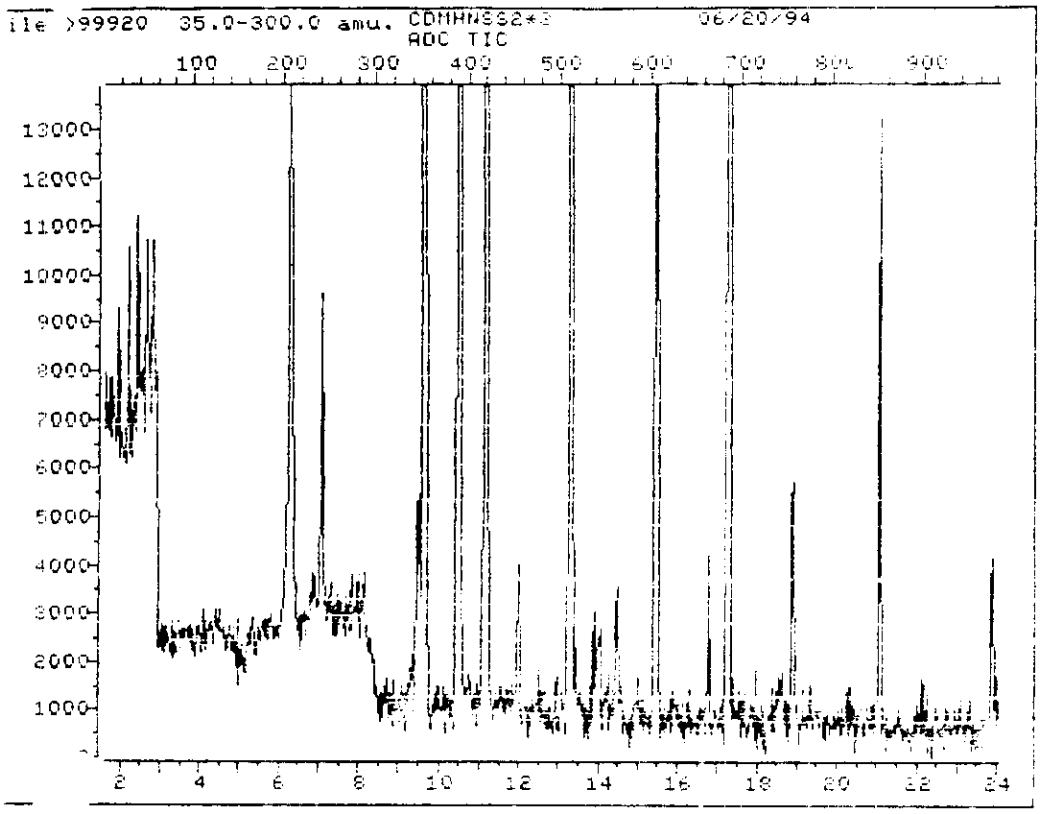
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	869968.	9.62	1.57 - 10.39
2	50.0	1330157.	11.16	10.38 - 13.30
3	50.0	1494044.	15.45	13.30 - 24.05

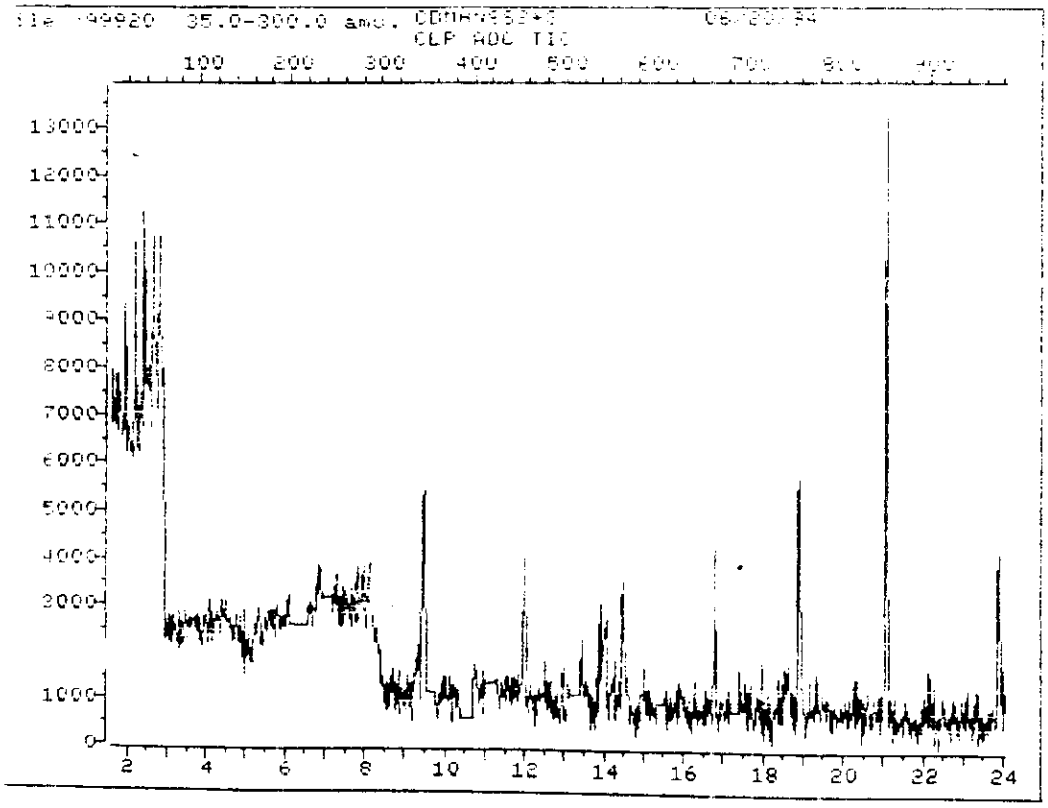
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 0.00
Amount Method (AM) = 1000.00 Amount Used (AU) = 1000.00

Correction Factor = ******** = (AM / AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

7:20 PM MON. 20 JUNE, 1994


ile >99920 35.0-300.0 amu. CDMHW552*3 06/20/94
ADC TIC
100 200 300 400 500 600 700 800 900
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
2 4 6 8 10 12 14 16 18 20 22 24


ile >99920 35.0-300.0 amu. CDMHW552*3 06/20/94
CLP ADC TIC
100 200 300 400 500 600 700 800 900
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
1000
0
2 4 6 8 10 12 14 16 18 20 22 24

```
working...
    There were no UNKNOWNS
    Creating the .RR file
.QN  99920
                                                                                  0015707
                    9601062094174 8R   36   300  1.375  6                         0020754
                    Bromochloromethane                                            0036807
                      1 128  352   9.6219  1   11735.ug/Kg   50.0000              0046613
                    Methylene Chloride                                            0054866
                      2  84  241   7.0763  1    5328.ug/Kg    1.2164              0063752
                    Acetone                                                       0078745
                      3  43  208   8.2765  1   63115.ug/Kg   15.7620              0083514
                    1,2-Dichloroethane-d4                                         0090406
                      4  65  389  10.4749  1  160782.ug/Kg   50.8753              0106[illegible]
                    1,4-Difluorobenzene                                           0117899
                      5 114  419  11.1593  6  508201.ug/Kg   50.0000              0126[illegible]
                    Chlorobenzene-d5                                              0130555
                      6 117  606  15.4479  6  411100.ug/Kg   50.0000              0145313
                    Toluene-d8                                                    0193377
                      7  98  512  13.2989  6  476486.ug/Kg   49.4053              0[illegible]
                    Bromofluorobenzene                                            0[illegible]
                      8  95  486  17.2840  6  271140.ug/Kg   49.5992              0[illegible]
 FBM results file is for MS data file 990199.mas  99920
ENDFILE                                                                           0197[illegible]20

 Reduced results file: R99920 summary
      QUANT data from: 99920
```

MS ta file header from : 999919

Sample: CDMHNSS2*4 Operator: USER96 MS 6/20/94 17:17
Misc : 06/20/94
Sys. #: 1 MS model: 96 SW/HW rev.: IA ALS # : 0
Method file: MF96S Tuning file: MT9201 No. of extra records: 2
Source temp.: 200 Analyzer temp.: 200 Transfer line temp. : 230

Chromatographic temperatures :	10.	170.	0.	0.	0.
Chromatographic times, min. :	3.0	5.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	0.0	0.0

No peaks found.

Summary of Unknowns PBM Library Search and Quantitation

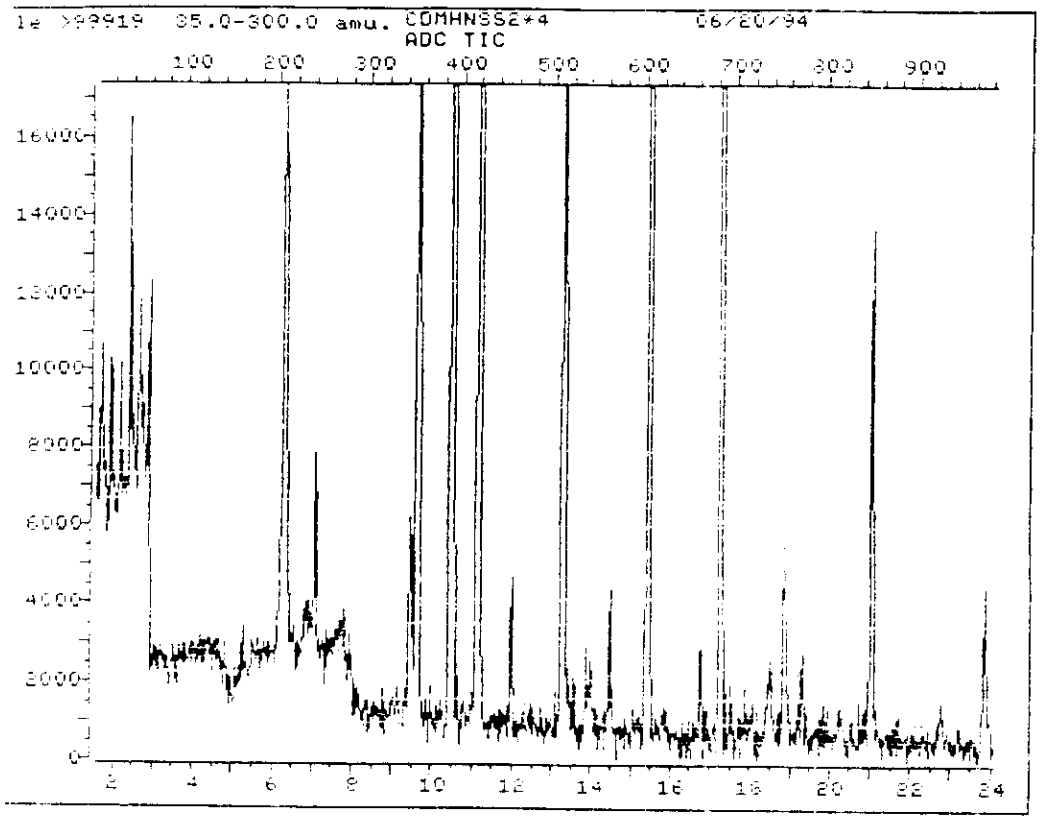
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	848199.	9.63	1.58 - 10.39
2	50.0	1288019.	11.15	10.39 - 13.29
3	50.0	1476058.	15.44	13.29 - 24.06

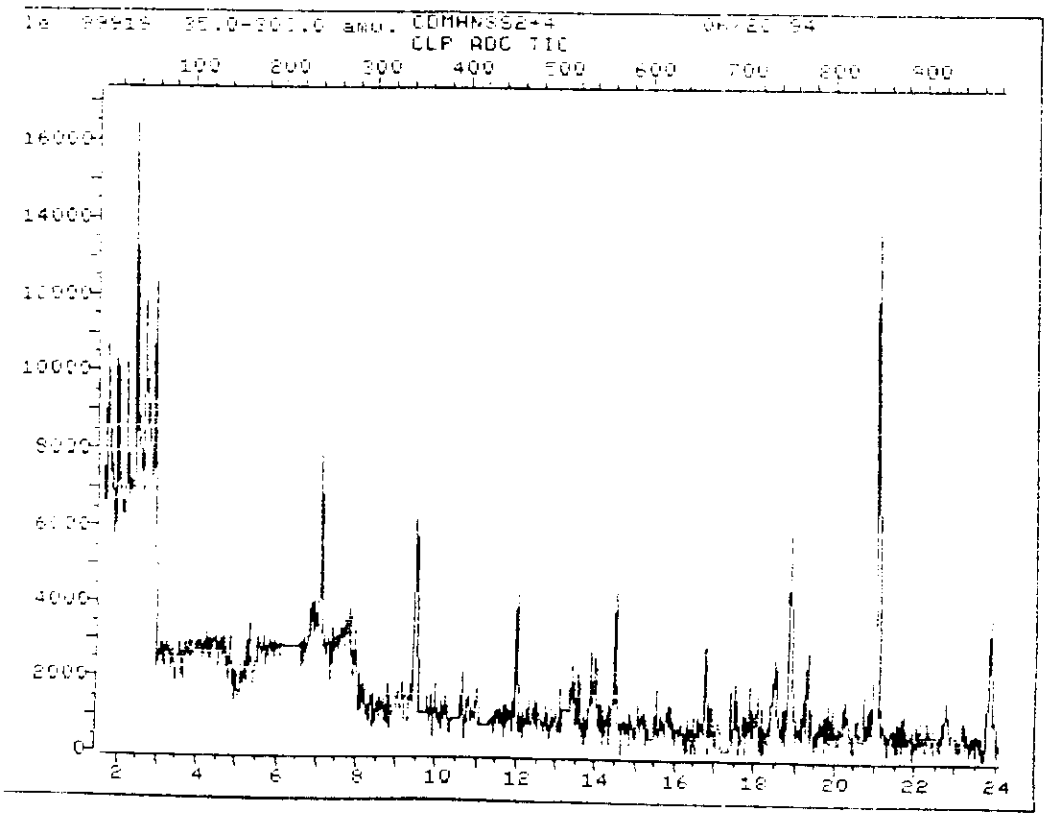
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 0.00
Amount Method (AM) = 1000.00 Amount Used (AU) = 1000.00

Correction Factor = ******** = (AM / AU) / (DF + FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

7:14 PM MON., 20 JUNE, 1994


1e >99919 35.0-300.0 amu. COMHNSS2*4 06/20/94
ADC TIC
100 200 300 400 500 600 700 800 900
16000
14000
12000
10000
8000
6000
4000
2000
0
2 4 6 8 10 12 14 16 18 20 22 24


CLP ADC TIC
100 200 300 400 500 600 700 800 900
16000
14000
10000
8000
6000
4000
2000
0
2 4 6 8 10 12 14 16 18 20 22 24

draw complete...

```
working...
   There were no UNKNOWNS
   Creating the .RR file
.QN  99919
                    96010620941717R    35   300  1.375   0                                  0016006
                                                                                             0020052
                    Bromochloromethane                                                       0036807
                      1 128   352    9.6339   1   110664.ug/Kg    50.0000                    0045613
                    Acetone                                                                  0055F45
                      2  43   206    6.2849   1    32435.ug/Kg    23.3181                    0063D18
                    1,2-Dichloroethane-d4                                                    0070A06
                      3  65   389   10.4832   1   262425.ug/Kg    51.7144                    0086117
                    1,4-Difluorobenzene                                                      0093699
                      4 114   418   11.1484   4   476635.ug/Kg    50.0000                    0108478
                    Chlorobenzene-d5                                                         0110558
                      5 117   605   15.4333   5   405785.ug/Kg    50.0000                    0126810
                    Toluene-d8                                                               0133072
                      6  98   511   13.2817   5   445122.ug/Kg    52.2796                    0146917
                    Bromofluorobenzene                                                       0157E0a
                      7  95   684   17.2508   5   273131.ug/Kg    50.7199                    0166821
 TPU results file is for MS data file ^99298 not ^99919
ENDFILE                                                                                      0177E20

 Reduced results file: R99919 summary
      QUANT data from: ^99919
```

MS data file header from : >99916

Sample: CDMHNSS2*5 Operator: USER96 MS 6/20/94 15:43
Misc : 06/20/94
Sys. #: 1 MS model: 96 SW/HW rev.: IA ALS # : 0
Method file: MF96S Tuning file: MTS201 No. of extra records: 2
Source temp.: 200 Analyzer temp. 200 Transfer line temp. : 230

Chromatographic temperatures :	10.	120.	0.	0.	0.
Chromatographic times, min. :	3.0	5.0	0.0	0.0	0.0
Chromatographic rate, deg/min:	10.0	0.0	0.0	0.0	0.0

No peaks found.

Summary of Unknowns PBM Library Search and Quantitation

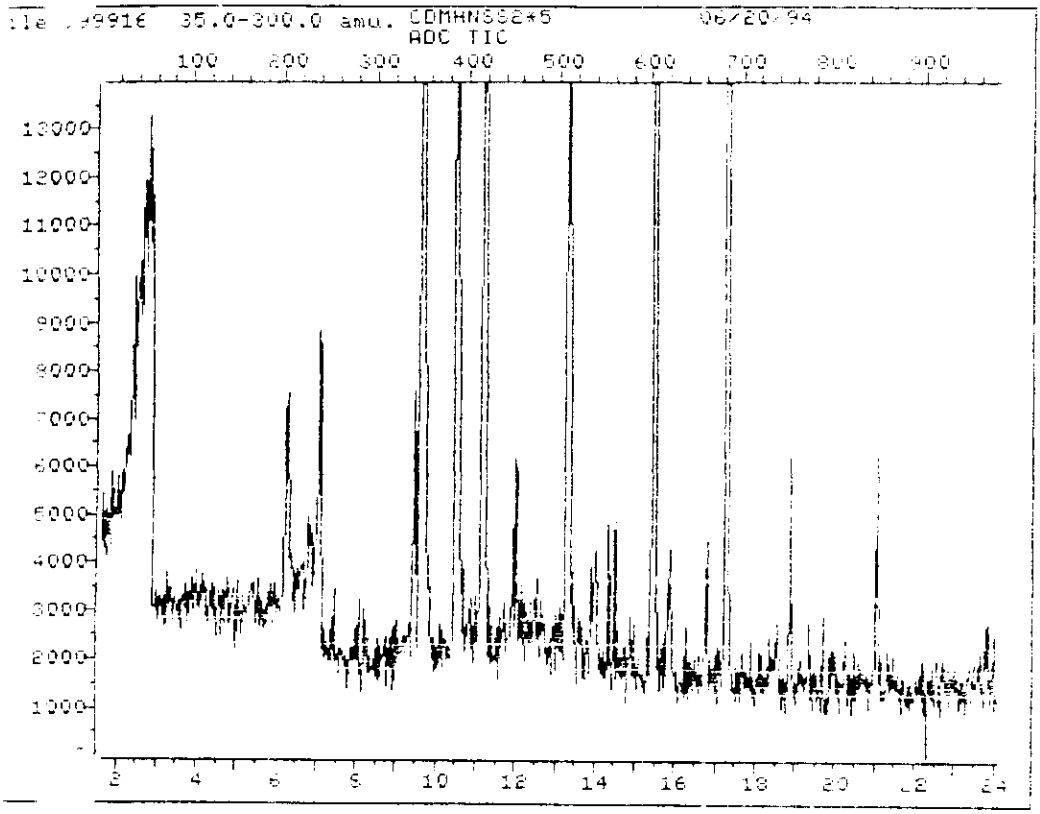
Standard	Concentration	Area	Retention Time	Unknown Window
1	50.0	883459.	9.64	1.63 - 10.41
2	50.0	1352309.	11.18	10.41 - 13.32
3	50.0	1504372.	15.47	13.32 - 24.07

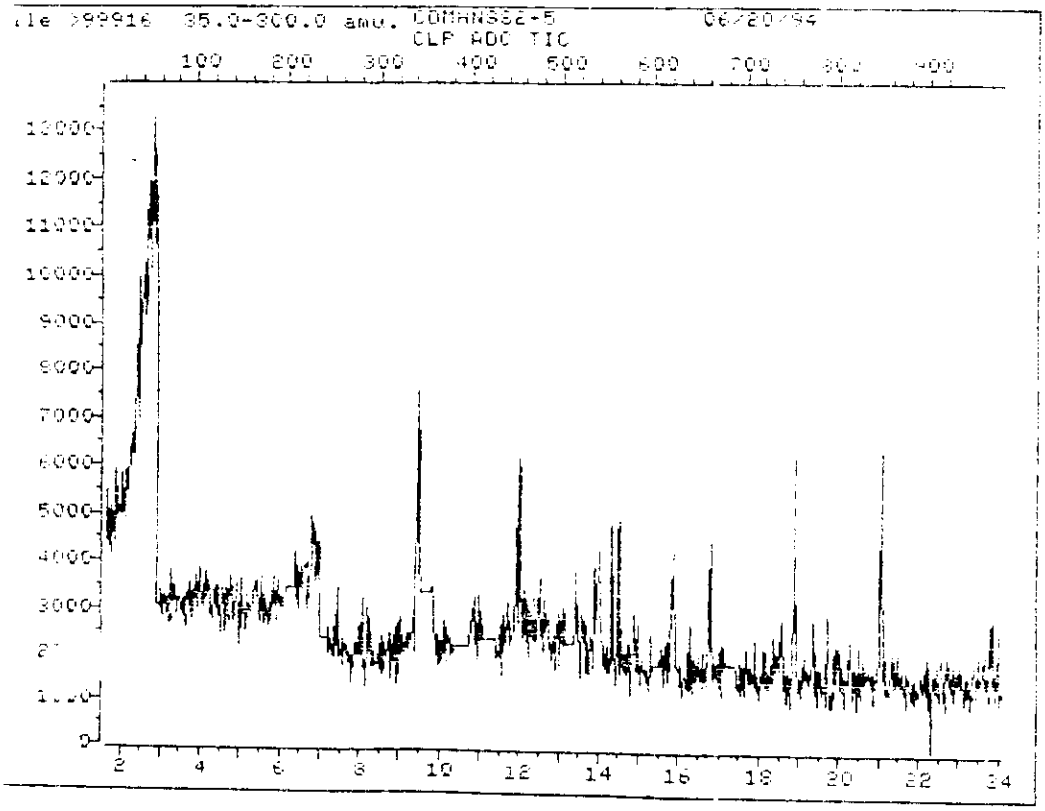
Dilution Factor (DF) = 1.00 Fractional Solids (FS) = 0.00
Amount Method (AM) = 1000.00 Amount Used (AU) = 1000.00

Correction Factor = ******** = (AM AU) / (DF * FS)

$$\text{Unknown Concentration} = \frac{\text{Conc Int Std}}{\text{Area Int Std}} * \text{Area Unk} * \text{Correction Factor}$$

7:09 PM MON. 20 JUNE, 1994


35.0-300.0 amu. CDMHNS82*5
ADC TIC
100 200 300 400 500 600 700 800 900
13000 12000 11000 10000 9000 8000 7000 6000 5000 4000 3000 2000 1000
2 4 6 8 10 12 14 16 18 20 22 24


35.0-300.0 amu. CDMHNS82*5
CLP ADC TIC
100 200 300 400 500 600 700 800 900
13000 12000 11000 10000 9000 8000 7000 6000 5000 4000 3000
2 4 6 8 10 12 14 16 18 20 22 24

```
 working...
    There were no UNKNOWNS
    Creating the .RR file
.QN  99916
                    9801062094154 3R   35  300 1.375  9                          0015D06
                    Bromochloromethane                                            0020F4C
                      1 128  350   9.6403  1  113739.ug/Kg   50.0000              0036807
                    Methylene Chloride                                            0045914
                      2  84  239   7.0933  1    5909.ug/Kg    1.3252              0054FBC
                    Acetone                                                       0063EFD
                      3  43  203   6.2669  1   16921.ug/Kg    4.1510              0075F45
                    1,2-Dichloroethane-d4                                         0083761
                      4  65  388  10.5122  1  251916.ug/Kg   48.2758              0090A28
                    1,4-Difluorobenzene                                           0105C23
                      5 114  417  11.1730  5  532724.ug/Kg   50.0000              0113699
                    Chlorobenzene-d5                                              0126014
                      6 117  604  15.4691  6  417022.ug/Kg   50.0000              0130555
                    Toluene-d8                                                    0146714
                      7  98  510  13.3121  6  408439.ug/Kg   48.0016              0153377
                    Bromofluorobenzene                                            0166121
                      8  95  583  17.2818  6  269060.ug/Kg   48.6212              0177B06
 PBM results file is for MS data file 99098 not  99916                            0187079
ENDFILE                                                                           0197DE0

 Reduced results file: R99916 summary
      QUANT data from: 99916
```

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

A03-1-05

Lab Name:ESE Contract:HANF N. SLP

Lab Code:ESE Case No.:50516 SAS No.: SDG No.:50516

Matrix: (soil/water) SOIL Lab Sample ID:CDMHNSS2*6

Sample wt/vol: 5.00 (g/ml) G Lab File ID: 99962

Level: (low/med) LOW Date Received: 6/20/94

% Moisture: not dec. 2 Date Analyzed: 6/23/94

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:0 (uL) Soil Aliquot Volume:0 (uL)

Number TICs Found: 10

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	75-69-4	Trichlorofluoromethane	4.78	5.	JN
2.	107-87-9	2-Pentanone	11.82	18.	JN
3.	590-36-3	2-Pentanol, 2-methyl-	13.02	18.	JN
4.	123-96-6	2-Octanol	13.71	19.	JN
5.	928-68-7	2-Heptanone, 6-methyl-	17.98	18.	JN
6.	0	UNKNOWN	19.68	4.	J
7.	2408-37-9	Cyclohexanone, 2,2,6-trimeth	19.81	20.	JN
8.	0	UNKNOWN	19.95	4.	J
9.	873-94-9	Cyclohexanone, 3,3,5-trimeth	20.27	20.	JN
10.	0	UNKNOWN	21.35	4.	J
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

Semivolatile Organic Compounds

:**TR
:DU,U53505,1

GC/MS SEMIVOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

N .e: CDHMNSS2*2 0620 Injected: 940622 11:08
Misc: 06/22/94 HANFORD PHC\WSK BTL# 2
Data File: >53505::C2

*Phenanthrene-d10 RT= 22.823

COMPOUND NAME	TIC#	RT	CAS	ug/Kg
7-Oxabicyclo[4.1.0]heptane (artifact)	2	7.64	286204	560.00
2-Cyclohexen-1-one (artifact)	3	9.42	930687	310.00

:RU,CRT,FF

:**TR
:DU,U53506,1

GC/MS SEMIVOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Name: CDHMNSS2*3 0620 Injected: 940622 12:02
Misc: 06/22/94 HANFORD PHC\WSK BTL# 3
Data File: >53506::C2

*Phenanthrene-d10 RT= 22.817

COMPOUND NAME	TIC#	RT	CAS	ug/Kg
7-Oxabicyclo[4.1.0]heptane (artifact)	2	7.64	286204	670.00
2-Cyclohexen-1-one (artifact)	3	9.41	930687	280.00

:RU,CRT,FF

:**TR
:DU,U53507,1

GC/MS SEMIVOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

N. .e: CDHMNSS2*4 0620 Injected: 940622 12:56
Misc: 06/22/94 HANFORD PHC\WSK BTL# 4
Data File: >53507::C2

*Phenanthrene-d10 RT= 22.821

COMPOUND NAME	TIC#	RT	CAS	ug/Kg
7-Oxabicyclo[4.1.0]heptane (artifact)	2	7.64	286204	420.00

:RU,CRT,FF

:**TR
:DU,U53508,1

GC/MS SEMIVOLATILE TENTATIVELY IDENTIFIED COMPOUNDS

Name: CDHMNSS2*5 0620 Injected: 940622 13:51
Misc: 06/22/94 HANFORD PHC\WSK BTL# 5
Data File: >53508::C2

*Phenanthrene-d10 RT= 22.825

COMPOUND NAME	TIC#	RT	CAS	ug/Kg
None				

:RU,CRT,FF

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

AO3-1-05

Lab Name: ESE Contract: NA

Lab Code: ESE Case No.: NA SAS No.: NA SDG No.: 50788

Matrix: (soil/water) SOIL Lab Sample ID: CDMHNSS2*6

Sample wt/vol: 1.0 (g/mL) G Lab File ID: NVO502053.D

Level: (low/med) MED Date Received: 06/21/94

% Moisture: 2 decanted: (Y/N) N Date Extracted: 06/28/94

Concentrated Extract Volume: 500(uL) Date Analyzed: 06/30/94

Injection Volume: 2.0(uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) Y pH: 6.1

Number TICs found: 19

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	7.526	9800	J
2.	Unknown	14.815	8600	J
3.	Unknown	16.176	9000	J
4. 112-95-8	Eicosane	16.395	9500	J
5.	Unknown	16.997	8400	J
6.	Unknown	17.084	31000	J
7.	Unknown	17.163	9300	J
8.	Unknown Alkane	17.346	11000	J
9.	Unknown Alkane	17.591	8100	J
10.	Unknown	17.931	11000	J
11.	Unknown	19.022	8800	J
12.	Unknown Alkane	19.214	18000	J
13.	Unknown	19.895	12000	J
14.	Unknown	20.235	20000	J
15.	Unknown	22.514	84000	J
16.	Unknown Alkane	23.360	140000	J
17.	Unknown Alkane	25.805	68000	J
18. 630-05-7	Tritriacontane	26.485	87000	J
19.	Unknown Alkane	26.887	100000	J
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

Chain–of–Custody Forms

C4C # 1

RR/6/15/94 F626.

CHAIN OF CUSTODY RECORD

CDM Federal Programs Corporation SAMPLE LOG BOOK

PROJECT NAME HANFORD NORTH SLOPE (H-83L) PROJECT NUMBER 6010-003

~~Field Log Book~~ Reference No. 1

ESE# CDMHN552 * 1

94H-83L

	SAMPLE NUMBER			DATE	TIME	SAMPLE LOCATION	SAMPLE TYPE	ANALYSES (6010/7000)	NUMBER OF CONTAINERS	LOG. BOOK PG. NO.	REMARKS
1	94H-83L	A0601-	001	6/15	1611	H-83-A06	Soil	X	1x250ml	2	
		A06-1-	01 = SAMPLE ID #								
		94H83L	= SITE #								
		1			CHAIN OF CUSTODY #						
		CDMHN552.1	= STORET LIST								
		H83LA06	= FIELD ID #								

ESE SAMPLE RECEIVING

LOD: 6/19/94

Field Group #: CDMHN552 #1

Storet List: CDMHN552.1

Custody Seal(s) Intact? Y N N.A.

Cooler Temp. (°C): 6

Preservation Audited? Y N N.A.

SAMPLED BY (SIGN) Randall Robertson

RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)
① Randall Robertson DATE/TIME 6/15/94 1810	② [signature] DATE/TIME 6/16/94 1530	③ DATE/TIME (/)	④ DATE/TIME (/)	⑤ DATE/TIME (/)
RECEIVED BY (SIGN)	**RECEIVED BY (SIGN)**	**RECEIVED BY (SIGN)**	**RECEIVED BY (SIGN)**	**RECEIVED BY (SIGN)**
① [signature] DATE/TIME 6/15/94 1810	② [signature] DATE/TIME 6/17/94 1040	③ DATE/TIME (/)	④ DATE/TIME (/)	⑤ DATE/TIME (/)

METHOD OF SHIPMENT	SHIPPED BY (SIGN)	RECEIVED FOR LABORATORY BY (SIGN)	DATE/TIME
		[signature]	6/17/94 1040

LEGEND: Original: Return to Sample Traffic Control Center Copies: Ship with Samples

000297

ESE

CHAIN OF CUSTODY RECORD

CDM Federal Programs Corporation

ESE 6/16/94 F6260

SAMPLE LOG BOOK

PROJECT NAME HANFORD NORTH SLOPE (H-83L) PROJECT NUMBER 6110-003

~~Field Log Book~~ Reference No. 1

ESE#

Copies: Ship with Samples

	SAMPLE NUMBER			DATE	TIME	SAMPLE LOCATION	SAMPLE TYPE	ANALYSES								NUMBER OF CONTAINERS	LOG. BOOK PG. NO.	REMARKS
	94H-83L	BG1-01-	002	6/16/94	0800	H-83L	SOIL			X						2x125ml	5	
2	94H-83L	BG1-01-	002	6/16/94	0800	H-83L	SOIL				X					1x250ml	5	
	94H-83L	BG1-01-	002	6/16/94	0800	H-83L	SOIL					X				1x250ml	5	
	94H-83L	A06-02-	002	6/16/94	1415	H-83L	SOIL			X						2x125ml	7	
3	94H-83L	A06-02-	002	6/16/94	1415	H-83L	SOIL				X					1x250ml	7	
	94H-83L	A06-02-	002	6/16/94	1415	H-83L	SOIL					X				1x250ml	7	
	94H-83L	A06-03-	002	6/16/94	1600	H-83L	SOIL			X						2x125ml	7	
4	94H-83L	A06-03-	002	6/16/94	1600	H-83L	SOIL				X					1x250ml	7	
	94H-83L	A06-03-	002	6/16/94	1600	H-83L	SOIL					X				1x250ml	7	

ESE SAMPLE RECEIVING

RDD: 6/22/94

Field Group#: CDMHNSS2

Storet List: CDMHNSS2.2

Custody Seal(s) Intact?: Y N N.A.

Cooler Temp. (C): 5°

SAMPLED BY (SIGN) Randall Roberts

RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN) Preservation Audited?	RELINQUISHED BY (SIGN) Y N (N.A.)
① Randall Roberts DATE/TIME 6/16/94 1830	② DATE/TIME (6/17/94 1530)	③ DATE/TIME (/)	④ DATE/TIME (/)	⑤ DATE/TIME (/)
RECEIVED BY (SIGN)	**RECEIVED BY (SIGN)**	**RECEIVED BY (SIGN)**	**RECEIVED BY (SIGN)**	**RECEIVED BY (SIGN)**
① DATE/TIME (6/16/94 1830)	② DATE/TIME (/)	③ DATE/TIME (/)	④ DATE/TIME (/)	⑤ DATE/TIME (/)

METHOD OF SHIPMENT	SHIPPED BY (SIGN)	RECEIVED FOR LABORATORY BY (SIGN)	DATE/TIME
FED EX AIRBILL #9501619772 ~~9501619750~~ RR 6/16/94			(6/20/94 1030)

END: Original: Return to Sample Traffic Control Center

9620066

F6260

CHAIN OF CUSTODY RECORD

CDI Federal Programs Corporation

PROJECT NAME Hanford North Slope (H-83-L) PROJECT NUMBER 6110-003

SAMPLE Field Log Book Reference No. 1

SAMPLE NUMBER			DATE	TIME	SAMPLE LOCATION	SAMPLE TYPE	ANALYSES 8260	8080	8270	6010/7000	8260	8080	8270	6010/7000	NUMBER OF CONTAINERS	LOG BOOK PG. NO.	REMARKS
94H83L	-CS2-02	-000	6/17/94	1145	second borrow site	Soil	X								2x125ml	10	CDMHN552.2
94H83L	-CS2-02	-000	6/17/94	1145	Second borrow site	Soil		X	X						1x250ml	10	
94H83L	-CS2-02	-000	6/17/94	1145	Second borrow site	Soil				X					1x250ml	10	
94H83L	-A06-02	-EB1	6/17/94	1430	H83L	Water					X				8x40ml	11	CDMHN5W2.1
94H83L	-A06-02	-EB1	6/17/94	1430	H83L	Water						X			2x1L	11	
94H83L	-A06-02	-EB1	6/17/94	1430	H83L	Water							X		2x1L	11	
94H83L	-A06-02	-EB1	6/17/94	1430	H83L	Water								X	2x1L	11	

BSE SAMPLE RECEIVING

LOD: 6/22/94

Field Group/#: CDMHN5W2 / CDMN552

Storet List: See above

Custody Seal(s) Intact?: (Y) N N.A.

Cooler Temp. (°C): 6°

Preservation Audited? (Y) N N.A.

SAMPLED BY (SIGN) James H. Moore

RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)
① James H. Moore DATE/TIME (6/17/94 1750)	② Randall Ebert DATE/TIME (6/17/94 1730)	DATE/TIME (/)	④ DATE/TIME (/)	⑤ DATE/TIME (/)
RECEIVED BY (SIGN)	**RECEIVED BY (SIGN)**	**RECEIVED BY (SIGN)**	**RECEIVED BY (SIGN)**	**RECEIVED BY (SIGN)**
① Randall Ebert DATE/TIME (6/17/94 1750)	② DATE/TIME (/)	③ DATE/TIME (/)	④ DATE/TIME (/)	⑤ DATE/TIME (/)

METHOD OF SHIPMENT	SHIPPED BY (SIGN)	RECEIVED FOR LABORATORY BY (SIGN)	DATE/TIME
Fed Ex (Airbill# 9501619746			(6/20/94, 1030)

LEGEND: Original: Return to Sample Traffic Control Center Copies: Ship with Samples

662000 0002399

CHAIN OF CUSTODY RECORD

CDM Federal Programs Corporation

F6260 6/20/94 SAMPLE LOG BOOK

PROJECT NAME HANFORD NORTH SLOPE (H-83L) PROJECT NUMBER 6110-003

Field Log Book Reference No. 1

SAMPLE NUMBER			DATE	TIME	SAMPLE LOCATION	SAMPLE TYPE	ANALYSES							NUMBER OF CONTAINERS	LOG. BOOK PG. NO.	REMARKS
							CLP60	6020E300	6010/7000	8270						ESE Ref #(s)
94H-83L	A03-01-	005	6/20/94	0930	H-83L	SOIL		X						2x125ml	14	CDMHNSS2 *6
94H-83L	A03-01-	005	6/20/94	0930	H-83L	SOIL			X					1x250ml	14	
94H-83L	A03-01-	005	6/20/94	0930	H-83L	SOIL				X				1x250ml	14	
94H-83L	A03-01-	TB1	6/20/94	1000	H-83L	WATER		X						3x40ml	14	CDMHNSW *10

ESE SAMPLE RECEIVING

LDD: 6/23 *6 *10

Field Group(s): CDMHNSS2 / CDMHNSW

Stored List: CDMHNSS2.2 CDMHNSW.2

Custody Seal(s) Intact?: Y N N.A.

Cooler Temp. (°C): 6

Preservation Verified? Y N N.A.

SAMPLED BY (SIGN) Randall Robert

RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)	RELINQUISHED BY (SIGN)
① Randall Robert	②	③	④	⑤
DATE/TIME 6/20/94 1430	DATE/TIME (/)	DATE/TIME (/)	DATE/TIME (/)	DATE/TIME (/)
RECEIVED BY (SIGN)	**RECEIVED BY (SIGN)**	**RECEIVED BY (SIGN)**	**RECEIVED BY (SIGN)**	**RECEIVED BY (SIGN)**
①	②	③	④	⑤
DATE/TIME (/)	DATE/TIME (/)	DATE/TIME (/)	DATE/TIME (/)	DATE/TIME (/)

METHOD OF SHIPMENT	SHIPPED BY (SIGN)	RECEIVED FOR LABORATORY BY (SIGN)	DATE/TIME
FED EX AIRBILL # 9501619621	Randall Robert	[illegible]	6/21/94 1200

Copies: Ship with Samples

Original: Return to Sample Traffic Control Center

000300