21

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

RECEIVED

JUL 29 1987

SUPERFUND BRANCH

Date: 7/27/87

MEMORANDUM

SUBJECT: Data Transmittal for Activity #: J49B9,
Site Description: Cherokee

FROM: Robert D. Kleopfer, Ph.D. W. Bunn for RDK
Acting Chief, Laboratory Branch, ENSV

TO: Robert L. Morby
Chief, Superfund Branch, WSTM

ATTN: _____

Attached is the data transmittal for the above referenced site. This should be considered a ___ Partial ___ Corrected X Complete data transmittal (completes transmittal of _____). If you have any questions or comments, please contact D. Simmons at 236-3881.

Attachments

cc: Data File

S00021756
SUPERFUND RECORDS
22146

EPA REGION VII
DATA QUALIFICATION CODES

U - Compound was not detected.

M - Compound was qualitatively identified; however, quantitative value is less than contract required detection limits (CLP data); or value is less than limit of quantitation (EPA data).

J - Compound was qualitatively identified; however, compound failed to meet all QA criteria and therefore is only an estimated value.

I - Analysis attempted, but no results can be reported.

O - Sample lost or not analyzed.

L - Value known to be higher than value reported.

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

Site Name: CHEROKEE — Site Number: B9
Location: GALENA. KANSAS — Site Code: N/A

Collected: YR: 87 MO: 5 Day: 9 Time: 1525 Leader: D. MOOS

Sample Number: J49B9001 SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, (WATER) OTHER: _____

Sample Split (circle one): YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
1 GAL CUBIT	WHITE	HNO3	TOTAL METALS
1 GAL CUBIT	GRAY	HNO3	DISS. METALS
1 GAL CUBIT	N/A	COOL 4 C	WATER CHEMISTRY
2X40 ML VIAL	LIME	COOL 4 C	VOA
80 OZ AMBER	PURPLE	COOL 4 C	BNA
80 OZ AMBER	PURPLE	COOL 4 C	PEST/ PCB

Depth: Inorganics - Entire Column; Organics - Surface Pan #: NA Aliquots: NA

Samplers: Kloberdanz & Walstrom

COMMENTS OF FIELD PERSONNEL

Site Description: Station 23: River is wide and shallow. Banks are gradually sloped.

IBM-PC

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

Site Name: CHEROKEE — Site Number: B9
Location: GALENA. KANSAS — Site Code: N/A

Collected: YR: 87 MO: 5 Day: 10 Time: 1430 Leader: D. MOOS

Sample Number: J49B9002 SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, (WATER), OTHER: _____

Sample Split (circle one): YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
1 GAL CUBIT	WHITE	HNO3	TOTAL METALS
1 GAL CUBIT	GRAY	HNO3	DISS. METALS
1 GAL CUBIT	N/A	COOL 4 C	WATER CHEMISTRY
2X40 ML VIAL	LIME	COOL 4 C	VOA
80 OZ AMBER	PURPLE	COOL 4 C	BNA
80 OZ AMBER	PURPLE	COOL 4 C	PEST/ PCB

Depth: Inorganics - Entire Column; Organics - Surface Pan #: NA Aliquots: NA

Samplers: Moos & McElduff

COMMENTS OF FIELD PERSONNEL

Site Description: Station 25: Bottom is relatively flat hard rock or sand. Banks are gradually sloped.

IBM-PC

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

Site Name: CHEROKEE — Site Number: B9
Location: GALENA. KANSAS — Site Code: N/A

Collected: YR: 87 MO: 5 Day: 8 Time: 1715 Leader: D. MOOS
Organics: 5 9 1600
Sample Number: J49B9003 SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, (WATER) OTHER: _____

Sample Split (circle one): YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
1 GAL CUBIT	WHITE	HNO3	TOTAL METALS
1 GAL CUBIT	GRAY	HNO3	DISS. METALS
1 GAL CUBIT	N/A	COOL 4 C	WATER CHEMISTRY
2X40 ML VIAL	LIME	COOL 4 C	VOA
80 OZ AMBER	PURPLE	COOL 4 C	BNA
80 OZ AMBER	PURPLE	COOL 4 C	PEST/ PCB

Inorganics - entire column
Depth: Organics - surface Pan #: NA Aliquots: NA

Samplers: Moos, Kloberdanz, Walstrom & McEldoff

COMMENTS OF FIELD PERSONNEL

Site Description: Station 27: Organics: Low Head Dam
Inorganics: Trolley Bridge

IBM-PC

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

Site Name: CHEROKEE — Site Number: B9
Location: GALENA. KANSAS — Site Code: N/A

Collected: YR: 87 MO: 5 Day: 9 Time: 1530 Leader: D. MOOS

Sample Number: J49B9004 — SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, (WATER) OTHER: _____

Sample Split (circle one): YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
~~1 GAL GUDIT~~	~~WHITE~~	~~HNO3~~	~~TOTAL METALS~~
~~1 GAL GUDIT~~	~~GRAY~~	~~HNO3~~	~~DISS. METALS~~
~~1 GAL GUDIT~~	~~N/A~~	~~COOL 4 C~~	~~WATER CHEMISTRY~~
2X40 ML VIAL	LIME	COOL 4 C	VOA
80 OZ AMBER	PURPLE	COOL 4 C	BNA
80 OZ AMBER	PURPLE	COOL 4 C	PEST/ PCB
No Inorganics			

VOA Surface
Depth: ~~BNA/Pest/PCB~~ 6" Pan #: NA Aliquots: NA

Samplers: McElduff

COMMENTS OF FIELD PERSONNEL

Site Description: Station 18: Rocky bottom, 2 to 3.5 ft. deep in mid-stream
Approx. 250 ft. above bridge.

IBM-PC

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

Site Name: CHEROKEE — Site Number: B9
Location: GALENA. KANSAS — Site Code: N/A

Collected: YR: 87 MO: 5 Day: 8 Time: 2000 Leader: D. MOOS

Sample Number: J49B9011 — SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, (WATER) OTHER: _____

Sample Split (circle one): YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
1 GAL CUBIT	WHITE	HNO3	TOTAL METALS
1 GAL CUBIT	GRAY	HNO3	DISS. METALS
1 GAL CUBIT	N/A	COOL 4 C	WATER CHEMISTRY

Depth: Entire Water Column Pan #: NA Aliquots: NA

Samplers: Kloberdanz & Walstrom

COMMENTS OF FIELD PERSONNEL

Site Description: Station 12 · Approx 200 ft. S of bridge, W bank is relatively low, recently flooded area. E bank is steep and high (~25 ft.). Both are rocky silt

FIELD SHEET

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

Site Name: CHEROKEE — Site Number: B9
Location: GALENA. KANSAS — Site Code: N/A

Collected: YR: 87 MO: 5 Day: 10 Time: 1445 Leader: D. MOOS

Sample Number: J49B9012 — SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, (WATER), OTHER: _____

Sample Split (circle one): YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
1 GAL CUBIT	WHITE	HNO3	TOTAL METALS
1 GAL CUBIT	GRAY	HNO3	DISS. METALS
1 GAL CUBIT	N/A	COOL 4 C	WATER CHEMISTRY

Depth: Entire Water Column, Pan #: NA — Aliquots: NA

Samplers: Kloberdanz & Walstrom

COMMENTS OF FIELD PERSONNEL

Site Description: Station 15: Creek is ~6ft. wide. E bank steep and ~4ft. high. W bank relatively flat with gravel. Bottom was gravel.

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

Site Name: CHEROKEE — Site Number: B9
Location: GALENA. KANSAS — Site Code: N/A

Collected: YR: 87 MO: 5 Day: 8 Time: 1300 Leader: D. MOOS

Sample Number: J49B9013 — SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, (WATER) OTHER: _____

Sample Split (circle one): YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
1 GAL CUBIT	WHITE	HNO3	TOTAL METALS
1 GAL CUBIT	GRAY	HNO3	DISS. METALS
1 GAL CUBIT	N/A	COOL 4 C	WATER CHEMISTRY

Depth: Entire Water Column Pan #: NA Aliquots: NA

Samplers: Klobcerdanz & Walstrom

COMMENTS OF FIELD PERSONNEL

Site Description: Station 16: W side of stream is relatively flat rock. E side rises steeply ~10ft to flat wooded area. Upstream approx 25ft. from station are several rocks at surface. Downstream is open w/o obstruction for ~100ft.

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

Site Name: CHEROKEE — Site Number: B9
Location: GALENA. KANSAS — Site Code: N/A

Collected: YR: 87 MO: 5 Day: 8 Time: 1520 Leader: D. MOOS

Sample Number: J49B9014 — SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, (WATER), OTHER: _____

Sample Split (circle one): YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
1 GAL CUBIT	WHITE	HNO3	TOTAL METALS
1 GAL CUBIT	GRAY	HNO3	DISS. METALS
1 GAL CUBIT	N/A	COOL 4 C	WATER CHEMISTRY

Depth: Entire Water Column Pan #: NA Aliquots: NA

Samplers: Klobendanz & Walstrom

COMMENTS OF FIELD PERSONNEL

Site Description: Station 17: Both banks are rocky and silty. Station is beneath W side of highway bridge. Bottom is rocky with some silt.

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

Site Name: CHEROKEE — Site Number: B9
Location: GALENA. KANSAS — Site Code: N/A

Collected: YR: 87 MO: 5 Day: 8 Time: 2034 Leader: D. MOOS

Sample Number: J49B9015 — SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, (WATER), OTHER: _____

Sample Split (circle one): YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
1 GAL CUBIT	WHITE	HNO3	TOTAL METALS
1 GAL CUBIT	GRAY	HNO3	DISS. METALS
1 GAL CUBIT	N/A	COOL 4 C	WATER CHEMISTRY

Depth: Entire Water Column Pan #: NA Aliquots: NA

Samplers: Moos

COMMENTS OF FIELD PERSONNEL

Site Description: Station 11: Relatively flat bottom, banks vegetated and muddy E bank approx. vertical, W bank gradually sloped.

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY, KS 66115

Site Name: CHEROKEE — Site Number: B9
Location: GALENA, KANSAS — Site Code: N/A

Collected: YR: 87 MO: 5 Day: 11 Time: 1120 Leader: D. MOOS

Sample Number: J49B9016 F (a) — SMO #: _____

Sample Media (circle one):
SOIL, DUST, RINSATE, SEDIMENT, (WATER), OTHER: _____

Sample Split (circle one): YES (NO)

Sample Container	Tag Color	Preservative	Analysis Requested
1 GAL CUBIT	WHITE	HNO3	TOTAL METALS
1 GAL CUBIT	GRAY	HNO3	DISS. METALS
1 GAL CUBIT	N/A	COOL 4 C	WATER CHEMISTRY

Depth: NA Pan #: NA Aliquots: NA

Samplers: Walstrom

COMMENTS OF FIELD PERSONNEL

Site Description: Station 50: NA

ANALYSIS TYPE: ANION SCAN-ION CHROMATOGRAPH

TITLE: J49B9
LAB: EPA REGION 7
SAMPLE PREP: C6 ANALYST/ENTRY: CLB

MATRIX: WATER
METHOD: 300.1W70
REVIEWER: _____

UNITS: MG/L
CASE:
DATE: 05/28/87

SAMPLE NUMBERS

COMPOUND	J49B9001		J49B9002		J49B9003		J49B9011	
CHLORIDE	8.50		8.10		6.80		9.00	
NITRATE-NITROGEN	N/A	I	N/A	I	N/A	I	N/A	I
SULFATE	99.0		74.0		64.0		310	

ANALYSIS TYPE: ANION SCAN-ION CHROMATOGRAPH

TITLE: J49B9
LAB: EPA REGION 7
SAMPLE PREP: CLB ANALYST/ENTRY: CLB

MATRIX: WATER
METHOD: 300.1W
REVIEWER: ZBB

UNITS: MG/L
CASE:
DATE: 05/28/87

SAMPLE NUMBERS

COMPOUND	J49B9012		J49B9013		J49B9014		J49B9015	
CHLORIDE	5.00		7.40		6.20		8.20	
NITRATE-NITROGEN	N/A	I	N/A	I	N/A	I	N/A	I
SULFATE	87.0		50.0		95.0		21.0	

NALYSIS TYPE: ANION SCAN-- ' CHROMATOGRAPH

ITLE: J49B9
AB: EPA REGION 7
AMPLE PREP: GLO ANALYST/ENTRY: CLB

MATRIX: WATER
METHOD: 3001W20
REVIEWER: _____

UNITS: MG/L
CASE:
DATE: 05/28/87

SAMPLE NUMBERS

J49B9016F

COMPOUND		
CHLORIDE	0.01	U
NITRATE-NITROGEN	N/A	I
SULFATE	0.045	U

ACIDITY
EPA REGION VII INORGANIC DATA

TITLE: J39B9 & J49B9
DATE: 05/29/87
MATRIX: WATER

PARAMETER: ACIDITY
METHOD: 3051W01
ANALYST: JLR JLR/ HBB

NORMALITY OF H2SO4 = .02195

STANDARD	MLS TITRANT	MLS STANDARD	NORMALITY
STANDARD 1	26.16	25	2.09767E-02
STANDARD 2	26.27	25	2.00888E-02
STANDARD 3	26.05	25	2.10653E-02

SAMPLE NO.	RESULTS MG/L	MLS TITRANT	MLS SAMPLE	QC % REC
J39B9065	8.60	.82	100	
J39B9066	9.12	.87	100	
J49B9001	2.94	.28	100	
J49B9002	2.31	.22	100	
J49B9003	1.89	.18	100	
J49B9011	4.09	.39	100	
J49B9012	3.46	.33	100	
J49B9013	3.99	.38	100	
J49B9014	4.93	.47	100	
J49B9015	2.10	.2	100	
J49B9016 F (dup)	1.78	.17	100	

TOTAL DISSOLVED SOLIDS
EPA REGION VII INORGANIC DATA

TITLE: J49B9,J39B9
DATE: 05/28/87
MATRIX: WATER

PARAMETER: TOTAL DISSOLVED SOLIDS
METHOD: 1601W01
ANALYST: KCR KLC / HSB

SAMPLE NO.	RESULTS MG/L	105 WT. GRAMS	180 WT. GRAMS	550 WT. GRAMS	TARE WT.	MLS	DISH	% REC
J49B9001	296.		60.4599		60.4451	50	170	
J49B9002	290.		65.0103		64.9958	50	16	
J49B9003	238.		69.3941		69.3822	50	814	
J49B9011	550.		65.6713		65.6438	50	203	
J49B9012	210.		66.92		66.9095	50	13	
J49B9013	134.		63.2323		63.2256	50	84	
J49B9014	232.		63.5677		63.5561	50	4	
J49B9015	188.		64.1663		64.1569	50	808	
J49B9016F	20.00		63.762		63.761	50	213	
J49B9900C	324.		63.3889		63.3727	50	105	
J49B9900A	283.							114.5
J39B9065	272.		64.8369		64.8233	50	155	
J39B9066	680.		63.6927		63.6587	50	108	

ALKALINITY
EPA REGION VII INORGANIC DATA

TITLE: J39B9 & J49B9
DATE: 06/01/87
MATRIX: WATER

PARAMETER: ALKALINITY
METHOD: 3101W01
ANALYST: JLR JLR/ 7/8/87

STANDARD	MG NA2CO3	MLS H2SO4	NORMALITY
STANDARD 1	32.1	27.8	.021786
STANDARD 2	28	23.8	.022198
STANDARD 3	24.6	21.38	.02171

SAMPLE NO.	RESULTS MG/L	MLS TITRANT	MLS SAMPLE	QC % REC
J39B9065	30.5	2.79	100	
J39B9066	303	27.69	100	
J49B9001	92.0	8.4	100	
J49B9002	95.3	8.7	100	
J49B9003	84.5	7.72	100	
J49B9011	48.9	4.47	100	
J49B9012	29.8	2.72	100	
J49B9013	27.0	2.47	100	
J49B9014	39.3	3.59	100	
J49B9015	102	9.28	100	
J49B9016F	1.31	.12	100	
J49B9900C	17.8	1.63	100	
J49B9900A	17.5			102

HARDNESS
EPA REGION VII DATA

TITLE: CHEROKEE CO.
DATE: 06/17/87
MATRIX: WATER

PARAMETER: HARDNESS
METHOD: 1301W05
ANALYST: GM7 GM/ HBB

SAMPLE NO.	RESULT MG/L		REFERENCE	%REC
749B9001	205			
749B9002	184			
749B9003	173			
749B9011	317			
749B9012	121			
749B9013	88.0			
749B9014	143			
749B9015	144			
749B9016F	5.00	U		
749B9015L	151			

MERCURY
EPA REGION VII INORGANIC DATA

TITLE: J49B9,KEPM9,WCF35,WCF29
DATE: 06/11/87
MATRIX: WATER

PARAMETER: MERCURY
METHOD: 2451W01
ANALYST: JLR JLR 2/5/B

AMPLE NO.	RESULT UG/L	READING	CALCULATED	MULTIPLICATION FACTOR	REF	QC %REC
49B9014	0.1 U	12.5	.069	1		
49B9015	0.1 U	9	.033	1		
J49B9016 Fdo	0.1 U	11	.053	1		
KEPM9016	1.73	175	1.73	1		
J49B9901C	0.493	54	.493	1		
J49B9901A					.467	106
J49B9901M	0.1 U	10	.043	1		
WCF35002	0.186	24	.186	1		
WCF29002	0.498	54.5	.498	1		
WCF29004	0.58	62.5	.58	1		
WCF29006	0.626	67	.626	1		
WCF29002S	0.672	71.5	.672	1		
WCF29002R					.233	74.7

MERCURY
EPA REGION VII INORGANIC DATA

ITLE: J39B9 & J49B9
ATE: 06/08/87
ATRIX: WATER

PARAMETER: MERCURY
METHOD: 245.1W01
ANALYST: JLR

AMPLE NO.	RESULT UG/L	READING	CALCULATED	MULTIPLICATION FACTOR	REF	QC %REC
39B9105	0.171	23.5	.171	1		
39B9106	0.157	22	.157	1		
39B9106D	0.147	21	.147	1		
39B9107	0.133	19.5	.133	1		
39B9108	0.128	19	.128	1		
39B9906C	0.501	58	.501	1		
39B9906A					.467	107
39B9906M	0.1 U	7.5	.018	1		
49B9001	0.161	22.5	.161	1		
49B9002	0.1 U	13.5	.075	1		
49B9003	0.1 U	15	.09	1		
J47B9900C	0.482	56	.482	1		
J49B9900A					.467	103
J49B9900M	0.1 U	7	.013	1		
J49B9011	0.1 U	13.5	.075	1		
J49B9012	0.123	18.5	.123	1		
J49B9013	0.1 U	14	.08	1		
J39B9109	0.1 U	12.5	.066	1		
J39B9110	0.171	23.5	.171	1		
J49B9003S	0.3	37	.3	1		
J49B9003R					.233	90.1

MERCURY,DISSOLVED
EPA REGION VII INORGANIC DATA

TITLE: J39B9 & J49B9
DATE: 06/11/87
MATRIX: WATER

PARAMETER: MERCURY,DISSOLVED
METHOD: 245.1W01
ANALYST: JLR JLR/HSB

AMPLE NO.	RESULT UG/L	READING	CALCULATED	MULTIPLICATION FACTOR	REF	QC %REC
39B9107	0.115	17	.115	1		
39B9108	0.1 U	5	-.007	1		
39B9907C	0.289	34	.289	1		
39B9907A					.467	61.9
39B9907M	0.1 U	7	.013	1		
39B9110	0.125	18	.125	1		
49B9001	0.12	17.5	.12	1		
49B9012	0.1 U	15.5	.099	1		
49B9014	0.1 U	11	.053	1		
49B9015	0.1 U	8	.023	1		
49B9016F	0.1 U	11.5	.059	1		

DISSOLVED MERCURY
EPA REGION VII DATA

ITLE: J39B9 & J49B9
ATE: 06/08/87
ATRIX: WATER

PARAMETER: DISSOLVED MERCURY
METHOD: 245.1M01
ANALYST: JLR/JLB

AMPLE NO.	RESULT UG/L		REFERENCE	%REC
39B9039	0.1	U		
39B9040	0.1	U		
39B9041	0.1	U		
39B9042	0.1	U		
39B9043	0.1	U		
39B9045	0.1	U		
39B9046	0.1	U		
39B9048	0.1	U		
39B9050	0.1	U		
39B9051	0.1	U		
J39B9052	0.1	U		
39B9053	0.1	U		
J39B9054	0.1	U		
J39B9055	0.1	U		
J39B9056	0.1	U		
J39B9057	0.1	U		
J39B9057D	0.1	U		
J39B9058	0.1	U		
J39B9059	0.1	U		
J39B9060	0.1	U		
J39B9061D	0.1	U		
J39B9064	0.1	U		
J39B9065	0.1	U		
J39B9066	0.1	U		
J39B9100	0.1	U		
J39B9101	0.1	U		
J39B9102	0.1	U		
J39B9103	0.1	U		
J39B9104	0.1	U		
J39B9109	0.1	U		
J49B9002	0.1	U		
J49B9003	0.1	U		
J49B9011	0.1	U		
J49B9013	0.1	U		

ANALYSIS TYPE: TOTAL METALS

TLE: CHEROKEE
3: EPA REGION VII
MPLE PREP: GCM ANALYST/ENTRY: GSS
HMS

MATRIX: WATER
METHOD: 2001W77
REVIEWER: JSB
DATE: 06/17/87

SAMPLE NUMBERS

EMENT	UNITS	J49B9001	J49B9002	J49B9003	J49B9011
ILVER	UG/L	2. U	2. U	2. U	2. U
LUMINUM	UG/L	2100	1800	2600	1400
RSENIC	UG/L	10. U	10. U	10. U	10. U
ARIUM	UG/L	82	77	80	69
ERYLLIUM	UG/L	.4 U	.4 U	.4 U	.4 U
ADMIUM	UG/L	1. U	1.4	1.2	1. U
OBALT	UG/L	2.7	2. U	2. U	8.1
HROMIUM	UG/L	27	9. J	2.8 J	2. U
OPPER	UG/L	4.8	4.6	5.6	3.6
RON	UG/L	2400	1700	2400	1700
ANGANESE	UG/L	510	360	310	1900
OLYBDENUM	UG/L	2. U	2. U	2.1	2. U
ICKEL	UG/L	20	11 J	7.2 J	21
EAD	UG/L	8.1 J	10. J	19 J	2.3 J
NTIMONY	UG/L	10. U	10. U	10. U	10. U
ELENIUM	UG/L	1. U	1. U	1. U	1. U
ITANIUM	UG/L	21 J	19 J	22 J	13 J
HALLIUM	UG/L	5. U	5. U	5. U	5. U
ANADIUM	UG/L	4.8	4.6	5.8	2.4
INC	UG/L	130	260	260	94
ALCIUM	MG/L	59	55	49	73
AGNESIUM	MG/L	9.9	7.9	7.6	30
ODIUM	MG/L	14	12	11	28
OTASSIUM	MG/L	3.7	3.2	3.2	4.6

ANALYSIS TYPE: TOTAL METALS

LE: CHEROKEE
: EPA REGION VII
PLE PREP: GSM ANALYST/ENTRY: GSS
DMS

MATRIX: WATER
METHOD: 2001W7
REVIEWER: _____ DATE: 06/17/87

SAMPLE NUMBERS

EMENT	UNITS	J49B9012	J49B9013	J49B9014	J49B9015
ILVER	UG/L	2. U	2. U	2. U	2. U
LUMINUM	UG/L	1900	2900	1900	2900
RSENIC	UG/L	10. U	10. U	10. U	10. U
ARIUM	UG/L	68	58	61	80
ERYLLIUM	UG/L	.4 U	.4 U	.4 U	.4 U
ADMIUM	UG/L	1. U	1. U	1.1	1. U
OBALT	UG/L	2. U	2. U	3.2	2. U
HROMIUM	UG/L	2. U	2.8 J	2. U	2.6 J
OPPER	UG/L	3.2	3.6	3.2	2.8
RON	UG/L	1800	2700	2500	2300
ANGANESE	UG/L	400	110	160	140
OLYBDENUM	UG/L	2. U	2.1	2. U	2.1
ICKEL	UG/L	8.8 J	6.4 J	12 J	4. U
EAD	UG/L	2.3 J	3.1 J	6.5 J	4.4 J
NTIMONY	UG/L	10. U	10. U	10. U	10. U
ELENIUM	UG/L	1. U	1. U	1. U	1. U
ITANIUM	UG/L	17 J	58 J	19 J	34 J
HALLIUM	UG/L	5. U	5. U	5. U	5. U
ANADIUM	UG/L	3.8	6.4	3.8	6.6
INC	UG/L	29	37	400	23
ALCIUM	MG/L	31	17	42	44
AGNESIUM	MG/L	7.2	5.9	5.5	3.3
ODIUM	MG/L	10.	10.	9.1	7.8
OTASSIUM	MG/L	3.6	3.2	3.2	3.2

ALYSIS TYPE: TOTAL METALS

TLE: CHEROKEE
B: EPA REGION VII
MPLE PREP: GZM ANALYST/ENTRY: GSS DRS
MATRIX: WATER
METHOD: 2001W77
REVIEWER: HSB DATE: 06/17/87

SAMPLE NUMBERS

EMENT	UNITS	J49B9016F	
ILVER	UG/L	2.	U
LUMINUM	UG/L	10.	U
RSENIC	UG/L	10.	U
ARIUM	UG/L	.4	U
ERYLLIUM	UG/L	.4	U
ADMIUM	UG/L	1.	U
OBALT	UG/L	2.	U
HROMIUM	UG/L	2.	U
OPPER	UG/L	4.4	
RON	UG/L	10.	U
ANGANESE	UG/L	.4	U
OLYBDENUM	UG/L	2.	U
ICKEL	UG/L	4.	U
EAD	UG/L	1.	U
NTIMONY	UG/L	10.	U
ELENIUM	UG/L	1.	U
ITANIUM	UG/L	10.	U
HALLIUM	UG/L	5.	U
ANADIUM	UG/L	2.	U
ZINC	UG/L	5.	U
CALCIUM	MG/L	.4	U
MAGNESIUM	MG/L	.4	U
SODIUM	MG/L	.4	U
POTASSIUM	MG/L	.4	U

ALYSIS TYPE: DISSOLVED ME S

TLE: CHEROKEE SURFACE WATER
3: EPA REGION VII
MPLE PREF: GLM ANALYST/ENTRY: GM1 GLM

MATRIX: WATER
METHOD: 2001W
REVIEWER: ----- DATE: 06/08/87

SAMPLE NUMBERS

EMENT	UNITS	J49B9001	J49B9002	J49B9003	J49B9011
ILVER	UG/L	2. U	2. U	2. U	2. U
LUMINUM	UG/L	51	38	39	46
RSENIC	UG/L	10. U	10. U	10. U	10. U
ARIUM	UG/L	69	66	61	65
ERYLLIUM	UG/L	.4 U	.4 U	.4 U	.4 U
ADMIUM	UG/L	1. U	1. U	1. U	1. U
OBALT	UG/L	2. U	2. U	2. U	7.1
HROMIUM	UG/L	2. U	2. U	2. U	2. U
OPPER	UG/L	2. U	3.8	2. U	2. U
RON	UG/L	61	41	45	39
ANGANESE	UG/L	460	290	190	2000
OLYBDENUM	UG/L	2. U	2. U	2. U	2. U
ICKEL	UG/L	4.4 J	4.5 J	4. J	19 J
EAD	UG/L	1.	1.1	1.4	1. U
NTIMONY	UG/L	10. U	10. U	10. U	10. U
ELENIUM	UG/L	1. U	1. U	1. U	1. U
TANIUM	UG/L	10. U	10. U	10. U	10. U
HALLIUM	UG/L	5. U	5. U	5. U	5. U
ANADIUM	UG/L	2. U	2. U	2. U	2. U
INC	UG/L	30	86	63	53
ALCIUM	MG/L	61	55	49	79
AGNESIUM	MG/L	10.	7.8	7.3	32
ODIUM	MG/L	15	13	11	30
OTASSIUM	MG/L	4.	3.9	3.6	5.2

ANALYSIS TYPE: DISSOLVED METALS

'LE: CHEROKEE SURFACE WATER
I: EPA REGION VII
IPLE PREP: GLM ANALYST/ENTRY: GM1 GLM

MATRIX: WATER
METHOD: 2001W
REVIEWER: HGB DATE: 06/08/87

SAMPLE NUMBERS

EMENT	UNITS	J49B9012	J49B9013	J49B9014	J49B9015
ILVER	UG/L	2. U	2. U	2. U	2. U
LUMINUM	UG/L	150	190	140	72
RSENIC	UG/L	10. U	10. U	10. U	10. U
ARIUM	UG/L	61	43	53	60
ERYLLIUM	UG/L	.4 U	.4 U	.4 U	.4 U
ADMIUM	UG/L	1. U	1. U	1. U	1. U
OBALT	UG/L	2. U	2. U	2.9	2. U
HROMIUM	UG/L	2. U	2. U	2. U	2. U
OPPER	UG/L	2.3	3.9	2.6	2. U
RON	UG/L	190	260	230	84
ANGANESE	UG/L	370	78	140	47
OLYBDENUM	UG/L	2. U	2. U	2. U	2. U
ICKEL	UG/L	8.6 J	8.4 J	13 J	4. U
EAD	UG/L	1.8	1. U	1. U	1. U
NTIMONY	UG/L	10. U	10. U	10. U	10. U
ELENIUM	UG/L	1. U	1. U	1. U	1. U
ITANIUM	UG/L	10. U	10. U	10. U	10. U
HALLIUM	UG/L	5. U	5. U	5. U	5. U
ANADIUM	UG/L	2. U	2. U	2. U	2. U
INC	UG/L	22	29	280	6.3
ALCIUM	MG/L	33	17	44	46
AGNESIUM	MG/L	7.4	5.9	5.6	3.2
ODIUM	MG/L	11	11	9.5	8.1
OTASSIUM	MG/L	4.3	3.8	3.9	3.4

ANALYSIS TYPE: DISSOLVED METALS

LE: CHEROKEE SURFACE WATER
: EPA REGION VII
PLE PREP: GM ANALYST/ENTRY: GM1 GM
MATRIX: WATER
METHOD: 2001W77
REVIEWER: HSB DATE: 06/08/87

SAMPLE NUMBERS

MENT	UNITS	J49B9016F	
LVER	UG/L	2.	U
UMINUM	UG/L	10.	U
SENIC	UG/L	10.	U
RIUM	UG/L	.4	U
RYLLIUM	UG/L	.4	U
DMIUM	UG/L	1.	U
BALT	UG/L	2.	U
ROMIUM	UG/L	2.	U
PPER	UG/L	3.5	
RON	UG/L	10.	U
ANGANESE	UG/L	1.1	
OLYBDENUM	UG/L	2.	U
ICKEL	UG/L	4.	U
EAD	UG/L	1.	U
NTIMONY	UG/L	10.	U
ELENIUM	UG/L	1.	U
ITANIUM	UG/L	10.	U
HALLIUM	UG/L	5.	U
ANADIUM	UG/L	2.	U
INC	UG/L	5.	U
ALCIUM	MG/L	.4	U
AGNESIUM	MG/L	.4	U
ODIUM	MG/L	.4	U
OTASSIUM	MG/L	.4	U

ANALYSIS TYPE: VOLATILES

TLE: CHEROKEE MATRIX: WATER UNITS: UG/L
B: SW OKLAHOMA METHOD: 9302M01 CASE: 7331
MPLE PREP:_____ ANALYST/ENTRY: LEE REVIEWER: JS_____ DATE: 07/09/87

	J49B9001	J49B9002	J49B9003	J49B9004
.OROMETHANE	10.U	10.U	10.U	10.U
)MOMETHANE	10.U	10.U	10.U	10.U
IYL CHLORIDE	10.U	10.U	10.U	10.U
.OROETHANE	10.U	10.U	10.U	10.U
'HYLENE CHLORIDE	12.	5.0U	5.0	2.0M
:TONE	10.U	10.U	10.U	10.U
:BON DISULFIDE	5.0U	5.0U	5.0U	5.0U
1 DICHLOROETHENE	5.0U	5.0U	5.0U	5.0U
. DICHLOROETHANE	5.0U	5.0U	5.0U	5.0U
ANS-1,2,-DICHLOROETHENE	5.0U	5.0U	5.0U	5.0U
.OROFORM	5.0U	5.0U	5.0U	5.0U
2,DICHLOROETHANE	5.0U	5.0U	5.0U	5.0U
BUTANONE	10.U	10.U	10.U	10.U
1,1 TRICHLOROETHANE	5.0U	5.0U	5.0U	5.0U
:BON TETRACHLORIDE	5.0U	5.0U	5.0U	5.0U
NYL ACETATE	10.U	10.U	10.U	10.U
)MODICHLOROMETHANE	5.0U	5.0U	5.0U	5.0U
1,2,2,-TETRACHLOROETHANE	5.0U	5.0U	5.0U	5.0U
2-DICHLOROPROPANE	5.0U	5.0U	5.0U	5.0U
ANS-1,3-DICHLOROPROPENE	5.0U	5.0U	5.0U	5.0U
ICHLOROETHENE	5.0U	5.0U	5.0U	5.0U
BROMOCHLOROMETHANE	5.0U	5.0U	5.0U	5.0U
1,2-TRICHLOROETHANE	5.0U	5.0U	5.0U	5.0U
NZENE	5.0U	5.0U	5.0U	5.0U
S-1,3-DICHLOROPROPENE	5.0U	5.0U	5.0U	5.0U
CHLOROETHYL VINYL ETHER	10.U	10.U	10.U	10.U
)MOFORM	5.0U	5.0U	5.0U	5.0U
HEXANONE	10.U	10.U	10.U	10.U
METHYL-2-PENTANONE	10.U	10.U	10.U	10.U
TRACHLOROETHENE	5.0U	5.0U	5.0U	5.0U
LUENE	.50M	5.0U	5.0U	.40M
LOROBENZENE	5.0U	5.0U	5.0U	5.0U
HYL BENZENE	5.0U	5.0U	5.0U	5.0U
YRENE	5.0U	5.0U	5.0U	5.0U
TAL XYLENES	5.0U	5.0U	5.0U	5.0U

* NOTE: N/A MEANS NOT ANALYZED **
** I MEANS ANALYZED BUT INVALID DATA ***

ANALYSIS TYPE: VOLATILES

[illegible]: [illegible] MATRIX: WATER UNITS: [illegible]
[illegible]: [illegible] METHOD: [illegible] CASE: [illegible]
[illegible] REF: [illegible] ANALYSIS DATE: [illegible] REVIEWER: [illegible] DATE: [illegible]

[illegible]	[illegible]
[illegible]LOROMETHANE	10.0
[illegible]OMOMETHANE	10.0
[illegible]YL CHLORIDE	10.0
[illegible]ROETHANE	10.0
[illegible]THYLENE CHLORIDE	7.0
[illegible]	10.0
[illegible] DISULFIDE	5.0
[illegible] DICHLOROETHENE	5.0
[illegible] DICHLOROETHANE	5.0
[illegible]-1,2-DICHLOROETHENE	5.0
[illegible]ROFORM	5.0
[illegible]-DICHLOROETHANE	5.0
[illegible]ANONE	10.0
[illegible] TRICHLOROETHANE	[illegible]
[illegible] TETRACHLORIDE	[illegible]
[illegible] ACETATE	10.0
[illegible]ROMODICHLOROMETHANE	5.0
[illegible]-TETRACHLOROETHANE	5.0
[illegible]-DICHLOROPROPANE	5.0
[illegible]-1,3-DICHLOROPROPENE	[illegible]
[illegible]CHLOROMETHANE	5.0
[illegible]ROMOFORM	[illegible]
[illegible] BROMIDE	[illegible]
[illegible]	5.0
[illegible]-1,3-DICHLOROPROPENE	5.0
[illegible]-CHLOROETHYL VINYL ETHER	10.0
[illegible]OMOFORM	5.0
[illegible]ANONE	10.0
[illegible]THYL-2-PENTANONE	10.0
[illegible]ACRYLONITRILE	5.0
[illegible]ZENE	5.0
[illegible]LOROBENZENE	5.0
[illegible]YL BENZENE	5.0
[illegible]ENE	5.0
[illegible] XYLENES	5.0

** NOTE: N A MEANS NOT ANALYZED **
** I MEANS ANALYZED BUT INVALID DATA **

ANALYSIS TYPE: PESTICIDES

ITLE: CHEROKEE MATRIX: WATER UNITS: UG/L
AB: SW OKLAHOMA METHOD: 9302M01 CASE: 7331
AMPLE PREP:_____ ANALYST/ENTRY: LEE REVIEWER: JS DATE: 07/09/87

	J49B9001	J49B9002	J49B9003	J49B9004
PHA-BHC	.050U	.050U	.050U	.050U
TA-BHC	.050U	.050U	.050U	.050U
LTA-BHC	.050U	.050U	.050U	.050U
MMA-BHC	.050U	.050U	.050U	.050U
PTACHLOR	.050U	.050U	.050U	.050U
DRIN	.050U	.050U	.050U	.050U
PTACHLOR EPOXIDE	.050U	.050U	.050U	.050U
DOSULFAN I	.050U	.050U	.050U	.050U
ELDRIN	.100U	.100U	.100U	.100U
4'-DDE	.100U	.100U	.100U	.100U
DRIN	.100U	.100U	.100U	.100U
DOSULFAN II	.100U	.100U	.100U	.100U
4'-DDD	.100U	.100U	.100U	.100U
DRIN ALDEHYDE	.100U	.100U	.100U	.100U
DOSULFAN SULFATE	.100U	.100U	.100U	.100U
4'-DDT	.100U	.100U	.100U	.100U
DRIN KETONE	.100U	.100U	.100U	.100U
THOXYCHLOR	.50U	.50U	.50U	.50U
LORDANE	.50U	.50U	.50U	.50U
XAPHENE	1.0U	1.0U	1.0U	1.0U
OCLOR-1016	.50U	.50U	.50U	.50U
OCLOR-1221	.50U	.50U	.50U	.50U
OCLOR-1232	.50U	.50U	.50U	.50U
OCLOR-1242	.50U	.50U	.50U	.50U
OCLOR-1248	.50U	.50U	.50U	.50U
OCLOR-1254	1.0U	1.0U	1.0U	1.0U
OCLOR-1260	1.0U	1.0U	1.0U	1.0U

* NOTE: N/A MEANS NOT ANALYZED **
** I MEANS ANALYZED BUT INVALID DATA ***

ANALYSIS TYPE: PESTICIDES

TITLE: CHEROKEE MATRIX: WATER UNITS: UG/L
LAB: SW OKLAHOMA METHOD: 5302M01 CASE: [illegible]
SAMPLE PREP:_____ ANALYST/ENTRY: LFE REVIEWER: LS_____ DATE: 07/09/[illegible]

J49B990CF

ALPHA-BHC	.050U
BETA-BHC	.050U
DELTA-BHC	.050U
GAMMA BHC	.050U
HEPTACHLOR	[illegible]
ALDRIN	[illegible]
HEPTACHLOR EPOXIDE	[illegible]
ENDOSULFAN I	.050U
DIELDRIN	.100U
4,4'-DDE	.100U
ENDRIN	.100U
ENDOSULFAN II	.100U
4,4'-DDD	.100U
ENDRIN ALDEHYDE	.100U
ENDOSULFAN SULFATE	.100U
4,4'-DDT	.100U
ENDRIN KETONE	.100U
METHOXYCHLOR	.50U
CHLORDANE	.50U
TOXAPHENE	1.0U
AROCLOR-1016	.50U
AROCLOR-1221	.50U
AROCLOR-1232	.50U
AROCLOR-1242	.50U
AROCLOR-1248	.50U
AROCLOR-1254	1.0U
AROCLOR-1260	1.0U

** NOTE: U = MEANS NOT ANALYZED **
** I = MEANS ANALYZED BUT INVALID DATA **

ANALYSIS TYPE: SEMIVOLATILES-PAGE 1

ITLE: CHEROKEE MATRIX: WATER UNITS: UG/L
AB: SW OKLAHOMA METHOD: 9302M01 CASE: 7331
AMPLE PREP:_____ ANALYST/ENTRY: LEE REVIEWER: JS_____ DATE: 07/09/87

	J49B9001	J49B9002	J49B9003	J49B9004
ENOL	10.U	10.U	10.U	10.U
S(2-CHLOROETHYL) ETHER	10.U	10.U	10.U	10.U
CHLOROPHENOL	10.U	10.U	10.U	10.U
3 DICHLOROBENZENE	10.U	10.U	10.U	10.U
4 DICHLOROBENZENE	10.U	10.U	10.U	10.U
NZYL ALCOHOL	10.U	10.U	10.U	10.U
2 DICHLOROBENZENE	10.U	10.U	10.U	10.U
METHYLPHENOL	10.U	10.U	10.U	10.U
S(2-CHLOROISOPROPYL)ETHER	10.U	10.U	10.U	10.U
METHYLPHENOL	10.U	10.U	10.U	10.U
NITROSO-DIPROPYLAMINE	10.U	10.U	10.U	10.U
XACHLOROETHANE	10.U	10.U	10.U	10.U
TROBENZENE	10.U	10.U	10.U	10.U
OPHORONE	10.U	10.U	10.U	10.U
NITROPHENOL	10.U	10.U	10.U	10.U
4-DIMETHYLPHENOL	10.U	10.U	10.U	10.U
NZOIC ACID	50.U	50.U	50.U	50.U
S(2-CHLOROETHOXY) METHANE	10.U	10.U	10.U	10.U
4 DICHLOROPHENOL	10.U	10.U	10.U	10.U
2,4-TRICHLOROBENZENE	10.U	10.U	10.U	10.U
PHTHALENE	10.U	10.U	10.U	10.U
CHLOROANILINE	10.U	10.U	10.U	10.U
XACHLOROBUTADIENE	10.U	10.U	10.U	10.U
CHLORO-3-METHYLPHENOL	10.U	10.U	10.U	10.U
METHYLNAPHTHALENE	10.U	10.U	10.U	10.U
XACHLOROCYCLOPENTADIENE	10.U	10.U	10.U	10.U
4,6-TRICHLOROPHENOL	10.U	10.U	10.U	10.U
4,5-TRICHLOROPHENOL	50.U	50.U	50.U	50.U
-CHLORONAPHTHALENE	10.U	10.U	10.U	10.U
-NITROANILINE	50.U	50.U	50.U	50.U
IMETHYLPHTHALATE	10.U	10.U	10.U	10.U
ENAPHTHYLENE	10.U	10.U	10.U	10.U
-NITROANILINE	50.U	50.U	50.U	50.U
ENAPHTHENE	10.U	10.U	10.U	10.U
4-DINITROPHENOL	50.U	50.U	50.U	50.U
-NITROPHENOL	50.U	50.U	50.U	50.U
IBENZOFURAN	10.U	10.U	10.U	10.U
4-DINITROTOLUENE	I	I	I	I

** NOTE: N/A MEANS NOT ANALYZED **
*** I MEANS ANALYZED BUT INVALID DATA ***

ANALYSIS TYPE: SEMIVOLATILES-PAGE 1

TITLE: CHEROKEE MATRIX: WATER UNITS: UG/L
LAB: SW OKLAHOMA METHOD: 8302M01 CASE: 7371
SAMPLE PREP:_____ ANALYST/ENTRY: LEF REVIEWER: JS _____ DATE: 07/09/9

J4989900

PHENOL	10.U
BIS(2-CHLOROETHYL) ETHER	10.U
2-CHLOROPHENOL	10.U
1,3 DICHLOROBENZENE	10.U
1,4 DICHLOROBENZENE	10.U
BENZYL ALCOHOL	10.U
1,2 DICHLOROBENZENE	10.U
2-METHYLPHENOL	10.U
BIS(2-CHLOROISOPROPYL)ETHER	10.U
3-METHYLPHENOL	10.U
N-NITROSO-DIPROPYLAMINE	10.U
HEXACHLOROETHANE	10.U
NITROBENZENE	10.U
ISOPHORONE	10.U
2-NITROPHENOL	10.U
2,4-DIMETHYLPHENOL	10.U
BENZOIC ACID	50.U
BIS(2-CHLOROETHOXY) METHANE	10.U
2,4-DICHLOROPHENOL	10.U
1,2,4-TRICHLOROBENZENE	10.U
NAPHTHALENE	10.U
4-CHLORO ANILINE	10.U
HEXACHLOROBUTADIENE	10.U
4-CHLORO-3-METHYLPHENOL	10.U
2-METHYLNAPHTHALENE	10.U
HEXACHLOROCYCLOPENTADIENE	10.U
2,4,6-TRICHLOROPHENOL	10.U
2,4,5-TRICHLOROPHENOL	50.U
2-CHLORONAPHTHALENE	10.U
2-NITROANILINE	50.U
DIMETHYLPHTHALATE	10.U
ACENAPHTHYLENE	10.U
3-NITROANILINE	50.U
ACENAPHTHENE	10.U
2,4-DINITROPHENOL	50.U
4-NITROPHENOL	50.U
DIBENZOFURAN	10.U
2,4-DINITROTOLUENE	I

** NOTE: N/A MEANS NOT ANALYZED **
*** I MEANS ANALYZED BUT INVALID DATA ***

ANALYSIS TYPE: SEMIVOLATILES-PAGE 2

ITLE: CHEROKEE MATRIX: WATER UNITS: UG/L
AB: SW OKLAHOMA METHOD: 9302M01 CASE: 7331
AMPLE PREP:_____ ANALYST/ENTRY: LEE REVIEWER: JS_____ DATE: 07/09/87

	J49B9001	J49B9002	J49B9003	J49B9004
6-DINITROTOLUENE	I	I	I	I
ETHYLPHTHALATE	10.U	10.U	10.U	10.U
CHLOROPHENYL PHENYL ETHER	10.U	10.U	10.U	10.U
UORENE	10.U	10.U	10.U	10.U
NITROANILINE	50.U	50.U	50.U	50.U
6-DINITRO-2-METHYLPHENOL	50.U	50.U	50.U	50.U
NITROSODIPHENYLAMINE	10.U	10.U	10.U	10.U
BROMOPHENYL PHENYL ETHER	10.U	10.U	10.U	10.U
XACHLOROBENZENE	10.U	10.U	10.U	10.U
NTACHLOROPHENOL	50.U	50.U	50.U	50.U
IENANTHRENE	10.U	10.U	10.U	10.U
ITHRACENE	10.U	10.U	10.U	10.U
-N-BUTYLPHTHALATE	10.U	10.U	10.U	10.U
UORANTHENE	10.U	10.U	10.U	10.U
RENE	10.U	10.U	10.U	10.U
JTYL BENZYL PHTHALATE	10.U	10.U	10.U	10.U
3' DICHLOROBENZIDINE	20.U	20.U	20.U	20.U
ENZO(A)ANTHRACENE	10.U	10.U	10.U	10.U
IS(2-ETHYLHEXYL)PHTHALATE	10.U	10.U	10.U	10.U
HRYSENE	10.U	10.U	10.U	10.U
I-N-OCTYL PHTHALATE	10.U	10.U	10.U	10.U
ENZO(B)FLUORANTHENE	10.U	10.U	10.U	10.U
ENZO(K)FLUORANTHENE	10.U	10.U	10.U	10.U
ENZO(A)PYRENE	10.U	10.U	10.U	10.U
NDENO(1,2,3-CD)PYRENE	10.U	10.U	10.U	10.U
IBENZO(A,H)ANTHRACENE	10.U	10.U	10.U	10.U
ENZO(G,H,I)PERYLENE	10.U	10.U	10.U	10.U

** NOTE: N/A MEANS NOT ANALYZED **
*** I MEANS ANALYZED BUT INVALID DATA ***

ANALYSIS TYPE: SEMIVOLATILE-[illegible]

[illegible]
[illegible]: [illegible] OKLAHOMA
SAMPLE REF: [illegible] ANALYST/ENTRY: [illegible]

MATRIX: WATER
METHOD: [illegible]
[illegible]: J

UNITS: [illegible]
[illegible]:
[illegible]:

J19B99[illegible]

[illegible]-DINITROTOLUENE	I
DIETHYLPHTHALATE	10.U
[illegible]-CHLOROPHENYL PHENYL ETHER	10.U
FLUORENE	10.U
[illegible]-NITROANILINE	10.U
[illegible]-DINITRO-2-METHYLPHENOL	10.U
N-NITROSODIPHENYLAMINE	50.U
[illegible]-BROMOPHENYL PHENYL ETHER	10.U
[illegible]-CHLOROBENZENE	10.U
[illegible]-TRICHLOROPHENOL	10.U
PHENANTHRENE	50.U
ANTHRACENE	10.U
DI-N-BUTYLPHTHALATE	10.U
FLUORANTHENE	10.U
[illegible]	10.U
BUTYL BENZYL PHTHALATE	10.U
3,3'-DICHLOROBENZIDINE	10.U
BENZO(A)ANTHRACENE	10.U
BIS(2-ETHYLHEXYL)PHTHALATE	10.U
CHRYSENE	10.U
DI-N-OCTYL PHTHALATE	10.U
BENZO(B)FLUORANTHENE	10.U
BENZO(K)FLUORANTHENE	10.U
BENZO(A)PYRENE	10.U
INDENO(1,2,3-CD)PYRENE	10.U
DIBENZ(A,H)ANTHRACENE	10.U
BENZO(G,H,I)PERYLENE	10.U

** NOTE: N/A MEANS NOT ANALYZED **
*** I MEANS ANALYZED BUT INVALID DATA ***

TITLE: CHEROKEE | MATRIX: WATER | UNITS: UG/L
LAB: SW OKLAHOMA | METHOD: 9302M01 | CASE: 7331
ANALYST/ENTRY: LT | REVIEWER: STANTON | DATE: 7-9-87

TENTATIVELY IDENTIFIED COMPOUNDS

SAMPLE NO.	COMPOUND NAME**	FRACTION	EST.	CONC.*
J49B9001	NOTHING SIGNIFICANT FOUND	VOA		
J49B9002	NOTHING SIGNIFICANT FOUND	VOA		
J49B9003	NOTHING SIGNIFICANT FOUND	VOA		
J49B9004	NOTHING SIGNIFICANT FOUND	VOA		
J49B9900F	NOTHING SIGNIFICANT FOUND	VOA		
J49B9001	1 UNKNOWN	BNA	11-13	J
J49B9002	3 UNKNOWNS	BNA	8-15	J
J49B9003	3 UNKNOWNS	BNA	2-6	J
J49B9004	4 UNKNOWNS	BNA	9-17	J
J49B9900F	2 UNKNOWNS	BNA	2	J

*This is a crude estimation based on response relative to an internal standard. An authentic standard has not been run.

**The compounds were identified using a library search routine. Authentic standards have not been analyzed to verify compound mass spectra and retention times.

ECOLOGY AND ENVIRONMENT, INC.
Kansas City TAT 7 Office

MEMORANDUM

TO: R.D. Kleopfer, Acting Chief, LABO

THRU: Ron McCutcheon, DPO

FROM: Cliff Kirchmer, ATATL
THRU: James Jackson, TATL

DATE: July 14, 1987

SUBJECT: Review of data for Cherokee
TDD# T07-8706-011
PAN# T07-Z054-QSB

These data were reviewed according to the "Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses," April 11, 1985 revision and the "Laboratory Data Validation Functional Guidelines for Evaluating Pesticides and PCBs."

The following comments and attached data sheets are a result of Ecology & Environment's review of the above mentioned data from the contract laboratory.

CASE NO.: 7331	LABORATORY: S.W. Oklahoma
CONTRACT NO.: 68-01-7168-2	METHOD NO.: 9302M01
SMO SAMPLE NOS.: GD756-61	MATRIX: Water
SITE: Cherokee	EPA SAMPLE NOS:
REVIEWER: J. Stanton	J49B9001-004; 901P

These analyses were for full organics in 6 water samples.

1. Technical holding times were exceeded for all analytes except non-aromatic volatiles. As no positives were reported for any of these compounds which had not been previously qualified due to other criteria, no further action was taken on this basis.

2. <u>INITIAL CALIBRATION</u>

All volatile response factors and %-RSDs were within control limits. Several semivolatiles were out of control for %-RSD, but as no BNA positives had been reported, no qualification was necessary.

3. CONTINUING CALIBRAITON

All volatile response factors were acceptable. Various semi volatiles exceeded %-difference criteria, but as no positives had been reported, no action was taken.

4. PESTICIDE CALIBRATION

Pesticide linearity and %-difference for calibration factors were acceptable.

5. PESTICIDE INSTRUMENT PERFORMANCE

DDT retention time windows, pesticide/ICB retention time windows, DDT and endrin breakdown, and DBC retention time shifts were all acceptable. Resolution of standard peaks was adequate.

6. SURROGATE RECOVERIES

All volatile and semi-volatile recoveries were in control. DBC recoveries in several samples were outside upper advisory control limits; no qualification is done based on these recoveries.

7. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

All volatile, semi-volatile, and pesticide recoveries and RPDs were acceptable.

8. BLANKS

Two unknown semi-volatiles (scans 467 and 588) were reported in a method blank as TICs. These compounds were deleted from the TIC lists of several samples. No other analytes were reported in any of the method/field blanks.

9. 2,6- and 2,4-dinitrotoluene were missed in the audit due to transcription error. They had been identified and quantified acceptably by the data system. All other volatile, semi-volatile compounds and the Aroclor 1260 were qualitatively identified and quantitated acceptably.

10. No field sheet could be located in the activity folder for the field blank (EPA # J43B9900F). Holding time determination for the field blank was based on the assumption that it was sampled in the same time frame as were the other samples.

ROK

W. Burn

J49B9

1. Analysis for mercury (both total and dissolved) was requested.

2. The lab analyzed all of the samples for total mercury prior to analysis for dissolved mercury. They then analyzed for dissolved mercury all of the samples that had positive hits for total mercury. But they only analyzed (as a check) a few samples for dissolved mercury that had already been found to have non-detectable total mercury. This is a reasonable determination by the lab.

3. Standard curve data and summary data sheets were found to be complete and on-file for all samples.

4. A random check of calculations and transcriptions, from bench cards to data sheets, were all satisfactory.

5. The holding times of the samples varied from 29 to 48 days. The 40 CFR 136 (Clean Water Act) holding time limit for mercury is 28 days. All positives for mercury were J-coded (estimated value).

6. Nine reference standards were analyzed for mercury along with the samples. One standard (J39B9907C, recovery 62%) was outside the lab's control limits of 79-141% recovery. This standard was associated with samples J39B9107-110, J49B9001, -012,-014,-015,-016F. Positive hits for mercury in these samples were J-coded.

7. Four matrix spiked samples were analyzed along with the samples. Applying control limits of 75-125% spike recovery (the lab's limits of -449% to 722% seemed unreasonable), one of the spikes (J39B9020S, recovery 63%) was outside these limits. This spike was associated with samples J39B9001-024 and J39B9016D. Positive hits for mercury in these samples were J-coded.

8. Ten method blank samples were analyzed along with these samples. No mercury was detected in any of these method blanks (0.1 ug/L U).

9. Six field blanks were included. The lab reported a positive hit for total mercury in only one of these blanks, J39B9063F (0.439 ug/L). They reported dissolved mercury in this blank as not detected (0.1 ug/L U). However, the bench card data indicate this blank sample was analyzed twice, and 0.66 ug/L and 0.554 ug/L of mercury (dissolved) was found. No data were qualified by these results.

1. Analysis for metals (total and dissolved) was requested.

2. In order to achieve lower detection limits the lab concentrated all samples(5X) by digesting and evaporating 250 ml aliquots of each sample down to 50 ml. Se, Tl, Cd and Pb were determined by AA and all other parameters were determined by ICP.

3. Digestion logs (bench cards), atomic absorption data (bench cards), ICP print-outs and data sheets were found to be complete and on-file for all samples.

4. The lab reported analyses for matrix spike, method spike, and lab duplicate samples. The following is a summary of the parameters outside the lab's control limits for % spike recoveries and duplicate RPDs:

	Total Metals			Dissolved Metals		
	Mat.Sp.	Meth.Sp.	Dup.	Mat.Sp.	Meth.Sp.	Dup.
Be	78	75		71	75	
Cr	120					
Cu					75	
Fe	119					
Ni	120	120		132		
Pb	130		32		68	
Ti			38			
Tl				70	63	
V					75	
K		120				

Positive values for parameters were J-coded("estimated value") where the values were outside the matrix spike or duplicate control limits. An exception to this (not J-coded) was if the sample concentration was more than four times the spike concentration.

4. Reference standards were analyzed along with the samples. Random checks of the results were satisfactory when compared with the "true values" of the standards.

5. Method blank samples were analyzed. Parameters with values = or > 5 ug/L are summarized here:

	Total Metals	Dissolved Metals
Al	51	19
As	18	
Fe	48	32
Zn		13

A field blank sample, J49D90165, was also analyzed. The following parameters were detected in the field blank:

	J49B90165 (Total)	J49B90165 (Dissolved)
Cu	4.4	3.5
Mn		1.1

Since the sample results were "blank corrected" by the lab, no data were qualified here based on the results of the method and field blanks.

c. Overall, the quality of these data were found to be quite satisfactory.

1. Chloride and sulfate analysis was requested.

2. The strip chart recordings (ion chromatograms) and data on spiking levels and reference standards were not in the data office but were kept by the analyst. These data were found to be complete.

3. Nine reference standards containing both chloride and sulfate were analyzed along with the samples. The recoveries of chloride and sulfate in the standards were satisfactory (90-110%).

4. Aliquots of seven of the samples were spiked with chloride and sulfate. Except for the chloride spike in one spiked sample (J39B9019S), which was spiked at too high a concentration level, all results were satisfactory. Spike recoveries were 93-123%.

5. Two lab duplicate samples were analyzed, J39B9013L and J39B9052L. The results compared favorably (< 10% RPD) with the initial results.

6. Overall the quality of the data was quite satisfactory.

1. Analyses for acidity, alkalinity, and total dissolved solids (TDS) were requested on all 91 samples.

2. Prep logs (bench cards) and summary data sheets were found to be complete and on-file for all samples.

3. A random check of calculations and transcriptions, from bench cards to data sheets, were all satisfactory.

ACIDITY

4. Two lab duplicates were analyzed for acidity (J39B9012L and J39B9049L). The duplicate results compared satisfactorily with the initial results.

5. Of the five field duplicates, two had RPDs greater than 20 %. However, since both of these samples had low acidity values these results are satisfactory.

6. Six field blank samples all had low acidities (less than 2.5 mg/L).

7. No reference standards or spikes were used in the acidity analysis.

ALKALINITY

8. The five field duplicate sample analyses for alkalinity compared satisfactorily with their initial analyses.

9. Six field blanks and one method blank (J39B9900M) all had low alkalinities (less than 2.6 mg/L).

10. Six reference standards were analyzed for alkalinity. Applying control limits of 80-120% recovery, one standard (J39B9900C, 131% recovery), associated with samples J39B9001-012, was outside these limits. Positive values for alkalinity in these samples were J-coded.

11. No lab duplicates or spikes (alkalinity) were analyzed.

TDS

12. Two lab duplicates (J39B9017L and J39B9056L) were analyzed for total dissolved solids. The duplicate results compare satisfactorily with the initial results.

13. The five field duplicate analysis results for TDS compare satisfactorily with their initial results.

14. Of the six field blank samples, two had TDS positives: J39B9046 (4.12 mg/L) and J49B9016F (20 mg/L). No data were qualified by these findings.

15. Of the four method blank samples, one had a TDS positive: J39B9905M (1.98 mg/L) associated with samples J39B9025-029. No data were qualified by this finding.

16. Six reference standards were analyzed for TDS. One standard (J39B9904C, 154% recovery) was outside the lab's control limits (67-149 %). This standard was associated with samples J39B9018-029, J39B9031-037 and J39B9036D. Positive values for TDS in these samples were J-coded.

CONCLUSION

The overall quality of the data covered by this review was judged to be quite satisfactory.