ST. MARIES RIVER STUDY

Benewah and Shoshone Counties

Data Collected 1979

Final Summary October 1980

Department of Health and Welfare
Division of Environment
Statehouse
Boise, Idaho 83720

Water Quality Summary
No. 19

ST. MARIES RIVER STUDY

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SUMMARY OF ST. MARIES RIVER STUDY

In Water Year 1979 a water quality study was conducted on the St. Maries River in Shoshone and Benewah Counties to assist in developing effluent limitations for the community of Clarkia. The study provided approximately bimonthly monitoring at the West Fork and Middle Fork of the St. Maries River and the mainstem of the river below Clarkia and at Fernwood. Parameter coverage for the study included the following categories:

Temperature	Solids
Dissolved Oxygen	Select Ions
pH	Nutrients
Bacteria	Heavy Metals
Oxygen Demand	

The data which was collected on the St. Maries River indicates the river between Clarkia and Fernwood is generally of very good quality. Some violations of the bacteria standard for primary contact recreation were noted for the river below Clarkia and all stations substantially violated the standard on the sampling date in August of 1979. The violations below Clarkia are probably caused by present raw sewage discharges from several homes in Clarkia.

A staff evaluation on effluent limitations for Clarkia has concluded that secondary treatment for the community will be adequate to maintain the St. Maries River at its present high quality. A central sewer

system with proper disinfection or individual onsite treatment systems for the present raw discharges should eliminate the bacteria violations below Clarkia.

DATA INVENTORY

STORET RETRIEVAL DATE 80/09/18 - INVENT - VERSION OF AUG. 1980

2000135
47 00 40.0 116 15 20.0 2
ST MARIES WEST FORK AT CLARKIA AT BRIDGE
16079 IDAHO SHOSHONE
PACIFIC NORTHWEST 130300
SPOKANE
211DSURV 790901
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 006500 01150 0100
MILES 0643.00 0136.00 015.70 045.00

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	6	6.96666	25.9467	5.09379	.731167	2.07953	15.0000	1.50000	78/10/26	79/08/15
00042	ALTITUDE	FEET	AB MSL	1	2830.00					2830.00	2830.00	01/01/01	01/01/01
00061	STREAM	FLOW,	INST-CFS	6	61.8550	7204.45	84.8790	1.37223	34.6517	220.000	3.70000	78/10/26	79/08/15
00076	TURB	TRBIDMTR	HACH FTU	6	35.8333	5711.24	75.5727	2.10901	30.8524	190.000	2.80000	78/10/26	79/08/15
00094	CNDUCTVY	FIELD	MICROMHO	3	23.6667	30.3341	5.50764	.232717	3.17984	30.0000	20.0000	79/03/21	79/06/06
00095	CNDUCTVY	AT 25C	MICROMHO	3	62.4333	75.2637	8.67546	.138956	5.00878	72.3000	56.0000	78/10/26	79/08/15
00116	INTNSVE	SURVEY	IDENT	7	791617	.000000	.000000		.000000	791617	791617	01/01/01	79/08/15
00300	DO		MG/L	6	10.0333	15.7867	3.97325	.396005	1.62207	14.3000	3.80000	78/10/26	79/08/15
00310	BOD	5 DAY	MG/L	3	1.06667	.323336	.568626	.533087	.328296	1.70000	.600000	78/10/26	79/06/06
00335	COD	LOWLEVEL	MG/L	3	9.63333	142.263	11.9274	1.23814	6.88630	23.1000	.400000	78/10/26	79/05/03
00400	PH		SU	6	7.94999	.231103	.480732	.060470	.196258	8.70000	7.30000	78/10/26	79/08/15
00410	T ALK	CACO3	MG/L	3	19.6667	142.334	11.9304	.606630	6.88801	28.0000	6.00000	78/10/26	79/08/15
00425	HCO3 ALK	CACO3	MG/L	2	17.0000	242.000	15.5563	.915079	11.0000	28.0000	6.00000	79/05/03	79/08/15
00430	CO3 ALK	CACO3	MG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	79/05/03	79/08/15
00500	RESIDUE	TOTAL	MG/L	5	114.580	15442.8	124.269	1.08456	55.5747	336.500	48.5000	78/10/26	79/08/15
00530	RESIDUE	TOT NFLT	MG/L	5	57.8399	13596.0	116.602	2.01594	52.1459	266.100	1.00000	78/10/26	79/08/15
00610	NH3+NH4-	N TOTAL	MG/L	6	.043167	.000659	.025670	.594680	.010480	.090000	.021000	78/10/26	79/08/15
00615	NO2-N	TOTAL	MG/L	1	.002000					.002000	.002000	78/10/26	78/10/26
00620	NO3-N	TOTAL	MG/L	1	.020000					.020000	.020000	78/10/26	78/10/26
00625	TOT KJEL	N	MG/L	5	.558000	.223820	.473096	.847843	.211575	1.40000	.300000	78/10/26	79/08/15
00630	NO2&NO3	N-TOTAL	MG/L	5	.040000	.000750	.027386	.684654	.012247	.070000	.020000	79/01/24	79/08/15
00665	PHOS-TOT		MG/L P	6	.166667	.112387	.335241	2.01145	.136862	.850000	.010000	78/10/26	79/08/15
00900	TOT HARD	CACO3	MG/L	3	13.3333	37.3335	6.11011	.458258	3.52768	20.0000	8.00000	78/10/26	79/08/15
00916	CALCIUM	CA-TOT	MG/L	3	6.40000	10.2401	3.20001	.500002	1.84753	9.60000	3.20000	78/10/26	79/08/15
00927	MGNSIUM	MG,TOT	MG/L	3	3.36667	15.0433	3.87857	1.15205	2.23929	7.80000	.600000	78/10/26	79/08/15
00929	SODIUM	NA,TOT	MG/L	3	2.86667	.863342	.929162	.324126	.536452	3.50000	1.80000	78/10/26	79/08/15
00937	PTSSIUM	K,TOT	MG/L	3	2.30000	5.87999	2.42487	1.05429	1.40000	5.10000	.900000	78/10/26	79/08/15
00940	CHLORIDE	CL	MG/L	5	1.90000	1.80499	1.34350	.707105	.600832	4.20000	1.10000	78/10/26	79/08/15
00945	SULFATE	SO4-TOT	MG/L	3	10.0000	.000000	.000000		.000000	10.0000	10.0000	78/10/26	79/08/15
00951	FLUORIDE	F,TOTAL	MG/L	3	.123333	.000433	.020817	.168786	.012019	.140000	.100000	78/10/26	79/08/15
00956	SILICA	TOTAL	MG/L	3	21.0167	28.6761	5.35501	.254798	3.09172	26.5000	15.8000	78/10/26	79/08/15
01002	ARSENIC	AS,TOT	UG/L	2	10.0000	.000000	.000000		.000000	10.0000	10.0000	79/05/03	79/08/15
01027	CADMIUM	CD,TOT	UG/L	2	5.00000	.000000	.000000		.000000	5.00000	5.00000	79/05/03	79/08/15
01032	CHROMIUM	HEX-VAL	UG/L	1	50.0000					50.0000	50.0000	79/05/03	79/05/03
01034	CHROMIUM	CR,TOT	UG/L	2	50.0000	.000000	.000000		.000000	50.0000	50.0000	79/05/03	79/08/15
01042	COPPER	CU,TOT	UG/L	2	10.0000	.000000	.000000		.000000	10.0000	10.0000	79/05/03	79/08/15
01045	IRON	FE,TOT	UG/L	2	2925.00	.108E+08	3288.05	1.12412	2325.00	5250.00	600.000	79/05/03	79/08/15
01051	LEAD	PB,TOT	UG/L	2	50.0000	.000000	.000000		.000000	50.0000	50.0000	79/05/03	79/08/15
01055	MANGNESE	MN	UG/L	2	125.000	26450.0	162.635	1.30108	115.000	240.000	10.0000	79/05/03	79/08/15

STORET RETRIEVAL DATE 80/09/18 - INVENT - VERSION OF AUG. 1980

2000135
47 00 40.0 116 15 20.0 2
ST MARIES WEST FORK AT CLARKIA AT BRIDGE
16079 IDAHO SHOSHONE
PACIFIC NORTHWEST 130300
SPOKANE
21IDSURV 790901
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 006500 01150 0100
MILES 0643.00 0136.00 015.70 045.00

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
01092	ZINC	ZN,TOT	UG/L	2	13.5000	220.500	14.8492	1.09994	10.5000	24.0000	3.00000	79/05/03	79/08/15
31501	TOT COLI	MFIMENDO	/100ML	5	3620.00	.358E+08	5990.14	1.65474	2678.87	14000.0	110.000	78/10/26	79/08/15
31616	FEC COLI	MFM-FCBR	/100ML	5	1966.20	.182E+08	4267.60	2.17048	1908.53	9600.00	12.0000	78/10/26	79/08/15
31679	FECSTREP	MF M-ENT	/100ML	5	1289.20	8162728	2857.05	2.21614	1277.71	6400.00	1.00000	78/10/26	79/08/15
70300	RESIDUE	DISS-180	C MG/L	1	51.0000					51.0000	51.0000	79/03/21	79/03/21
70507	PHOS-T	ORTHO	MG/L P	6	.021667	.000417	.020412	.942111	.008333	.060000	.010000	78/10/26	79/08/15
71900	MERCURY	HG,TOTAL	UG/L	1	.500000					.500000	.500000	79/05/03	79/05/03

STORET RETRIEVAL DATE 80/09/18 - INVENT - VERSION OF AUG. 1980

2000136
47 00 35.0 116 14 10.0 2
ST MARIES MIDDLE FORK AT BRIDGE
16079 IDAHO SHOSHONE
PACIFIC NORTHWEST 130300
SPOKANE
21IDSURV 790901
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 006500 01150 0100
MILES 0643.00 0136.00 015.70 046.20

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	6	5.30000	18.8800	4.34512	.819834	1.77389	13.0000	1.30000	78/10/26	79/08/15
00042	ALTITUDE	FEET	AB MSL	1	2840.00					2840.00	2840.00	01/01/01	01/01/01
00061	STREAM	FLOW,	INST-CFS	6	149.042	64155.4	253.289	1.69945	103.405	660.000	19.5000	78/10/26	79/08/15
00076	TURB	TRBIDMTR	HACH FTU	6	3.00000	3.30802	1.81879	.606266	.742520	5.10000	1.10000	78/10/26	79/08/15
00094	CNDUCTVY	FIELD	MICROMHO	3	19.3333	6.33374	2.51669	.130174	1.45301	22.0000	17.0000	79/03/21	79/06/06
00095	CNDUCTVY	AT 25C	MICROMHO	3	42.8333	17.5859	4.19356	.097904	2.42115	45.5000	38.0000	78/10/26	79/08/15
00116	INTNSVE	SURVEY	IDENT	7	791617	.000000	.000000		.000000	791617	791617	01/01/01	79/08/15
00300	DO		MG/L	6	11.9500	4.63105	2.15199	.180083	.878545	14.8000	8.70000	78/10/26	79/08/15
00310	BOD	5 DAY	MG/L	3	1.16667	.083336	.286680	.247440	.166669	1.50000	1.00000	78/10/26	79/06/06
00335	COD	LOWLEVEL	MG/L	4	10.9250	73.2358	8.55779	.783322	4.27890	20.4000	.400000	78/10/26	79/08/15
00400	PH		SU	6	8.46666	.390820	.625156	.073837	.255219	9.30000	7.60000	78/10/26	79/08/15
00410	T ALK	CACO3	MG/L	3	13.3333	22.3335	4.72583	.354437	2.72846	17.0000	8.00000	78/10/26	79/08/15
00425	HCO3 ALK	CACO3	MG/L	2	11.5000	24.5000	4.94975	.430413	3.50000	15.0000	8.00000	79/05/03	79/08/15
00430	CO3 ALK	CACO3	MG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	79/05/03	79/08/15
00500	RESIDUE	TOTAL	MG/L	5	42.8200	33.6807	5.80350	.135533	2.59541	53.0000	38.6000	78/10/26	79/08/15
00530	RESIDUE	TOT NFLT	MG/L	5	7.44000	72.8129	8.53305	1.14692	3.81610	17.8000	1.00000	78/10/26	79/08/15
00610	NH3+NH4-	N TOTAL	MG/L	6	.014167	.000097	.009847	.695096	.004020	.031000	.005000	78/10/26	79/08/15
00615	NO2-N	TOTAL	MG/L	1	.001000					.001000	.001000	78/10/26	78/10/26
00620	NO3-N	TOTAL	MG/L	1	.020000					.020000	.020000	78/10/26	78/10/26
00625	TOT KJEL	N	MG/L	5	.358000	.082320	.286915	.801438	.128312	.800000	.100000	78/10/26	79/08/15
00630	NO2&NO3	N-TOTAL	MG/L	5	.054000	.000530	.023022	.426329	.010296	.070000	.020000	79/01/24	79/08/15
00665	PHOS-TOT		MG/L P	6	.021667	.000417	.020412	.942113	.008333	.060000	.010000	78/10/26	79/08/15
00900	TOT HARD	CACO3	MG/L	3	14.6667	37.3335	6.11011	.416599	3.52768	20.0000	8.00000	78/10/26	79/08/15
00916	CALCIUM	CA-TOT	MG/L	3	5.33333	5.97333	2.44404	.458257	1.41107	8.00000	3.20000	78/10/26	79/08/15
00927	MGNSIUM	MG,TOT	MG/L	3	.906666	.080534	.283785	.312998	.163843	1.16000	.600000	78/10/26	79/08/15
00929	SODIUM	NA,TOT	MG/L	3	1.90000	.189999	.435889	.229415	.251661	2.20000	1.40000	78/10/26	79/08/15
00937	POTSSIUM	K,TOT	MG/L	3	1.93333	3.52333	1.87705	.970890	1.08372	4.10000	.800000	78/10/26	79/08/15
00940	CHLORIDE	CL	MG/L	5	1.68000	.282000	.531037	.316094	.237487	2.10000	1.10000	78/10/26	79/08/15
00945	SULFATE	SO4-TOT	MG/L	3	10.0000	.000000	.000000		.000000	10.0000	10.0000	78/10/26	79/08/15
00951	FLUORIDE	F,TOTAL	MG/L	3	.093333	.000233	.015275	.163663	.008819	.110000	.080000	78/10/26	79/08/15
00956	SILICA	TOTAL	MG/L	3	15.5000	13.0000	3.60555	.232616	2.08167	19.5000	12.5000	78/10/26	79/08/15
01002	ARSENIC	AS,TOT	UG/L	2	10.0000	.000000	.000000		.000000	10.0000	10.0000	79/05/03	79/08/15
01027	CADMIUM	CD,TOT	UG/L	2	5.00000	.000000	.000000		.000000	5.00000	5.00000	79/05/03	79/08/15
01032	CHROMIUM	HEX-VAL	UG/L	1	50.0000					50.0000	50.0000	79/05/03	79/05/03
01034	CHROMIUM	CR,TOT	UG/L	2	50.0000	.000000	.000000		.000000	50.0000	50.0000	79/05/03	79/08/15
01042	COPPER	CU,TOT	UG/L	2	10.0000	.000000	.000000		.000000	10.0000	10.0000	79/05/03	79/08/15
01045	IRON	FE,TOT	UG/L	2	460.000	28800.0	169.706	.368925	120.000	580.000	340.000	79/05/03	79/08/15
01051	LEAD	PB,TOT	UG/L	2	50.0000	.000000	.000000		.000000	50.0000	50.0000	79/05/03	79/08/15
01055	MANGNESE	MN	UG/L	2	20.0000	.000000	.000000		.000000	20.0000	20.0000	79/05/03	79/08/15

STORET RETRIEVAL DATE 80/09/18 - INVENT - VERSION OF AUG. 1980

2000136
47 00 35.0 116 14 10.0 2
ST MARIES MIDDLE FORK AT BRIDGE
16079 IDAHO SHOSHONE
PACIFIC NORTHWEST 130300
SPOKANE
21IDSURV 790901
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 006500 01150 0100
MILES 0643.00 0136.00 015.70 046.20

PARAMETER			NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
01092 ZINC	ZN,TOT	UG/L	2	1.00000	.000000	.000000		.000000	1.00000	1.00000	79/05/03	79/08/15
31501 TOT COLI	MFIMENDO	/100ML	5	1332.40	8026308	2833.07	2.12629	1266.99	6400.00	28.0000	78/10/26	79/08/15
31616 FEC COLI	MFM-FCBR	/100ML	5	686.800	2300484	1516.73	2.20841	678.304	3400.00	2.00000	78/10/26	79/08/15
31679 FECSTREP	MF M-ENT	/100ML	5	382.000	720108	848.592	2.22144	379.502	1900.00	1.00000	78/10/26	79/08/15
70300 RESIDUE	DISS-180	C MG/L	1	47.0000					47.0000	47.0000	79/03/21	79/03/21
70507 PHOS-T	ORTHO	MG/L P	6	.013333	.000067	.008165	.612374	.003333	.030000	.010000	78/10/26	79/08/15
71900 MERCURY	HG,TOTAL	UG/L	2	.500000	.000000	.000000		.000000	.500000	.500000	79/05/03	79/08/15

STORET RETRIEVAL DATE 80/09/18 - INVENT - VERSION OF AUG. 1980

2000137
47 06 20.0 116 23 30.0 2
ST MARIES R AT FERNWOOD AT BRIDGE
16009 IDAHO BENEWAH
PACIFIC NORTHWEST 130300
SPOKANE
211DSURV 790901
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 065000 01150 0100
MILES 0643.00 0136.00 015.70 032.30

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	8	8.48750	33.0584	5.74964	.677425	2.03280	18.9000	1.00000	78/03/22	79/08/15
00042	ALTITUDE	FEET	AB MSL	1	2720.00					2720.00	2720.00	01/01/01	01/01/01
00061	STREAM	FLOW,	INST-CFS	6	335.550	168999	411.095	1.22514	167.829	1100.00	48.3000	78/10/26	79/08/15
00076	TURB	TRBIDMTR	HACH FTU	7	5.28571	17.7481	4.21284	.797025	1.59230	12.0000	1.60000	78/03/22	79/08/15
00094	CNDUCTVY	FIELD	MICROMHO	3	21.0000	3.00000	1.73205	.082479	1.00000	22.0000	19.0000	79/03/21	79/06/06
00095	CNDUCTVY	AT 25C	MICROMHO	4	39.0750	140.956	11.8725	.303838	5.93624	47.3000	22.0000	78/03/22	79/08/15
00116	INTNSVE	SURVEY	IDENT	9	791617-	.131E+06	.000000		.000000	791617	791617	01/01/01	79/08/15
00300	DO		MG/L	8	11.0625	2.20281	1.48419	.134164	.524739	12.8000	8.80000	78/03/22	79/08/15
00310	BOD	5 DAY	MG/L	3	1.03333	.143333	.378593	.366381	.218581	1.30000	.600000	78/10/26	79/06/06
00335	COD	LOWLEVEL	MG/L	4	21.3250	308.809	17.5730	.824055	8.78648	44.2000	6.60000	78/10/26	79/08/15
00400	PH		SU	7	7.97142	.489136	.699382	.087736	.264342	9.10000	7.20000	78/03/22	79/08/15
00410	T ALK	CACO3	MG/L	2	13.0000	32.0000	5.65685	.435143	4.00000	17.0000	9.00000	79/05/03	79/08/15
00425	HCO3 ALK	CACO3	MG/L	2	13.0000	32.0000	5.65685	.435143	4.00000	17.0000	9.00000	79/05/03	79/08/15
00430	CO3 ALK	CACO3	MG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	79/05/03	79/08/15
00500	RESIDUE	TOTAL	MG/L	6	49.8833	111.027	10.5370	.211232	4.30169	65.0000	36.[illegible]000	78/03/22	79/08/15
00530	RESIDUE	TOT NFLT	MG/L	6	7.60000	70.0680	8.37067	1.10140	3.41731	20.5000	.800000	78/03/22	79/08/15
00610	NH3+NH4-	N TOTAL	MG/L	8	.023250	.000210	.014489	.623180	.005123	.042000	.001000	78/03/22	79/08/15
00615	NO2-N	TOTAL	MG/L	3	.001000-	.454E-12	.000000		.000000	.001000	.001000	78/03/22	78/10/26
00620	NO3-N	TOTAL	MG/L	3	.020000-	.232E-09	.000000		.000000	.020000	.020000	78/03/22	78/10/26
00625	TOT KJEL	N	MG/L	7	.540000	.072900	.270000	.500001	.102050	.930000	.100000	78/03/22	79/08/15
00630	NO2&NO3	N-TOTAL	MG/L	5	.172000	.087470	.295753	1.71950	.132265	.700000	.020000	79/01/24	79/08/15
00665	PHOS-TOT		MG/L P	7	.027143	.000290	.017043	.627914	.006442	.060000	.010000	78/03/22	79/08/15
00900	TOT HARD	CACO3	MG/L	2	12.0000	32.0000	5.65685	.471405	4.00000	16.0000	8.00000	79/05/03	79/08/15
00916	CALCIUM	CA-TOT	MG/L	2	6.40000	20.4800	4.52548	.707107	3.20000	9.60000	3.20000	79/05/03	79/08/15
00927	MGNSIUM	MG,TOT	MG/L	2	.804999	.084050	.289914	.360142	.205000	1.01000	.600000	79/05/03	79/08/15
00929	SODIUM	NA,TOT	MG/L	2	1.80000	.180003	.424268	.235704	.300003	2.10000	1.50000	79/05/03	79/08/15
00937	POTSSIUM	K,TOT	MG/L	2	1.000000	.020000	.141420	.141420	.099999	1.10000	.900000	79/05/03	79/08/15
00940	CHLORIDE	CL	MG/L	4	1.57500	.302503	.550002	.349208	.275001	2.10000	1.10000	79/01/24	79/08/15
00945	SULFATE	SO4-TOT	MG/L	2	10.0000	.000000	.000000		.000000	10.0000	10.0000	79/05/03	79/08/15
00951	FLUORIDE	F,TOTAL	MG/L	2	.090000	.000200	.014142	.157135	.010000	.100000	.080000	79/05/03	79/08/15
00956	SILICA	TOTAL	MG/L	2	13.7750	.451660	.672057	.048788	.475216	14.2500	13.3000	79/05/03	79/08/15
01002	ARSENIC	AS,TOT	UG/L	2	10.0000	.000000	.000000		.000000	10.0000	10.0000	79/05/03	79/08/15
01027	CADMIUM	CD,TOT	UG/L	2	5.00000	.000000	.000000		.000000	5.00000	5.00000	79/05/03	79/08/15
01032	CHROMIUM	HEX-VAL	UG/L	1	50.0000					50.0000	50.0000	79/05/03	79/05/03
01034	CHROMIUM	CR,TOT	UG/L	2	50.0000	.000000	.000000		.000000	50.0000	50.0000	79/05/03	79/08/15
01042	COPPER	CU,TOT	UG/L	2	10.0000	.000000	.000000		.000000	10.0000	10.0000	79/05/03	79/08/15
01045	IRON	FE,TOT	UG/L	2	545.000	140450	374.767	.687645	265.000	810.000	280.000	79/05/03	79/08/15
01051	LEAD	PB,TOT	UG/L	2	50.0000	.000000	.000000		.000000	50.0000	50.0000	79/05/03	79/08/15
01055	MANGNESE	MN	UG/L	2	10.0000	.000000	.000000		.000000	10.0000	10.0000	79/05/03	79/08/15

STORET RETRIEVAL DATE 80/09/18 - INVENT - VERSION OF AUG. 1980

2000137
47 06 20.0 116 23 30.0 2
ST MARIES R AT FERNWOOD AT BRIDGE
16009 IDAHO BENEWAH
PACIFIC NORTHWEST 130300
SPOKANE
21IDSURV 790901
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 065000 01150 0100
MILES 0643.00 0136.00 015.70 032.30

PARAMETER			NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
01092 ZINC	ZN,TOT	UG/L	2	2.00000	2.00000	1.41421	.707107	1.00000	3.00000	1.00000	79/05/03	79/08/15
31501 TOT COLI	MFIMENDO	/100ML	5	270.000	121872	349.102	1.29297	156.123	880.000	12.0000	78/10/26	79/08/15
31616 FEC COLI	MFM-FCBR	/100ML	5	315.200	438886	662.485	2.10179	296.272	1500.00	5.00000	78/10/26	79/08/15
31679 FECSTREP	MF M-ENT	/100ML	5	363.200	645132	803.201	2.21146	359.202	1800.00	1.00000	78/10/26	79/08/15
70300 RESIDUE	DISS-180 C	MG/L	3	40.1000	107.529	10.3696	.258594	5.98691	52.0000	33.0000	78/03/22	79/03/21
70507 PHOS-T	ORTHO	MG/L P	7	.010000	.776E-10	.000009	.000881	.000003	.010000	.010000	78/03/22	79/08/15
71900 MERCURY	HG,TOTAL	UG/L	2	.500000	.000000	.000000		.000000	.500000	.500000	79/05/03	79/08/15

STORET RETRIEVAL DATE 80/09/18 - INVENT - VERSION OF AUG. 1980

2000138
47 01 10.0 116 15 30.0 2
ST MARIES R BELOW CLARKIA
16079 IDAHO SHOSHONE
PACIFIC NORTHWEST 130300
SPOKANE
21IDSURV 790901
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 006500 01150 0100
MILES 0643.00 0136.00 015.70 044.60

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	6	6.66667	20.2667	4.50185	.675278	1.83787	14.5000	1.00000	78/10/26	79/08/15
00042	ALTITUDE	FEET	AB MSL	1	2820.00					2820.00	2820.00	01/01/01	01/01/01
00061	STREAM	FLOW,	INST-CFS	6	267.317	135382	367.943	1.37643	150.212	990.000	30.9000	78/10/26	79/08/15
00076	TURB	TRBIDMTR	HACH FTU	6	7.38333	106.654	10.3273	1.39873	4.21611	28.0000	1.40000	78/10/26	79/08/15
00094	CNDUCTVY	FIELD	MICROMHO	3	19.6667	2.33398	1.52774	.077682	.882040	21.0000	18.0000	79/03/21	79/06/06
00095	CNDUCTVY	AT 25C	MICROMHO	3	45.0000	3.00000	1.73205	.038490	1.00000	46.0000	43.0000	78/10/26	79/08/15
00116	INTNSVE	SURVEY	IDENT	7	791617	.000000	.000000		.000000	791617	791617	01/01/01	79/08/15
00300	DO		MG/L	6	11.8667	2.47871	1.57439	.132674	.642743	13.4000	8.80000	78/10/26	79/08/15
00310	BOD	5 DAY	MG/L	3	.766666	.063334	.251662	.328255	.145297	1.00000	.500000	78/10/26	79/06/06
00335	COD	LOWLEVEL	MG/L	4	22.7250	178.763	13.3702	.588349	6.68511	39.7000	9.30000	78/10/26	79/08/15
00400	PH		SU	6	8.01666	.361768	.601471	.075028	.245550	9.10000	7.50000	78/10/26	79/08/15
00410	T ALK	CACO3	MG/L	3	15.0000	39.0000	6.24500	.416333	3.60555	20.0000	8.00000	78/10/26	79/08/15
00425	HCO3 ALK	CACO3	MG/L	2	12.5000	40.5000	6.36396	.509117	4.50000	17.0000	8.00000	79/05/03	79/08/15
00430	CO3 ALK	CACO3	MG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	79/05/03	79/08/15
00500	RESIDUE	TOTAL	MG/L	5	47.5200	29.0117	5.38625	.113347	2.40880	56.0000	42.2000	78/10/26	79/08/15
00530	RESIDUE	TOT NFLT	MG/L	5	11.9600	276.963	16.6422	1.39149	7.44262	40.0000	1.00000	78/10/26	79/08/15
00610	NH3+NH4-	N TOTAL	MG/L	6	.040167	.001194	.034557	.860333	.014108	.081000	.001000	78/10/26	79/08/15
00615	NO2-N	TOTAL	MG/L	1	.002000					.002000	.002000	78/10/26	78/10/26
00620	NO3-N	TOTAL	MG/L	1	.020000					.020000	.020000	78/10/26	78/10/26
00625	TOT KJEL	N	MG/L	5	.506000	.103180	.321217	.634817	.143653	.900000	.100000	78/10/26	79/08/15
00630	NO2&NO3	N-TOTAL	MG/L	5	.046000	.000530	.023022	.500473	.010296	.070000	.020000	79/01/24	79/08/15
00665	PHOS-TOT		MG/L P	6	.026667	.000987	.031411	1.17792	.012824	.090000	.010000	78/10/26	79/08/15
00900	TOT HARD	CACO3	MG/L	3	17.3333	69.3336	8.32668	.480386	4.80741	24.0000	8.00000	78/10/26	79/08/15
00916	CALCIUM	CA-TOT	MG/L	3	5.33333	3.41333	1.84752	.346410	1.06667	6.40000	3.20000	78/10/26	79/08/15
00927	MGNSIUM	MG,TOT	MG/L	3	1.13333	.303335	.550759	.485964	.317981	1.70000	.600000	78/10/26	79/08/15
00929	SODIUM	NA,TOT	MG/L	3	2.00000	.190003	.435893	.217947	.251663	2.30000	1.50000	78/10/26	79/08/15
00937	PTSSIUM	K,TOT	MG/L	3	1.10000	.190001	.435891	.396265	.251662	1.60000	.800000	78/10/26	79/08/15
00940	CHLORIDE	CL	MG/L	5	1.46000	.293002	.541296	.370751	.242075	2.10000	1.00000	78/10/26	79/08/15
00945	SULFATE	SO4-TOT	MG/L	3	10.0000	.000000	.000000		.000000	10.0000	10.0000	78/10/26	79/08/15
00951	FLUORIDE	F,TOTAL	MG/L	3	.086667	.000433	.020817	.240192	.012018	.110000	.070000	78/10/26	79/08/15
00956	SILICA	TOTAL	MG/L	3	16.7000	21.1309	4.59683	.275260	2.65398	22.0000	13.8000	78/10/26	79/08/15
01002	ARSENIC	AS,TOT	UG/L	2	10.0000	.000000	.000000		.000000	10.0000	10.0000	79/05/03	79/08/15
01027	CADMIUM	CD,TOT	UG/L	2	5.00000	.000000	.000000		.000000	5.00000	5.00000	79/05/03	79/08/15
01032	CHROMIUM	HEX-VAL	UG/L	1	50.0000					50.0000	50.0000	79/05/03	79/05/03
01034	CHROMIUM	CR,TOT	UG/L	2	50.0000	.000000	.000000		.000000	50.0000	50.0000	79/05/03	79/08/15
01042	COPPER	CU,TOT	UG/L	2	10.0000	.000000	.000000		.000000	10.0000	10.0000	79/05/03	79/08/15
01045	IRON	FE,TOT	UG/L	2	1130.00	500000	707.107	.625758	500.000	1630.00	630.000	79/05/03	79/08/15
01051	LEAD	PB,TOT	UG/L	2	50.0000	.000000	.000000		.000000	50.0000	50.0000	79/05/03	79/08/15
01055	MANGNESE	MN	UG/L	2	25.0000	50.0000	7.07107	.282843	5.00000	30.0000	20.0000	79/05/03	79/08/15

STORET RETRIEVAL DATE 80/09/18 - INVENT - VERSION OF AUG. 1980

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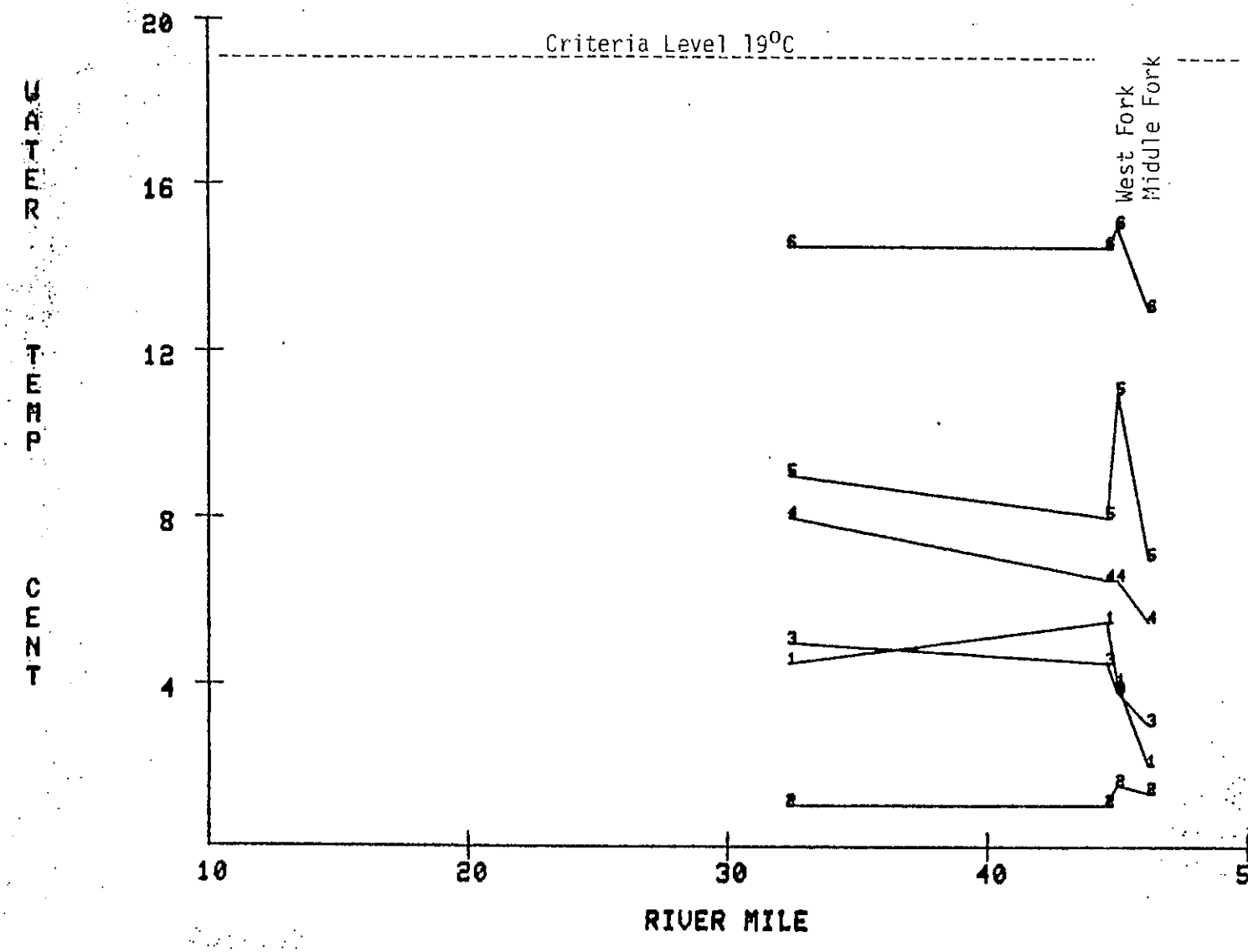
INDEX 1310001 006500 01150 0100
MILES 0643.00 0136.00 015.70 044.60

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
01092	ZINC	ZN,TOT	UG/L	2	1.50000	.500000	.707107	.471404	.500000	2.00000	1.00000	79/05/03	79/08/15
31501	TOT COLI	MFIMENDO	/100ML	4	1510.00	5779530	2404.07	1.59210	1202.03	5100.00	110.000	78/10/26	79/08/15
31616	FEC COLI	MFM-FCBR	/100ML	5	1028.80	4684892	2164.46	2.10387	967.976	4900.00	28.0000	78/10/26	79/08/15
31679	FECSTREP	MF M-ENT	/100ML	5	342.000	576302	759.145	2.21972	339.500	1700.00	2.00000	78/10/26	79/08/15
70300	RESIDUE	DISS-180	C MG/L	1	47.0000					47.0000	47.0000	79/03/21	79/03/21
70507	PHOS-T	ORTHO	MG/L P	6	.010000	-.931E-10	.000000		.000000	.010000	.010000	78/10/26	79/08/15
71900	MERCURY	HG,TOTAL	UG/L	2	.500000	.000000	.000000		.000000	.500000	.500000	79/05/03	79/08/15

GRAPHICS

ST. MARIES RIVER
INTENSIVE SURVEY DATA FOR 6 DAYS OF MONITORING
1 : 10-26-78 2 : 01-24-79 3 : 03-21-79
4 : 05-03-79 5 : 06-06-79 6 : 08-15-79



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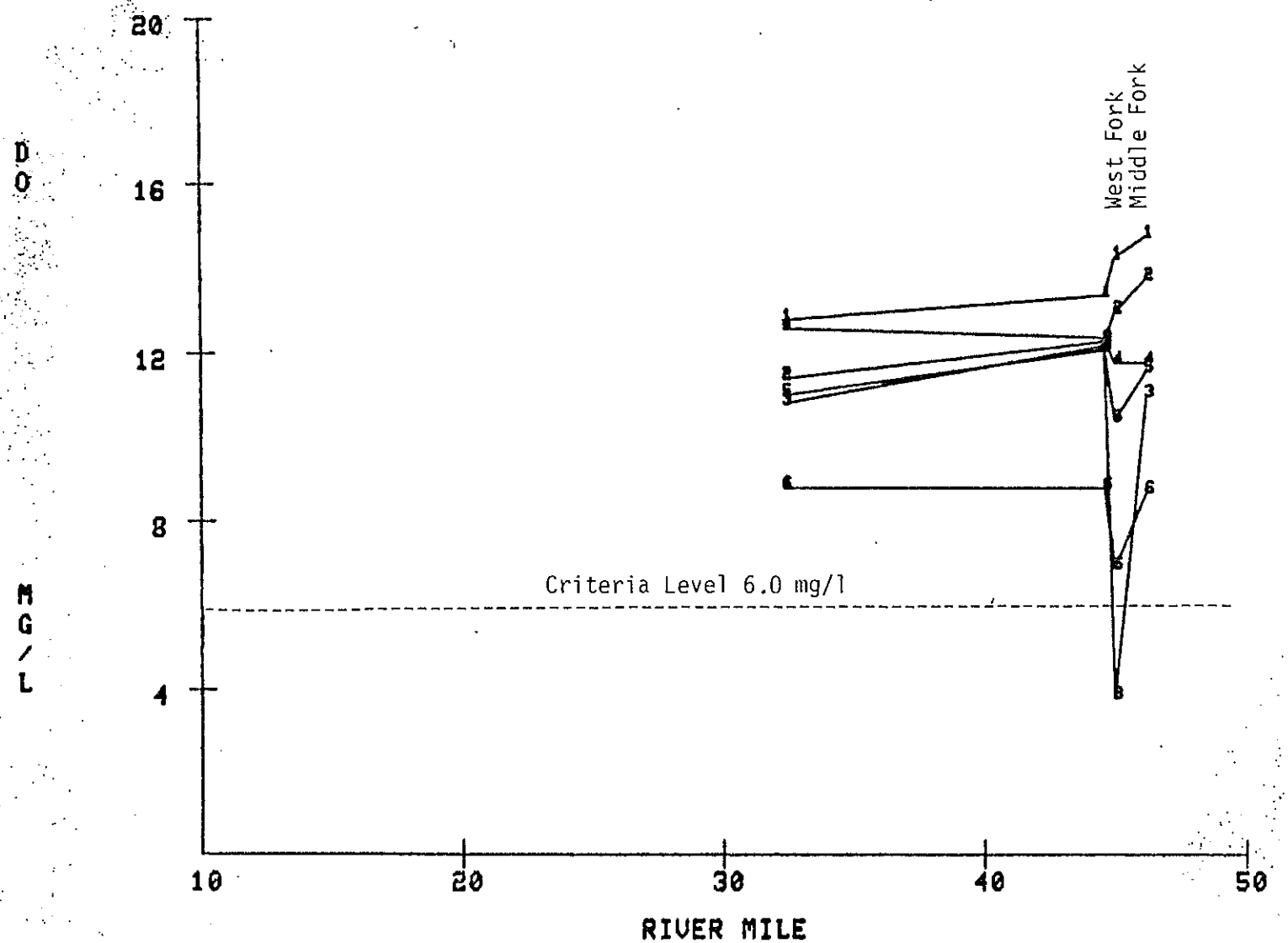

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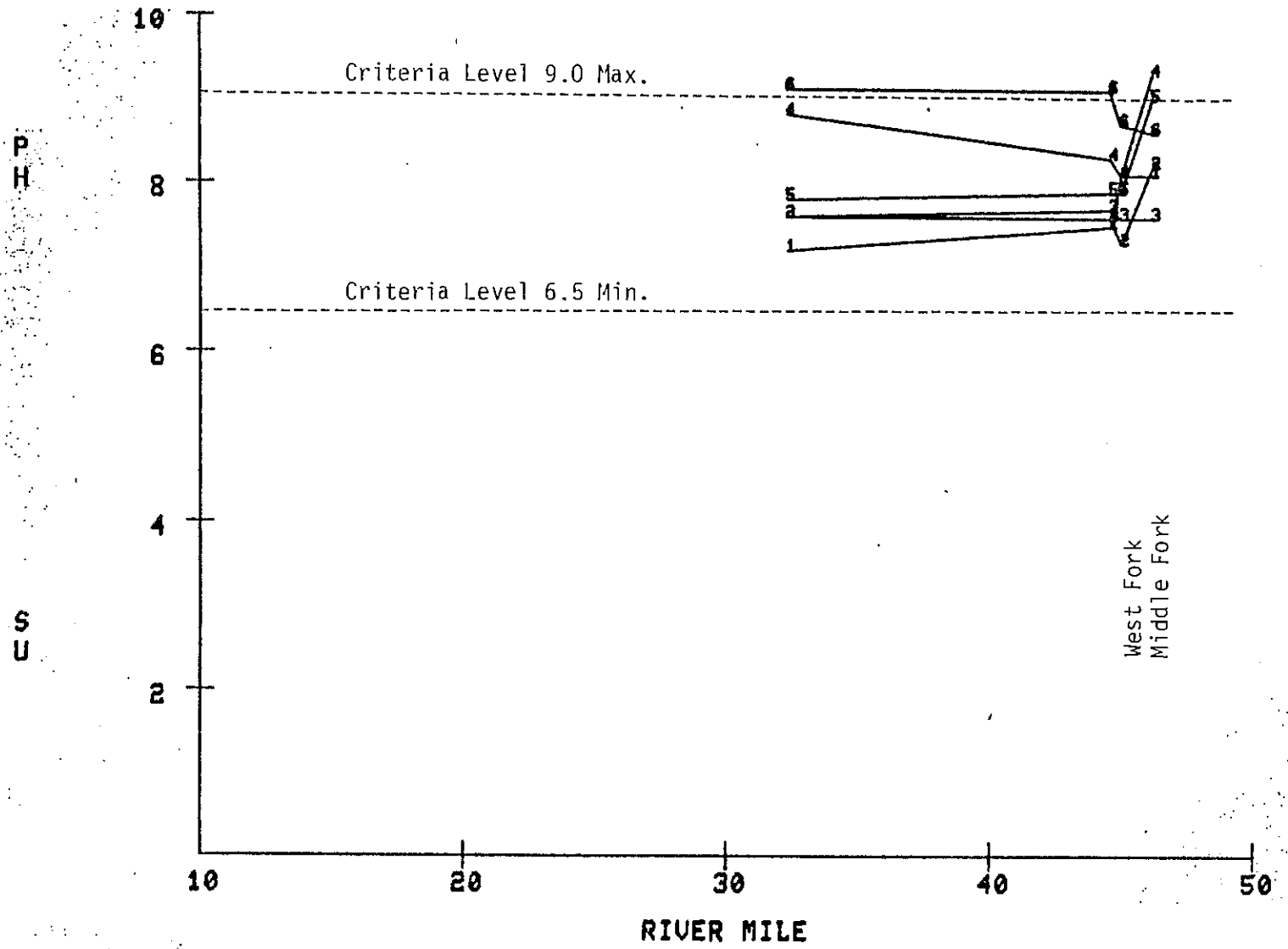

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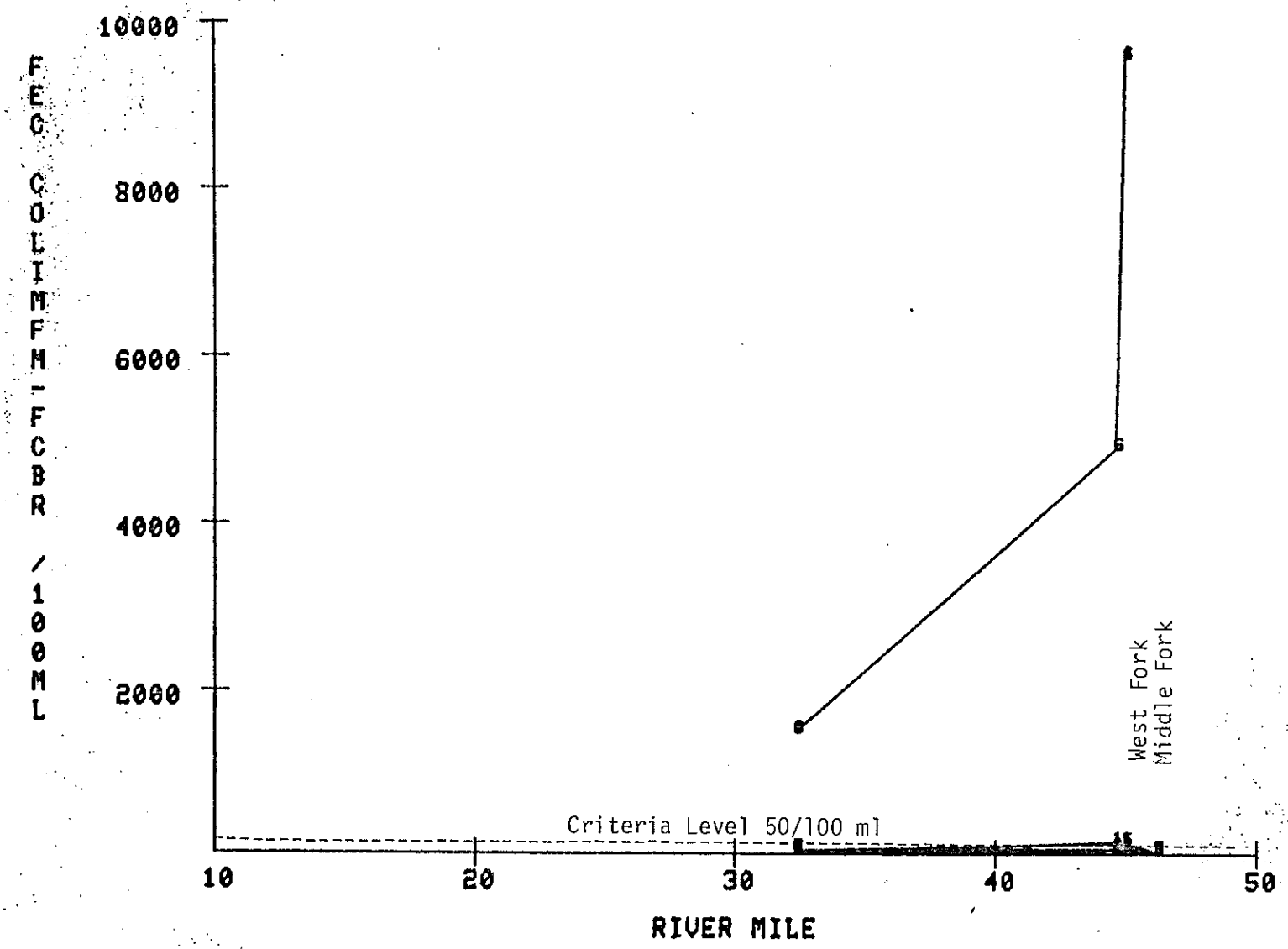

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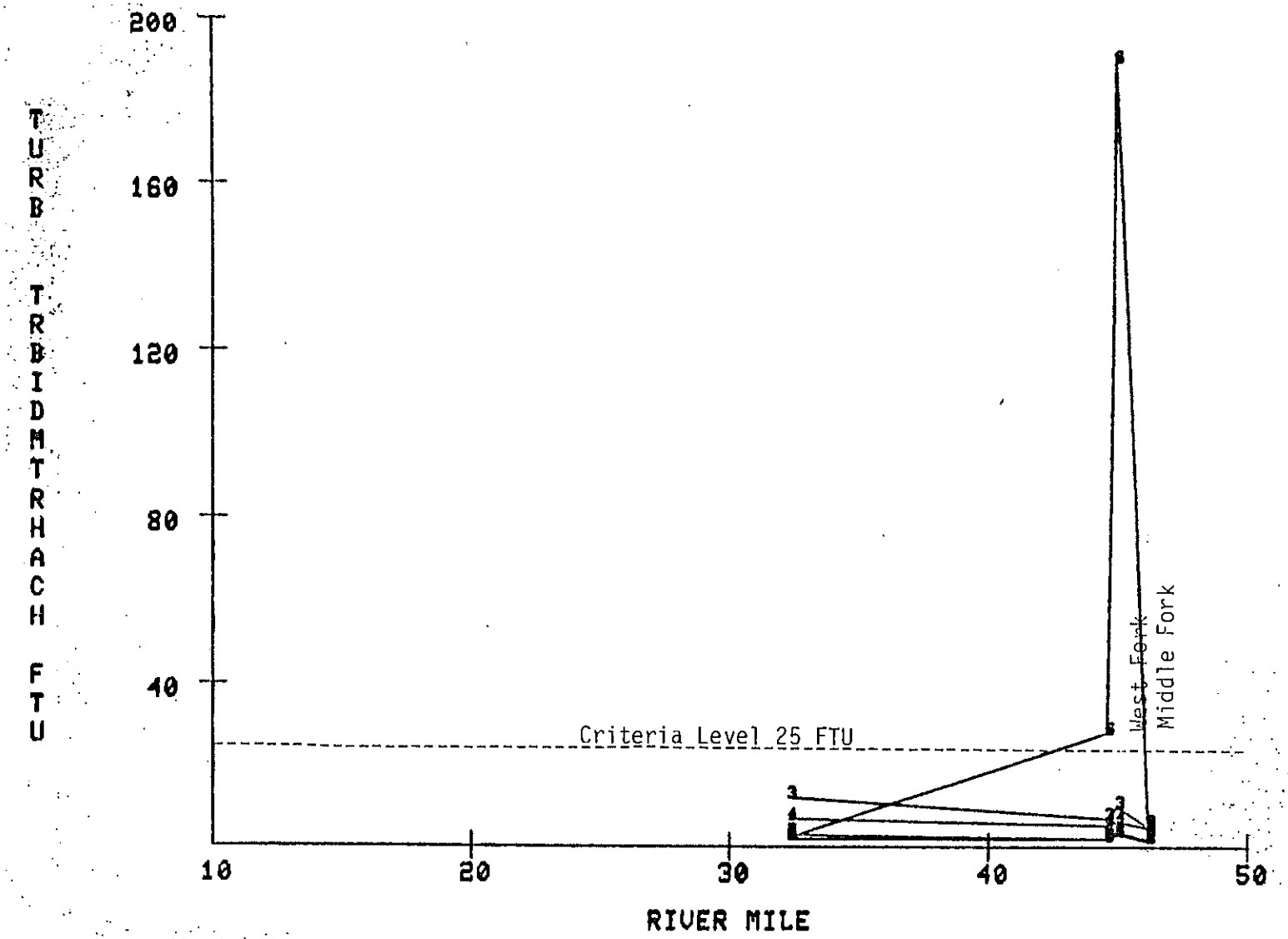

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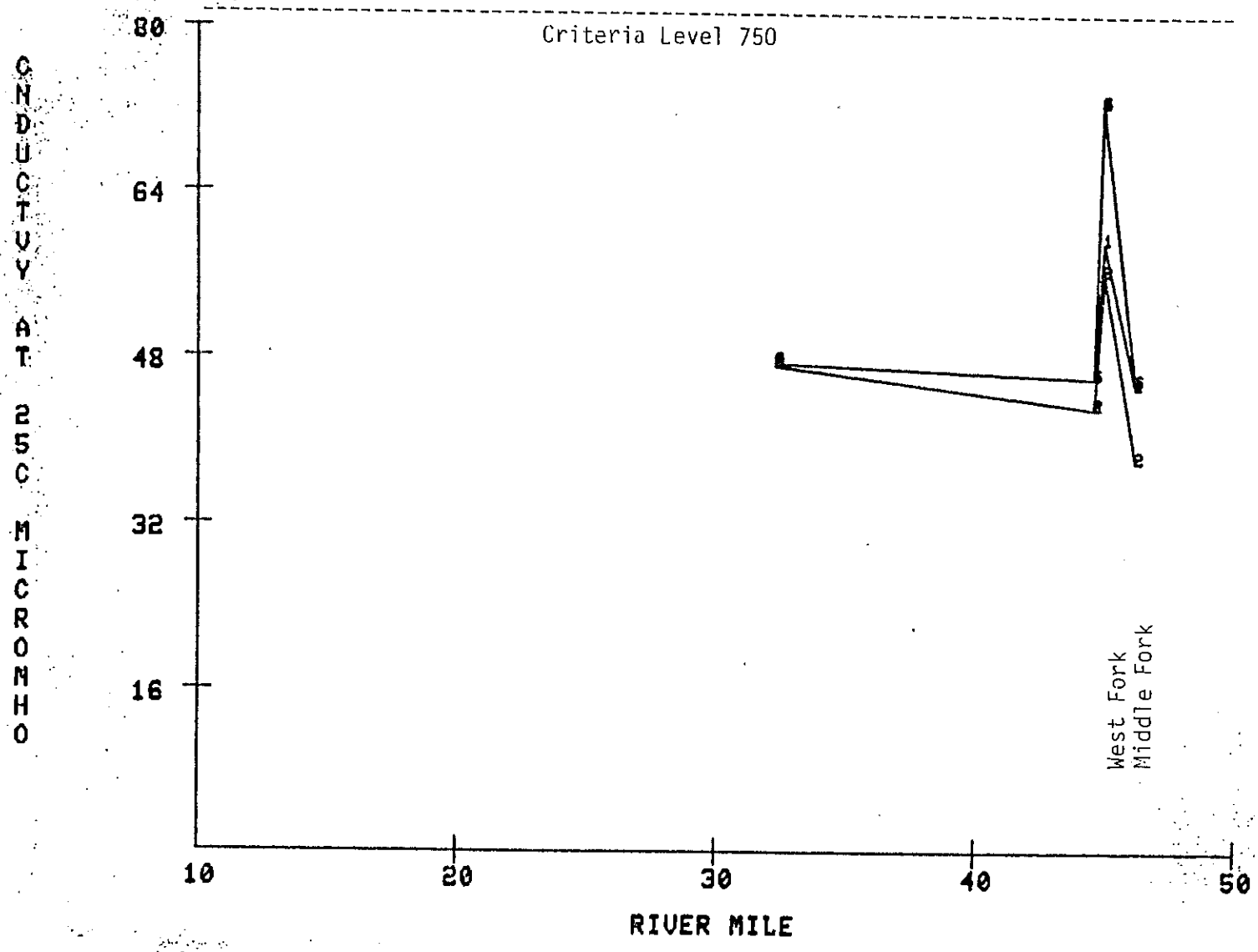

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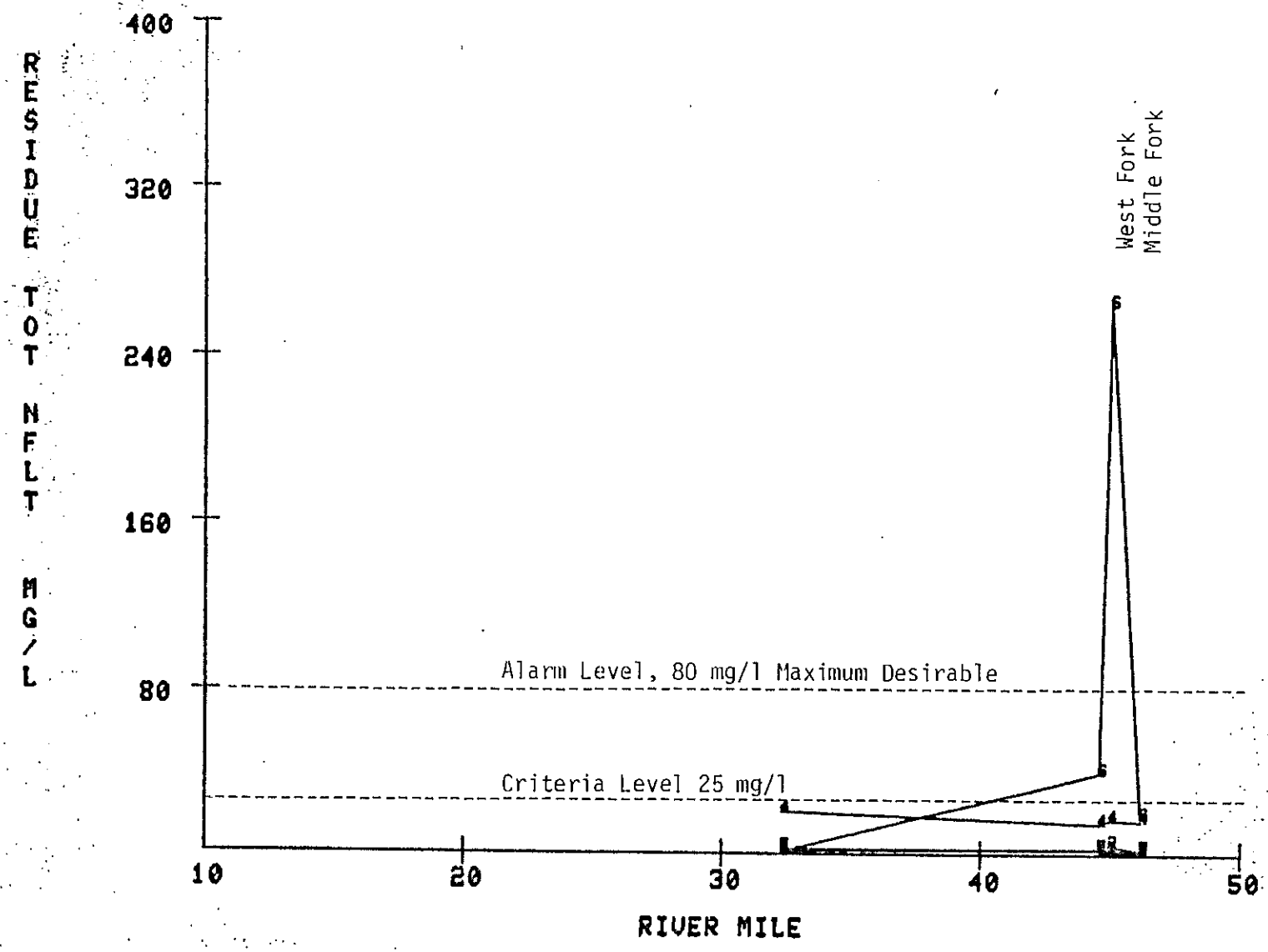

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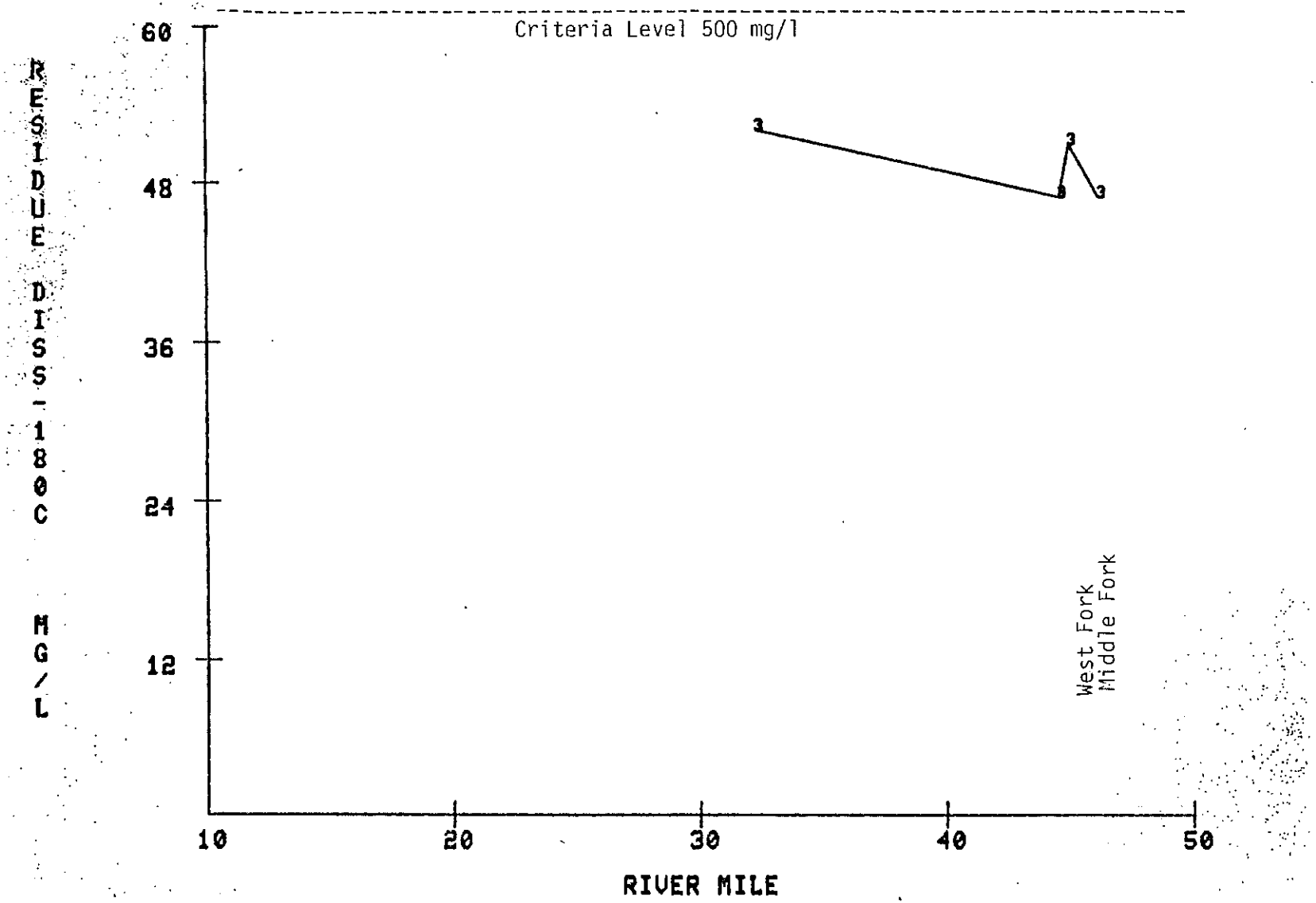

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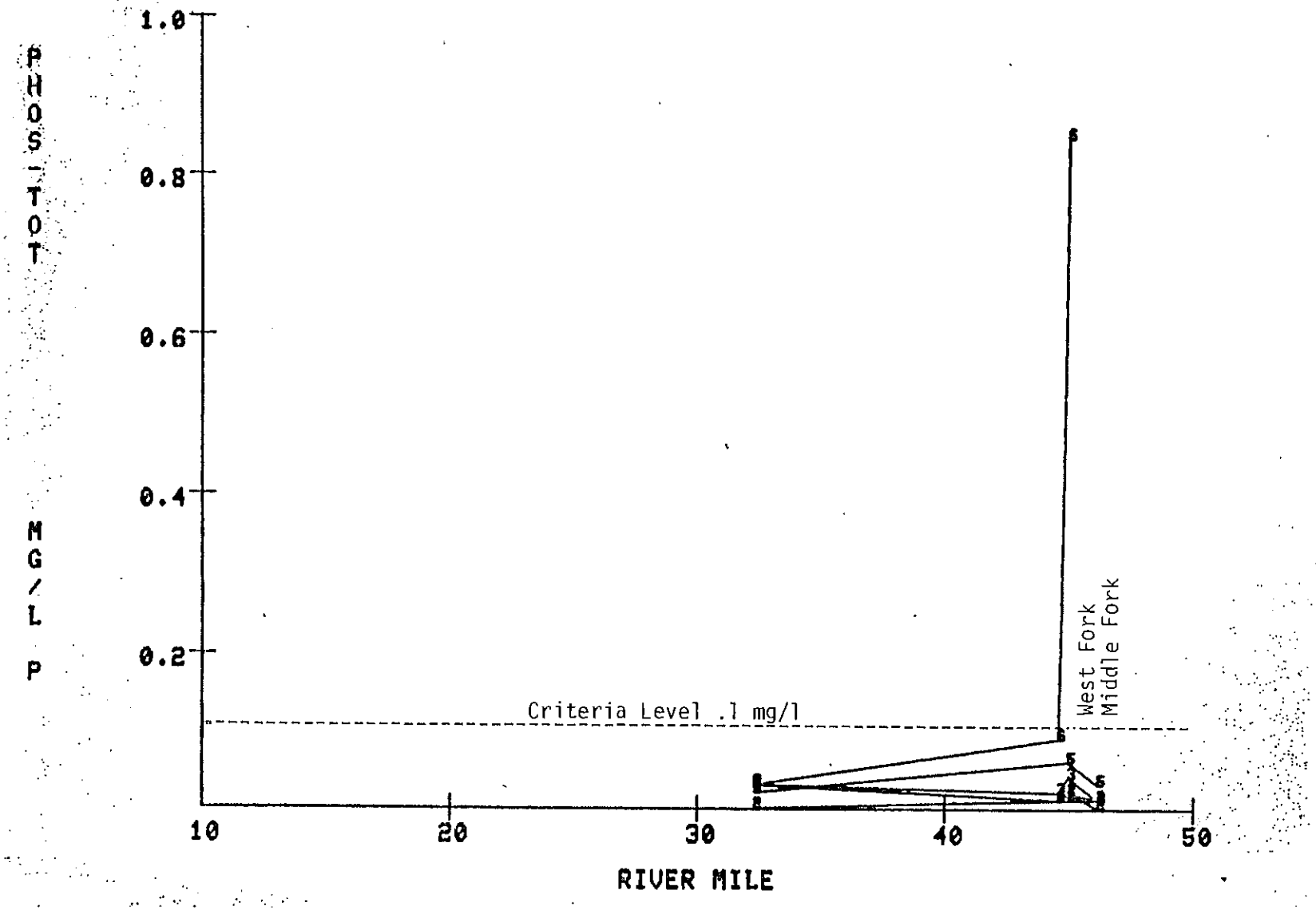

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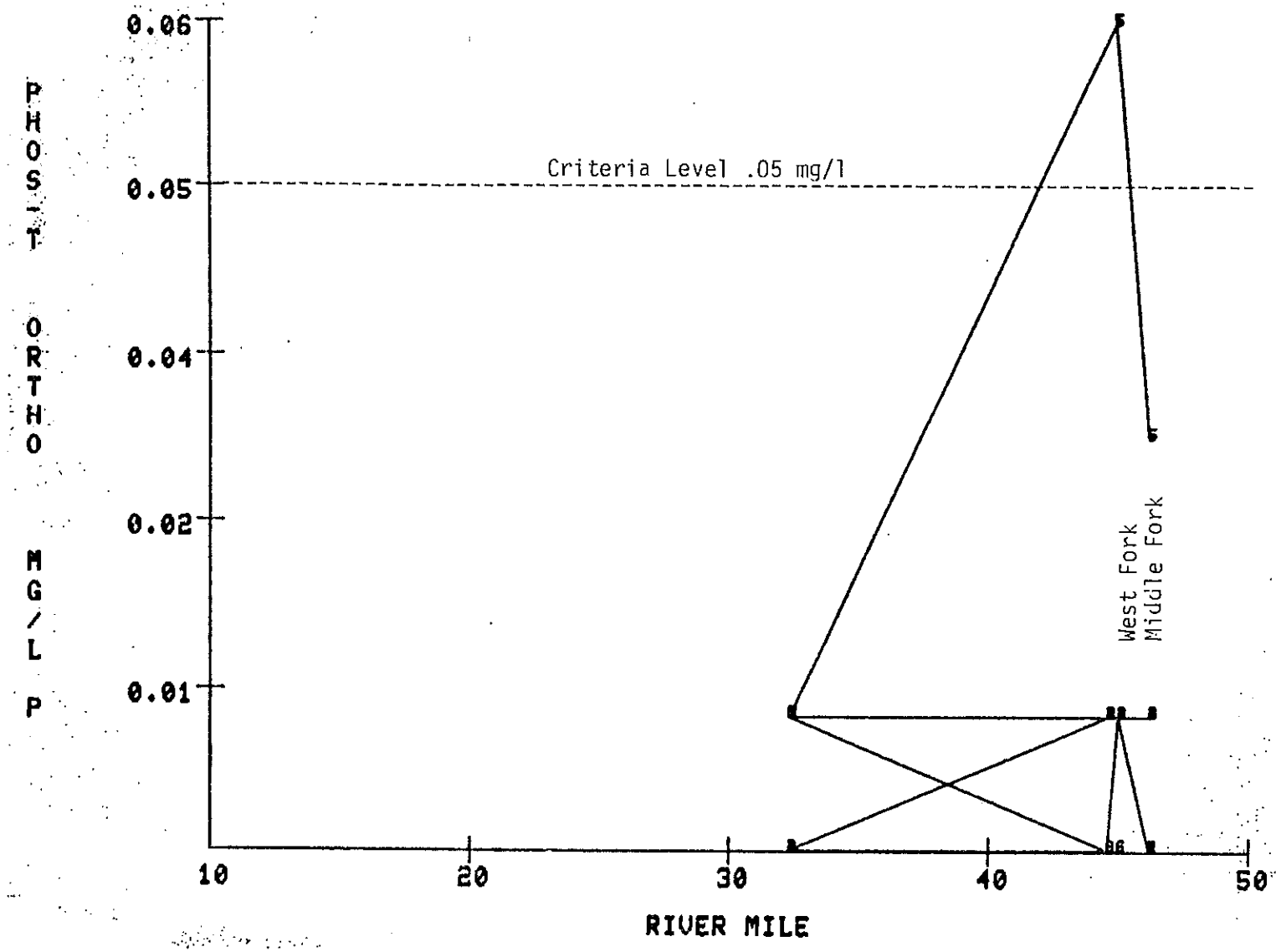

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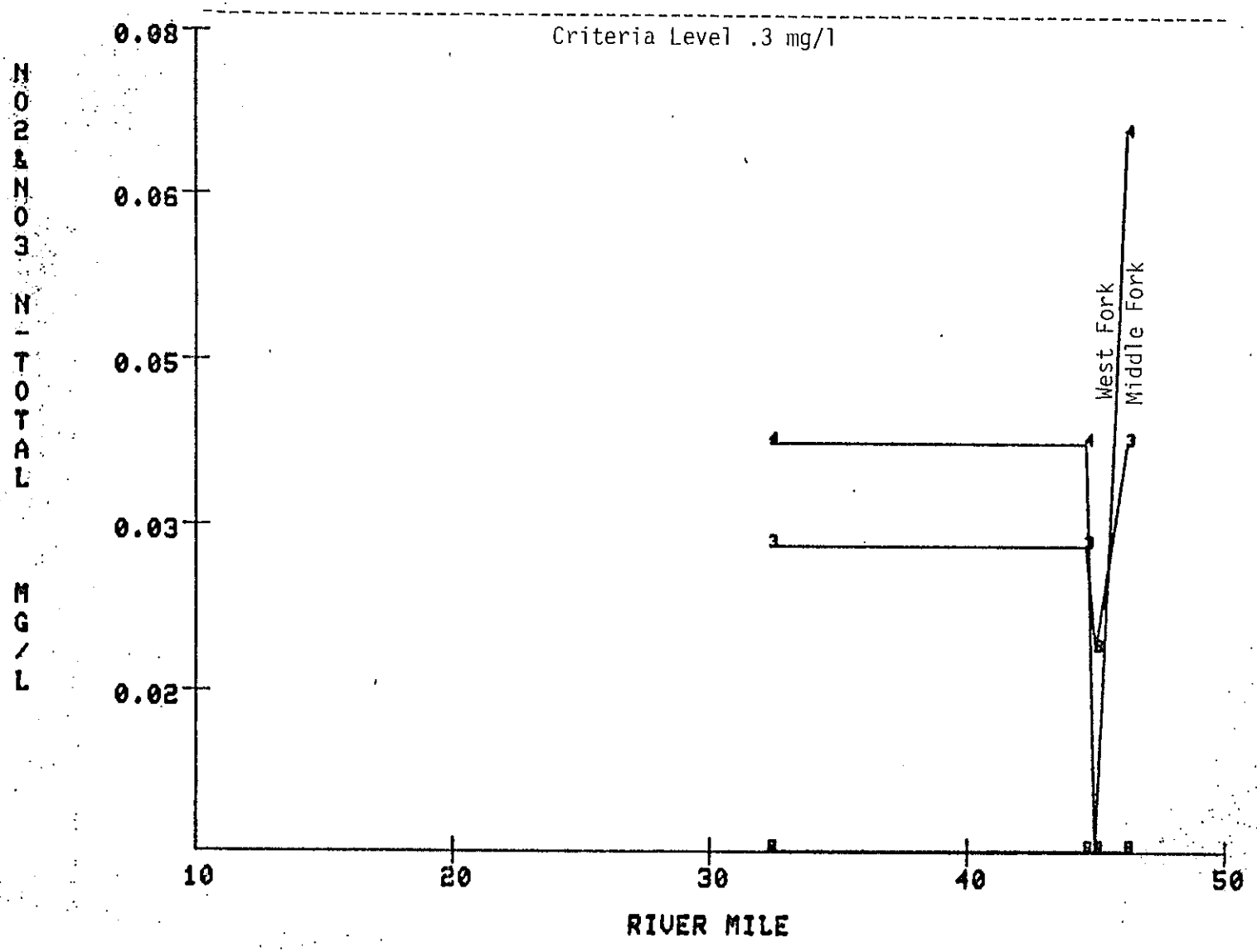

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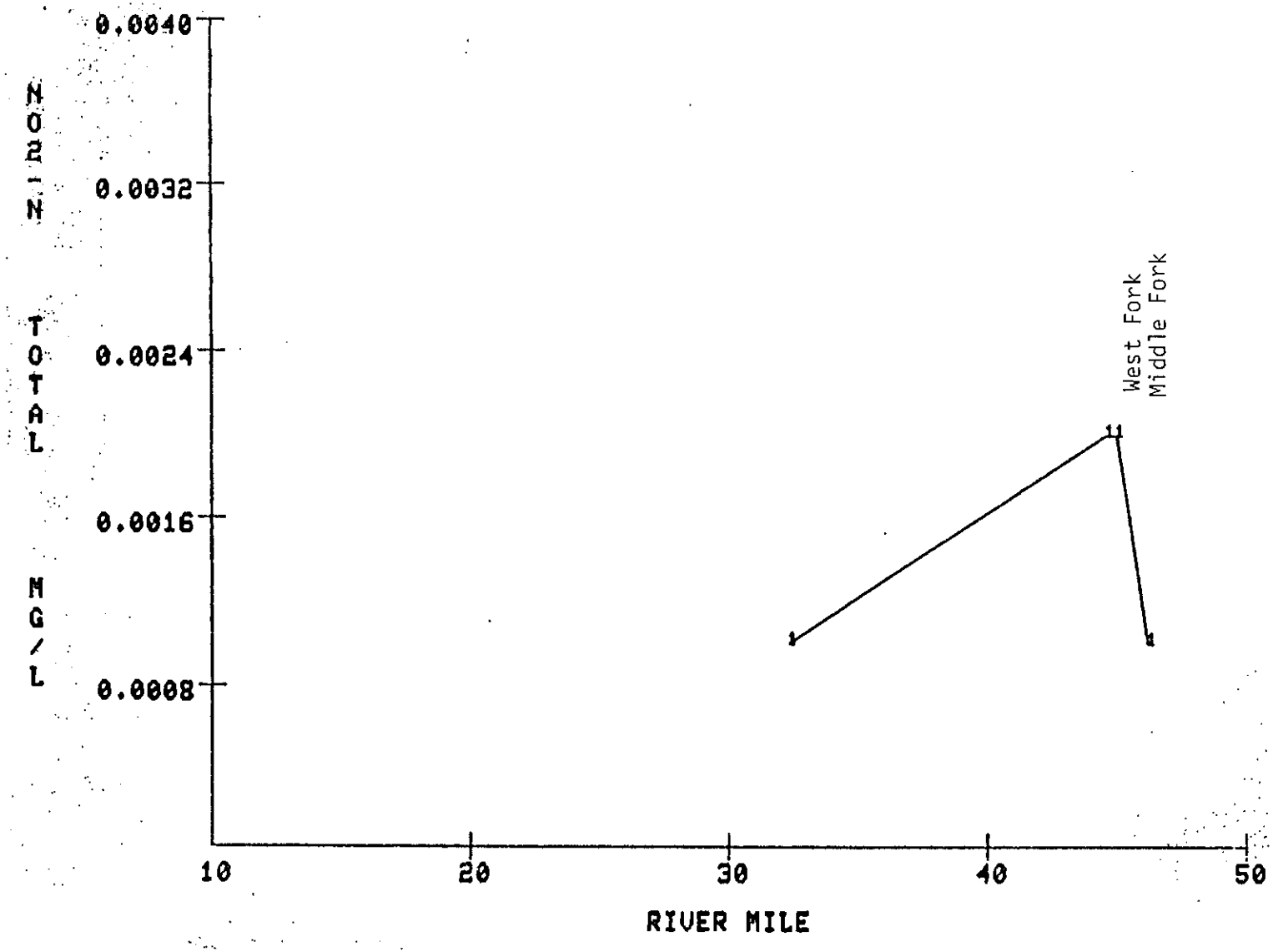
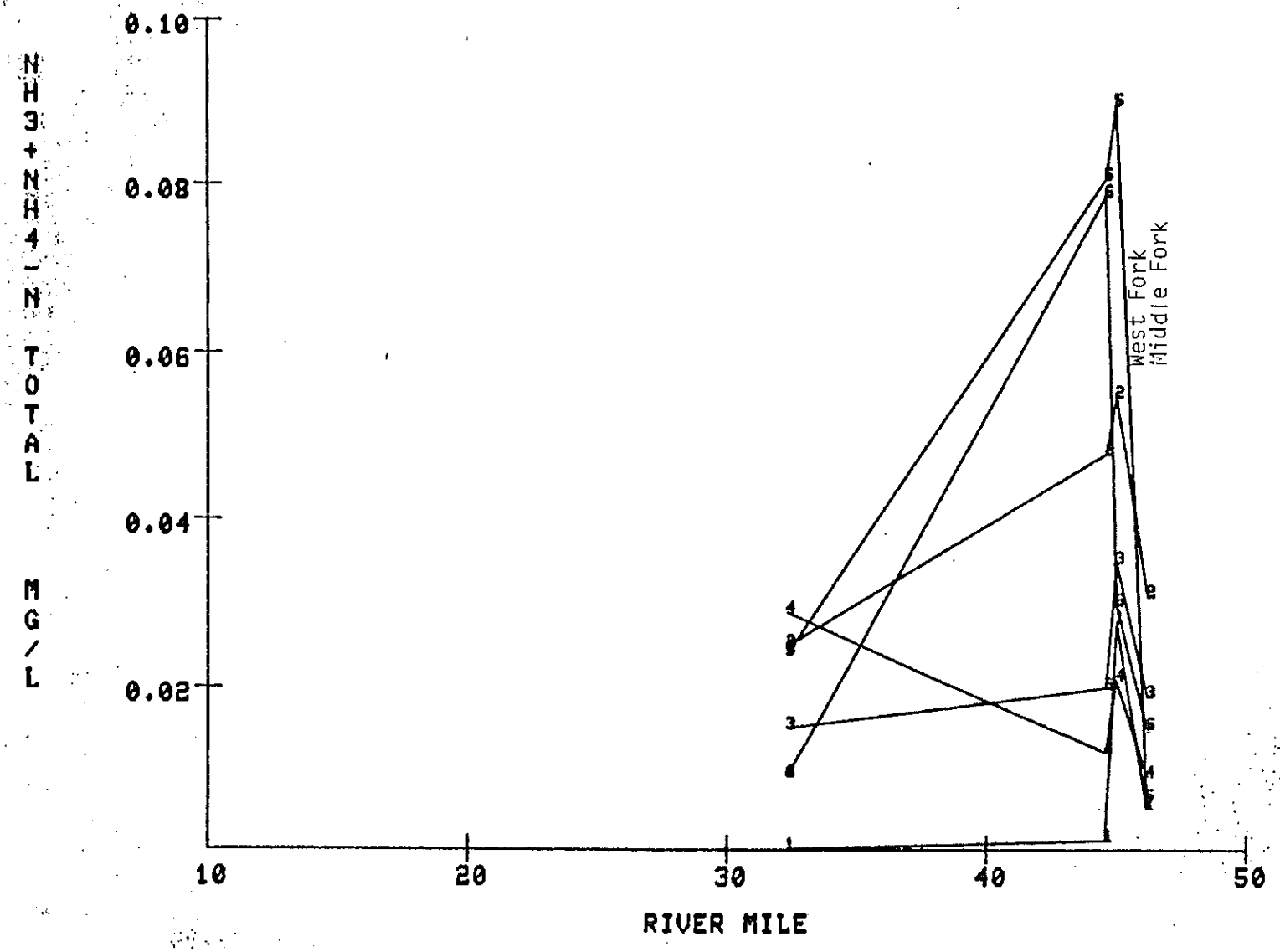
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