LAPWAI CREEK STUDY

Lewis and Nez Perce Counties

Data Collected 1979

Final Summary October 1980

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

Water Quality Summary
No. 5

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SUMMARY OF LAPWAI CREEK STUDY

During Water Year 1979 a water quality study was conducted on Lapwai Creek in Nez Perce and Lewis Counties to obtain background information on nonpoint source pollution impacts and for effluent limitation development. The study involved approximately bi-monthly monitoring at four mainstem stations from the outlet of Winchester Lake to the USGS gaging station two miles above the mouth. The parameter categories which were monitored were as follows:

Temperature	Solids
Dissolved Oxygen	Select Ions
pH	Nutrients
Bacteria	Trace Inorganic Toxins
Oxygen Demand	

The results of the study indicate that the water quality of Lapwai Creek is marginal with frequent bacteria violations, seasonal elevated turbidity and suspended sediment, and consistent trophic nutrient concentrations. Iron and manganese concentrations also exceeded recommended instream criteria during periods of high turbidity and suspended solids.

The bacteria violations occurred from above Culdesac to the USGS gaging station below Lapwai. The fecal coliform/fecal strep ratios were inconsistent and indicated a range of sources from livestock to human. Probable sources could be feedlots, runoff from grazing land, and failing individual subsurface sewage disposal systems or raw sewage discharges.

The turbidity and suspended sediment problems were prevalent between Culdesac and Sweetwater. Visual observations found Mission Creek to be a major source of turbidity and sediment during the periods of sampling. Agricultural nonpoint sources are the probable sources for the turbidity and sediment problems.

The nutrient problems on Lapwai Creek occur from above Culdesac to the USGS gaging station below Lapwai. Both the phosphorus and nitrogen concentrations tend to decrease and level out at Sweetwater. The source for the nutrients is not absolutely known, but it is likely that nutrients are from agricultural operations and domestic animals pastured in the lower drainage.

The data from the study was used to assist in developing effluent limitations for the City of Lapwai. The results of the Lapwai analysis indicate that Lapwai should reduce or eliminate any domestic wastewater discharge when stream flows are less than 50 times their discharge. Lapwai Creek drainage has been identified as a "first priority" area in the Idaho Agricultural Pollution Abatement Plan and the major improvement in stream water quality will come from the application of best management practices on agricultural nonpoint sources.

DATA INVENTORY

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

2020109
46 25 35.0 116 48 20.0 2
LAPWAI CK NR LAPWAI AT USGS
16069 IDAHO
PACIFIC NORTHWEST 130800
LOWER SNAKE
21IDSURV 790616
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01350 0400
MILES 0324.30 0139.30 011.80 002.00

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	6	9.25000	44.1750	6.64643	.718533	2.71339	17.5000	.000000	78/10/23	79/08/13
00042	ALTITUDE	FEET	AB MSL	1	840.000					840.000	840.000	01/01/01	01/01/01
00061	STREAM	FLOW,	INST-CFS	6	145.633	37427.7	193.462	1.32842	78.9807	436.000	7.80000	78/10/23	79/08/13
00076	TURB	TRBIDMTR	HACH FTU	6	12.6000	246.572	15.7026	1.24624	6.41057	37.0000	1.70000	78/10/23	79/08/13
00095	CNDUCTVY	AT 25C	MICROMHO	6	234.500	7336.30	85.6522	.365254	34.9674	330.000	109.000	78/10/23	79/08/13
00116	INTNSVE	SURVEY	IDENT	7	791610-	.349E+06	.000000		.000000	791610	791610	01/01/01	79/08/13
00300	DO		MG/L	6	11.4667	2.31475	1.52143	.132683	.621121	13.6000	9.80000	78/10/23	79/08/13
00335	COD	LOWLEVEL	MG/L	2	8.95000	.045074	.212307	.023722	.150124	9.10000	8.80000	78/10/23	79/01/22
00400	PH		SU	5	7.38000	.257080	.507031	.068703	.226751	8.10000	6.90000	78/10/23	79/06/04
00403	LAB	PH	SU	3	7.56667	.163338	.404151	.053412	.233336	7.80000	7.10000	79/03/19	79/08/13
00410	T ALK	CACO3	MG/L	6	100.000	1766.00	42.0238	.420238	17.1561	145.000	48.0000	78/10/23	79/08/13
00425	HCO3 ALK	CACO3	MG/L	6	100.000	1766.00	42.0238	.420238	17.1561	145.000	48.0000	78/10/23	79/08/13
00430	CO3 ALK	CACO3	MG/L	6	.500000	.300000	.547722	1.09544	.223607	1.00000	.000000	78/10/23	79/08/13
00500	RESIDUE	TOTAL	MG/L	6	202.733	204.362	14.2955	.070514	5.83613	221.000	184.000	78/10/23	79/08/13
00530	RESIDUE	TOT NFLT	MG/L	6	20.1500	1151.17	33.9290	1.68382	13.8514	88.0000	2.00000	78/10/23	79/08/13
00610	NH3+NH4-	N TOTAL	MG/L	6	.043333	.000636	.025216	.581917	.010295	.091000	.020000	78/10/23	79/08/13
00615	NO2-N	TOTAL	MG/L	1	.008000					.008000	.008000	79/01/22	79/01/22
00620	NO3-N	TOTAL	MG/L	1	1.83000					1.83000	1.83000	79/01/22	79/01/22
00625	TOT KJEL	N	MG/L	6	.799833	.081064	.284718	.355972	.116236	1.20000	.500000	78/10/23	79/08/13
00630	NO2&NO3	N-TOTAL	MG/L	4	1.57075	2.19006	1.47988	.942152	.739943	3.70000	.380000	79/03/19	79/08/13
00665	PHOS-TOT		MG/L P	6	.123333	.004787	.069186	.560966	.028245	.210000	.030000	78/10/23	79/08/13
00900	TOT HARD	CACO3	MG/L	6	93.1667	1031.77	32.1212	.344772	13.1134	128.000	49.0000	78/10/23	79/08/13
00916	CALCIUM	CA-TOT	MG/L	6	39.1333	1183.66	34.4043	.879157	14.0455	108.000	13.0000	78/10/23	79/08/13
00927	MGNSIUM	MG,TOT	MG/L	6	7.93333	8.68672	2.94732	.371512	1.20324	11.8000	4.00000	78/10/23	79/08/13
00929	SODIUM	NA,TOT	MG/L	6	12.5167	31.1497	5.58120	.445901	2.27851	19.8000	5.70000	78/10/23	79/08/13
00937	PTSSIUM	K,TOT	MG/L	6	3.23333	.738678	.859464	.265814	.350875	3.90000	1.80000	78/10/23	79/08/13
00940	CHLORIDE	CL	MG/L	6	6.20000	13.3239	3.65020	.588742	1.49019	11.0000	2.70000	78/10/23	79/08/13
00945	SULFATE	SO4-TOT	MG/L	6	10.6667	15.4667	3.93278	.368698	1.60555	18.0000	6.00000	78/10/23	79/08/13
00951	FLUORIDE	F,TOTAL	MG/L	5	.206000	.003280	.057272	.278018	.025613	.260000	.130000	78/10/23	79/08/13
00956	SILICA	TOTAL	MG/L	6	34.8500	17.1555	4.14191	.118850	1.69093	42.1000	31.5000	78/10/23	79/08/13
01002	ARSENIC	AS,TOT	UG/L	6	10.0000	.000000	.000000		.000000	10.0000	10.0000	78/10/23	79/08/13
01027	CADMIUM	CD,TOT	UG/L	6	2.33333	4.26667	2.06559	.885254	.843274	5.00000	1.00000	78/10/23	79/08/13
01042	COPPER	CU,TOT	UG/L	5	10.0000	.000000	.000000		.000000	10.0000	10.0000	79/01/22	79/08/13
01045	IRON	FE,TOT	UG/L	6	358.000	163898	404.843	1.13085	165.277	1035.00	10.0000	78/10/23	79/08/13
01051	LEAD	PB,TOT	UG/L	6	50.0000	.000000	.000000		.000000	50.0000	50.0000	78/10/23	79/08/13
01055	MANGNESE	MN	UG/L	6	25.0000	550.000	23.4521	.938083	9.57427	70.0000	10.0000	78/10/23	79/08/13
01077	SILVER	AG,TOT	UG/L	1	1.00000					1.00000	1.00000	79/01/22	79/01/22
01092	ZINC	ZN,TOT	UG/L	6	2.68333	2.96168	1.72095	.641350	.702577	5.00000	.100000	78/10/23	79/08/13
01501	ALPHA	TOTAL	PC/L	6	1.39500	.843631	.918494	.658419	.374973	2.69000	.100000	78/10/23	79/08/13

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

2020109
46 25 35.0 116 48 20.0 2
LAPWAI X NR LAPWAI AT USGS
16069 AHO
PACIFI NORTHWEST 130800
LOWER SNAKE
21IDSU 790616
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01350 0400
MILES 0324.30 0139.30 011.80 002.00

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
03501	BETA	TOTAL	PC/L	6	3.08500	.230234	.479827	.155535	.195888	3.82000	2.40000	78/10/23	79/08/13
31616	FEC COLI	MFM-FCBR	/100ML	6	251.667	25686.7	160.271	.636837	65.4302	515.000	75.0000	78/10/23	79/08/13
31679	FECSTREP	MF M-ENT	/100ML	6	226.167	35559.4	188.572	.833774	76.9842	410.000	47.0000	78/10/23	79/08/13
70300	RESIDUE	DISS-180	C MG/L	2	176.000	392.000	19.7990	.112494	14.0000	190.000	162.000	78/10/23	79/01/22
70507	PHOS-T	ORTHO	MG/L P	6	.071833	.001549	.039357	.547892	.016067	.122000	.014000	78/10/23	79/08/13
71900	MERCURY	HG,TOTAL	UG/L	6	.500000	.000000	.000000		.000000	.500000	.500000	78/10/23	79/08/13

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

2020113
46 22 20.0 116 41 10.0 2
LAPWAI CREEK BELOW COLDESAC
16069 IDAHO
PACIFIC NORTHWEST 130800
LOWER SNAKE
211DSURV 790616
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01350 0400
MILES 0324.30 0139.30 011.80 010.30

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	6	10.6667	44.3667	6.66084	.624453	2.71927	17.5000	.000000	78/10/23	79/08/13
00042	ALTITUDE	FEET	AB MSL	1	1380.00					1380.00	1380.00	01/01/01	01/01/01
00076	TURB	TRBIDMTR	HACH FTU	6	6.35000	70.4710	8.39470	1.32200	3.42712	22.0000	.700000	78/10/23	79/08/13
00095	CNDUCTVY	AT 25C	MICROMHO	6	197.500	2734.30	52.2905	.264762	21.3475	276.000	139.000	78/10/23	79/08/13
00116	INTNSVE	SURVEY	IDENT	7	791610-	.349E+06	.000000		.000000	791610	791610	01/01/01	79/08/13
00300	DO		MG/L	6	10.9500	4.99902	2.23585	.204187	.912782	13.6000	7.60000	78/10/23	79/08/13
00335	COD	LOWLEVEL	MG/L	2	6.20000	2.87999	1.69705	.273718	1.20000	7.40000	5.00000	78/10/23	79/01/22
00400	PH		SU	6	7.54999	.475098	.689273	.091295	.281395	8.70000	6.60000	78/10/23	79/08/13
00403	LAB	PH	SU	3	7.10000	.210136	.458406	.064564	.264661	7.50000	6.60000	79/03/19	79/08/13
00500	RESIDUE	TOTAL	MG/L	6	155.983	445.462	21.1060	.135309	8.61648	189.900	130.000	78/10/23	79/08/13
00530	RESIDUE	TOT NFLT	MG/L	6	4.61666	26.6576	5.16310	1.11836	2.10783	15.0000	1.60000	78/10/23	79/08/13
00610	NH3+NH4-	N TOTAL	MG/L	6	.031333	.000033	.005785	.184633	.002362	.042000	.027000	78/10/23	79/08/13
00625	TOT KJEL	N	MG/L	6	.753333	.110667	.332666	.441592	.135810	1.22000	.400000	78/10/23	79/08/13
00630	NO2&NO3	N-TOTAL	MG/L	6	2.43500	2.47259	1.57245	.645768	.641948	5.07000	.400000	78/10/23	79/08/13
00665	PHOS-TOT		MG/L P	6	.143333	.001507	.038816	.270809	.015847	.210000	.100000	78/10/23	79/08/13
00940	CHLORIDE	CL	MG/L	6	6.00000	18.2080	4.26708	.711180	1.74203	12.0000	2.20000	78/10/23	79/08/13
31616	FEC COL1	MFM-FCBR	/100ML	6	89.0000	5953.60	77.1596	.866961	31.5003	220.000	7.00000	78/10/23	79/08/13
31679	FECSTREP	MF M-ENT	/100ML	6	63.8333	1004.17	31.6886	.496428	12.9368	120.000	30.0000	78/10/23	79/08/13
70507	PHOS-T	ORTHO	MG/L P	6	.113667	.000308	.017558	.154467	.007168	.140000	.091000	78/10/23	79/08/13

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

2020115
46 14 20.0 116 37 05.0 2
OUTLET OF WINCHESTER LAKE
16069 IDAHO
PACIFIC NORTHWEST 130800
LOWER SNAKE
211DSURV 790616
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01350 0400
MILES 0324.30 0139.30 011.80 025.50

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	6	8.81667	32.3857	5.69084	.645464	2.32328	16.0000	1.00000	78/10/23	79/08/13
00042	ALTITUDE	FEET	AB MSL	1	3900.00					3900.00	3900.00	01/01/01	01/01/01
00076	TURB	TRBIDMTR	HACH FTU	6	17.0833	98.4419	9.92179	.580788	4.05055	31.0000	3.50000	78/10/23	79/08/13
00095	CNDUCTVY	AT 25C	MICROMHO	6	159.667	1709.49	41.3459	.258952	16.8794	213.000	109.000	78/10/23	79/08/13
00116	INTNSVE	SURVEY	IDENT	7	791610-.	349E+06	.000000		.000000	791610	791610	01/01/01	79/08/13
00300	DO		MG/L	6	6.78333	4.30976	2.07600	.306044	.847522	9.40000	4.00000	78/10/23	79/08/13
00335	COD	LOWLEVEL	MG/L	2	23.9500	.604980	.777805	.032476	.549991	24.5000	23.4000	78/10/23	79/01/22
00400	PH		SU	6	6.89999	.224072	.473363	.068603	.193249	7.80000	6.40000	78/10/23	79/08/13
00403	LAB	PH	SU	3	6.86666	.123451	.351356	.051168	.202856	7.20000	6.50000	79/03/19	79/08/13
00410	T ALK	CACO3	MG/L	1	69.0000					69.0000	69.0000	79/08/13	79/08/13
00425	HCO3 ALK	CACO3	MG/L	1	69.0000					69.0000	69.0000	79/08/13	79/08/13
00430	CO3 ALK	CACO3	MG/L	1	.000000					.000000	.000000	79/08/13	79/08/13
00500	RESIDUE	TOTAL	MG/L	6	158.233	193.700	13.9176	.087956	5.68184	178.000	143.000	78/10/23	79/08/13
00530	RESIDUE	TOT NFLT	MG/L	6	10.7167	20.1618	4.49018	.418991	1.83311	15.8000	2.50000	78/10/23	79/08/13
00610	NH3+NH4-	N TOTAL	MG/L	6	.943333	1.51191	1.22960	1.30346	.501981	3.35000	.080000	78/10/23	79/08/13
00625	TOT KJEL	N	MG/L	6	1.86667	.554663	.744757	.398977	.304046	3.10000	1.10000	78/10/23	79/08/13
00630	NO2&NO3	N-TOTAL	MG/L	6	1.05033	.497161	.705096	.671308	.287854	2.43000	.500000	78/10/23	79/08/13
00665	PHOS-TOT		MG/L P	6	.495000	.063550	.252092	.509277	.102916	.780000	.210000	78/10/23	79/08/13
00900	TOT HARD	CACO3	MG/L	1	64.0000					64.0000	64.0000	79/08/13	79/08/13
00916	CALCIUM	CA-TOT	MG/L	1	28.8000					28.8000	28.8000	79/08/13	79/08/13
00940	CHLORIDE	CL	MG/L	6	6.50000	22.1880	4.71041	.724679	1.92302	14.0000	2.20000	78/10/23	79/08/13
00945	SULFATE	SO4-TOT	MG/L	1	10.0000					10.0000	10.0000	79/08/13	79/08/13
00951	FLUORIDE	F,TOTAL	MG/L	1	.130000					.130000	.130000	79/08/13	79/08/13
00956	SILICA	TOTAL	MG/L	1	26.0000					26.0000	26.0000	79/08/13	79/08/13
31616	FEC COLI	MFM-FCBR	/100ML	6	60.6667	20095.9	141.760	2.33670	57.8732	350.000	1.00000	78/10/23	79/08/13
31679	FECSTREP	MF M-ENT	/100ML	6	20.8333	1056.97	32.5110	1.56053	13.2726	85.0000	2.00000	78/10/23	79/08/13
70507	PHOS-T	ORTHO	MG/L P	6	.363500	.060321	.245602	.675661	.100267	.652000	.121000	78/10/23	79/08/13

STORET RETRIEVAL DATE 00/09/18 - INVENT - VERSION OF AUG. 1980

2020133
46 19 45.0 116 38 00.0 2
UNNAMED CREEK 4 MILES ABOVE CULDESAC
16069 IDAHO NEZ PERCE
PACIFIC NORTHWEST 130800
MIDDLE AND LOWER SNAKE RIVER
211DSURV 800209
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01350 0400
MILES 0324.30 0139.30 011.80 018.00

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	1	8.80000					8.80000	8.80000	78/10/23	78/10/23
00076	TURB	TRBIDMTR	HACH FTU	1	1.30000					1.30000	1.30000	78/10/23	78/10/23
00095	CNDUCTVY	AT 25C	MICROMHO	1	186.000					186.000	186.000	78/10/23	78/10/23
00116	INTNSVE	SURVEY	IDENT	1	791610					791610	791610	78/10/23	78/10/23
00300	DO		MG/L	1	10.5000					10.5000	10.5000	78/10/23	78/10/23
00335	COD	LOWLEVEL	MG/L	1	2.90000					2.90000	2.90000	78/10/23	78/10/23
00400	PH		SU	1	6.70000					6.70000	6.70000	78/10/23	78/10/23
00500	RESIDUE	TOTAL	MG/L	1	146.000					146.000	146.000	78/10/23	78/10/23
00530	RESIDUE	TOT NFLT	MG/L	1	4.00000					4.00000	4.00000	78/10/23	78/10/23
00610	NH3+NH4-	N TOTAL	MG/L	1	.072000					.072000	.072000	78/10/23	78/10/23
00625	TOT KJEL	N	MG/L	1	.800000					.800000	.800000	78/10/23	78/10/23
00630	NO2&NO3	N-TOTAL	MG/L	1	.250000					.250000	.250000	78/10/23	78/10/23
00665	PHOS-TOT		MG/L P	1	.110000					.110000	.110000	78/10/23	78/10/23
00940	CHLORIDE	CL	MG/L	1	10.0000					10.0000	10.0000	78/10/23	78/10/23
31501	TOT COLI	MFIMENDO	/100ML	1	1.30000					1.30000	1.30000	78/10/23	78/10/23
31616	FEC COLI	MFM-FCOR	/100ML	1	4.00000					4.00000	4.00000	78/10/23	78/10/23
31679	FECSTREP	MF M-ENT	/100ML	1	66.0000					66.0000	66.0000	78/10/23	78/10/23
70507	PHOS-T	ORTHO	MG/L P	1	.094000					.094000	.094000	78/10/23	78/10/23

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

2020137
46 22 10.0 116 47 35.0 2
LAPWAI CK AT SWEETWATER TOWNSITE
16069 IDAHO
PACIFIC NORTHWEST 130800
LOWER SNAKE
211DSURV 790616
0000 CLASS 00

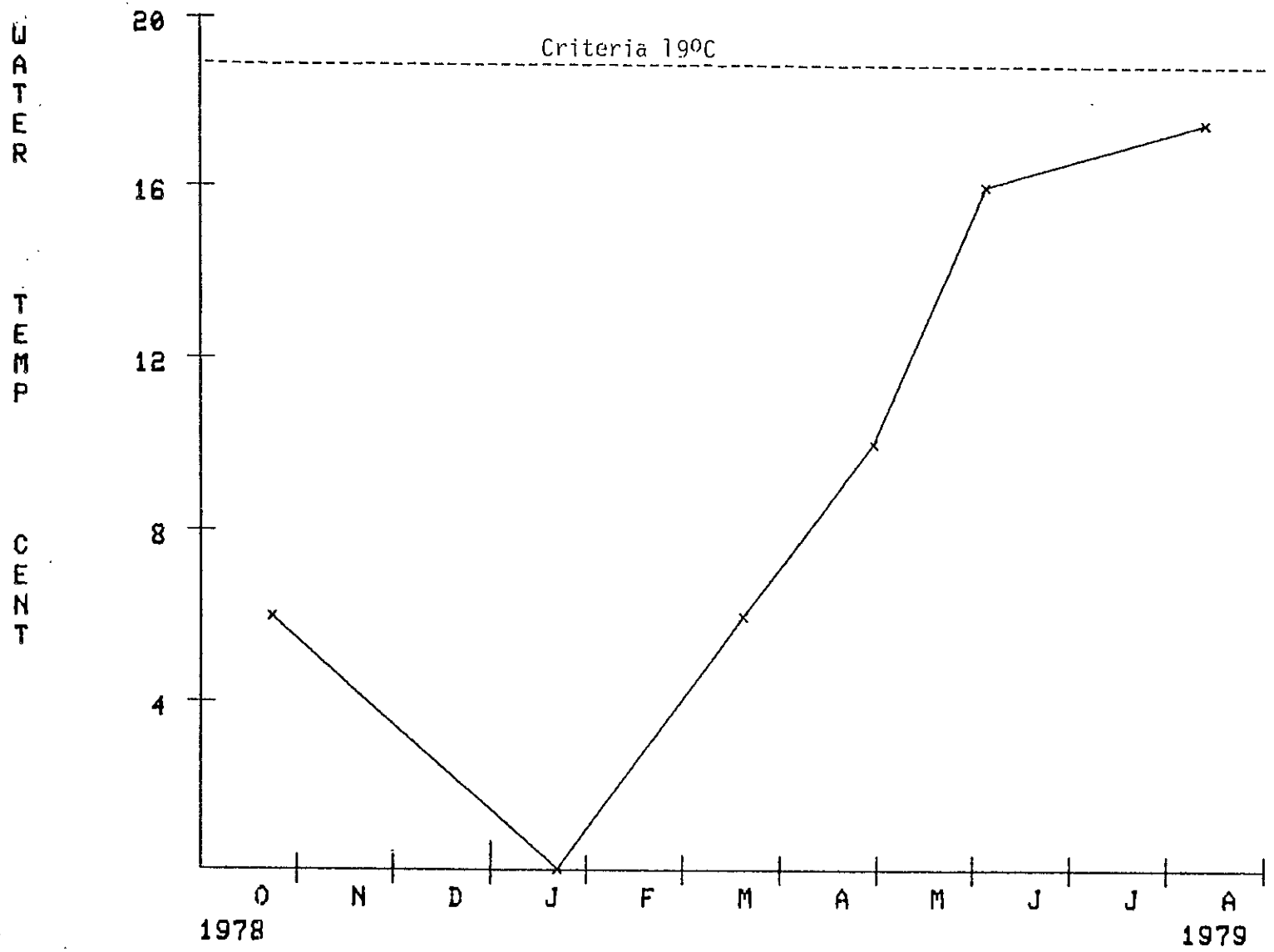
/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01350 0400
MILES 0324.30 0139.30 011.80 006.00

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	6	9.83333	53.6667	7.32576	.744992	2.99073	19.5000	.000000	78/10/23	79/08/13
00042	ALTITUDE	FEET	AB MSL	1	1080.00					1080.00	1080.00	01/01/01	01/01/01
00076	TURB	TRBIDMTR	HACH FTU	6	14.2833	321.706	17.9362	1.25574	7.32241	42.0000	1.40000	78/10/23	79/08/13
00095	CNDUCTVY	AT 25C	MICROMHO	6	216.833	8044.98	89.6938	.413653	36.6174	335.000	91.0000	78/10/23	79/08/13
00116	INTNSVE	SURVEY	IDENT	7	787324	.128E+09	11325.9	.014385	4280.78	791610	761610	01/01/01	79/08/13
00300	DO		MG/L	6	12.1667	2.84277	1.68605	.138580	.688328	14.6000	9.90000	78/10/23	79/08/13
00335	COD	LOWLEVEL	MG/L	2	8.14999	.005188	.072028	.008838	.050931	8.20000	8.10000	78/10/23	79/01/22
00400	PH		SU	6	7.41666	.069727	.264058	.035603	.107801	7.80000	7.10000	78/10/23	79/08/13
00403	LAB	PH	SU	3	7.56667	.303345	.550767	.072789	.317986	8.20000	7.20000	79/03/19	79/08/13
00500	RESIDUE	TOTAL	MG/L	6	194.533	514.187	22.6757	.116565	9.25732	222.000	161.000	78/10/23	79/08/13
00530	RESIDUE	TOT NFLT	MG/L	6	22.0000	1230.40	35.0771	1.59441	14.3201	92.0000	2.00000	78/10/23	79/08/13
00610	NH3+NH4-	N TOTAL	MG/L	6	.039167	.000252	.015867	.405121	.006478	.061000	.019000	78/10/23	79/08/13
00625	TOT KJEL	N	MG/L	6	.938333	.059617	.244165	.260212	.099680	1.30000	.700000	78/10/23	79/08/13
00630	NO2&NO3	N-TOTAL	MG/L	6	.975166	.390184	.624647	.640554	.255011	2.04000	.390000	78/10/23	79/08/13
00665	PHOS-TOT		MG/L P	6	.138333	.004337	.065853	.476049	.026885	.210000	.060000	78/10/23	79/08/13
00940	CHLORIDE	CL	MG/L	6	5.70000	9.88404	3.14389	.551560	1.28349	10.6000	2.20000	78/10/23	79/08/13
31616	FEC COLI	MFM-FCOR	/100ML	6	285.833	134070	366.156	1.28101	149.482	980.000	8.00000	78/10/23	79/08/13
31679	FECSTREP	MF M-ENT	/100ML	6	196.000	39871.6	199.679	1.01877	81.5185	520.000	47.0000	78/10/23	79/08/13
70507	PHOS-T	ORTHO	MG/L P	6	.063500	.001519	.038976	.613792	.015912	.108000	.012000	78/10/23	79/08/13

GRAPHICS

STORET STATION 2020109
LAPUAI CK NR LAPUAI AT USGS



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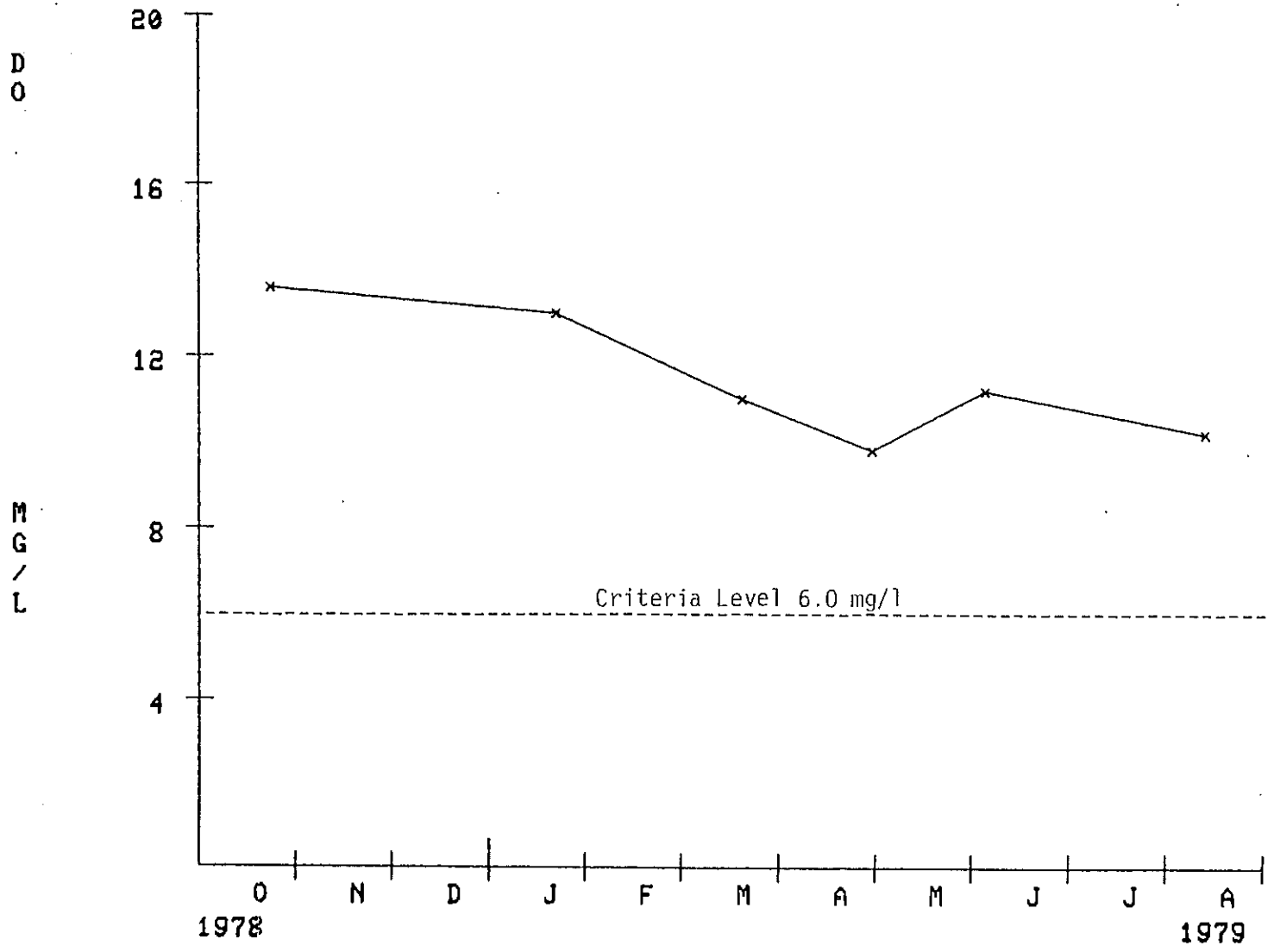

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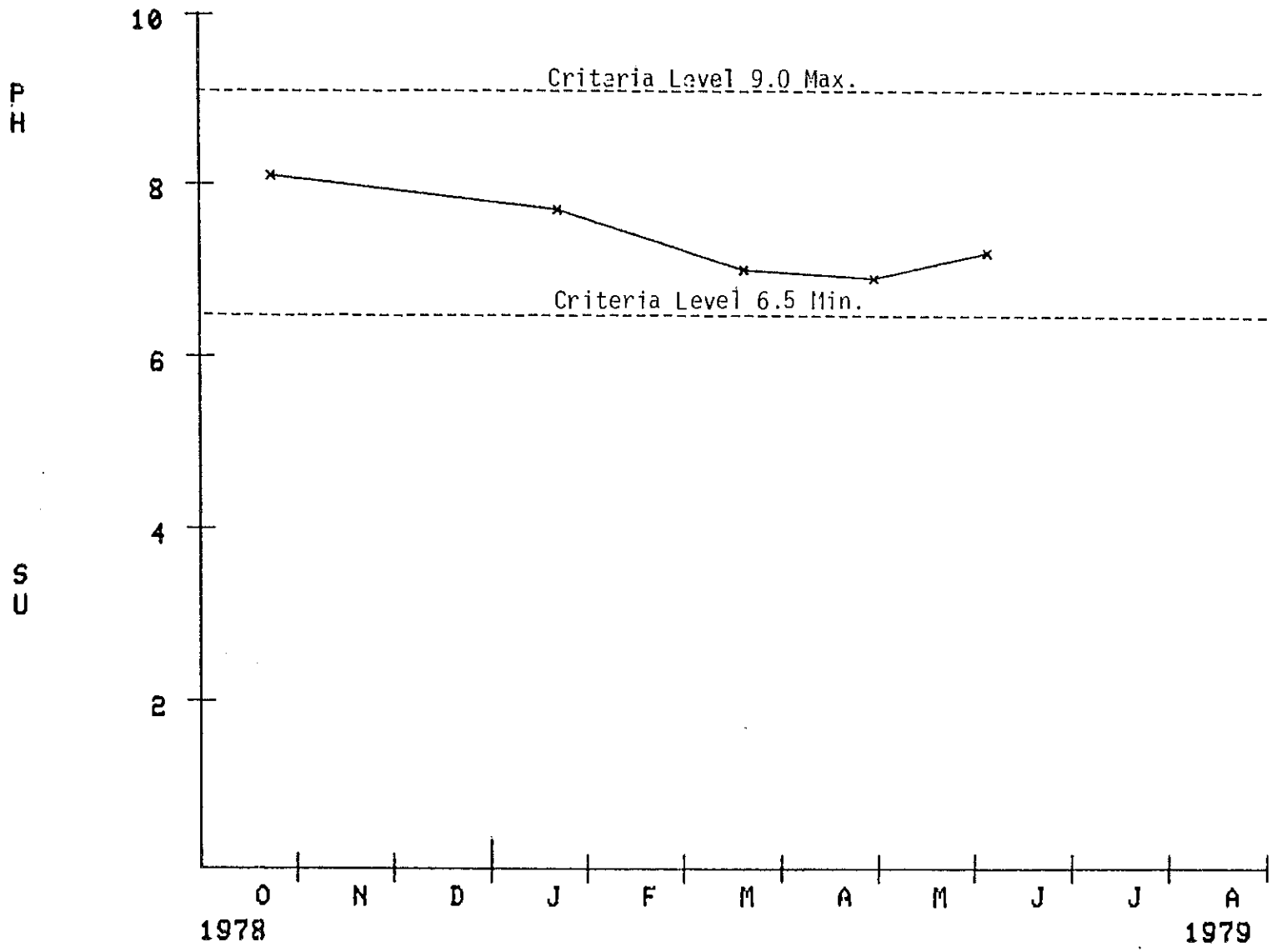

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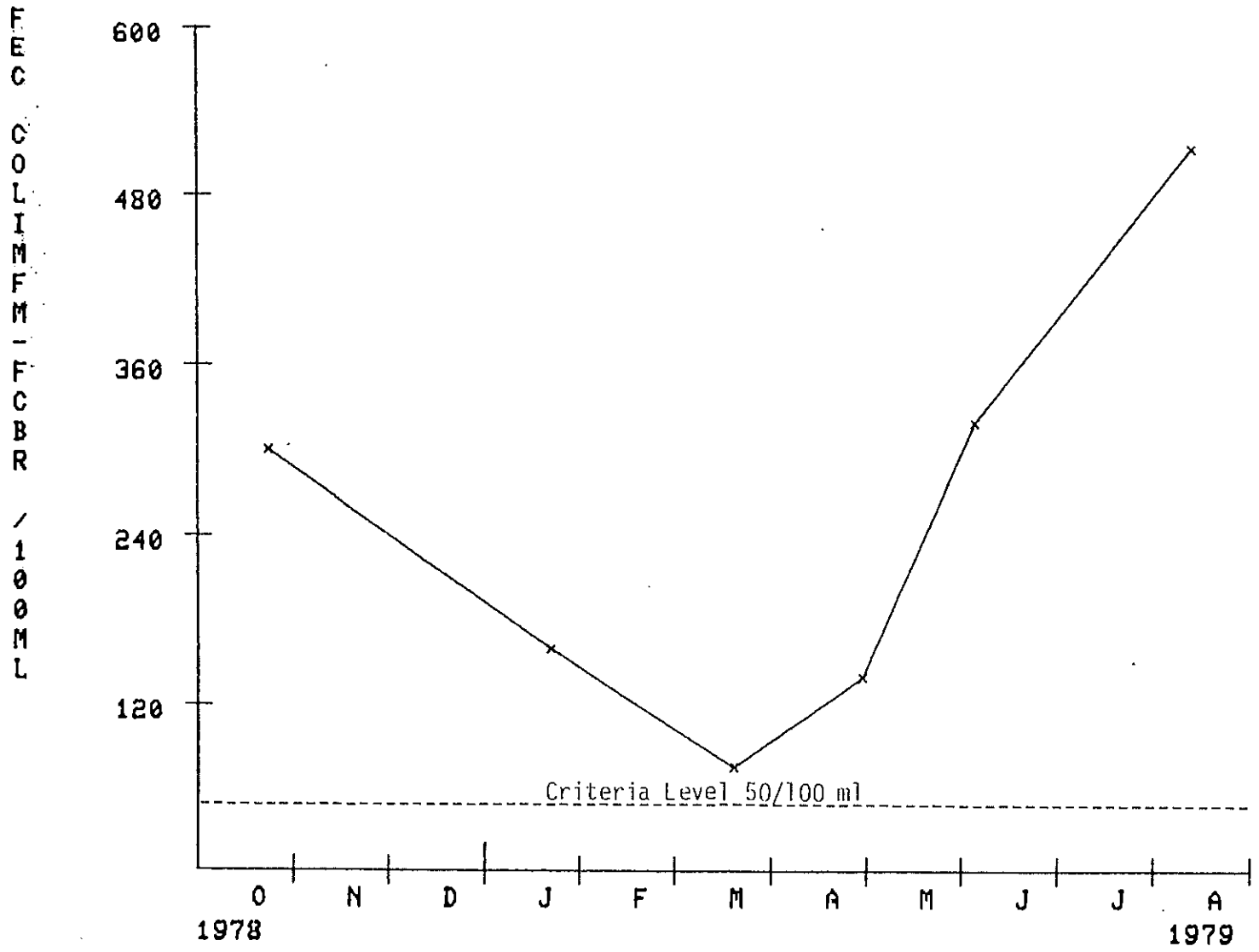

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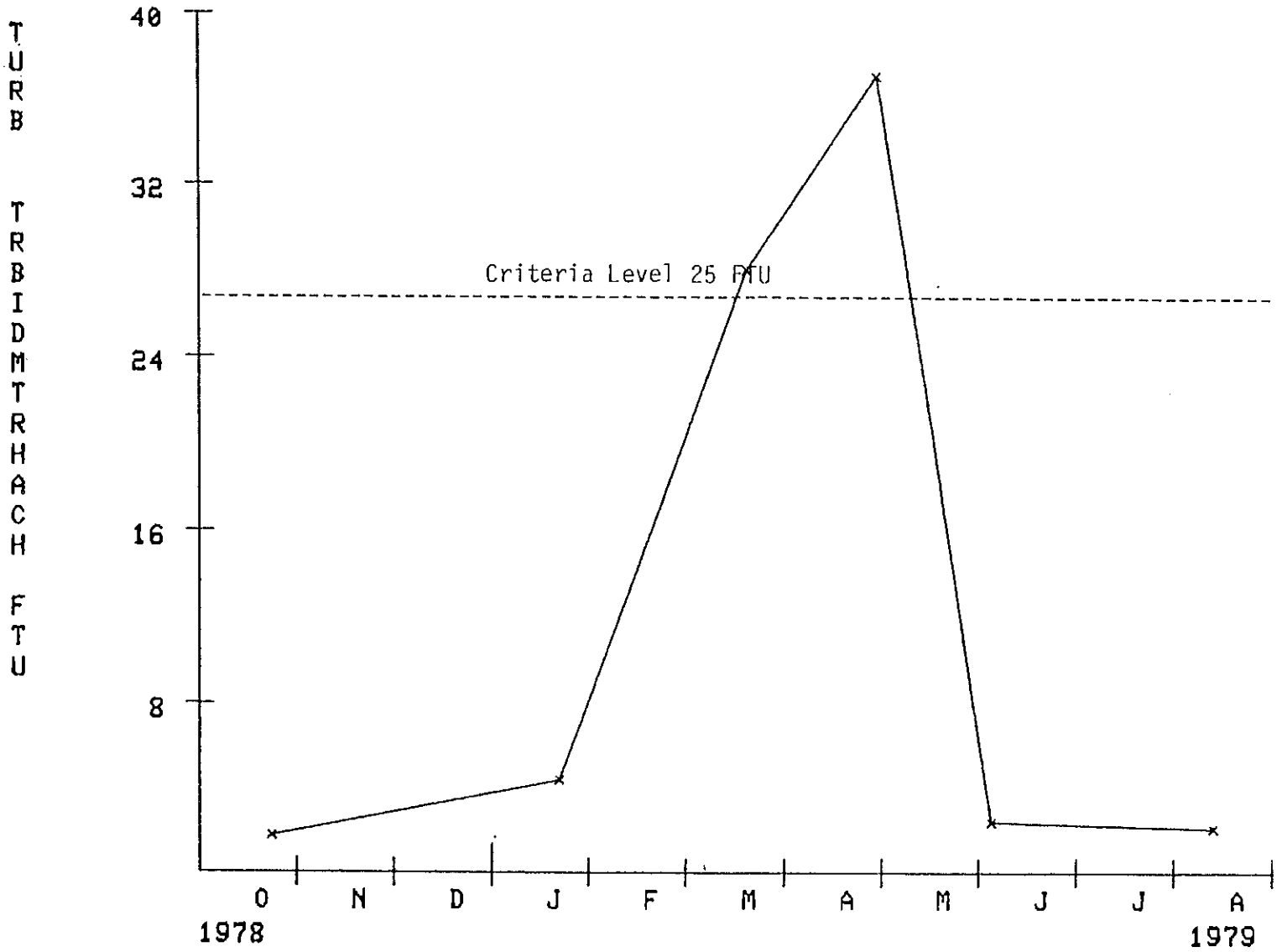

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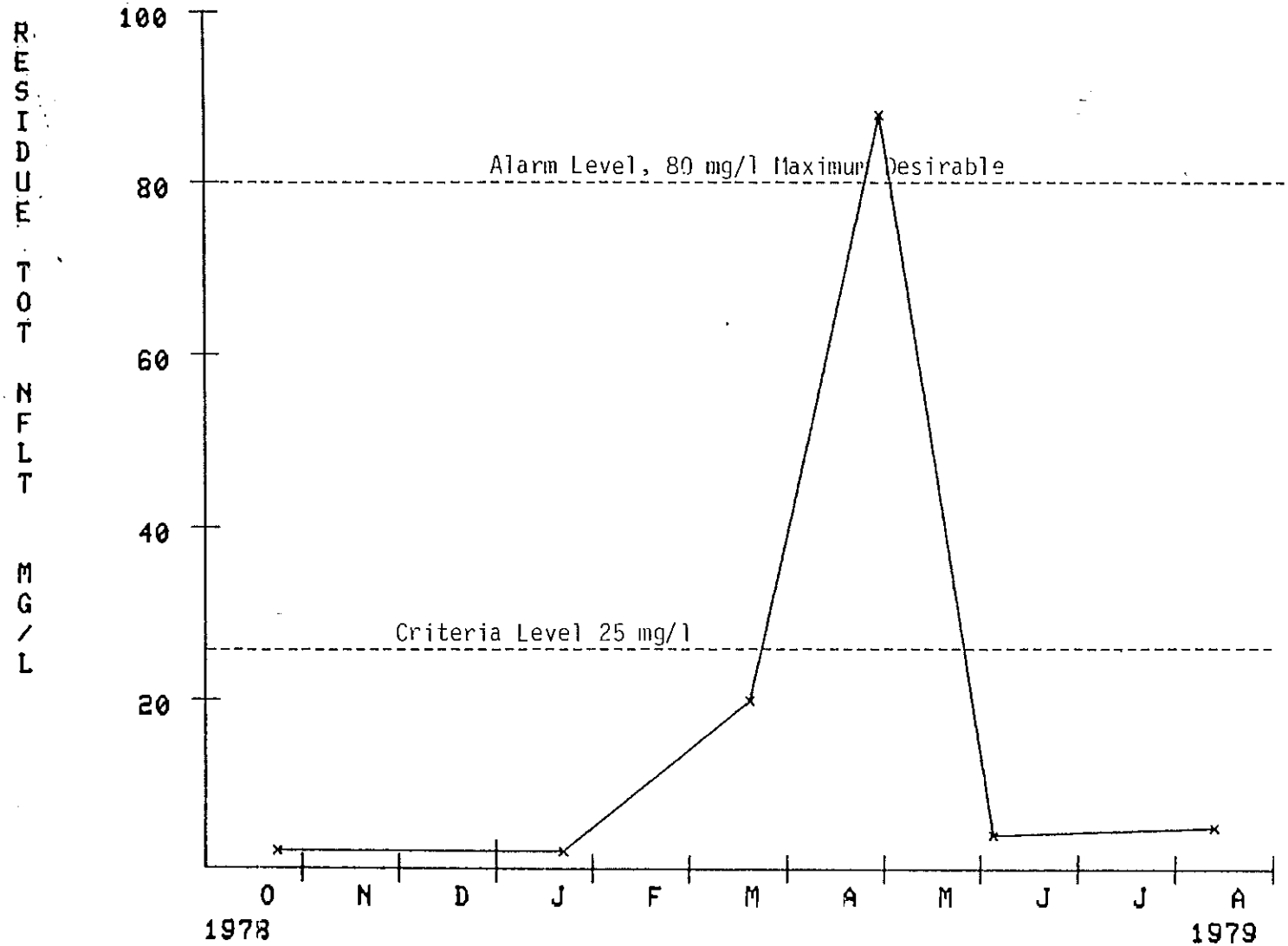

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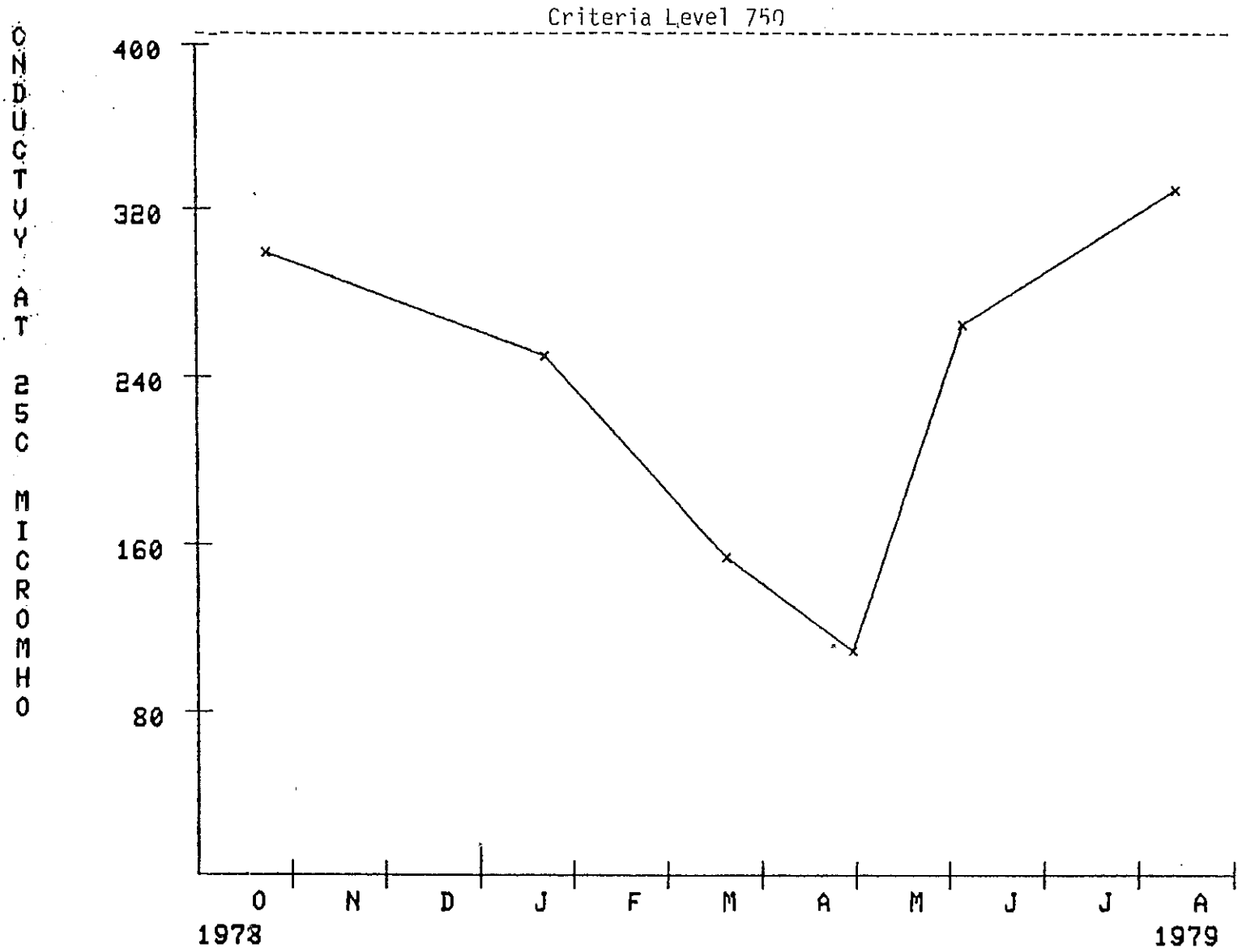

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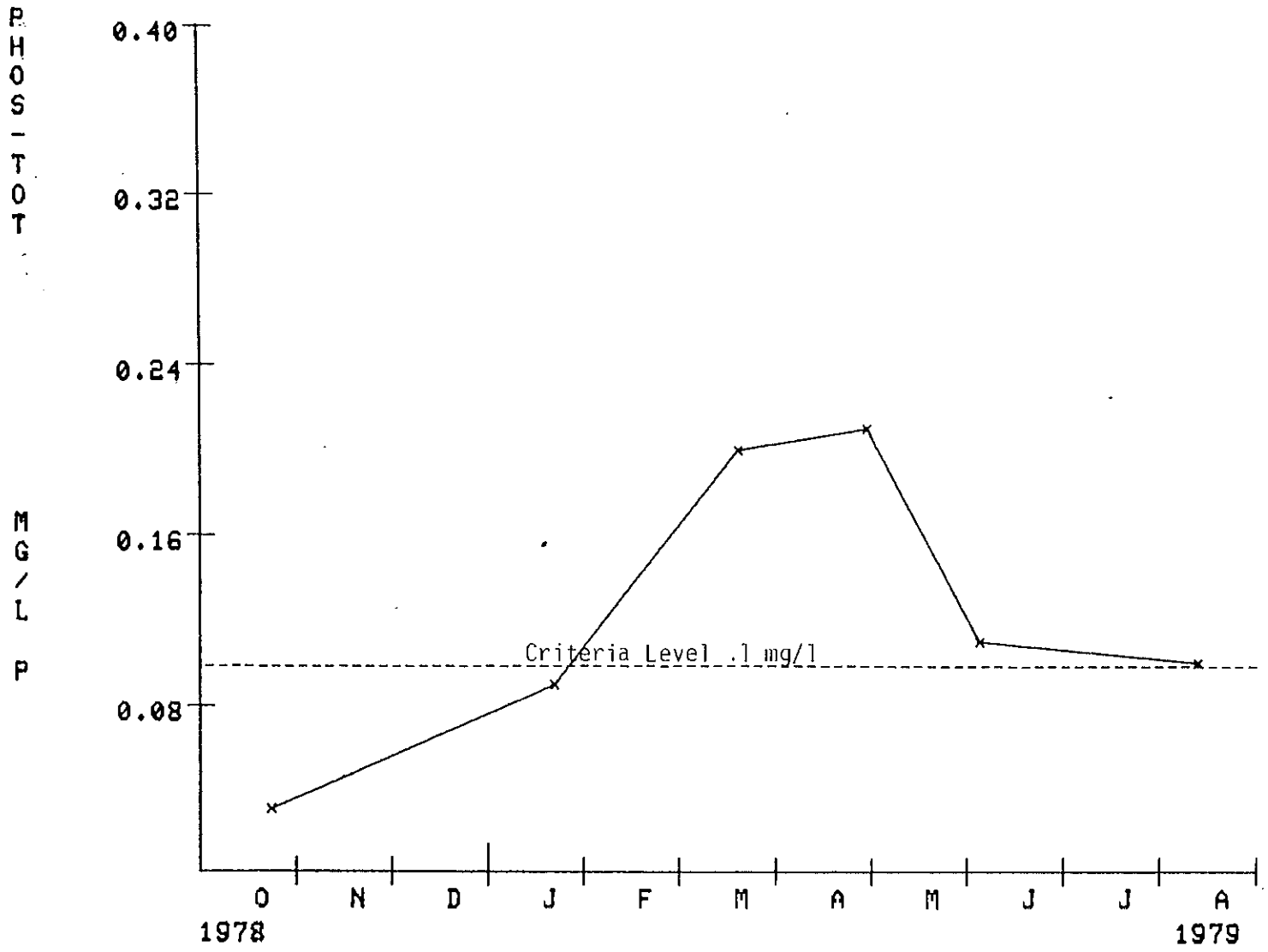

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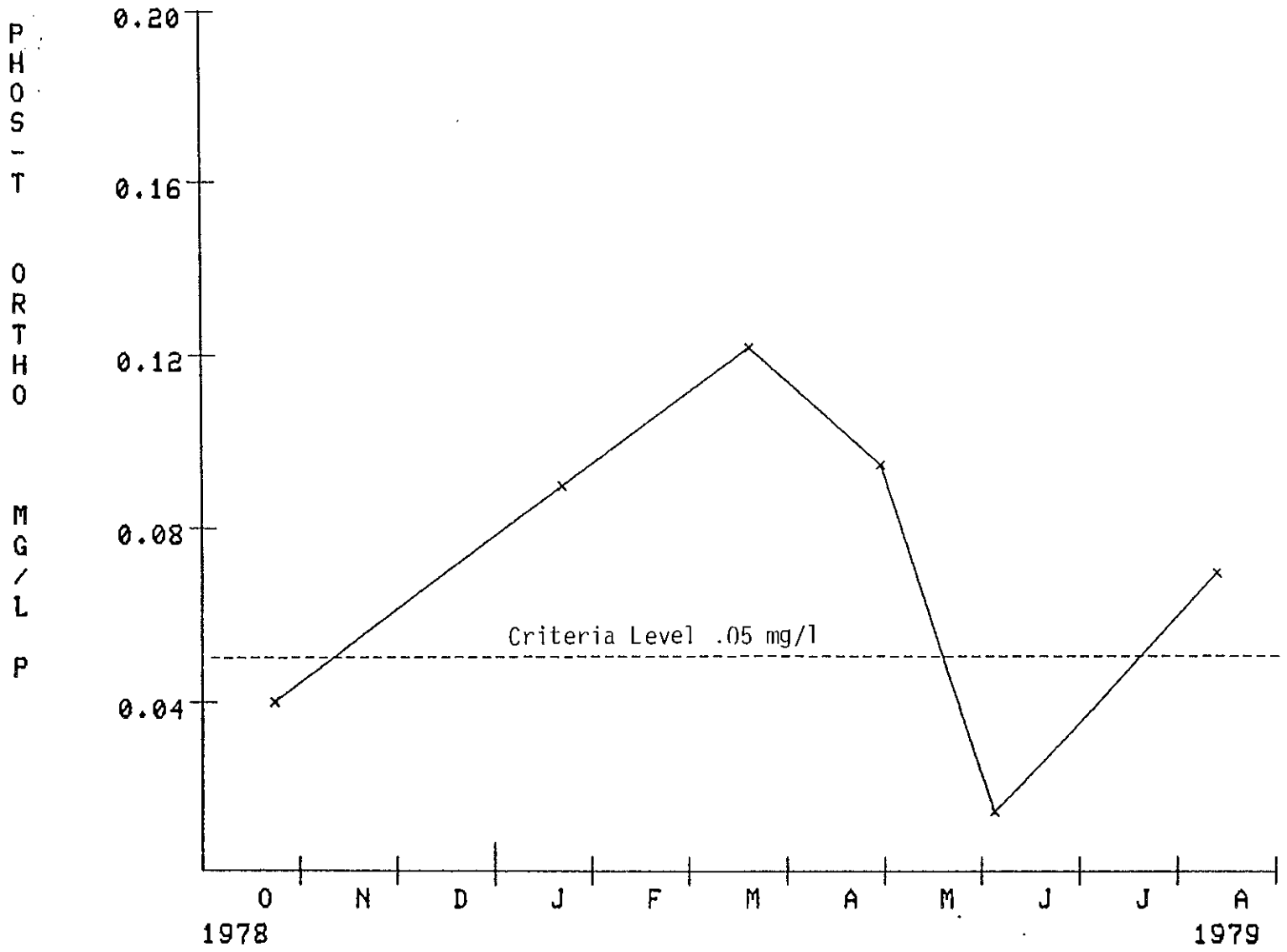

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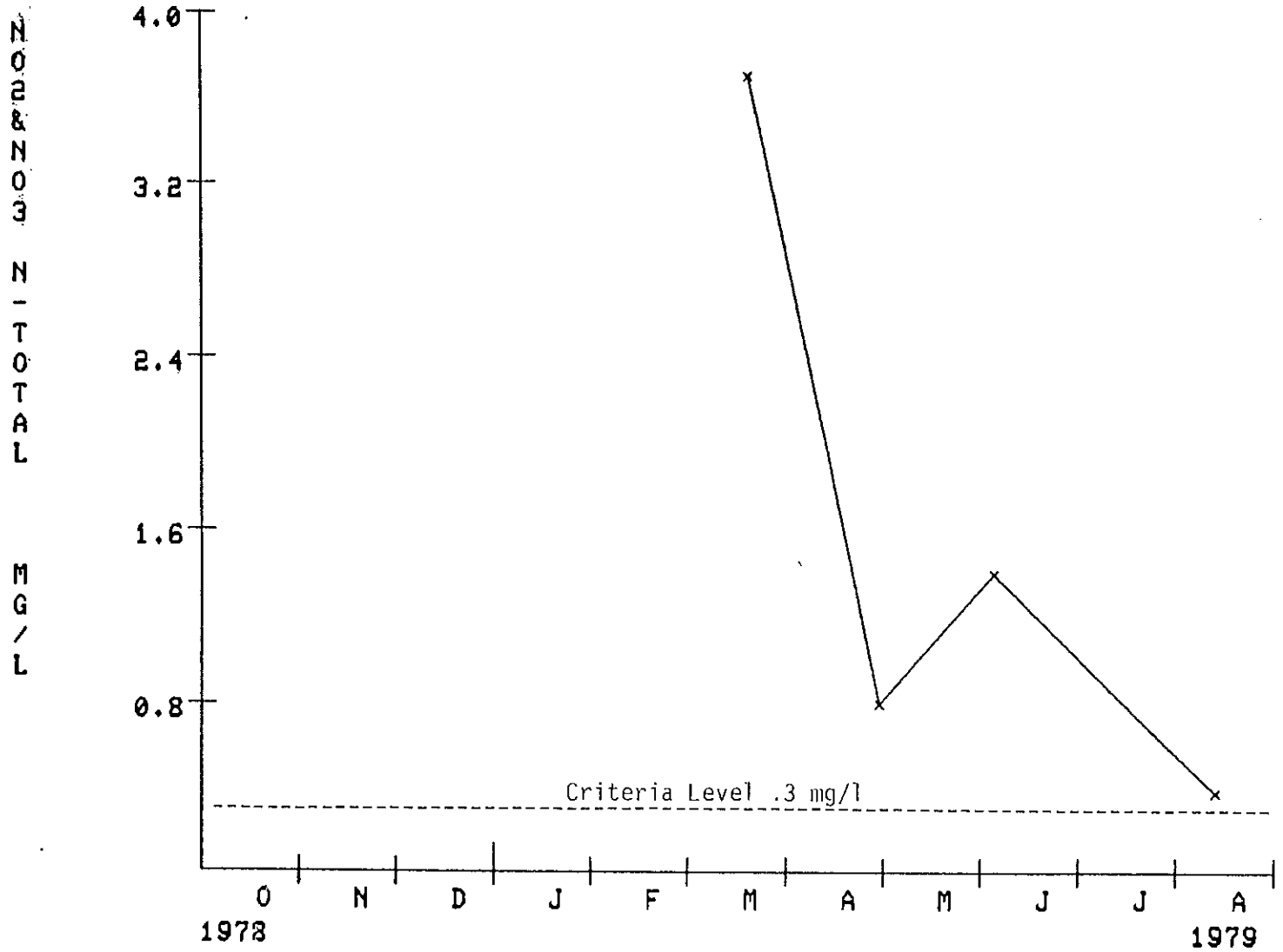

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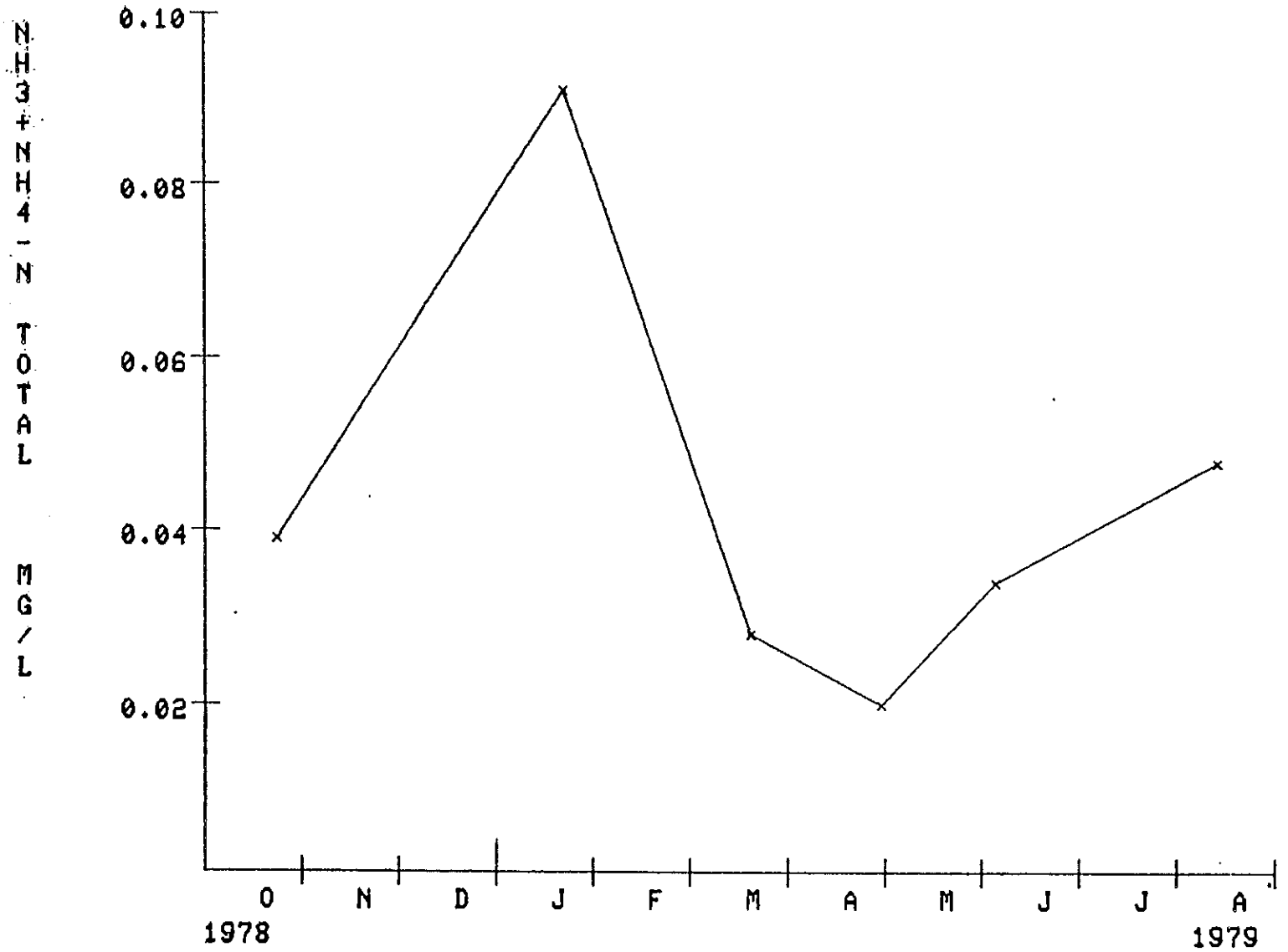
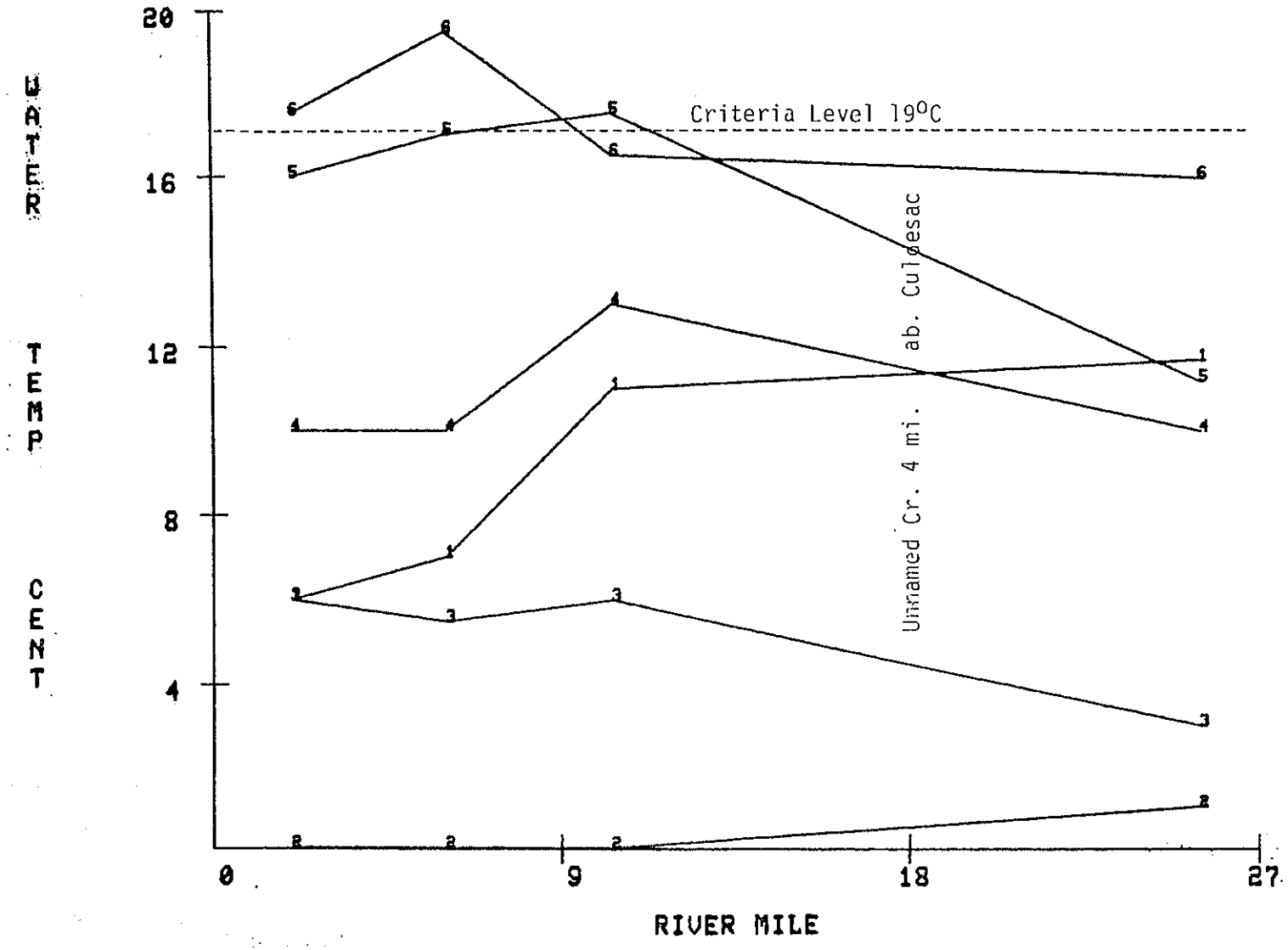


LAPUAI CREEK
INTENSIVE SURVEY DATA FOR 6 DAYS OF MONITORING
1 : 10-23-78 2 : 01-22-79 3 : 03-19-79
4 : 04-30-79 5 : 06-04-79 6 : 08-13-79



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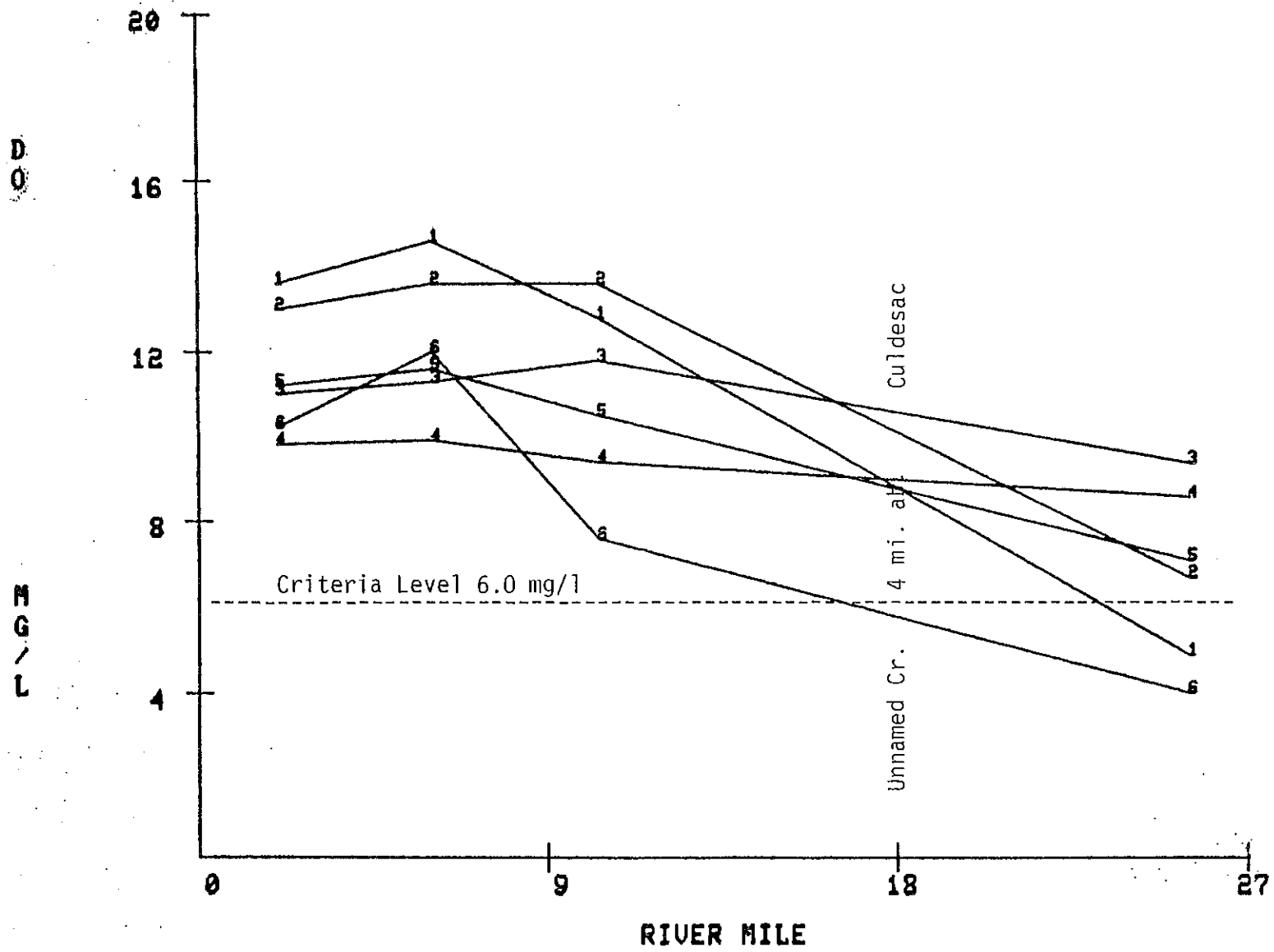

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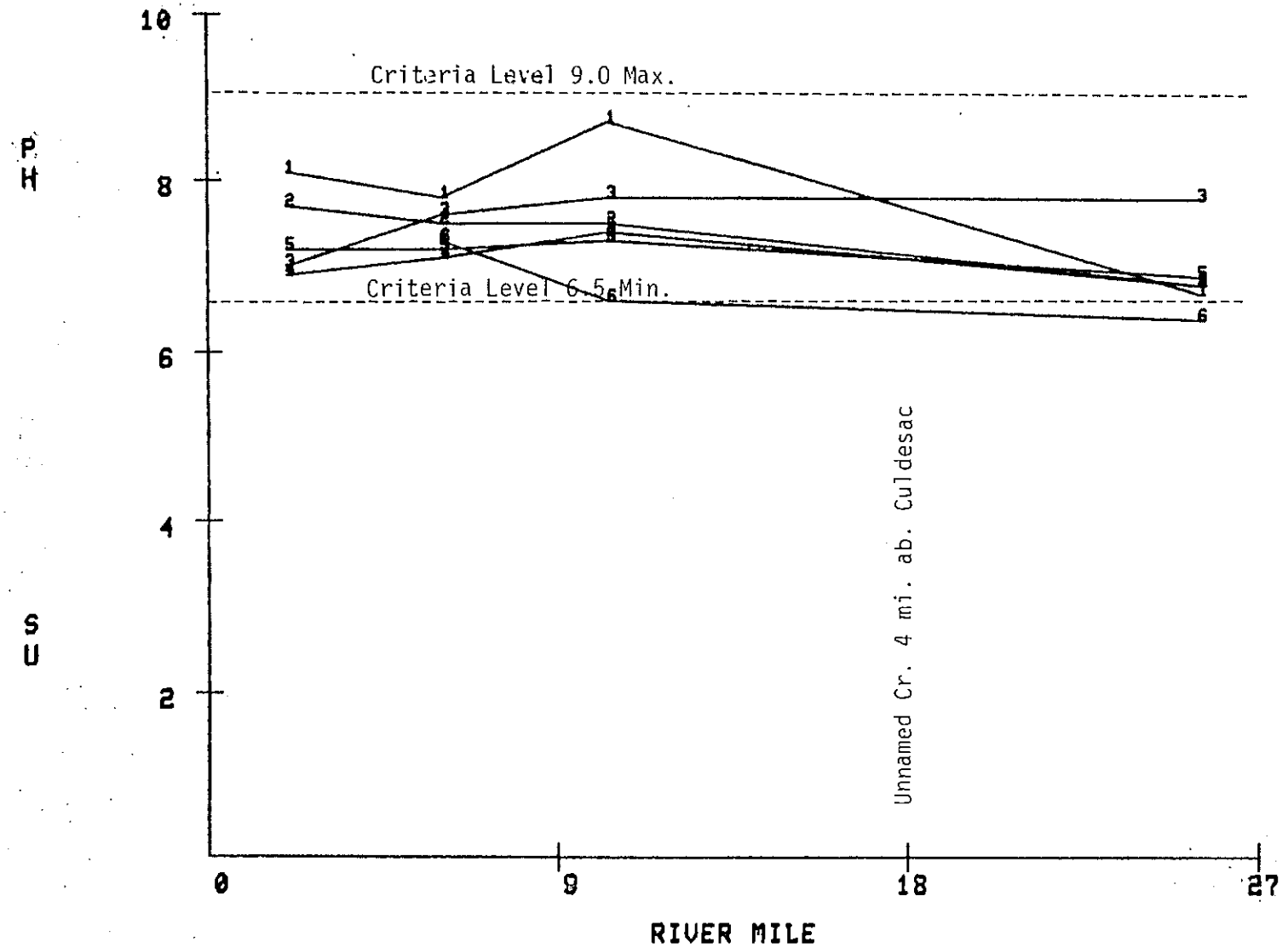

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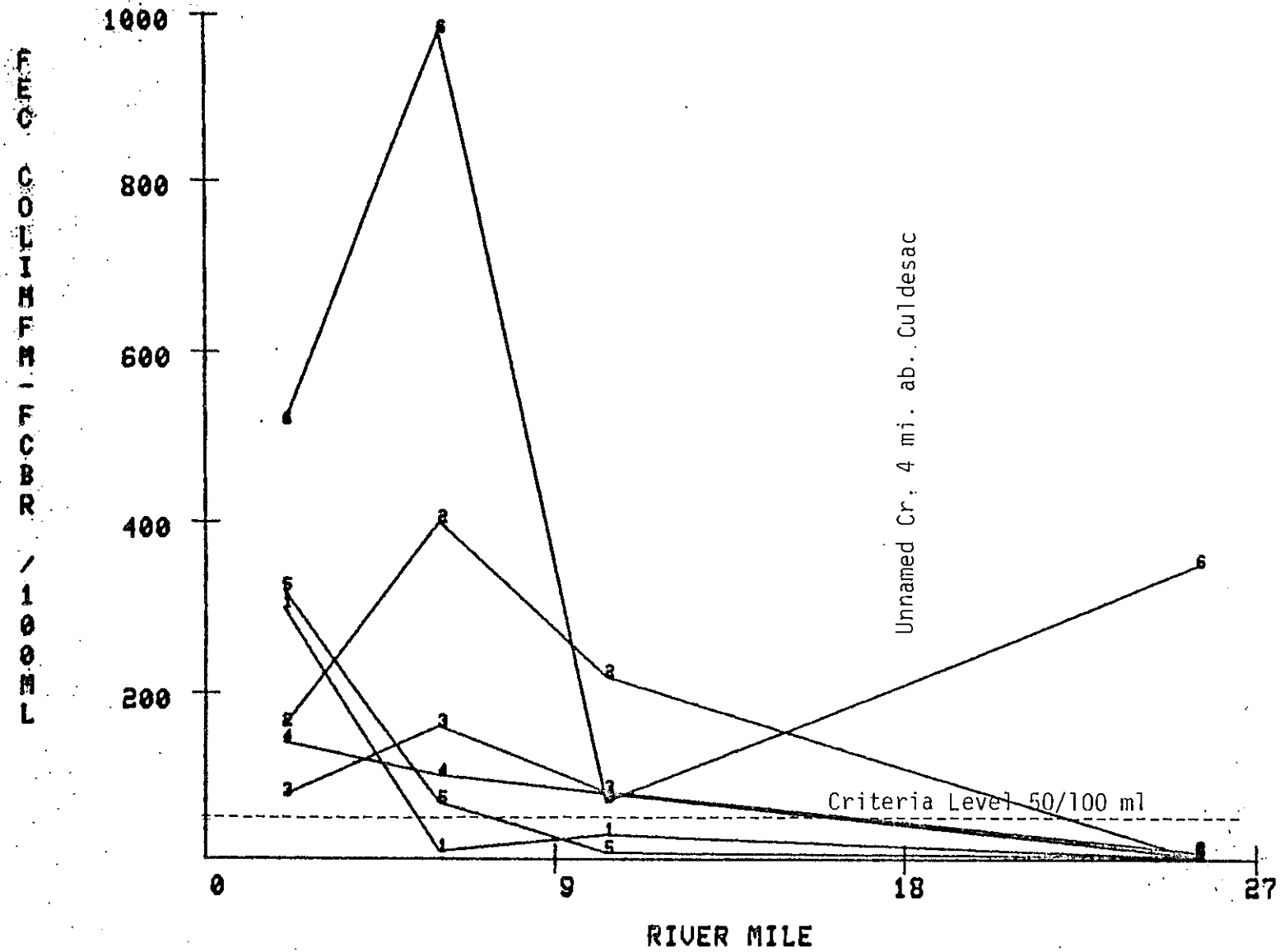

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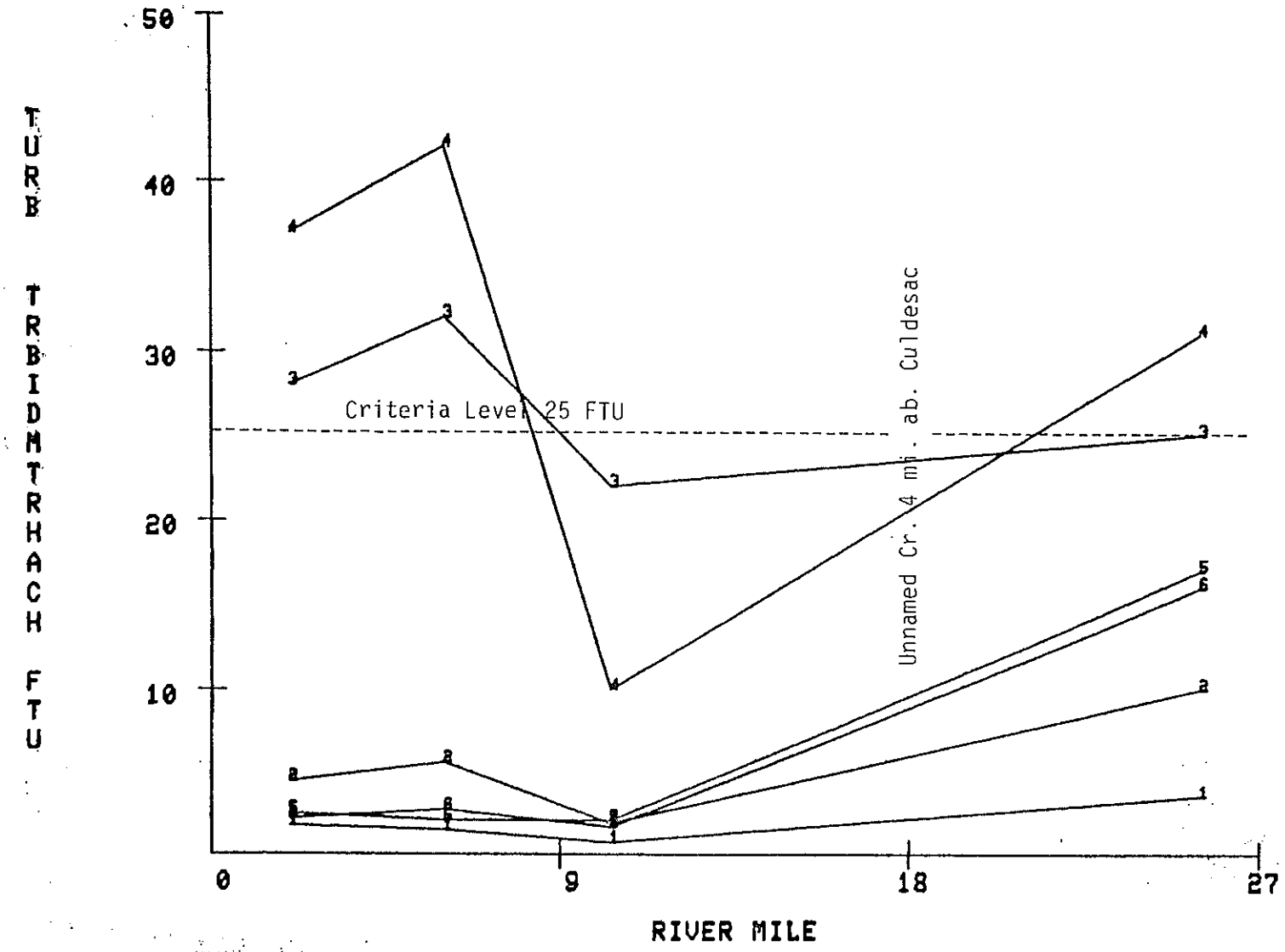

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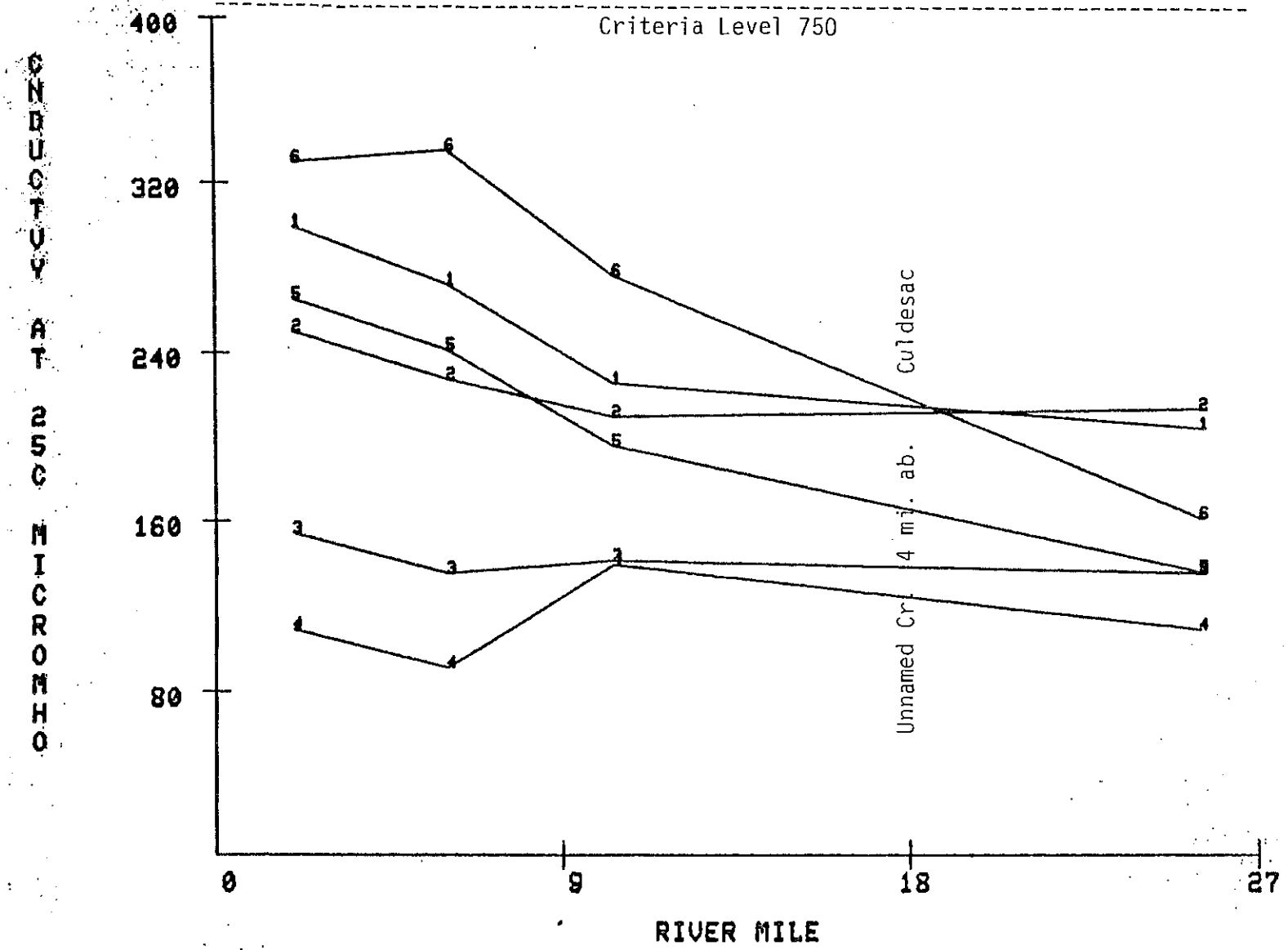

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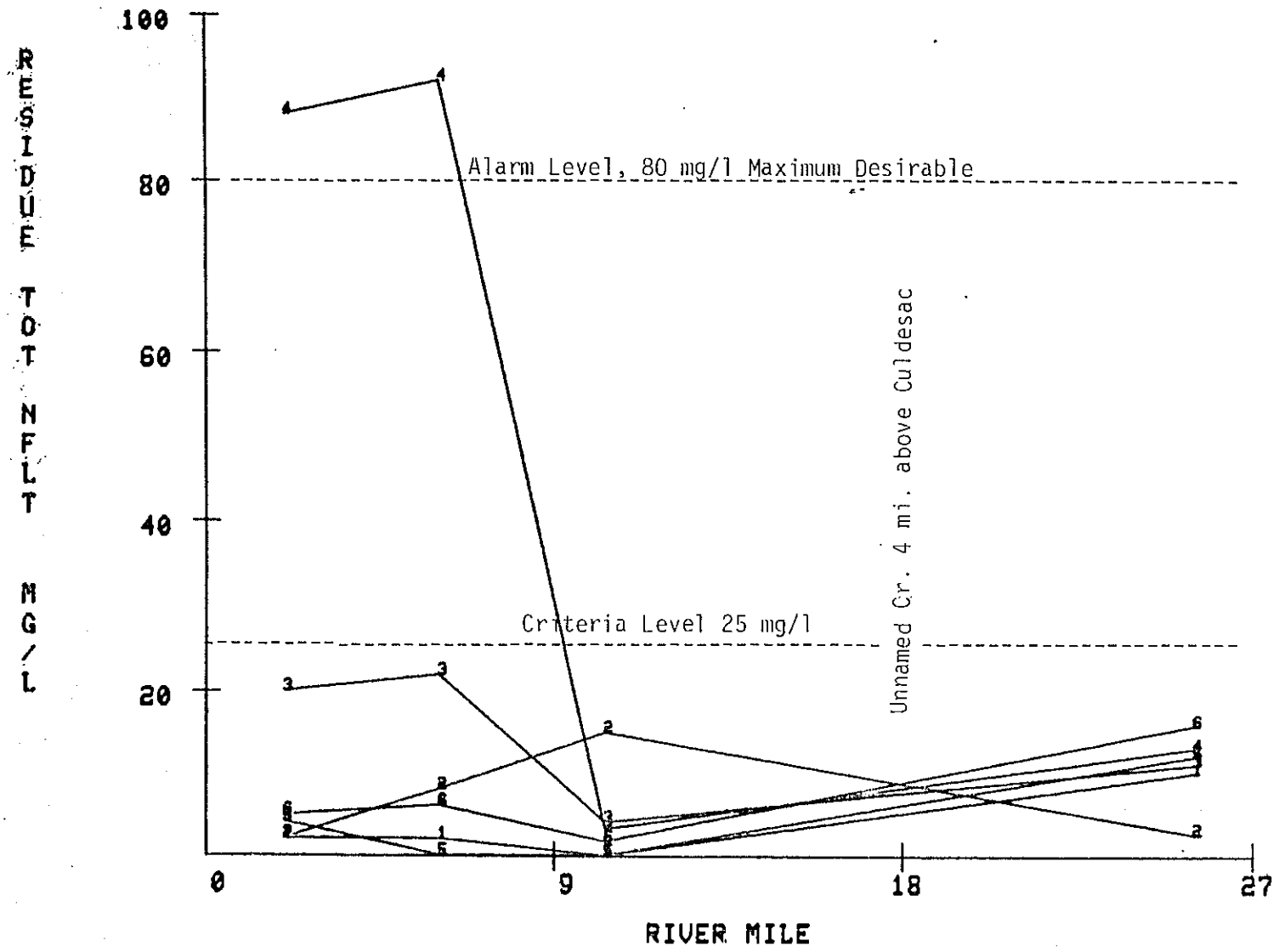

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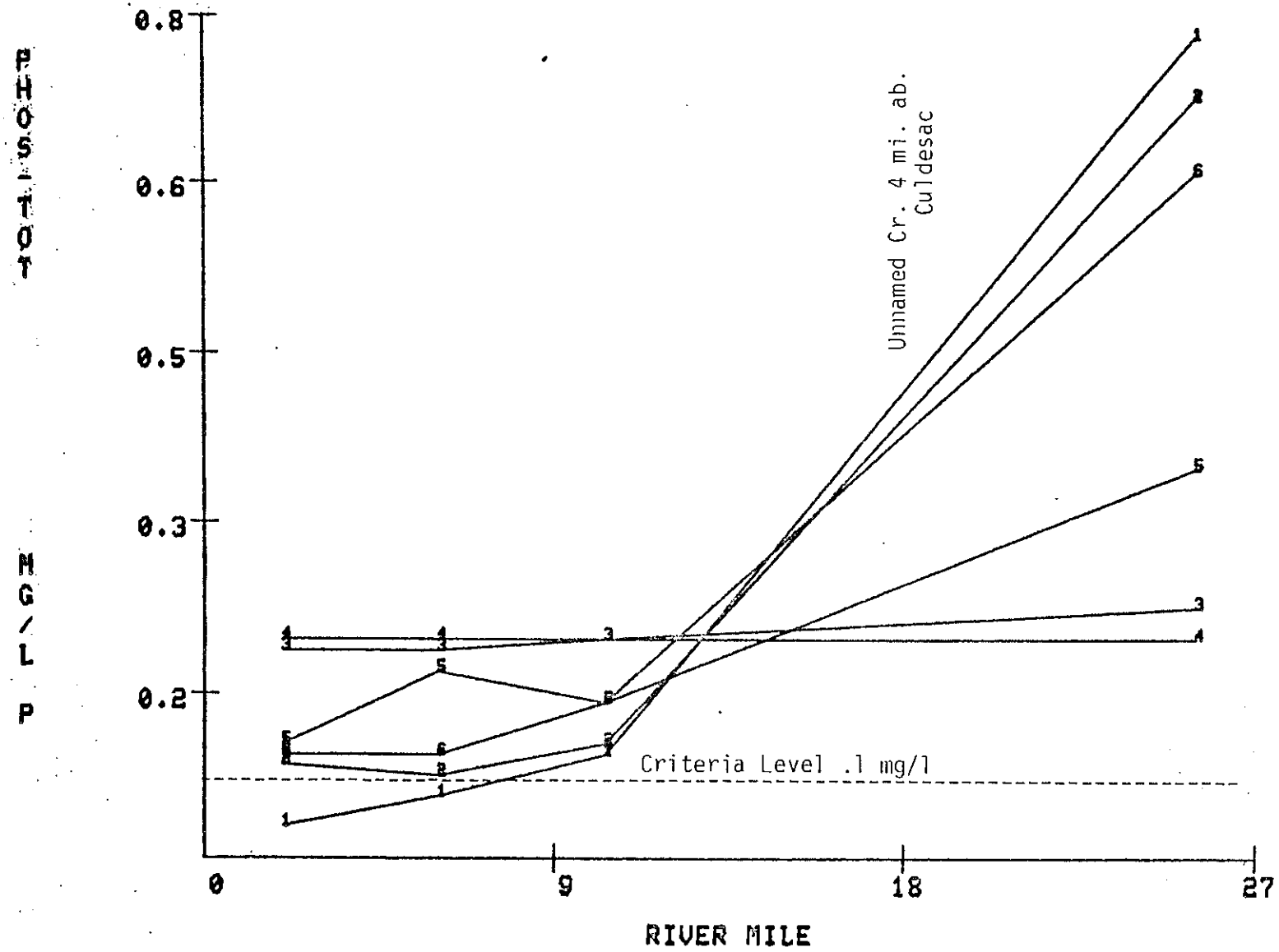

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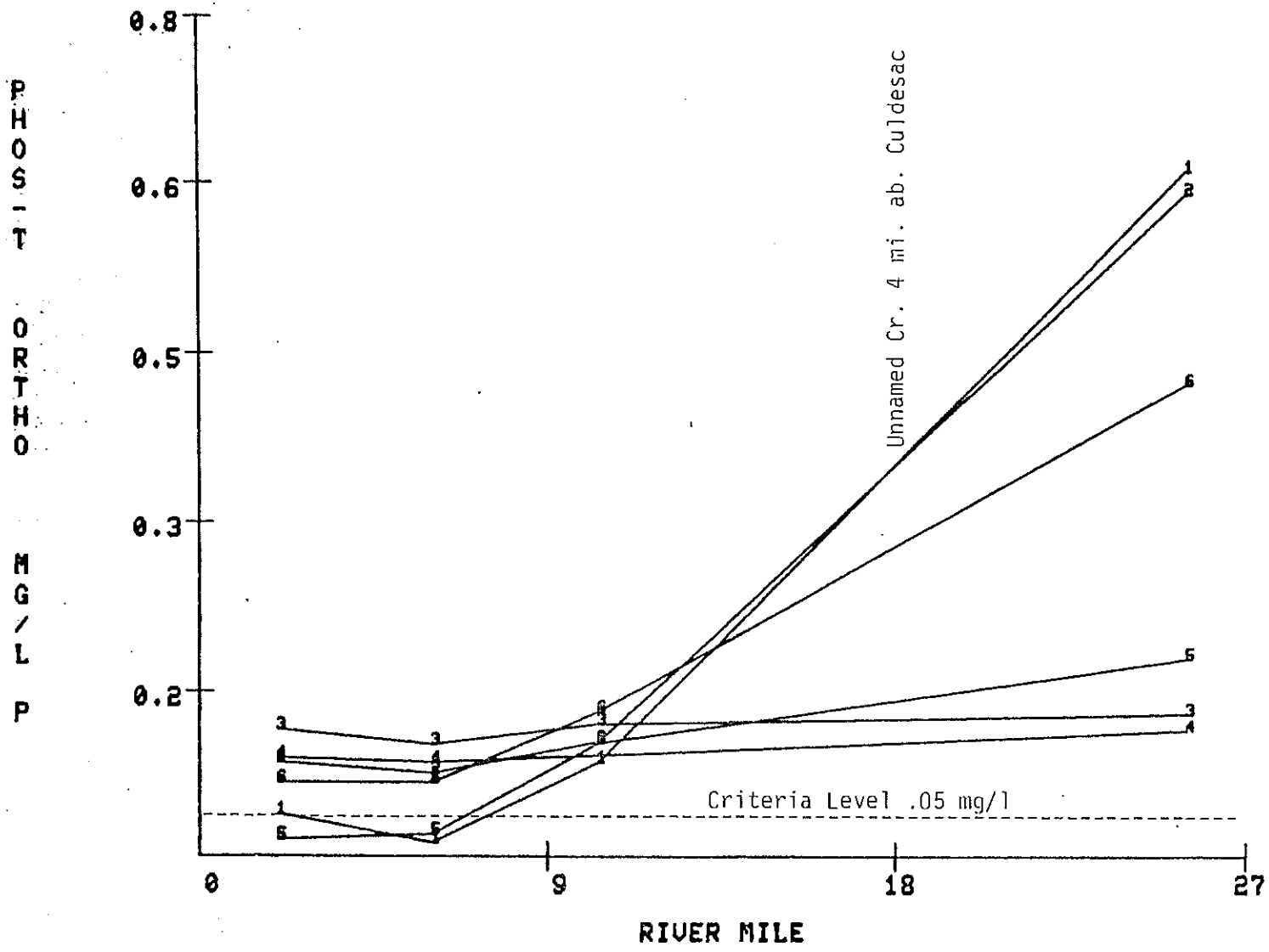

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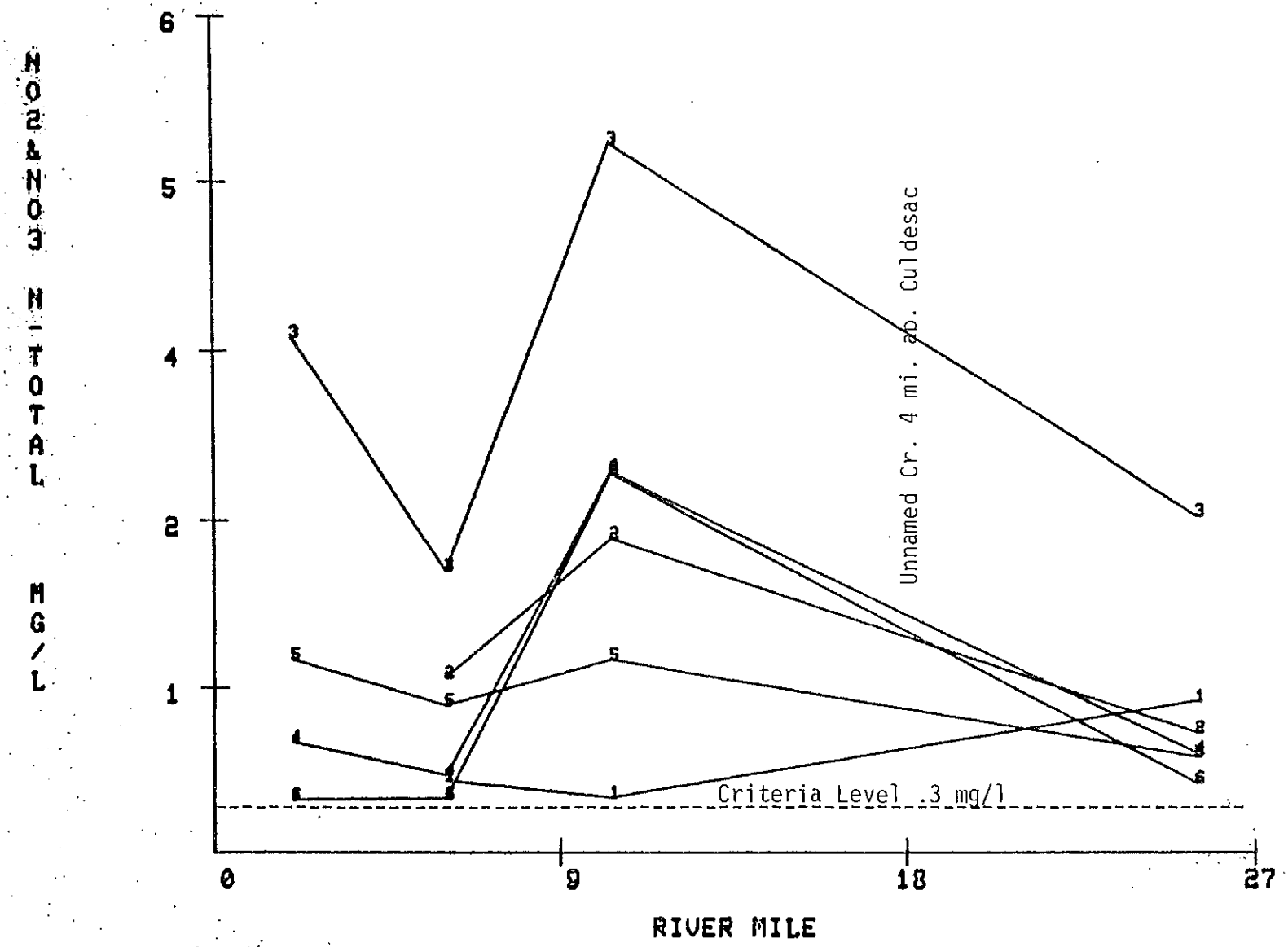

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