OROFINO CREEK STUDY

Clearwater County

Data Collected 1979

Final Summary October 1980

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

Water Quality Summary
No. 12

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TABLE OF CONTENTS

Summary

Data Inventory

Graphics

SUMMARY OF OROFINO CREEK STUDY

In Water Year 1979 a water quality study was conducted on Orofino Creek in Clearwater County to determine the present condition of the stream and to assess the impact of point and nonpoint sources. The study involved approximately bi-monthly monitoring for the following parameter categories:

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

The study covered four mainstem stations, three tributary stations, and the City of Pierce discharge.

The data from the study indicates that Orofino Creek generally meets the water quality standards except for consistent bacteria violations from below the Pierce discharge to the mouth of Orofino Creek. Excessive turbidity was also evident on Whiskey Creek and at the mouth of Orofino Creek during spring runoff, and iron concentrations were above recommended criteria at the mouth on three occasions.

The notable pollution impacts on the stream were the Albert Engle discharge at Pierce and the City of Pierce discharge. The Albert Engle discharge was found to violate the State of Idaho turbidity standard in March of

1979 and an enforcement action has been filed to correct the problem. The City of Pierce discharge was found to contribute to the bacteria violations on Orofino Creek.

The correction of the Albert Engle discharge and the use of best management practices on some silvicultural and agricultural nonpoint sources on Whiskey Creek could eliminate the turbidity problems on Orofino Creek. The elevated iron concentrations could be related to the turbidity problem and may be alleviated with the reduction of turbidity. The City of Pierce is scheduled to receive a municipal construction grant and an adequate secondary treatment facility for Pierce will eliminate their bacteria contributions. The municipal grant project on Whiskey Creek and for Orofino could also eliminate some bacteria impacts.

DATA INVENTORY

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

2020167
46 28 40.0 116 15 05.0 2
OROFINO CR NEAR MOUTH
16035 IDAHO
PACIFIC NORTHWEST 130800
LOWER SNAKE
211DSURV 790616
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01350 1050
MILES 0324.30 0139.30 044.90 000.20

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	5	9.50000	53.7500	7.33144	.771730	3.27872	19.5000	.000000	78/10/24	79/08/14
00042	ALTITUDE	FEET	AB MSL	1	1040.00					1040.00	1040.00	01/01/01	01/01/01
00061	STREAM	FLOW,	INST-CFS	3	58.9000	2051.53	45.2938	.768996	26.1504	110.000	23.7000	78/10/24	79/08/14
00076	TURB	TRBIDMTR	HACH FTU	7	5.58571	47.6348	6.90179	1.23562	2.60863	19.0000	1.10000	78/10/24	80/05/22
00094	CNDUCTVY	FIELD	MICROMHO	1	25.0000					25.0000	25.0000	79/05/02	79/05/02
00095	CNDUCTVY	AT 25C	MICROMHO	7	54.2857	274.907	16.5803	.305427	6.26678	76.0000	30.0000	78/10/24	80/05/22
00116	INTNSVE	SURVEY	IDENT	7	791605	.000000	.000000		.000000	791605	791605	01/01/01	79/08/14
00300	DO		MG/L	5	11.4400	3.54315	1.88233	.164539	.841802	13.8000	8.70000	78/10/24	79/08/14
00335	COD	LOWLEVEL	MG/L	5	9.33999	8.50812	2.91687	.312299	1.30446	13.1000	5.30000	78/10/24	79/08/14
00400	PH		SU	6	7.35000	.299121	.546920	.074411	.223279	8.00000	6.70000	78/10/24	79/08/14
00403	LAB	PH	SU	5	7.51000	.030579	.174867	.023285	.078203	7.75000	7.30000	79/03/21	80/05/22
00410	T ALK	CACO3	MG/L	7	25.2857	42.2389	6.49915	.257028	2.45645	34.0000	17.0000	78/10/24	80/05/22
00425	HCO3 ALK	CACO3	MG/L	7	25.2857	42.2389	6.49915	.257028	2.45645	34.0000	17.0000	78/10/24	80/05/22
00430	CO3 ALK	CACO3	MG/L	7	.857143	.142857	.377965	.440959	.142857	1.00000	.000000	78/10/24	80/05/22
00500	RESIDUE	TOTAL	MG/L	7	65.4571	157.067	12.5326	.191463	4.73689	85.0000	43.0000	78/10/24	80/05/22
00530	RESIDUE	TOT NFLT	MG/L	7	9.85714	40.4762	6.36209	.645430	2.40464	17.0000	2.00000	78/10/24	80/05/22
00610	NH3+NH4-	N TOTAL	MG/L	8	.034125	.001180	.034345	1.00644	.012143	.111000	.001000	78/10/24	80/06/30
00625	TOT KJEL	N	MG/L	8	.332500	.074364	.272698	.820146	.096413	.920000	.100000	78/10/24	80/06/30
00630	NO2&NO3	N-TOTAL	MG/L	8	.053375	.003572	.059766	1.11974	.021130	.180000	.001000	78/10/24	80/06/30
00665	PHOS-TOT		MG/L P	8	.056875	.001321	.036345	.639039	.012850	.140000	.020000	78/10/24	80/06/30
00669	PHOS-TOT	HYDRO	MG/L P	1	.020000					.020000	.020000	80/06/30	80/06/30
00900	TOT HARD	CACO3	MG/L	7	21.1428	55.8098	7.47059	.353339	2.82362	32.0000	12.0000	78/10/24	80/05/22
00916	CALCIUM	CA-TOT	MG/L	7	5.14285	4.32956	2.08076	.404592	.786453	8.00000	2.40000	78/10/24	80/05/22
00927	MGNSIUM	MG,TOT	MG/L	7	3.54286	21.4395	4.63029	1.30694	1.75008	14.0000	1.20000	78/10/24	80/05/22
00929	SODIUM	NA,TOT	MG/L	7	3.11428	1.29144	1.13642	.364904	.429525	4.60000	1.90000	78/10/24	80/05/22
00937	PTSSIUM	K,TOT	MG/L	7	1.40000	.253333	.503322	.359516	.190238	2.40000	1.00000	78/10/24	80/05/22
00940	CHLORIDE	CL	MG/L	7	4.56571	10.8829	3.29893	.722543	1.24688	10.0000	.760000	78/10/24	80/05/22
00945	SULFATE	SO4-TOT	MG/L	7	8.42857	3.95243	1.98807	.235873	.751421	10.0000	6.00000	78/10/24	80/05/22
00951	FLUORIDE	F,TOTAL	MG/L	6	.101667	.000297	.017224	.169415	.007032	.120000	.070000	78/10/24	80/05/22
00956	SILICA	TOTAL	MG/L	7	20.0857	27.4549	5.23974	.260869	1.98044	27.3000	14.3000	78/10/24	80/05/22
01002	ARSENIC	AS,TOT	UG/L	7	10.0000	.000000	.000000		.000000	10.0000	10.0000	78/10/24	80/05/22
01022	BORON	B,TOT	UG/L	1	10.0000					10.0000	10.0000	80/05/22	80/05/22
01027	CADMIUM	CD,TOT	UG/L	7	1.57143	2.28571	1.51186	.962092	.571429	5.00000	1.00000	78/10/24	80/05/22
01032	CHROMIUM	HEX-VAL	UG/L	1	50.0000					50.0000	50.0000	80/05/22	80/05/22
01034	CHROMIUM	CR,TOT	UG/L	1	50.0000					50.0000	50.0000	80/05/22	80/05/22
01042	COPPER	CU,TOT	UG/L	7	10.0000	.000000	.000000		.000000	10.0000	10.0000	78/10/24	80/05/22
01045	IRON	FE,TOT	UG/L	6	436.666	56857.0	238.447	.546062	97.3456	870.000	200.000	78/10/24	80/05/22
01051	LEAD	PB,TOT	UG/L	7	50.0000	.000000	.000000		.000000	50.0000	50.0000	78/10/24	80/05/22
01055	MANGNESE	MN	UG/L	7	14.2857	36.9048	6.07493	.425245	2.29611	25.0000	10.0000	78/10/24	80/05/22

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

2020167
46 28 40.0 116 15 05.0 2
DROFINO CR NEAR MOUTH
16035 IDAHO
PACIFIC NORTHWEST 130800
LOWER SNAKE
21IDSURV 790616
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01350 1050
MILES 0324.30 0139.30 044.90 000.20

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
01077	SILVER	AG,TOT	UG/L	3	1.00000	.000000	.000000		.000000	1.00000	1.00000	78/10/24	80/05/22
01092	ZINC	ZN,TOT	UG/L	6	5.00000	33.6000	5.79655	1.15931	2.36643	15.0000	1.00000	79/01/24	80/05/22
01501	ALPHA	TOTAL	PC/L	6	.526666	.102867	.320728	.608978	.130937	1.10000	.200000	78/10/24	79/08/14
03501	BETA	TOTAL	PC/L	6	1.56167	.703656	.838842	.537146	.342456	2.90000	.710000	78/10/24	79/08/14
31501	TOT COLI	MFIMENDU	/100ML	1	400.000					400.000	400.000	80/06/30	80/06/30
31616	FEC COLI	MFM-FCBR	/100ML	7	286.428	66067.3	257.036	.897382	97.1503	685.000	15.0000	78/10/24	80/06/30
31679	FECSTREP	MF M-ENT	/100ML	7	65.7143	6316.57	79.4769	1.20943	30.0394	213.000	9.00000	78/10/24	80/06/30
70300	RESIDUE	DISS-180	C MG/L	3	53.6667	72.3359	8.50505	.158479	4.91039	62.0000	45.0000	78/10/24	80/05/22
70507	PHOS-T	ORTHO	MG/L P	7	.027429	.000200	.014140	.515540	.005345	.050000	.013000	76/10/24	80/05/22
71900	MERCURY	HG,TOTAL	UG/L	7	.500000	.000000	.000000		.000000	.500000	.500000	78/10/24	80/05/22
80154	SUSP SED	CONC	MG/L	1	17.0000					17.0000	17.0000	80/05/22	80/05/22

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

2020168
46 29 10.0 116 11 50.0 2
MOUTH OF WHISKEY CR
16035 IDAHO
PACIFIC NORTHWEST 130800
LOWER SNAKE
21IDSURV 790616
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01350 1050 0010
MILES 0324.30 0139.30 044.90 003.10 000.10

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	5	9.40000	43.3000	6.58028	.700029	2.94279	17.0000	.000000	78/10/24	79/08/14
00042	ALTITUDE	FEET	AB MSL	1	1200.00					1200.00	1200.00	01/01/01	01/01/01
00061	STREAM	FLOW,	INST-CFS	3	4.20000	16.0000	4.00000	.952381	2.30940	8.20000	.200000	78/10/24	79/08/14
00076	TURB	TRBIDMTR	HACH FTU	6	9.06666	124.711	11.1674	1.23170	4.55907	27.0000	.300000	78/10/24	79/08/14
00094	CNDUCTVY	FIELD	MICROMHO	1	30.0000					30.0000	30.0000	79/05/02	79/05/02
00095	CNDUCTVY	AT 25C	MICROMHO	6	85.5000	1741.90	41.7361	.488141	17.0387	141.000	39.0000	78/10/24	79/08/14
00116	INTNSVE	SURVEY	IDENT	7	791605	.000000	.000000		.000000	791605	791605	01/01/01	79/08/14
00300	DO		MG/L	6	10.9167	1.82173	1.34971	.123638	.551019	12.8000	8.90000	78/10/24	79/08/14
00335	COD	LOWLEVEL	MG/L	5	10.4000	31.5651	5.61828	.540219	2.51257	17.2000	2.80000	78/10/24	79/08/14
00400	PH		SU	6	7.49999	.376123	.613289	.081772	.250374	8.20000	6.70000	78/10/24	79/08/14
00403	LAB	PH	SU	4	7.47500	.062520	.250041	.033450	.125020	7.80000	7.20000	79/03/21	79/08/14
00500	RESIDUE	TOTAL	MG/L	6	91.5166	207.732	14.4129	.157489	5.88405	112.000	77.1000	78/10/24	79/08/14
00530	RESIDUE	TOT NFLT	MG/L	6	8.00000	25.6000	5.05964	.632455	2.06559	14.0000	2.00000	78/10/24	79/08/14
00610	NH3+NH4-	N TOTAL	MG/L	6	.037333	.001176	.034291	.918507	.013999	.100000	.002000	78/10/24	79/08/14
00625	TOT KJEL	N	MG/L	6	.418333	.068497	.261719	.625623	.106846	.900000	.200000	78/10/24	79/08/14
00630	NO2&NO3	N-TOTAL	MG/L	6	.163500	.045796	.214001	1.30887	.087365	.555000	.011000	78/10/24	79/08/14
00665	PHOS-TOT		MG/L P	6	.051667	.000297	.017224	.333369	.007032	.070000	.020000	78/10/24	79/08/14
00940	CHLORIDE	CL	MG/L	6	5.03333	10.3267	3.21351	.638447	1.31191	10.0000	2.00000	78/10/24	79/08/14
31616	FEC COLI	MFM-FCBR	/100ML	6	77.1667	9104.97	95.4200	1.23654	38.9550	260.000	6.00000	78/10/24	79/08/14
31679	FECSTREP	MF M-ENT	/100ML	6	88.1667	24916.2	157.849	1.79034	64.4414	408.000	2.00000	78/10/24	79/08/14
70507	PHOS-T	ORTHO	MG/L P	6	.036500	.000184	.013576	.371940	.005542	.051000	.014000	78/10/24	79/08/14

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

2020169
46 28 55.0 116 11 30.0 2
ORDFINO CR AB CONFL-WHISKEY CR
16035 IDAHO
PACIFIC NORTHWEST 130800
LOWER SNAKE
21IDSURV 790616
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01350 1050
MILES 0324.30 0139.30 044.90 003.40

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	6	9.51666	36.7217	6.05984	.636761	2.47392	18.0000	.000000	78/10/24	79/08/14
00042	ALTITUDE	FEET	AB MSL	1	1220.00					1220.00	1220.00	01/01/01	01/01/01
00061	STREAM	FLOW,	INST-CFS	2	71.7500	1818.05	42.6386	.594266	30.1500	101.900	41.6000	78/10/24	79/06/06
00076	TURB	TRBIDMTR	NACH FTU	6	5.28333	31.7057	5.63078	1.06576	2.29875	15.0000	.900000	78/10/24	79/08/14
00094	CNDUCTVY	FIELD	MICROMHO	1	25.0000					25.0000	25.0000	79/05/02	79/05/02
00095	CNDUCTVY	AT 25C	MICROMHO	6	49.5000	204.300	14.2934	.288755	5.83524	71.0000	33.0000	78/10/24	79/08/14
00116	INTNSVE	SURVEY	IDENT	7	791605	.000000	.000000		.000000	791605	791605	01/01/01	79/08/14
00300	DO		MG/L	6	11.3500	4.44712	2.10882	.185799	.860922	15.1000	8.80000	78/10/24	79/08/14
00335	COD	LOWLEVEL	MG/L	5	7.88000	18.7820	4.33382	.549978	1.93815	14.1000	2.70000	78/10/24	79/08/14
00400	PH		SU	6	7.51666	.265723	.515483	.068579	.210445	8.00000	6.80000	78/10/24	79/08/14
00403	LAB	PH	SU	4	7.22499	.082591	.287386	.039777	.143693	7.60000	7.00000	79/03/21	79/08/14
00500	RESIDUE	TOTAL	MG/L	6	61.6500	170.380	13.0530	.211727	5.32886	81.0000	42.0000	78/10/24	79/08/14
00530	RESIDUE	TOT NFLT	MG/L	5	6.80000	8.70003	2.94958	.433762	1.31909	10.0000	4.00000	78/10/24	79/08/14
00610	NH3+NH4-	N TOTAL	MG/L	6	.047833	.002198	.046880	.980077	.019139	.137000	.007000	78/10/24	79/08/14
00625	TOT KJEL	N	MG/L	6	.391666	.049057	.221488	.565502	.090422	.700000	.100000	78/10/24	79/08/14
00630	NO2NO3	N-TOTAL	MG/L	6	.060500	.001851	.043029	.711224	.017567	.130000	.013000	78/10/24	79/08/14
00665	PHOS-TOT		MG/L P	6	.048333	.001017	.031885	.659694	.013017	.100000	.020000	78/10/24	79/08/14
00940	CHLORIDE	CL	MG/L	6	5.03333	11.5267	3.39509	.674522	1.38604	11.0000	2.00000	78/10/24	79/08/14
31616	FEC COLI	MFM-FCBR	/100ML	6	123.667	11976.7	109.438	.884943	44.6779	270.000	10.0000	78/10/24	79/08/14
31679	FECSTREP	MF M-ENT	/100ML	6	472.666	467947	684.066	1.44725	279.269	1470.00	10.0000	78/10/24	79/08/14
70507	PHOS-T	ORTHO	MG/L P	6	.020500	.000170	.013035	.635833	.005321	.040000	.005000	78/10/24	79/08/14

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

2020171
46 30 10.0 115 48 40.0 2
QUARTZ CR @ HWY 11-N OF PIERCE
16035 IDAHO
PACIFIC NORTHWEST 130800
LOWER SNAKE
21IDSURV 790616
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01350 1050 0250
MILES 0324.30 0139.30 044.90 025.90 000.10

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	6	7.53333	30.8467	5.55398	.737254	2.26740	16.5000	.700000	78/10/24	79/08/14
00042	ALTITUDE	FEET	AB MSL	1	3050.00					3050.00	3050.00	01/01/01	01/01/01
00061	STREAM	FLOW,	INST-CFS	3	8.86666	101.703	10.0848	1.13738	5.82247	20.5000	2.60000	78/10/24	79/08/14
00076	TURB	TRBIDMTR	HACH FTU	6	5.03332	3.30276	1.81735	.361063	.741929	7.00000	2.10000	78/10/24	79/08/14
00094	CNDUCTVY	FIELD	MICROMHO	1	21.0000					21.0000	21.0000	79/05/02	79/05/02
00095	CNDUCTVY	AT 25C	MICROMHO	6	58.6667	459.070	21.4259	.365215	8.74710	86.0000	32.0000	78/10/24	79/08/14
00116	INTNSVE	SURVEY	IDENT	7	791605	.000000	.000000		.000000	791605	791605	01/01/01	79/08/14
00300	DO		MG/L	6	11.0667	4.44272	2.10778	.190462	.860496	14.6000	8.00000	78/10/24	79/08/14
00335	COD	LOWLEVEL	MG/L	6	11.8500	1.75513	1.32481	.111799	.540852	13.9000	10.2000	78/10/24	79/08/14
00400	PH		SU	6	7.78333	.197705	.444640	.057127	.181524	8.30000	7.00000	78/10/24	79/08/14
00403	LAB	PH	SU	4	7.22499	.029256	.171044	.023674	.085522	7.40000	7.00000	79/03/21	79/08/14
00500	RESIDUE	TOTAL	MG/L	6	64.1667	172.571	13.1366	.204727	5.36301	84.0000	49.0000	78/10/24	79/08/14
00530	RESIDUE	TOT NFLT	MG/L	6	6.16667	2.56669	1.60209	.259798	.654050	8.00000	4.00000	78/10/24	79/08/14
00610	NH3+NH4-	N TOTAL	MG/L	6	.023000	.000310	.017607	.765515	.007188	.053000	.002000	78/10/24	79/08/14
00625	TOT KJEL	N	MG/L	6	.348333	.034017	.184437	.529485	.075296	.590000	.100000	78/10/24	79/08/14
00630	NO2&NO3	N-TOTAL	MG/L	6	.077667	.006670	.081669	1.05153	.033341	.227000	.013000	78/10/24	79/08/14
00665	PHOS-TOT		MG/L P	6	.046667	.000867	.029439	.630840	.012019	.100000	.020000	78/10/24	79/08/14
00940	CHLORIDE	CL	MG/L	6	5.53333	18.4266	4.29263	.775776	1.75246	11.0000	2.00000	78/10/24	79/08/14
31616	FEC COLI	MFM-FCBR	/100ML	6	25.5000	318.300	17.8410	.699645	7.28354	52.0000	10.0000	78/10/24	79/08/14
31679	FECSTREP	MF M-ENT	/100ML	6	16.0000	760.400	27.5753	1.72346	11.2576	72.0000	2.00000	78/10/24	79/08/14
70507	PHOS-T	ORTHO	MG/L P	6	.019333	.000022	.004719	.244080	.001926	.027000	.013000	78/10/24	79/08/14

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

2020172
46 29 35.0 115 47 55.0 2
CANAL CR AT PIERCE
16035 IDAHO
PACIFIC NORTHWEST 130800
LOWER SNAKE
21IDSURV 790616
0000 CLASS 00

/TYPA/AMONT/STREAM

INDEX 1310001 002740 01350 1050 0270
MILES 0324.30 0139.30 044.90 027.10 000.10

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	6	7.25000	26.9750	5.19375	.716379	2.12034	15.0000	1.00000	78/10/24	79/08/14
00042	ALTITUDE	FEET	AB MSL	1	3060.00					3060.00	3060.00	01/01/01	01/01/01
00061	STREAM	FLOW,	INST-CFS	3	3.60000	10.7200	3.27414	.909484	1.89033	7.20000	.800000	78/10/24	79/08/14
00076	TURB	TRBIDMTR	HACH FTU	6	3.65000	10.0990	3.17790	.870658	1.29737	9.40000	1.30000	78/10/24	79/08/14
00094	CNDUCTVY	FIELD	MICROMHO	1	27.0000					27.0000	27.0000	79/05/02	79/05/02
00095	CNDUCTVY	AT 25C	MICROMHO	6	60.1667	317.771	17.8261	.296279	7.27749	80.0000	38.0000	78/10/24	79/08/14
00116	INTNSVE	SURVEY	IDENT	7	791605	.000000	.000000		.000000	791605	791605	01/01/01	79/08/14
00300	DO		MG/L	6	10.9333	2.79878	1.67296	.153014	.682981	13.8000	8.60000	78/10/24	79/08/14
00335	COD	LOWLEVEL	MG/L	6	8.26666	11.5067	3.39215	.410341	1.38484	13.5000	3.70000	78/10/24	79/08/14
00400	PH		SU	6	7.78333	.461768	.679535	.087306	.277419	8.80000	6.90000	78/10/24	79/08/14
00403	LAB	PH	SU	4	7.25000	.016724	.129320	.017837	.064660	7.40000	7.10000	79/03/21	79/08/14
00500	RESIDUE	TOTAL	MG/L	6	65.5000	95.5000	9.77241	.149197	3.98957	74.0000	50.0000	78/10/24	79/08/14
00530	RESIDUE	TOT NFLT	MG/L	6	7.40000	21.4400	4.63034	.625721	1.89033	16.0000	2.00000	78/10/24	79/08/14
00610	NH3+NH4-	N TOTAL	MG/L	6	.023533	.000013	.003659	.155477	.001494	.028000	.019000	78/10/24	79/08/14
00625	TOT KJEL	N	MG/L	6	.323333	.055267	.235089	.727081	.095975	.700000	.100000	78/10/24	79/08/14
00630	NO2&NO3	N-TOTAL	MG/L	6	.034167	.000457	.021386	.625936	.008731	.063000	.006000	78/10/24	79/08/14
00665	PHOS-TOT		MG/L P	6	.045000	.000670	.025884	.575208	.010567	.090000	.020000	78/10/24	79/08/14
00940	CHLORIDE	CL	MG/L	5	4.24000	4.98803	2.23339	.526743	.998802	7.00000	2.00000	78/10/24	79/08/14
31616	FEC COLI	MFM-FCBR	/100ML	6	17.5000	661.500	25.7196	1.46969	10.5000	64.0000	1.00000	78/10/24	79/08/14
31679	FECSTREP	MF M-ENT	/100ML	6	36.8333	2695.37	51.9169	1.40951	21.1950	128.000	1.00000	78/10/24	79/08/14
70507	PHOS-T	ORTHO	MG/L P	6	.025167	.000215	.014675	.583131	.005991	.040000	.001000	78/10/24	79/08/14

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

2020175
46 29 30.0 115 48 00.0 2
OROFINO CR UPSTM-PIERCE-CARLE S
16035 IDAHO
PACIFIC NORTHWEST 130800
LOWER SNAKE
211DSURV 790616
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01350 1050
MILES 0324.30 0139.30 044.90 027.20

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	6	6.75000	22.4750	4.74078	.702338	1.93542	14.5000	1.50000	78/10/24	79/08/14
00042	ALTITUDE	FEET	AB MSL	1	3060.00					3060.00	3060.00	01/01/01	01/01/01
00061	STREAM	FLOW,	INST-CFS	3	41.5333	2058.46	45.3703	1.09238	26.1945	93.8000	12.3000	78/10/24	79/08/14
00076	TURB	IRDIDMTR	HACH FTU	6	2.11667	1.32566	1.15137	.543957	.470047	3.70000	.800000	78/10/24	79/08/14
00094	CNDUCTVY	FIELD	MICROMHO	1	20.0000					20.0000	20.0000	79/05/02	79/05/02
00095	CNDUCTVY	AT 25C	MICROMHO	6	43.0000	136.000	11.6619	.271207	4.76095	56.0000	28.0000	78/10/24	79/08/14
00116	INTNSVE	SURVEY	IDENT	7	791605	.000000	.000000		.000000	791605	791605	01/01/01	79/08/14
00300	DO		MG/L	6	10.6667	3.04678	1.74550	.163641	.712598	13.2000	8.70000	78/10/24	79/08/14
00310	BOD	5 DAY	MG/L	1	30.0000					30.0000	30.0000	79/08/14	79/08/14
00335	COD	LOWLEVEL	MG/L	6	11.2833	82.9936	9.11009	.807394	3.71918	28.8000	3.20000	78/10/24	79/08/14
00400	PH		SU	6	7.80000	.676074	.822237	.105415	.335677	8.80000	6.80000	78/10/24	79/08/14
00403	LAB	PH	SU	4	7.02500	.042531	.206231	.029357	.103116	7.30000	6.80000	79/03/21	79/08/14
00500	RESIDUE	TOTAL	MG/L	6	49.5000	90.7000	9.52365	.192397	3.88802	61.0000	34.0000	78/10/24	79/08/14
00530	RESIDUE	TOT NFLT	MG/L	6	5.53333	4.90667	2.21510	.400319	.904311	9.00000	3.00000	78/10/24	79/08/14
00610	NH3+NH4-	N TOTAL	MG/L	6	.022667	.000252	.015883	.700719	.006484	.041000	.003000	78/10/24	79/08/14
00625	TOT KJEL	N	MG/L	6	.283333	.008907	.094376	.333094	.038529	.400000	.200000	78/10/24	79/08/14
00630	NO2&NO3	N-TOTAL	MG/L	6	.089833	.002619	.051176	.569677	.020892	.174000	.031000	78/10/24	79/08/14
00665	PHOS-TOT		MG/L P	6	.056667	.001307	.036148	.637903	.014757	.130000	.040000	78/10/24	79/08/14
00940	CHLORIDE	CL	MG/L	6	4.53333	5.70667	2.38886	.526955	.975250	9.00000	2.20000	78/10/24	79/08/14
31616	FEC COLI	MFM-FCBR	/100ML	6	39.8333	5460.96	73.8983	1.85519	30.1689	190.000	2.00000	78/10/24	79/08/14
31679	FECSTREP	MF M-ENT	/100ML	6	28.3333	1618.27	40.2277	1.41980	16.4229	104.000	2.00000	78/10/24	79/08/14
70507	PHOS-T	ORTHO	MG/L P	6	.018333	.000235	.015345	.836999	.006265	.040000	.004000	78/10/24	79/08/14

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

2020173
46 29 40.0 115 48 25.0 2
OROFINO CR DWNSTM-PIERCE OUTFALL
16035 IDAHO
PACIFIC NORTHWEST 130800
LOWER SNAKE
21IDSURV 790616
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01350 1050
MILES 0324.30 0139.30 044.90 026.50

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	6	6.90000	23.4800	4.84562	.702264	1.97821	15.0000	.500000	78/10/24	79/08/14
00042	ALTITUDE	FEET	AB MSL	1	3060.00					3060.00	3060.00	01/01/01	01/01/01
00061	STREAM	FLOW,	INST-CFS	2	14.7000	44.1799	6.64680	.452163	4.70000	19.4000	10.0000	78/10/24	79/08/14
00076	TURB	TRBIDMTR	HACH FTU	6	3.96666	11.3867	3.37442	.850694	1.37760	8.20000	1.00000	78/10/24	79/08/14
00094	CNDUCTVY	FIELD	MICROMHO	1	21.0000					21.0000	21.0000	79/05/02	79/05/02
00095	CNDUCTVY	AT 25C	MICROMHO	6	44.6667	173.070	13.1556	.294528	5.37075	61.0000	29.0000	78/10/24	79/08/14
00116	INTNSVE	SURVEY	IDENT	7	791605	.000000	.000000		.000000	791605	791605	01/01/01	79/08/14
00300	DO		MG/L	6	11.1333	2.79487	1.67179	.150161	.682504	14.0000	8.80000	78/10/24	79/08/14
00335	COD	LOWLEVEL	MG/L	6	11.9500	95.3871	9.76663	.817292	3.98721	31.5000	5.30000	78/10/24	79/08/14
00400	PH		SU	6	7.41666	.469678	.685330	.092404	.279785	8.50000	6.70000	78/10/24	79/08/14
00403	LAB	PH	SU	4	6.95000	.036708	.191592	.027567	.095796	7.10000	6.70000	79/03/21	79/08/14
00500	RESIDUE	TOTAL	MG/L	6	53.8333	96.5703	9.82702	.182545	4.01186	63.0000	36.0000	78/10/24	79/08/14
00530	RESIDUE	TOT NFLT	MG/L	6	6.33333	20.2667	4.50185	.710819	1.83787	12.0000	2.00000	78/10/24	79/08/14
00610	NH3+NH4-	N TOTAL	MG/L	6	.102667	.009211	.095974	.934814	.039181	.272000	.016000	78/10/24	79/08/14
00615	NO2-N	TOTAL	MG/L	6	.004500	.000008	.002739	.608581	.001118	.009000	.002000	78/10/24	79/08/14
00625	TOT KJEL	N	MG/L	6	.250000	.015640	.125061	.500244	.051056	.400000	.100000	78/10/24	79/08/14
00630	NO2&NO3	N-TOTAL	MG/L	6	.070000	.002394	.048924	.698922	.019973	.157000	.020000	78/10/24	79/08/14
00665	PHOS-TOT		MG/L P	6	.076667	.000827	.028752	.375026	.011738	.110000	.030000	78/10/24	79/08/14
00940	CHLORIDE	CL	MG/L	6	4.71666	13.1537	3.62680	.768934	1.48064	11.0000	2.00000	78/10/24	79/08/14
31616	FEC COLI	MFM-FCBR	/100ML	6	1388.67	.104E+08	3239.56	2.33285	1322.54	8000.00	10.0000	78/10/24	79/08/14
31679	FECSTREP	MF M-ENT	/100ML	6	173.167	121169	348.093	2.01016	142.108	880.000	4.00000	78/10/24	79/08/14
50060	CHLORINE	TOT RESD	MG/L	2	.000000	.000000	.000000		.000000	.000000	.000000	78/10/24	79/06/06
70507	PHOS-T	ORTHO	MG/L P	6	.039500	.000667	.025828	.653881	.010544	.070000	.015000	78/10/24	79/08/14

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

2020174
46 29 35.0 115 48 00.0 2
PIERCE OUTFALL
16035 IDAHO
PACIFIC NORTHWEST 130800
LOWER SNAKE
211DSURV 790616
0000 CLASS 00

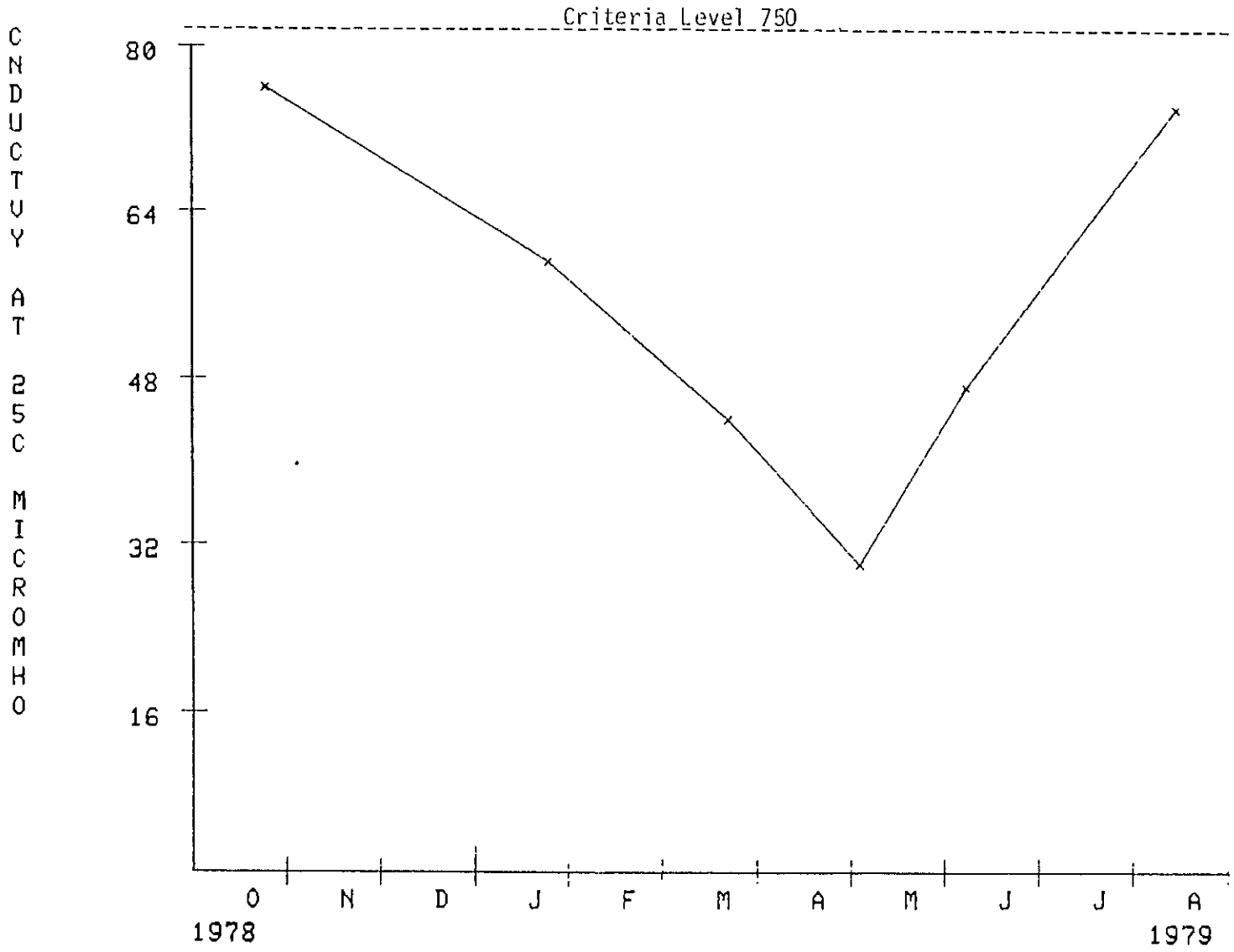
/TYPA/AMONT/STREAM

INDEX 1310001 002740 01350 1050
MILES 0324.30 0139.30 044.90 027.10

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	6	10.8333	28.2667	5.31665	.490767	2.17051	18.5000	4.00000	78/10/24	79/08/14
00042	ALTITUDE	FEET	AB MSL	1	3060.00					3060.00	3060.00	01/01/01	01/01/01
00061	STREAM	FLOW,	INST-CFS	3	.223333	.006533	.080829	.361920	.046667	.270000	.130000	78/10/24	79/08/14
00076	TURB	TRBIDMTR	HACH FTU	6	7.20000	30.0121	5.47833	.760879	2.23652	18.0000	2.70000	78/10/24	79/08/14
00094	CNDUCTVY	FIELD	MICROMHO	1	128.000					128.000	128.000	79/05/02	79/05/02
00095	CNDUCTVY	AT 25C	MICROMHO	6	289.000	9233.20	96.0895	.332490	39.2284	424.000	188.000	78/10/24	79/08/14
00116	INTNSVE	SURVEY	IDENT	7	791605	.000000	.000000		.000000	791605	791605	01/01/01	79/08/14
00300	DO		MG/L	6	7.10000	.528076	.726688	.102351	.296669	8.00000	6.00000	78/10/24	79/08/14
00310	BOD	5 DAY	MG/L	1	30.0000					30.0000	30.0000	79/08/14	79/08/14
00335	COD	LOWLEVEL	MG/L	5	49.0000	620.135	24.9025	.508215	11.1367	86.7000	17.5000	79/01/23	79/08/14
00400	PH		SU	6	7.23333	.246777	.496767	.068677	.202804	8.10000	6.70000	78/10/24	79/08/14
00403	LAB	PH	SU	4	6.93750	.239019	.488895	.070471	.244448	7.40000	6.25000	79/03/21	79/08/14
00500	RESIDUE	TOTAL	MG/L	6	191.333	2320.29	48.1694	.251756	19.6651	260.000	135.000	78/10/24	79/08/14
00530	RESIDUE	TOT NFLT	MG/L	6	16.8333	250.967	15.8419	.941105	6.46744	47.0000	6.00000	78/10/24	79/08/14
00610	NH3+NH4-	N TOTAL	MG/L	6	7.07249	28.7920	5.36582	.758689	2.19059	13.8000	.165000	78/10/24	79/08/14
00615	NO2-N	TOTAL	MG/L	6	.017833	.000297	.017244	.966972	.007040	.049000	.002000	78/10/24	79/08/14
00625	TOT KJEL	N	MG/L	6	10.1333	36.1987	6.01654	.593738	2.45624	16.4000	2.40000	78/10/24	79/08/14
00630	NO2&NO3	N-TOTAL	MG/L	6	2.01267	11.3829	3.37386	1.67631	1.37737	8.32000	.031000	78/10/24	79/08/14
00665	PHOS-TOT		MG/L P	6	4.17666	2.50410	1.58243	.378875	.646026	6.60000	2.30000	78/10/24	79/08/14
00940	CHLORIDE	CL	MG/L	6	19.4000	31.6002	5.62141	.289763	2.29493	29.0000	13.0000	78/10/24	79/08/14
31616	FEC COLI	MFM-FCBR	/100ML	6	349.666	195914	442.622	1.26584	180.700	1000.00	8.00000	78/10/24	79/08/14
31679	FECSTREP	MF M-ENT	/100ML	6	120.667	7913.07	88.9555	.737200	36.3159	290.000	50.0000	78/10/24	79/08/14
50060	CHLORINE	TOT RESD	MG/L	4	1.05000	.430002	.655745	.624520	.327873	2.00000	.500000	78/10/24	79/06/06
70507	PHOS-T	ORTHO	MG/L P	6	3.52333	2.34000	1.52970	.434164	.624499	6.41000	2.37000	78/10/24	79/08/14

GRAPHICS

STORET STATION 2020167
OROFINO CR NEAR MOUTH



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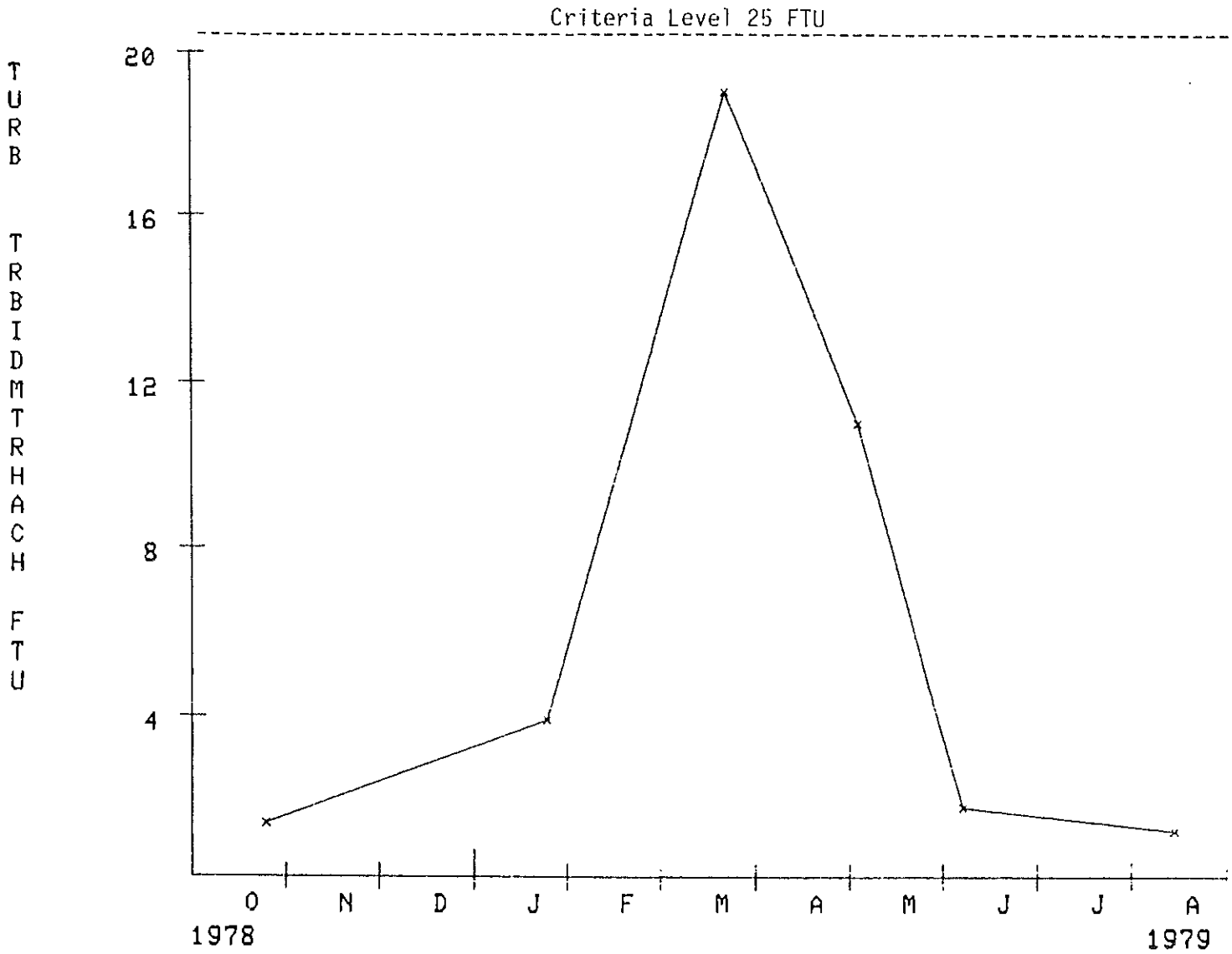
OROFINO CR NEAR MOUTH



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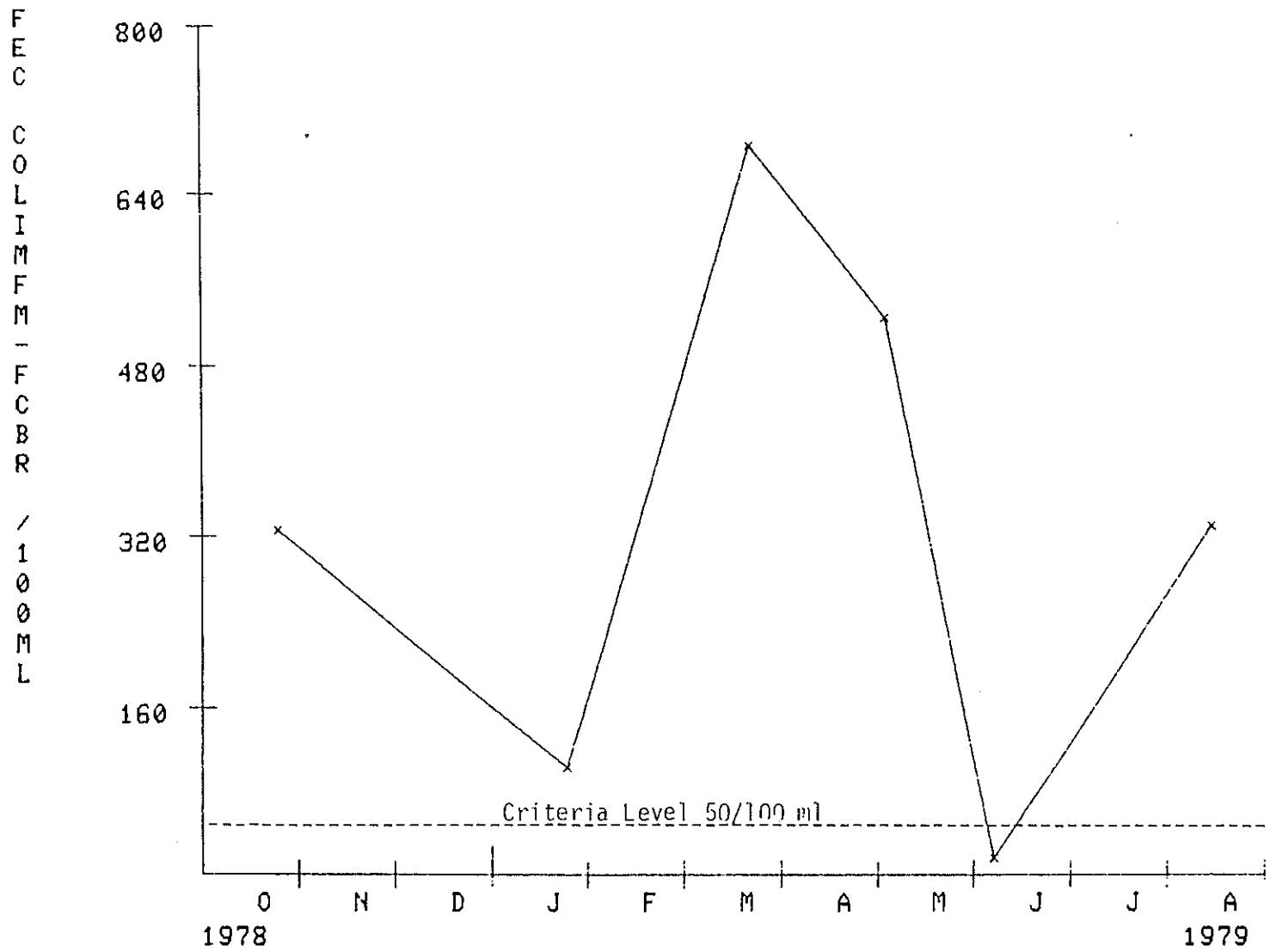
OROFINO CR NEAR MOUTH



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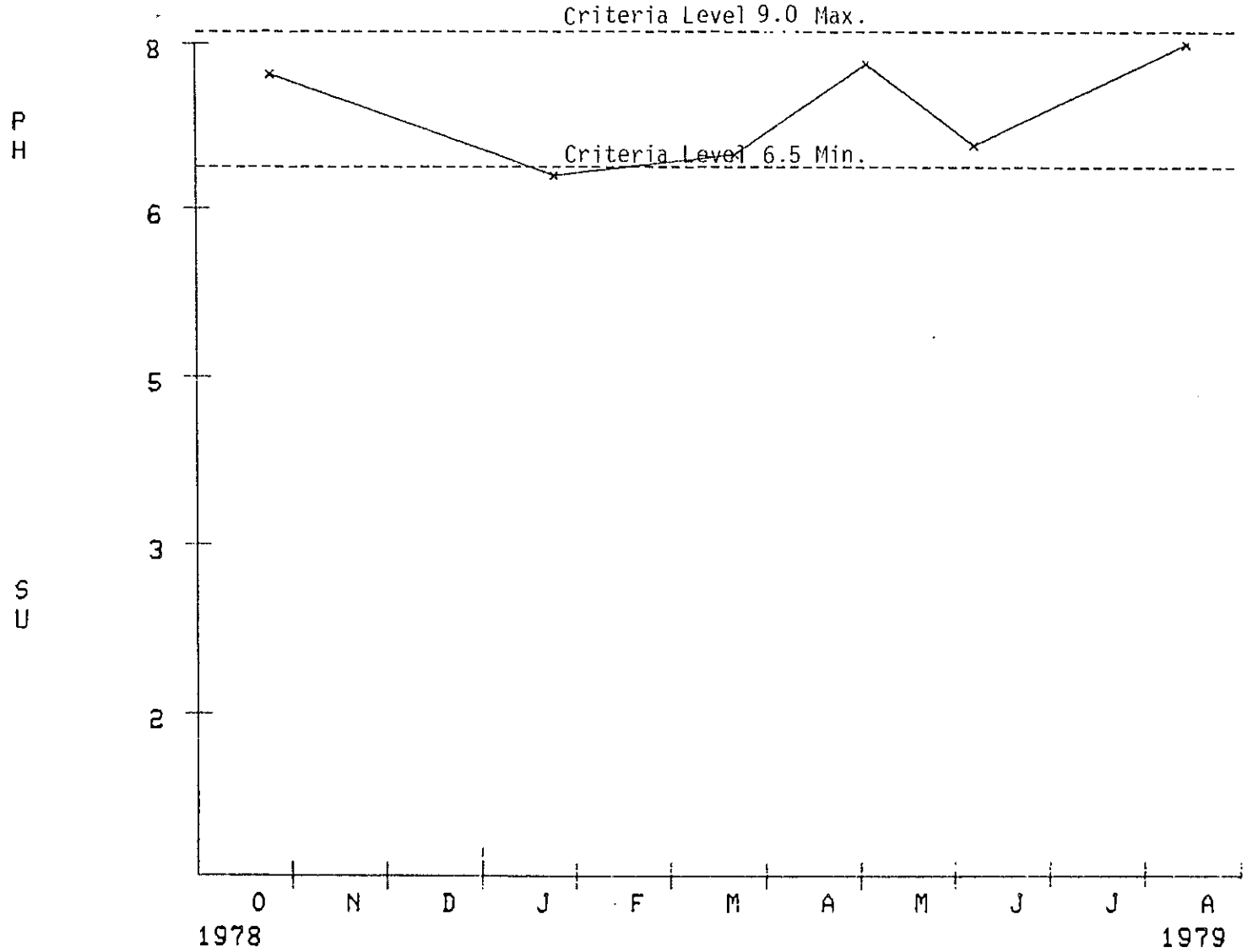
OROFINO CR NEAR MOUTH



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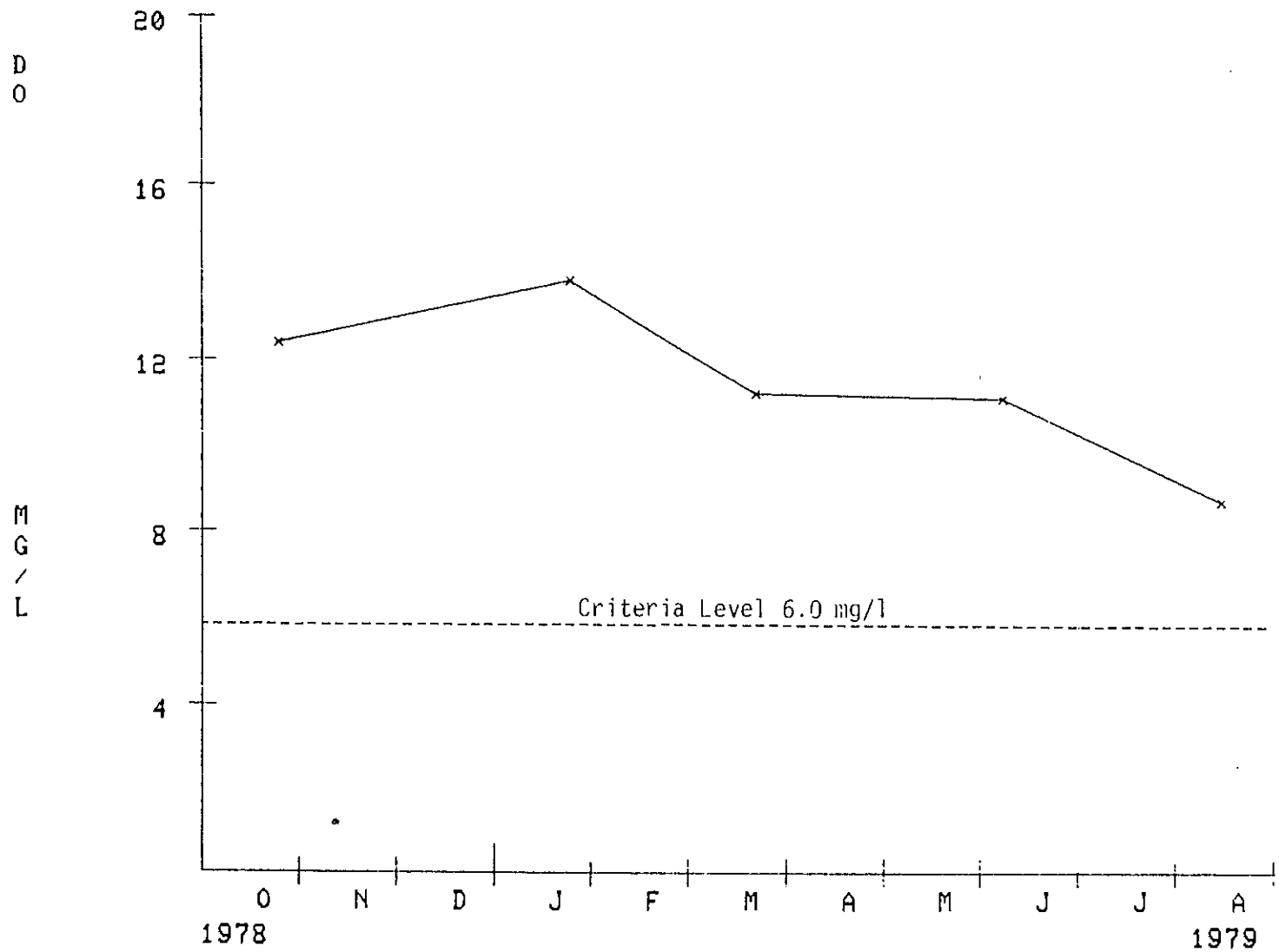
OROFINO CR NEAR MOUTH



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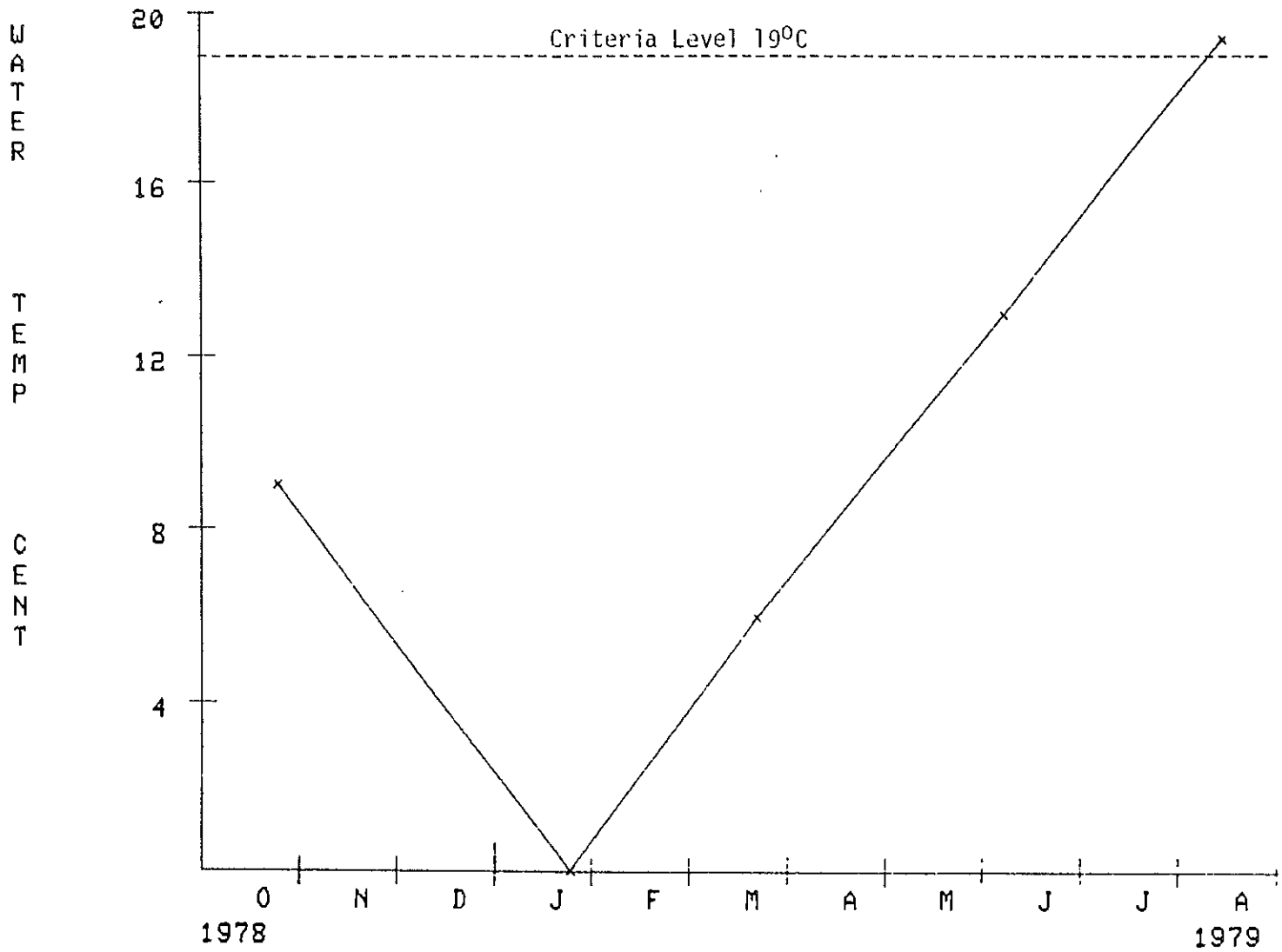
OROFINO CR NEAR MOUTH



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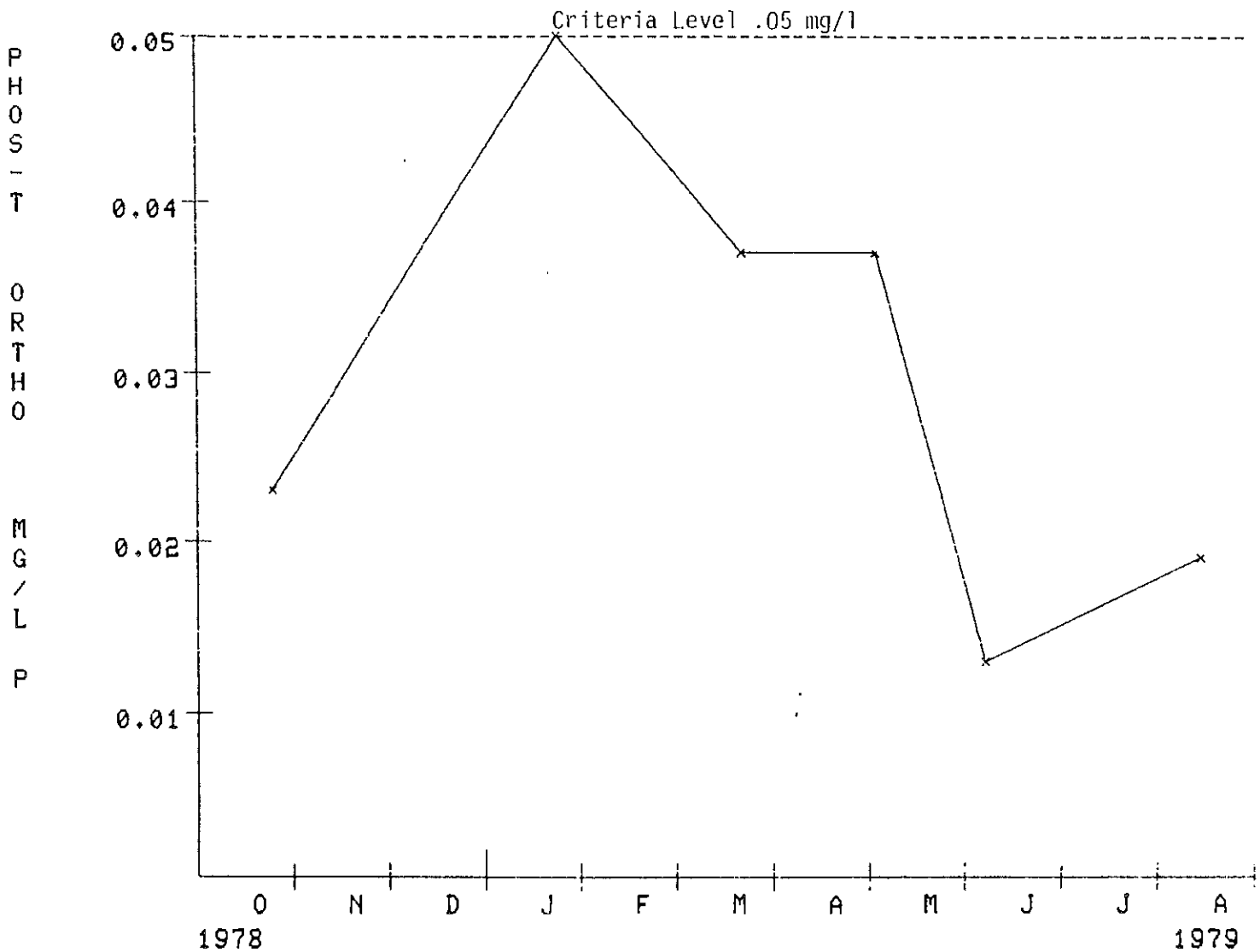
OROFINO CR NEAR MOUTH



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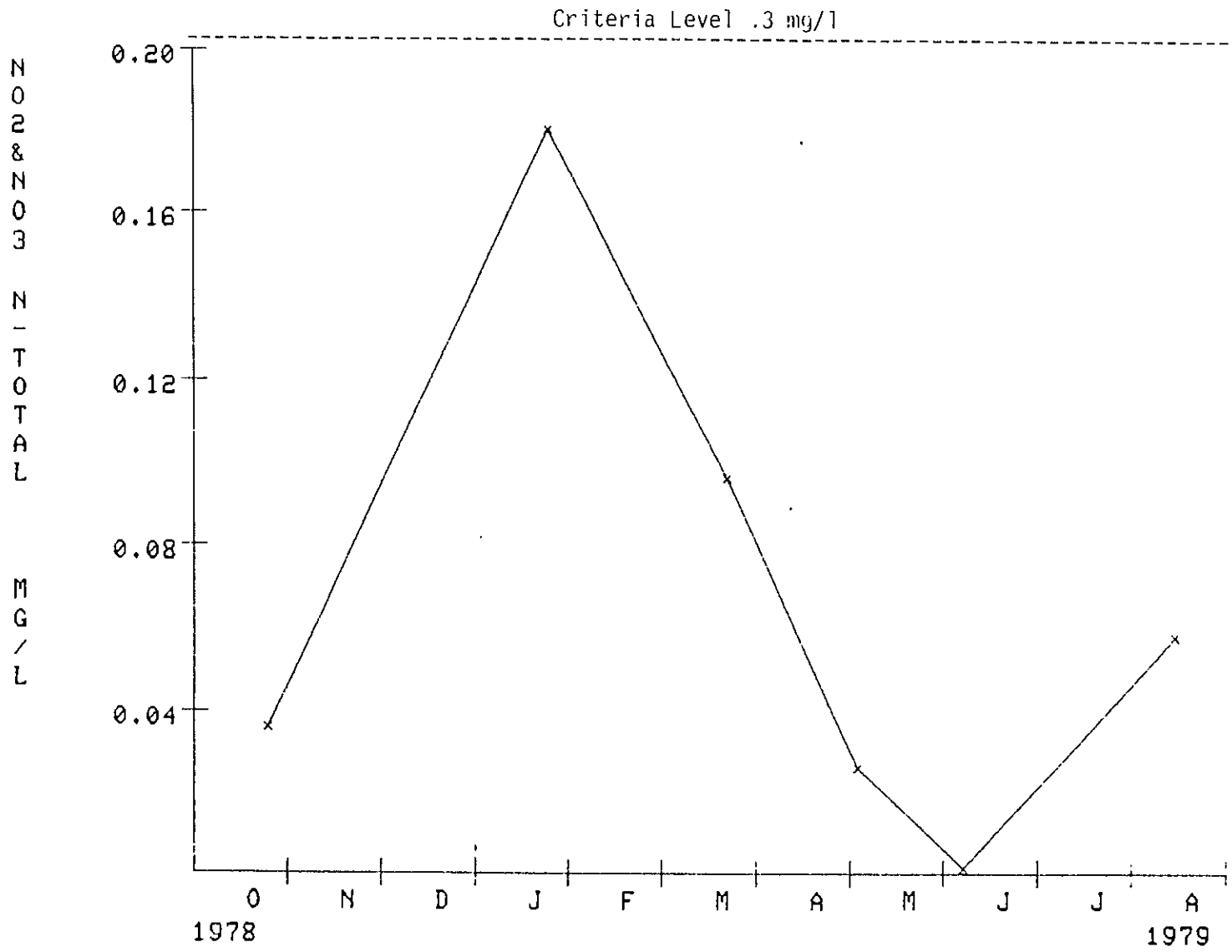
OROFINO CR NEAR MOUTH



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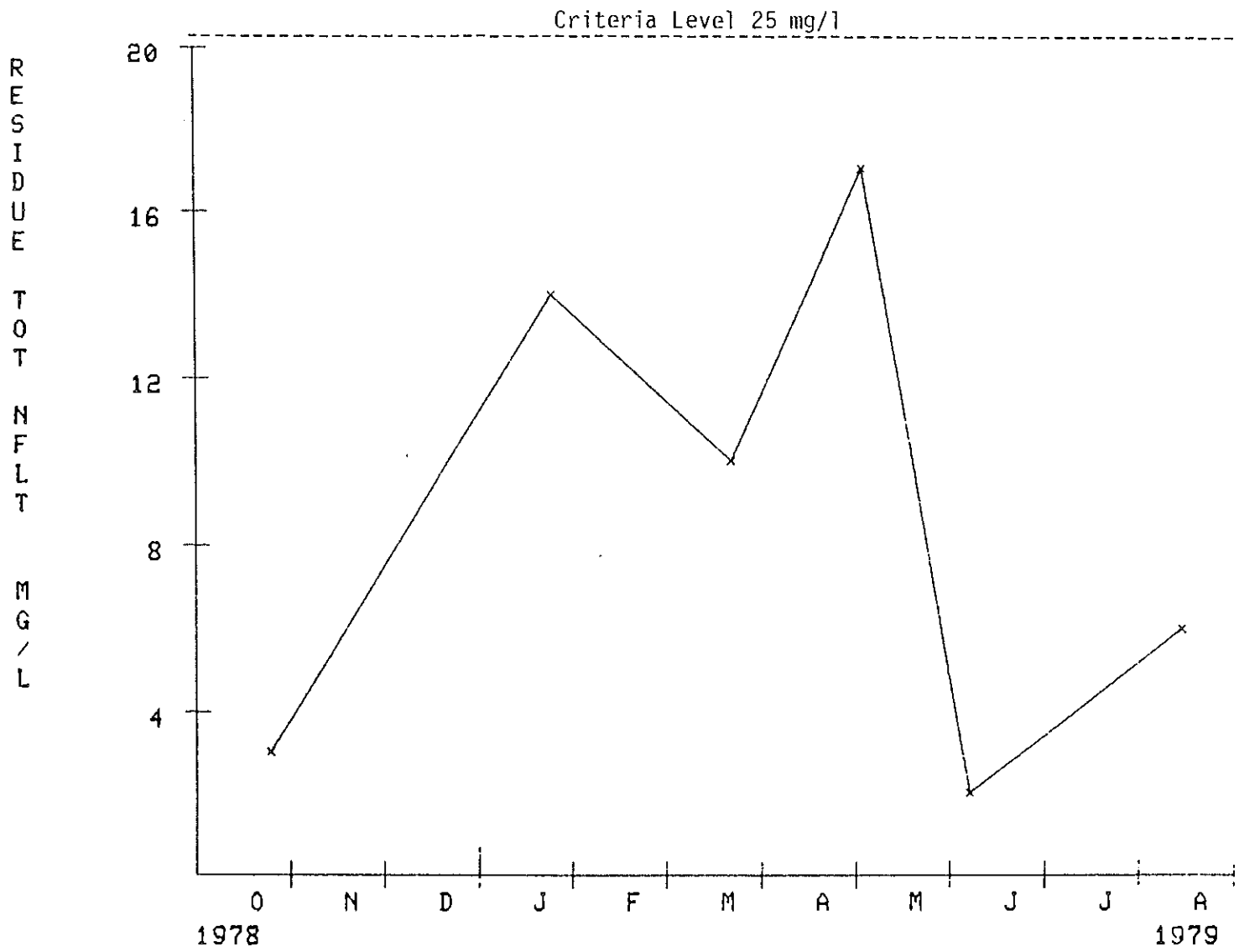
OROFINO CR NEAR MOUTH



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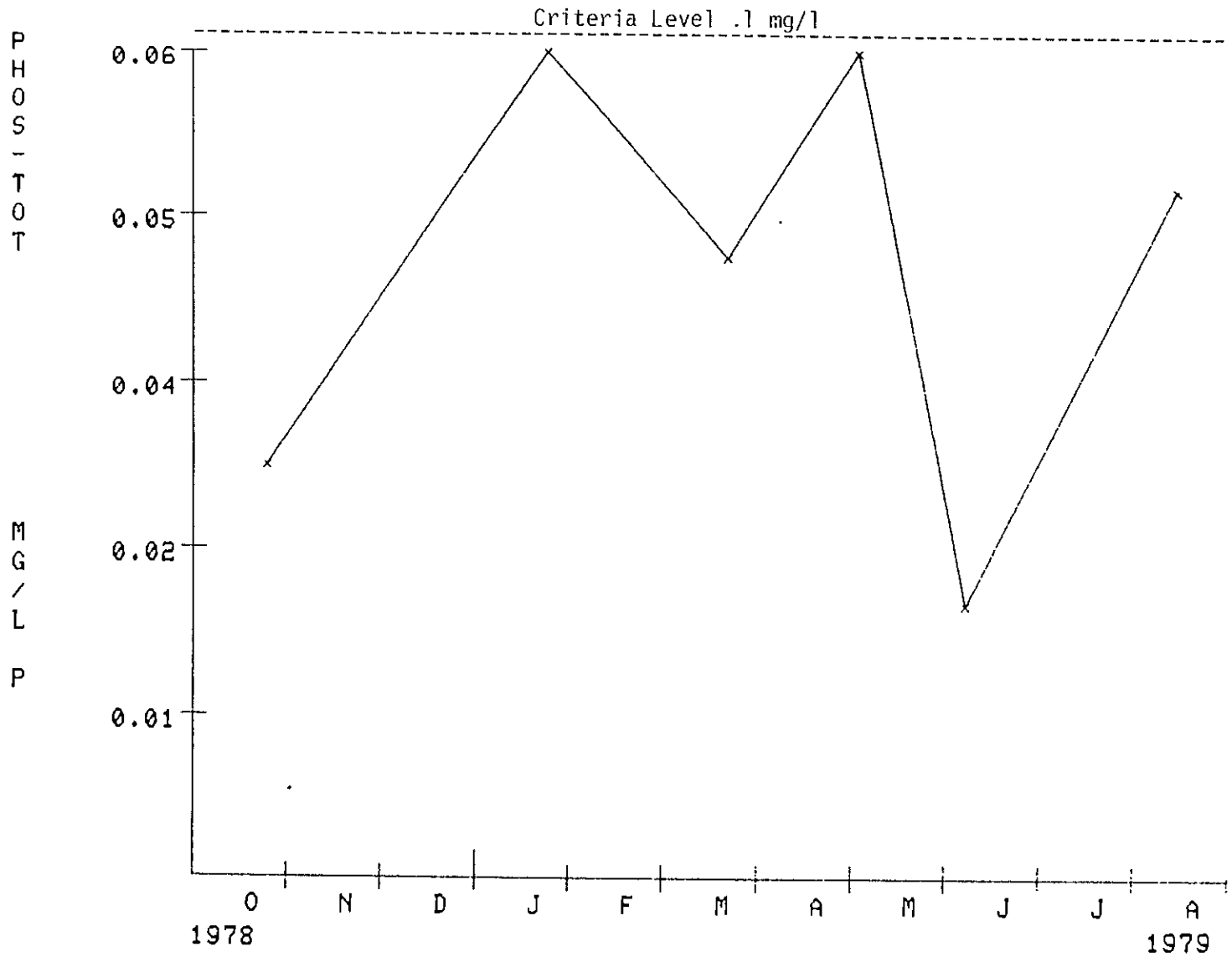
OROFINO CR NEAR MOUTH



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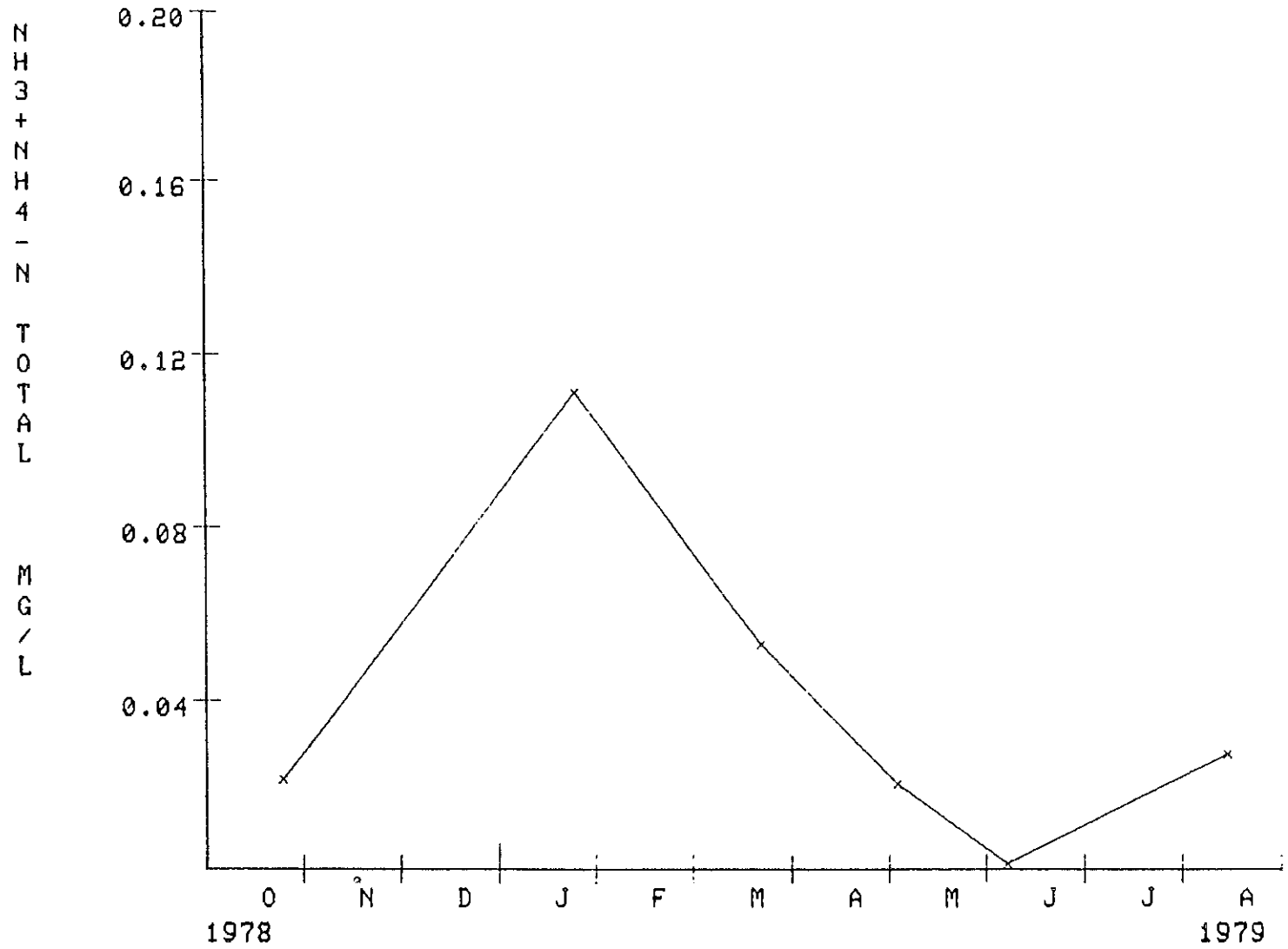
OROFINO CR NEAR MOUTH



OROFINO CREEK
INTENSIVE SURVEY DATA FOR 6 DAYS OF MONITORING
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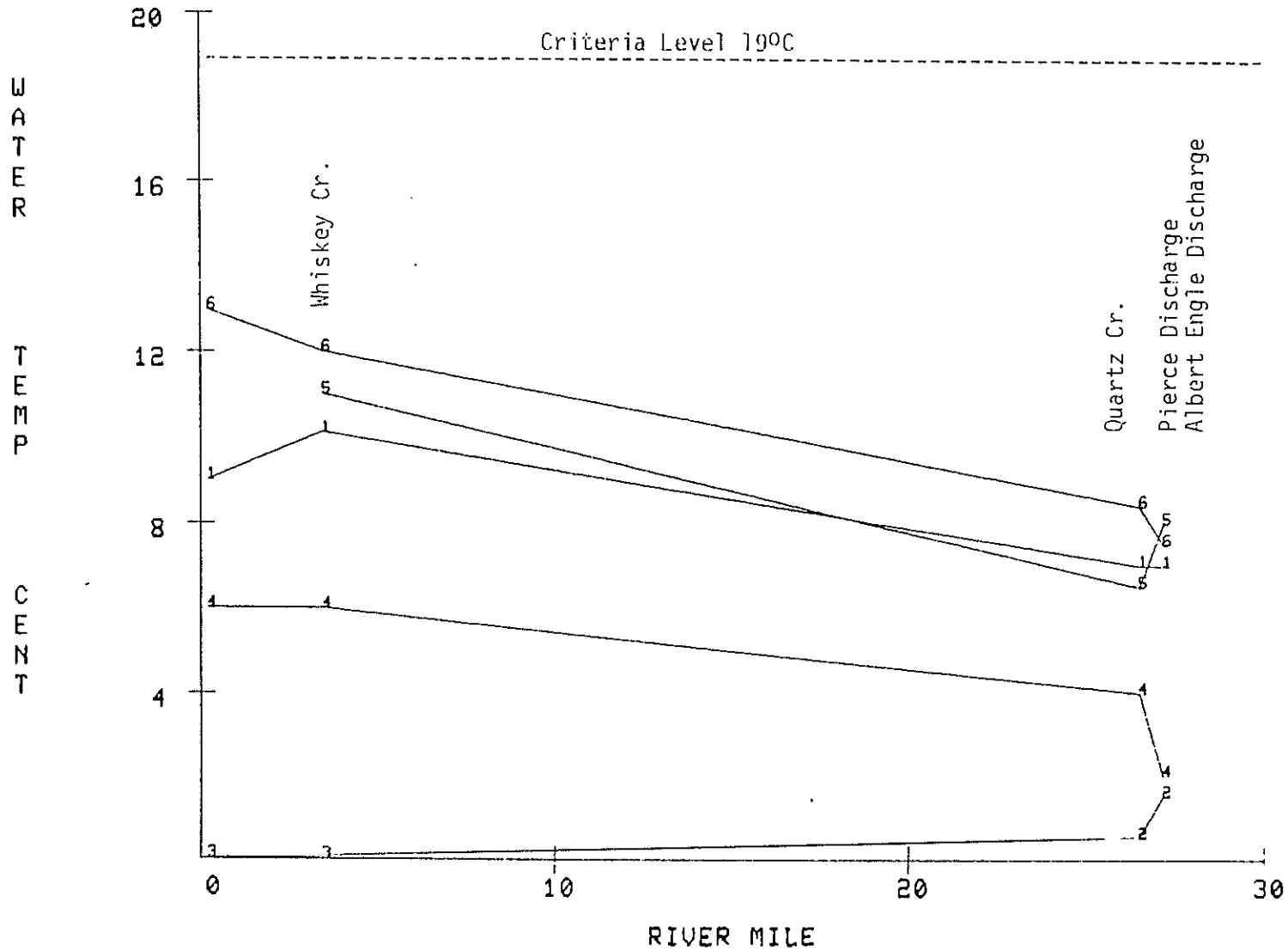
4 : 03-21-79 5 : 05-02-79 6 : 06-06-79



OROFINO CREEK
INTENSIVE SURVEY DATA FOR 1 DAY OF MONITORING
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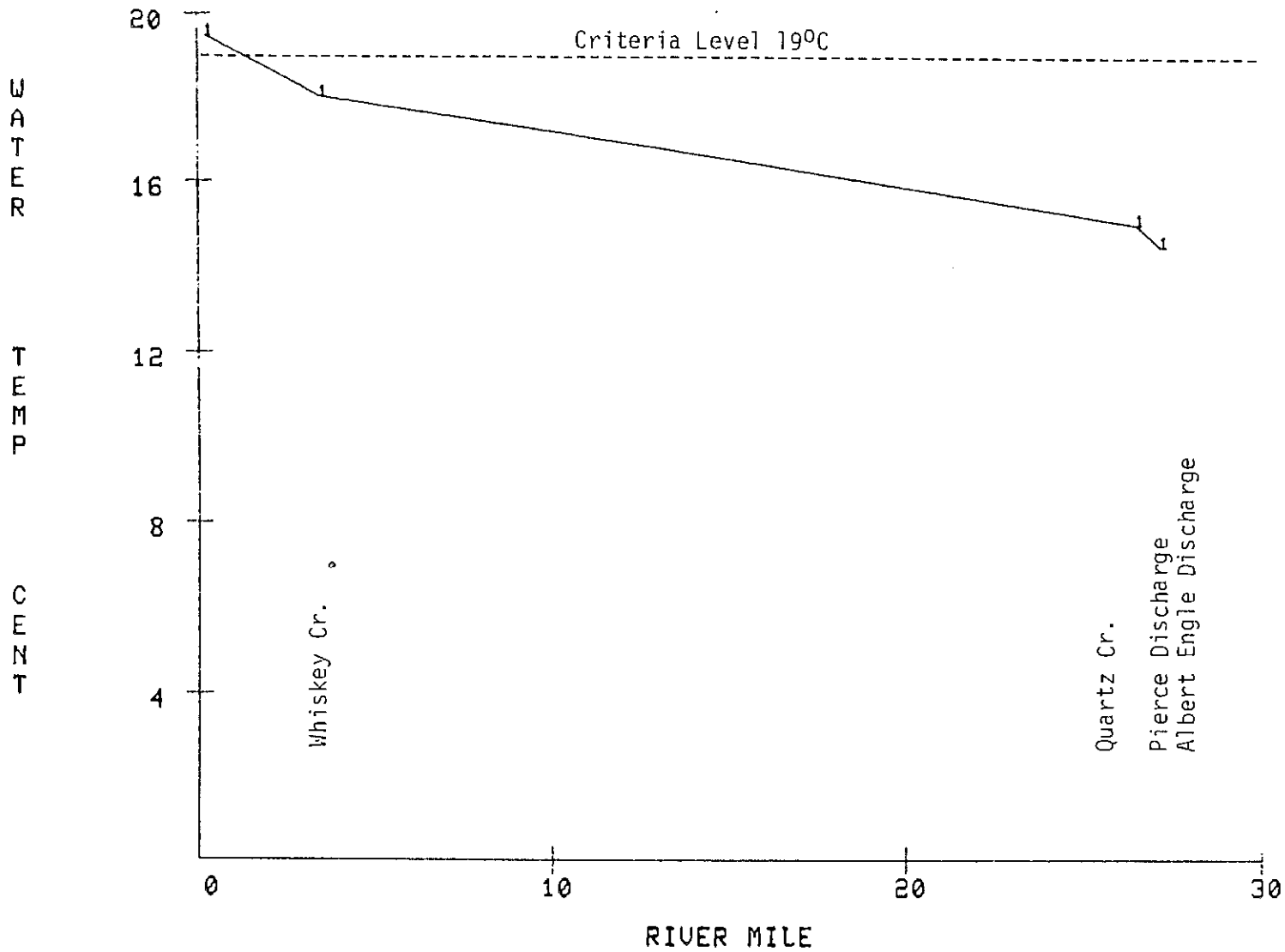
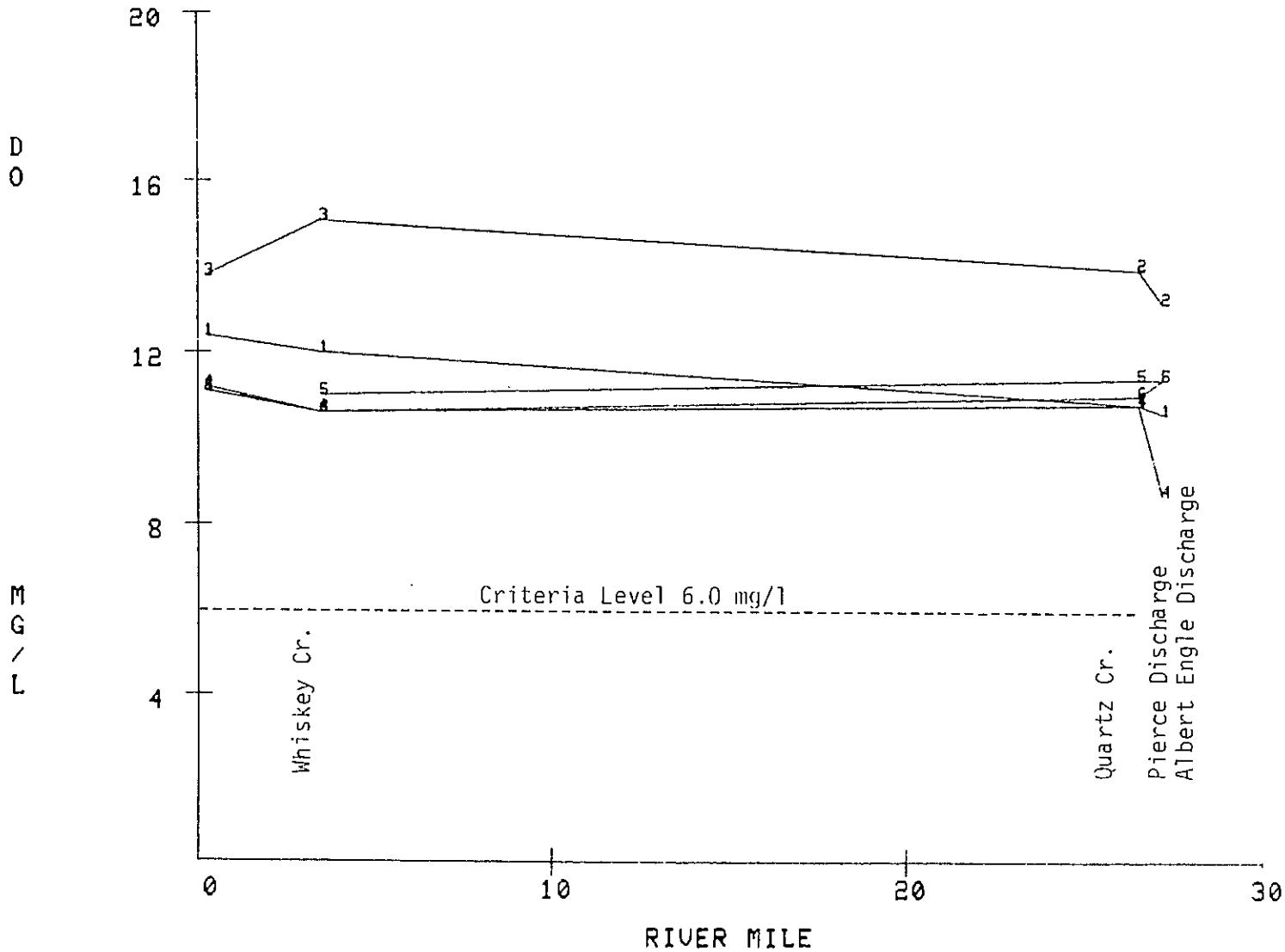
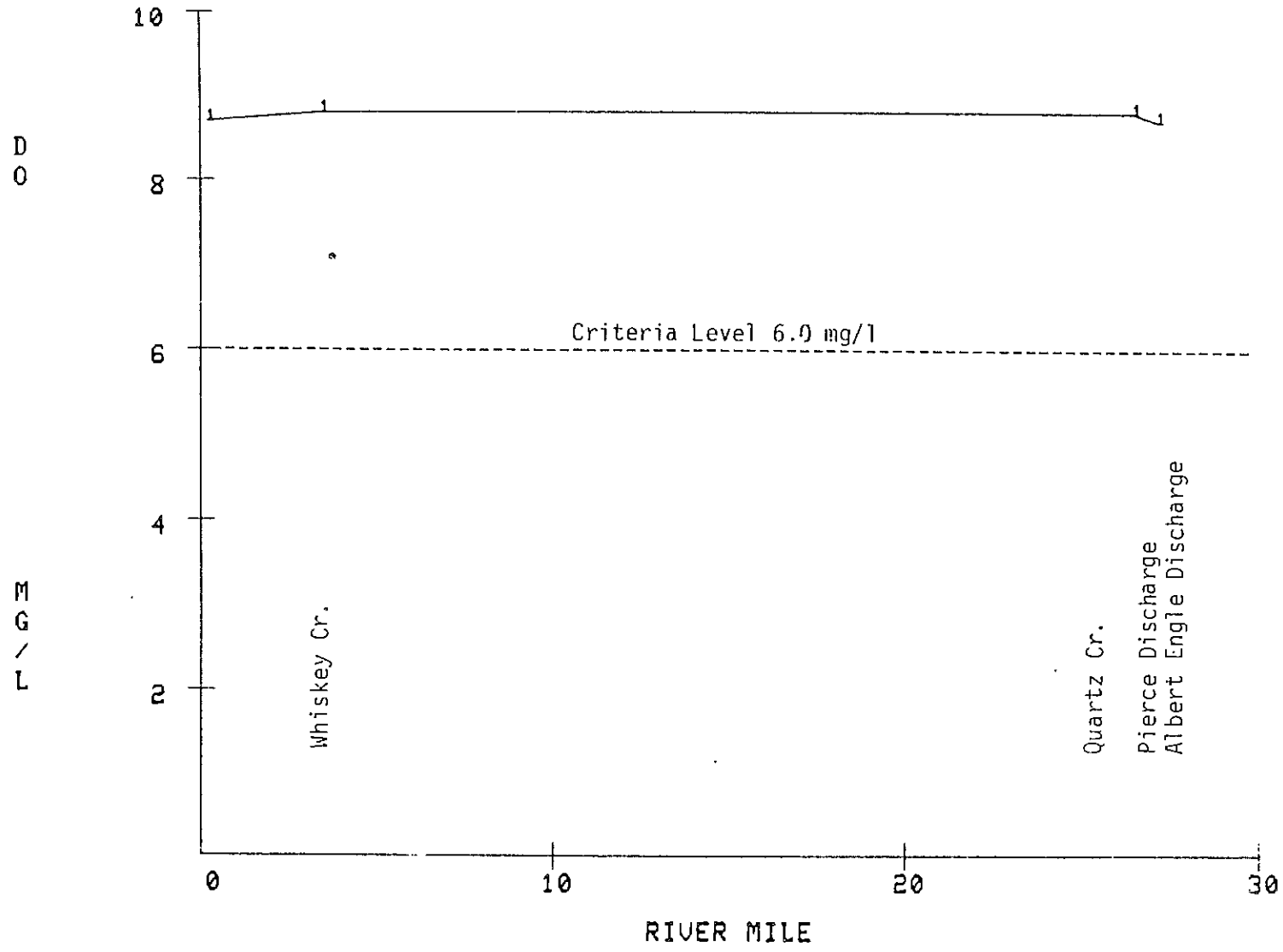


OROFINO CREEK
INTENSIVE SURVEY DATA FOR 6 DAYS OF MONITORING

1 : 10-24-78 2 : 01-23-79 3 : 01-24-79
4 : 03-21-79 5 : 05-02-79 6 : 06-06-79



OROFINO CREEK
INTENSIVE SURVEY DATA FOR 1 DAY OF MONITORING
1 : 08-14-79



OROFINO CREEK
INTENSIVE SURVEY DATA FOR 6 DAYS OF MONITORING

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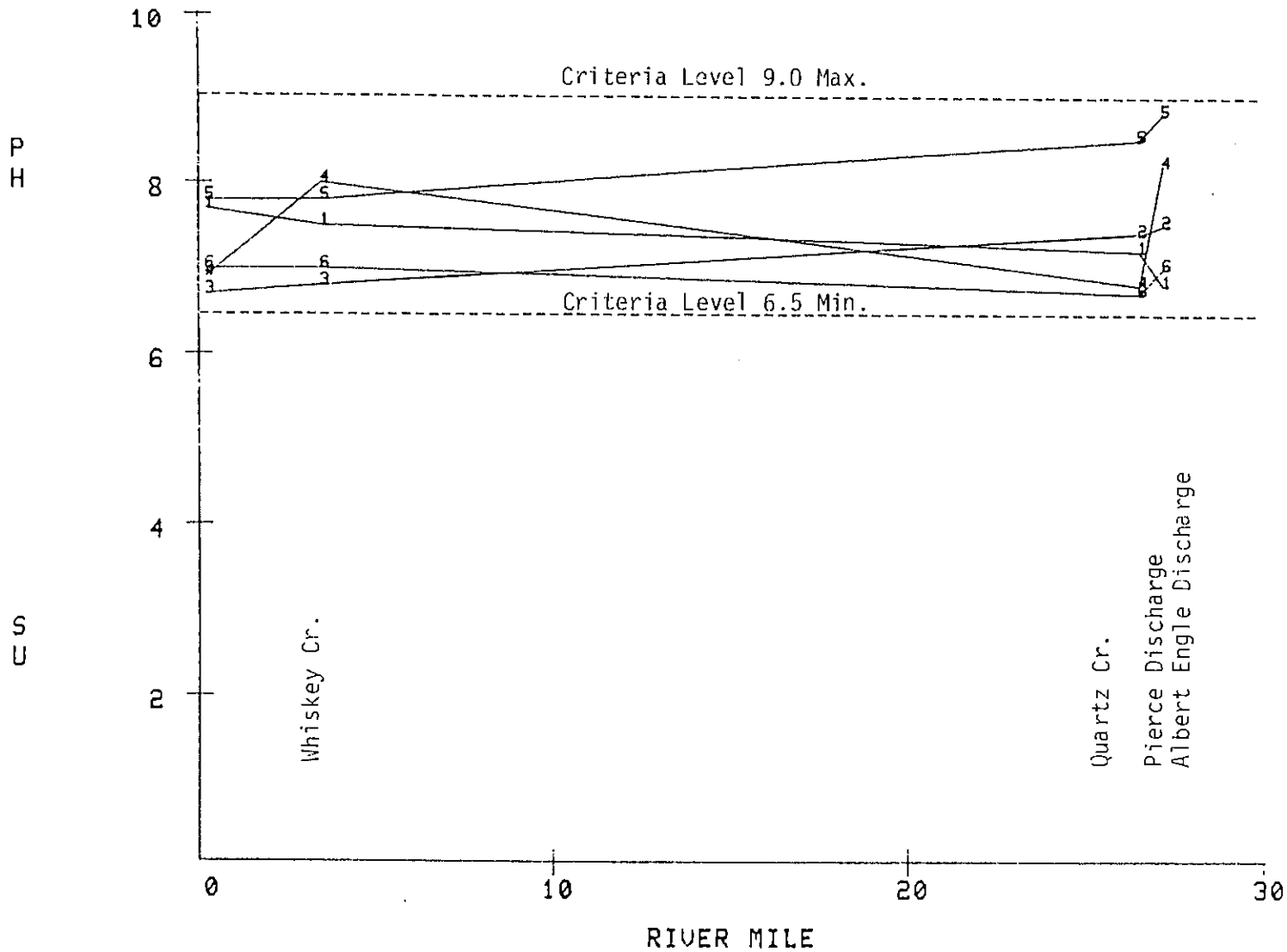

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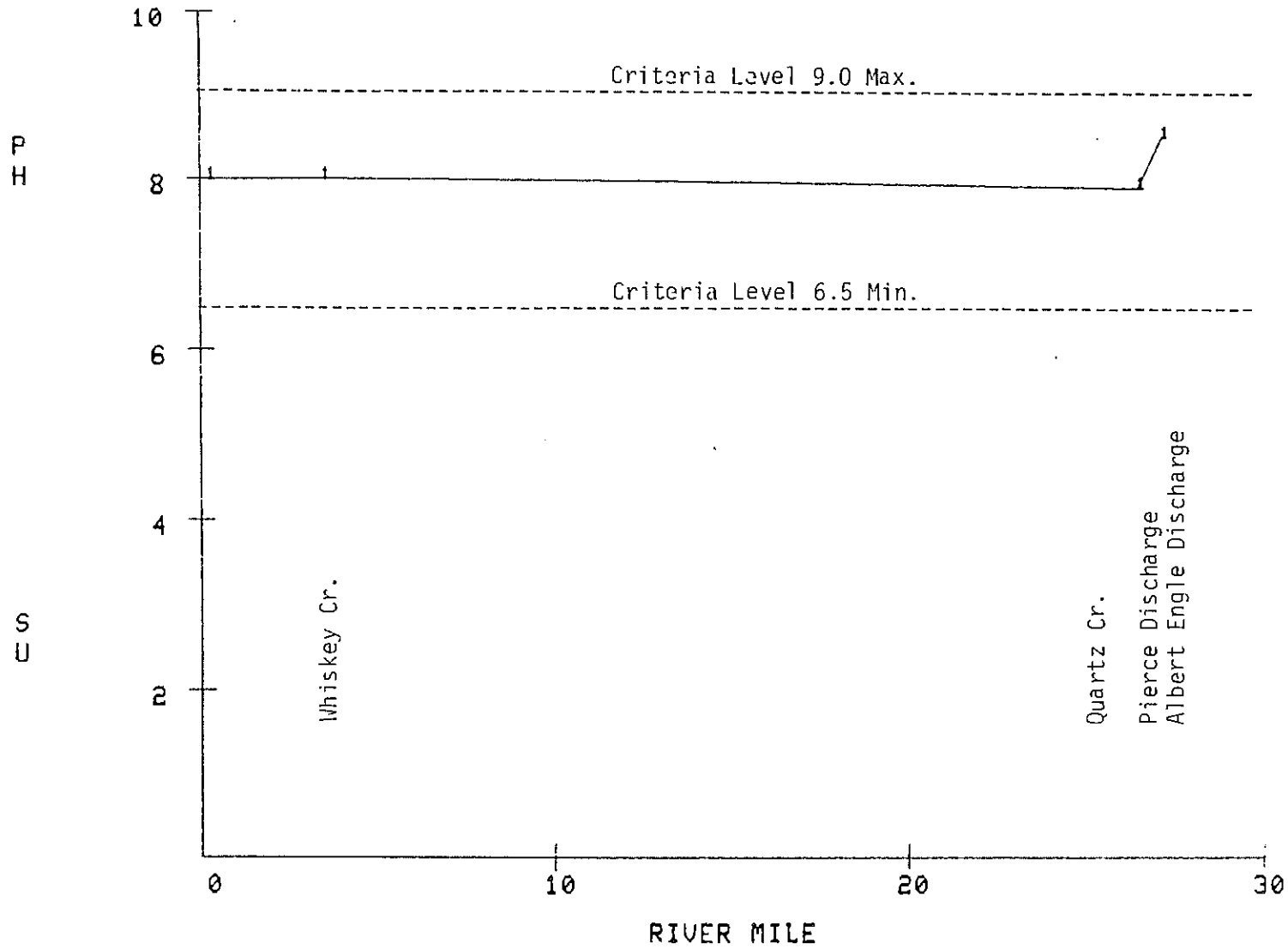

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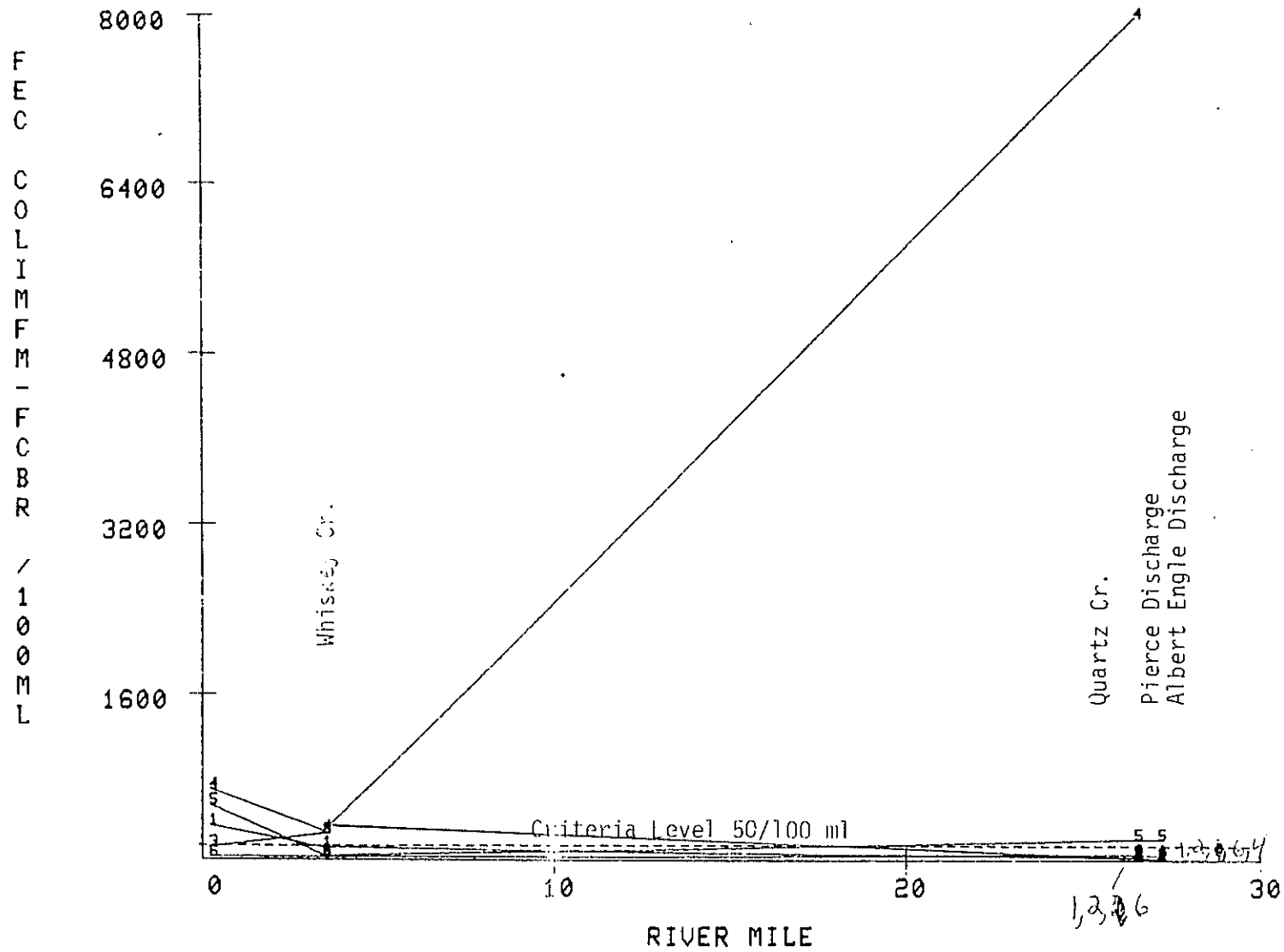

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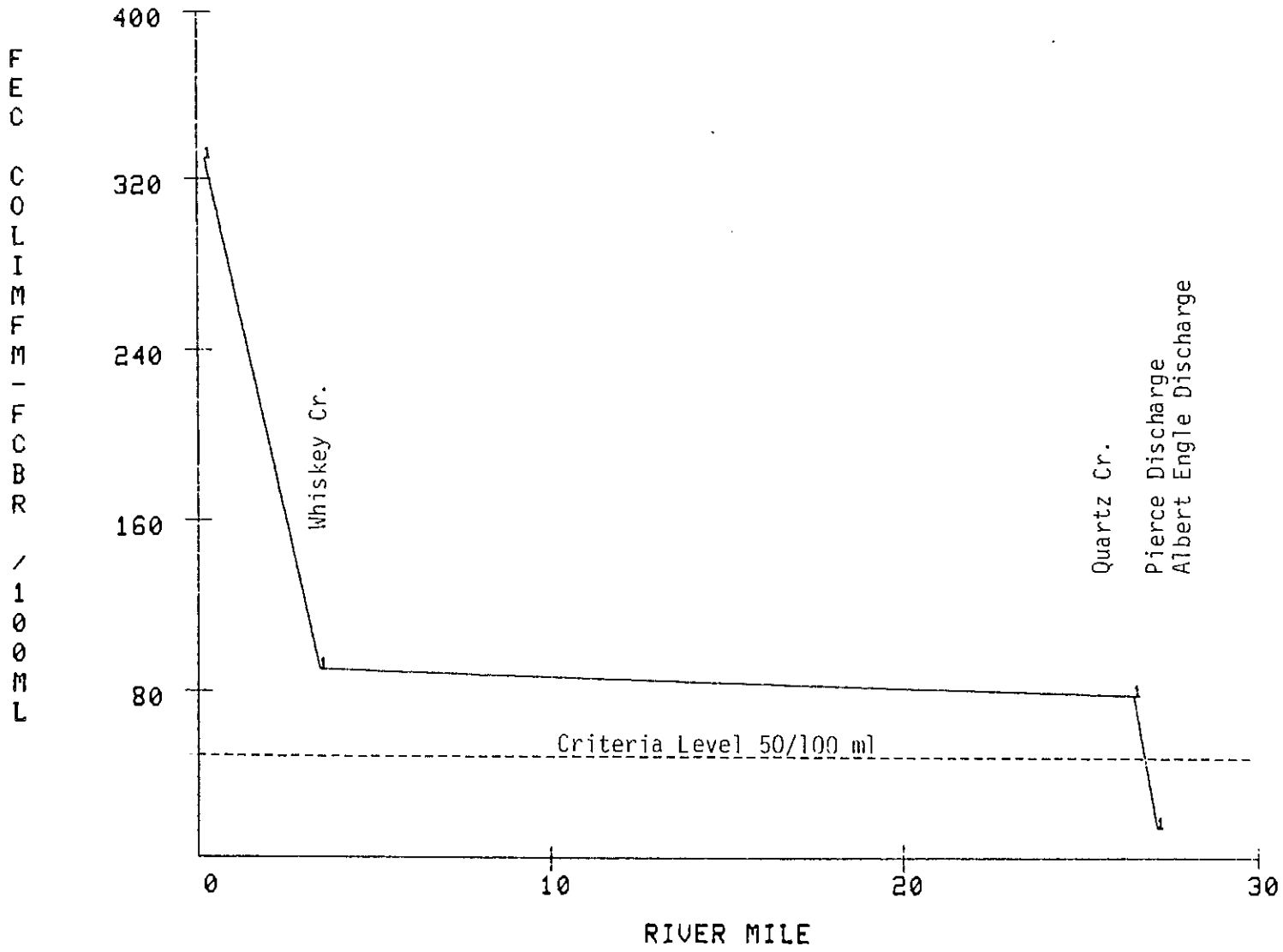

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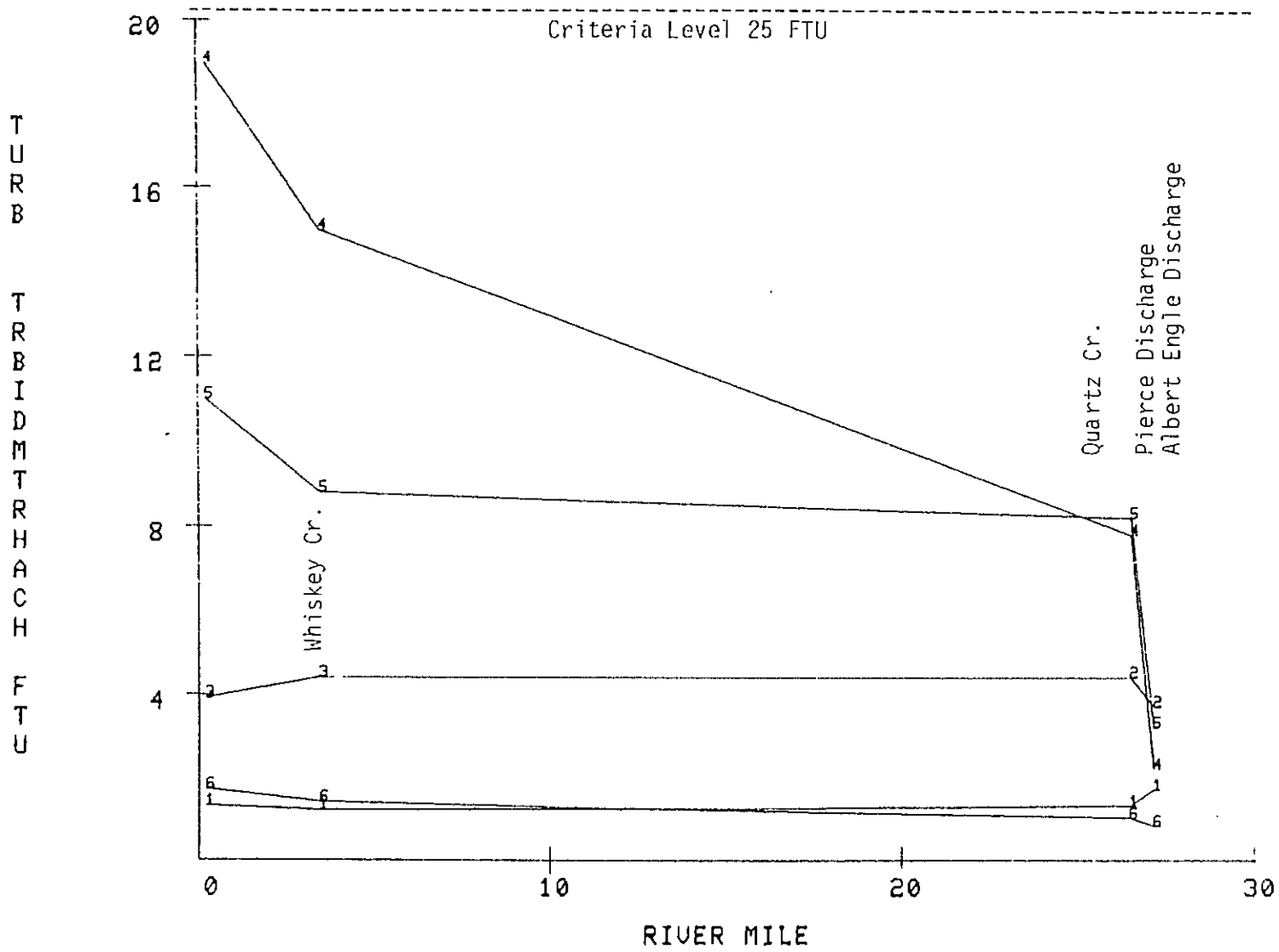

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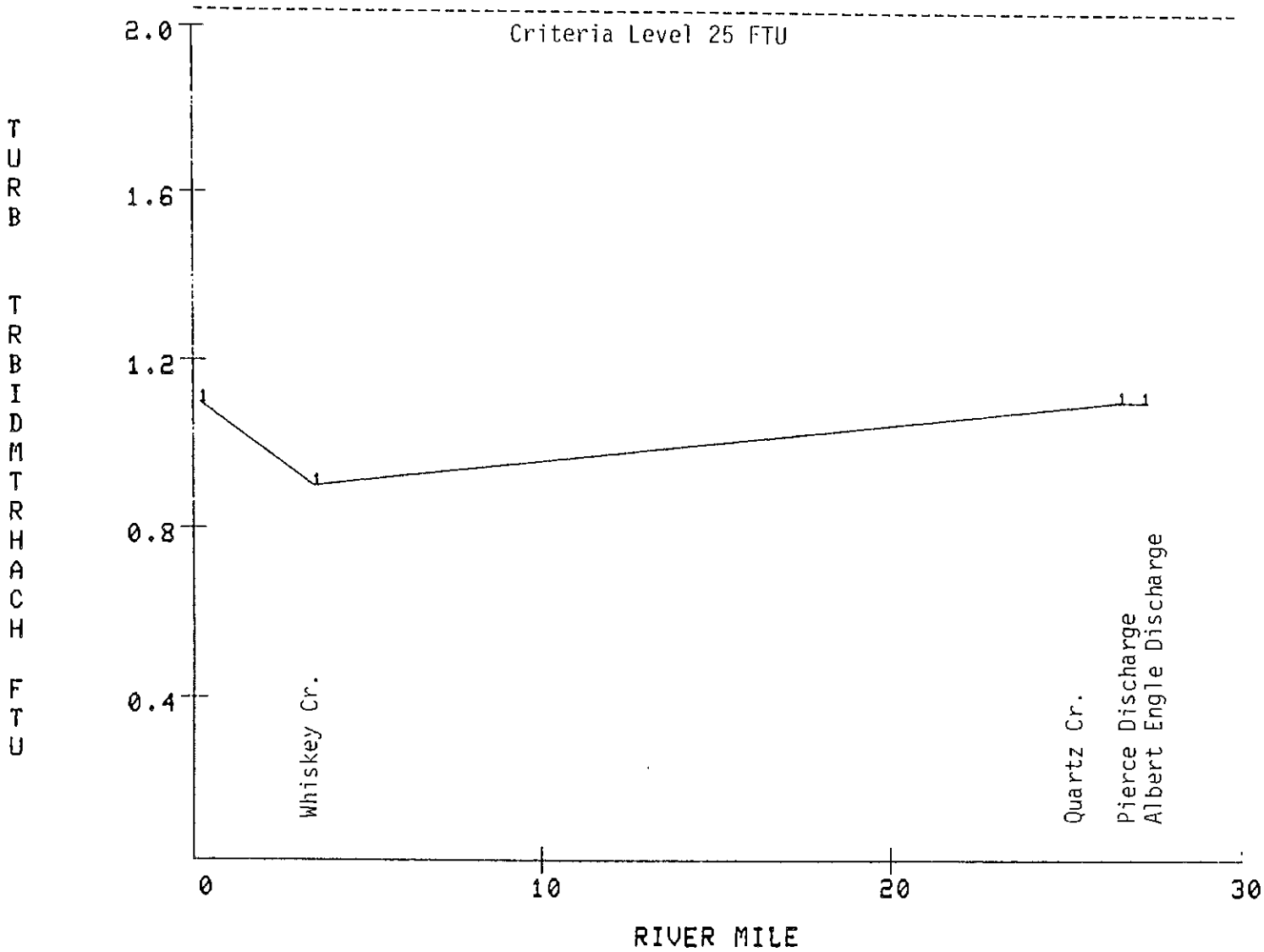

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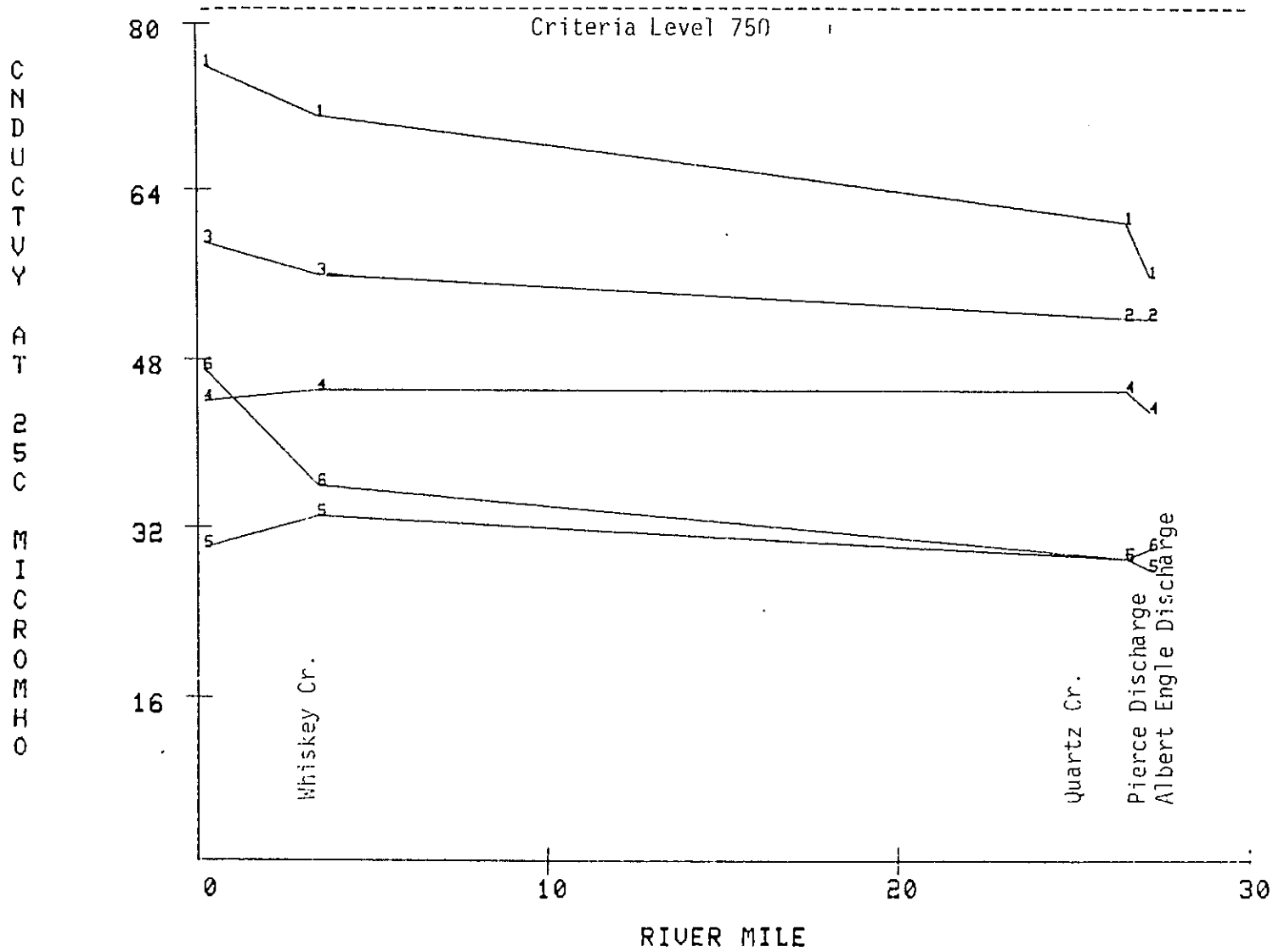

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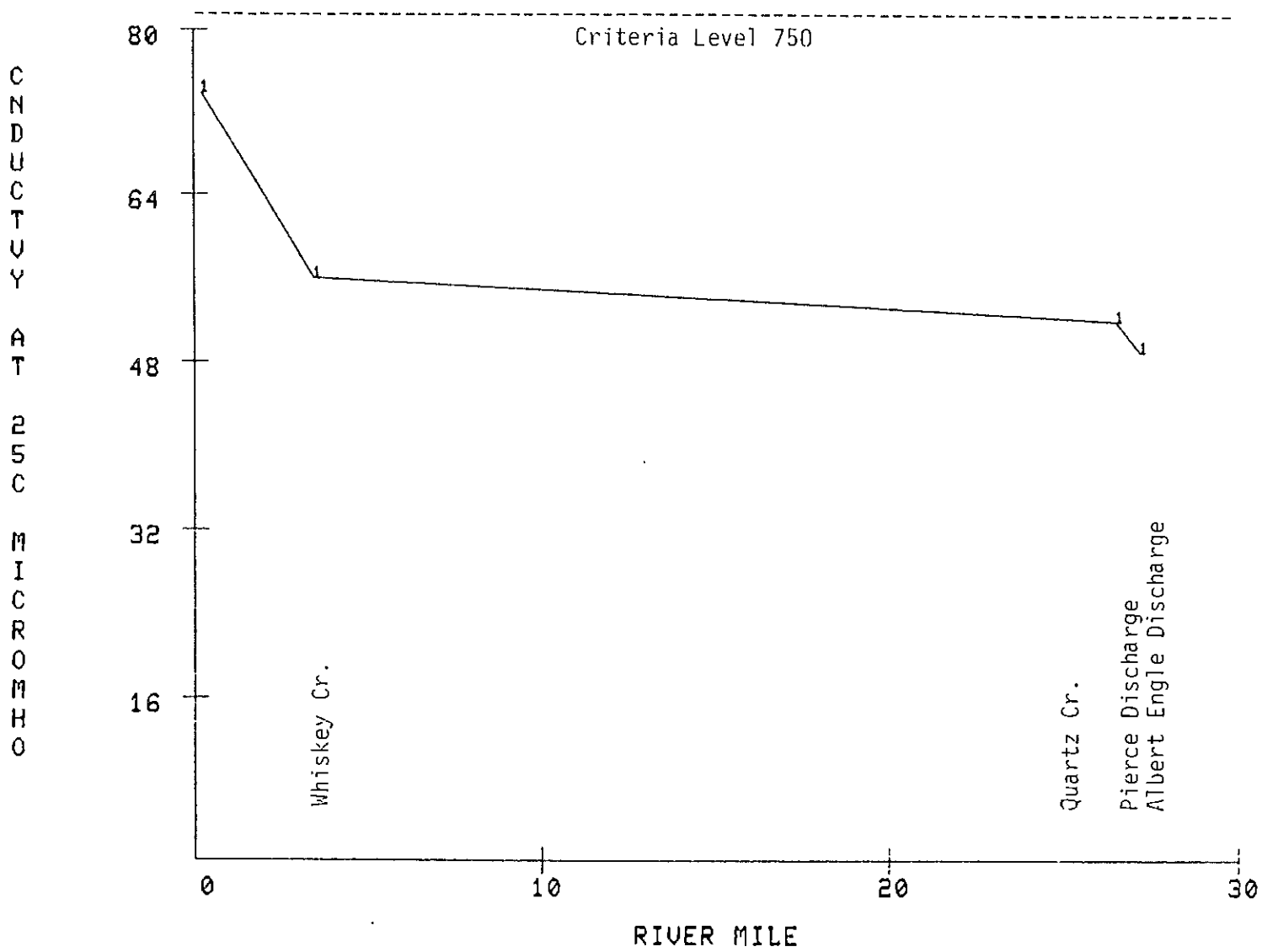

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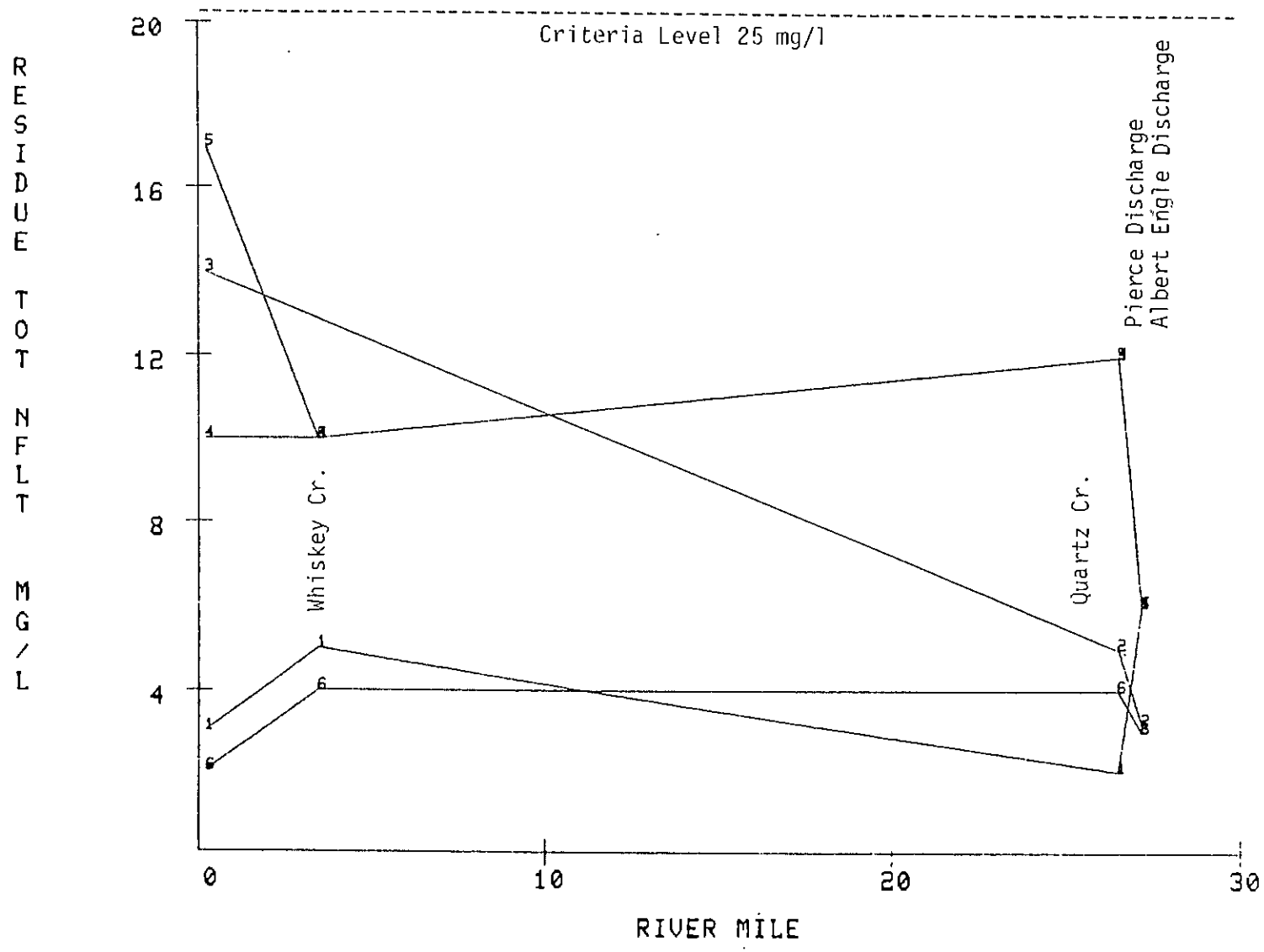

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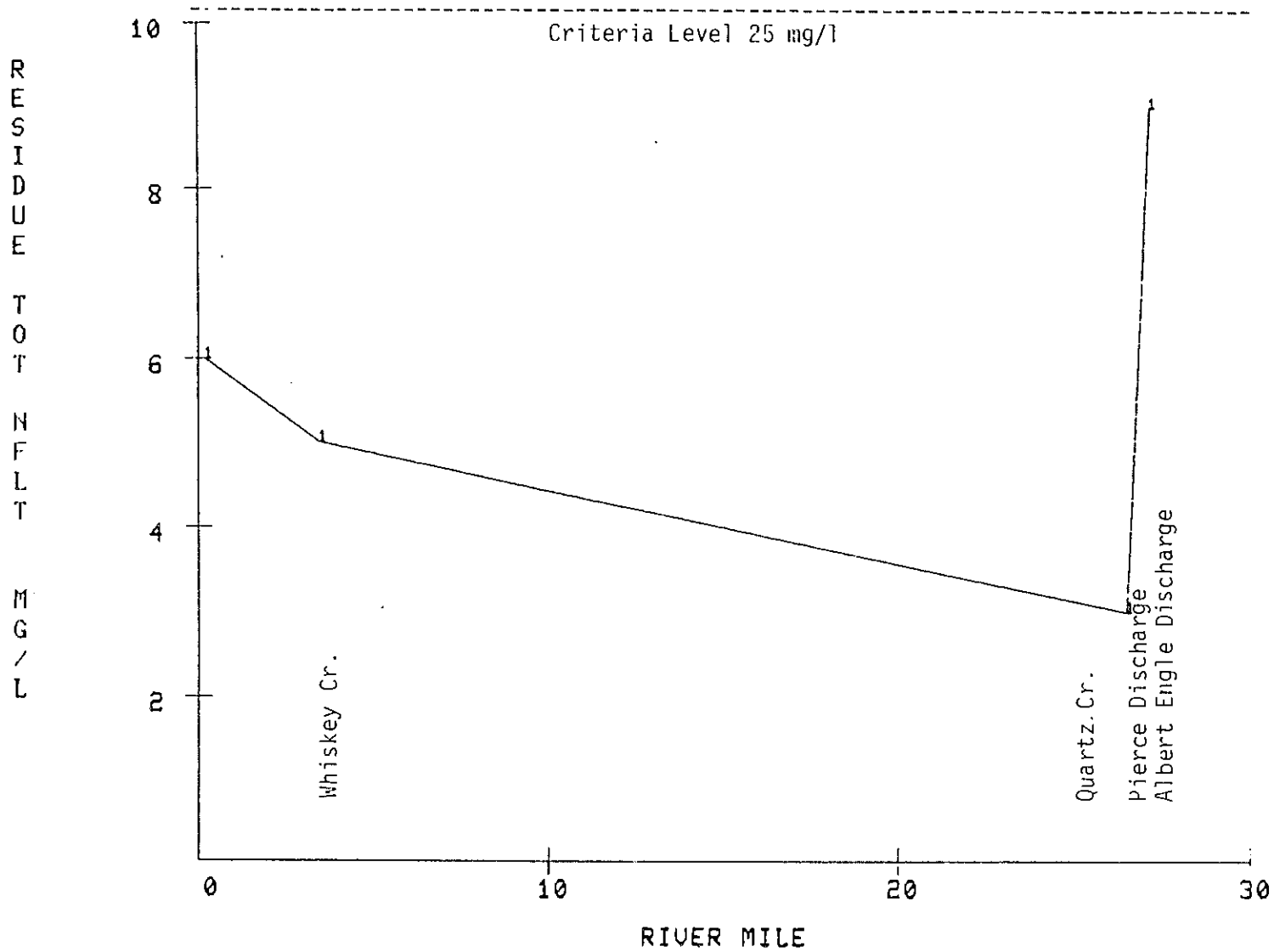

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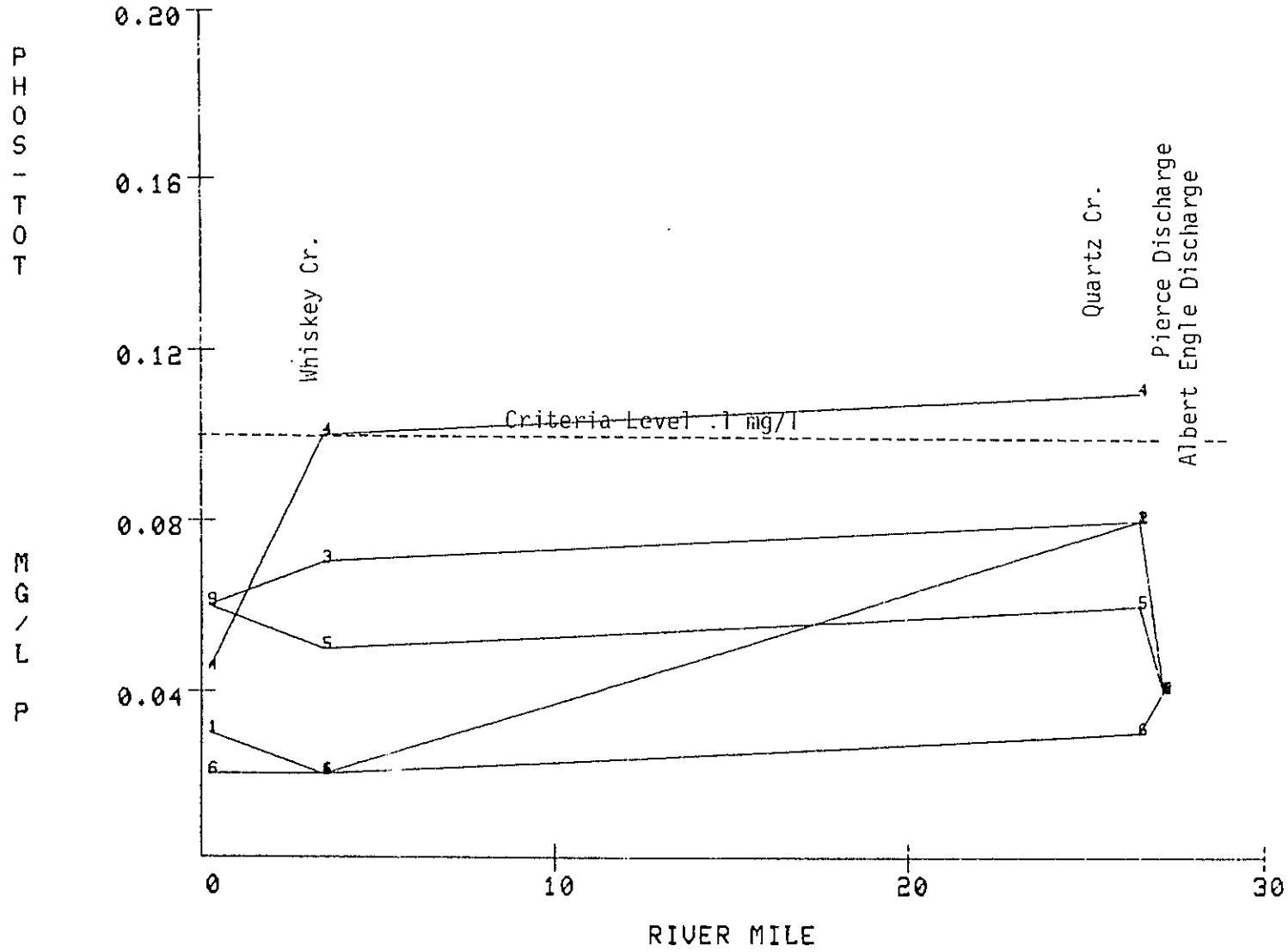

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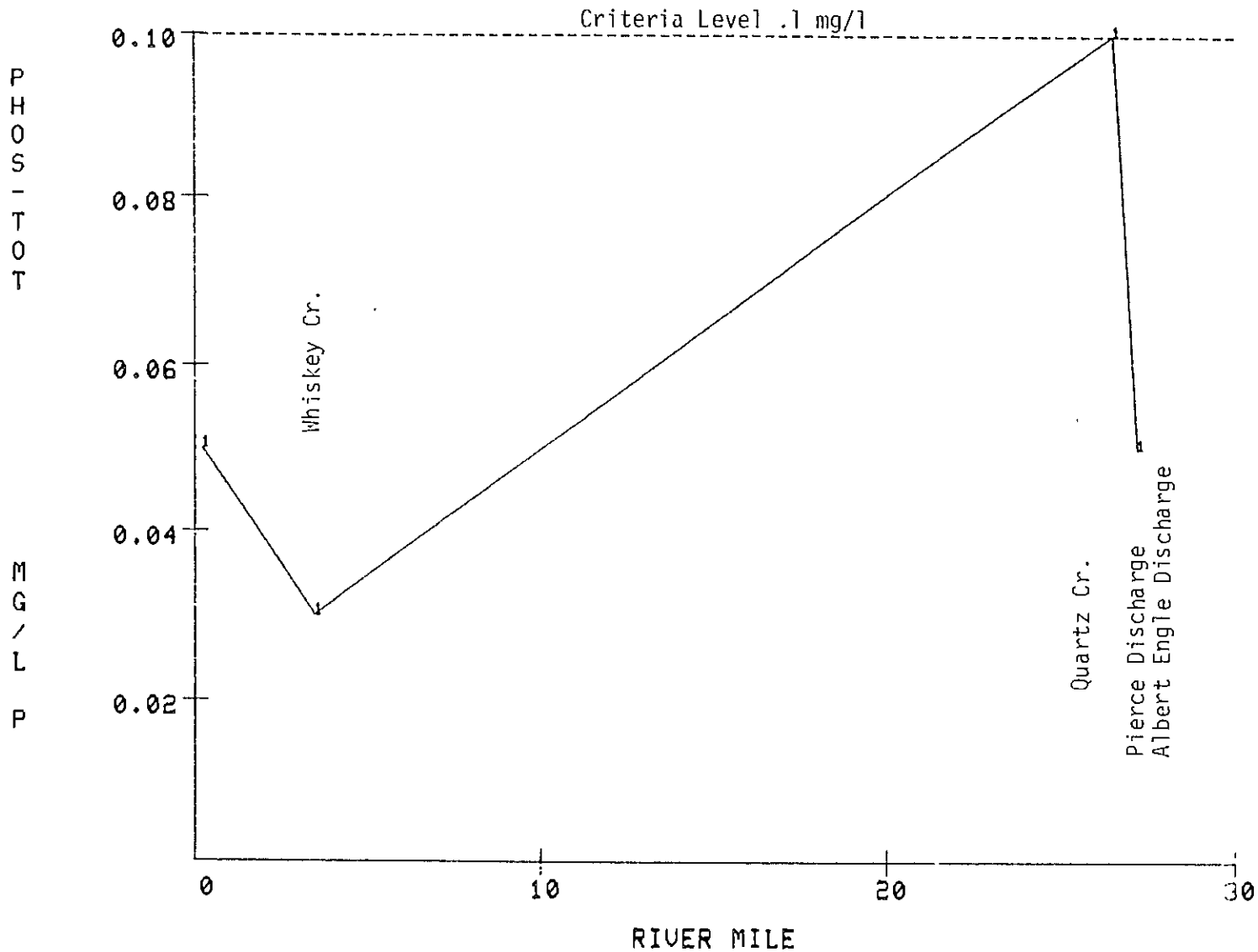

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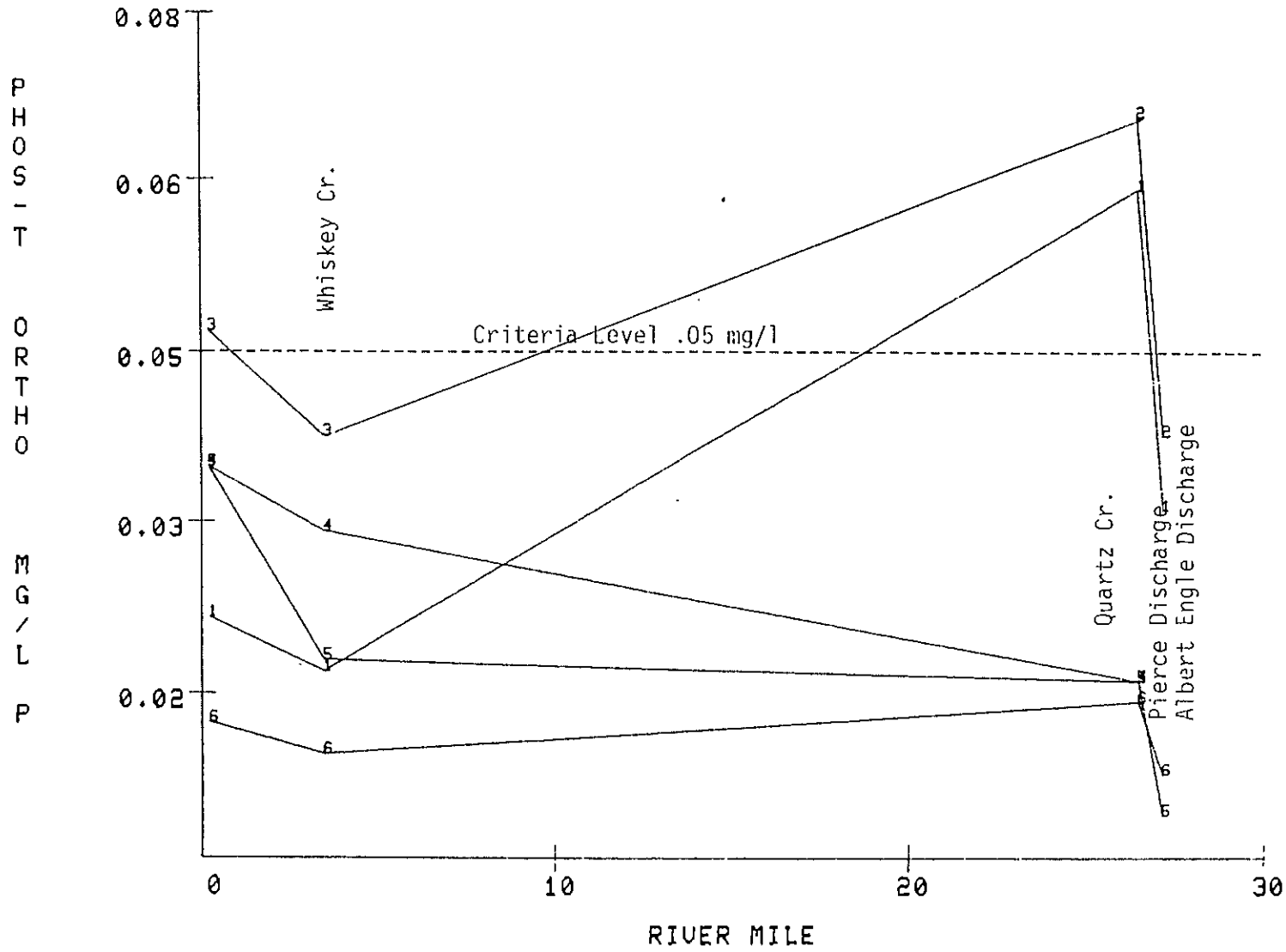

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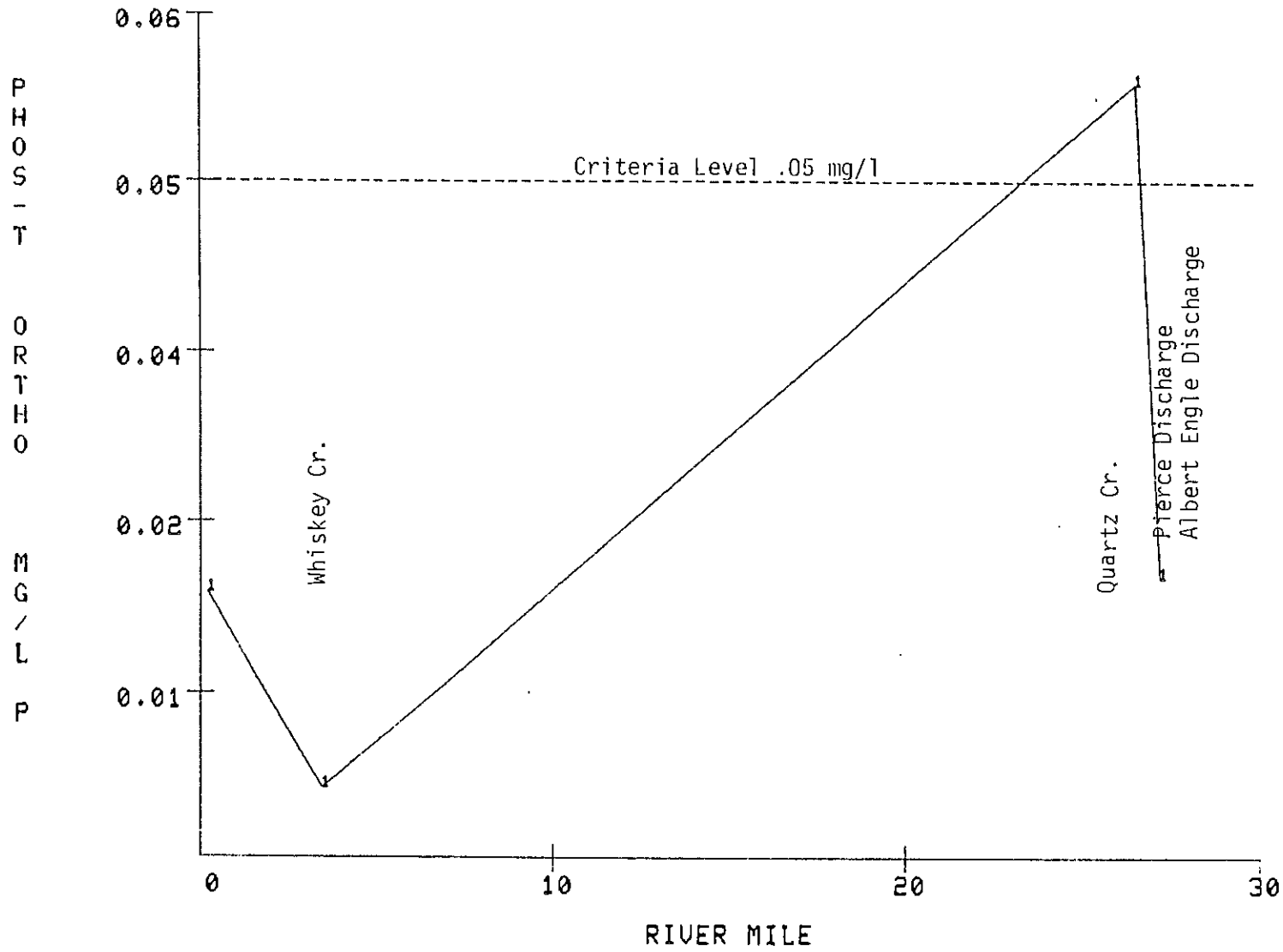

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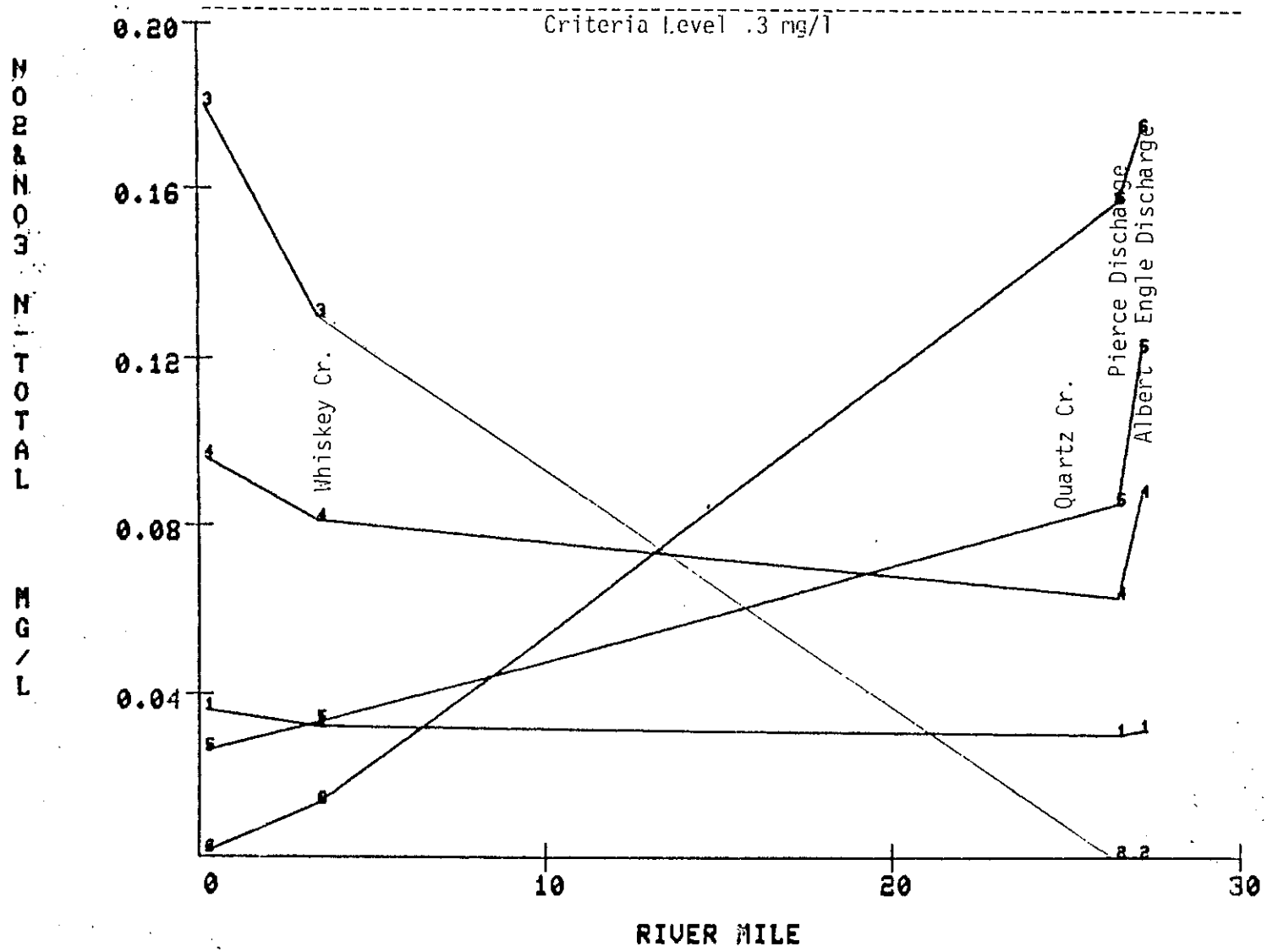

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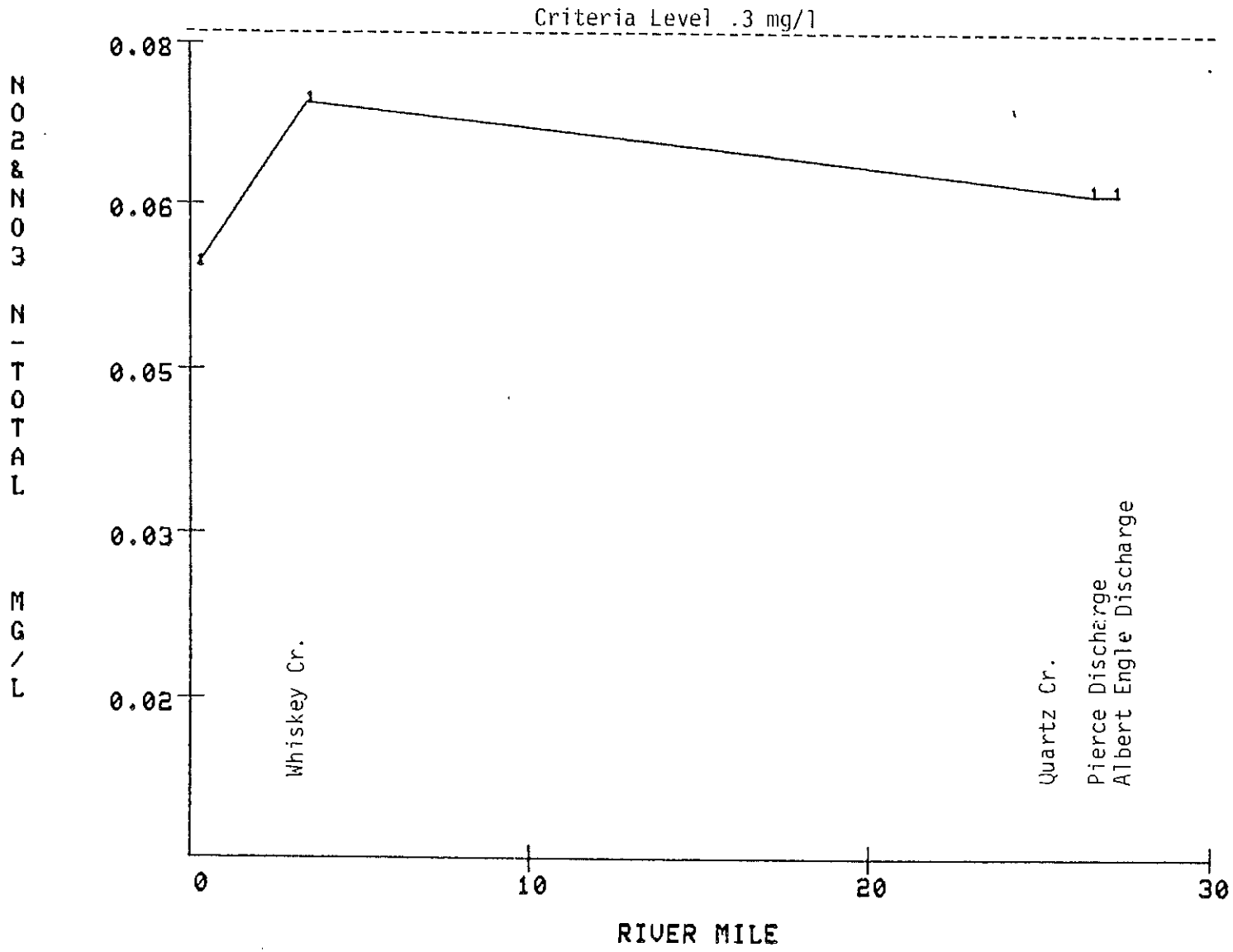

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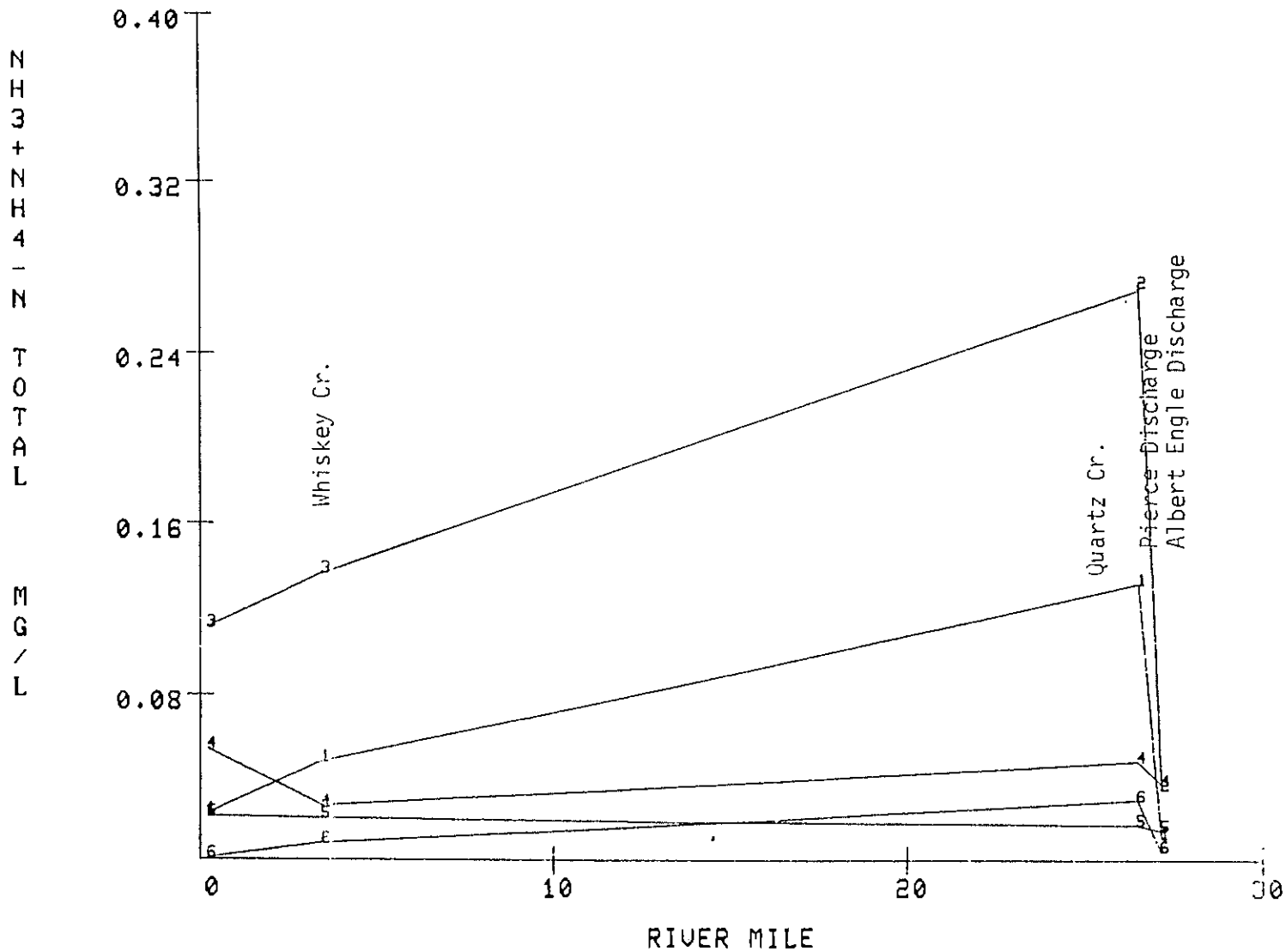
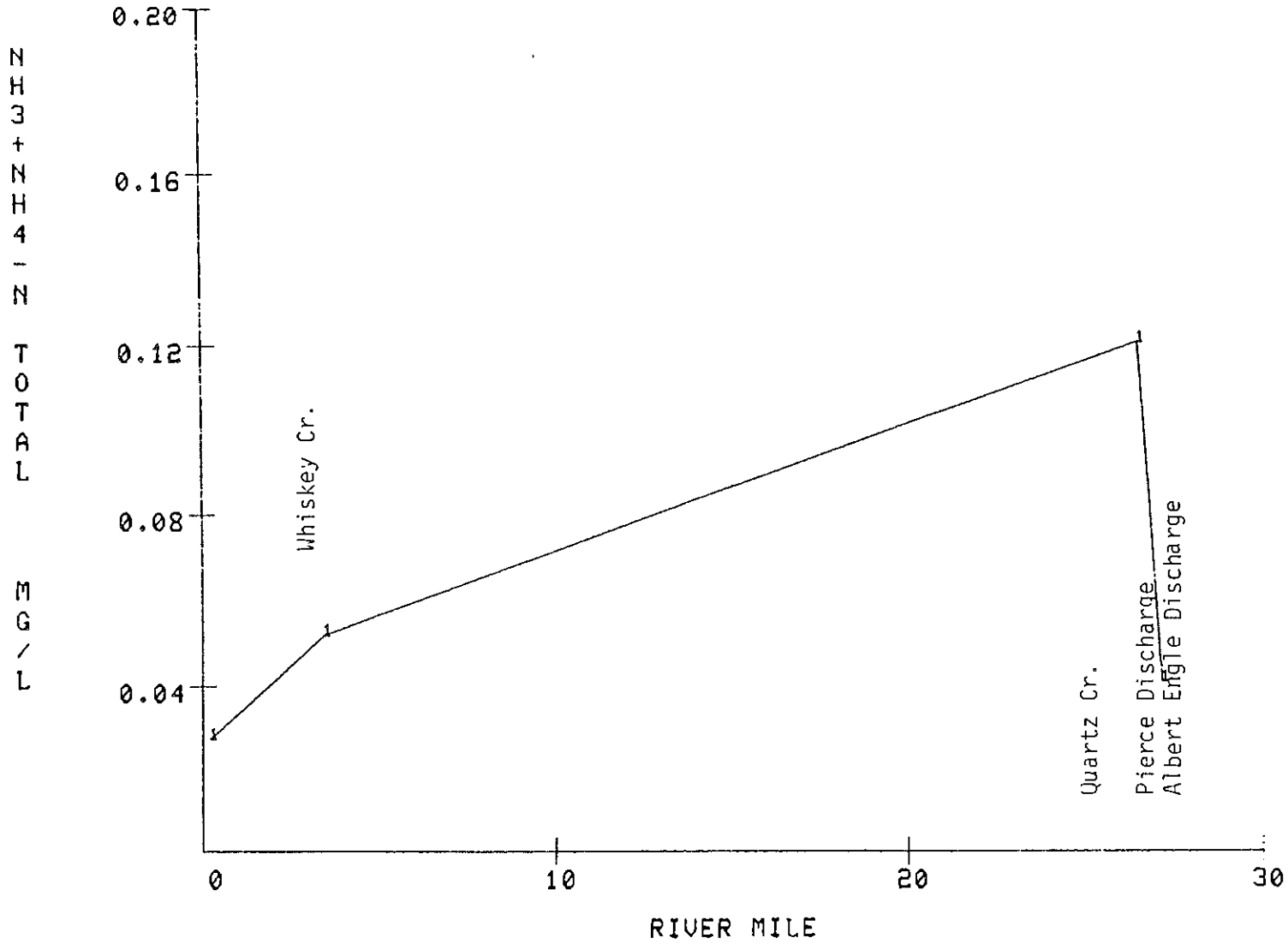
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