HELLS CANYON STUDY

Idaho and Nez Perce Counties

Data Collected 1977

Final Summary October 1980

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

Water Quality Summary
No. 10

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SUMMARY OF HELLS CANYON STUDY

In September of 1975 and again in March and June of 1976, water quality survey runs were made in Hells Canyon to obtain information on the Snake River and its major tributaries within the area. The surveys were completed with assistance from the Idaho Department of Fish and Game who provided transportation via jet boat. The surveys included five Snake River stations from above Johnson Bar down to the USGS gaging station at Anatone and the following tributaries:

Kirkwood Creek	Salmon River
Sheep Creek	Grande Ronde River
Imnaha River	

During the September and March surveys the following parameter categories were monitored:

Temperature	Solids
Dissolved Oxygen	Nutrients
pH	Trace Inorganic Toxins
Bacteria	

In June of 1976 only nutrient samples were collected.

For the dates of the surveys the water quality of the Snake River was generally good except for one bacteria standard violation and trophic nutrient concentrations. The bacteria violation for primary contact

recreation occurred above Johnson Bar in September of 1975 and nutrient concentrations were above the recommended algal bloom potential at most sampling locations over the three sampling dates.

For the tributaries the water quality was very good except for Kirkwood Creek and the Grande Ronde River. Kirkwood Creek exceeded the bacteria standard for primary contact recreation in September of 1975 and March of 1978, and also exceeded trophic nutrient concentrations in March of 1976. The water quality problems on the Grande Ronde River occurred during runoff in March of 1976 and included bacteria violations, excessive turbidity, and elevated trace inorganic toxins. The turbidity in the Grande Ronde reached 63 JTU and a total iron concentration of 2500 ug/l. Manganese was also a problem and exceeded the secondary drinking water standard at 150 ug/l.

Except for the Grande Ronde River during runoff, the tributaries which were sampled appear to have a slightly favorable impact on the water quality of the Snake River. However, the data for the Snake River indicates a consistent increase in total phosphorus from River Mile 231 to 205 from an unknown source. Also, the Grande Ronde River appears to be a major total phosphorus source during spring runoff.

To reduce the nutrient concentrations in Hells Canyon the nutrient sources in the Southwest and Upper Snake Basins must be controlled, and the phosphorus source between River Mile 231 and 205 must be determined. In addition, the impact of the Grande Ronde River should be better studied and probable nonpoint sources on the river should be located and controlled.

DATA INVENTORY

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

2020027
45 27 35.0 116 33 45.0 5
HELLS CAN-SNAKE R UP JOHNSON BAR
16049 IDAHO
PACIFIC NORTHWEST
LOWER SNAKE RIVER BASIN
21IDSURV 760708
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740
MILES 0324.30 0231.30

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	3	13.2667	65.0432	8.06494	.607910	4.65629	18.7000	4.00000	75/09/28	76/06/27
00070	TURB	JKSN	JTU	2	10.2500	66.1250	8.13173	.793339	5.75000	16.0000	4.50000	75/09/28	76/03/11
00095	CNDUCTVY	AT 25C	MICROMHO	2	447.500	4512.50	67.1751	.150112	47.5000	495.000	400.000	75/09/28	76/03/11
00300	DO		MG/L	3	10.3333	2.57336	1.60417	.155242	.926168	12.0000	8.80000	75/09/28	76/06/27
00335	COD	LOWLEVEL	MG/L	1	24.0000					24.0000	24.0000	76/06/27	76/06/27
00400	PH		SU	3	7.66666	.063499	.251991	.032868	.145487	7.90000	7.40000	75/09/28	76/06/27
00403	LAB	PH	SU	2	7.75000	.005005	.070745	.009128	.050024	7.80000	7.70000	75/09/28	76/03/11
00410	T ALK	CACO3	MG/L	2	153.000	98.0000	9.89949	.064703	7.00000	160.000	146.000	75/09/28	76/03/11
00500	RESIDUE	TOTAL	MG/L	2	292.000	450.000	21.2132	.072648	15.0000	307.000	277.000	75/09/28	76/03/11
00530	RESIDUE	TOT NFLT	MG/L	1	.200000					.200000	.200000	76/06/27	76/06/27
00610	NH3+NH4-	N TOTAL	MG/L	3	.093168	.001688	.041083	.440960	.023719	.139751	.062112	75/09/28	76/06/27
00615	NO2-N	TOTAL	MG/L	2	.005775	.184E-06	.000430	.074443	.000304	.006079	.005471	75/09/28	76/03/11
00620	NO3-N	TOTAL	MG/L	3	.433409	.104338	.323013	.745286	.186492	.749437	.103838	75/09/28	76/06/27
00625	TOT KJEL	N	MG/L	3	1.43333	.423335	.650642	.453936	.375648	2.10000	.800000	75/09/28	76/06/27
00650	T PO4	PO4	MG/L	3	.150000	.002800	.052915	.352766	.030550	.190000	.090000	75/09/28	76/06/27
00665	PHOS-TOT		MG/L P	3	.060000	.000900	.030000	.500001	.017321	.090000	.030000	75/09/28	76/06/27
00900	TOT HARD	CACO3	MG/L	1	162.000					162.000	162.000	76/03/11	76/03/11
00929	SODIUM	NA,TOT	MG/L	2	27.0000	3.92065	1.98006	.073336	1.40012	28.4000	25.6000	75/09/28	76/03/11
00937	PTSSIUM	K,TOT	MG/L	2	3.30000	.080002	.282846	.085711	.200002	3.50000	3.10000	75/09/28	76/03/11
00940	CHLORIDE	CL	MG/L	1	13.0000					13.0000	13.0000	75/09/28	75/09/28
01027	CADMIUM	CD,TOT	UG/L	1	3.00000					3.00000	3.00000	76/03/11	76/03/11
01042	COPPER	CU,TOT	UG/L	1	2.00000					2.00000	2.00000	76/03/11	76/03/11
01045	IRON	FE,TOT	UG/L	2	115.000	2450.00	49.4975	.430413	35.0000	150.000	80.0000	75/09/28	76/03/11
01051	LEAD	PB,TOT	UG/L	1	10.0000					10.0000	10.0000	76/03/11	76/03/11
01055	MANGNESE	MN	UG/L	2	10.0000	.000000	.000000		.000000	10.0000	10.0000	75/09/28	76/03/11
01092	ZINC	ZN,TOT	UG/L	1	3.00000					3.00000	3.00000	76/03/11	76/03/11
31501	TOT COLI	MFIMENDO	/100ML	3	420.000	252400	502.394	1.19618	290.057	1000.00	120.000	75/09/28	76/06/27
31616	FEC COLI	MFM-FCBR	/100ML	3	54.6667	8321.33	91.2214	1.66868	52.6667	160.000	2.00000	75/09/28	76/06/27
31679	FECSTREP	MF N-ENT	/100ML	2	11.0000	162.000	12.7279	1.15708	9.00000	20.0000	2.00000	76/03/11	76/06/27
70507	PHOS-T	ORTHO	MG/L P	2	.040750	.000133	.011526	.282846	.008150	.048900	.032600	75/09/28	76/03/11
71900	MERCURY	HG,TOTAL	UG/L	1	5.00000					5.00000	5.00000	76/03/11	76/03/11

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

2020028
45 34 15.0 116 29 50.0 5
HELLS CAN-KIRKWOOD CR AT MOUTH
16049 IDAHO
PACIFIC NORTHWEST
LOWER SNAKE RIVER BASIN
21IDSURV 760708
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 02550
MILES 0324.30 0220.50 000.10

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	3	17.5000	205.750	14.3440	.819656	8.28150	34.0000	8.00000	75/09/28	76/06/27
00070	TURB	JKSN	JTU	2	5.60000	25.9200	5.09117	.909137	3.60000	9.20000	2.00000	75/09/28	76/03/11
00095	CNDUCTVY	AT 25C	MICROMHO	2	181.000	1922.00	43.8406	.242213	31.0000	212.000	150.000	75/09/28	76/03/11
00300	DO		MG/L	3	11.9000	.910156	.954021	.080170	.550804	12.5000	10.8000	75/09/28	76/06/27
00335	COD	LOWLEVEL	MG/L	1	9.00000					9.00000	9.00000	76/06/27	76/06/27
00400	PH		SU	3	7.70000	.010048	.100239	.013018	.057873	7.80000	7.60000	75/09/28	76/06/27
00403	LAB	PH	SU	2	7.30000	-.152E-04	.000000		.000000	7.30000	7.30000	75/09/28	76/03/11
00410	T ALK	CACO3	MG/L	2	79.0000	2.00000	1.41421	.017901	1.00000	80.0000	78.0000	75/09/28	76/03/11
00500	RESIDUE	TOTAL	MG/L	2	137.000	200.000	14.1421	.103227	10.0000	147.000	127.000	75/09/28	76/03/11
00530	RESIDUE	TOT NFLT	MG/L	1	5.00000					5.00000	5.00000	76/06/27	76/06/27
00610	NH3+NH4-	N TOTAL	MG/L	3	.031056	.001628	.040343	1.29904	.023292	.077640	.007764	75/09/28	76/06/27
00615	NO2-N	TOTAL	MG/L	2	.001000	.000000	.000000		.000000	.001000	.001000	75/09/28	76/03/11
00620	NO3-N	TOTAL	MG/L	3	.267871	.045765	.213928	.798623	.123511	.514673	.135440	75/09/28	76/06/27
00625	TOT KJEL	N	MG/L	3	1.16667	.303334	.550758	.472078	.317980	1.70000	.600000	75/09/28	76/06/27
00650	T PO4	PO4	MG/L	3	.056667	.000533	.023094	.407542	.013333	.070000	.030000	75/09/28	76/06/27
00665	PHOS-TOT		MG/L P	3	.026667	.000033	.005774	.216509	.003333	.030000	.020000	75/09/28	76/06/27
00929	SODIUM	NA,TOT	MG/L	2	4.25000	2.20500	1.48493	.349394	1.05000	5.30000	3.20000	75/09/28	76/03/11
00937	PTSSIUM	K,TOT	MG/L	2	.300000	-.596E-07	.000000		.000000	.300000	.300000	75/09/28	76/03/11
00940	CHLORIDE	CL	MG/L	2	2.00000	.000000	.000000		.000000	2.00000	2.00000	75/09/28	76/03/11
01027	CADMIUM	CD,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01042	COPPER	CU,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01045	IRON	FE,TOT	UG/L	2	75.0000	2450.00	49.4975	.659966	35.0000	110.000	40.0000	75/09/28	76/03/11
01051	LEAD	PB,TOT	UG/L	1	10.0000					10.0000	10.0000	76/03/11	76/03/11
01055	MANGNESE	MN	UG/L	2	10.0000	.000000	.000000		.000000	10.0000	10.0000	75/09/28	76/03/11
01092	ZINC	ZN,TOT	UG/L	1	7.00000					7.00000	7.00000	76/03/11	76/03/11
31501	TOT COLI	MF1MENDO	/100ML	3	1700.00	2590000	1609.35	.946675	929.157	3500.00	400.000	75/09/28	76/06/27
31616	FEC COLI	MFM-FCBR	/100ML	3	116.667	10133.3	100.665	.862839	58.1187	210.000	10.0000	75/09/28	76/06/27
31679	FECSTREP	MF M-ENT	/100ML	2	45.0000	3042.00	55.1543	1.22565	39.0000	84.0000	6.00000	76/03/11	76/06/27
70507	PHOS-T	ORTHO	MG/L P	2	.050530	.002343	.048409	.958017	.034230	.084760	.016300	75/09/28	76/03/11
71900	MERCURY	HG,TOTAL	UG/L	1	5.00000					5.00000	5.00000	76/03/11	76/03/11

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

2020029
45 28 05.0 116 33 15.0 5
HELLS CAN-SHEEP CREEK AT MOUTH
16049 IDAHO
PACIFIC NORTHWEST
LOWER SNAKE RIVER BASIN
21IDSURV 760708
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 02810
MILES 0324.30 0229.40 000.10

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	2	6.25000	15.1250	3.88909	.622254	2.75000	9.00000	3.50000	75/09/28	76/03/11
00070	TURB	JKSN	JTU	2	3.90000	19.2200	4.38406	1.12412	3.10000	7.00000	.800000	75/09/28	76/03/11
00095	CNDUCTVY	AT 25C	MICROMHO	2	164.000	3872.00	62.2254	.379423	44.0000	208.000	120.000	75/09/28	76/03/11
00300	DO		MG/L	2	11.1000	4.50005	2.12133	.191111	1.50001	12.6000	9.60000	75/09/28	76/03/11
00400	PH		SU	2	7.35000	.245010	.494985	.067345	.350007	7.70000	7.00000	75/09/28	76/03/11
00403	LAB	PH	SU	2	7.40000	-.152E-04	.000000		.000000	7.40000	7.40000	75/09/28	76/03/11
00410	T ALK	CACO3	MG/L	2	76.0000	128.000	11.3137	.148865	8.00000	84.0000	68.0000	75/09/28	76/03/11
00500	RESIDUE	TOTAL	MG/L	2	116.000	200.000	14.1421	.121915	10.0000	126.000	106.000	75/09/28	76/03/11
00610	NH3+NH4-	N TOTAL	MG/L	2	.038820	.001929	.043920	1.13137	.031056	.069876	.007764	75/09/28	76/03/11
00615	NO2-N	TOTAL	MG/L	2	.001000	.000000	.000000		.000000	.001000	.001000	75/09/28	76/03/11
00620	NO3-N	TOTAL	MG/L	2	.115124	.004494	.067040	.582324	.047404	.162528	.067720	75/09/28	76/03/11
00625	TOT KJEL	N	MG/L	2	1.50000	.000000	.000000		.000000	1.50000	1.50000	75/09/28	76/03/11
00650	T PO4	PO4	MG/L	2	.040000	.001800	.042426	1.06066	.030000	.070000	.010000	75/09/28	76/03/11
00665	PHOS-TOT		MG/L P	2	.020000	.000200	.014142	.707107	.010000	.030000	.010000	75/09/28	76/03/11
00900	TOT HARD	CACO3	MG/L	1	88.0000					88.0000	88.0000	76/03/11	76/03/11
00929	SODIUM	NA,TOT	MG/L	2	2.50000	1.62000	1.27279	.509118	.900001	3.40000	1.60000	75/09/28	76/03/11
00937	POTASSIUM	K,TOT	MG/L	2	.350000	.005000	.070710	.202029	.050000	.400000	.300000	75/09/28	76/03/11
00940	CHLORIDE	CL	MG/L	2	2.00000	.000000	.000000		.000000	2.00000	2.00000	75/09/28	76/03/11
01027	CADMIUM	CD,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01042	COPPER	CU,TOT	UG/L	1	2.00000					2.00000	2.00000	76/03/11	76/03/11
01045	IRON	FE,TOT	UG/L	2	45.0000	2450.00	49.4975	1.09994	35.0000	80.0000	10.0000	75/09/28	76/03/11
01051	LEAD	PB,TOT	UG/L	1	10.0000					10.0000	10.0000	76/03/11	76/03/11
01055	MANGNESE	MN	UG/L	2	10.0000	.000000	.000000		.000000	10.0000	10.0000	75/09/28	76/03/11
01092	ZINC	ZN,TOT	UG/L	1	2.00000					2.00000	2.00000	76/03/11	76/03/11
31501	TOT COLI	MFIMENDO	/100ML	2	560.000	115200	339.411	.606092	240.000	800.000	320.000	75/09/28	76/03/11
31616	FEC COLI	MFM-FCBR	/100ML	2	2.00000	.000000	.000000		.000000	2.00000	2.00000	75/09/28	76/03/11
31679	FECSTREP	MF M-ENT	/100ML	1	2.00000					2.00000	2.00000	76/03/11	76/03/11
70507	PHOS-T	ORTHO	MG/L P	2	.009780	.000085	.009221	.942809	.006520	.016300	.003260	75/09/28	76/03/11
71900	MERCURY	HG,TOTAL	UG/L	1	5.00000					5.00000	5.00000	76/03/11	76/03/11

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

2020030
45 45 00.0 116 31 50.0 5
HELLS CAN-SNAKE R AT COPPER CR
16049 IDAHO
PACIFIC NORTHWEST
LOWER SNAKE RIVER BASIN
211DSURV 760708
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740
MILES 0324.30 0205.10

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	3	13.2667	64.7633	8.04757	.606601	4.64626	18.5000	4.00000	75/09/28	76/06/27
00070	TURB	JKSN	JTU	2	11.2500	91.1250	9.54594	.848528	6.75000	18.0000	4.50000	75/09/28	76/03/11
00095	CNDUCTVY	AT 25C	MICROMHO	2	419.500	8320.50	91.2168	.217442	64.5000	484.000	355.000	75/09/28	76/03/11
00300	DO		MG/L	3	10.3333	3.08350	1.75599	.169934	1.01382	12.0000	8.50000	75/09/28	76/06/27
00335	COD	LOWLEVEL	MG/L	1	12.0000					12.0000	12.0000	76/06/27	76/06/27
00400	PH		SU	3	7.83333	.013443	.115944	.014801	.066940	7.90000	7.70000	75/09/28	76/06/27
00403	LAB	PH	SU	2	7.95000	.005005	.070745	.008899	.050024	8.00000	7.90000	75/09/28	76/03/11
00410	T ALK	CACO3	MG/L	2	143.000	450.000	21.2132	.148344	15.0000	158.000	128.000	75/09/28	76/03/11
00500	RESIDUE	TOTAL	MG/L	2	277.500	760.500	27.5772	.099377	19.5000	297.000	258.000	75/09/28	76/03/11
00530	RESIDUE	TOT NFLT	MG/L	1	2.00000					2.00000	2.00000	76/06/27	76/06/27
00610	NH3+NH4-	N TOTAL	MG/L	3	.069876	.002592	.050912	.728606	.029394	.124223	.023292	75/09/28	76/06/27
00615	NO2-N	TOTAL	MG/L	2	.004255	.000003	.001719	.404063	.001216	.005471	.003040	75/09/28	76/03/11
00620	NO3-N	TOTAL	MG/L	3	.495862	.117567	.342881	.691484	.197962	.774267	.112867	75/09/28	76/06/27
00625	TOT KJEL	N	MG/L	3	1.23333	.363333	.602771	.488734	.348010	1.80000	.600000	75/09/28	76/06/27
00650	T PO4	PO4	MG/L	3	.450000	.214899	.463572	1.03016	.267644	.970000	.080000	75/09/28	76/06/27
00665	PHOS-TOT		MG/L P	3	.166667	.022033	.148436	.890617	.085700	.330000	.040000	75/09/28	76/06/27
00900	TOT HARD	CACO3	MG/L	1	168.000					168.000	168.000	76/03/11	76/03/11
00929	SODIUM	NA,TOT	MG/L	2	30.0500	13.0059	3.60636	.120012	2.55008	32.6000	27.5000	75/09/28	76/03/11
00937	PTSSIUM	K,TOT	MG/L	2	3.90000	.320007	.565692	.145049	.400005	4.30000	3.50000	75/09/28	76/03/11
00940	CHLORIDE	CL	MG/L	2	6.00000	32.0000	5.65685	.942809	4.00000	10.0000	2.00000	75/09/28	76/03/11
01027	CADMIUM	CD,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01042	COPPER	CU,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01045	IRON	FE,TOT	UG/L	2	140.000	200.000	14.1421	.101015	10.0000	150.000	130.000	75/09/28	76/03/11
01051	LEAD	PB,TOT	UG/L	1	10.0000					10.0000	10.0000	76/03/11	76/03/11
01055	MANGNESE	MN	UG/L	2	20.0000	200.000	14.1421	.707107	10.0000	30.0000	10.0000	75/09/28	76/03/11
01092	ZINC	ZN,TOT	UG/L	1	3.00000					3.00000	3.00000	76/03/11	76/03/11
31501	TOT COLI	MFIMENDO	/100ML	3	753.333	419734	647.869	.860003	374.047	1500.00	340.000	75/09/28	76/06/27
31616	FEC COLI	MFM-FCBR	/100ML	3	11.3333	261.333	16.1658	1.42640	9.33334	30.0000	2.00000	75/09/28	76/06/27
31679	FECSTREP	MF M-ENT	/100ML	2	7.00000	50.0000	7.07107	1.01015	5.00000	12.0000	2.00000	76/03/11	76/06/27
70507	PHOS-T	ORTHO	MG/L P	2	.047270	.000260	.016136	.341362	.011410	.058680	.035860	75/09/28	76/03/11
71900	MERCURY	HG,TOTAL	UG/L	1	5.00000					5.00000	5.00000	76/03/11	76/03/11

2020031
45 49 05.0 116 45 50.0 5
HELLS CAN-IMNAHA RIVER AT MOUTH
16049 IDAHO
PACIFIC NORTHWEST
LOWER SNAKE RIVER BASIN
21IDSURV 760708
0000 CLASS 00

/TYPA/AMONT/STREAM

INDEX 1310001 002740 02000
MILES 0324.30 0191.70 000.10

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	2	13.3500	.045166	.212523	.015919	.150276	13.5000	13.2000	75/09/28	76/06/27
00070	TURB	JKSN	JTU	2	6.25000	28.1250	5.30330	.848528	3.75000	10.0000	2.50000	75/09/28	76/03/11
00095	CNDUCTVY	AT 25C	MICROMHO	2	172.500	112.500	10.6066	.061488	7.50000	180.000	165.000	75/09/28	76/03/11
00300	DO		MG/L	2	10.8000	1.28018	1.13145	.104764	.800057	11.6000	10.0000	75/09/28	76/06/27
00335	CUD	LOWLEVEL	MG/L	1	9.00000					9.00000	9.00000	76/06/27	76/06/27
00400	PH		SU	2	7.60000	.079987	.282819	.037213	.199983	7.80000	7.40000	75/09/28	76/06/27
00403	LAB	PH	SU	2	7.40000	-.152E-04	.000000		.000000	7.40000	7.40000	75/09/28	76/03/11
00410	T ALK	CACO3	MG/L	2	76.0000	128.000	11.3137	.148865	8.00000	84.0000	68.0000	75/09/28	76/03/11
00500	RESIDUE	TOTAL	MG/L	2	136.000	18.0000	4.24264	.031196	3.00000	139.000	133.000	75/09/28	76/03/11
00530	RESIDUE	TOT NFLT	MG/L	1	4.00000					4.00000	4.00000	76/06/27	76/06/27
00610	NH3+NH4-	N TOTAL	MG/L	3	.036232	.001346	.036691	1.01268	.021184	.077640	.007764	75/09/28	76/06/27
00615	NO2-N	TOTAL	MG/L	2	.000804	.768E-07	.000277	.344864	.000196	.001000	.000608	75/09/28	76/03/11
00620	NO3-N	TOTAL	MG/L	3	.030098	.002325	.048221	1.60215	.027841	.085779	.002257	75/09/28	76/06/27
00625	TOT KJEL	N	MG/L	3	.966666	.443333	.665832	.688792	.384418	1.40000	.200000	75/09/28	76/06/27
00650	T PO4	PO4	MG/L	3	.153333	.017033	.130512	.851164	.075351	.300000	.050000	75/09/28	76/06/27
00665	PHOS-TOT		MG/L P	3	.063333	.002033	.045093	.711988	.026034	.110000	.020000	75/09/28	76/06/27
00900	TOT HARD	CACO3	MG/L	1	64.0000					64.0000	64.0000	76/03/11	76/03/11
00929	SODIUM	NA,TOT	MG/L	2	4.50000	3.38000	1.83848	.408551	1.30000	5.80000	3.20000	75/09/28	76/03/11
00937	POTSSIUM	K,TOT	MG/L	2	1.20000	.180001	.424266	.353555	.300001	1.50000	.900000	75/09/28	76/03/11
00940	CHLORIDE	CL	MG/L	2	2.00000	.000000	.000000		.000000	2.00000	2.00000	75/09/28	76/03/11
01027	CADMIUM	CD,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01042	COPPER	CU,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01045	IRON	FE,TOT	UG/L	2	160.000	20000.0	141.421	.883883	100.000	260.000	60.0000	75/09/28	76/03/11
01051	LEAD	PB,TOT	UG/L	1	10.0000					10.0000	10.0000	76/03/11	76/03/11
01055	MANGNESE	MN	UG/L	2	10.0000	.000000	.000000		.000000	10.0000	10.0000	75/09/28	76/03/11
01092	ZINC	ZN,TOT	UG/L	1	2.00000					2.00000	2.00000	76/03/11	76/03/11
31501	TOT COLI	MFTMENDO	/100ML	3	1113.33	2145734	1464.83	1.31572	845.721	2800.00	160.000	75/09/28	76/06/27
31616	FEC COLI	MFM-FCBR	/100ML	3	16.6667	225.334	15.0111	.900668	8.66668	32.0000	2.00000	75/09/28	76/06/27
31679	FECSTREP	MF M-ENT	/100ML	2	19.0000	50.0000	7.07107	.372161	5.00000	24.0000	14.0000	76/03/11	76/06/27
70507	PHOS-T	ORTHO	MG/L P	2	.013040	.000021	.004610	.353553	.003260	.016300	.009780	75/09/28	76/03/11
71900	MERCURY	HG,TOTAL	UG/L	1	5.00000					5.00000	5.00000	76/03/11	76/03/11

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

2020032
45 51 15.0 116 47 35.0 5
HELLS CAN-SNAKE R BELOW IMNAHA R
16049 IDAHO
PACIFIC NORTHWEST
LOWER SNAKE RIVER BASIN
21IDSURV 760708
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740
MILES 0324.30 0188.50

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	3	13.3333	65.5835	8.09836	.607377	4.67559	18.5000	4.00000	75/09/28	76/06/27
00070	TURB	JKSN	JTU	2	9.50000	60.5000	7.77817	.818755	5.50000	15.0000	4.00000	75/09/28	76/03/11
00095	CNDUCTVY	AT 25C	MICROMHO	2	442.000	3528.00	59.3970	.134382	42.0000	484.000	400.000	75/09/28	76/03/11
00300	DO		MG/L	3	10.5333	2.94348	1.71566	.162879	.990536	12.1000	8.70000	75/09/28	76/06/27
00335	COD	LOWLEVEL	MG/L	1	30.0000					30.0000	30.0000	76/06/27	76/06/27
00400	PH		SU	3	8.19999	.120247	.346766	.042289	.200206	8.40000	7.80000	75/09/28	76/06/27
00403	LAB	PH	SU	2	7.90000	.000000	.000000		.000000	7.90000	7.90000	75/09/28	76/03/11
00410	T ALK	CACO3	MG/L	2	144.000	200.000	14.1421	.098209	10.0000	154.000	134.000	75/09/28	76/03/11
00500	RESIDUE	TOTAL	MG/L	2	292.000	98.0000	9.89949	.033902	7.00000	299.000	285.000	75/09/28	76/03/11
00530	RESIDUE	TOT NFLT	MG/L	1	1.00000					1.00000	1.00000	76/06/27	76/06/27
00610	NH3+NH4-	N TOTAL	MG/L	3	.103519	.011835	.108788	1.05089	.062809	.225155	.015528	75/09/28	76/06/27
00615	NO2-N	TOTAL	MG/L	2	.004559	.000003	.001719	.377124	.001216	.005775	.003343	75/09/28	76/03/11
00620	NO3-N	TOTAL	MG/L	3	.487585	.117056	.342134	.701692	.197531	.744922	.099323	75/09/28	76/06/27
00625	TOT KJEL	N	MG/L	3	.999999	.370000	.608277	.608277	.351189	1.40000	.300000	75/09/28	76/06/27
00650	T PO4	PO4	MG/L	3	.163333	.012133	.110151	.674396	.063596	.270000	.050000	75/09/28	76/06/27
00665	PHOS-TOT		MG/L P	3	.080000	.001300	.036056	.450696	.020817	.110000	.040000	75/09/28	76/06/27
00900	TOT HARD	CACO3	MG/L	1	164.000					164.000	164.000	76/03/11	76/03/11
00929	SODIUM	NA,TOT	MG/L	2	30.9500	19.8459	4.45488	.143938	3.15007	34.1000	27.8000	75/09/28	76/03/11
00937	POTSSIUM	K,TOT	MG/L	2	3.85000	.404983	.636383	.165294	.449991	4.30000	3.40000	75/09/28	76/03/11
00940	CHLORIDE	CL	MG/L	2	5.00000	18.0000	4.24264	.848528	3.00000	8.00000	2.00000	75/09/28	76/03/11
01027	CADMIUM	CD,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01042	COPPER	CU,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01045	IRON	FE,TOT	UG/L	2	170.000	800.000	28.2843	.166378	20.0000	190.000	150.000	75/09/28	76/03/11
01051	LEAD	PB,TOT	UG/L	1	10.0000					10.0000	10.0000	76/03/11	76/03/11
01055	MANGNESE	MN	UG/L	2	30.0000	.000000	.000000		.000000	30.0000	30.0000	75/09/28	76/03/11
01092	ZINC	ZN,TOT	UG/L	1	4.00000					4.00000	4.00000	76/03/11	76/03/11
31501	TOT COLI	MFIMENDO	/100ML	3	633.333	333734	577.697	.912153	333.533	1300.00	280.000	75/09/28	76/06/27
31616	FEC COLI	MFM-FCBR	/100ML	3	12.0000	244.000	15.6205	1.30171	9.01850	30.0000	2.00000	75/09/28	76/06/27
31679	FECSTREP	MF M-ENT	/100ML	2	6.00000	32.0000	5.65685	.942809	4.00000	10.0000	2.00000	76/03/11	76/06/27
70507	PHOS-T	ORTHO	MG/L P	2	.045640	.000021	.004610	.101018	.003260	.048900	.042380	75/09/28	76/03/11
71900	MERCURY	HG,TOTAL	UG/L	1	5.00000					5.00000	5.00000	76/03/11	76/03/11

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

2020033
45 51 30.0 116 47 45.0 5
HELLS CAN-SALMON RIVER AT MOUTH
16049 IDAHO
PACIFIC NORTHWEST
LOWER SNAKE RIVER BASIN
211DSURV 760708
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01970
MILES 0324.30 0188.20 000.10

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	3	9.66667	29.0835	5.39291	.557887	3.11360	13.5000	3.50000	75/09/28	76/06/27
00070	TURB	JKSN	JTU	2	4.60000	3.92001	1.97990	.430414	1.40000	6.00000	3.20000	75/09/28	76/03/11
00095	CNDUCTVY	AT 25C	MICROMHO	2	163.500	364.500	19.0919	.116770	13.5000	177.000	150.000	75/09/28	76/03/11
00300	DO		MG/L	3	11.7000	1.27002	1.12695	.096321	.650646	12.4000	10.4000	75/09/28	76/06/27
00335	COD	LOWLEVEL	MG/L	1	170.000					170.000	170.000	76/06/27	76/06/27
00400	PH		SU	3	7.60000	.030144	.173619	.022845	.100239	7.70000	7.40000	75/09/28	76/06/27
00403	LAB	PH	SU	2	7.60000	-.152E-04	.000000		.000000	7.60000	7.60000	75/09/28	76/03/11
00410	T ALK	CACO3	MG/L	2	78.0000	32.0000	5.65685	.072524	4.00000	82.0000	74.0000	75/09/28	76/03/11
00500	RESIDUE	TOTAL	MG/L	2	115.000	18.0000	4.24264	.036893	3.00000	118.000	112.000	75/09/28	76/03/11
00530	RESIDUE	TOT NFLT	MG/L	1	3.00000					3.00000	3.00000	76/06/27	76/06/27
00610	NH3+NH4-	N TOTAL	MG/L	3	.049172	.004240	.065112	1.32418	.037593	.124223	.007764	75/09/28	76/06/27
00615	NO2-N	TOTAL	MG/L	2	.000956	.388E-08	.000062	.065207	.000044	.001000	.000912	75/09/28	76/03/11
00620	NO3-N	TOTAL	MG/L	3	.019564	.000593	.024347	1.24451	.014057	.047404	.002257	75/09/28	76/06/27
00625	TOT KJEL	N	MG/L	3	1.03333	.223333	.472582	.457337	.272845	1.40000	.500000	75/09/28	76/06/27
00650	T PO4	PO4	MG/L	3	.150000	.008400	.091652	.611011	.052915	.230000	.050000	75/09/28	76/06/27
00665	PHOS-TOT		MG/L P	3	.086667	.006633	.081445	.939753	.047022	.180000	.030000	75/09/28	76/06/27
00680	T ORG C	C	MG/L	1	.180000					.180000	.180000	76/06/27	76/06/27
00929	SODIUM	NA,TOT	MG/L	2	6.80000	.500000	.707107	.103986	.500000	7.30000	6.30000	75/09/28	76/03/11
00937	POTSSIUM	K,TOT	MG/L	2	1.15000	.045000	.212132	.184463	.150000	1.30000	1.00000	75/09/28	76/03/11
00940	CHLORIDE	CL	MG/L	2	2.00000	.000000	.000000		.000000	2.00000	2.00000	75/09/28	76/03/11
01027	CADMIUM	CD,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01042	COPPER	CU,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01045	IRON	FE,TOT	UG/L	2	100.000	3200.00	56.5685	.565685	40.0000	140.000	60.0000	75/09/28	76/03/11
01051	LEAD	PB,TOT	UG/L	1	10.0000					10.0000	10.0000	76/03/11	76/03/11
01055	MANGNESE	MN	UG/L	2	20.0000	200.000	14.1421	.707107	10.0000	30.0000	10.0000	75/09/28	76/03/11
01092	ZINC	ZN,TOT	UG/L	1	3.00000					3.00000	3.00000	76/03/11	76/03/11
31501	TOT COLI	MFIMENDO	/100ML	3	333.333	26133.4	161.658	.484975	93.3335	520.000	240.000	75/09/28	76/06/27
31616	FEC COLI	MFM-FCBR	/100ML	3	2.66667	1.33334	1.15470	.433014	.666669	4.00000	2.00000	75/09/28	76/06/27
31679	FECSTREP	MF M-ENT	/100ML	2	7.00000	18.0000	4.24264	.606091	3.00000	10.0000	4.00000	76/03/11	76/06/27
70507	PHOS-T	ORTHO	MG/L P	2	.048900	.002126	.046103	.942810	.032600	.081500	.016300	75/09/28	76/03/11
71900	MERCURY	HG,TOTAL	UG/L	1	5.00000					5.00000	5.00000	76/03/11	76/03/11

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

2020034
45 56 50.0 116 52 30.0 5
HELLS CAN-SNAKE R AB GRANDE ROND
16069 IDAHO
PACIFIC NORTHWEST
LOWER SNAKE RIVER BASIN
21IDSURV 760708
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740
MILES 0324.30 0180.50

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	3	12.0000	50.2500	7.08872	.590727	4.09267	17.5000	4.00000	75/09/28	76/06/27
00070	TURB	JKSN	JTU	2	6.85000	19.8450	4.45477	.650332	3.15000	10.0000	3.70000	75/09/28	76/03/11
00095	CNDUCTVY	AT 25C	MICROMHO	2	375.000	8450.00	91.9239	.245130	65.0000	440.000	310.000	75/09/28	76/03/11
00300	DO		MG/L	3	11.0333	1.76355	1.32799	.120361	.766713	11.8000	9.50000	75/09/28	76/06/27
00335	COD	LOWLEVEL	MG/L	1	3.00000					3.00000	3.00000	76/06/27	76/06/27
00400	PH		SU	3	7.80000	.030098	.173488	.022242	.100163	7.90000	7.60000	75/09/28	76/06/27
00403	LAB	PH	SU	2	7.80000	.020020	.141490	.018140	.100049	7.90000	7.70000	75/09/28	76/03/11
00410	T ALK	CACO3	MG/L	2	132.000	392.000	19.7990	.149992	14.0000	146.000	118.000	75/09/28	76/03/11
00500	RESIDUE	TOTAL	MG/L	2	255.000	648.000	25.4558	.099827	18.0000	273.000	237.000	75/09/28	76/03/11
00530	RESIDUE	TOT NFLT	MG/L	1	6.00000					6.00000	6.00000	76/06/27	76/06/27
00610	NH3+NH4-	N TOTAL	MG/L	3	.080228	.003878	.062273	.776208	.035954	.139751	.015528	75/09/28	76/06/27
00615	NO2-N	TOTAL	MG/L	2	.003495	.000004	.001934	.553388	.001368	.004863	.002128	75/09/28	76/03/11
00620	NO3-N	TOTAL	MG/L	3	.361926	.088258	.297082	.820835	.171520	.634312	.045147	75/09/28	76/06/27
00625	TOT KJEL	N	MG/L	3	1.36667	.263335	.513162	.375485	.296274	1.80000	.800000	75/09/28	76/06/27
00650	T PO4	PO4	MG/L	3	.216667	.004133	.064291	.296727	.037118	.290000	.170000	75/09/28	76/06/27
00665	PHOS-TOT		MG/L P	3	.076667	.000433	.020817	.271525	.012019	.100000	.060000	75/09/28	76/06/27
00900	TOT HARD	CACO3	MG/L	1	146.000					146.000	146.000	76/03/11	76/03/11
00929	SODIUM	NA,TOT	MG/L	2	24.1000	.079834	.282549	.011724	.199792	24.3000	23.9000	75/09/28	76/03/11
00937	POTSSIUM	K,TOT	MG/L	2	3.15000	.005005	.070745	.022459	.050024	3.20000	3.10000	75/09/28	76/03/11
00940	CHLORIDE	CL	MG/L	2	6.00000	32.0000	5.65685	.942809	4.00000	10.0000	2.00000	75/09/28	76/03/11
01027	CADMIUM	CD,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01042	COPPER	CU,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01045	IRON	FE,TOT	UG/L	2	115.000	4050.00	63.6396	.553388	45.0000	160.000	70.0000	75/09/28	76/03/11
01051	LEAD	PB,TOT	UG/L	1	10.0000					10.0000	10.0000	76/03/11	76/03/11
01055	MANGNESE	MN	UG/L	2	25.0000	50.0000	7.07107	.282843	5.00000	30.0000	20.0000	75/09/28	76/03/11
01092	ZINC	ZN,TOT	UG/L	1	7.00000					7.00000	7.00000	76/03/11	76/03/11
31501	TOT COLI	MFIMENDO	/100ML	3	420.000	73200.0	270.555	.644178	156.205	700.000	160.000	75/09/28	76/06/27
31616	FEC COLI	MFM-FCBR	/100ML	3	19.3333	705.334	26.5581	1.37370	15.3333	50.0000	4.00000	75/09/28	76/06/27
31679	FECSTREP	MF M-ENT	/100ML	2	9.00000	98.0000	9.89949	1.09994	7.00000	16.0000	2.00000	76/03/11	76/06/27
70507	PHOS-T	ORTHO	MG/L P	2	.039120	.325E-08	.000057	.001459	.000040	.039120	.039120	75/09/28	76/03/11
71900	MERCURY	HG,TOTAL	UG/L	1	5.00000					5.00000	5.00000	76/03/11	76/03/11

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

2020035
46 04 50.0 116 58 40.0 5
HELLS CAN-GRAND RONDE R AT MOUTH
16069 IDAHO
PACIFIC NORTHWEST
LOWER SNAKE RIVER BASIN
21IDSURV 760708
0000 CLASS 00

/TYPA/AMBNT/STREAM

INDEX 1310001 002740 01760
MILES 0324.30 0168.70 000.10

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	3	12.3333	42.5835	6.52560	.529103	3.76756	17.5000	5.00000	75/09/28	76/06/27
00070	TURB	JKSN	JTU	2	36.5000	1404.50	37.4766	1.02676	26.5000	63.0000	10.0000	75/09/28	76/03/11
00095	CNDUCTVY	AT 25C	MICROMHO	2	125.500	.500000	.707107	.005634	.500000	126.000	125.000	75/09/28	76/03/11
00300	DO		MG/L	3	11.0333	.463623	.680899	.061713	.393117	11.8000	10.5000	75/09/28	76/06/27
00310	BOD	5 DAY	MG/L	1	6.00000					6.00000	6.00000	76/06/27	76/06/27
00400	PH		SU	3	7.90000	.210075	.458340	.058018	.264623	8.40000	7.50000	75/09/28	76/06/27
00403	LAB	PH	SU	2	7.55000	.005005	.070745	.009370	.050024	7.60000	7.50000	75/09/28	76/03/11
00410	T ALK	CACO3	MG/L	2	65.0000	162.000	12.7279	.195814	9.00000	74.0000	56.0000	75/09/28	76/03/11
00500	RESIDUE	TOTAL	MG/L	2	215.000	18818.0	137.179	.638040	97.0000	312.000	118.000	75/09/28	76/03/11
00530	RESIDUE	TOT NFLT	MG/L	1	1.00000					1.00000	1.00000	76/06/27	76/06/27
00610	NH3+NH4-	N TOTAL	MG/L	3	.067288	.006048	.077769	1.15577	.044900	.155279	.007764	75/09/28	76/06/27
00615	NO2-N	TOTAL	MG/L	2	.005667	.000044	.006600	1.16467	.004667	.010334	.001000	75/09/28	76/03/11
00620	NO3-N	TOTAL	MG/L	3	.131678	.047666	.218325	1.65802	.126050	.383748	.002257	75/09/28	76/06/27
00625	TOT KJEL	N	MG/L	3	1.16667	.493334	.702377	.602038	.405518	1.90000	.500000	75/09/28	76/06/27
00650	T PO4	PO4	MG/L	3	.866666	1.71803	1.31074	1.51239	.756755	2.38000	.090000	75/09/28	76/06/27
00665	PHOS-TOT		MG/L P	3	.296667	.197633	.444560	1.49851	.256667	.810000	.040000	75/09/28	76/06/27
00900	TOT HARD	CACO3	MG/L	1	44.0000					44.0000	44.0000	76/03/11	76/03/11
00929	SODIUM	NA,TOT	MG/L	2	5.75000	.404999	.636395	.110677	.449999	6.20000	5.30000	75/09/28	76/03/11
00937	POTSSIUM	K,TOT	MG/L	2	2.30000	.020003	.141433	.061493	.100008	2.40000	2.20000	75/09/28	76/03/11
00940	CHLORIDE	CL	MG/L	2	2.00000	.000000	.000000		.000000	2.00000	2.00000	75/09/28	76/03/11
01027	CADMIUM	CD,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01042	COPPER	CU,TOT	UG/L	1	3.00000					3.00000	3.00000	76/03/11	76/03/11
01045	IRON	FE,TOT	UG/L	2	1305.00	2856050	1689.98	1.29501	1195.00	2500.00	110.000	75/09/28	76/03/11
01051	LEAD	PB,TOT	UG/L	1	10.0000					10.0000	10.0000	76/03/11	76/03/11
01055	MANGNESE	MN	UG/L	2	85.0000	8450.00	91.9239	1.08146	65.0000	150.000	20.0000	75/09/28	76/03/11
01092	ZINC	ZN,TOT	UG/L	1	11.0000					11.0000	11.0000	76/03/11	76/03/11
31501	TOT COLI	MFIMENDO	/100ML	3	1280.00	1037200	1018.43	.795649	587.991	2100.00	140.000	75/09/28	76/06/27
31616	FEC COLI	MFM-FCBR	/100ML	3	61.3333	8865.33	94.1559	1.53515	54.3609	170.000	4.00000	75/09/28	76/06/27
31679	FECSTREP	MF M-ENT	/100ML	2	28.0000	968.000	31.1127	1.11117	22.0000	50.0000	6.00000	76/03/11	76/06/27
70507	PHOS-T	ORTHO	MG/L P	2	.141810	.023854	.154446	1.08911	.109210	.251020	.032600	75/09/28	76/03/11
71900	MERCURY	HG,TOTAL	UG/L	1	5.00000					5.00000	5.00000	76/03/11	76/03/11

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

2020036
46 05 55.0 116 58 30.0 5
HELLS CAN-SNAKE R AT ANATONE GSG
16069 IDAHO
PACIFIC NORTHWEST
LOWER SNAKE RIVER BASIN
21IDSURV 760708
0000 CLASS 00

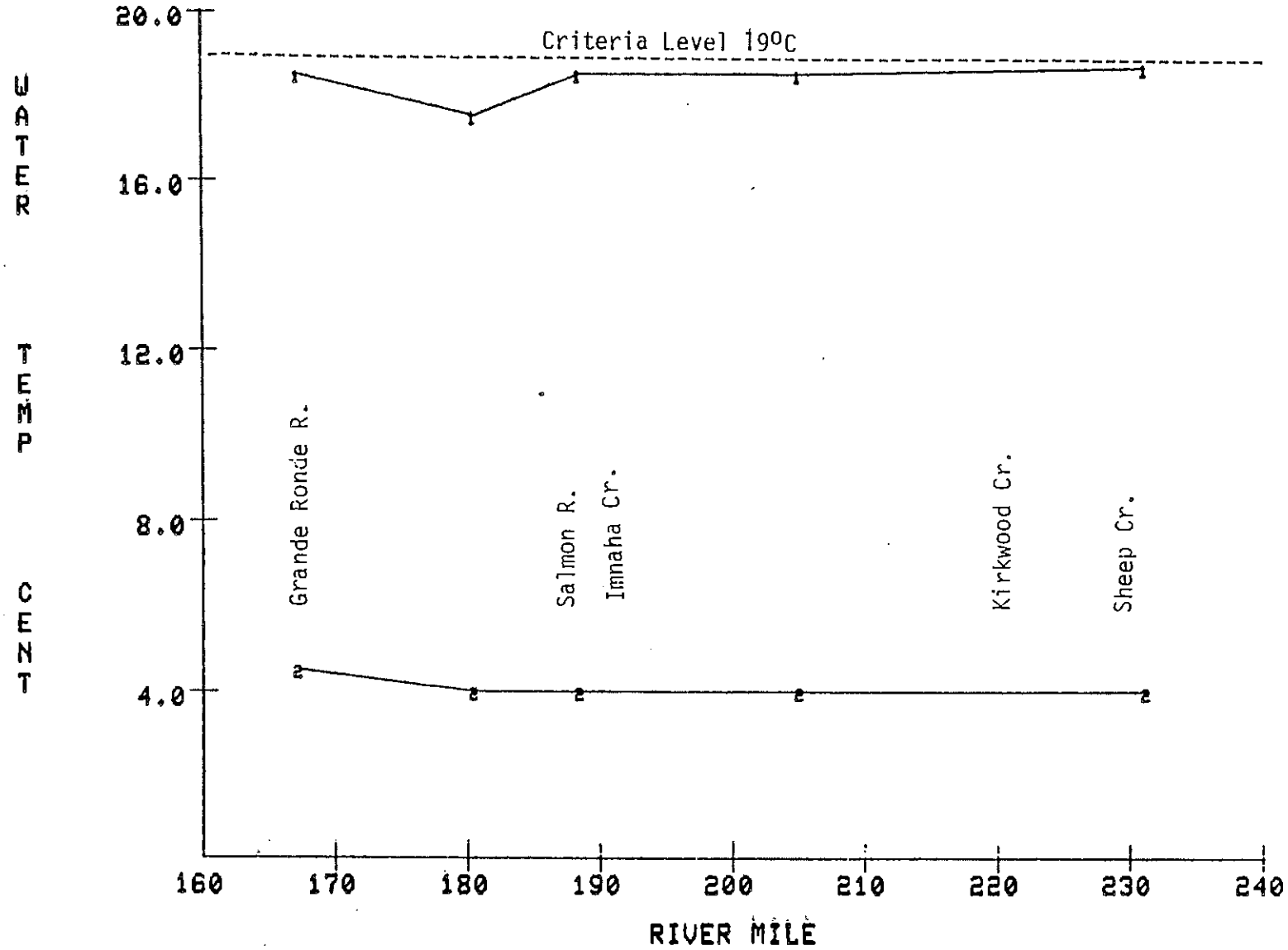
/TYPA/AMBNT/STREAM

INDEX 1310001 002740
MILES 0324.30 0167.20

PARAMETER				NUMBER	MEAN	VARIANCE	STAN DEV	COEF VAR	STAND ER	MAXIMUM	MINIMUM	BEG DATE	END DATE
00010	WATER	TEMP	CENT	3	12.6667	53.0835	7.28584	.575198	4.20648	18.5000	4.50000	75/09/28	76/06/27
00061	STREAM	FLOW,	INST-CFS	1	69500.0					69500.0	69500.0	76/06/27	76/06/27
00070	TURB	JKSN	JTU	2	8.60000	38.7200	6.22254	.723552	4.40000	13.0000	4.20000	75/09/28	76/03/11
00095	CNDUCTVY	AT 25C	MICROMHO	2	376.000	6272.00	79.1959	.210627	56.0000	432.000	320.000	75/09/28	76/03/11
00300	DO		MG/L	3	11.0000	.520264	.721293	.065572	.416439	11.6000	10.2000	75/09/28	76/06/27
00310	BOD	5 DAY	MG/L	1	21.0000					21.0000	21.0000	76/06/27	76/06/27
00400	PH		SU	3	7.96666	.023491	.153267	.019239	.088489	8.10000	7.80000	75/09/28	76/06/27
00403	LAB	PH	SU	2	7.95000	.005005	.070745	.008899	.050024	8.00000	7.90000	75/09/28	76/03/11
00410	T ALK	CACO3	MG/L	2	128.000	392.000	19.7990	.154680	14.0000	142.000	114.000	75/09/28	76/03/11
00500	RESIDUE	TOTAL	MG/L	2	250.500	480.500	21.9203	.087506	15.5000	266.000	235.000	75/09/28	76/03/11
00530	RESIDUE	TOT NFLT	MG/L	1	3.00000					3.00000	3.00000	76/06/27	76/06/27
00610	NH3+NH4-	N TOTAL	MG/L	3	.069876	.004581	.067685	.968646	.039078	.147515	.023292	75/09/28	76/06/27
00615	NO2-N	TOTAL	MG/L	2	.003951	.000009	.003009	.761502	.002128	.006079	.001824	75/09/28	76/03/11
00620	NO3-N	TOTAL	MG/L	3	.395034	.077611	.278588	.705225	.160843	.641084	.092551	75/09/28	76/06/27
00625	TOT KJEL	N	MG/L	3	1.23333	.693335	.832667	.675136	.480741	1.90000	.300000	75/09/28	76/06/27
00650	T PO4	PO4	MG/L	3	.356667	.078433	.280059	.785214	.161692	.680000	.190000	75/09/28	76/06/27
00665	PHOS-TOT		MG/L P	3	.116667	.008033	.089629	.768248	.051747	.220000	.060000	75/09/28	76/06/27
00900	TOT HARD	CACO3	MG/L	1	146.000					146.000	146.000	76/03/11	76/03/11
00929	SODIUM	NA,TOT	MG/L	2	25.6000	3.92065	1.98006	.077346	1.40012	27.0000	24.2000	75/09/28	76/03/11
00937	POTSSIUM	K,TOT	MG/L	2	3.35000	.244995	.494970	.147752	.349997	3.70000	3.00000	75/09/28	76/03/11
00940	CHLORIDE	CL	MG/L	2	6.50000	40.5000	6.36396	.979071	4.50000	11.0000	2.00000	75/09/28	76/03/11
01027	CADMIUM	CD,TOT	UG/L	1	2.00000					2.00000	2.00000	76/03/11	76/03/11
01042	COPPER	CU,TOT	UG/L	1	1.00000					1.00000	1.00000	76/03/11	76/03/11
01045	IRON	FE,TOT	UG/L	2	145.000	2450.00	49.4975	.341362	35.0000	180.000	110.000	75/09/28	76/03/11
01051	LEAD	PB,TOT	UG/L	1	10.0000					10.0000	10.0000	76/03/11	76/03/11
01055	MANGNESE	MN	UG/L	2	25.0000	450.000	21.2132	.848528	15.0000	40.0000	10.0000	75/09/28	76/03/11
01092	ZINC	ZN,TOT	UG/L	1	4.00000					4.00000	4.00000	76/03/11	76/03/11
31501	TOT COLI	MFIMENDO	/100ML	3	686.666	386534	621.718	.905415	358.949	1400.00	260.000	75/09/28	76/06/27
31616	FEC COLI	MFM-FCBR	/100ML	3	2.66667	1.33334	1.15470	.433014	.666669	4.00000	2.00000	75/09/28	76/06/27
31679	FECSTREP	MF M-ENT	/100ML	2	5.00000	18.0000	4.24264	.848528	3.00000	8.00000	2.00000	76/03/11	76/06/27
70507	PHOS-T	ORTHO	MG/L P	2	.063570	.001536	.039188	.616453	.027710	.091280	.035860	75/09/28	76/03/11
71900	MERCURY	HG,TOTAL	UG/L	1	5.00000					5.00000	5.00000	76/03/11	76/03/11

GRAPHICS

HELL'S CANYON SURVEY
INTENSIVE SURVEY DATA FOR 3 DAYS OF MONITORING
1 : 09-28-75 2 : 03-11-76 3 : 06-27-76



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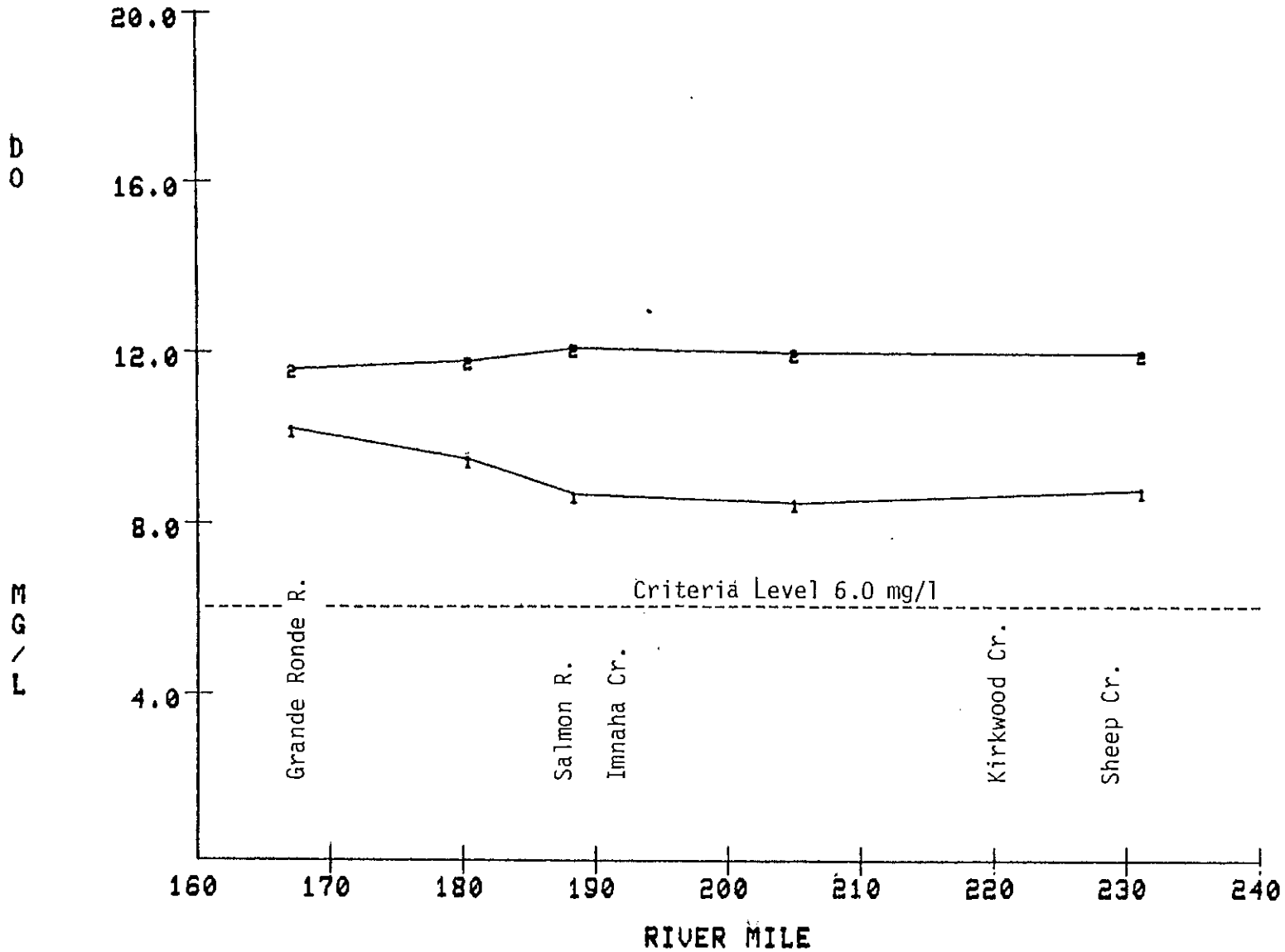

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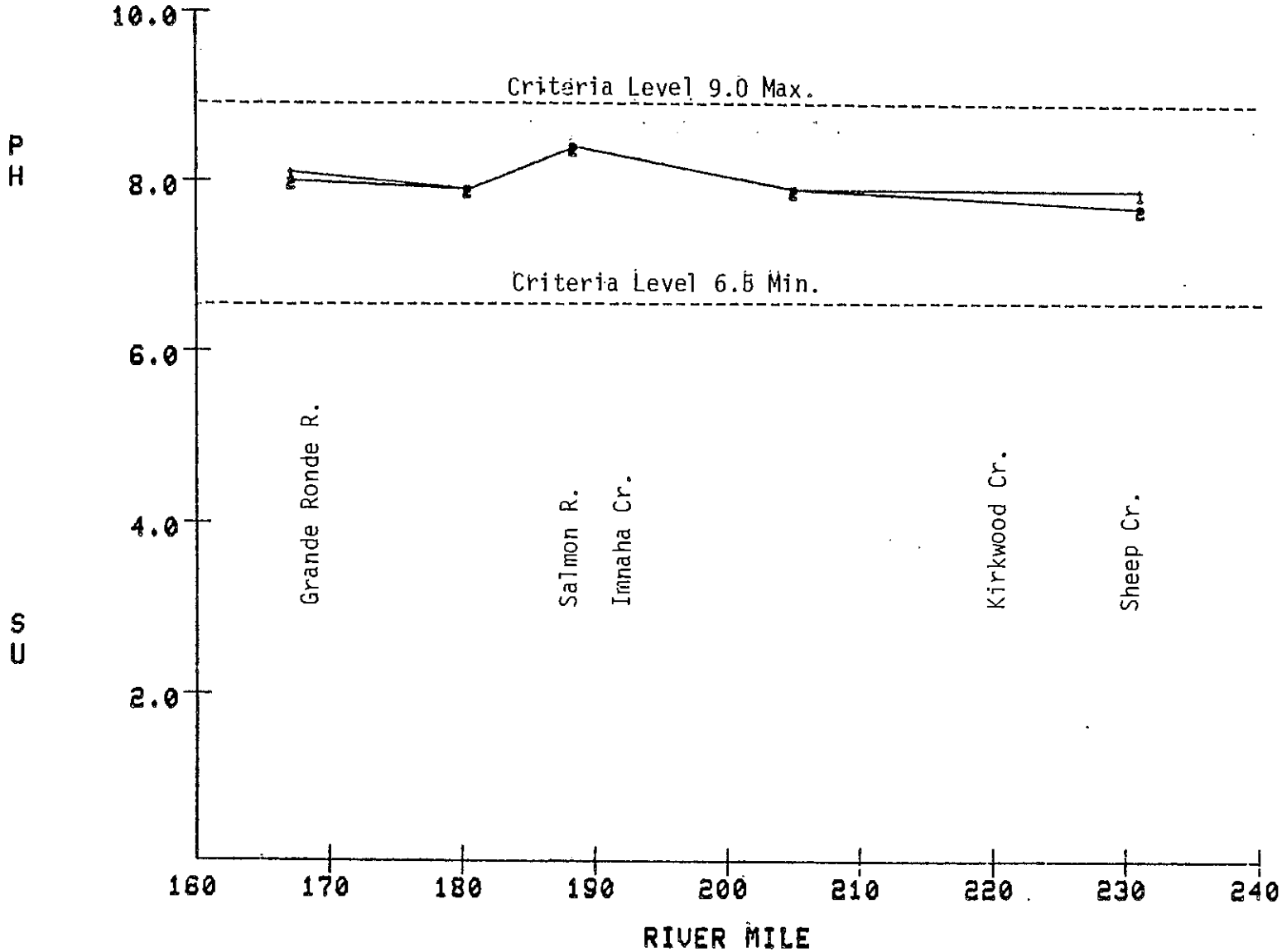

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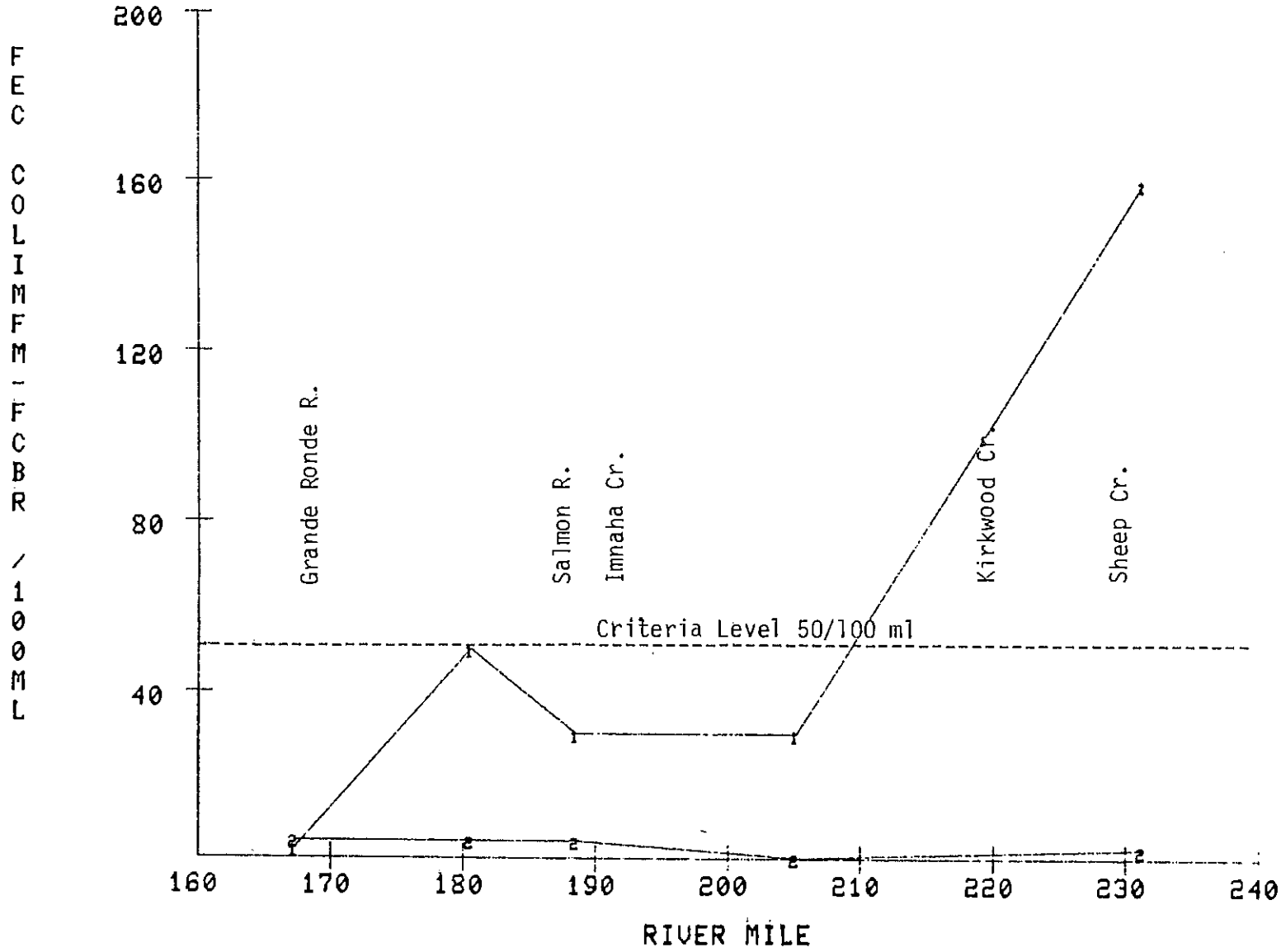

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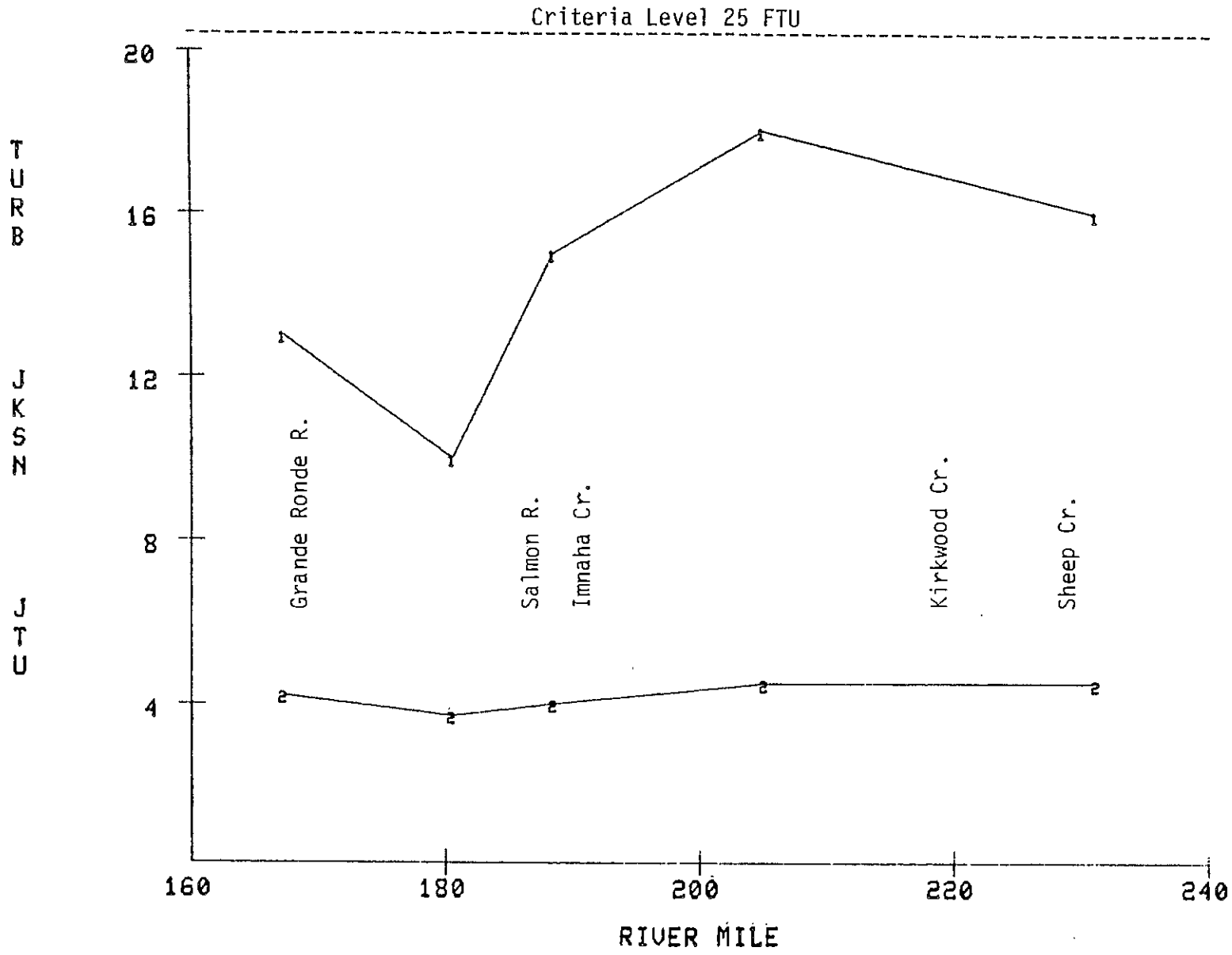

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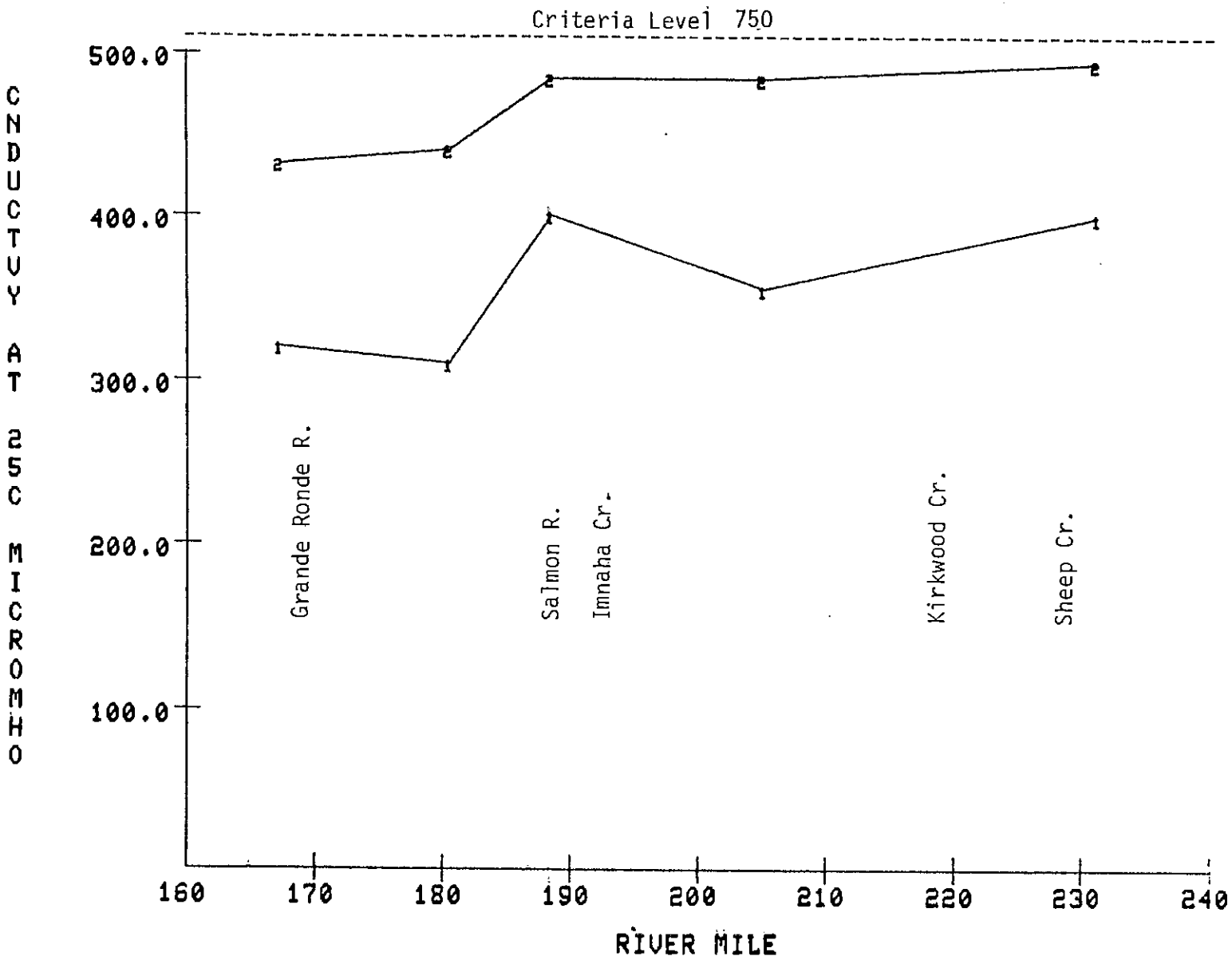

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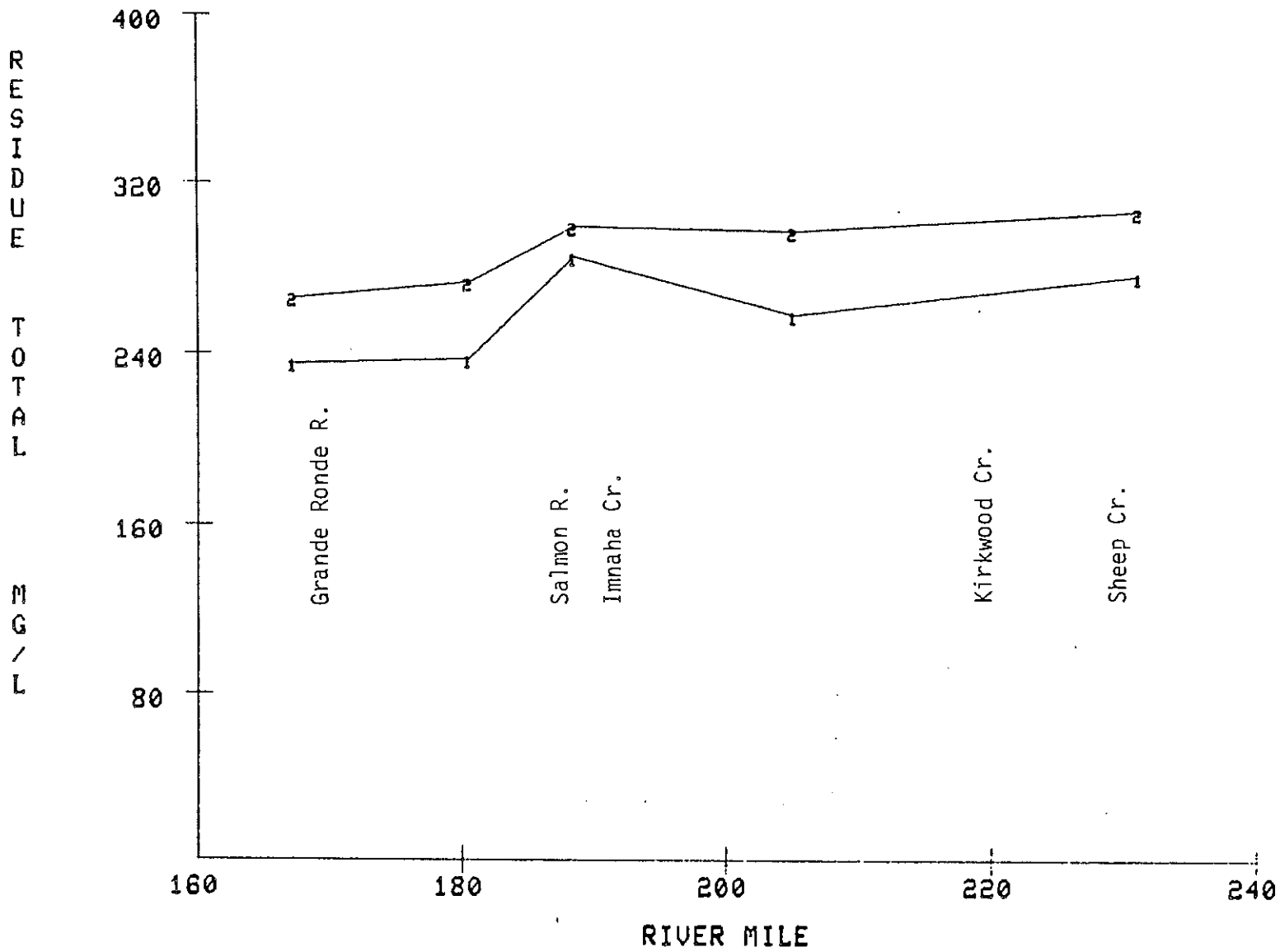

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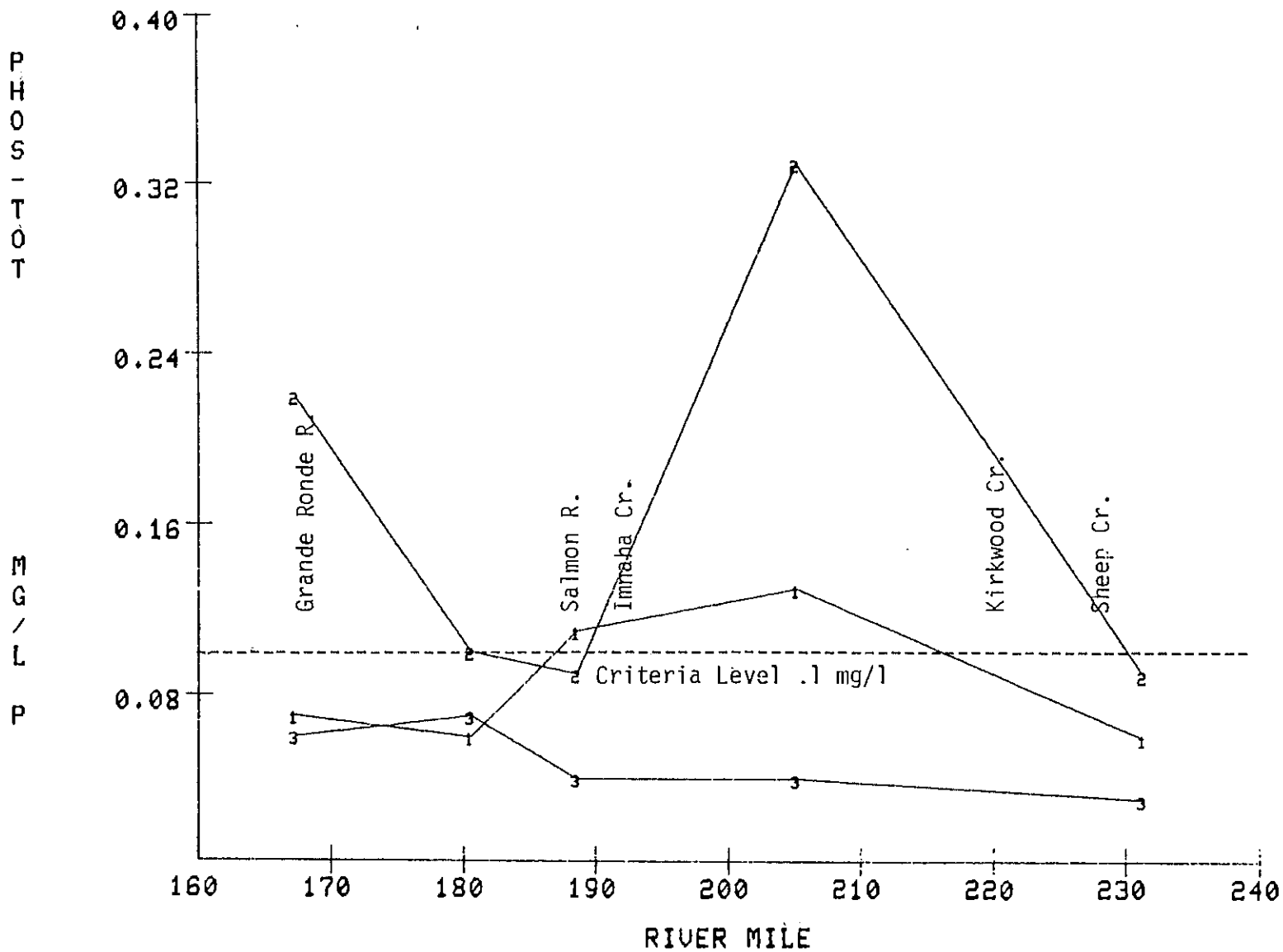

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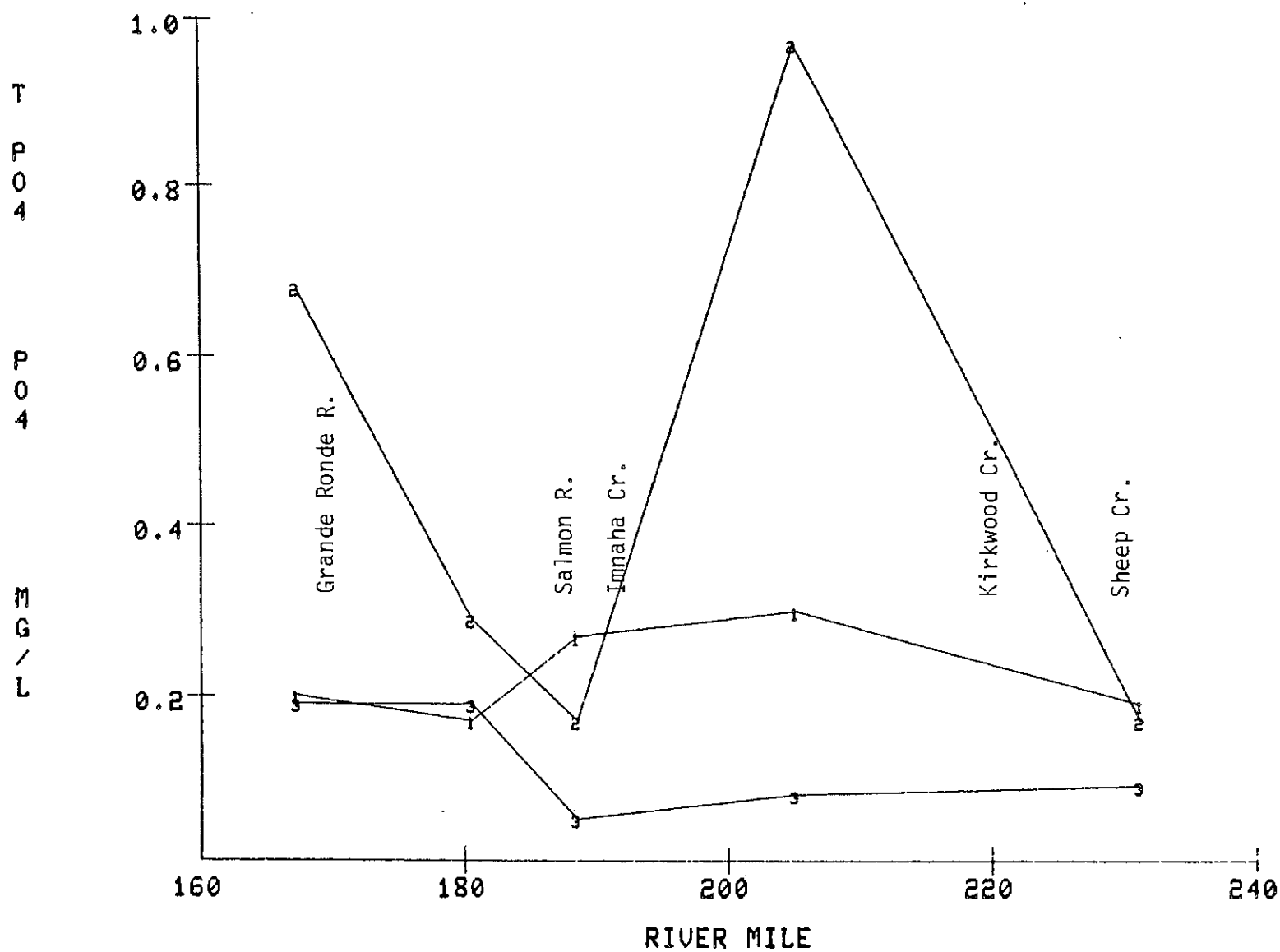

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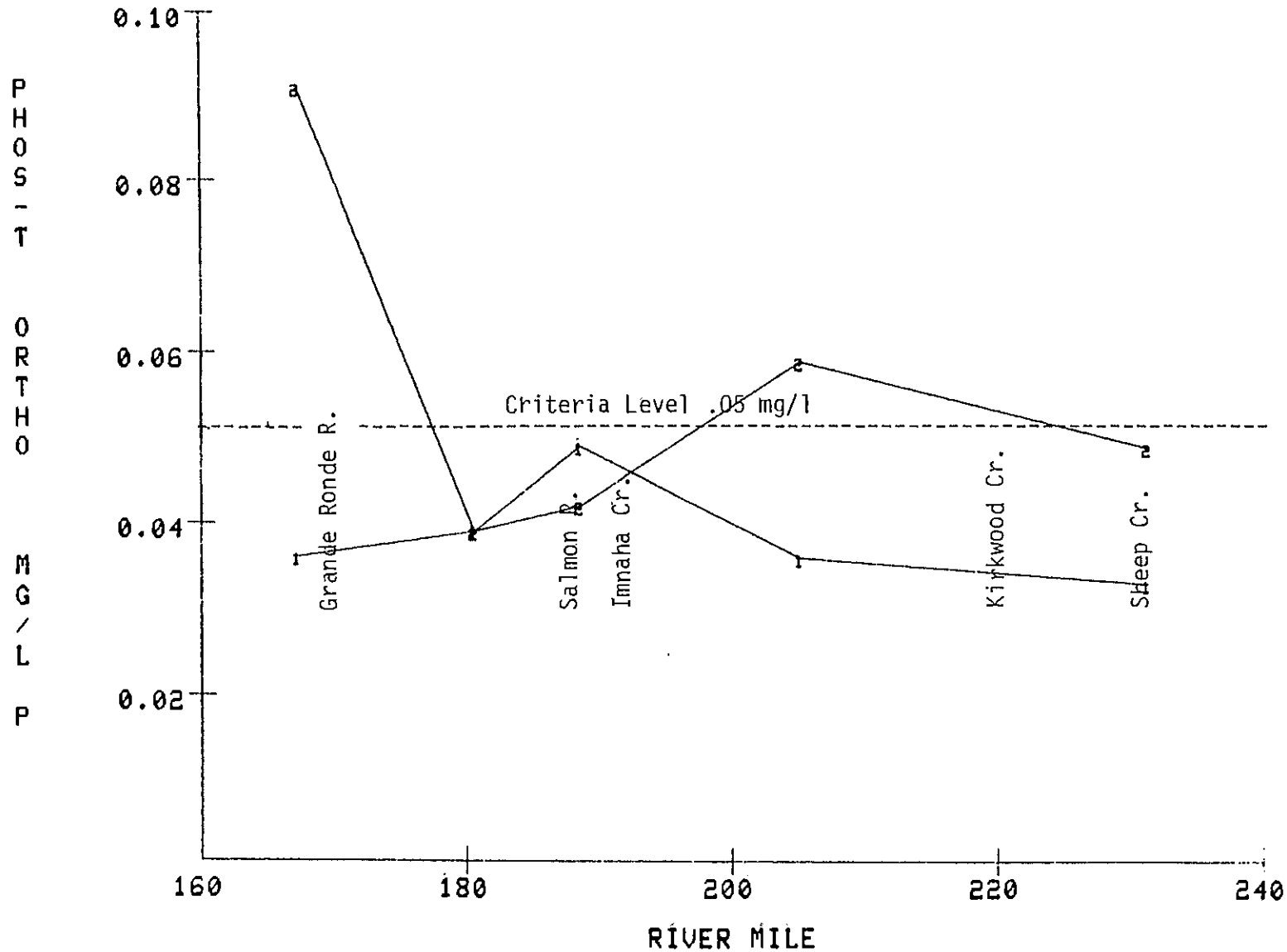

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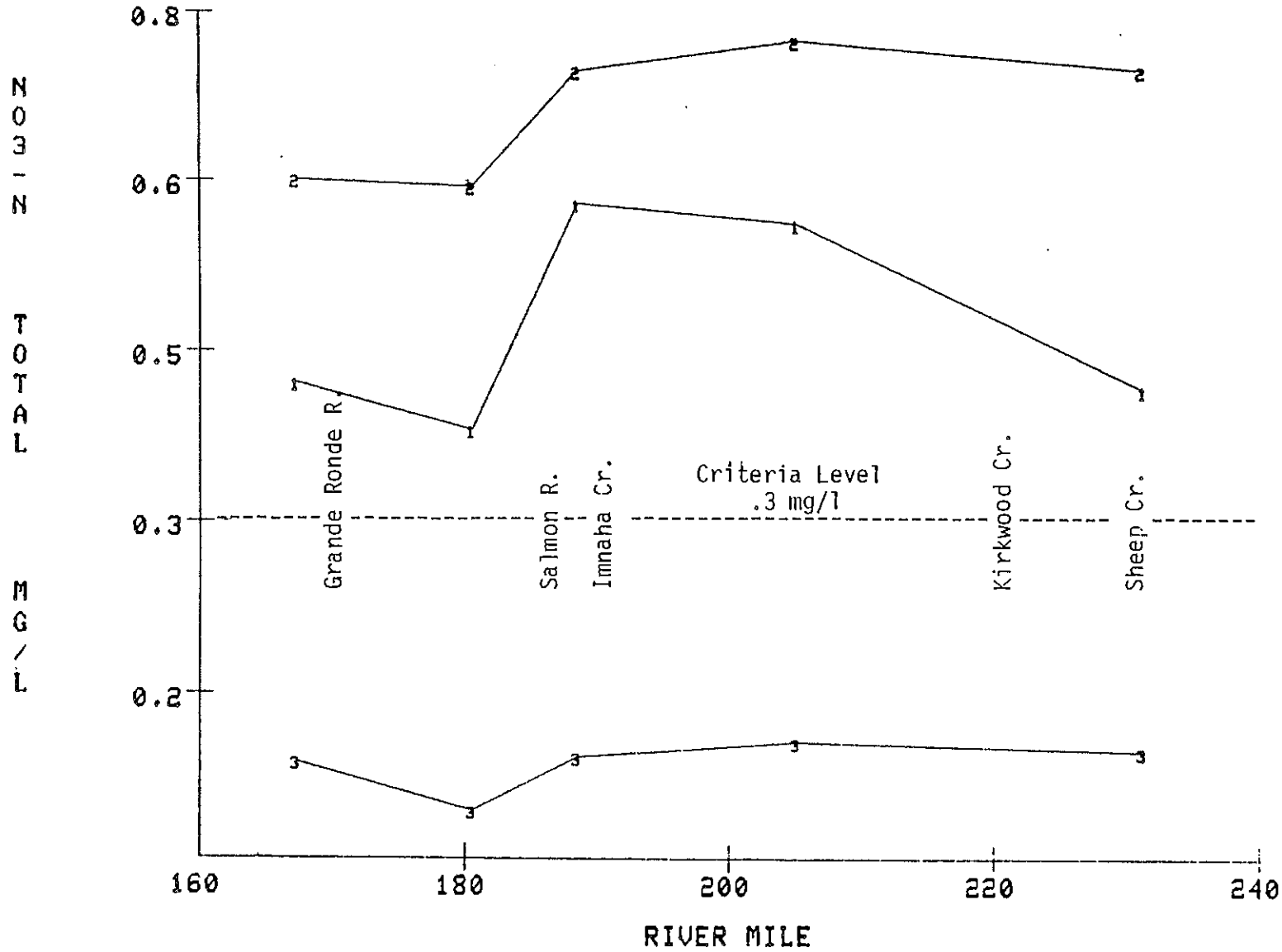

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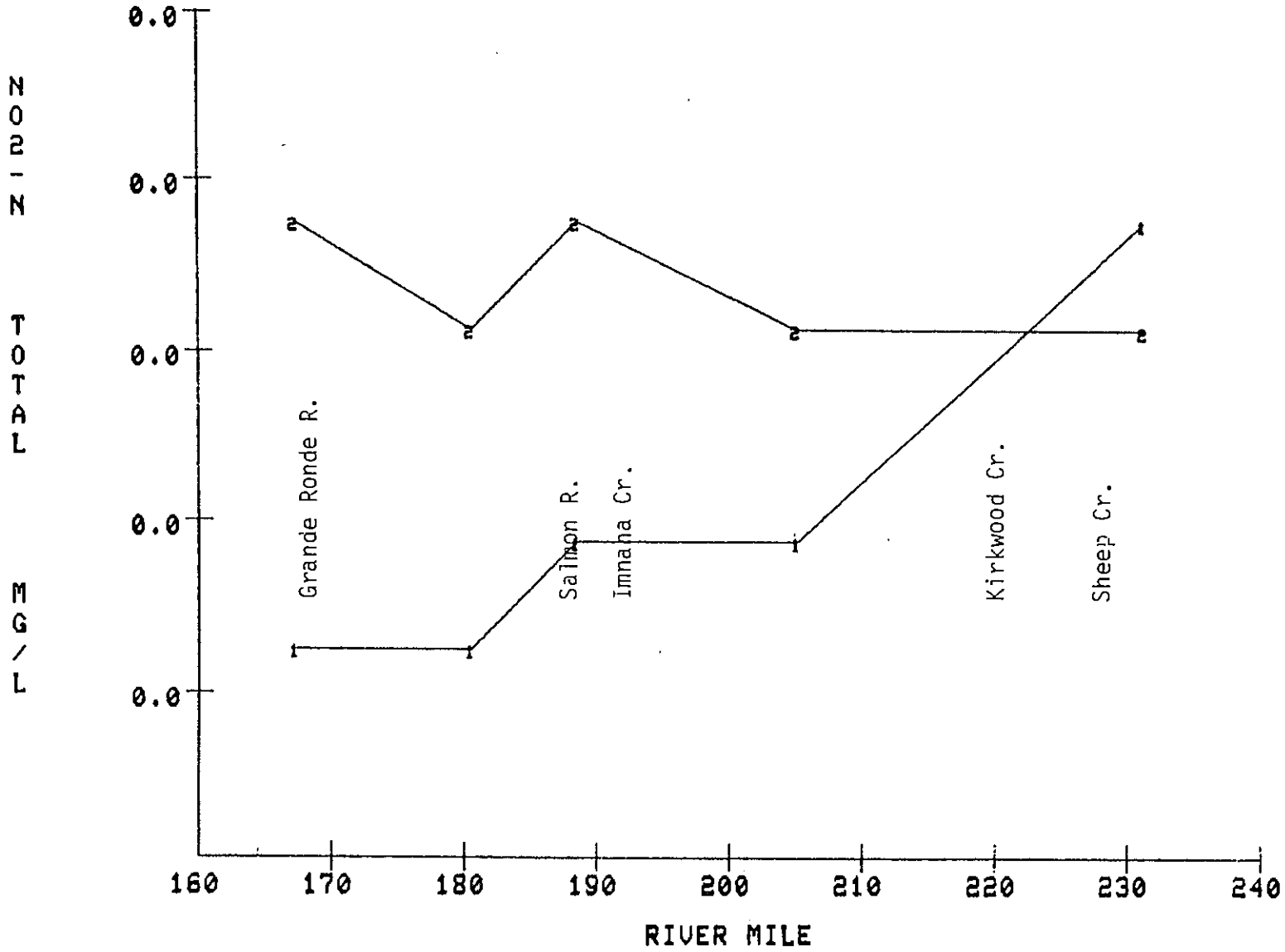

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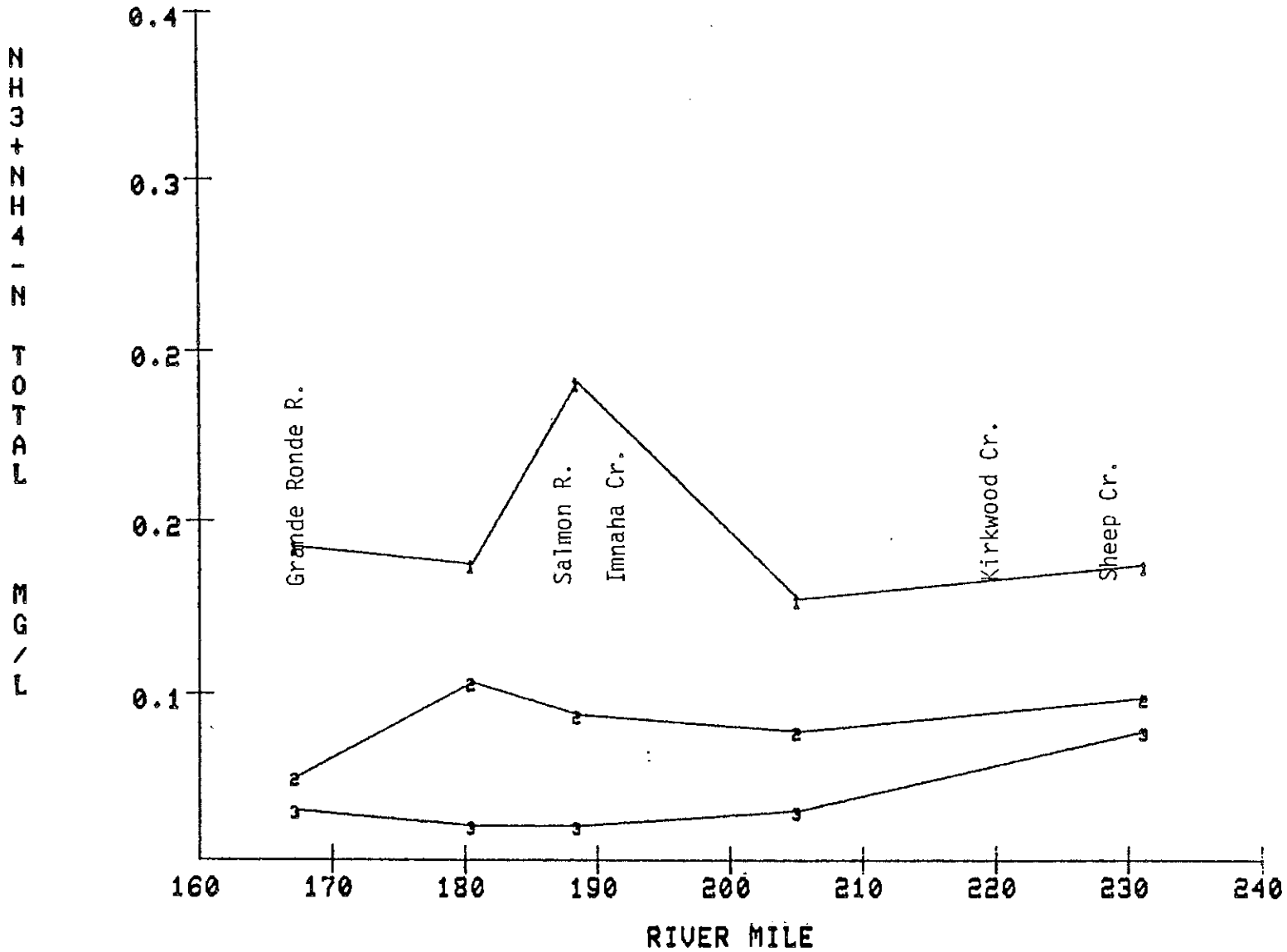
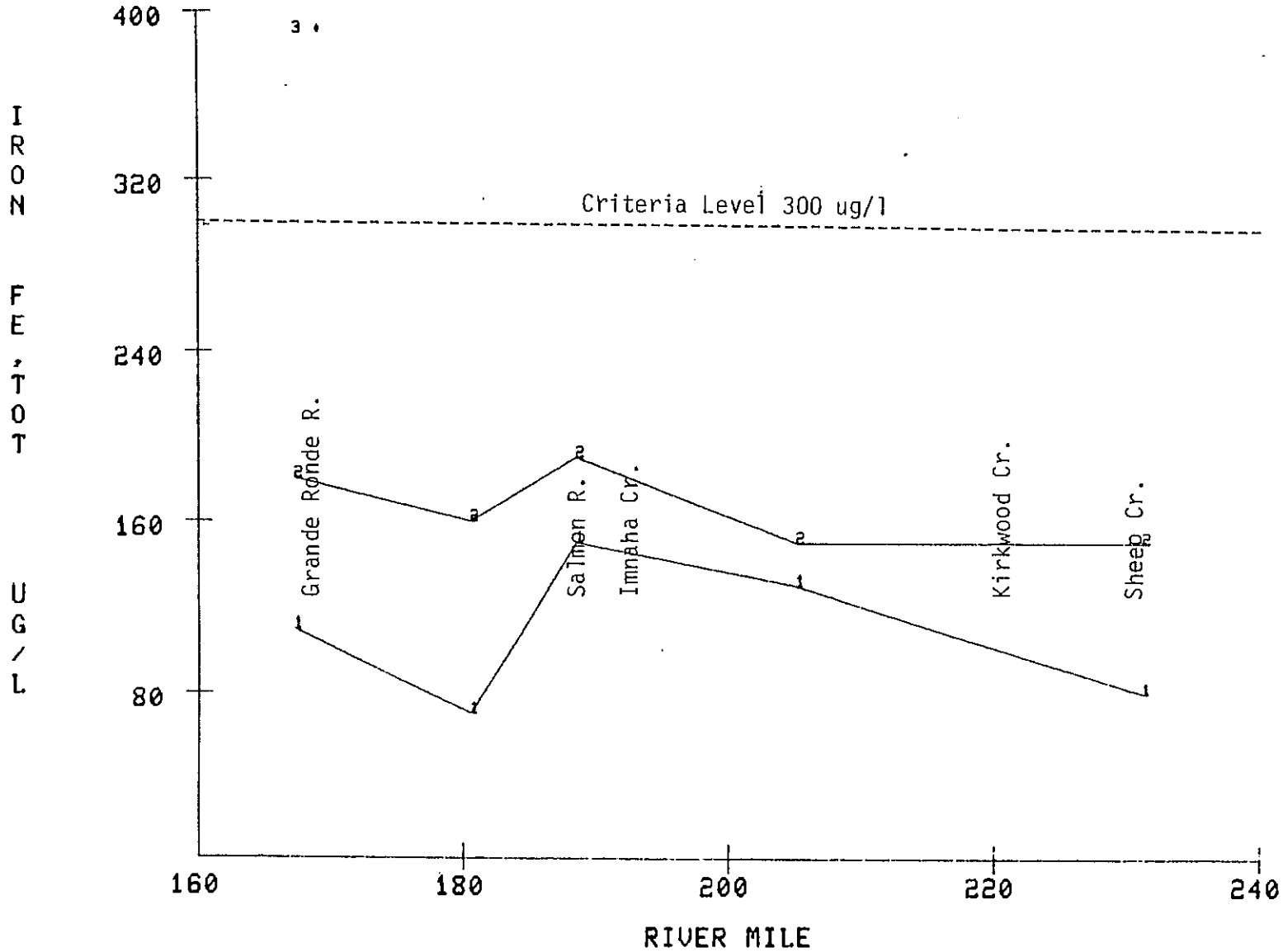
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1 : 09-28-75 2 : 03-11-76 3 : 04-19-76