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FILE: Enviro

FROM: Tennessee Valley Authority Chattanooga, Tenn J.E. Gilleland			DATE OF DOC 4-15-75	DATE REC'D 4-17-75	LTR xxx	TWX	RPT	OTHER
TO: Mr. Daniel R. Muller			ORIG 1-signed	CC	OTHER	SENT AEC PDR <u>xxx</u> SENT LOCAL PDR <u>xxx</u>		
CLASS	UNCLASS xxxxxx	PROP INFO	INPUT	NO CYS REC'D 5		DOCKET NO: 50-259 and <u>260</u>		

DESCRIPTION:

Ltr trans the following:

ACKNOWLEDGED

DO NOT REMOVE

PLANT NAME: Browns Ferry 1 and 2

ENCLOSURES:

Monthly fish impingement report for March 1975 for the Browns Ferry Nuclear Plant units 1 and 2

FOR ACTION/INFORMATION 4-24-75 JGB

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<u>REG FILE</u> NRC PDR OGC, ROOM P-506A GOSSICK/STAFF CASE GIAMBUSSO BOYD MOORE (L) DEYOUNG (L) SKOVHOLT (L) GOLLER (L) (Ltr) P. COLLINS DENISE <u>REG OPR</u> <u>FILE & REGION (2)</u> <u>MPC/FE</u> STEELE	<u>TECH REVIEW</u> SCHROEDER MACCARY KNIGHT PAWLICKI SHAO STELLO HOUSTON NOVAK ROSS IPPOLITO TEDESCO J. COLLINS LAINAS BENAROYA VOLLMER	<u>ENVIRO</u> DENTON GRIMES GAMMILL KASTNER BALLARD SPANGLER ENVIRO MULLER DICKER KNIGHTON YOUNGBLOOD REGAN PROJECT LDR <u>Mark A</u> HARLESS	<u>LIC ASST</u> R. DIGGS (L) H. GEARIN (L) E. GOULBOURNE (L) P. KREUTZER (E) <u>4-24-75</u> J. LEE (L) M. MAIGRET (L) S. REED (E) M. SERVICE (L) S. SHEPPARD (L) <u>4-24-75</u> H. SLATER (E) H. SMITH (L) S. TEETS (L) G. WILLIAMS (E) V. WILSON (L) R. INGRAM (L)	<u>A/T IND.</u> BRAITMAN SALTZMAN MELTZ PLANS MCDONALD CHAPMAN DUBE (Ltr) E. COUPE PETERSON HARTFIELD (2) KLECKER EISENHUT WIGGINTON <u>HANAUER</u>
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TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE
37401

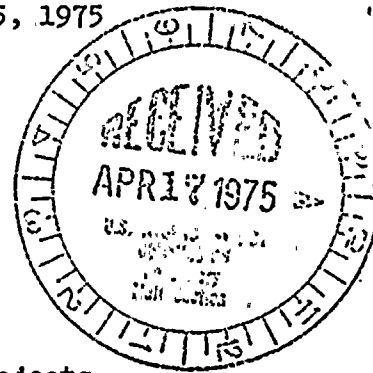


Regulatory
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April 15, 1975

50-259

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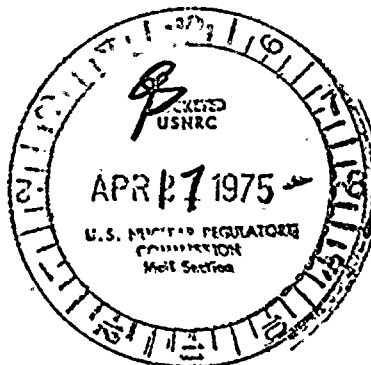
Mr. Daniel R. Muller
Assistant Director for Environmental Projects
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Muller:

The purpose of this letter is to file the monthly fish impingement report for March 1975 for the Browns Ferry Nuclear Plant units 1 and 2 (Facility Operating Licenses DPR-33 and DPR-52) as required by the environmental technical specifications. The weekly counts were conducted and the appropriate weighting factors applied for March 1975. The data sheets with calculated fish impingement estimates are enclosed.

As stated in the February 1975 report, the impingement in screen well 1AA was checked by actual count; the estimating procedure outlined in the Browns Ferry Nuclear Plant environmental technical specifications is still applicable. In view of the above, we intend to resume estimating the 12 screens based on a test screen and applying the weighting factors as prescribed. By following this procedure, the fish pump test facility becomes more flexible in scheduling additional tests without disrupting counts required by the environmental technical specifications, and the plant operators will have more freedom to control screen activity during periods of high trash accumulations.

The Browns Ferry fish pump test facility was started on March 9, 1975. Although considerable data has been collected and is now



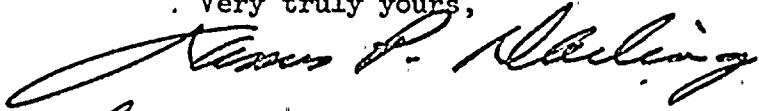
4184

Mr. Daniel R. Muller

April 15, 1975

being analyzed, the pump test program has been modified to meet existing operational problems with the fish pump and the plant. As more data is accumulated, a progress report will be issued.

Very truly yours,



J. E. Gilleland
Assistant Manager of Power

Enclosures

CC (Enclosures):

Mr. Gerald R. Hooper
District Fisheries Section
Alabama Game and Fish Commission
Department of Conservation and
Natural Resources
P.O. Box 366
Decatur, Alabama 35601

Mr. Sam L. Spencer, Chief
Fisheries Section
Alabama Game and Fish Commission
Department of Conservation and
Natural Resources
624 North Union Street
Montgomery, Alabama 36104

Test Period From: .. Time 9:30 a.m. Date 3/03/75 To Time 9:30 a.m. Date 3/04/75 Test Screen 2AA

	A	B	C	D	E
Species	Number Counted on Test Screen	Current Factor for Test Screen	Factor if One or More Pumps Out for 24 Hrs.	Factor for Partial Pump Operation During 24 Hr. Pd.	Estimate of Fish Impinged During 24 Hr. Pd.
Shad and Herring	12,210	14.60		0.176	146,891
Catfish	4	14.60		0.176	48
Bass	0	14.60		0.176	0
Largemouth	0	14.60		0.176	0
Smallmouth	0	14.60		0.176	0
Spotted	0	14.60		0.176	0
Crappie	1	14.60		0.176	12
Sunfish	0	14.60		0.176	0
Drum	13	14.60		0.176	156
Other	4	14.60		0.176	48
Total	12,232				147,155

B Factors Screen

1AA	6.81	2AA	14.60
1AB	7.63	2AB	17.14
1BA	8.79	2BA	20.15
1BB	9.06	2BB	17.34
1CA	10.28	2CA	19.43
1CB	11.58	2CB	34.77

C Factors - Pumps out for 24 Hours

Pump	1A = 0.72	2A = 0.87
	1B = 0.78	2B = 0.89
	1C = 0.82	2C = 0.92

D Factors - Pumps out for X Hours

Pump	1A = 0.28 x $\frac{x}{24}$	2A = 0.13 x $\frac{x}{24}$
	1B = 0.22 x $\frac{x}{24}$	2B = 0.11 x $\frac{x}{24}$
	1C = 0.18 x $\frac{x}{24}$	2C = 0.08 x $\frac{x}{24}$

Pump Activity During Test Period

1A _____

1B _____

1C OFF 23.5 hours

2A _____

2B _____

2C _____

To compute:

1. All pumps for 24 hours = $A \times B = E$
2. One pump out for 24 hours = $A \times B \times C = E$
3. One pump out for X hours = $A \times B - (D \times A \times E$

100 100 100 100 100 100

Test Period From: : Time 9:30 a.m. Date 3/04/75 To Time 9:30 a.m. Date 3/05/75 Test Screen 2AA

	A	B	C	D	E
Species	Number Counted on Test Screen	Current Factor for Test Screen	Factor if One or More Pumps Out for 24 Hrs.	Factor for Partial Pump Operation During 24 Hr. Pd.	Estimate of Fish Impinged During 24 Hr. Pd.
Shad and Herring	2,704	14.60	.82		32,372
Catfish	2	14.60	.82		24
Bass					
Largemouth	0	14.60	.82		0
Smallmouth	0	14.60	.82		0
Spotted	0	14.60	.82		0
Crappie	0	14.60	.82		0
Sunfish	0	14.60	.82		0
Drum	12	14.60	.82		144
Other	8	14.60	.82		96
Total	2,726				32,636

B Factors Screen

1AA 6.81	2AA 14.60
1AB 7.63	2AB 17.14
1BA 8.79	2BA 20.15
1BB 9.06	2BB 17.34
1CA 10.28	2CA 19.43
1CB 11.58	2CB 34.77

C Factors - Pumps out for 24 Hours

Pump	1A = 0.72	2A = 0.87
	1B = 0.78	2B = 0.89
	1C = 0.82	2C = 0.92

D Factors - Pumps out for X Hours

Pump	1A = 0.28 x $\frac{x}{24}$	2A = 0.13 x $\frac{x}{24}$
	1B = 0.22 x $\frac{x}{24}$	2B = 0.11 x $\frac{x}{24}$
	1C = 0.18 x $\frac{x}{24}$	2C = 0.08 x $\frac{x}{24}$

Pump Activity During Test Period

2A _____

2B _____

2C OFF 24 hours

2A _____

2B _____

2C _____

- So compute:
1. All pumps for 24 hours = A x B = E
 2. One pump out for 24 hours = A x B x C = F
 3. One pump out for X hours = A x B - (D x A x B = E

Test Period From: Time 9:30 a.m. Date 03/07/75 To Time 9:30 a.m. Date 03/08/75 Test Screen 1 BA

	A	B	C	D	E
Species	Number Counted on Test Screen	Current Factor for Test Screen	Factor if One or More Pumps Out for 24 Hrs.	Factor for Partial Pump Operation During 24 Hr. Pd.	Estimate of Fish Impinged During 24 Hr. Pd.
Shad and Herring	10,072	8.79			88,533
Catfish	1	8.79			9
Bass					
Largemouth	0	8.79			0
Smallmouth	0	8.79			0
Spotted	0	8.79			0
Crappie	0	8.79			0
Sunfish	2	8.79			18
Drum	4	8.79			35
Other	2	8.79			18
Total	10,081				88,613

B Factors Screen

1AA	6.81	2AA	14.60
1AB	7.63	2AB	17.14
1BA	8.79	2BA	20.15
1BB	9.06	2BB	17.34
1CA	10.28	2CA	19.43
1CB	11.58	2CB	34.77

C Factors - Pumps out for 24 Hours

Pump	1A = 0.72	2A = 0.87
	1B = 0.78	2B = 0.89
	1C = 0.82	2C = 0.92

D Factors - Pumps out for X Hours

Pump	1A = 0.28 x $\frac{x}{24}$	2A = 0.13 x $\frac{x}{24}$
	1B = 0.22 x $\frac{x}{24}$	2B = 0.11 x $\frac{x}{24}$
	1C = 0.18 x $\frac{x}{24}$	2C = 0.08 x $\frac{x}{24}$

Pump Activity During Test Period

1A	
1B	
1C	
2A	
2B	
2C	

- To compute:
1. All pumps for 24 hours = $A \times B = E$.
 2. One pump out for 24 hours = $A \times B \times C = E$.
 3. One pump out for X hours = $A \times B - (D \times A \times E = E$

	A	B	C	D	E
Species	Number Counted on Test Screen	Current Factor for Test Screen	Factor if One or More Pumps Out for 24 Hrs.	Factor for Partial Pump Operation During 24 Hr. Pd.	Estimate of Fish Impinged During 24 Hr. Pd.
Shad and Herring	9,605	8.79			84,428
Catfish	2	8.79			18
Bass					
Largemouth	0	8.79			0
Smallmouth	0	8.79			0
Spotted	1	8.79			9
Crappie	1	8.79			9
Sunfish	5	8.79			44
Drum	14	8.79			123
Other	5	8.79			44
Total	9,633				84,675

Pump

1A = 0.28	$\times \frac{x}{24}$	2A = 0.13	$\times \frac{x}{24}$
1B = 0.22	$\times \frac{x}{24}$	2B = 0.11	$\times \frac{x}{24}$
1C = 0.18	$\times \frac{x}{24}$	2C = 0.08	$\times \frac{x}{24}$

1A

1B

1C

2A

2B

2C

To compute:

1. All pumps for 24 hours = $A \times B = E$
2. One pump out for 24 hours = $A \times B \times C = E$
3. One pump out for X hours = $A \times B - (D \times A \times$
 $= E$

2/13/75

Test Period From: . Time 9 a.m. . Date 3/11/75 To Time 9 a.m. . Date 3/12/75 Test Screen 1BA

	A	B	C	D	E
Species	Number Counted on Test Screen	Current Factor for Test Screen	Factor if One or More Pumps Out for 24 Hrs.	Factor for Partial Pump Operation During 24 Hr. Pd.	Estimate of Fish Impinged During 24 Hr. Pd.
Shad and Herring	5,049	8.79			44,381
Catfish	3	8.79			26
Bass	0	8.79			0
Largemouth	0	8.79			0
Smallmouth	0	8.79			0
Spotted	0	8.79			0
Crappie	0	8.79			0
Sunfish	8	8.79			70
Drum	12	8.79			105
Other	8	8.79			70
Total	5,080				44,652

B Factors Screen

1AA	6.81	2AA	14.60
1AB	7.63	2AB	17.14
1BA	8.79	2BA	20.15
1BB	9.06	2BB	17.34
1CA	10.28	2CA	19.43
1CB	11.58	2CB	34.77

C Factors - Pumps out for 24 Hours

Pump	1A = 0.72	2A = 0.87
	1B = 0.78	2B = 0.89
	1C = 0.82	2C = 0.92

D Factors - Pumps out for X Hours

Pump	1A = 0.28 x $\frac{x}{24}$	2A = 0.13 x $\frac{x}{24}$
	1B = 0.22 x $\frac{x}{24}$	2B = 0.11 x $\frac{x}{24}$
	1C = 0.18 x $\frac{x}{24}$	2C = 0.08 x $\frac{x}{24}$

Pump Activity During Test Period

1A _____

2A _____

1B _____

2B _____

1C _____

2C _____

To compute:

1. All pumps for 24 hours = A x B = E
2. One pump out for 24 hours = A x B x C = E
3. One pump out for X hours = A x B - (D x A x E

Test Period From: Time 9 a.m. Date 3/13/75 To Time 9 a.m. Date 3/14/75 Test Screen 1 BA

	A	B	C	D	E
Species	Number Counted on Test Screen	Current Factor for Test Screen	Factor if One or More Pumps Out for 24 Hrs.	Factor for Partial Pump Operation During 24 Hr. Pd.	Estimate of Fish Impinged During 24 Hr. Pd.
Shad and Herring	12,144	8.79			106,745
Catfish	2	8.79			18
Bass					
Largemouth	0	8.79			0
Smallmouth	0	8.79			0
Spotted	0	8.79			0
Crappie	2	8.79			18
Sunfish	38	8.79			334
Drum	11	8.79			97
Other	7	8.79			62
Total	12,204				107,274

B Factors Screen

1AA 6.81	2AA 14.60
1AB 7.63	2AB 17.14
1BA 8.79	2BA 20.15
1BB 9.06	2BB 17.34
1CA 10.28	2CA 19.43
1CB 11.58	2CB 34.77

C Factors - Pumps out for 24 Hours

Pump	1A = 0.72	2A = 0.87
	1B = 0.78	2B = 0.89
	1C = 0.82	2C = 0.92

D Factors - Pumps out for X Hours

Pump	1A = 0.28 $\times \frac{x}{24}$	2A = 0.13 $\times \frac{x}{24}$
	1B = 0.22 $\times \frac{x}{24}$	2B = 0.11 $\times \frac{x}{24}$
	1C = 0.18 $\times \frac{x}{24}$	2C = 0.08 $\times \frac{x}{24}$

Pump Activity During Test Period

1A _____

1B _____

1C _____

2A _____

2B _____

2C _____

To compute:

1. All pumps for 24 hours = $A \times B = E$
2. One pump out for 24 hours = $A \times B \times C = E$
3. One pump out for X hours = $A \times B - (D \times A \times E$

Test Period From: Time 9 a.m. Date 3/16/75 To Time 9 a.m. Date 3/17/75 Test Screen 1 BA

Species	A Number Counted on Test Screen	B Current Factor for Test Screen	C Factor if One or More Pumps Out for 24 Hrs.	D Factor for Partial Pump Operation During 24 Hr. Pd.	E Estimate of Fish Impinged During 24 Hr. Pd.
ad and Herring	1,514	8.79			13,308
itfish	10	8.79			88
iss					
Largemouth	0	8.79			0
Smallmouth	0	8.79			0
Spotted	0	8.79			0
appie	0	8.79			0
infish	44	8.79			387
um	37	8.79			325
her	36	8.79			316
Total	1,641				14,424

Factors Screen

1AA 6.81	2AA 14.60
1AB 7.63	2AB 17.14
1BA 8.79	2BA 20.15
1BB 9.06	2BB 17.34
1CA 10.28	2CA 19.43
1CB 11.58	2CB 34.77

Factors - Pumps out for 24 Hours

Pump 1A = 0.72	2A = 0.87
1B = 0.78	2B = 0.89
1C = 0.82	2C = 0.92

Factors - Pumps out for X Hours

Pump 1A = 0.28 x $\frac{x}{24}$	2A = 0.13 x $\frac{x}{24}$
1B = 0.22 x $\frac{x}{24}$	2B = 0.11 x $\frac{x}{24}$
1C = 0.18 x $\frac{x}{24}$	2C = 0.08 x $\frac{x}{24}$

Pump Activity During Test Period

1A _____

1B _____

1C _____

2A _____

2B _____

2C _____

To compute:

1. All pumps for 24 hours = $A \times B = E$
2. One pump out for 24 hours = $A \times B \times C = E$
3. One pump out for X hours = $A \times B - (D \times A \times B) = E$

Test Period From:	Time	Date	To Time	Date	Test Screen
	A	B	C	D	E
Species	Number Counted on Test Screen	Current Factor for Test Screen	Factor if One or More Pumps Out for 24 Hrs.	Factor for Partial Pump Operation During 24 Hr. Pd.	Estimate of Fish Impinged During 24 Hr. Pd.
Shad and Herring	6,073	8.79			53,382
Catfish	318	8.79			2,795
Bass	0	8.79			0
Largemouth	0	8.79			0
Smallmouth	0	8.79			0
Spotted					
Crappie	1	8.79			9
Sunfish	28	8.79			246
Drum	149	8.79			1,310
Other	41	8.79			360
Total	6,610				58,102

B Factors Screen

1AA 6.81	2AA 14.60
1AB 7.63	2AB 17.14
1BA 8.79	2BA 20.15
1BB 9.06	2BB 17.34
1CA 10.28	2CA 19.43
1CB 11.58	2CB 34.77

C Factors - Pumps out for 24 Hours

Pump	1A = 0.72	2A = 0.87
	1B = 0.78	2B = 0.89
	1C = 0.82	2C = 0.92

D Factors - Pumps out for X Hours

Pump	1A = 0.28 $\times \frac{x}{24}$	2A = 0.13 $\times \frac{x}{24}$
	1B = 0.22 $\times \frac{x}{24}$	2B = 0.11 $\times \frac{x}{24}$
	1C = 0.18 $\times \frac{x}{24}$	2C = 0.08 $\times \frac{x}{24}$

Pump Activity During Test Period

1A	
1B	
1C	
2A	
2B	
2C	

To compute:

1. All pumps for 24 hours = A x B = E
2. One pump out for 24 hours = A x B x C = E
3. One pump out for X hours = A x B - (D x A x E = E

Test Period From: Time 9 a.m. Date 3/20/75 To Time 9 a.m. Date 3/21/75 Test Screen 1 BA

	A	B	C	D	E
Species	Number Counted on Test Screen	Current Factor for Test Screen	Factor if One or More Pumps Out for 24 Hrs.	Factor for Partial Pump Operation During 24 Hr. Pd.	Estimate of Fish Impinged During 24 Hr. Pd.
Shad and Herring	3,076	8.79			27,038
Catfish	16	8.79			141
Bass	0	8.79			0
Largemouth	0	8.79			0
Smallmouth	0	8.79			0
Spotted	0	8.79			0
Crappie	1	8.79			9
Sunfish	34	8.79			299
Drum	140	8.79			1,231
Other	20	8.79			176
Total	3,287				28,894

B Factors Screen

1AA	6.81	2AA	14.60
1AB	7.63	2AB	17.14
1BA	8.79	2BA	20.15
1BB	9.06	2BB	17.34
1CA	10.28	2CA	19.43
1CB	11.58	2CB	34.77

C Factors - Pumps out for 24 Hours

Pump	1A = 0.72	2A = 0.87
	1B = 0.78	2B = 0.89
	1C = 0.82	2C = 0.92

D Factors - Pumps out for X Hours

Pump	1A = 0.28 x $\frac{x}{24}$	2A = 0.13 x $\frac{x}{24}$
	1B = 0.22 x $\frac{x}{24}$	2B = 0.11 x $\frac{x}{24}$
	1C = 0.18 x $\frac{x}{24}$	2C = 0.08 x $\frac{x}{24}$

Pump Activity During Test Period

1A _____

1B _____

1C _____

2A _____

2B _____

2C _____

To compute:

1. All pumps for 24 hours = $A \times B = E$
2. One pump out for 24 hours = $A \times B \times C = E$
3. One pump out for X hours = $A \times B - (D \times A \times B) = E$

Test Period From: Time 9 a.m. Date 3/23/75 To Time 9 a.m. Date 3/24/75 Test Screen 1 BA

	A	B	C	D	E
Species	Number Counted on Test Screen	Current Factor for Test Screen	Factor if One or More Pumps Out for 24 Hrs.	Factor for Partial Pump Operation During 24 Hr. Pd.	Estimate of Fish Impinged During 24 Hr. Pd.
Shad and Herring	5,282	8.79		0.0146	45,752
Catfish	42	8.79		0.0146	364
Bass					
Largemouth	0	8.79		0.0146	0
Smallmouth	0	8.79		0.0146	0
Spotted	0	8.79		0.0146	0
Crappie	8	8.79		0.0146	69
Sunfish	63	8.79		0.0146	546
Drum	406	8.79		0.0146	3,517
Other	41	8.79		0.0146	355
Total	5,842	8.79		0.0146	50,603

B Factors Screen

1AA 6.81	2AA 14.60
1AB 7.63	2AB 17.14
1BA 8.79	2BA 20.15
1BB 9.06	2BB 17.34
1CA 10.28	2CA 19.43
1CB 11.58	2CB 34.77

C Factors - Pumps out for 24 Hours

Pump	1A = 0.72	2A = 0.87
	1B = 0.78	2B = 0.89
	1C = 0.82	2C = 0.92

D Factors - Pumps out for X Hours

Pump	1A = 0.28 x $\frac{x}{24}$	2A = 0.13 x $\frac{x}{24}$
	1B = 0.22 x $\frac{x}{24}$	2B = 0.11 x $\frac{x}{24}$
	1C = 0.18 x $\frac{x}{24}$	2C = 0.08 x $\frac{x}{24}$

Pump Activity During Test Period

1A	
1B	
1C	OFF .5 hour
2A	OFF 2 hours
2B	
2C	

- To compute:
1. All pumps for 24 hours = $A \times B = E$
 2. One pump out for 24 hours = $A \times B \times C = E$
 3. One pump out for X hours = $A \times B - (D \times A \times B) = E$

Test Period From: Time 9:00 a.m. Date 03/26/75 To Time 9:00 a.m. Date 03/27/75 Test Screen 205

	A	B	C	D	E
Species	Number Counted on Test Screen	Current Factor for Test Screen	Factor if One or More Pumps Out for 24 Hrs.	Factor for Partial Pump Operation During 24 Hr. Pd.	Estimate of Fish Impinged During 24 Hr. Pd.
Shad and Herring	168	19.43	.36		1,175
Catfish	6	19.43	.36		42
Bass					
Largemouth	0	19.43	.36		0
Smallmouth	0	19.43	.36		0
Spotted	0	19.43	.36		0
Crappie	2	19.43	.36		14
Sunfish	18	19.43	.36		126
Drum	99	19.43	.36		692
Other	13	19.43	.36		91
Total	306				2,140

B Factors Screen

1AA 6.81	2AA 14.60
1AB 7.63	2AB 17.14
1BA 8.79	2BA 20.15
1BB 9.06	2BB 17.34
1CA 10.28	2CA 19.43
1CB 11.58	2CB 34.77

C Factors - Pumps out for 24 Hours

Pump	1A = 0.72	2A = 0.87
	1B = 0.78	2B = 0.89
	1C = 0.82	2C = 0.92

D Factors - Pumps out for X Hours

Pump	1A = 0.28 x $\frac{x}{24}$	2A = 0.13 x $\frac{x}{24}$
	1B = 0.22 x $\frac{x}{24}$	2B = 0.11 x $\frac{x}{24}$
	1C = 0.18 x $\frac{x}{24}$	2C = 0.08 x $\frac{x}{24}$

Pump Activity During Test Period

1A	
1B	Off 24 hours
1C	Off 24 hours
2A	Off 24 hours
2B	Off 24 hours
2C	

To compute:

1. All pumps for 24 hours = $A \times B = E$
2. One pump out for 24 hours = $A \times B \times C = E$
3. One pump out for X hours = $A \times B - (D \times A \times B) = E$



Test Period From: Time 9:00 a.m. Date 03/27/75 To Time 9:00 a.m. Date 03/28/75 Test Screen 2CA

	A	B	C	D	E
Species	Number Counted on Test Screen	Current Factor for Test Screen	Factor if One or More Pumps Out for 24 Hrs.	Factor for Partial Pump Operation During 24 Hr. Pd.	Estimate of Fish Impinged During 24 Hr. Pd.
Shad and Herring	802	19.43	.475		7,402
Catfish	23	19.43	.475		212
Bass					
Largemouth	0	19.43	.475		0
Smallmouth	0	19.43	.475		0
Spotted	0	19.43	.475		0
Crappie	6	19.43	.475		55
Sunfish	39	19.43	.475		360
Drum	340	19.43	.475		3,138
Other	44	19.43	.475		406
Total	1,254				11,573

B Factors Screen

1AA 6.81	2AA 14.60
1AB 7.63	2AB 17.14
1BA 8.79	2BA 20.15
1BB 9.06	2BB 17.34
1CA 10.28	2CA 19.43
1CB 11.58	2CB 34.77

C Factors - Pumps out for 24 Hours

Pump	1A = 0.72	2A = 0.87
	1B = 0.78	2B = 0.89
	1C = 0.82	2C = 0.92

D Factors - Pumps out for X Hours

Pump	1A = 0.28 x $\frac{x}{24}$	2A = 0.13 x $\frac{x}{24}$
	1B = 0.22 x $\frac{x}{24}$	2B = 0.11 x $\frac{x}{24}$
	1C = 0.18 x $\frac{x}{24}$	2C = 0.08 x $\frac{x}{24}$

Pump Activity During Test Period

1A _____

1E Off 11.5 hours _____

1C Off 24 hours _____

2A Off 24 hours _____

2E Off 24 hours _____

2C _____

To compute:

1. All pumps for 24 hours = $A \times B = E$
2. One pump out for 24 hours = $A \times B \times C = E$
3. One pump out for X hours = $A \times B - (D \times A \times B) = E$

Test Period From: Time 9 a.m. Date 3/30/73 To Time 9 a.m. Date 3/31/73 Test Screen 1

Species	A Number Counted on Test Screen	B Current Factor for Test Screen	C Factor if One or More Pumps Out for 24 Hrs.	D Factor for Partial Pump Operation During 24 Hr. Pd.	E * Estimate of Fish Imping During 24 Hr.
Shad and Herring	3,515	8.79	.58		17,920
Catfish	15	8.79	.58		76
Bass					
Largemouth	0	8.79	.58		0
Smallmouth	0	8.79	.58		0
Spotted	0	8.79	.58		0
Crappie	0	8.79	.58		0
Sunfish	42	8.79	.58		214
Drum	188	8.79	.58		958
Other	30	8.79	.58		153
Total	3,790				19,321

Pump Activity During Test Period

B Factors Screen	1AA 6.81	2AA 14.60
	1AB 7.63	2AB 17.14
	1BA 8.79	2BA 20.15
	1BB 9.06	2BB 17.34
	1CA 10.28	2CA 19.43
	1CB 11.58	2CB 34.77

C Factors - Pumps out for 24 Hours

Pump	1A = 0.72	2A = 0.87
	1B = 0.78	2B = 0.89
	1C = 0.82	2C = 0.92

D Factors - Pumps out for X Hours

Pump	1A = 0.28 x $\frac{x}{24}$	2A = 0.13 x $\frac{x}{24}$
	1B = 0.22 x $\frac{x}{24}$	2B = 0.11 x $\frac{x}{24}$
	1C = 0.18 x $\frac{x}{24}$	2C = 0.08 x $\frac{x}{24}$

1A	
1B	
1C	OFF 24 hours
2A	OFF 24 hours
2B	OFF 24 hours
2C	

- To compute:
1. All pumps for 24 hours = A x B = E
 2. One pump out for 24 hours = A x B x C =
 3. One pump out for X hours = A x B - (D x E