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M E M O R A N D U M

December 22, 1976

To: Gerry Calkins

From: Douglas Houck

Subject: East Point Seafood Class II Inspection

On August 30, 1976, Mike Morhous, Ward Andrews and myself conducted a Class II inspection on East Point Seafoods.

A manual grab composite was taken from the tangentially screened effluent. Six hourly grab samples whose volume was 500 mls were taken starting at 1030. On the 31st one more grab sample of 500 mls was taken at 1015. Each grab sample was measured for temperature, pH and specific conductivity at the time of collection.

Grab samples were also taken from an unconnected pipe located under the building in the N.E. middle of the building. Another grab sample was taken from the shrimp hopper discharge and an 18-24 inch concrete conduit located below the unconnected pipe. Temperature, pH and specific conductivity was taken for each grab sample. The following table lists the time each sample was taken, the place and the field measurements.

Tangentially Screened Effluent

	Time	Temp °C	pH	Cond umho/cm
8/30	1030	14.5	7.8	460
	1130	15.0	8.1	480
	1230	16.0	8.1	345
	1330	16.0	8.2	465
	1440	18.0	8.2	500
	1540	21.0	8.0	345
8/31	1015	15.0	8.0	440

Unconnected Pipe Discharge

8/31	1030	14.0	7.8	500
	1130	14.5	7.9	390
	1230	Connected		

Shrimp Hopper Drain

1040	9.5	8.1	1475

18-24 inch Concrete Pipe Outfall

1537	17.0	8.4	300

Grab samples were also taken for fecal coliforms and total oils. The total oils were analyzed using both a soxhlet-freon and soxhlet-hexane extractant.

The flow was measured using the city water meters which measured the amount of water coming into the plant. Except for drinking fountains and restroom uses all of the incoming water is discharged.

The following table shows only the DOE laboratory results as the samples were not split.

Parameter	Tang. Screen	Shrimp Hopper	Unconnected Pipe	18-24 inch Pipe
pH	7.4	8.0	7.1	8.7
Cond. (umhos/cm)	1060	3500	1150	1900
COD	3060	12,500	2540	2660
NO_3-N	<0.02	< 0.02	<0.02	
NO_2-N	<0.02	0.04	<0.02	
NH3-N	6.0	28	7.0	
TKJEL-N	270	640	140	
OPO_4-P	7.0	16	7.8	
T.P.-P	15.4	62	14.6	
T.S.	1690	9990	1560	1650
T.N.V.S.	315	1240	327	489
T.S.S.	704(2287)+	4120	496	780
T.S.N.V.S.	32	360	28	100
Fecal Coliforms - MPN (col/100 ml)	6800*	<30		
Grease - Soxhlet-Freon	470(1527)+			
Grease - Soxhlet-Hexane	570(1852)+	6860		
Flow (MGD)	0.3895			

all measurements are in mg/l except where noted.
* Mean value
\+ lbs/day
< less than

Although lbs/day were computed for the discharge from the tangential screen, this is not a true value. The recorded incoming flow of 0.3895 MGD is not the true flow through the tangentially screened effluent. Part of the total incoming flow was discharged through

the unconnected pipe, the 18-24 inch concrete pipe and the drain from the shrimp hopper. According to the permit all of the flow discharging from the plant should be going through the tangential screen and the submerged outfall. The apparent reason for the unconnected pipe, which was later connected, is that the pipe is undersized for the flow going through it. A revised permit should be made if it is decided that the plant need not connect up all of their discharge lines to the tangential screen.

To partly answer this question a simple survey was done which measured both the temperature and dissolved oxygen values along their dock. It was found that there was no real dissolved oxygen problem with the values ranging from 7.6 to 4.3 mg/l. The mean D.O. value was 6.84 mg/l. The discharge feeds large numbers of anchovies and silver salmon fingerlings. From this simple survey and observations East Point Seafoods present discharge does not appear to adversely affect the receiving waters.

Another point of interest was the high fecal coliform concentrations found in the tangential screen effluent. It appeared possible that there could be a cross-connection with a sanitary sewer line. On September 8, 1976, Nancy Musgrove returned to East Point Seafoods and took a grab sample from each of the four pipes discharging into the tangential screen. A visual inspection was also made of the piping arrangement under the building. The following table gives the results.

Location	Fecal Coliforms (Col/100 ml)
Pipe 1	Est. 100
Pipe 2	10,000
Pipe 3	Est. 100
Pipe 4	Est. 1500
Final Effluent	Est. 700 (2400)
Shrimp Hopper	<100

Est. - Estimate
< - Less than
( ) - multiple tube technique

All samples were analyzed using the membrane filter technique except where noted.

Using the above numbers and the visual inspection it appears that there are no cross-connections. The fecal coliforms appear in the discharges after processing has started. The most likely explanation of the origin of the fecal coliforms is from seagull droppings. The shrimp are collected from the hulls of the ships into containers that are left on the docks until they can be put into the hopper. It has just been recently that East Point Seafoods has started covering the containers to protect them from seagulls. With this as a source and the enriched environment of the processing waters

it is very likely that the observed concentrations could occur. It is my feeling that they have little, if any, sanitary significance.

The following table gives DOE's computed values and both the NPDES daily average and maximum discharge limitations.

Parameter	DOE	Daily Average	Daily Maximum
Flow (mgd)	0.3895	0.452	0.720
Suspended Solids (lbs/day)	2,287	3,780	11,200
Oil and Grease (lbs/day)	1,527/1,852*	2,940	8,820
pH	7.4	6.0 - 9.0	

* Soxhlet-Freon/Soxhlet-Hexane

The table shows that East Point Seafood is well within their permit limitations.

In summary, the plant was operating within their permit limitations but they had three discharges not allowed in their permit. If any of the three extra discharges are to be connected to the tangential screen it should be the shrimp hopper discharge as this had the strongest waste. From a simple survey and observations it does not appear that their discharges are adversely affecting the receiving stream. The fecal coliform concentrations do not appear to have any sanitary significance; but, if they are to be analyzed, they should be done using the multiple tube technique.

DH:ee