

INDUSTRIAL WASTES SURVEY  
MAPLEWOOD POULTRY  
POULTRY PROCESSING

BELFAST, MAINE

DECEMBER 1 AND 2, 1970

UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
FEDERAL WATER QUALITY ADMINISTRATION

New England Basins Office  
240 Highland Avenue  
Needham Heights, Massachusetts 02194

December 8, 1970

Mr. Peter Mills  
United States Attorney  
156 Federal Street  
Portland, Maine 04111

Dear Mr. Mills:

At your request, the effluents from the Maplewood Poultry Company and the Poultry Processing, Inc. were resampled. Enclosed is a copy of the report of this sampling that occurred December 1 and 2, 1970.

If you have any questions or if the format should need revision, please contact us.

FOR THE REGIONAL DIRECTOR:

Sincerely yours,

E. V. Fitzpatrick  
Director

Enclosure

MAPLEWOOD POULTRY AND POULTRY PROCESSING  
BELFAST BAY, BELFAST, MAINE  
DECEMBER 1-2, 1970

At the request of the United States Attorney for Maine, the outfalls from Maplewood Poultry Company and Poultry Processing Company (also known as Penobscot Poultry), were resampled on December 1 and 2, 1970.

David Stonefield collected and Howard Davis witnessed the collection of all samples. Mr. Davis was in charge of laboratory analysis conducted in Belfast. Mr. Stonefield aided Mr. Davis in the analysis of the samples.

Maplewood Poultry

Maplewood Poultry, as described in the report of sampling on November 3 and 4, 1970, is located in Belfast, Maine, on the west side of Belfast Bay between the Veteran's Memorial Bridge and the old bridge across the bay (see Figure 1 of the November 3 and 4 report). On arrival at Maplewood Poultry Company at 1300 hours on December 2, Mr. Stonefield talked with Mr. Steven Glass, the plant manager. Mr. Glass gave the sampling crew permission to sample the outfall.

The southernmost outfall (Station MP-01) is a 24" concrete pipe which reportedly carries the waste from the picking room area where the birds are killed and plucked. The effluent was a reddish-yellow color and varied markedly in quantity of flow (Figure 1 and 3).

The middle outfall (Station MP-02) is located below the high water mark just north of the ruins of an old pier. This 24" corrugated steel

pipe reportedly carries the drainage from the preparing rooms. This had the smallest flow of the three outfalls (Figure 1 and 3).

The northernmost outfall (Station MP-03) is a 30" corrugated steel pipe which carries the waste from the eviscerating area. The waste is the largest of three effluents and is passed through screens and a grease separator before discharge (Figure 1 and 4).

Two samples were collected at each outfall on December 1 - one for bacteria and one for general analysis. The general sample was analyzed for pH, turbidity, settleable solids, and suspended solids. The temperature of the effluent was also obtained. On December 2 the three outfalls were sampled for five-day BOD and for oil and grease analysis. The temperature of the sample was again recorded.

#### Poultry Processing

Poultry Processing which was formerly Penobscot Poultry is also located on the west side of Belfast Bay in Belfast, Maine, as described in the report of the November 3 and 4 sampling. At 1400 hours on December 1, Mr. Stonefield obtained permission from the plant office to sample the effluent on December 2. The outfall is located just above the low water mark of Belfast Bay near the salt water pump house for the condenser cooling water (Figure 2 and 4). Two 12" pipes were discharging into the bay. The northernmost pipe appeared to be from the condenser and was not sampled. The southernmost pipe (Station PP-01) was highly colored and carried solids. It appeared to be the wastewater from the processing of the chickens.

On the morning of December 2, the sampling crew returned and collected bacteria, BOD, oil and grease, and general samples from Station PP-01. The temperature of the effluent was also recorded.

### Sampling Procedures

All samples except the bacteria samples were collected in a 500 ml Erlenmeyer flask and poured into a cubitainer. Gallon cubitainers were used for the BOD and the general samples and quart cubitainers were used for the oil and grease samples. The bacteria samples were collected in sterile, glass, bacterial sampling bottles. The temperature of all samples was determined using a metal thermometer.

The bacterial sample and the general analysis sample were returned to the Belfast Motor Inn. In the rooms the bacterial sample was filtered for both total and fecal coliforms. The general sample was filtered for suspended solids and analyzed for settleable solids, pH and turbidity.

The oil and grease sample was preserved with 5 ml of concentrated hydrochloric acid and iced for shipment to the NEBO laboratory for analysis. The BOD samples were iced for shipment to NEBO for analysis. The filtered bacterial samples were incubated and returned to NEBO to be counted. The filtered suspended solid samples were returned to NEBO for drying and weighing.

### Sample Identification

Each sample was tagged with two tags - one sample tag giving lab number, station, date, time, collector and a diagram of the sampling location; and one chain of custody tag giving collecting agency, lab number, time, date, source of sample, collector's signature and title, and witness's signature and title, plus information on the transfer of the sample. In addition, a prenumbered field data card was filled out for each collection time to record weather conditions and the temperature of the sample.

## Results

Table 1 summarizes the results of the effluent analysis. These results show that two of Maplewood Poultry effluents, MP-01 and MP-03, and the Poultry Processing effluent, PP-01, were highly colored, turbid and contained large quantities of suspended solids. The oil-grease content and the BOD of these three effluents were above that of normal raw sewage. The bacterial content of MP-01 was extremely high, similar to raw sewage.

The results of analysis on the other outfall from Maplewood Poultry (MP-02) were similar to those expected for diluted raw sewage. The large piece of matter observed in the effluent of MP-02 was not included in the suspended solid analysis.

TABLE 1  
SUMMARY OF DATA  
MAPLEWOOD POULTRY AND POULTRY PROCESSING

Lab No.	Station	Date	Time	Temp. °C	Turb. JU	pH Units	Sct. Solids ml/l	Susp. Solids mg/l	Oil & Grease mg/l	ECOS mg/l	Total Coliform per 100 ml	Fecal Coliform per 100 ml
23010	MP-01	12/1/70	1330	18.0	180	7.0	3.0	451			1,900,000	900,000
23013	MP-01	12/2/70	0945	20.0					64	660		
23011	MP-02	12/1/70	1340	11.5	7	7.2	0.1	28			90,000	1,000
23014	MP-02	12/2/70	0955	19.0					11	103		
23012	MP-03	12/1/70	1320	9.5	85	8.2	0.3	318			340,000	200,000
23015	MP-03	12/2/70	1005	12.5					142	480		
23016	PP-01	12/2/70	0745	19.5	85	7.0	1.0	308	116	560	2,700,000	1,200,000

Tests were performed according to FDA Standard Methods and data was verified.

Warrant L. Crutcher  
Chief, Laboratory Branch

Donell S. Smith  
Sanitary Engineer  
Field Investigations Section

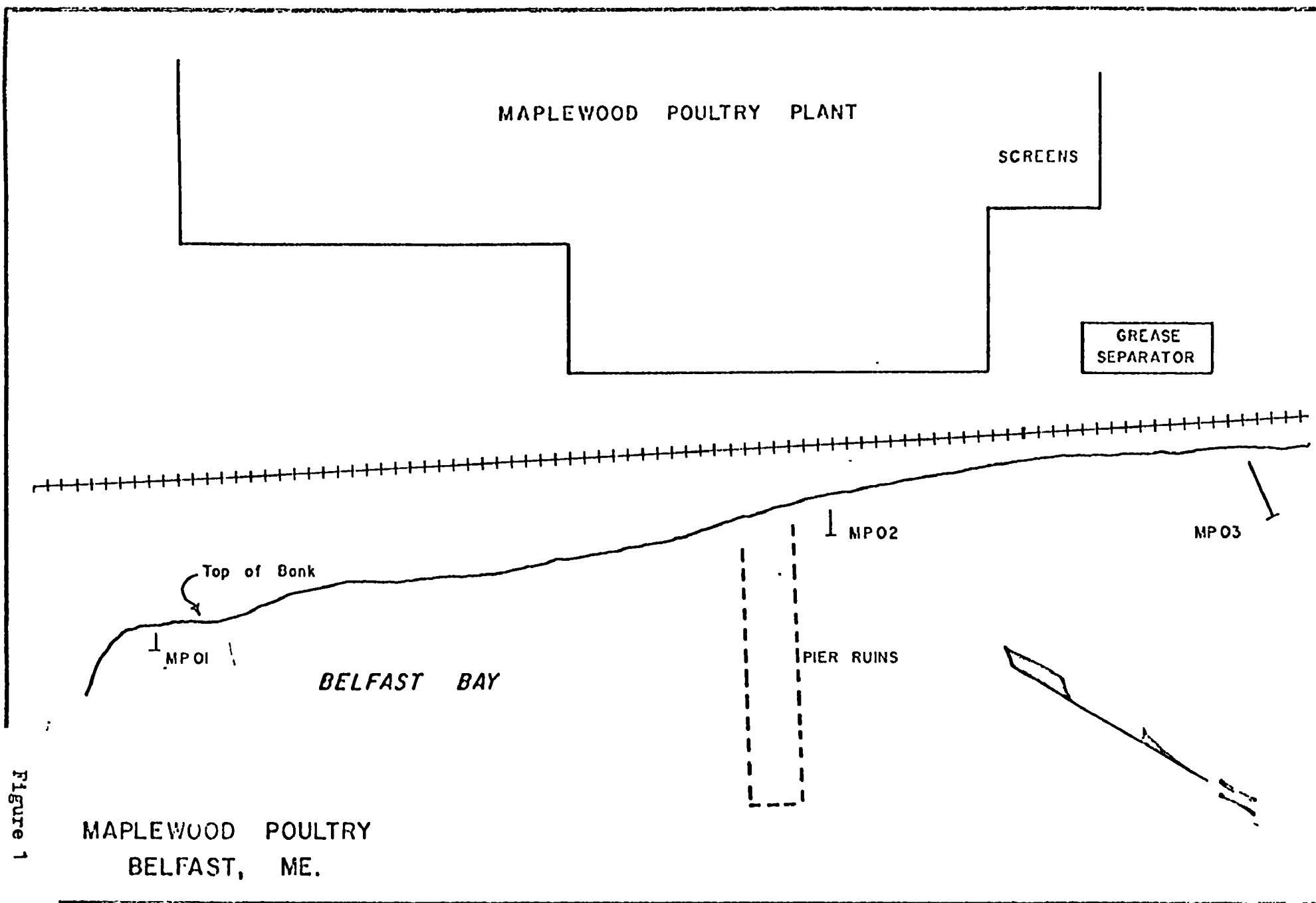
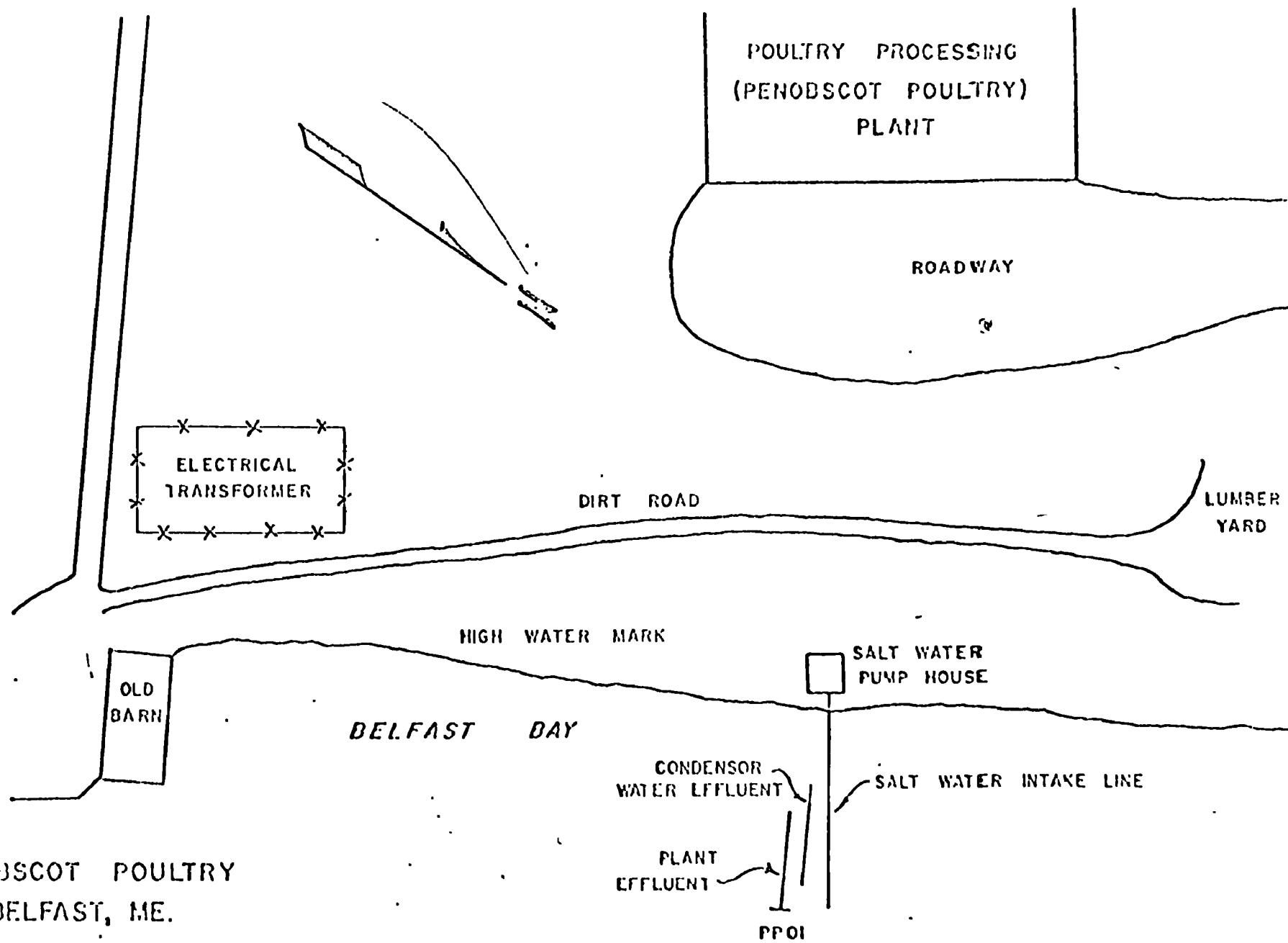


Figure 1



PENOBSCOT POULTRY  
BELFAST, ME.



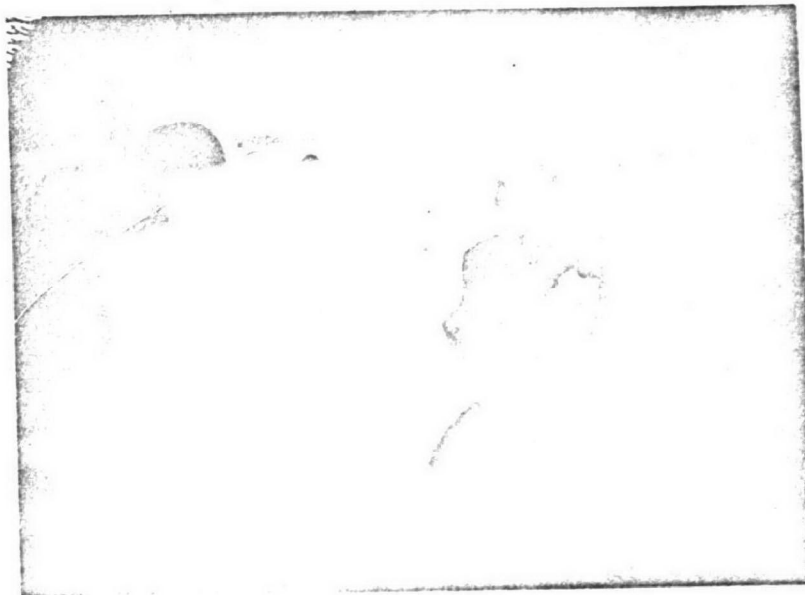
MP01  
Maplewood Poultry Co.  
Belfast, Maine



MP02  
Maplewood Poultry Co.  
Belfast, Maine



MP03  
Maplewood Poultry Co.  
Belfast, Maine



PP01  
Poultry Processing  
Belfast, Maine