June 25/45
Dictated to Arthur by
Mayo Dunn

Fish Liver Reduction Process

Fish livers of various ages come into the plants in sealed containers of various sizes. Livers are ground up by power grinders much the same in principle as a household meat grinder only on a much larger scale. From there they are put into a kettle or retort heated by a steam jacket and the oil is extracted from the ground-up liver and is centrifuged off. The finished product is put into sealed storage tanks.

United Fishermen's Co-operative

Plant is two stories. Main floor, livers are ground and then they are put into the retorts. Retorts are totally covered so no escape of steam is possible. All air from the lower floor goes through a vent in the ceiling to the room upstairs. Top of retorts extend from the floor of the lower storey up through the floor of the upper storey and all the air goes up into the upper room. In the bottom room there are deodorizers and in the top floor there are deodorizers. All the air from both rooms is exhausted from the top floor by a fan blowing eastward. This fan is the only means of the air getting to the outside. All the air must go through these two rooms and pass through the neutralizers and must pass through this fan. There is no other vent. A statement made by the management of the United Fishermen's Co-operative that they expend approximately $100. per month on a deodorant. There are about 45 or 50 persons employed. The bottom floor is cement. There is no processing on the upper floor. Processing rooms on lower floor have complete cement floors. Livers come in packed in ice. They are also prepared to close down the plant on any day if there is any possibility of odors escaping to the neighborhood. All the equipment is of latest design and modern in every detail.

Western Chemical Company

Building is a single storey approximately 30 feet high, ventilated on the east and west by open windows and a cupola which extends the full length of the building with openings the entire of the cupola. These are directly over the open kettles. All the

steam which comes from the cooking rises directly and exhausts itself from the openings in the cupola. The wind blows it in any direction it happens to be blowing. They have their own private sewer emptying well above low water mark west of their plant and all wastes from their processing go down this sewer. Sewer is under high water when tide is full. Woodwork in the retaining wall is highly impregnated with fish liver oil and the odor is distinctly noticeable eminating from this wooden revetting. The floors are in poor condition. The receiving room has a wooden floor. There are definite signs of spillage. There was a very strong odor at time of inspection. The receiving room has no vents and is practically an open shed. There is no attempt to control the odors. There was no suggestion from them that they were deodorizing the exhaust air. The odors from the kettles and from the washings simply impregnated the whole plant and found their way through the vents in the cupola. No deodorant is used in the sewage. Odor from the discharge of sewer is quite pungent and vile at times.

Samples of water taken from Western Chemical foreshore and sewer discharge. Sample of mud taken from foreshore. Samples of mud taken from foreshore at United Fishermen's Co-operative, east of wharf of Canadian Fisheries, Burns & Company, Coal Harbour, Stanley Park opposite Coal Harbour, Lumbermen's Arch, English Bay.

Plant at Canadian Fisheries

Fish oil plant is sealed in and the whole process is under vacuum. Discharge is below low water. They are making every effort possible and trying various devices and chemicals to get rid of any possible odors escaping. They have a modern plant and the odor is practically nil. The only odor one would get would be from a break or from the livers coming in extra"high". They have a reduction plant for fertilizer. There is all modern equipment. There is some odor at times from the fish meal. The plant is modern, cement throughout, processing under vacuum and discharge below low water. Containers are washed in shed causing some odor. The fish meal is made under vacuum similar to the fish oil.

Burns & Company.

Sample of mud taken from the foreshore at Burns' plant to a depth of 18" is apparently solid paunch contents, considerable straw and a little mud. This, evidently, is an accumulation of years and the tidal action seems to pack this down solid. At times there is a distinct packing-house odor comes from Burns from processes carried on. (see previous report from Mr. Devine). There is quite evident, at times, the odor of the stockyard and there are sometimes a number of stock cars standing on the siding awaiting removal which give off some odor. Burns fertilizer plant takes waste fish from the Fish Dock for fertilizer and there seems to be no control of the odors from this processing.

There is a City sewer empties at Clarke Drive and a City sewer empties at the foot of Commercial Drive

At Burns there is an incinerator on their own property only a short distance from the shipyards which gives off quite an odor. At the time of inspection they were apparently burning something of an organic nature.

The Western Chemical Company were instructed to extend the sewer to beyond the low water mark and to immediately undertake control of the odors in their plant and deodorizing.

Coal Harbour

Samples of mud taken from foreshore at Denman's Wharf. A fairly large colony of houseboats is tied up here. Odor from these tide flats is distinctly noticeable. Garbage is dumped on foreshore and the whole picture is a filthy mess. The Millerd Cannery on Coal Harbour is not operating.

Stanley Park

Sample taken from directly opposite Coal Harbour. Sample is from a fairly clean foreshore with little contamination.

Sample taken from Lumberman's Arch. Clean sand and gravel with no signs of contamination whatever.

English Bay

Sample taken from rock groyne east of Cadets building. Fairly clean sand. Visual surroundings clean.

Complaint received last summer re Burns and Company. At time complaint was made Burns were not operating and had not operated all day.

About a month ago dredging operations were being carried on off United Fishermen's Co-operative, causing bad odor.

A pronounced hydrogen-sulphide is noticeable from Coal Harbour to Cedar Cove.

Complaint re Canadian Fishing Company. Plant had been closed Saturday for the picnic and all day Sunday. Impossible to give off odors.