Ice and Meteorological Data in the Christian Salvesen Archive University of Edinburgh

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Introduction

The Christian Salvesen Shipping Company undertook whaling expeditions to Antarctic waters from 1907 and operated whale factory ships in the Southern Ocean until 1962, with a hiatus during the Second World War. The Company archive is held at the University of Edinburgh, Special Collections and consists mainly of Company records and correspondence. There is a significant part of the archive devoted to the Company's whaling activities including ship logbooks, whale catch books, ice charts and other documents in both English and Norwegian. These documents contain data of scientific interest to meteorology, oceanography, sea-ice studies, and marine biology.

The Special Collections are housed in the Centre for Research Collections (CRC) on the sixth floor of the University Library located at George Square, Edinburgh, EH8 9LJ, and about 20 minutes walking distance south from Edinburgh Waverley rail station. Consultation of the archive requires photographic ID, proof of address (dated within three months) and a passport sized colour photograph. Details of opening times and other information can be found at:

http://www.ed.ac.uk/schools-departments/information-services/services/library-museum-gallery/crc/collections/special-collections/eua

Overview

The Salvesen Collection is in three tranches, two of which are catalogued. Tranches 1 and 2, hereafter Salvesen 1 and Salvesen 2, have an associated handlist, providing a brief overview of the collection.

Salvesen 1, section A contains whaling station records 1909-1945. These were not examined. Section B contains subsections of interest. Salvesen 1/B/6 contains information about tanker voyages 1931-33. Salvesen1/B/88-90, includes folders containing H1-9 US Hydorgraphic Office Current Reports, Whale and Oil Books, Ice Charts, Day Reports and Weather and Ice Conditions, covering the years 1932-1936. Section D, subsection 13-14, are Position Books, and these provide data on the movements of selected vessels in the whaling fleet during the period 1933-1945. Section H contains eight large files designated 'Miscellaneous 19th-20th centuries'. These had no relevant material.

Salvesen 2, shelf A6, boxes 7 and 8 consist of 20 'Chief Officers Whaling Logbooks' for the *Southern Venturer* 1952-1959, and *Southern Harvester* 1952-1960. Shelves E3 and E4, consist of 'Logbooks of Operations' at Leith Harbour and Stromness on South Georgia. These were not examined. Shelf E5 consists of 14 'Whale Catch Books' for the vessels *Sourabaya, Salvestria, New Sevilla* and *Svend Foyn*, for the period 1932-1941 and made up of 'fangst dagboks', and British Board of Trade 'whale fishery catch books'. Shelf E6 has 6 British Ministry of Transport 'whale fishery catch logbooks' for the *Southern Harvester* and *Southern Venturer*, 1956-1958. Shelf F5 has logbooks for the Norwegian line, but these do not contain relevant data fro the Southern Ocean.

Document Descriptions

Relevant Documents can be divided into seven categories.

- Chief Officers' Whaling Logbook
- Dagrapporter Daily Reports
- Dagbok or Fangst-Dagbok Catch Log
- H1-9 US Hydrographic Office Current report
- Ice Charts
- Whale Catch Books
- Hval og Oljebok Whale Oil Book

Chief Officers' Whaling Logbook

There are 20 Chief Officers' Whaling Logbooks, 11 for the *Southern Harvester* 1950-1960 and 9 for the *Southern Venturer* 1951-1959. The format of the logbook is a double (facing) page per day. The left-hand page is a typical navigational log and the right-hand page contains data concerning the arrival of whale catchers and the transfer of catches. The logbooks contain data only for the operating period on the whaling grounds of the Southern Ocean. The voyages to and from the whaling grounds from Norway or from the United Kingdom are not included and are most likely to be found in a separate deck or navigational logbook. These other logbooks are not held in the Archive and their location has not yet been determined.

The navigational section of the logbook has lines for each hour of the day, with either 4 or 6 observations per day, in the latter instance at 0400, 0800, noon, 1600, 2000 and midnight. The first set of data columns, 'compass courses', has the both the magnetic and true course as well as compass variation and deviation. The second section, 'winds', has the wind direction and wind force (Beaufort). The wind direction recorded is likely to be magnetic as it is not specifically designated as true in the wind column and the necessary correction can

be calculated from the compass variation in a previous column. Note that it is common in (British) pre-printed navigational logs to have true bearings designated as true and other bearings with no designation to be assumed as magnetic. Three additional columns indicate sea state (Douglas Scale), barometric pressure and air temperature. The last column has a sections for 'Remarks' which can include general observations on the weather, the sea, an intermediate (not noon) dead reckoning position, incidents, and ice observations. The noon position, both observed and by account (estimated or dead reckoning) is recorded in the centre of the page. The example below is a page from the log of the *Southern Harvester*, 16 December 1950. The remarks section at 0200 hours records 'large area of pack ice bearing SW 10-20 miles'. At 0300, 'a/c (altered course) to clear point of ice. At 0800, 'overcast, good visibility, ice bergs'. The estimated position at noon is 55.25S, 4.22W.

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Dagrapporter - Daily Reports

The Archive holds six of these day reports, all of them for the factory ship *Sourabaya*, for whaling seasons during years 1932-1936. These documents have data for one month per page and are written in Norwegian. Most of the document is concerned with the delivery of whales from each catcher assigned to the factory ship. The right-hand section of the report has a column for air temperature and barometric pressure and the observations are taken at 8am (8 morgen). The ship's noon position is recorded in the column for remarks 'Anmerkninge'. A variety of other observations are also recorded, the column usually headed 'Anmerkningen av alt som kunde vaere av interessa (vaer skiftninger) posisjon hvalbaaten ute av fangst, kjeler eller apparater istykker tankbaaten lang side andre kokerier i sikte' which roughly translated means, 'Annotation of anything that might be of interest (the weather shifts), position, whalers out of hunting, boilers or appliances, ice pieces, tankers alongside and factory ships in sight'. Ice observations are found in this section as well as general remarks on the weather.

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Section from a 'Dagsrapporter' Sourabaya, February 1936. (Salvesen 1, B/90, Folder 5)

Dagbok or Fangst-Dagbok – Catch Log

There are 7 catch logs of this particular format in the archive for the vessels *Sourabaya* 1932-35, *Salvestria* 1932-33, and *New Sevilla* 1932-34. All are in Norwegian. Each double facing page headed 'Driftsoversikt' provides a weekly operational overview. The upper half of the left-hand page details the noon position (Middagsposisjon) followed by weather

conditions (Vaerforhold) including observations of barometric pressure and air temperature. There is no indication of the time of day of the observations and it is assumed to be noon.

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Page from Fangst-Dagbok, New Sevilla 25/12-31/12/1932 (Salvesen 2 Shelf E5)

			3.	Driftsoversikt for FIKA New Seville
1.	2.	Middagsposisjon		4.
Dag	Datum	Bredde	Lengde	Værforhold
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Mandag	26/12	56°11'	8057"	19.43. WNW stake winds Klard Pakis horisomlen winds
Tirsdag	2/1/2	56°17'	8°53'	28:60 NO. Alort rind Regnitykle Pakis horisonlen rundt.
Onsdag	28/12	56°29'	902'	37. F. MNW. Sterk wind. Take Sile is Enfelle sma isofumer
Torsdag	29/12	56°43'	9051	34. F. N. M. trisk vind . Skyet. Enkelle små istrimer.
Fredag	30/12	57014	8015	23. F. NNO. frisk wind . Inchykke . Endel is Arimer
Lørdag	3//12	500111	5041	3. F. W.S.W. svak vind . Slaset Ingen is -

There are ice observations recorded. The first entry above records a light wind from the south, clear, with pack ice all around the horizon. A later entry 'Endel isstrimer' translates as 'some ice streaks' (stream ice?) and the last entry 'ingen is' is 'no ice'.

H1-9 US Hydrographic Office Current report

There are ten sets of H1-9 Current Reports in Salvesen 1, B/88 (folders 4,5,6) and B89 (folders 2, 6,8, 9). These reports are for the vessels *Sourabaya* 1932-1934, *Salvestria* 1933-1936 and new *Sevilla* 1932-1935. Three of the reports associated with the *New Sevilla* have an additional report on weather and ice conditions. The H1-9 is a pre-printed form issued by the US Hydrographic Office. One of the sets in this collection is typed on plain paper and annotated that the original had been sent to Washington. Most of the reports are typed, a few are hand-written, and all are in English.

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H1-9 Current Report Salvestia, January 1936 (Salvesen 1 B/89, folder 9)

There are minor differences in data recorded on the H1-9, for instance sea colour is recorded on some of the H1-9s but not others. The usual data is month/day/time, position, current set and drift, wind direction and force, sea temperature, either at the surface or at the injector, sometimes both, sea state, swell and specific gravity of seawater. In the case of sea temperatures measured at the engine room injector, the depth of the injector below the surface is given, in the section 'Additional Remarks' on the reverse of the form. This section is also used to record ice observations and the general situation of the vessel within the ice. The ice observations in the example below, give a date and description of the ice. The position of the observation can be determined by finding the corresponding date in the main part of the H1-9 form.

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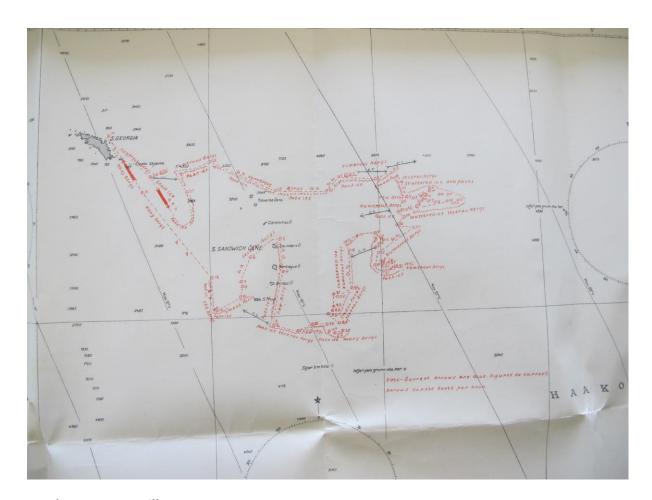
Several of the H1-9 reports for the *New Sevilla* have an attached weather and ice report (example below). These additional reports record the date, daily barometric pressure and air temperature, general weather conditions and ice observations. The report needs to be matched to the corresponding H1-9 in order to obtain the vessel's noon position.

D/	ITB.	BAR.	THERM.	WEATHER, ICE CONDITIONS.
Dec.	24.	28.32	32°F	Foggy and misty. Packice in West and NW.
	25.	27.96	30"F	Foggy and misty. Scattered ice all around the Horizon.
	26.	28.20	30"F	Snewing and misty. Scattered ice all around the Horizon.
	27.	28.22	33"F	Sky cloudy. Fackice in South.
	28.	28.80	30"F	Sky cloudy. Packice in South and SW.
	29.	29.12	30"F	Overcast. Packice in South and SW.
	30.	29.44	33"F	Sky cloudy. Packice in South and West.
	Shareholder & B.	29.34	33"F	Poggy and misty. Packice in North and NW.
1934 an.		29.02	31 "F	Foggy and overcast. Packice in West and SW.
	2.	28.48	34"F	Sky cloudy. Scattered ice all around the Horizon.
	3.	29.63	34"F -	Overcast. Scattered ice all around the Horizon.
11	4.	29.46	36°F	Sky cloudy. Scattered ice all around the Horizon.

Weather and ice conditions New Sevilla, Dec 1933-Jan 1934 (Salvesen 1 B/88, folder 4)

Ice Charts

The archive holds eight ice charts in Salvesen 1, B/88 (folders 1,4, 5,6), B/89 (folders 5,6) and B/90 (folder 5 x 2 charts). These are for the vessels and whaling seasons *New Sevilla* (1933/4, 1934-5, 1935/6), *Salvestria* (1934/5, 1935/6) and *Sourabaya* (1933/4, 1934/5).



Ice Chart - New Sevilla, season 1935-1936 (Salvesen 1, B88, folder 6)

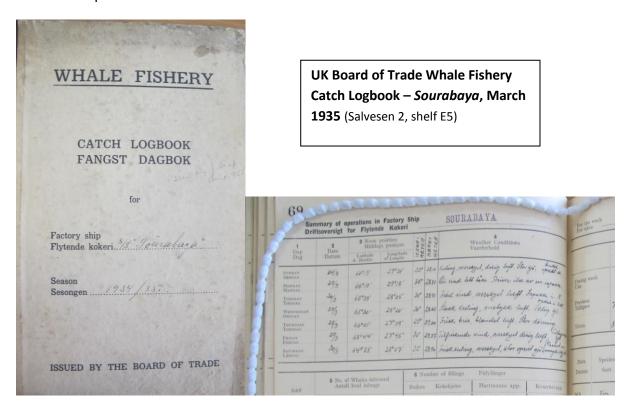
Whale Catch Books

The whale catch books are a variation of the fangst-dagbok and the example below is identical to the earlier example from the *New Sevilla*, except for variations in format including dedicated columns for temperature and barometric pressure.



Fangst-Dagbok - Sourabaya, December 1934 (Salvesen 2, shelf E5)

The next example, also the *Sourabaya*, for the following season 1934-35, is in all respects identical but this catch book is issued by the British Board of Trade and is printed in both English and Norwegian. As with the former fangst-dagbok, there are columns observations of temperature and barometric pressure and remarks including ice observations. According to the instructions near the front of the book, the position recorded is the noon position while the pressure and temperature observation are at 8am, weather and sea conditions refer to the previous 24 hours.



The following season, 1935/36, the format changed significantly. The catch book, still issued by the Board of Trade has the meteorological and other environmental observations spread across the upper half of a double facing page, with one week's data per view. Most of the book is printed in English. The example below, again the *Sourabaya*, records noon position, barometric pressure and temperature, wind direction and wind force (Beaufort). A general description of the weather follows, and then pack ice bearing and distance. Finally, there is a section for recording the size and number of icebergs. The remaining observations concern the capture of whales and oil production. The first pages of the catch logbook give instructions for its completion in English and Norwegian. All observations are made at noon (previous to the 1935/36 season, pressure and temperature had been observed at 8am). There is no indication as to whether the wind directions are true or magnetic. There are particular instructions concerning the observation of pack ice.

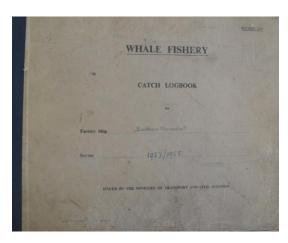
'Line 6. Enter the approximate estimated bearing and distance in miles from the ship of the nearest known pack ice. If the pack ice is in sight of the ship insert (S) after the distance.'

There is no indication as to whether the bearings to the pack ice are magnetic or true, but it is apparent that observations out of sight of the ship must have been provided by the whale catchers.

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Board of Trade whale catch logbook - Sourabaya, January 1936 (Salvesen 2, shelf E5)

The final example of a catch book from the Salvesen archive is for the season 1957/58 and the factory ship *Southern Harvester*. The physical dimensions of this book, issued by the British Ministry of Transport and Civil Aviation, are larger than former examples with a week of data on each page. As before, observations are at noon, and the data recorded and the instructions for making observations do not differ from previous catch books. The bearing and distance to the pack ice is recorded in the same manner as before.



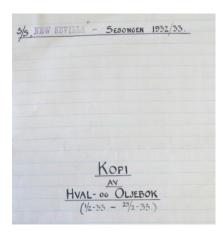
UK Ministry of Transport Whale Fishery Catch Book, Southern Harvester, 4 January 1958

Salvesen 2, shelf E5

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Hval og Oljebok - Whale Oil Book

There are four sets of whale oil books, 14 books in total, all associated with the factory ship *New Sevilla* during four whaling seasons from 1932 to 1936. The books are to be found in Salvesen 1, B88 (folders 2, 5 & 6). The book has data for one month on a double facing page. On the right-hand page is a section for remarks, describing the weather and ice conditions and the vessel's position at noon.



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Whale Oil Book - New Sevilla, February 1933 (Salvesen 1, B88/folder 2)

Metadata

Three sets of documents in the Collection provide useful metadata on ship movements. These are Salvesen 1, B6, 'Tanker Voyages 1931-1933', and Salvesen 1, D 13 and D 14, 'Position Books 1933-1941'. As well as the movements of selected factory ships, these three volumes indicate that there are many additional Salvesen vessels such as oil tankers and supply vessels operating in the Southern Ocean, servicing the factory ships with supplies and loading cargos of whale oil, for Europe. Complete sets of movements are documented, for the period 1933-1941, but the deck logs are not present in this archive. This is a useful indication that there is much more potential material to be found. All of the additional vessels found and all of the metadata concerning vessel movements has been added to the Inventory.

Imaging

Some sample images were taken in the course of compiling the inventory. To image the remainder of the documents will require approximately 4,000 images or about four to five days work, with a further four to five days to process the images, rename and organize the files the and produce an image catalogue. Permission to undertake the photography must be sought from the head of CRC, Dr. Joseph Marshall.

Additional Christian Salvesen Material

Although the Christian Salvesen archive is of significant scientific value, the archive itself holds only a fraction of the potential data that must have been produced by the Company's

whaling activities. The Chief Officers' logbooks only cover the period activity on the Antarctic whaling grounds, and the other types of documents cover the same period. The navigation or deck logs of the factory ships if still extant are archived elsewhere and their location is yet to be determined. These deck logs should contain data for the voyage south from European waters and the return voyage, as well as the period spent in the Southern Ocean. Additionally the archive only holds material for a narrow selection of vessels and specific time periods (mid 1930s & mid 1950s). There are other vessels and time periods not represented in the archive. The inventory of Salvesen vessels and activities will indicate the material still to be found. Furthermore logbooks and other documents for the tanker and supply ship vessels servicing the whaling fleet are still to be found.

Inventory

The inventory of ice and meteorological data from the Christian Salvesen Archive, at the University of Edinburgh contains not only the relevant material found in the Archive, but as full an inventory as presently possible of the Company's vessels and movements in the Southern Ocean including factory ships, whale catchers, tankers and supply vessels. Where material was not found in Edinburgh, vessels are annotated with 'not yet sourced'. The inventory will be updated as new material is found.