

Construction of the

Suez Canal



J. David Rogers

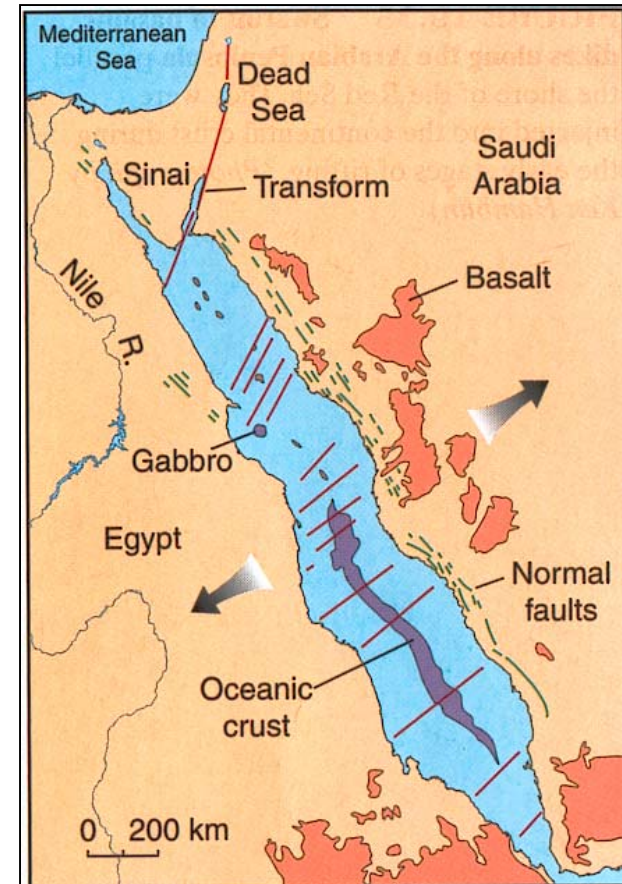
Background



De Lesseps.



Geology

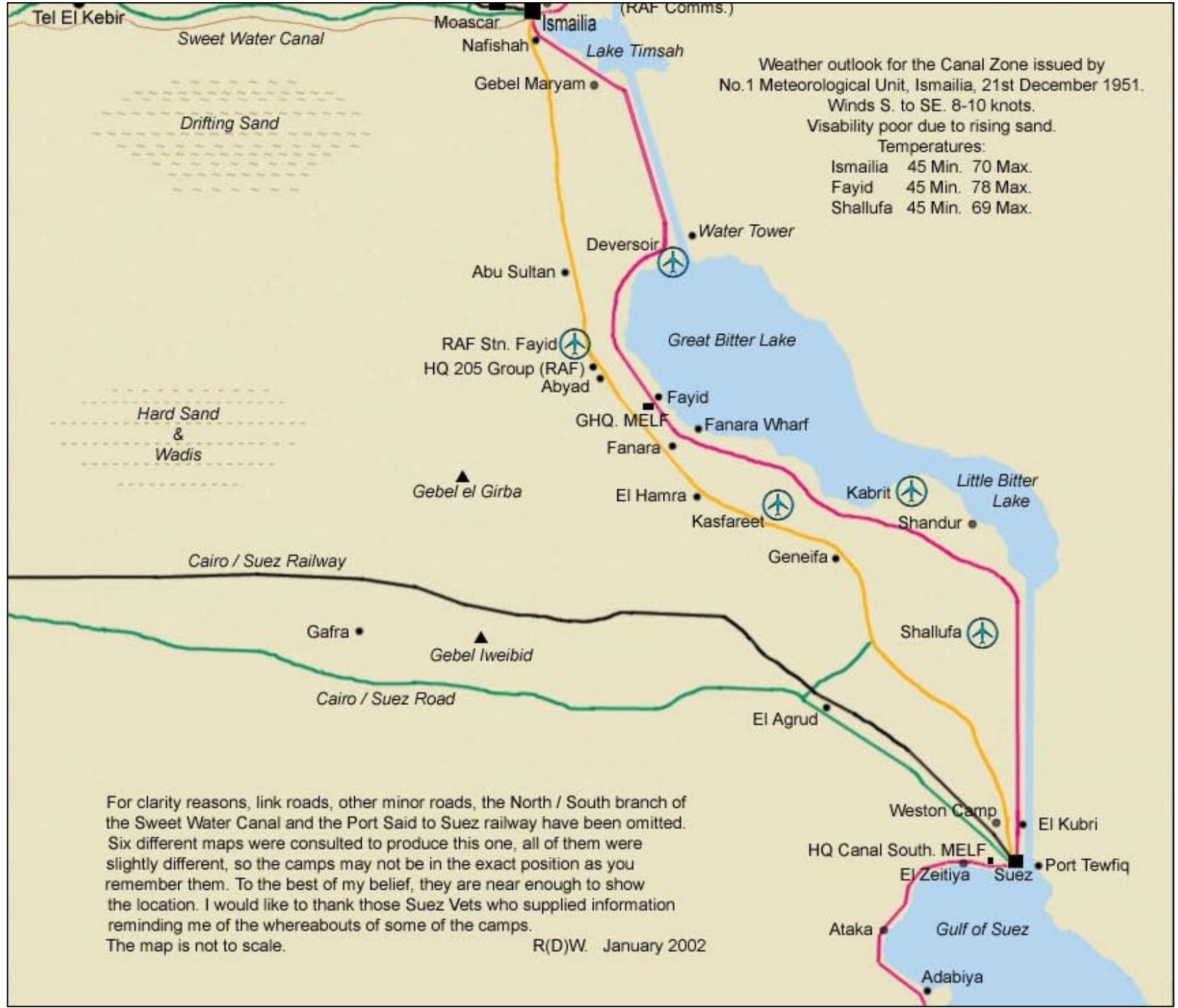


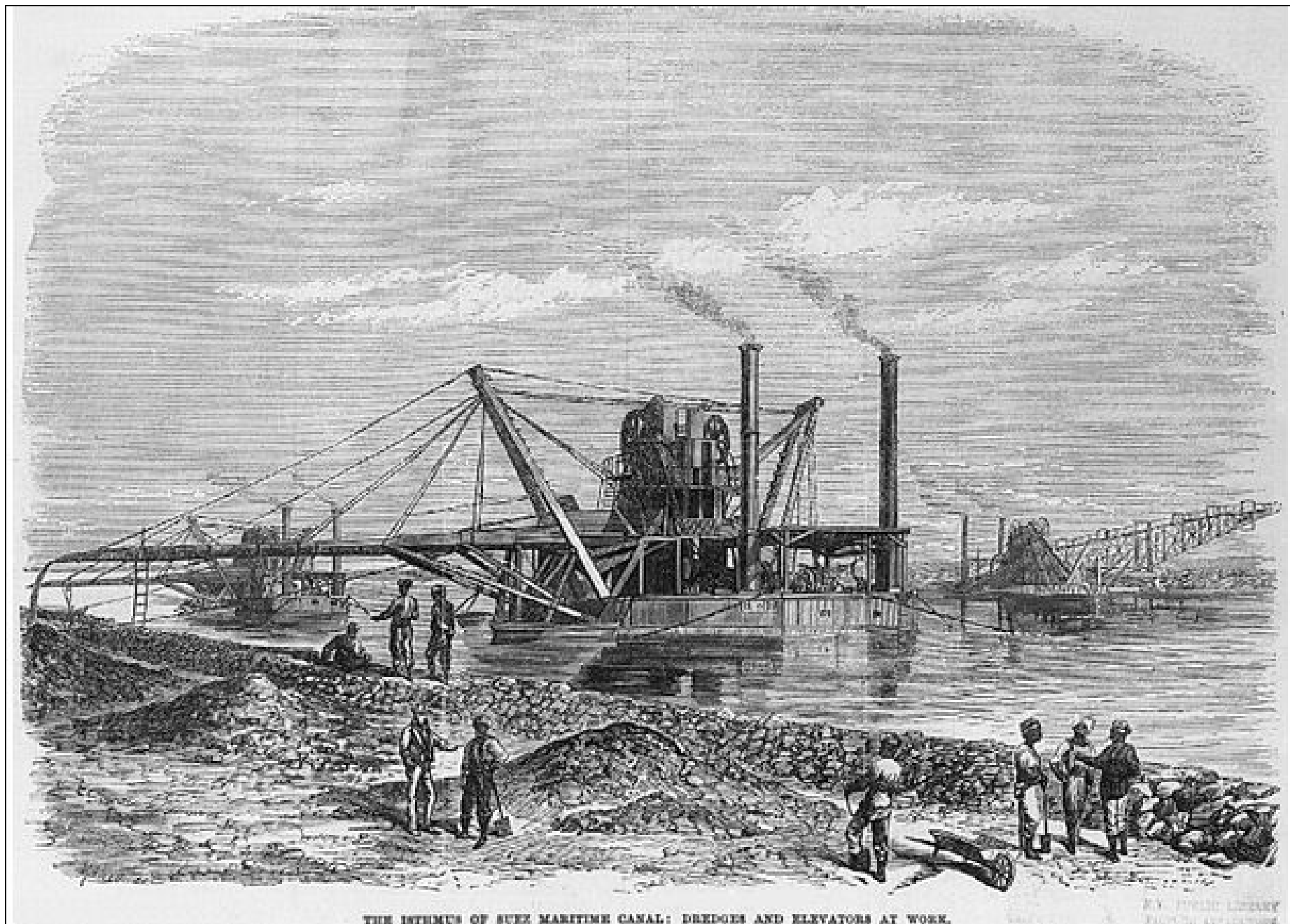


Suez Canal as it appears today



Weather outlook for the Canal Zone issued by
No.1 Meteorological Unit, Ismailia, 21st December 1951.





THE ISTHMUS OF SUEZ MARITIME CANAL: DREDGES AND ELEVATORS AT WORK.

THE ENGRAVER'S LIBRARY
LONDON



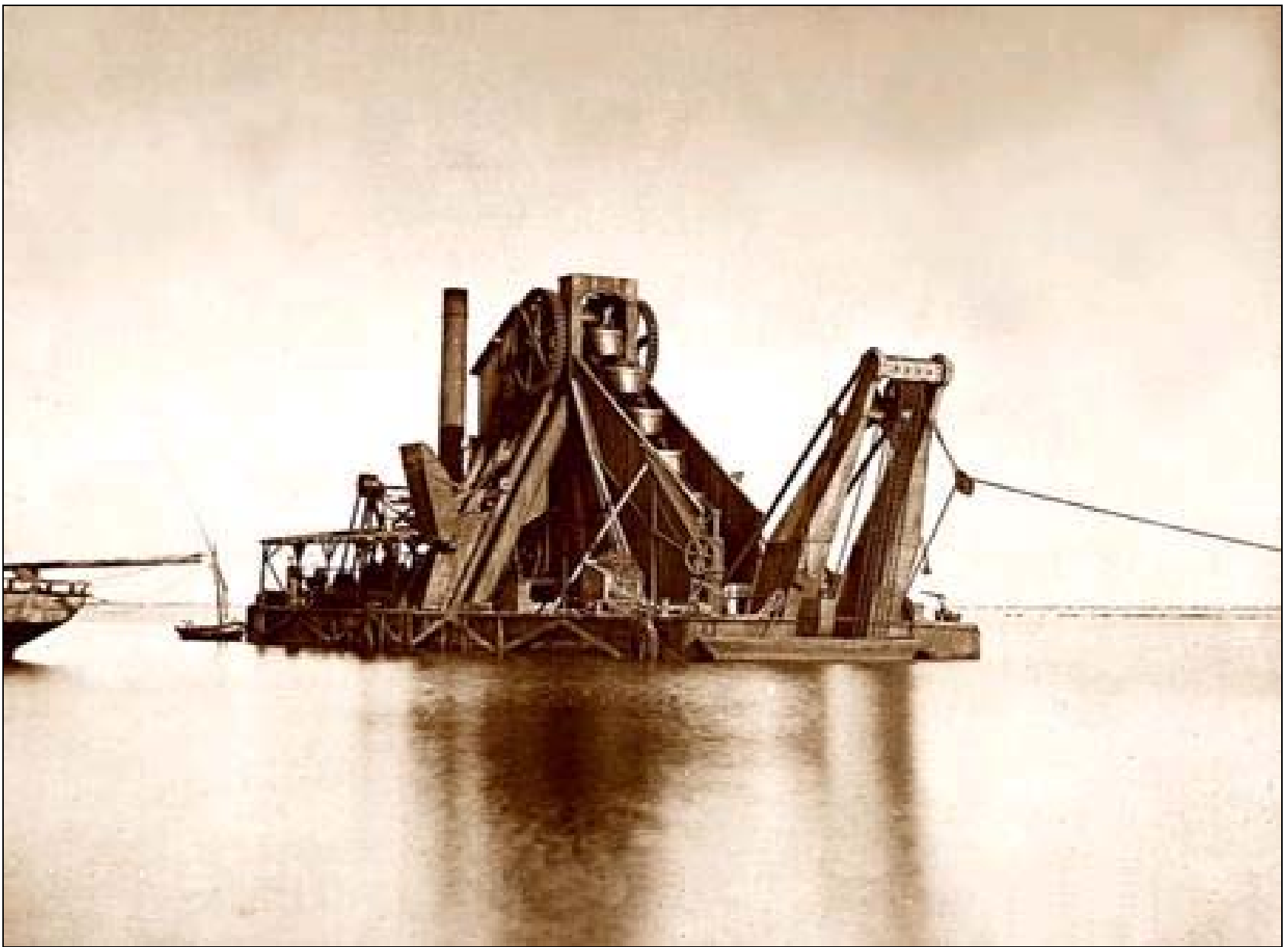
Dredger with a long chute

In the areas where the canal was at its widest, the chutes reached sixty meters long. In order to maintain the equilibrium of the dredger ensemble, semi-cylindrical chutes, sixty centimeters deep, were carried on reinforced posts placed on a barge. The canal banks here are protected from erosion caused by passing boats by riprap.



Dredger with a 45 meter chute.

The machines used for widening the Suez canal were for the most part entirely metal, floating dredgers. The heavy scoops attached to an endless chain and driven by a steam engine removed mud sand and gravel from the bed and dumped the extracted material via the chute, a sheet metal pipe cut in half. The chutes directed the extracted waste onto the bank and the workers kept the waste flowing using a sort of rake. Two dredgers could thus work at a distance of only two meters.



Dredger with a Dumper.

In the lakes or near the sea, excavation was done using dredgers with dumpers. The dredger is shown here raised up awaiting a barge to take the debris away.



Dredger and Mud Barge.

The excavated mud was loaded onto mud barges which transported it either to the deeper waterways or to the sides of the lakes.



Ship and Dredger.

At every step of the way, the boats using the Suez canal passed machines engaged in widening the canal, without, it would seem, any difficulty.



Excavation on dry land to widen the canal

In the areas where the terrain was particularly hard, more traditional methods were used to widen the canal: debris was extracted by hand, using picks, and loaded into crates which were carried to the dump by camels.



Close Up of dredger and crew.

A crew poses for a picture on their dredger.



Widening of the canal. Work to protect the canal banks.

The Egyptian natives dug out the earth using a sort of local pick, called a fass. The overseers here sitting on the bank look on. A drainage pump, driven by a steam engine set up in a hut, helped prevent the trenches becoming waterlogged.



Work to widen the canal.

Trucks full of debris have just unloaded their loads onto the side whilst a worker holds a graduated leveling rod to indicate the level at which the debris should be.



Port Said.

View of the town port looking south. After an obligatory stop so as to complete the administrative formalities and to pay the rights of passage, ships from the Mediterranean then entered the canal.



Port Said.

Company workshops. Fitting and founding.

The workshops were divided according to their tasks: in one hulls and engines were repaired, whilst in another fitting and founding was done; yet others were reserved for smelting, woodwork and carpentry.



Port Said.

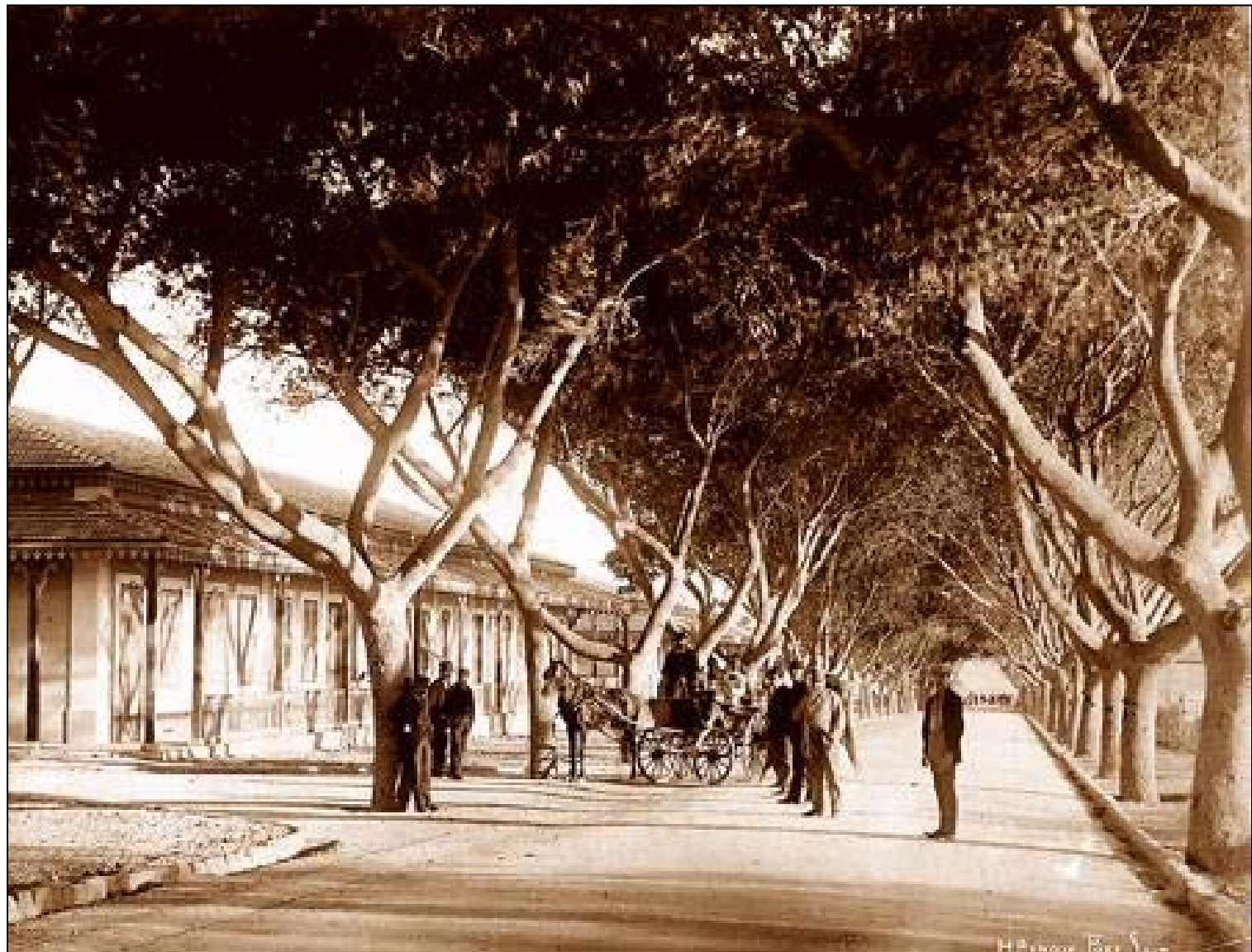
The Arsenal dock. Company workshop.

Built during the digging of the canal, the great workshops of Port Said were heavily involved in the construction work. In them the excavation machinery was assembled, and the various types of vessels were maintained and repaired from the damage which occurred during their passage through the canal.



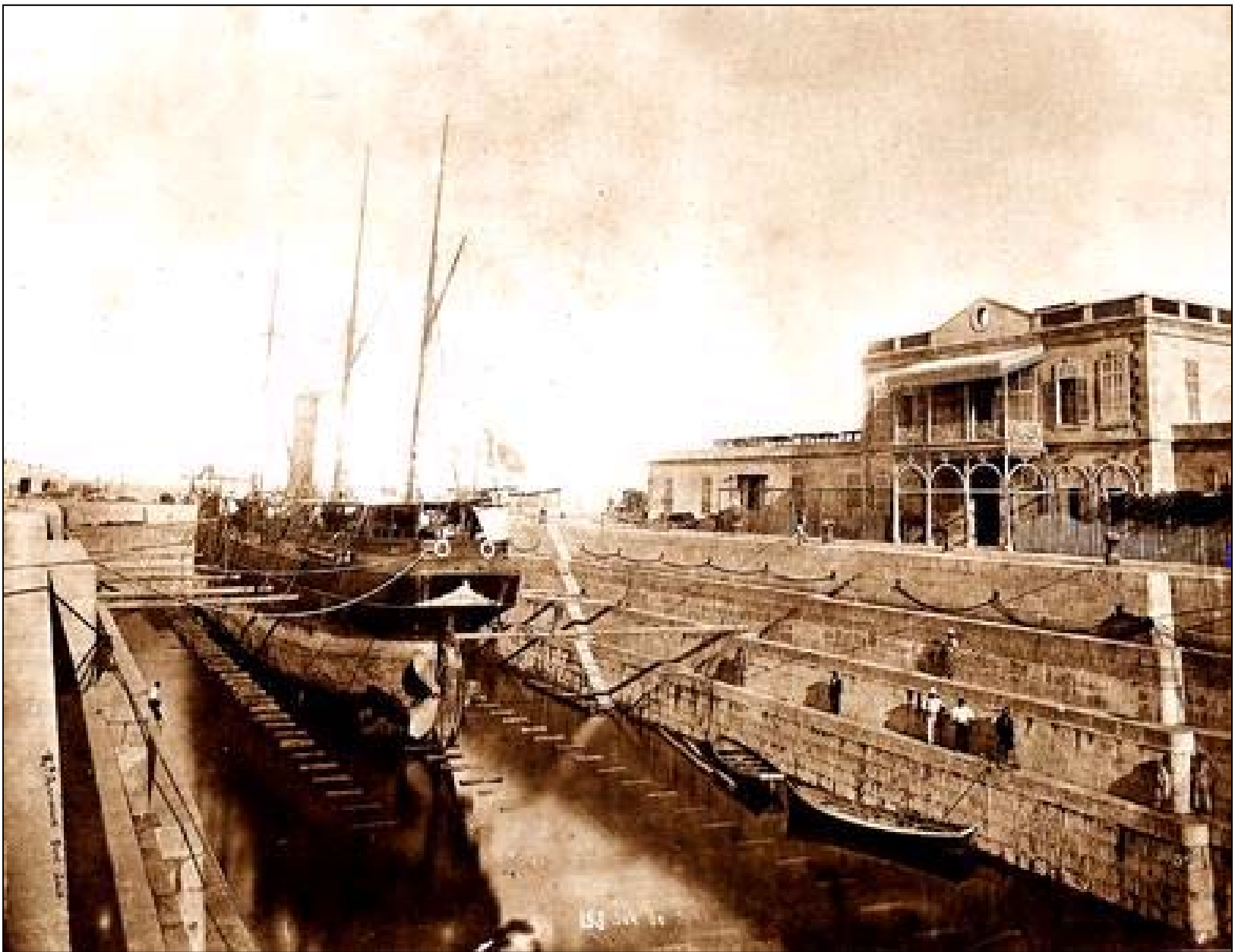
De Lesseps's house in Ismailia.

A one-time diplomat, Ferdinand de Lesseps created the Compagnie universelle du canal maritime de Suez (The Universal Company of the Maritime Suez Canal), and made himself president. In Ismailia, on the Mohammed-Ali quay he had built a house facing the freshwater canal, and it was here that he lived when he stayed on the isthmus. To the right can be seen the roof of the permanent residence of the engineer Voisin, the man who directed the construction work for the company until the opening ceremony.



Lodgings for Company mechanics in Ismailia.

Trees were planted along the wide streets of Ismailia so as to provide some shade from the fierce sun. Ismailia was the administrative capital of the Suez Company. Here the clothes and buildings are in imitation of the those of Paris.



Port Ibrahim dry dock in Suez

Here workers could repair hulls and perform other maintenance duties on ships.



Port Thewfik

Hardly in existence before the construction of the canal, this city at the canal's exit into the Gulf of Suez and the Red Sea boomed after the canal's completion.



Isolation barges for pilots in quarantine.

The Universal Suez Canal Company was very concerned about the health of its employees. When epidemics broke out, isolation barges had to be built to provide places of quarantine in which to care for the sick workers.



The Official Stand at the Inauguration of the Canal, 29 November, 1869



After it was opened to navigation in 1869, the 163 km (101 mi) Suez Canal measured 8m (26 feet) deep, 22m (72 feet) wide at the bottom, and 70m (230 feet) wide at the surface. It is the longest canal with no locks.

Military Conflict

Background

- 1936 - Egypt signs treaty allowing Britain to keep military forces in canal zone.
- 1948 - Egypt begins preventing all Israeli ships from using canal.
- 1951, Sep 1 - UN Security Council orders Egypt to open canal to Israeli ships.
- Egypt refuses to acknowledge Israeli sovereignty, and takes an increasingly belligerent stance against Israel.
- 1955, Aug 31 – Egyptian President Gamal Abdel Nasser began importing military armaments from the Soviet Union and organizes *fedayeen* - Arab terrorists, or *fedayeen* ("one who sacrifices himself"), trained and equipped by Egyptian Intelligence to infiltrate Israel and engage in hostile actions, such as sabotage.
- 1956, July 26 - Egypt seizes the Suez Canal and declares it a national asset.
- 1956, October 29 - Israel launches the Sinai Campaign to preempt a surprise and/or coordinated attack by her Arab neighbors.
- 1956, October 30 - The Israel UN representative explains the situation to the UN.

The Sinai Campaign (1956)

- 100,000 soldiers were mobilized in 72 hrs.
- Israeli Air Defense Force operational in 43 hours.
- Israel advances unopposed until halted by demands of English and French backers.
- Egypt given a chance to withdraw, claiming to be the victims of Israeli aggression
- Oct 30th - US sponsors a UN resolution demanding an immediate Israeli withdrawal, but France and Britain veto it and begin bombing Egyptian airfields near Suez.
- Israel continues the fight, capturing almost the entire Sinai by November 5th. The British and the French land paratroops and amphibious troops near Port Said.
- Bowing to Soviet and American pressures, Britain about-faces, but the French want to keep going.
- Eisenhower pressures Israel to withdraw. Egypt concedes nothing, setting up the conditions for the June 1967 Arab-Israeli war, 10 years later.
- The *Fedayeen* were re-organized a few years later as the PLO.



Canal Stats and Use Today

Historical Stats of the Suez Canal									
ITEM	UNIT	1869	1956	1962	1980	1994	1996	1999	PRESENT
WIDTH AT 11M DEPTH	M	44	60	90	160	180/210	180/210	200/210	same
MAX DRAFT OF SHIPS	FEET	22	35	38	53	56	58	58	60
OVERALL LENGTH	KM	164	175	175	190.25	190.25	190.25	190.25	190.25
DOUBLED PARTS	KM	-	29	29	78	78	78	78	78
WATER DEPTH	M	10	14	15.5	19.5	20.5	21	21	same
CROSS SECTIONAL AREA	M2	304	1100	1800	3600	3800/4300	3900/4500	4100/4500	same
MAX. TONNAGE (DWT)	TON	5000	30000	80000	150000	180000	185000	195000	same

Suez Canal Traffic - January - December, 2000

Vessel Type	Containers	Tanker	Bulk Carrier	Ro-Ro	Passengers	Car Carrier	General Cargo	Combined Carrier	Lash	War Vessels	Others	Total
January	367	201	228	33	2	82	164	3	2	19	49	1,150
February	348	182	214	17	3	65	143	4	3	18	56	1,053
March	373	171	219	19	12	71	147	2	1	26	47	1,088
April	390	203	244	22	13	68	163	4	4	12	57	1,180
May	378	233	241	24	7	65	170	6	1	28	57	1,210
June	373	242	223	26	4	66	162	10	3	17	43	1,169
July	391	252	253	20	5	65	174	12	3	14	52	1,241
August	403	213	270	21	1	70	172	10	2	18	59	1,239
September	402	226	240	25	2	57	179	6	2	16	42	1,197
October	395	214	274	18	9	61	170	4	3	7	66	1,221
November	386	213	249	15	14	62	167	3	3	9	66	1,187
December	403	213	265	30	6	58	157	6	1	12	55	1,206
Total	4,609	2,563	2,920	270	78	790	1,968	70	28	196	649	14,141