Sound Truths and Exxon Myths--
The 15 Year Dark Anniversary of the Exxon Valdez Oil Spill and Beyond
Information Sheet

Prepared by **Alaska Forum for Environmental Responsibility**
and Alaska Community Action on Toxics

How Much Oil did the *Exxon Valdez* Spill?

I was not the only one who heard 11 million gallons was the low-end estimate of spill volume and 38 million gallons was the high-end estimate during my first 24 hours in Valdez after the spill. A year later, two separate newspaper accounts reported volumes up to 27 and 38 million gallons (Hennelly 1990; Spence 1990). One article (Hennelly 1990) reported that the Alaska Department of Environmental Conservation (ADEC) contracted Caleb Brett to do tank soundings to estimate the volume spilled, but Caleb Brett refused to make public documentation of its findings, citing its employer-client relationship with Exxon.

I found that the Alaska Department of Law later obtained the Caleb Brett documents during a separate investigation of the spill volume in preparation for a civil lawsuit against Exxon over damages to wildlife and habitat. When this lawsuit was settled in 1991, the State of Alaska shelved its investigation. In 1994, in response to public requests, the state released its investigation files to the Alaska Resources Library and Information Services (ARLIS) in Anchorage, Alaska (AK Department of Law 1991, attached).

According to Caleb Brett's report (1989), the *Exxon Valdez* left the tanker terminal in Port Valdez on 23 March 1989 with 53.04 million gallons of oil on board. The tanker grounded on Bligh Reef around midnight. Caleb Brett reported 42.2 million gallons of cargo was transferred to three Exxon tankers and a fleet of barges. Since the *Exxon Valdez* had been carrying a total cargo of 53.04 million gallons, simple math led Caleb Brett to conclude that the total spilled was the difference—10.8 million gallons; however, this volume was never independently verified. In the absence of other information at the time (1989), the media used—and still uses—Exxon's self-reported spill volume estimate.

State investigators tracked each of the three Exxon tankers used to lighter (transfer) oil from the *Exxon Valdez* (AK Department of Law 1990). These three tankers went to three different Exxon refineries to offload their cargo. Exxon insisted the cargo was 100 percent oil. However evidence shows there was so much water in the cargo that each refinery refused to offload all of it. The cargo that remained on each tanker ultimately was returned as ballast water to the tanker terminal in Port Valdez.

The oil content of the former cargo (now ballast water) was estimated as a percentage of the total volume and recorded on Alyeska ballast water survey forms. *Exxon never accounted for the water in the cargo of its three tankers; the State of Alaska did* (Table 1).

In light of this evidence, Exxon's self-reported spill volume of 11 million gallons is incorrect. The State of Alaska's *conservative* estimate of 30 million gallons should be used when referring to the *Exxon Valdez* oil spill volume.

AK Department of Law. 1990. Report on the EVOS quantity. In Files on 'ACE' Investigation, ACE 10864138–10864143. ARLIS, Anchorage, AK.

AK Department of Law. 1991. Files on 'ACE' investigation, 1989–1991. ARLIS, Anchorage, AK.

Caleb Brett U.S.A., Inc. 1989. Letter from Paul Kellett, Caleb Brett, to John Tompkins, Exxon Shipping Company, re: breakdown of cargo lightered and spill volume. 18 May. In Files on 'ACE' Investigation, ACE 577444. ARLIS, Anchorage, AK.

Hennelly, R. 1990. Split wide open: Did the *Valdez* (sic) spill 11 million gallons–or 27 million? *Village Voice,* 2 January.

Spence, H. 1990. Was the spill 38 million gallons? *Homer News*, 12 April.

Table 1

How Much Oil Spilled (in million gallons)?

(Total on board *Exxon Valdez* before spill: 53,040,000 million gallons)

Source	Lightered Cargo[a]	Water in Cargo	Volume Spilled
Exxon	42.2	0	10.8[b]
Alaska	*Baton Rouge* [c]	5.5	
	San Francisco [d]	3.6	
	Baytown [e]	10.1	
		19.2[f]	30.0[g]

[a]**Lightered cargo** = oil (Exxon) or oil/water emulsion (Alaska)
[b]**Volume Spilled (Exxon)** = 53.04 million gallons onboard – 42.2 million gallons of lightered cargo. *Exxon alleged the lightered cargo was 100 percent oil*.
[c]***Exxon Baton Rouge*** retained onboard approximately 9.2 million gallons of an oil-water mixture with an estimated water/oil content of 60/40. That means about 5.5 million gallons of "oil" supposedly lightered from the *Exxon Valdez* was *water* (9.2 x 0.6).
[d]***Exxon San Francisco*** retained onboard approximately 5.6 million gallons of an oil-water mixture with an estimated water/oil content of 65/35. That means about 3.6 million gallons of "oil" supposedly lightered from the *Exxon Valdez* was *water* (5.6 x 0.65).
[e]***Exxon Baytown*** retained most of her cargo onboard. She lightered approximately 6.6 million gallons of an water-oil mixture with an estimated water/oil content of 70/30 to the *Exxon Baton Rouge*, which returned to the tanker terminal in Port Valdez. She lightered approximately 7.9 million gallons of an oil-water mixture with an estimated water oil content of 70/30 to the *Exxon San Francisco*, which returned to the tanker terminal in Port Valdez. That means about 10.1 million gallons of "oil" supposedly lightered from the *Exxon Valdez* was *water* [(6.6 x 0.7) + (7.9 x 0.3)].
[f]**Total water in cargo** is sum of water lightered from the three tankers (5.5 + 3.6 + 10.1 million gallons).
[g]**Volume Spilled (Alaska)** = 10.8 million gallons (Exxon self-reported spill volume) + 19.2 million gallons (total water in cargo). Investigators for the State of Alaska used an error margin of ± 20

percent to account for unknowns such as the percentage of water in the cargo offloaded at the refineries and the amount of water in the cargo lightered by the five barges. **Thus, the range of volume spilled, according to the State's records, is between 24 to 36 million gallons**. State investigators stress the low number is very unlikely.

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